## Wickham, Jerry, Env. Health

From: Karel Detterman [KDetterman@clearwatergroup.com]
Sent: Friday, April 27, 2007 1:34 PM
To: SUNIL RAMDASS
Cc: Wickham, Jerry, Env. Health
Subject: RE: Fuel Leak Case \# RO0000096, Eagle Gas, 4301 San LeandroSt., Oakland, CA
Hi Sunil: Thank you for the information.
Karel Detterman, PG
Clearwater Group

From: SUNIL RAMDASS [mailto:SRAMDASS@waterboards.ca.gov]
Sent: Wed 4/25/2007 2:41 PM
To: Karel Detterman
Cc: Olivia Jacobs; DAVID CHARTER
Subject: Re: Fuel Leak Case \# RO0000096, Eagle Gas, 4301 San LeandroSt., Oakland, CA
Hello Karel,

1) I don't think the cost to repair the sewer line is eligible corrective action. Thus, it will not be eligible for reimbursement.
2) It is always good to get 3 bids for any work, but that your call.

Thanks,
Sunil
>>> "Karel Detterman" [KDetterman@clearwatergroup.com](mailto:KDetterman@clearwatergroup.com) 04/25/07 1:55 PM >>>
Hi Sunil:
I am the new project manager for the above site for the Clearwater Group
(Clearwater) and have two questions regarding repairing the sewer line
at the Eagle Gas Station: but first, here is the background:
It has been noted that groundwater levels in some site monitoring wells have lead to anomalous gradients; Jerry Wickham (ACEH) mentioned potential causes for the anomalous gradients including potential water \&/or sewer line leaks under "Technical Comments \#2" in his October 19, 2006 letter and stated that "we concur with the recommendation for find and repair the suspected leaks for on-site water lines and the sewer system" in "Technical Comments \#2" of his January 4, 2007 letter to Muhammad Jamil.

On April 11th, Pipe Pros, a leak detection service, determined that there were two leaks in the on-site sewer line, but no leaks in the water lines; I would like to get those leaks fixed and wanted to find out:

1. Will this work be eligible for reimbursement under the Fund; and
2. Should I get three bids for the sewer line repair?

Please call or e-mail me if you have any questions.

January 4, 2007
Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis Street
Fremont, CA 94538

Subject: Fuel Leak Case No. RO0000096, Eagle Gas, 4301 San Leandro Street, Oakłand, CA
Dear Ms. Naz:
Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site and the document entitled, "Revised Work Plan," dated December 19, 2006. The Revised Work Plan proposes plans for on-site and off-site investigation tasks and interim remediation. The Work Plan has been revised in response to technical comments in ACEH correspondence dated October 19, 2006. The proposed scope of work may be implemented without submittal of a revised Work Plan provided that the technical comments below and modifications to the site investigation are addressed and incorporated during the field investigation. Submittal of a revised work plan is not required.

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

## TECHNICAL COMMENTS

1. Figure 4 - Depth of Contact Between Clayey Gravel and Underlying Soil. The clayey gravel unit, the base of which is depicted on Figure 4, may affect groundwater flow across the site. However, the basis for depicting the base of the contact at a depth of 18 feet bgs in the area of the dispenser that is northeast of the service station building is not apparent since none of the data points in the eastern portion of the site show the contact more than 15 feet bgs. We note that several borings such as SB-6d, SB-7d, and SB-8d, are not included on the figure. We also note that there are several discrepancies between Figure 4 and the boring logs such as the depth of the contact in borings MW-1 and MW-7. Please include the additional data points and corrected depths in future revisions of Figure 4. Please also note that the log for boring SB-7/MW-7 indicates a well-sorted gravel from 13 to 25 feet bgs. Identification of a well-sorted, loose gravel in the subsurface is unusual and no other boring $\log$ for the site contains a similar description. Please review this boring log and present an interpretation of this described gravel in the Site Investigation and Interim Remediation Report requested below.
2. Water Line or Sewer System Leaks. We concur with the recommendation to find and repair the suspected leaks from on-site water lines and the sewer system. Please report on progress in finding and repairing the leaks in future quarterly groundwater monitoring reports.
3. Deep Monitoring Wells. The proposed locations of the two deeper monitoring wells are acceptable. Please present the results from the well installation in the Site Investigation and Interim Remediation Report requested below.
4. Proposed Discrete Interval Sampling. We do not concur with the proposal to conduct depth-discrete sampling within wells IS-5, MW-1, and MW-7. Recent research indicates that significant vertical mixing occurs within well bores even during low flow sampling (MartinHayden 2006 and Varjen and Kaminski 2006). Therefore, depth-discrete sampling within an open borehole will not provide accurate data to estimate mass within specific vertical intervals. Depth-discrete sampling would require grab groundwater sampling from additional borings or the use of baffles or packers within open well bores. Proposal of either of these two methods would require a Work Plan Addendum along with a detailed justification for this type of sampling.
5. Off-site Soil Boring Locations. The proposed locations for the nine off-site soil borings shown on Figure 6 are acceptable. Although nine off-site boring locations are shown on Figure 6, the text in section 3.3 of the Revised Work Plan indicates that seven off-site borings will be advanced. Nine off-site borings, as shown on Figure 6, are required.
6. Depth of Off-site Soil Borings. The Revised Work Plan currently proposes to collect depthdiscrete grab groundwater samples below 25 feet bgs only if highly contaminated soil or groundwater is observed. The on-site borings have confirmed that groundwater contamination extends below 25 feet bgs. The purpose of the off-site investigation is to delineate the extent of groundwater contamination in both the upper and lower zones. Field observation of gross contamination does not provide sufficient information to assess whether groundwater contamination may extend off-site in the coarse-grained layers present below 25 feet bgs. Therefore, in addition to sampling first encountered groundwater from each off-site boring, grab groundwater sampling is required from each significant water-bearing zone encountered within the upper 50 feet bgs. Please present the results in the Site Investigation and Interim Remediation Report requested below.
7. Soil Vapor Sampling. The proposed soil vapor sampling at six soil vapor monitoring wells as discussed in the text is acceptable. However, we note that only five soil vapor sampling locations are shown on Figure 7; one previously proposed location adjacent to MW-4D was deleted from Figure 7. Please conduct soil vapor sampling at the proposed location adjacent to well MW-4D in addition to the five locations shown on Figure 7. Please present the results in the Site Investigation and Interim Remediation Report requested below.
8. Dual Phase Extraction Pilot Test. Implementation of a Dual Phase Extraction (DPE) Test is acceptable. DPE testing is to be conducted on wells within each of the contamination source areas. Please present the results in the Site Investigation and Interim Remediation Report requested below.
9. Persulfate Bench Test. The proposed bench-scale test for persulfate is acceptable. Please present the results in the Site Investigation and Interim Remediation Report requested below.

Farah Naz
January 4, 2007
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## REFERENCES

Martin-Hayden, James M. 2006. "Physical Well-Bore Processes and Influences on Concentrations Heterogeneity," High-Resolution Site Characterization and Monitoring, $2^{\text {nd }}$ Symposium in GRA's Tools and Technologies Series, November 14-15, 2006.

Varljen, Mark D. and Kaminski, David B., 2006. "Mumerical Simulations of the Vertical Flux Distribution into Monitoring Wells Screens during Low-flow Purging and Sampling HighResolution Site Characterization and Monitoring, $2^{\text {nd }}$ Symposium in GRA's Tools and Technologies Series, November 14-15, 2006.

## TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- May 25, 2007 - Site Investigation and Interim Remediation Report
- 45 days after the end of each quarter - Quarterly Groundwater Monitoring Report

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) 567-6791.

