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10:18 am, Mar 02, 2011

Alameda County

Environmental Health

Mr. Paresh Khatri Alameda County Environmental Health Services 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Re: Foothill Mini Mart, 6600 Foothill Boulevard, Oakland, California

(ACEHS Case No. RO0000175)

Dear Mr. Khatri:

Stratus Environmental, Inc. (Stratus) has recently prepared an *Addendum to Feasibility Study Work Plan* on my behalf. The report was prepared in regards to Alameda County Fuel Leak Case No. RO0000175, located at 6600 Foothill Boulevard, Oakland, California.

I have reviewed a copy of this report, sent to me by representatives of Stratus, and "I declare, under penalty of perjury, that the information and or/recommendations contained in the attached document or report is true and correct to the best of my knowledge."

Sincerely,

Ravi Sekhon

2920ch



February 25, 2011 Project No. 2087-6600-01

Mr. Paresh Khatri Alameda County Environmental Health Department 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502

Addendum to Feasibility Study Work Plan

Foothill Mini Mart 6600 Foothill Boulevard Oakland, California

Dear Mr. Khatri:

Re:

Stratus Environmental, Inc. (Stratus) has prepared this document, on behalf of Mr. Ravi Sekhon, for the Foothill Mini Mart (the Site), located at 6600 Foothill Boulevard, Oakland, California. At the request of Alameda County Environmental Health Department (ACEHD), Stratus prepared and submitted a report titled *Feasibility Study Work Plan (Work Plan)*, dated December 13, 2010, on behalf of Mr. Sekhon. This *Work Plan* presented a scope of work to pilot test use of dual phase extraction (DPE) and ozone/hydrogen peroxide injection, to mitigate previously documented petroleum hydrocarbon impact to the subsurface. The *Work Plan* also proposed to install remediation wells necessary to implement the proposed pilot testing.

After reviewing the *Work Plan*, ACEHD personnel conditionally approved the scope of work presented by Stratus, in a letter dated February 10, 2011. However, in addition to the activities proposed by Stratus, ACEHD requested that petroleum hydrocarbon concentrations in soil vapor within utility trenches at the site be evaluated before, during, and after pilot testing. ACEHD also requested that a figure illustrating the locations of proposed soil vapor sampling points be submitted for agency review.

Stratus recently visited the site with an underground utility locating subcontractor and identified the location and approximate depth of underground utilities onsite near the areas where the remediation wells will be installed. This document provides a figure illustrating the approximate locations of these underground utilities, and proposes the installation of two soil vapor sampling wells immediately adjacent to these underground utility corridors. This document also provides information regarding the proposed construction of the soil vapor sampling wells, and other information pertinent to the collection and analysis of soil vapor samples before, during, and after remediation pilot testing.

February 25, 2011 Project No. 2087-6600-01

SCOPE OF WORK

Figure 1 depicts the locations of underground utilities identified in the east-southeastern portion of the subject property, which is the area of the site impacted with petroleum hydrocarbons. The only subsurface utility corridors located by the utility locating contractor, in the southern part of the site, are for electric lines (see Figure 2 for location). In particular, two electric lines extend from the fuel dispenser/UST area towards the sidewalk along Foothill Boulevard. All other utilities serving the property (water, sewer, etc.) enter the site from the north, and are outside of the area of the remediation pilot test.

In order to comply with ACEHD's request from the February 10, 2011 letter, Stratus is proposing to install two soil gas sampling wells (SGW-1 and SGW-2) immediately adjacent to electric line utility trenches, near the southeastern property boundary. The wells will be installed to a relatively shallow depth, as the electric lines near proposed SGW-1 and SGW-2 are only approximately 13-inches and 28-inches below surface grade, respectively. During installation, Stratus personnel will evaluate soil types in order to evaluate if coarse grained fill material (i.e. fill sand/gravel) is present near the electric lines, as this type of material could potentially allow for preferential migration of soil vapor contaminants. If identified, the soil gas well will be installed to the approximate depth where coarser grained soil/fill material is situated.

A C-57 licensed well driller will hand dig SGW-1 and SGW-2 under the direction of a Stratus Geologist/Scientist. Upon an evaluation of the subsurface material encountered, the drilling contractor will then install a polyethylene soil vapor implant (Environmental Service Products Part No. SVPT-91, or similar) attached to 0.25-inch diameter Teflon tubing, or similar, near the base of the borehole. A filter pack of graded sand will be placed around the soil vapor implant, and a thin layer of hydrated granular bentonite will be placed on top of the filter pack sand. Neat cement will then be placed over the granular bentonite in order to backfill any remaining annular space in the borehole. A traffic rated vault box will then be installed over the top of the Teflon tubing.

Stratus proposes to collect soil vapor samples from SGW-1 and SGW-2 before beginning pilot testing, once during the ozone injection/hydrogen peroxide pilot test, once during the DPE test, and once approximately 2 weeks following both pilot tests (4 total sampling events). Prior to sampling, the approximate air volume situated inside of the Teflon tubing and the filter pack sand surrounding the soil vapor implant will be calculated. Stratus will use an expendable Summa Canister to purge this ambient air. Following purging of the ambient air, a separate Summa Canister will be used to collect each soil gas sample. During filling of the canisters, the flowrate will be regulated to fill at a rate between 100 and 200 milliliters per minute (ml/min). A tracer gas leak check (using 1,1-difluoroethane [1,1-DFA]) will be used to assess potential leakage within the sampling train. Potential leak detection during sampling will be evaluated by spraying the outside of the sample train assembly with 1,1-DFA.

Air samples will be forwarded to a California state-certified laboratory for chemical analysis under strict chain-of-custody procedures. The soil gas samples will be analyzed for gasoline range organics (GRO), benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary butyl ether (MTBE), tertiary butyl alcohol (TBA), and 1,1-DFA using USEPA Method TO-15.

A California licensed land surveyor will be retained to survey the horizontal coordinates and elevations of SGW-1 and SGW-2, as required by AB 2886 (GeoTracker), at the time that the other site surveying work is performed. Survey data will be uploaded to the GeoTracker database.

LIMITATIONS

This Work Plan was prepared in general accordance with accepted standards of care that existed at the time this work was performed. No other warranty, expressed or implied, is Conclusions and recommendations are based on field observations and data obtained from this work and previous investigations. It should be recognized that definition and evaluation of geologic conditions is a difficult and somewhat inexact science. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the subsurface conditions present. More extensive studies may be performed to reduce uncertainties. This Work Plan is solely for the use and information of our client unless otherwise noted.

If you have any questions or comments concerning this document, please contact Scott Bittinger at (530) 676-2062 or Gowri Kowtha at (530) 676-6001.

Sincerely,

STRATUS ENVIRONMENTAL TOTO G

Scott G. Bittinger, P.G. Project Manager

Attachments:

Figure 1

Site Plan

cc: Mr. Ravi Sekhon, Former Property Owner

Mr. Joseph LeBlanc, Property Owner, 6620 Foothill Boulevard

Scott G. Bittinger

