

RECEIVED

By dehloptoxic at 8:58 am, Jan 11, 2007

GEOTECHNICAL ENVIRONMENTAL WATER RESOURCES CONSTRUCTION SERVICES

Project No. **7584.P.001.01**

November 17, 2006 Revised December 26, 2006

Mr. Robert Strong 500 Bollinger Canyon Way, Suite A4 San Ramon, CA 94583

Subject:

224 Rickenbacker Circle Livermore, California

REVISED WORK PLAN FOR SOIL AND GROUNDWATER SAMPLING

Reference:

JMK Environmental Solutions, Inc.; Subsurface Investigation for Phase II Site

Assessment; 224 Rickenbacker Circle, Livermore, California; October 28, 2005.

Dear Mr. Strong:

ENGEO Incorporated (ENGEO) is pleased to present this revised work plan to perform soil vapor, soil, and groundwater sampling at the subject property (Property) at the above referenced site. This revised work plan was developed in response to the Alameda County Health Services Agency letter dated December 8, 2006. The purpose of the proposed activities is to further characterize the lateral and vertical extent of tetrachloroethylene (PCE) impacted soil at the Property, and assess whether soil vapor or groundwater quality beneath the site has been affected by historical use of the site as a dry cleaning facility.

SITE HISTORY

The Property was formerly operated as a dry cleaning facility that utilized a PCE based machine. According to the property owner, approximately 10 years ago the PCE based machine was replaced by an Exxon DF2000 clean solvent machine and subsequently a "Green Earth" silicon based machine. All equipment was removed from the building in October 2005. Based on a site reconnaissance, a former boiler room was located in the southeastern corner of the building and a conventional washing machine pad with a grated drain was observed just north of the boiler room. A concrete patch was visible on the floor, as indicated on Figure 2, which is the assumed sanitary sewer alignment. A sanitary sewer cleanout was visible between the building and Rickenbacker Circle.

In October 2005, JMK Environmental Solutions, Inc. advanced three soil borings to a depth of approximately 35 feet below the ground surface and recovered soil samples from each boring. Analytical results of the soil samples indicated the presence of PCE to the maximum depth explored in the two borings, nearest the dry cleaning machine location. Based on review of the laboratory results for the soil samples, several samples exhibited concentrations of PCE in excess of the San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (ESLs) for vapor intrusion. Groundwater was not encountered during the investigation, and therefore, no groundwater samples were collected.

Based on groundwater monitoring well data in the general site vicinity, the direction of groundwater flow is assumed to the northwest.

Mr. Robert Strong 224 Rickenbacker Circle, Livermore WORK PLAN FOR SOIL AND GROUNDWATER SAMPLING

7584.P.001.01 November 17, 2006 Revised December 26, 2006 Page 2

A copy of the report prepared by JMK Environmental Solutions, Inc. was submitted to the Alameda County Health Services Agency along with a request for Site/Case Closure. Alameda County issued a letter dated July 6, 2006, in response to the request for case closure, requesting a work plan to delineate the extents of contamination at the Property.

SCOPE OF WORK

Task 1

Soil vapor samples will be recovered from approximately eight (8) locations using a mobile laboratory to assess possible discharge of volatile compounds. Three (3) to five (5) additional locations may be selected based on the field data. Initial soil vapor samples will be recovered near the former dry cleaning machine, within the boiler room, along the sanitary sewer alignment, and within the areas formerly used for chemical or waste storage. The soil vapor samples will be recovered at approximately five feet below the ground surface.

Soil vapor samples collected from each probe will be transferred directly to the on-site mobile laboratory and analyzed immediately. There will be minimal lag time between sample collection and analysis, ensuring that the integrity of the sample is maintained. During sampling, a leak check gas is used to confirm that the sample train and probe rod is tight and leak free. Samples will be analyzed on a gas chromatograph equipped with capillary columns and a combination of mass spectrometer (GC/MS), TCD, and FID detectors as needed. Samples will be analyzed for petroleum hydrocarbons and volatile organic compounds.

In addition to soil vapor sampling, soil samples will be recovered from the dumpster area, the fenced storage area, the detergent pad, and the boiler room to assess potential impacts using a proprietary penetrometer-percussion probe to drive a 1-inch-diameter sampling rod to the designated depth. Descriptions of the drilling activities and the soil samples will be prepared by an ENGEO Environmental Geologist/Engineer. Sampling equipment will be cleaned with Alquinox and rinsed with distilled water between each sample recovery. Soil samples will be analyzed for petroleum hydrocarbons (EPA 8015) and Volatile Organic Compounds (EPA 8260B).