Sincerely,


## Farah Naz

January 4, 2007
Page 5

## cc: Robert Nelson

Clearwater Group
229 Tewksbury Avenue
Point Richmond, CA 94801

Sunil Ramdass
SWRCB Cleanup Fund 1001 I Street, $17^{\text {th }}$ floor Sacramento, CA 95814-2828

Donna Drogos, ACEH Jerry Wickham, ACEH File

October 19, 2006
Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis Street
Fremont, CA 94538

Subject: Fuel Leak Case No
gle Gas, 4301 San Leandro Street, Oakland, CA
Dear Ms. Naz:
Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site and the document entitled, "Additional Subsurface Investigation Work Plan," dated October 9, 2006. The Work Plan proposes several on-site and off-site investigation tasks, a bioremediation feasibility study, implementation of iSOC remedial technology, and a high vacuum dual phase extraction pilot test. We request that you address the technical comments below and submit a revised Work Plan by December 19, 2006.

We request that you address the following technical comments, perform the proposed work, and send us the reports described below.

## TECHNICAL COMMENTS

1. Differences in Described Soil Types between Adjacent Borings. In several areas of the site, the soil types logged in adjacent borings less than 15 feet apart are significantly different. As an example, a clayey gravel unit is logged in boring SB-6 from approximately 1.5 to 16 feet bgs. Predominantly fine-grained soils are logged within the upper 16 feet in boring SB- 6 , which appears to be 12 feet northeast of boring SB-6. Similar differences in soil types between adjacent borings appear on the cross sections between borings SB-4 and SB4d, SB-i3 and SB-8d, and SB-i2 and MW-3. Please compare the soil conditions encountered at the site to regional geologic conditions as described in regional geologic maps, regional geologic reports, and reports from fuel leak sites in the area to assess whether the conditions encountered at the site are consistent with regional conditions, whether there are alluvial channels that may act as preferential pathways, and whether parts of the site may have been excavated and the native alluvial fan soils replaced with fill. Please present the results of this evaluation in the revised Work Plan requested below.
2. Water Level Differences and Unrealistic Hydraulic Gradients. Please review the results of the evaluation requested in technical comment 1 with regard to potential effects on water levels at the site. Potential effects from the backfill material in the former UST excavation should also be considered. Although water line leaks are not the likely sole source of water level anomalies, the proposed analyses of groundwater samples for trihalomethane, chlorine residual, and total coliform bacteria during one quarterly monitoring event are acceptable to help assess whether water lines leak contribute to the water level differences observed at the

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site. Please present the results in the quarterly monitoring report to be submitted following the fourth quarter of 2006.
3. Bioremediation Feasibility Study. The Work Plan proposes a Bioremediation Feasibility Study that would include analysis of groundwater samples from wells IS-5, MW-4, and MW-8 for microbial activity and various parameters that affect bioremediation. TBA concentrations appear to have increased in several wells concurrent with decreases in MTBE concentrations. Performance of the proposed feasibility study is acceptable provided that the feasibility addresses the potential for microbial degradation of both MTBE and TBA. Please describe in the revised Work Plan requested below how the feasibility study will address whether biodegradation will be effective for TBA.
4. Off-site Soil Boring Locations. We do not concur with the proposed locations along High Street and San Leandro Street for the off-site soil borings. Although several of the proposed locations may be acceptable, the proposed investigation will not adequately define the off-site extent of contamination in the likely downgradient direction. As previously discussed in our June 27 and August 11, 2006 correspondence, the off-site investigation must delineate the plume in the regional downgradient flow direction, along preferential pathways, and in the direction of potential discharge to Peralta Creek. Please review the attached, "Revised Figure 4," showing recommended boring locations and present revised boring locations in the revised Work Plan requested below.
5. Depth of Off-site Soil Borings. The Work Plan currently proposes to extend the soil borings to a depth of 25 feet bgs and indicates that the borings may be extended up to 50 feet bgs if "field evidence indicates that contamination extends below 25 feet bgs. The on-site borings have confirmed that contamination extends below 25 feet bgs. MTBE was detected at concentrations up to 63 milligrams per kilogram ( $\mathrm{mg} / \mathrm{kg}$ ) in soil at a depth of 41.5 feet bgs (boring SB-5d). The purpose of the off-site investigation is to delineate the extent of groundwater contamination in both the upper and lower zones. Field evidence observed at depths shallower than 25 feet bgs do not provide sufficient information to assess whether groundwater contamination may extend off-site in the coarse-grained layers present below 25 feet bgs. Therefore, the off-site borings are to be extended to a minimum depth of 50 feet bgs.
6. Deep Monitoring Wells. The proposed locations of the two deeper monitoring wells are acceptable. The use of a pilot boring to identify the proposed screen interval for well MW-1D is acceptable. . A coarse-grained layer encountered in the lower portion the pilot boring for well MW-1 that may represent a preferential pathway is to be selected for the screened interval. It should be noted that boring SB-7d was previously advanced to a depth of 48 feet bgs at the proposed location for well MW-7d. Please indicate in the revised Work Plan requested below whether a pilot boring is being proposed due to lack of recovery over some intervals or whether the pilot boring will be extended below 48 feet to assess the poorly graded sand and gravel unit encountered from 45 feet bgs to the total depth of the boring. Please present these plans in the Work Plan requested below.
7. Soil Vapor Sampling. The proposed locations and scope of work for soil vapor sampling are acceptable.

Farah Naz
October 19, 2006
Page 3
8. Dual Phase Extraction Pilot Test. Implementation of a Dual Phase Extraction (DPE) Test is acceptable. However, the plans for the pilot test must be described more fully in the revised Work Plan requested below. .
9. iSOC System Installation. Based on the highly elevated concentrations of fuel hydrocarbons, MTBE, and TBA detected in both soil and groundwater at the site, the proposed use of a more passive remedial technology such as oxygen diffusion does not appear to be a viable method for interim remediation. Enhanced bioremediation using the iSOC system could possibly be an effective long-term remedial technology but is not considered an effective interim remedial measure for the site. We request that you proceed with the DPE pilot test for interim remediation and conduct the bioremediation feasibility study to assess whether enhanced bioremediation may be effective as a long-term remedial technology for the site.
10. Off-site Investigation. We do not concur with the proposal to expand the investigation by installing wells in the upgradient direction. The technical comments regarding off-site investigation in our June 27, 2006 correspondence remain valid. Depth-discrete grab groundwater sampling provides a more cost effective means of plume delineation than installation of monitoring wells. Grab groundwater data should be used to delineate the offsite plume prior to well installation. Monitoring wells should not be installed at each grab groundwater sampling location. Therefore, two mobilizations will be required to delineate the plume and then install an appropriate monitoring well network. Please present plans to conduct the off-site investigation in the Work Plan requested below.
11. Hydrogeologic Cross Sections. Please show the outline of the former tank excavation and the type of material used for fill on future hydrogeologic cross sections that cross the former tank excavation area. A screened interval is shown for boring SB-7d on cross section A-A' (Figure 5); however, a well was not installed at this location. Please correct cross section A$A^{\prime}$ in future documents.
12. Quarterly Groundwater Monitoring. We concur with the proposal to discontinue analyses for EDB, EDC, methanol, and ethanol during quarterly groundwater monitoring until improved reporting limits are obtained.

## TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- December 19, 2006 - Revised Work Plan
- 45 days after the end of each quarter - Quarterly Groundwater Monitoring Report

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

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## PERJURY STATEMENT

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## 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.

Farah Naz
October 19, 2006
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## 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) 567-6791.
Sincerely,
Merry Miceslecres
Jerry Wickham
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions
cc: Robert Nelson
Clearwater Group
229 Tewksbury Avenue
Point Richmond, CA 94801

Donna Drogos, ACEH
Jerry Wickham, ACEH
File


## Wickham, Jerry, Env. Health

To: Rob Nelson
Cc: Olivia Jacobs; Jeanette Popp
Subject: RE: Eagle Gas Station, 4301 San Leandro Street, Oakland
Based upon your request, the schedule for submittal of the Additional Subsurface Investigation Work Plan for case RO0096 is extended to October 6, 2006.

