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A Member of The IT Group

the i group

January 18, 2000
Project 340-083.1A

Ms. Eva Chu
Alameda County Health Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Addendum to Work Plan for Soil Vapor Sampling**
Former Texaco Service Station
930 Springtown Boulevard at Lassen Road
Livermore, California
Incident No. 91995053

Dear Ms. Chu:

On behalf of Equiva Services LLC (Equiva), this letter has been prepared by IT Corporation (IT), formerly Pacific Environmental Group, Inc. (PEG). This letter presents an addendum to PEG's *Work Plan for Soil Vapor Sampling* dated December 3, 1998. An Alameda County Health Care Services Agency (ACHCSA) letter dated June 11, 1999 authorized the implementation of the December 1998 work plan. However, the ACHCSA recommended additional work activities, which are addressed below.

The proposed scope of work, as stated in the December 1998 work plan, involves the collection of additional soil and soil vapor data, which will be used to revise Kaprealian Engineering, Inc.'s *Risk-Based Corrective Action (RBCA) Analysis* dated October 31, 1997. A RBCA Tier 2 assessment will be performed using soil analytical data collected from this investigation to evaluate the potential health risk to residents from the inhalation of volatile residual petroleum hydrocarbons, which may emanate from the site. The amended scope of work is also designed to collect additional soil samples to further characterize subsurface conditions in the vadose zone.

PROPOSED SCOPE OF WORK

IT proposes the following scope of work:

- **Soil Investigation.** IT proposes that 3 on-site borings be advanced at the site (Figure 1). One boring will be located in the vicinity of each of the following wells: Wells MW-A, MW-B, and MW-1. These locations appear to contain the highest concentrations of residual petroleum hydrocarbons in soil and/or groundwater at the site and are areas that could represent the greatest potential health risk in terms of exposure to volatilized petroleum hydrocarbons. Soil samples and soil vapor samples will be collected approximately 3 feet below ground surface (bgs), **using a hand-driven sampling probe.** The soil samples collected at approximately 3 feet bgs will be analyzed for physical parameters, which will be used in the RBCA Tier 2 analysis. Following the collection of soil and soil vapor samples at 3 feet bgs, soil samples will be collected at discrete 5-foot intervals using the Geoprobe® direct push method, until groundwater is encountered. Soil vapor samples and soil samples which exhibit the highest photoionization detector (PID) readings from each boring will be analyzed for petroleum hydrocarbon constituents. Field and laboratory procedures are presented as Attachment A.

use direct push to get tight seal w/o mixing w/ambient air. Use summa canisters/Tedlar bags AirToxics (916) 985-1020

Check dtw in MWs to know where cap fringe is and where to collect soil samples w/in vadose zone

- **Soil Analyses.** Soil samples collected approximately 3 feet bgs will be analyzed by a state-certified laboratory for the following physical parameters: total organic carbon content [using American Society for Testing and Materials (ASTM) Method 2974] and bulk density, porosity, and water content (using ASTM Method 2937). Soil samples collected from the vadose zone will be analyzed for the presence of total purgeable petroleum hydrocarbons (TPPH); benzene, toluene, ethylbenzene, and xylenes (BTEX compounds); and methyl tert-butyl ether (MtBE) by EPA Methods 8015 (modified) and 8020. If MtBE is detected in soil samples by EPA Method 8020, then the samples will be analyzed by EPA Method 8260 to confirm the presence of MtBE.

this soil sample should be from "clean" or backgd soil.

collect SV samples at 3', 6' + 9'

- **Soil Vapor Analyses.** Soil vapor samples will be analyzed for the presence of TPPH, BTEX compounds, and MtBE by EPA Methods 8015 (modified) and 8020. If MtBE is detected in soil vapor samples by EPA Method 8020, then the samples will be analyzed by EPA Method 8260 to confirm the presence of MtBE.

TO-14/TO-15

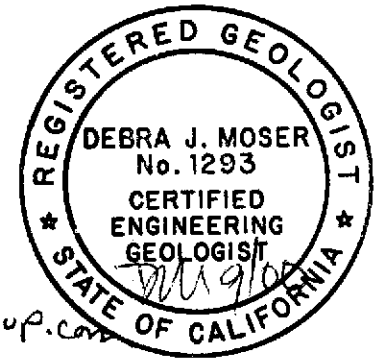
- **Report.** A report summarizing all field activities and results will be completed following receipt of the analytical data. A revised Tier 2

RBCA analysis will be submitted using the soil and soil vapor analytical data collected from this investigation.