Upon completion of Task 1, the data will be compiled and an interim site characterization report will be prepared and submitted to Alameda County for review.

Task 2

<u>Soil Sampling</u>. Five borings will be advanced to delineate the extents of the PCE-impacted soil, as indicated on Figure 2. These five locations may be revised based on the results from Task 1. Three of the borings will be located in the vicinity of the former dry cleaning, to the north, west, and south of the machine. Soil samples will be recovered at these locations and used to delineate the extent of soil contamination in the area. A fourth boring will be advanced along the assumed sanitary sewer alignment. The assumed alignment appears to encompass the drains from the former washing machines and a drain located in the former boiler room. The fifth boring will be located near the northeaster corner of the building, downgradient of the dry cleaning machine. A review of quarterly groundwater data from a service station located approximately I mile east-southeast, indicated that groundwater flows in the north-northeasterly direction.

Mr. Robert Strong 224 Rickenbacker Circle, Livermore WORK PLAN FOR SOIL AND GROUNDWATER SAMPLING

7584.P.001.01 November 17, 2006 Revised December 26, 2006 Page 3

No. HG 413

A Geoprobe® direct-push sampling rig will be used to recover soil samples in 1½-inch-diameter sample cores in clear acrylic tubes. Descriptions of the drilling activities and the soil samples will be prepared by an ENGEO Environmental Geologist/Engineer. Sampling equipment will be cleaned with Alquinox and rinsed with distilled water between each sample recovery. Soil samples will be recovered at 5, 10, 20, and 30 feet below the ground surface (bgs). An additional soil sample will be collected at the saturated zone in the boring located near the northwestern corner of the building. A photoionization detector will be used to screen the soil for organic vapors during drilling activities. A sample will be recovered from any location where a significant organic vapor reading is recorded.

<u>Groundwater Sampling</u>. Groundwater will be sampled from all borings. The borings will be advanced to approximately 50 feet below the ground surface and temporary casing will be advanced in the borehole and grab-groundwater samples will be recovered using a dedicated polyethylene tube equipped with a check valve.

Following recovery, the groundwater samples will be decanted into appropriate laboratory glassware. All soil and groundwater samples will be labeled with a unique sample number, sample location, and time and date collected. The samples will be preserved in a cooled ice chest for delivery under documented chain of custody to a certified analytical laboratory. Soil and groundwater samples will be analyzed for petroleum hydrocarbons (EPA 8015) and Volatile Organic Compounds (EPA Method 8260B).

After samples are recovered, the boreholes will be grouted with neat cement in accordance with a permit provided by Zone 7.

REPORT PREPARATION

After compiling and reviewing the collected data, ENGEO will prepare a final written report. The report will describe the work performed and the findings of the assessment with our conclusions.

We look forward to working with you on this project. If you have any questions regarding the scope of our services, please do not hesitate to contact us.