Regards,
Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577
510-567-6791 phone
510-337-9335 Fax
jerry.wickham@acgov.org

From: Rob Nelson [mailto:RNelson@clearwatergroup.com]
Sent: Wednesday, September 27, 2006 5:02 PM
To: Wickham, Jerry, Env. Health
Cc: Olivia Jacobs; Jeanette Popp
Subject: Eagle Gas Station, 4301 San Leandro Street, Oakland

Re: ACEH \#RO0000096
Dear Mr. Wickham:
Due to unforseen delays and conflicting schedules, the Clearwater Group is requesting a delay until next week for submitting the Additional Subsurface Investigation Work Plan for the Eagle Gas Station site, 4301 San Leandro Street, Oakland. Please contact me by email or at 510-307-9943 Ext 237 if you have any questions.

Thank you,
Robert L. Nelson
Senior Geologist
Clearwater Group

Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis Street
Fremont, CA 94538

Subject: Fuel Leak Case Nownemandern, Eagle Gas, 4301 San Leandro Street, Oakland, CA
Dear Ms. Naz:
Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site and the document entitled, "Response to Technical Comments," dated July 7, 2006 and received by ACEH on July 20, 2006. The document presents responses to technical comments in ACEH correspondence dated June 27, 2006. We request that you submit a Work Plan to conduct additional investigation by September 22, 2006. An additional response to comments should not be submitted.

We request that you address the following technical comments, perform the proposed work, and send us the reports described below.

## TECHNICAL COMMENTS

1. Grab Groundwater Sample Data Quality. Plans for depth-discrete grab groundwater sampling are to be included in the Work Plan requested below.
2. Water Level Differences and Unrealistic Hydraulic Gradients. Our previous technical comment remains applicable. Please review the existing water level data, soil boring logs, and well construction data for the site to help identify possible causes for the significant differences in water levels between adjacent wells across the site. In the Work Plan requested below, please propose data collection to identify the most likely cause of the water level differences and assess the predominant groundwater flow direction.
3. Deep Monitoring Wells. No changes to our previous technical comments are required. Please present plans for well installation in the Work Plan requested below.
4. Search for Additional USTs. We concur with the proposal to conduct a geophysical survey to search for additional USTs under and near the sidewalk along High Street. Please present the results of the geophysical survey in the Work Plan requested below.
5. Chromatograph/Dating of MTBE. We have no objection to review of existing and future chromatographs to assess whether the hydrocarbons detected in separate wells may be from separate sources. However, dating of petroleum hydrocarbons and MTBE does not appear

## Farah Naz

August 11, 2006
Page 2
to be justified. If dating of petroleum hydrocarbons and MTBE is conducted, we recommend that the UST Cleanup Fund not reimburse you for these costs.
6. Vapor Intrusion. Please review the December 15, 2004 DTSC Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air to plan the sequence for an investigation of potential vapor intrusion. Separate soil vapor samples should be collected around the perimeters or inside the off-site buildings to the southwest and southeast. Please present plans for soil vapor sampling in the Work Plan requested below.
7. Leaking Water Lines. We have no objection to analyzing selected groundwater samples for water treatment chemicals and coliform bacteria to look for water line or sewer leaks. Please present plans in the Work Plan requested below for analyzing selected groundwater samples for water treatment chemicals and coliform bacteria.
8. Off-site Investigation. We do not concur with the proposal to expand the investigation by installing wells in the upgradient direction. The technical comments regarding off-site investigation in our June 27, 2006 correspondence remain valid. Depth-discrete grab groundwater sampling provides a more cost effective means of plume delineation than installation of monitoring wells. Grab groundwater data should be used to delineate the offsite plume prior to well installation. Monitoring wells should not be installed at each grab groundwater sampling location. Therefore, two mobilizations will be required to delineate the plume and then install an appropriate monitoring well network. Please present plans to conduct the off-site investigation in the Work Plan requested below.
9. Screened Intervals for Wells on Cross Sections. In the future, please show the screened intervals for monitoring wells on the cross sections.
10. Quarterly Groundwater Monitoring. Please incorporate the newly installed wells into a quarterly monitoring program for the site. Analytical results for EDB, EDC, methanol, and ethanol are to be reviewed to assess whether analyses for these chemicals should be continued. Please present recommendations for quarterly monitoring in the Work Plan requested below.
11. Interim Remediation. Clearwater has on previous occasions emphasized the need to implement a "fast-track interim remediation," (June 13, 2005 correspondence entitled "Recommendations for Interim Remedial Action" from Clearwater to ACEH). The request for an extension and belief that interim remediation is not warranted at this time represents a significant change in site recommendations. In the Work Plan requested below, please include a discussion of how the proposed data collection will be used to plan interim remediation and propose a schedule for interim remediation.

## TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- August 30, 2006 - Quarterly Groundwater Monitoring Report - Second Quarter 2006

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August 11, 2006
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- September 22, 2006 - Work Pian
- November 30, 2006 - Quarterly Groundwater Monitoring Report - Third Quarter 2006

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

Effective January 31, 2006, 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.

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## 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 docurnent 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,

## Farah Naz

August 11, 2006
Page 4
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) 567-6791.
Sincerely,


Enclosure: ACEH Electronic Report Upload (ftp) Instructions
cc: Robert Nelson, Clearwater Group, 229 Tewksbury Avenue, Point Richmond, CA 94801

Sunil Ramdass, SWRCB Cleanup Fund, 1001 I Street, $17^{\text {th }}$ floor, Sacramento, CA 95814 2828

Shari Knierem, SWRCB Cleanup Fund, 1001 I Street, $17^{\text {th }}$ floor, Sacramento, CA 958142828

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

June 27, 2006

Ms. Farah Naz c/o<br>Mr. Muhammad Jamil<br>40092 Davis Street<br>Fremont, CA 94538

Subject: Fuel Leak Case No


Bagle Gas, 4301 San Leandro Street, Oakland, CA
Dear Ms. Naz:
Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site and the report entitled, "Soil and Groundwater Investigation Report," received on June 1, 2006. The report summarizes the results of a field investigation conducted between December 6, 2005 and April 2, 2006. The results indicate that highly elevated concentrations of fuel hydrocarbons are present in soil and groundwater beneath the site. Methyl tert-butyl ether (MTBE) was detected in more than 90 percent of the soil samples collected at concentrations up to 97 milligrams per kilogram ( $\mathrm{mg} / \mathrm{kg}$ ). MTBE was detected in all groundwater samples collected at concentrations up to 770,000 micrograms per liter ( $\mu \mathrm{g} / \mathrm{L}$ ). Tert-butyl alcohol (TBA) was detected in more than 90 percent of the soil samples collected at concentrations up to $57 \mathrm{mg} / \mathrm{kg}$. TBA was detected in all but one groundwater sample collected at concentrations up to $120,000 \mu \mathrm{~g} / \mathrm{L}$. Groundwater contamination has likely moved off-site through a clayey gravel layer that underlies the site to a depth of approximately 12 feet and possibly through preferential pathways such as utility trenches. The "Soil and Groundwater Investigation Report," recommends several additional investigation tasks. We generally concur that additional investigation is required to fully characterize the site and request that you submit a Work Plan to conduct additional investigation by September 1, 2006.

We request that you address the following technical comments, perform the proposed work, and send us the reports described below.

