GROUNDWATER TECHNOLOGY, INC.

4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387
FAX: (415) 685-9148

December 15, 1992

Mr. Larry Seto
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

SUBJECT: **Site Assessment Work Plan**
Southland Store No. 20009
2350 Harrison Street, Oakland, CA 94612

Dear Mr. Seto:

On behalf of The Southland Corporation (Southland), Groundwater Technology, Inc. has prepared the enclosed Site Assessment Work Plan, dated December 15, 1992 to perform work at the above referenced site. On November 2, 1992 during the installation of two light poles in the planter areas of the site, hydrocarbon odors were detected by the construction crew. Work ceased at that time and Groundwater Technology was notified. Groundwater Technology collected soil samples from two soil piles and covered the soil piles with plastic. The soil samples were submitted to a California certified laboratory for analysis of Total Oil and Grease by Environmental Protection Agency (EPA) Methods 3550 and 413.2 and for hydrocarbons by gas chromatography (GC) and flame ionization detection (FID). **Lubricating Oil was reported up to 3,200 parts per million (ppm) and total petroleum hydrocarbons (TPH)-as-gasoline at 89 ppm.** In response to the detection of hydrocarbons at the site a Work Plan has been prepared and the proposed scope of work is generally described as follows:

- Prepare a Site Specific Health and Safety Plan.
- Monitor soil vapors during excavation for the installation of the light poles.
- Supervise excavate soils with apparent staining only within the planter areas.
- Collect soil samples from the excavation areas for analyses of Total Oil and Grease, Lubricating Oil, and total petroleum hydrocarbons (TPH)-as-gasoline and diesel fuel, and benzene, toluene, ethylbenzene, and xylene (BTEX).
- Properly dispose of the excavated soil at an approved facility after completion of soil characterization.
- Conduct an aerial photograph review of the site and surrounding area.

- Prepare a letter report documenting the analytical results of the soil samples, observations of the excavation and construction activities aerial photograph review, and present a plan for additional work if necessary.

Southland has not operated a fuel service station at this location, therefore, the responsible party(s) of the source of the detected hydrocarbons is unknown at this time. Southland is aware that there may be a requirement to remove the light poles in the future if remediation is required. To continue with the installation of the light poles in a safe and timely manner Groundwater Technology submits this work plan and requests your written concurrence. You prompt attention to this matter would be greatly appreciated. If you have any questions or comments, please do not hesitate to contact our Concord, California office at (510) 671-2387.

Sincerely,
GROUNDWATER TECHNOLOGY, INC.

Sandra L. Lindsey
Project Manager

SLL:ab

cc: Bob Vasquez, The Southland Corporation

GROUNDWATER TECHNOLOGY, INC.

4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387
FAX: (415) 685-9148

December 15, 1992

Mr. Bob Vasquez
The Southland Corporation
5280 Stoneridge Mall Road
Suite 310,
Pleasanton, CA 94586

SUBJECT: SITE ASSESSMENT WORK PLAN
SOUTHLAND STORE NO. 20009
2350 HARRISON STREET
OAKLAND, CALIFORNIA

Dear Mr. Vasquez:

At your request, Groundwater Technology, Inc. has prepared this Work Plan for performing a site assessment at the above-referenced site. The scope of work consists of supervising the installation of two light poles, collected soil samples, submitting soil samples for laboratory analyses, conducting an aerial photograph review and preparing a summary report. The tasks required to meet these objectives are discussed below.

TASK 1: SITE-SPECIFIC HEALTH AND SAFETY PLAN

A site-specific health and safety plan will be prepared by Groundwater Technology as required by the Occupational Health and Safety Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120). The site-specific health and safety plan will be prepared by Groundwater Technology personnel after a complete review of site conditions and existing available site-specific health and safety plans for the site. The document will be reviewed and signed by all Groundwater Technology personnel and subcontractors performing work at the site before field operations begin.