This scope of work has been designed to collect additional data to quantify the residual petroleum hydrocarbon impact in an area subject to elevated volatilized petroleum hydrocarbon exposure levels and to collect additional data to confirm that site conditions do not present a public health risk. Equiva proposes to complete all field work within 30 days following approval of this work plan by the ACHCSA, and to submit a report and revised Tier 2 RBCA analysis within 60 days following receipt of all analytical data.

If you have any questions or comments regarding the contents of this letter, please do not hesitate to call (408) 453-7300.

Sincerely,



IT Corporation

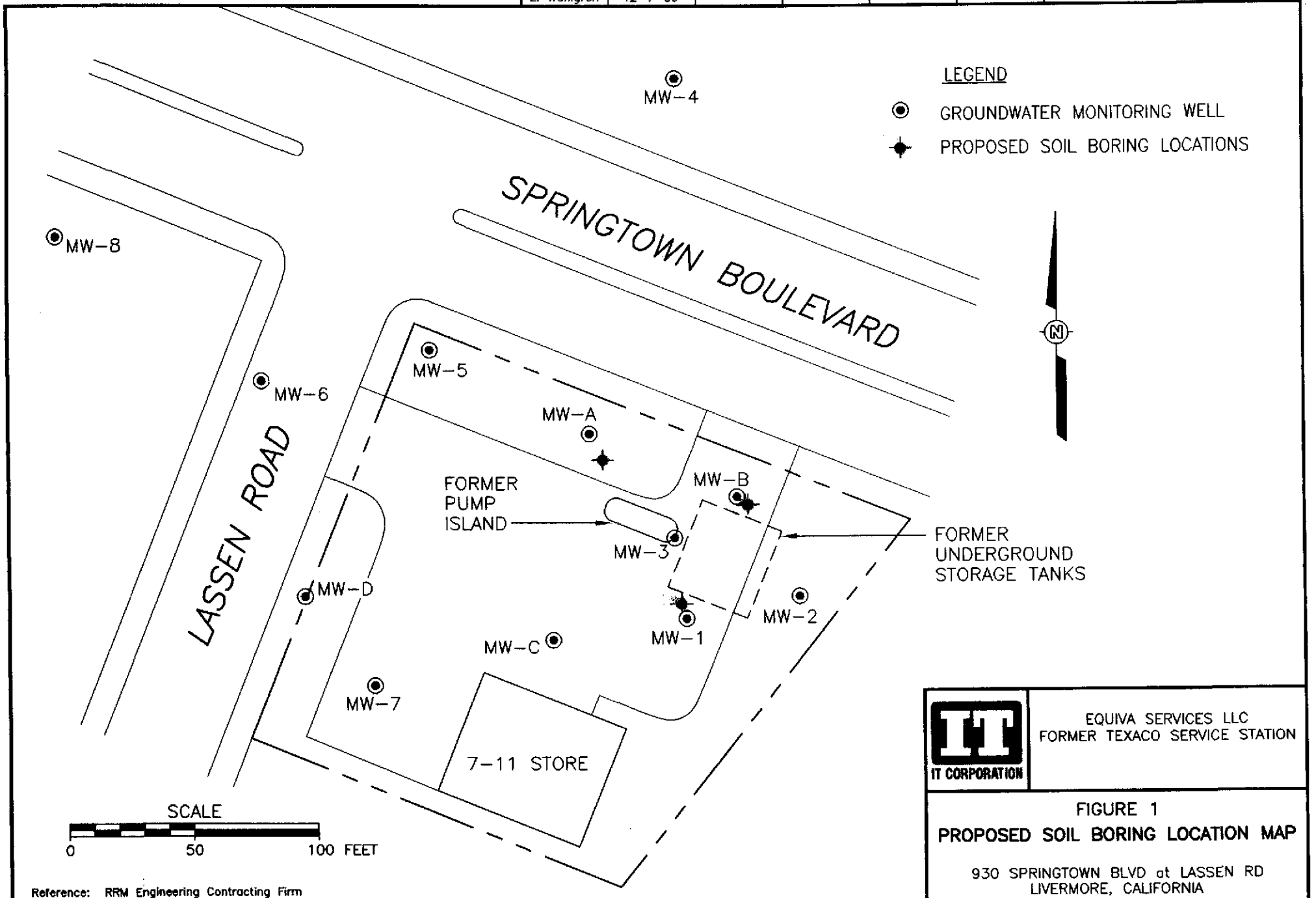
Debra J. Moser dmoser@theitgroup.com
Senior Geologist
CEG 1293