## TECHNICAL COMMENTS

1. Grab Groundwater Sample Data Quality. The "Soil and Groundwater Investigation Report," states that the analytical results from a grab groundwater sample vary significantly from the analytical results from a groundwater sample collected from a monitoring well due primarily to suspended sediment in the grab groundwater sample. We disagree that the differences between analytical results for grab groundwater samples and groundwater samples collected from monitoring wells are due primarily to the suspended sediment in grab groundwater samples. Although analytical results can be affected by high turbidity, particularly for chemicals that are highly sorbed, it cannot be assumed that data from grab groundwater samples will be less accurate. Empirical studies as well as three-dimensional numerical simulations have shown that the groundwater samples collected from wells represent groundwater flux from the entire length of the well screen with higher permeability
zones having a higher flux. Water entering the well from different zones may have a range of contaminant concentrations. Therefore, the contaminant concentration measured in the sample represents the averaging effects due to vertical mixing throughout the screen interval. In addition, where a well partially penetrates an aquifer, the zone that is monitored extends above and below the screen. Grab groundwater samples are collected from shorter intervals and therefore, typically represent less vertical mixing. For volatile organic chemicals that are not highly sorbed, the contaminant concentrations measured in grab groundwater samples most likely are accurate with respect to the actual groundwater concentration within the targeted interval of the aquifer. Therefore, the concentrations measured in grab groundwater samples should not be discounted as less accurate when compared to concentrations measured in samples from monitoring wells. The vertical heterogeneity of the aquifer and the vertical distribution of water flowing into a well screen must be considered.
2. Water Level Differences and Unrealistic Hydraulic Gradients. Wells MW-1, MW-2, MW3, MW-6, and MW-7 have significantly lower water levels than the remaining wells on site. The hydraulic gradients estimated from groundwater elevation contours shown on Figure 3 along the southwestern and northwestern portions of the site do not appear to be within the range of normal or realistic hydraulic gradients for the soil and groundwater conditions encountered at the site. As an example, wells EW-1 and MW-2, which are approximately 20 feet apart in the southern portion of the site, are constructed with similar screened intervals but the water level in well EW-1 is more than 4 feet higher than the water level in well MW-2, resulting in an apparent hydraulic gradient of more than 20 percent. A continuous gravel layer, which should be able to effectively transmit groundwater, is shown on cross section BB' extending between the two wells. Please review the existing water level data, soil boring logs, and well construction data for the site to help identify possible causes for the significant differences in water levels between adjacent wells across the site. In the Work Plan requested below, please propose data collection to identify the most likely cause of the water level differences and assess the predominant groundwater flow direction.
3. Deep Monitoring Wells. Monitoring wells MW-4D and MW-5D ("deep wells") were both screened over the interval from 35 to 45 feet bgs. ACEH specifically requested (September 21,2005 ) that pilot borings be continuously logged in order to identify and target permeable zones rather than install the wells at the fixed interval of 35 to 45 feet bgs. In addition, we requested that the filter pack and screen intervals for monitoring wells screened below the water table should not exceed 5 feet in length. Wells MW-4D and MW-5D were both screened across intervals of largely fine-grained CL soils and therefore, may not intersect coarse-grained layers that may be preferential pathways. In order to address this data gap, we request that one "deep" monitoring well be installed within the thick sequence of sands encountered between approximately 25 and 45 feet bgs in boring SB-7D and one "deep" monitoring well be installed along the southwestern boundary of the site. The well along the southwestern boundary of the site should be installed in order to intercept contamination migrating to the southwest from source areas at the site. Please review our previous technical comments on grab groundwater sampling and well installation in our September 21, 2005 correspondence. Please present plans for well installation in the Work Plan requested below.
4. Search for Additional USTs. We concur with the proposal to conduct a geophysical survey to search for additional USTs under and near the sidewalk along High Street. Please present the results of the geophysical survey in the Work Plan requested below.
5. Chromatograph/Dating of MTBE. Please provide further rationale in the Work Plan requested below on how the dating of MTBE at the site would be used.
6. Vapor Intrusion. We concur that an evaluation of potential vapor intrusion into on-site and off-site buildings should be performed. Please present plans in the Work Plan requested below to evaluate the potential for on-site and off-site indoor vapor intrusion.
7. Leaking Water Lines. We have no objection to analyzing selected groundwater samples for water treatment chemicals and coliform bacteria to look for water line or sewer leaks. However, please note that we request additional investigation of the anomalous water levels at the site as discussed in technical comment 2 above.
8. Off-site Investigation. The proposal to locate a total of four soil borings upgradient and downgradient of the site will not be sufficient for the off-site investigation. Given the known sources and high elevated levels of contamination on site, it is not clear why an off-site investigation would focus on the area upgradient of the site. The off-site investigation should focus on delineating the extent of groundwater contamination and the potential for the plume to affect off-site receptors. Therefore, the off-site investigation should delineate the plume in the downgradient regional groundwater flow direction, along preferential pathways, and in the direction of potential discharge to Peralta (Adams) Creek. Grab groundwater sampling must be considered to delineate the plume prior to installation of off-site wells. Given the uncertainty of the local hydraulic gradient at the site due to anomalous water levels in the onsite monitoring wells, the use of rapid characterization techniques such as grab groundwater sampling should be emphasized. Please present plans to conduct the off-site investigation in the Work Plan requested below.
9. Screened Intervals for Wells on Cross Sections. In the future, please show the screened intervals for monitoring wells on the cross sections.
10. Quarterly Groundwater Monitoring. Please incorporate the newly installed wells into a quarterly monitoring program for the site. Analytical results for EDB, EDC, methanol, and ethanol are to be reviewed to assess whether analyses for these chemicals should be continued. Please present recommendations for quarterly monitoring in the Work Plan requested below.

## TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- July 1, 2006 - Interim Remediation Start-up Report
- August 15, 2006 - Quarterly Groundwater Monitoring Report - Second Quarter 2006
- September 1, 2006 - Work Plan
- November 15, 2006 - Quarterly Groundwater Monitoring Report - Third Quarter 2006

Farah Naz
June 27, 2006
Page 4

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

Effective January 31, 2006, 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.

Farah Naz
June 27, 2006
Page 5

## 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) 567-6791.
Sincerely,


Enclosure: ACEH Electronic Report Upload (ftp) Instructions

## cc: Robert Nelson

Clearwater Group
229 Tewksbury Avenue
Point Richmond, CA 94801

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

## Wickham, Jerry, Env. Health

From: Jessica Moreno [JMoreno@clearwatergroup.com]
Sent: Wednesday, May 31, 2006 12:59 PM
To: dehloptoxic, Env. Health
Cc: Wickham, Jerry, Env. Health
Subject: RO 096 Report Upload

## Greetings,

This email is to confirm that Clearwater has recently resubmitted (re-uploaded) the Subsurface Investigation Report titled RO 096_Subsurface Investigation Results_2006.05.31. This report should replace the report titled RO 096_Subsurface Investigation Results_2006.05.30 uploaded yesterday. Apparently there were a few figures which did not scan in properly. Please delete the May 30th report from your files. Thank You.

If there are any questions or concerns regarding the upload of this report, feel free to contact my office at 510 -590-1096. You may reach the Clearwater Group Project Manager assigned to this project (Mr. Rob Nelson) at 510-307-9943 ext 237 if there are any project related questions.
Sincerely,
Jessica Moreno
Project Manager
Clearwater Group
229 Tewksbury Ave.
Pt. Richmond, CA 94801
510-590-1096
imoreno@clearwatergroup.com

FW: Request for extension; Soil and Groundwater Investigation Report with Recommend... Page 1 of 2

Wickham, Jerry, Env. Health
To: Olivia Jacobs
Subject: RE: Request for extension; Soil and Groundwater Investigation Report with Recommendations for Off-site Investigation

Olivia,
Based on your request, the schedule for submittal of a Soil and Groundwater Investigation Report for case RO0096 is extended to May 30, 2006.