TASK 2: VAPOR MONITORING/SOIL SAMPLING AND ANALYSES

During the excavation procedures air monitoring for volatile organic compounds will be conducted using a photo-ionization detector (PID) to determine vapor concentrations in the work area. If vapor concentrations exceed 50 parts per million (ppmv) half face respirators will be required to be worn in the work area.

Soil samples will be collected at obvious areas of staining, on all sides of the excavation limits, and at any notable lithologic changes, using an impact sampler lined with 2-inch-diameter by 6-inch-long brass sample tubes. Groundwater Technology Standard Operating Procedures (SOPs) are included in Attachment B. Each soil sample will be screened for volatile organic compounds using a photo-ionization detector (PID). The soil samples will be logged using the Unified Soil Classification System by a Groundwater Technology field geologist, working under the supervision of a California-registered geologist. Each sample tube will be sealed with aluminum foil, capped with a plastic cap, taped, labeled, and placed on dry ice in an insulated container. The soil samples will be transported to a California-certified laboratory under chain-of-custody protocol. Soil generated through drilling will be placed on, and covered by, polyethylene plastic pending characterization and disposal.

The soil samples will be submitted for chemical analysis. Within 14 days of the collection date a California-certified laboratory will analyze each soil sample for Total Oil and Grease by Environmental Protection Agency (EPA) Methods 3550 and 413.1 and for hydrocarbons by gas chromatography (GC) and flame ionization detection (FID). BTEX and TPH-G using Environmental Protection Agency (EPA) Methods 5030/8020/8015.

TASK 3: HISTORICAL AERIAL PHOTOGRAPH REVIEW

A historical aerial photograph review will be performed at Pacific Aerial Survey located in Oakland, California to determine the past uses of the site and the surrounding area. These photographs will enable Groundwater Technology to determine the source of the hydrocarbons detected at the site.

TASK 4: REPORT PREPARATION

Groundwater Technology will prepare a letter report summarizing the data collected at the site during the installation of the light poles, and the results of the aerial photograph review. The report will include descriptions of methods used, laboratory analytical results for soil samples, appropriate figures to indicate soil sample locations and excavation area and recommendations for additional assessment to determine the lateral and vertical extent of hydrocarbon impacted soils for evaluation of appropriate remedial alternatives if necessary.

TASK 5: PROJECT SCHEDULE

Groundwater Technology is prepared to begin work on this project immediately after concurrence of the Work Plan with Alameda County Health Services (ACHS). Soil sampling and light pole installation should only require one or two days. The letter report for this project can be anticipated within 4 weeks of soil sample collection.

Please contact us at (510) 671-2387 if you have questions or comments about this Work Plan.

Sincerely,

Groundwater Technology, Inc.
Written/Submitted by

Sandra L. Lindsey
Project Manager

Groundwater Technology, Inc.
Reviewed/Approved by

REGISTERED PROFESSIONAL KEVIN M. SULLIVAN No. 46253 CIVIL STATE OF CALIFORNIA

Kevin M. Sullivan
Professional Engineer
No. C46253

For:
John S. Gaines
Vice President, General Manager
West Region

SLL/DRK:ab

Attachment A Groundwater Technology, Inc. Standard Operating Procedures

ATTACHMENT A

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURES

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURE
CONCERNING CHAIN OF CUSTODY
SOP 11

1. Samples must be maintained under custody until shipped or delivered to the laboratory. The laboratory will then maintain custody. A sample is under custody if:

    a) It is in your possession
    b) It is in your view after being in your possession
    c) You locked it up after it was in your possession
    d) It is in a designated secure area

2. Custody of samples may be transferred from one person to another. Each transferer and recipient must date, sign and note the time on the chain-of-custody form.

3. In shipping, the container must be sealed with tape, and bear the sender's signature across the area of bonding at the ends of the tape to prevent undetected tampering. Each sampling jar should be taped and signed as well. Scotch tape works well.

4. Write "sealed by" and sign in the "Remarks" box at the bottom of the form before sealing the box. Place form in a plastic bag and seal it inside the box.