Attachments: Figure 1 - Proposed Soil Boring Location Map
Attachment A - Field and Laboratory Procedures

cc: Ms. Karen Petryna, P.O. Box 7869, Burbank, CA 91501-7869

Janet.

DRAWN BY		CHECKED BY		APPROVED BY		PROJECT NUMBER	340-083.9A
L. Wahlgren	12-7-99						



Reference: RRM Engineering Contracting Firm

IT CORPORATION

EQUIVA SERVICES LLC
FORMER TEXACO SERVICE STATION

FIGURE 1
PROPOSED SOIL BORING LOCATION MAP

930 SPRINGTOWN BLVD at LASSEN RD
LIVERMORE, CALIFORNIA

SANJOSE/CADD: N:\cad\Drawings\340\083\Site.dwg Wed, 08/Dec/99 08:07am kblack

ATTACHMENT A

FIELD AND LABORATORY PROCEDURES

ATTACHMENT A
FIELD AND LABORATORY PROCEDURES

Shallow Soil Vapor and Shallow Soil Sampling Procedures

"Grab" soil vapor samples will be collected at discrete intervals using a hand-driven sampling probe. The sampling probe will consist of a hollow stem tube perforated at one end. A vacuum will then be applied to the hollow stem tube and approximately 1 or 2 volumes of air will be evacuated from the pipe so no atmospheric air is included in the vapor sample. The air samples will be collected in summa canisters and will be kept out of the direct sunlight until they are transported to the laboratory under chain-of-custody protocol.

Soil samples for sampled for physical parameters will be retained in 2-inch, clear polyvinyl chloride (PVC) plastic rings, capped with Teflon® and plastic end caps, and sealed in zip-lock plastic bags. These samples will be placed in a cooler with ice (at temperature of 4 degrees Celsius) for transport to the laboratory under chain-of-custody protocol.

Geoprobe® Procedures

The Geoprobe® is a hydraulically-powered percussion/probing machine designed specifically for use in the environmental industry. The Geoprobe® can be used to sample soil vapor, soil core, or groundwater. The soil borings will be advanced with the Geoprobe®, using a 2-inch diameter outer drive casing. An inner split spoon sampling barrel fitted with clear PVC plastic liners advances independently of the outer drive casing. The soil borings will be logged by an IT geologist using the Unified Soil Classification System and standard geologic techniques. Soil samples for logging and laboratory analysis will be continuously collected by advancing the inner split spoon sampler into undisturbed soil. The sampler will be driven a maximum of 4 feet using hydraulic pressure. Soil samples will be analyzed in the field for volatile organic compounds using a PID. Results of the PID tests will be used to assist in selection of samples for laboratory analysis if necessary. Soil samples for chemical analysis will be retained in 2-inch, clear PVC plastic rings, capped with Teflon® and plastic end caps, and sealed in zip-lock plastic bags. These samples will be placed in a cooler with ice (at

approximately 4 degrees Celsius) for transport to the laboratory under chain-of-custody protocol.

Laboratory Procedures

Selected soil samples from the vadose zone and shallow soil vapor samples will be analyzed in the laboratory for the presence of TPPH, BTEX compounds, and MtBE by EPA Methods 8015 (modified) and 8020. If MtBE is detected in soil and soil vapor samples, then the samples will also be analyzed by EPA Method 8260 to confirm the presence of MtBE. The samples will be examined using the purge and trap technique, with final detection by gas chromatography using a flame-ionization detector as well as a PID. All analyses will be performed by a California state-certified laboratory.

Shallow soil samples will be analyzed for physical parameters: bulk density, porosity, and water content by American Society for Testing and Materials (ASTM) Method 2937. Shallow soil samples will also be analyzed by ASTM Method 2974 for total organic content.