Regards,
Jerry Wickham
Hazardous Materials Specialis $\dagger$
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577
510-567-6791 phone
510-337-9335 Fax
jerry.wickham@acgov.org

From: Olivia Jacobs [mailto:OJacobs@clearwatergroup.com]
Sent: Saturday, May 20, 2006 1:06 PM
To: Wickham, Jerry, Env. Health
Subject: FW: Request for extension; Soil and Groundwater Investigation Report with Recommendations for Offsite Investigation

From: Olivia Jacobs
Sent: Saturday, May 20, 2006 1:03 PM
To: 'jerrywickham@acgov.org'
Cc: Rob Nelson; Jeanette I. Popp (jpopp@clearwatergroup.com); Jim Jacobs/EBS (augerpro@sbcglobal.net); Matthew Ryder-Smith (mrydersmith@clearwatergroup.com); Jeanette I. Popp (jpopp@clearwatergroup.com)

Subject: Request for extension; Soil and Groundwater Investigation Report with Recommendations for Off-site Investigation
Fuel Leak Case No. RO0000096, Eagle Gas, 4301 San Leandro Street, Oakland, CA
Mr. Wickham;
According to your letter of April 13, 2006, our office was requested to submit the above referenced report to your office by May 23, 2006. We are requesting that you grant Clearwater Group an additional week to perform this task. We are currently processing the first draft version; in my experience, a report of this magnitude should take about a week to finalize. We should be prepared to furnish the final and finished version to you by Tuesday, May 30, 2006.

We apologize for any inconvenience this may cause. Our lead project manager on this job, Dr. Jim Ho, has sought employment elsewhere. We were apprised of his plans this past Monday. Please forward any

FW: Request for extension; Soil and Groundwater Investigation Report with Recommend... Page 2 of 2
communication in regards to this site to our new project manager, Mr. Robert Nelson, PG; please copy me on any email communication on this site henceforward.

Thank you for your attention to this detail. Sincerely,
Olivia Jacobs, President
Clearwater Group
510-590-1099

## RECEIVED

By lopprojectop at 9:36 am, May 10, 2006
Mr. Jerry Wickham
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway: Suite 250
Alameda, CA 94502

## RF:: Eagle Gas Station

4301 San Icandro Street
Oakland, California 94601
LOP SID\# 2118
Fuel Leak Case No. RD0000096
USTCTV Claim No. O1435:
Clearwater Group Project \# ZP046
Dear Mr. Wickham,
As the legally authorized representative of the above-referenced project :cation I have reviewed the fallowing lists of reports prepared by my consultant of record, Clearwater Group, Inc. I deciare, under penally of perjury, that the information and/or recommendations contained in each report listed below are tue and correct to the begin of my knowledge.

- Recommendations for Interim Site Remediation dated June 13, 2005.
- Soil and Groundwater Investigation Work Plan dated August 10, 2005.
- 3) Response 10 Comments (RTC) dated October 6, 2005.
- 4) Notice for Interim Remediation Groundwater Treatment Pilot dated November 1. 2005.
- Workplam for Ozone Benin Test dated December 19. 27(05.
- Request for Extension of the Interim Remediation Sturl-up Report dated Jamary 11, 2006.
- Activity Status Repori/Request for Extension of the Sol and Groundwater Investigation Report on March 1, 20006
- Bench Jest for Using Actuanced Oxidation - A Summary Report dated March 22, 2006.
- Groundwater Monitoring Reports First Quarter though Fowrih Quarter 2005.

Sincerely.
mukanin Eel
Mr. Muhammad Jamel
$G R O U P$
January 11, 2006

Mr. Jerry Wickham, Hazardous Materials Specialist<br>Alameda County Environmental Health Services Environmental Protection Division<br>1131 Harbor Bay Parkway, Suite 250<br>Alameda, CA 94502-6577<br>\section*{RECEIVED}<br>By lopprojectop at 9:36 am, May 10, 2006

RE: Request for Extension of the Interim Remediation Start-up Report<br>Eagle Gas Station<br>4301 San Leandro Street<br>Oakland, California 94601<br>LOP StID\# 2118<br>USTCF Claim No. 014551<br>Clearwater Group Project \# ZP046D

Dear Mr. Wickham,
Alameda County Environmental Health Services' letter dated November 1, 2005 asks the Clearwater Group (Clearwater) to submit an Interim Remediation Start-up Report for the subject site by January 13, 2006. Due to the extremely low groundwater yield found at the site, Clearwater could not complete a pilot test of using Advanced Oxidation (AO) technology to treat the groundwater, and replaced the pilot test with a bench test. The situation was reported in November 23, 2005 e-mail to ACEHS. As a result, Clearwater could not submit the design of the interim system and remedial compound to the City of Oakland, Building Department until January 5, 2006. Therefore, Clearwater would like to request an extension for the submission of the Interim Remediation Start-up Report until, probably, July 2006. FYI, we have finished the AO bench test and fieldwork associated with soil and groundwater investigation.

Thank you for your understanding and consideration. It would be appreciated if you can notify me as to your decision. My e-mail address is jho@clearwatergroup.com. Should you have any questions, please do not hesitate to call me at 510-307-9943 ext 231.

Sincerely,
Clearwater Group


Jim Ho, Ph.D., P.E.
Principal Engineer

# CLEARWÁTER 

Environmental Services

November 1, 2005

Mr. Muhammad Jamil
40092 Davis Street
Fremont, CA 94538

# FILE COPY 

RE: Notice for Interim Remediation Groundwater Treatment Pilot Test Eagle Gas Station<br>4301 San Leandro Street<br>Oakland, California 94601<br>LOP StID\# 2118<br>USTCF Claim No. 014551<br>Clearwater Group Project \# ZP046E

Dear Mr. Jamil,
According to Alameda County Environmental Health Services' May 26, 2005, June 24, 2005, and September 21, 2005 letters, interim remedial actions have to be implemented. In order to save the cost and space for the groundwater remedial system, Clearwater Group (Clearwater) will conduct a pilot test for the Advanced Oxidation (AO) technology. This technology uses ultraviolet light and hydrogen peroxide/ozone to oxidize the MTBE and TBA. If this technology is found cost-effective, Clearwater will design and install a full-scale AO system along with smaller activated carbon columns to treat the extracted groundwater, instead of using many and larger activated columns, to save the cost and space.

Clearwater proposes to conduct the pilot test on November 14 and 15, 2005. In case the schedule is changed for any unanticipated reasons, we will call you. We will install a 5,000 -gal water storage tank on site to store the treated water on November 11. We also will mobilize a pilot scale treatment unit and one 500 -gal holding tank and two 250 -gal retention tanks on the trucks. The treatment unit and tanks will be transported back to our facility after the daily test work. Only the 5,000 -gal tank will stay on site pending future water disposal. In addition, we will conduct a geophysical survey using Ground Penetration Radar (GPR) on November 11 so that the underground fuel pipes at the gas station will be protected during the installation of remedial wells. Clearwater will also use the regular power outlets available at the gas station for our equipment during the pilot
test. test.

# CLEARWATER 

Environmental Services

Your support and cooperation to make the pilot test successful and the interim remedial system working are very appreciated.

Sincerely,
Clearwater Group


Jim Ho, Ph.D., P.E.
Principal Engineer

Cc: Mr. Jerry Wickham, Hazardous Material Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis Street
Fremont, CA 94538

Subject: Fuel Leak Case Nagle Gas, 4301 San Leandro Street, Oakland, CA
Dear Ms. Naz:
You recently submitted a hard copy of a report for the above-referenced site entitled, "Quarterly Groundwater Monitoring Report - First Quarter 2006," dated April 14, 2006. Please note that effective January 31, 2006, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Hard copies of reports are no longer accepted. Therefore, please upload the "Quarterly Groundwater Monitoring Report - First Quarter 2006," dated April 14, 2006 and all future reports to the Alameda County FTP site as outlined in the following discussion of "Electronic Submittal of Reports," and the enclosed, "Electronic Report Upload (ftp) instructions."

## ELECTRONIC SUBMITTAL OF REPORTS

Effective January 31, 2006, 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).

