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Mr. Scott Seery
ALAMEDA COUNTY HEALTH CARE SERVICES
DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

**RE: WORK PLAN FOR A SOIL AND
GROUND WATER QUALITY
RECONNAISSANCE
S&S BUILDING SUPPLY
SAN LEANDRO, CALIFORNIA**

Dear Mr. Seery:

On behalf of S&S Building Supply, we are pleased to present this work plan to perform a soil and ground water quality reconnaissance for the referenced site, located at 701 Fremont Boulevard in San Leandro, California.

Introduction

Two 1,000-gallon gasoline underground storage tanks (USTs) and dispenser island were formerly located on-site. During the removal of the USTs in 1989, two soil samples were collected from beneath the northern and southern ends of each tank. Laboratory analysis of soil samples collected from beneath the northern and southern ends of Tank B detected total petroleum hydrocarbons (TPH) as gasoline at 2,300 parts per million (ppm) and 7,600 ppm, respectively. Laboratory analysis of soil samples collected from beneath Tank A did not detect TPH as gasoline or benzene, toluene, ethylbenzene, or xylene (BTEX) above the laboratory detection limits.

Site History

We understand additional soil was removed from the tank excavation; however, it does not appear that any additional verification soil samples were collected from the base of the pit. Analysis of five composite soil samples collected from the stockpiled soil did not detect TPH as gasoline or BTEX compounds. The stockpiled soil was subsequently used to backfill the excavation.

The purpose of this work plan is to further evaluate soil and ground water quality at the site.

Purpose

Based on the available information, our proposed scope of work is presented below.

Scope of Work

TASK A: SOIL AND GROUND WATER QUALITY RECONNAISSANCE

Prior to performing the field work, we will contact Underground Service Alert so that the utility companies may be notified of the drilling activities.

Underground Utility
Check

Our environmental engineer or scientist will direct a subsurface exploration program and supervise, log, and sample three exploratory borings to depths of approximately 25 feet. Soil samples will be collected at approximately 5-foot depth intervals from the borings and monitored for volatile hydrocarbons using an organic vapor meter (OVM). The exploratory borings will be converted to "permanent" 2-inch diameter ground water monitoring wells. The wells will be permitted and constructed according to the regulatory guidelines. The wells will be completed with locked well caps and steel well head covers installed flush with the adjacent grade.

Monitoring Well
Installation

Two of the proposed monitoring wells will be located approximately down-gradient of the former UST locations, with respect to the estimated regional ground water flow direction (southwest); one monitoring well will be located approximately up-gradient of the former UST locations. The up-gradient well would aid in evaluating background soil and ground water conditions and potential impacts from off-site sources.

To evaluate ground water flow direction at the site, the lateral locations of wells will be established using a metered wheel. The relative elevations of the monitoring wells and ground water will then be surveyed. The survey will consist of a two-person crew using a Leitz level and an engineer's graduated rod.

Surveying/Gradient
Evaluation

Approximately 48 hours after drilling, the wells will be developed. Well development will consist of purging several well volumes of ground water from the wells in order to flush fine-grained water from the wells and surrounding soil. Ground water will be purged using an electric submersible pump or teflon bailer. Logs of the well development will be maintained in the field.

Well
Development

Approximately 48 hours after well development, the static water levels will be measured to the nearest 0.01 foot in the wells using an electronic depth sounder. The wells will then be sampled in accordance with EPA guidelines. Prior to sampling, the wells will be purged of at least three well casing volumes of ground water in order to obtain representative ground water samples. Field water quality tests will consist of measuring the pH, conductivity, and temperature of the ground water. After the ground water levels have recovered to at least 80 percent of the initial level and the water quality parameters have stabilized, ground water samples will be collected using a teflon bailer or electric submersible pump. Sampling logs for each monitoring well will be maintained in the field.

Monitoring Well
Sampling

To evaluate if impacted soil initially detected below Tank B was adequately removed during over-excavation activities, and to aid in evaluating if further excavation is warranted, one soil boring will be drilled near the location at which the highest concentration of TPH as gasoline was detected during removal of the tanks. Drilling and sampling will be performed in the same manner as described above. After completion, the boring will be backfilled to the surface with cement grout.

Additional Soil Boring

One soil sample from each of the monitoring well borings with the highest OVM reading or, alternatively, the samples collected from immediately above the shallow water-bearing zone will be submitted for laboratory analysis.

Laboratory Analyses

In addition, one ground water sample per monitoring well and two soil samples from the boring drilled within the former tank pit will be analyzed. These eight samples will be analyzed by a

Soil Cuttings and
Purged Ground Water

state certified laboratory for TPH as gasoline with an additional scan for BTEX (EPA Test Method 8015/8020). Chain of custody documentation will be maintained for all samples.

Soil cuttings and purged ground water will be stored on-site in EPA approved drums.

Sampling Protocols

Soil samples will be collected in brass liners, the ends covered in aluminum foil, taped, and capped with plastic end caps. Ground water samples will be collected in appropriate bottles, labeled, and placed on ice pending analysis by the state-certified analytical laboratory. Chain of custody documentation will be maintained for all samples. All boring and sampling equipment will be cleaned in a solution of tri-sodium phosphate and distilled water or steam cleaned before use in each boring.

TASK B: REPORT PREPARATION

We will prepare a report discussing the results of our investigation, summarizing the field and laboratory data, and presenting our conclusions and recommendations. Our conclusions and recommendations will be based readily available information, observations of existing conditions, and our interpretation of the analytical data. The report will include boring logs with OVM results, a site plan showing well/boring location, and copies of all laboratory data sheets.

SCHEDULE

Scheduling and performance of the field work will take approximately two weeks. All samples will be analyzed on a two-week laboratory response time. After receipt of the analytical data, verbal results and preliminary information relating to our subsurface investigation will be made available. Our report will

be prepared within approximately three weeks of receiving the analytical data.

If you have any questions, please call.

Very truly yours,

LOWNEY ASSOCIATES

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Environmental Geologist

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