ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

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February 22, 2008

Mr. Mike Karvelot
Quik Stop Markets, Inc.
4567 Enterprise Street
Fremont, CA 94538

Subject: Fuel Leak Case No. RO0000123, Quik Stop # 56, 3132 Beaumont Avenue, Oakland, CA

Dear Mr. Karvelot:

Alameda County Environmental Health (ACEH) staff has reviewed the recently submitted report entitled, "Soil and Groundwater Investigation Report (SWI)", dated January 17, 2007 and prepared on your behalf by TRC. Results from the SWI indicate that six soil boring were advanced on site and immediately down gradient of the site. Low levels of TPH Following the completion of site characterization activities, ACEH requested the development of a Site Conceptual Model, which would be used to identify any data gaps and thus propose additional phases of site investigation to further characterize the site.

We request that you perform the proposed work address the following technical comments and send us the reports described below. Please provide 72-hour advance written notification to this office (e-mail preferred to steven.plunkett@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. **Proposed Soil Boring Installation and Sampling.** Review of the SWI indicates that limited soil sampling was completed in soil borings B-1, B-4 and B-7. Please discuss why soil sampling was not conducted in accordance with ACEH the request which stated that soil sample are to be collected from each boring at the capillary fringe, where groundwater is first encountered and at five foot intervals until total depth of the boring is reached. Additionally, soil boring B5 was installed as a replacement for soil boring B3; an essential location to evaluate the trajectory of the petroluem hydrocarbon plume. However, no soil samples were collected from soil boring B5 to ascertain the extent of petroleum hydrocarbon contamination at this location.

2. **Monitoring Well Installation.** Considering that soil data was not collected from soil boring B5, ACEH requests that a groundwater monitoring well be installed at this location. The purpose a groundwater monitoring well at this location would be essential to evaluate downgradient migration of petroleum hydrocarbon contamination. During monitoring well installation, soil samples should be screened with a PID and examined for visible staining and hydrocarbon odor. If any interval where stating, odor, or elevated PID readings occur a soil sample is to be collected and submitted for laboratory analysis. If no staining, odor, or elevated PID readings are observed, soil sample are to be collected from each boring at the capillary fringe, where groundwater is first encountered, changes in lithology, and at five foot intervals until total depth of the boring is reached.

ACEH suggests the use of monitoring wells designed with screen intervals of 5 feet or less, as these wells will likely be representative of groundwater conditions at a specific depth interval. Please present results from the monitoring well construction in the SWI report requested below.

3. **Soil Sampling and Analysis.** All soil samples collected during monitoring well installation should be analyzed for the following constituents; TPHg and TPHd by EPA Method 8015M or 8260, BTEX, EDB, EDC, MtBE, TAME, ETBE, DIPE, TBA and EtOH by EPA Method 8260. Please include results from the investigation in the Monitoring Well Installation Report requested below.

4. **Project Approach and Investigation Reporting – Site Conceptual Model**

We anticipate that characterization and remediation work in addition to what is requested in this letter will be necessary at and downgradient from your site. Considerable cost savings can be realized if your consultant focuses on developing and refining a viable Site Conceptual Model (SCM) for the project. A SCM is a set of working hypotheses pertaining to all aspects of the contaminant release, including site geology, hydrogeology, release history, residual and dissolved contamination, attenuation mechanisms, pathways to nearby receptors, and likely magnitude of potential impacts to receptors. The SCM is used to identify data gaps that are subsequently filled as the investigation proceeds. As the data gaps are filled, the working hypotheses are modified, and the overall SCM is refined and strengthened. Subsurface investigations continue until the SCM no longer changes as new data are collected. At this point, the SCM is said to be "validated." The validated SCM then forms the foundation for developing the most cost-effective corrective action plan to protect existing and potential receptors.

When performed properly, the process of developing, refining and ultimately validating the SCM effectively guides the scope of the entire site investigation. We have identified, based on our review of existing data, some initial key data gaps in this letter and have described several tasks that we believe will provide important new data to refine the SCM. We request that your consultant develop a SCM for this site, identify data gaps, and propose specific supplemental tasks for future investigations. There may need to be additional phases of investigations, each building on the results of the prior work, to validate the SCM. Characterizing the site in this way will improve the efficiency of the work and limit its overall cost.