In order to facilitate electronic correspondence, we request that you provide up to date electronic mail addresses for all responsible and interested parties. Please provide current electronic mail addresses and notify us of future changes to electronic mail addresses by sending an electronic mail message to me at jerry.wickham@acgov.org.

Ms. Farah Naz c/o
Mr. Muhammad Jamil
May 5, 2006
Page 2

If you have any questions, please call me at (510) 567-6791.
Sincerely,


Enclosure: ACEH Electronic Report Upload (ftp) Instructions
cc: Jim Ho
Clearwater Group
229 Tewksbury Avenue
Point Richmond, CA 94801
Donna Drogos, ACEH Jerry Wickham, ACEH File

Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis Street
Fremont, CA 94538

## Subject: Fuel Leak Case No. <br>  <br> Eagle Gas, 4301 San Leandro Street, Oakland, CA

Dear Ms. Naz:
Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site and the document entitled, "Bench Test for Using Advanced Oxidation - A Summary Report," dated March 27, 2006. The report summarized the resuits of bench tests for the treatment of groundwater at the site using ozone and ozone with hydrogen peroxide. Based on the low groundwater yield at the site and low treatment efficiency of ozone and ozone with hydrogen peroxide, the report included a recommendation that activated carbon would be more cost-effective. In an electronic mail message dated April 5, 2006, Mr. James Ho of Clearwater Group recommended a bench-scale test to confirm that activated carbon will be effective for the site. Mr. Ho also recommended conducting a bench test of an organic clay material with a strong capability to adsorb MTBE and TBA. Please conduct the proposed bench tests and use the results of the bench testing to recommend a groundwater treatment technology for the interim remediation system.

We request that you perform the proposed work and send us the reports described below.

## TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- May 17, 2006 - Quarterly Monitoring Report for the First Quarter 2006
- May 23, 2006 - Soil and Groundwater Investigation Report with Recommendations for Off-site Investigation
- July 1,2006 - Interim Remediation Start-up Report

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.

## Farah Naz

April 12, 2006
Page 2

## ELECTRONIC SUBMITTAL OF REPORTS

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In order to facilitate electronic correspondence, we request that you provide up to date electronic mail addresses for all responsible and interested parties. Please provide current electronic mail addresses and notify us of future changes to electronic mail addresses by sending an electronic mail message to me at jerry.wickham@acgov.org.

## 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.

## Farah Naz

April 12, 2006
Page 3

## 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) 567-6791.
Sincerely,


Enclosure: ACEH Electronic Report Upload (ftp) Instructions
cc: Jim Ho
Clearwater Group
229 Tewksbury Avenue
Point Richmond, CA 94801
Donna Drogos, ACEH
Jerry Wickham, ACEH
File

## Wickham, Jerry, Env. Health

From:
Sent:
To:
Subject:
Attachments:

Wickham, Jerry, Env. Health
Thursday, April 06, 2006 4:23 PM
'Jimmy Ho'
RE: A followup bench test for the NAZ Eagle Gas Station (4301 San Leandro St, Oakland,
ftpUploadInstructions_2005_1216.doc
ftpUploadInstructio
ns_2005_121... Jim,

It is preferable to have these recommendations in the Bench Test Report rather than email. I will provide feedback on the report and your recommendation below in a letter some time next week. Please be sure to have the Bench Test report uploaded to the Alameda County ftp site. I have attached the instructions for uploading electronic reports.

Regards,
Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577
510-567-6791 phone
510-337-9335 Fax
jerry.wickham@acgov.org
-----Original Message---.
From: Jimmy Ho [mailto:JHo@clearwatergroup.com]
Sent: Wednesday, April 05, 2006 5:14 PM
To: Wickham, Jerry, Env. Health
Subject: A followup bench test for the NAZ Eagle Gas Station (4301 San Leandro St, Oakland,

Hi, Jerry:
How have you been? You should have received an Advanced oxidation (AO) Bench Test Report mailed to you a week ago. You probably recalled that I wanted to test whether AO works for the NAZ groundwater. The bench test results and site conditions, however, do not prove that $A O$ is cost-effective. Therefore, I would like to confirm that activated carbon surely works. I also found an organic clay material with a commercial name called EC300 patened by George Alther (BIOMIN). This material has very strong capability to adsorb MTBE and TBA, even acetone. Thus, I would like to conduct a bench test using both activated carbon and the EC300. Do you accept this request? Thanks.

Jim Ho, Ph.D., P.E., CGWP
Principal Engineer
Clearwater Group
229 Tewksbury Ave.
Point Richmond, CA 94801
Phone: (510) 307-9943 ext. 231
FAX: (510) 232-2823

## Wickham, Jerry, Env. Health

To: Jim Ho (iho@clearwatergroup.com)
Subject: RO0000096 Eagle Gas request for time extension
Jim,
Thansk for the status report. Based on the request for a time extension recieved in your correspondence dated March 1, 2006, the schedule for submittal fo the Soil and Groundwater Investigation Report is extended to May 23,2006 to incorporate the referenced additional information.

Regards,
Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577
510-567-6791 phone
510-337-9335 Fax
jerry,wickham@acgov.org


March 1, 2006
$\begin{array}{lc}\text { Mr. Jerry Wickham, Hazardous Materials Specialist } & \text { Alameda County Environmental Health Services } \\ \text { Environmental Protection Division } & \text { un }\end{array}$
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

## RE: (1) Activity Status Report

(2) Request for Extension of the Soil and Groundwater Investigation Report

Eagle Gas Station<br>4301 San Leandro Street<br>Oakland, California 94601<br>LOP StID\# 2118<br>USTCF Claim No. 014551<br>Clearwater Group Project \# ZP046D

Dear Mr. Wickham,
Clearwater Group (Clearwater) is pleased to let you know that we have accomplished the following activities needed and beneficial for site characterization and interim remedial actions for the subject site since November 2005:

- Completed a pilot/bench test for selection of MTBE treatment technology (chose Granular Activated Carbon versus Advanced Oxidation) - see my January 20, 2006 e-mail;
- Installed two pneumatic pump groundwater extraction wells, six oxygen delivery wells, five shallow monitoring wells, and two deep monitoring wells (a total of 15 new wells) - in a very active gas station with awful security;
- Collected a large amount of soil samples for laboratory analysis and PID readings lab report is available;
- Developed all the new wells prior to future sampling - completed on January 13;
- Removed and disposed of thirty 55 -gal drums with soil cuttings - transported to the Altamont Landfill on February 15; and
- Performed a geochemical baseline groundwater sampling for all the available 18 wells - completed on February 22 along with the First Quarter 2006 Groundwater Monitoring.

To improve the data quality and save unnecessary expenses for the project, Clearwater has made two minor modifications comparing to the scope of work discussed in the following documents:

- Clearwater's Soil and Groundwater Investigation Workplan dated August 10, 2005;
- Clearwater's Response to Comments - Soil and Groundwater Investigation Workplan dated October 6, 2005; and
- ACEHS' Workplan approval letter dated November 1, 2005.

The modifications mentioned-above are:
(1) To use the well sampling data obtained from new monitoring wells to replace the grab groundwater samples originally planned during soil sampling. - Grab samples tend to generate higher contaminant concentration and are less representative. Thus, the First Quarter 2006 Groundwater Monitoring data will be used.
(2) To conduct 50 -foot-deep soil sampling near new wells MW-6, MW-7, MW-8 after soil sampling data for deep wells MW-4D and MW-5D are available - Five deep pilot brings with continuous soil sampling have been replaced by brings for shallow wells MW-6, MW-7, MW-8 and deep wells MW-4D and MW-5D. Thus, three pilot brings near MW-6 through MW-8 are still need. This arrangement improves the proper selection of boring locations near the center of the subject site.

