INTERNATIONAL TECHNOLOGY CORPORATION

February 2, 1995

IT Project No. 409830

Caroline Kwan, Project Manager
U.S. EPA Region II
290 Broadway, 20th Floor
New York, New York 10007-1866

Addendum to Work Plan for Evaluation and Interim Remediation of Soils, O'Henry Laundry, Tutu, St. Thomas, U.S.V.I.

Dear Caroline:

The purpose of this letter is request an amendment to *Work Plan for Evaluation and Interim Remediation of Soils, O'Henry Laundry, Tutu, St. Thomas, U.S.V.I.* (Work Plan) (IT Corporation, 1994), which was approved for implementation by EPA Region II. The objective of the interim soil remediation is to remove PCE-contaminated soil that may act as a continuing source of groundwater contamination or that may present a human health risk. The amendment requested includes drilling, sampling and abandoning one soil boring.

Background

The scope of the approved work plan involves excavating PCE-contaminated soils along the southwestern corner of the O'Henry Laundry, analyzing the soils for PCE in the field using gas chromatography to guide the excavation, and drumming the contaminated soils for on-site storage pending selection of a final remedy to be implemented in association with the Tutu Wells Remedial Action. Prior to backfilling the excavated area, five samples will be collected and analyzed for volatile organic compounds (VOC) by EPA's Contract Laboratory Program (CLP) 1990 scope of work to characterize the soils at the limits of the excavation. The need for further *in situ* remediation will be based in part on the results of this confirmation sampling. The approximate location of the excavation is shown in Figure 1 (attached).

Uncertainties of the pending interim soil remediation project were reviewed on November 3, 1994 during a site walk attended by representatives of EPA Region II, Department of Planning and Natural Resources (DPNR), and the O'Henry Laundry (attendance list attached). Three uncertainties exist: 1) extent of PCE contamination near foundations of existing buildings, 2) PCE contamination at depths inaccessible to excavating equipment, and 3) character of geologic materials in the area to be excavated.

The physical limits of the excavation will depend on the extent of PCE contamination as determined by the on-site analysis but will be constrained by the locations of existing buildings and the safe depth attainable using excavation equipment. If the results of confirmation sampling indicate that PCE is present near buildings or at depth, *in situ* remediation by soil vapor extraction (SVE) may become necessary to protect groundwater.

Proposed Supplemental Work

The uncertainties listed above may be reduced by drilling a single soil boring near the southwest corner of the laundry (Figure 1). The purpose of the boring will be to:

- Confirm and update the vertical distribution of VOC contamination previously detected in soil boring SS-1 (drilled in 1990)
- Characterize geologic materials by field logging of the boring
- Characterize the geotechnical properties of the geologic materials upon which the design of a SVE system depend.

The proposed boring will be advanced using a drill rig equipped with 6-inch hollow stem augers to a depth of approximately 25 feet, which is the expected depth to groundwater, or to competent bedrock, depending on which is encountered first. A geologic log of the soil boring will be kept as the boring is advanced. Soils will be described using the Unified Soil Classification System as described in ASTM D2487-93 and D2488-93. The boring log will also record sample depths, blow counts (penetration test), depths of saturated zones if encountered, air monitoring readings, date, location of the boring, drilling method, drilling company and geologist. A sample field boring log is attached.

Undisturbed samples for laboratory analysis of VOCs by CLP will be collected at 5-foot intervals using a split spoon sampler (ASTM D1586-92 or similar). A maximum of 6 samples (including one field duplicate) from the boring will be analyzed for VOCs using CLP (1990 scope of work). Each of the samples will be split and analyzed in the field using a gas chromatograph. These data will confirm and update the vertical distribution of VOC contamination as encountered in previous borings (SS-1 in Figure 1, attached) and will be used to guide the excavation and to select sample intervals for geotechnical analysis. Shelby tube samples will be collected at depths of approximately 6 feet, 11 feet, 16 feet, and 21 feet. Two of the shelby tube sample will be selected for the following geotechnical analysis:

- Permeability (ASTM D5084-94)
- Moisture content (ASTM D2216-94)
- Organic carbon fraction (ASTM 2974-87)
- Bulk density (EM 1110-2-1906, Appendix 2)
- Porosity (EM 1110-2-1906, Appendix 2).

The purpose of the geotechnical analysis will be to provide a design basis for a SVE system should significant contamination near building foundations or at depth be confirmed in the boring. It is anticipated, based on the results of the previous boring SS-1, that one geotechnical sample from a depth of approximately 6 feet will be submitted for analysis.

Data from this sample may be useful in demonstrating the radial influence of a SVE system capable of removing relatively shallow contamination near or beneath building foundations. The second sample submitted for geotechnical analysis will be selected from a depth greater than six feet in the event that significant levels of PCE contamination are detected below a depth of 6 feet.

After completion, the boring will be abandoned by grouting with a cement/bentonite grout containing 95 percent type I portland cement and five percent bentonite. The grout will have a minimum density of 9.4 pounds per gallon and will be pumped into the boring from the bottom using the tremie method. The augers will be incrementally withdrawn from the boring as it is grouted.

Decontamination of drilling and sampling equipment and management of investigation-derived wastes will be handled as described in the Work Plan (IT Corporation, 1994).

Required modifications to the health and safety plan for the interim remediation are contained in the attached document *Site Specific Health and Safety Plan Addendum I, Evaluation and Interim Remediation of Soils*, O'Henry Laundry, Tutu, St. Thomas, U.S. Virgin Islands (IT Corporation, 1995).