The SCM approach is endorsed by both industry and the regulatory community. Technical guidance for developing SCMs is presented in API's Publication No. 4699 and EPA's Publication No. EPA 510-B-97-001 both referenced above; and "Guidelines for Investigation and Cleanup of MTBE and Other Ether-Based Oxygenates, Appendix C," prepared by the State Water Resources Control Board, dated March 27, 2000.

The SCM for this project shall incorporate, but not be limited to, the following:

a) A concise narrative discussion of the regional geologic and hydrogeologic setting obtained from your background study. Include a list of technical references you reviewed, and copies (photocopies are sufficient) of regional geologic maps, groundwater contours, cross-sections, etc.

b) A concise discussion of the on-site and off-site geology, hydrogeology, release history, source zone, plume development and migration, attenuation mechanisms, preferential pathways, and potential threat to downgradient and above-ground receptors. Be sure to include the vapor pathway in your analysis. Maximize the use of large-scale graphics (e.g., maps, cross-sections, contour maps, etc.) and conceptual diagrams to illustrate key points. Include structural contour maps (top of unit) and isopach maps to describe the geology at your site. Geologic cross-sections, which include an interpretive drawing of the vertical extent of soil and groundwater contamination (i.e., an interpretive drawing—not a plot of laboratory results). The SCM report requested below is to include one cross section parallel and one cross section perpendicular to the contaminant plume axis. Each cross section should include, but not be restricted to, the following:

1. Subsurface geologic features, depth to groundwater and man-made conduits.
2. Surface topography. The cross sections should be extended off-site where necessary to show significant breaks in slope.
3. Soil descriptions for all borings and wells along the line of section.
4. Screen and filter pack intervals for each monitoring well.
5. Sampling locations and results for soil and grab groundwater samples.
6. Site features such as the tank pit, dispensers, buildings etc. Where appropriate, monitoring well location and soil boring locations will be projected back to the strike of the cross section line

c) Identification and listing of specific data gaps that require further investigation during subsequent phases of work.

d) Proposed activities to investigate and fill data gaps identified above.

e) The SCM shall include an analysis of the hydraulic flow system at and downgradient from the site. Include rose diagrams for groundwater gradients. The rose diagram shall be plotted on groundwater contour maps and updated in all future reports submitted for your site. Include an analysis of vertical hydraulic gradients. Note that these likely change due to seasonal precipitation and pumping.

f) Temporal changes in the plume location and concentrations are also a key element of the SCM. In addition to providing a measure of the magnitude of the problem, these data are often useful to confirm details of the flow system inferred from the hydraulic head measurements. Include plots of the contaminant plumes on your maps, cross-sections, and diagrams.

g) Several other contaminant release sites exist in the vicinity of your site. Hydrogeologic and contaminant data from those sites may prove helpful in testing certain hypotheses for your SCM. Include a summary of work and technical findings from nearby release sites and incorporate the findings from nearby site investigations into your SCM.

h) Plots of chemical concentrations vs. time and vs. distance from the source. Plots should be shown for each monitoring well, which has had detectable levels of contaminants

i) Summary tables of chemical concentrations in each historically sampled media (including soil, groundwater and soil vapor).

j) Boring and well logs (including construction/screening), and a summary table indicating

construction specifications for each monitoring and extraction well.

Report the information discussed above in your initial SCM and include it in the Work Plan requested below. Include updates to your SCM in the Monitoring Well Installation Report requested below.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Mr. Steven Plunkett), according to the following schedule:

- **April 15, 2008 –** Monitoring Well Installation Report with Site Conceptual Model

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail. Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "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." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 383-1767.

Sincerely,

Steven Plunkett
Hazardous Materials Specialist

cc: Mr. Jonathan Scheiner
TRC Solutions, Inc.
1590 Solano Way, Suite A
Concord, CA 94520

Donna Drogos, ACEH, Steven Plunkett, ACEH, File