Summary of
Four Winds Plaza Partnership's
Comments on
Geraghty & Miller's Draft Phase II RI

• In his recent study of groundwater contamination in the Tutu area, Dr. Todd concludes:

> Recently obtained data from a study of soil contamination, shown in Table 7 (H+GCL, 1993b), along with subsequent sampling of the groundwater in November 1993 (Table 4) at the Tutu Esso property, have allowed for confirmation of this gas station as a source for petroleum and chlorinated hydrocarbon contamination in the aquifer. *See* Appendix II, page 15, Dema letter of 11/1/94 to Adams, Praschak and Kwan.

• In his Evaluation of Geraghty & Miller's Phase II Draft RI, Dr. Fahrenthold concludes:

> . . . the monitoring data and the calculations strongly suggest that the north oil/water separator at the Esso Tutu was a potential source of PCE to groundwater in the area through the distribution of PCE between the aqueous and oil phases present in the device and migration of the aqueous phase directly to groundwater. Further, the soil analysis data indicates that there could have been saturation of soils with water from the separator, diluted or undiluted, which produced concentrations of 10 ug/kg PCE in the soils in the area. *See* Appendix I, attached.

• In 1992, Geraghty & Miller performed an investigation and monitoring well installation (MW-9, MW-9S). The investigation discovered a petroleum hydrocarbon product floating in the monitoring well. Product was removed but apparently not sampled.

• Pumping conditions prior to 1987 as they relate to source, fate and transport of contaminants can be estimated and were known, but appear not to have been considered in the Draft Phase II RI.

• Although the 1987 USGS map of the Tutu area was produced shortly after the 1987 stop-pumping order, groundwater levels still showed the effects of reversing gradients that occur from pumping

of the major wells at the volumes described above. The effect of pumping on groundwater gradients was reconfirmed by the recent TEIC pump test at the Eglin III Well. Understanding pre-1987 aquifer response to pumping will assist in accurately predicting aquifer response during remediation.

- Although it ignored the Harthman Wells, the Eglin III pump test confirms the wide area of influence and gradient changes caused by pumping in the Tutu area.

- Geraghty & Miller's mapping and interpretation of the "Northern" VOC plume do not reflect data collected and scientific opinion from the other PRPs. (*See* comments to Draft RI, Sept. 1994). An evaluation of pumping histories, current and past groundwater flow patterns, historic use and disposal of contaminants, evaluation of all groundwater quality and soil gas data indicate a decrease in concentration of contaminants with distance from a source. This decrease in concentration was one of the criterion used by Geraghty & Miller to show the existence of the "two" plumes emanating from Laga and O'Henry.

- Pump test data from CHT and Hydrologic Associates (150 gpm with approximately 5-6 ft. drawdown) and 1993 reinterpretation by Donald Jordan, formerly USGS, of his aquifer yield estimates from the late 1960's drought conditions indicate that a realistic safe yield from the Turpentine Run Aquifer is greater than 500,000 gpd.

Past Operations and Maintenance Experience With Treatment Systems In the United States Virgin Islands

- Maintenance of even simple treatment systems is a challenge in the USVI. Experience of CHT in operating water treatment systems on a daily, weekly and monthly basis indicate that trained professionals, whose primary responsibility is the operation and maintenance of these systems, are required for proper long-term system performance.

- Contractors operating the system must be responsible to and report to an administrative agency overseeing the project. Liability coverage may be a problem since many types of insurance are unavailable or cost prohibitive in the USVI.

• Frequent power outages, lack of spare parts, requirements of U.S. Customs and shipping delays should all be considered when designing a system and its operation and maintenance.

• Disposal of spent activated carbon is a hazardous waste in the USVI increasing the costs and complexities of a system's operation and maintenance program.

Rodriguez Esso and the Home Service Station Site

• A soil gas survey conducted in January 1992 by Target Environmental Services at Rodriguez Esso concludes that map patterns and chromatographic data suggest that petroleum hydrocarbons entered the subsurface at the Rodriguez Esso. The high level of volatile hydrocarbons observed adjacent to Route 38 suggests that this occurrence extends beyond the property boundary to the southeast. Xylene map patterns for this site are also consistent with a source associated with the tanks, pumps and lines.

• In a September 8, 1989 report to Esso Standard Oil Co., Soil Tech reported the results of a visual investigation of the two 5,000 gallon USTs removed from the tank pit at Esso Rodriguez. This investigation revealed that the weld seam between the tank and the tank wall on the premium tank was corroded. Three slots with lengths of 2, 5 and 1.5 inches were found between the cap and the wall of the tank.

• In the May 2, 1990 "Final Report of Findings, Ex-Fuel Home Petroleum Fort Mylner Service Station", Terra Vac reported that the results of BTEX laboratory analysis of soil samples from the tank pit ranged from non-detectable to as high as 946,000 ppb.