Alameda County Environmental Health Services' letter dated November 1, 2005 asks the Clearwater Group (Clearwater) to submit a Soil and Groundwater Investigation Report for the subject site by March 13, 2006. In order to incorporate the deep soil boring data originally planned for locations near wells MW-6, MW-7, and MW-8 as well as the monitoring well data in the investigation report, Clearwater would like to request your approval of conducting three other deep soil sampling after the analytical results for boring MW-4D and MW-5D are available and an extension for the submission of the Soil and Groundwater Investigation Report until May.

ACEHS has been part of the team for this complicate site characterization and remediation project. Your technical ideas and managerial support are very helpful. I would like to thank you for your understanding and continuous support. It would be appreciated if you can notify me as to your decision. My e-mail address is iho@clearwatergroup.com. Should you have any questions, please do not hesitate to call me at 510-307-9943 ext 231.

Sincerely,
Clearwater Group



## Wickham, Jerry, Env. Health

From: Jimmy Ho [JHo@clearwatergroup.com]
Sent: Friday, January 20, 2006 2:45 PM
To: Wickham, Jerry, Env. Health
Subject: RE: Interim remediation
Hi, Jerry:
Glad to hear from you. Thank you so much for your consideration and approval.
You asked a very good question. Here are some reasons or justifications for changing the MTBE treatment method from the Advanced Oxidation (AO) to Granular Activated Carbon (GAC):

1. The bench test results showed that a large AO system will be required to treat the current MTBE level to an acceptable discharge level. The remedial compound area will be larger than allowed. A roof also will be required for the compound. This implies more cost.
2. The capital cost for a full-scale system and control panel for AO will be higher than GAC.
3. Due to the low groundwater yield, the influent will not be continuous. The intermittent flow will make the AO system control more complicated. This implies more problems and possibly higher cost.
4. GAC is very suitable to handle the intermittent flow. Due to the low GW yield, the anticipated change-out costs for GAC will not be as high as we originally thought. A roof is also not needed for the GAC, unless the security becomes a concern.
5. Power need for AO is also higher than GAC.

If you have more questions, please let me know. Have a nice weekend.
Best regards,
Jim

[^0]
## Wickham, Jerry, Env. Health

To: Jim Ho (jho@clearwatergroup.com)
Subject: Interim remediation
Jim,
I have received your request for a schedule extension for the Interim Remediation Start-up Report. Based on the information provided, the schedule for the Interim Remediation Start-up Report is extended to July 1, 2006.

Is the low groundwater yield causing you to reconsider the use of advanced oxidation for the site?
Regards,
Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577
510-567-6791 phone
510-337-9335 Fax
jerry.wickham@acgov.org

# Alameda County 

Mr. Jerry Wickham, Hazardous Materials Specialist Alameda County Environmental Health Services Environmental Protection Division<br>JAN 202006<br>Environmental Health

## RE: Request for Extension of the Interim Remediation Start-up Report

Eagle Gas Station
4301 San Leandro Street
Oakland, California 94601
LOP StD\# 2118
USTCF Claim No. 014551
Clearwater Group Project \# ZP046D

Dear Mr. Wickham,
Alameda County Environmental Health Services' letter dated November 1, 2005 asks the Clearwater Group (Clearwater) to submit an Interim Remediation Start-up Report for the subject site by January 13, 2006. Due to the extremely low groundwater yield found at the site, Clearwater could not complete a pilot test of using Advanced Oxidation (AO) technology to treat the groundwater, and replaced the pilot test with a bench test. The situation was reported in November 23, 2005 e-mail to ACEHS. As a result, Clearwater could not submit the design of the interim system and remedial compound to the City of Oakland, Building Department until January 5, 2006. Therefore, Clearwater would like to request an extension for the submission of the Interim Remediation Start-up Report until, probably, July 2006. FYI, we have finished the AO bench test and fieldwork associated with soil and groundwater investigation.

Thank you for your understanding and consideration. It would be appreciated if you can notify me as to your decision. My e-mail address is jho@clearwatergroup.com. Should you have any questions, please do not hesitate to call me at 510-307-9943 ext 231.

Sincerely,


Jim Ho, Ph.D., P.E.
Principal Engineer

## Wickham, Jerry, Env. Health

From:
Sent:
To:
Cc:
Subject:

Jimmy Ho [jho@clearwatergroup.com]

- Wednesday, November 30, 2005 11:09 AM

Wickham, Jerry, Env. Health
Jim Jacobs; Olivia Jacobs
Soil and GW Investigation and Interim Remediation (NAZ Gas Station, 4301 San leandro, Oakland)

Hi, Jerry:
This e-mail is to let you know that we are going to perform the following activities for the Soil and Groundwater Investigation/Interim Remediation project at the NAZ Gas Station Site:

- Soil sampling on Dec. 6 and 7, 2005
- Monitoring well and extraction well installation on Dec. 15, 16, 19, 20, and 21, 2005

We have received the soil boring/well installation permits. Although we have done geophysical survey on Nov. 15, as part of the site clearance, we will do hand augering for each boring before drilling. We will also contact the inspector ten days before Dec. 15. FYI, we also are preparing the interim remedial system design/drawings required by the building permit application.
Should you have questions, please give me a call.
Jim Ho, Ph.D., P.E., CGWP
Principal Engineer
Clearwater Group
229 Tewksbury Ave.
Point Richmond, CA 94801
Phone: (510) 307-9943 ext. 231
FAX: (510) 232-2823

## Wickham, Jerry, Env. Health

| From: | Jimmy Ho [jho@clearwatergroup.com] |
| :--- | :--- |
| Sent: | Wednesday, November 23, 2005 9:04 AM |
| To: | Wickham, Jerry, Env. Health |
| Cc: | Olivia Jacobs; Jim Jacobs |
| Subject: | RE: Interim remedial action for the NAZ Gas Station (4301 San Leandro Street, Oakland) |

Hi, Jerry:
I would like to keep you posted for the activities that clearwater has performed for the NAZ Gas Station Interim Remediation and Soil and Groundwater Investigation. In addition to numerous project management activities, below is just a summary list for major activities that include date and status/results:

1. Submitted well permit application with a fee of $\$ 2,700$ (10/6) - permit not received yet 2. Started remedial compound design - currently on-hold pending the Advanced oxidation (AO) pilot
test results
2. Picked up a AO pilot test unit from Ozotech (11/12, Saturday) 4. Downloaded the AO unit and conducted a unit check (11/14) 5. Norcal conducted a geophysical survey and marked the ground (11/15) 6. Had a meeting with the site owner to confirm the fiberglass fuel lines (11/18)
3. Mobilized a 5,000-gal PVC water storage tank to the site and commenced water pumping (11/18)

- Site owner directed us to move the tank to the location he preferred.

Later on, he changed
his mind, and the tank was moved back to the location that clearwater recommended. As a result, Clearwater Did not have time to pump water for the pilot test.
8. Pumped water at the site and performed an in-house AO unit test (11/21) - The AO unit includes
the capacity for ozone, UV, and hydrogen peroxide. The unit is compact and versatile. The unit
passed the in-house test. All exisiting 2 -in monitoring wells were pumped on site using both
electric and pneumatic submersible pumps. The on-site groundwater pumping found that only 10
gallons of water was accumulated from three monitoring wells in 45 minutes ( 0.22 gpm) and 20
gallons of water accumulated in 180 minutes ( 0.11 gpm ). Insufficient water could be available
for the 11/22-23 field pilot test. A continuous pumping rate was not sustainable. The observed pumping rate also was decreasing with time. Thus, the groundwater pumping was terminated.

The above effort discovered that:
(a) The local groundwater zone has a very low yield. The associated local groundwater velocity
should be very low as well based on the $2 \%$ gradient obtained from the quarterly monitoring
results. Consequently, the potential of off-site migration of MTBE and TBA should be very low
as well.
(b) It is very difficult to maintain security of the site because many loiterers are present on
site day and night. (FYI, A 50-ft hose was stolen during the $11 / 18$
weekend.)
Due to the above conditions, an in-house bench test will be performed on $11 / 28$ using the AO unit and water pumped from the site from three monitoring wells on 11/21. This bench test will be used to supplement the pilot test.
(FYI, the capacity of the intake pump of the AO unit is 11 gpm , which the local
groundwater cannot provide. An addition, the remdail compount design required for the building permit application will continue on $11 / 28$.