5. The "REMARKS" section of the form is for documenting details such as:

    a) Correlation of sample numbers if samples are split between labs.
    b) QC numbers when lab is logging in the samples.
    c) Sample temperature and condition when received by lab.
    d) Preservation notation.
    e) pH of samples when opened for analysis (if acidified).
    f) Sampling observation or sampling problem.

6. The chain-of-custody form should be included inside the shipping container. A copy should be sent to the project manager.

7. When the samples are received by the lab, the chain-of-custody form will be dated, signed, and the time noted by a laboratory representative. The form will be retained in the laboratory files along with shipping bills and receipts .

8. At the time of receipt of samples by the laboratory, the shipping container will be inspected and the sealing signature will be checked. The samples will be inspected for condition and bubbles, and the temperature of a representative sample container will be measured externally by a thermocouple probe (held tightly between two samples) and recorded. The laboratory QC numbers will be placed on the labels, in the accession log, and on the chain-of-custody form. If samples are acidified, their pH will be measured by narrow range pH paper at the time of opening for analysis. All comments concerning procedures requiring handling of the samples will be dated and initialed on the form by the laboratory person performing the procedure. A copy of the completed chain-of-custody form with the comments on sample integrity will be returned to the sampler.

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURE
CONCERNING SOIL SAMPLE COLLECTION AND
HANDLING WHEN SAMPLING FOR VOLATILE ORGANICS
SOP 15

1. Use a sampling means which maintains the physical integrity of the samples. The project sampling protocol will designate a preferred sampling tool. A split spoon sampler with liners, or similar tube sampler which can be sealed, is best.

2. The samples should be sealed in the liner, with teflon plugs (The "California Sampler") or plastic caps.

3. For sending whole-core samples (above):

   A. Seal ends of liner with teflon plugs or plastic caps, leaving no free air space inside.

   B. Tape with duct tape.

   C. Label the sample with the following information: sample identification, depth, date and time, project number and required analyses.

   D. Place in plastic bag labeled with indelible marker. Use Well #, depth, date, and job #.

   E. Place inside a second bag and place a labelling tag inside outer bag.

   F. Enclose samples in a cooler with sufficient ice or dry ice to maintain samples at 4 degrees C during shipment.

   G. Seal cooler with a lock, or tape with samplers signature so tampering can be detected.

   H. Package cooler in a box with insulating material. Chain of custody forms can be placed in a plastic bag in this outer box.

   I. If dry ice is used, a maximum of 5 pounds is allowed by Federal Express without special documents(documents are easy to obtain but are not necessary for under 5 pounds). Write "ORM-A dry ice", "_____ pounds, for research" on outside packaging and on regular airbill under classification. UPS does not accept dry ice.

   J. Soil cores kept a 4 degrees C are only viable for up to 7 days when aromatic hydrocarbons are involved. The lab should prepare the samples in methanol once in the lab.

4. Good sampling practice would include preparing 1 out of 5 samples to be prepared in duplicates for analysis. These 4 out of 20 samples will be used for the following purposes:

   A. One in every 20 samples should be analyzed as a field replicate to evaluate the precision of the sampling technique. A minimum of 1 sample per data set is suggested.

   B. An additional 1 in 20 samples should be selected by sampler to be prepared in duplicate as alternative to Step (A). Choose a different soil type if available.

C. The remaining 2 in 20 samples should be used by lab for spiking with reference materials for internal QC.

Other QC procedures can be specified at the project manager's discretion. See Table 3-2 (reference 2) attached.

5. Decontamination of equipment in the field requires a detergent wash, with a distilled water rinse.

REFERENCES

1. Soil Sampling Quality Assurance Users Guide, U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, NV, EPA 600/4-84-043, May 1984.

2. Preparation of Soil Sampling Protocol. Techniques and Strategies, U.S. EPA, Environmental Monitoring Systems Laboratory, Las Vegas, NV, EPA 600/4-83-020, August 1983 (PB83-206979).

3. Test Methods for Evaluating Solid Waste, U.S. EPA, Office of Solid Waste and Emergency Response, Washington, D.C., SW 846, July 1982.