Schedule

It is anticipated that the boring will be drilled, sampled and abandoned on February 27, 1995. The interim soil remediation is expected to begin on February 28, 1995.

Please indicate your approval of this amendment by returning a signed copy of this letter to me. A signature line is provided. IT Corporation, on behalf of L'Henri, Inc., looks forward to performing these activities as scheduled, and your prompt attention will be appreciated.

Approved:_____ Date: _____

Sincerely yours,

Kenneth L. Loy

Kenneth Loy
Task Manager

KL:jk WP1739.LTR
Attachments

cc: Nancy D'Anna, Attorney
Patricio Martinez-Lorenzo, Attorney
Adrian Schottroff, USVI DPNR
Belinda Price, IT Corporation
Central Files

List of Attachments

1. Figure 1 - Site Location Map

2. Attendance List - November 3, 1994 Site Walk, O'Henry Laundry, Tutu, St. Thomas, U.S.V.I.

3. Figure 2 - Sample Field Boring Log

4. *Site Specific Health and Safety Plan Addendum I, Evaluation and Interim Remediation of Soils, O'Henry Laundry, Tutu, St. Thomas, U.S. Virgin Islands (IT Corporation, 1995).*

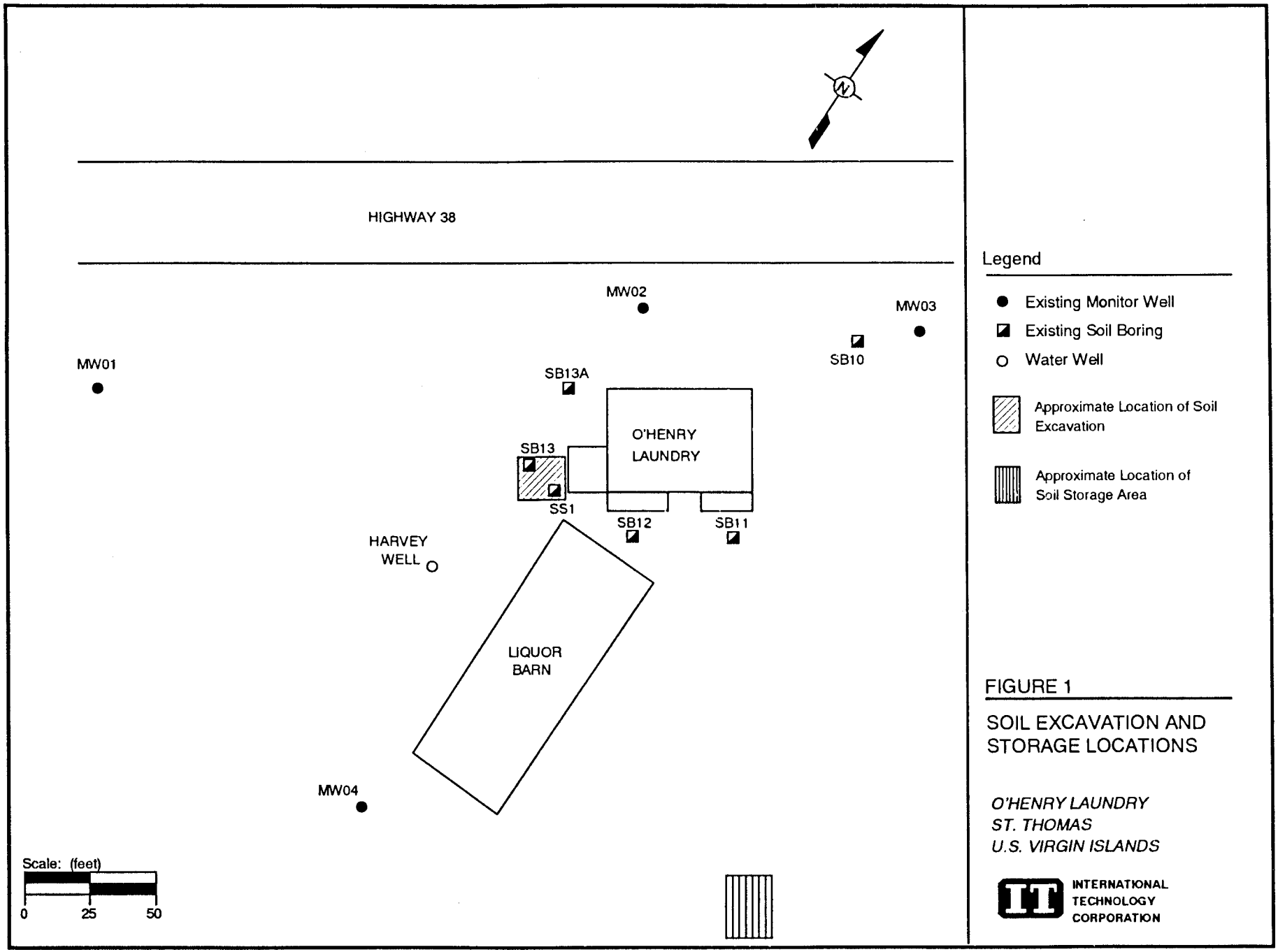

FIGURE 1

SOIL EXCAVATION AND STORAGE LOCATIONS

O'HENRY LAUNDRY
ST. THOMAS
U.S. VIRGIN ISLANDS

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