Very truly yours,

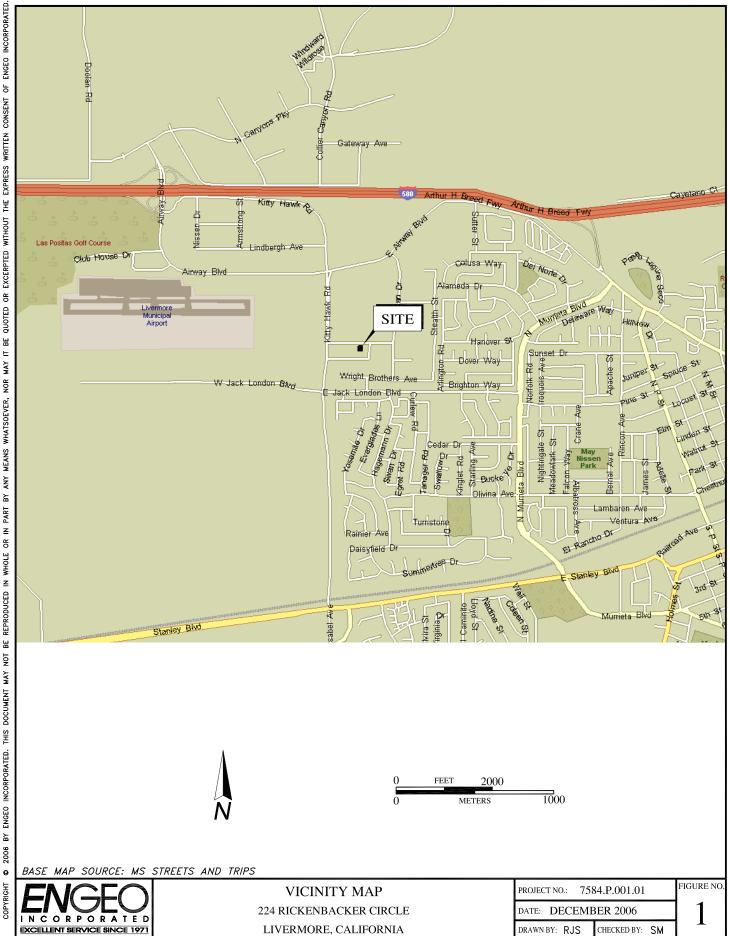
ENGEO INCORPORATED

Kelly Krohn kk/sm/ls:workplan

Enclosures: Figures 1 and 2

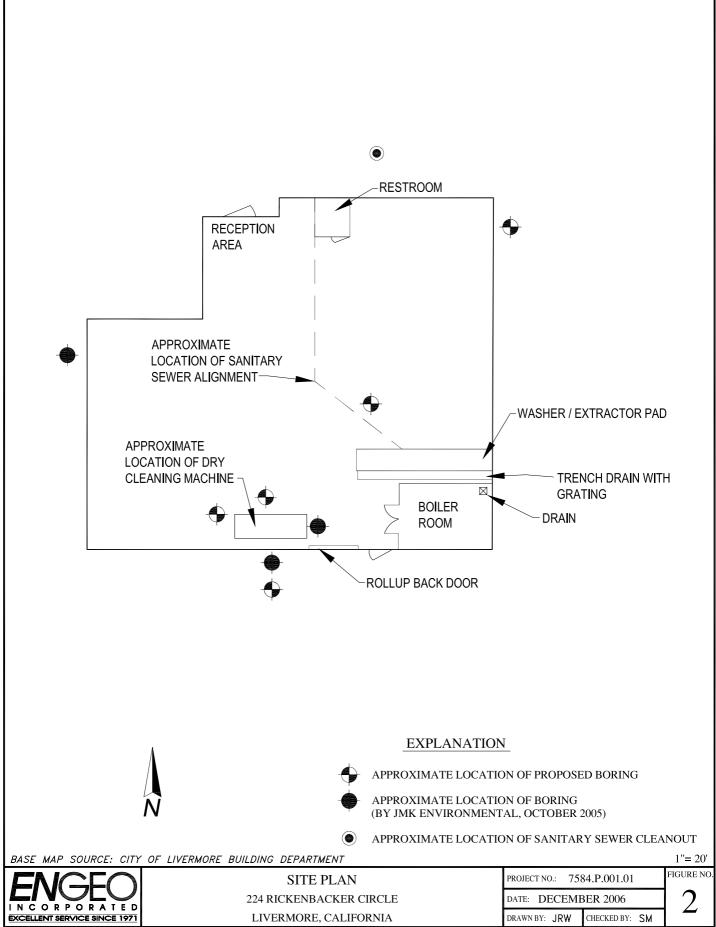
Reviewed by:

Shawn Munger, CHG, REAII



\Drafting\DRAFTING2_Dwg\7584\Rickenbacker-1VicinityMap-1206.dwg 1-10-07 08:46:06 AM

ORIGINAL FIGURE PRINTED IN COLOR



\Drafting\DRAFTING2_Dwg\7584\Rickenbacker-2SitePlan-1206 dwg 1-10-07 08:47:17 AM

2006 BY ENGEO INCORPORATED. THIS DOCUMENT MAY NOT BE REPRODUCED IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER, NOR MAY IT BE QUOTED OR EXCERPTED WITHOUT THE EXPRESS WRITTEN CONSENT OF ENGEO INCORPORATED

COPYRIGHT

ORIGINAL FIGURE PRINTED IN COLOR