Should you have any comments or questions, please let me know. Wish you a happy Thanksgiving Holiday.

Best regards,
Jim
-----Original Message-----
From: Wickham, Jerry, Env. Health [mailto:jerry.wickham@acgov.org]
Sent: Monday, November 07, 2005 1:05 PM
To: Jimmy Ho
Subject: RE: Interim remedial action for the NAZ Gas Station (4301 San Leandro Street, Oakland)

Jim,
Thanks for the notification.
Regards,
Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577
510-567-6791 phone
510-337-9335 Fax
jerry.wickham@acgov.org
-----Original Message-----
From: Jimmy Ho [mailto:jho@clearwatergroup.com]
Sent: Monday, November 07, 2005 11:49 AM
To: Wickham, Jerry, Env. Health
Cc: Jeremy Gekov; matt ryder-smith; Olivia Jacobs; Jim Jacobs
Subject: RE: Interim remedial action for the NAZ Gas station (4301 San Leandro street, Oakland)

Hi, Jerry:
I would like to let you know that we are going to conduct a pilot test at the NAZ Gas Station (4301 San Leandro Street, Oakland) on 14 and 15 November 2005, unless something unforeseeable occurs. We also have cc you the letter that was sent to the site owner on November 1, 2005.
Please treat this e-mail as a $72-\mathrm{hr}$ notice. Thanks a lot for your help.
Have a good day. - Jim
-----Original Message-----
From: Wickham, Jerry, Env. Health [mailto:jerry.wickham@acgov.org]
Sent: Wednesday, October 05, 2005 5:15 PM
To: Jimmy Ho
Subject: RE: Interim remedial action for the NAZ Gas Station (4301 San Leandro Street, Oakland)

Jim,
Based on the information you have presented regarding water treatment, a pilot test to identify a more cost effective method for groundwater treatment appears to be acceptable. Regards,
Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577

510-567-6791 phone
510-337-9335 Fax
jerry.wickham@acgov.org
-----Original Message-----
From: Jimmy Ho [mailto:jho@clearwatergroup.com]
Sent: Tuesday, October 04, 2005 4:48 PM
To: Wickham, Jerry, Env. Health
Cc: Olivia Jacobs; Jim Jacobs
Subject: Interim remedial action for the NAZ Gas Station (4301 San Leandro Street, Oakland)

Hello, Jerry:
You probably remember that activated carbon has been proposed to treat the groundwater to be pumped from the extraction wells EW1 and EW2 for the interim remediation action detailed in the August 10, 2005 Workplan for the subject site. Based on the high MTBE and TBA concentrations obtained from the quarterly monitoring events, short carbon changeout time is expected. An isotherm calculation has been performed. The results indicate that if the extraction rate is between 10 and 20 gpm and the averaged MTBE concentration obtained from wells MW-1 through
MW-3 is 25 ppm and TBA concentration is 6 ppm , the anticipated carbon consumtion rate will be 370 to 700 lb per day.
It will make the water treatment very expensive. The breakthrough time will be $3-6$ days for a 2,000 pounder.

As a result, we are in the process of doing a pilot test for the use of ozone/UV/hydrogen peroxide. The test equipment will be a built and rental test unit Model X-l provided by the Ozotech. Based on the pilot test results, we would be able to determine the effectiveness and the required ozone dose as well as the required full-scale for the advanced oxidation treatment method. We will pump water from the well MW-2. The maximum volume of water to be pumped from the site will not exceed 5,000 gallons. The treated/tested water will be temporarily stored in a 5,000 gal tank to be place on-site and then properly disposed of by Instrat - a waste management contractor, which we are currently using to handle the purged groundwater from this site.

I hope you will agree with this test. Please comment. Thanks.
Jim Ho, Ph.D., P.E., CGWP
Principal Engineer
Clearwater Group
229 Tewksbury Ave.
Point Richmond, CA 94801
Phone: (510) 307-9943 ext. 231
FAX: (510) 232-2823

## Wickham, Jerry, Env. Health

| From: | Jimmy Ho jho@clearwatergroup.com] |
| :--- | :--- |
| Sent: | Monday, November 07, 2005 11:49 AM |
| To: | Wickham, Jerry, Env. Health |
| Cc: | Jeremy Gekov; matt ryder-smith; Olivia Jacobs; Jim Jacobs |
| Subject: | RE: Interim remedial action for the NAZ Gas Station (4301 San Leandro Street, Oakland) |

## Hi, Jerry:

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Sent: Wednesday, October 05, 2005 5:15 PM
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Subject: RE: Interim remedial action for the NAZ Gas Station (4301 San Leandro Street, Oakland)

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Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577
510-567-6791 phone
510-337-9335 Fax
jerry.wickham@acgov.org

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From: Jimmy Ho [mailto:jho@clearwatergroup.com]
Sent: Tuesday, October 04, 2005 4:48 PM
To: Wickham, Jerry, Env. Health
Cc: Olivia Jacobs; Jim Jacobs
Subject: Interim remedial action for the NAZ Gas Station (4301 San Leandro Street,
Oakland)
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MW-3 is 25 ppm and TBA concentration is 6 ppm , the anticipated carbon consumtion rate will be 370 to 700 lb per day.
It will make the water treatment very expensive. The breakthrough time will be 3 - 6 days for a 2,000 pounder.

As a result, we are in the process of doing a pilot test for the use of ozone/UV/hydrogen peroxide. The test equipment will be a built and rental test unit Model $X-1$ provided by the ozotech. Based on the pilot test results, we would be able to determine the
effectiveness and the required ozone dose as well as the requmed full-scale for the advanced oxidation treatment method. We will pump water from the well MW-2. The maximum volume of water to be pumped from the site will not exceed 5,000 gallons. The treated/tested water will be temporarily stored in a 5,000 gal tank to be place on-site and then properly disposed of by Instrat - a waste management contractor, which we are currently using to handle the purged groundwater from this site.

I hope you will agree with this test. Please comment. Thanks.
Jim Ho, Ph.D., P.E., CGWP
Principal Engineer
Clearwater Group
229 Tewksbury Ave.
Point Richmond, CA 94801
Phone: (510) 307-9943 ext. 231
FAX: (510) 232-2823

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700

FAX (510) 337-9335
November 1, 2005

Ms. Farah Naz c/o

Mr. Muhammad Jamil
40092 Davis Street
Fremont, CA 94538

Subject: Fuel Leak Case Nownededeagle Gas, 4301 San Leandro Street, Oakland, CA
Dear Ms. Naz:
Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site and the document entitled, "Response to Comments - Soil and Groundwater Investigation Work Plan," dated October 6, 2005 and received by ACEH on October 28, 2005. The response to agency comments adequately addresses ACEH technical comments \#2 and \#3 on the "Soil and Groundwater Investigation Work Plan," dated August 10, 2005. ACEH concurs with the proposed scope of work provided that the remaining technical comments in addition to technical comments \#2 and \#3 are also addressed during implementation of field activities at the site.

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

## TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- January 13, 2006 - Interim Remediation Start-up Report
- January 17, 2006 - Quarterly Report for the Fourth Quarter 2005
- March 13, 2006 - Soil and Groundwater Investigation Report with Recommendations for Off-site Investigation

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.

Farah Naz
November 1, 2005
Page 2

## ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) now request submission of reports in electronic form. The electronic copy is intended to replace the need for a paper copy and is expected to 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 Instructions." 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. 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 monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1 , 2005, electronic submittal of a complete copy of all reports is required in Geotracker (in PDF format). Please visit the State Water Resources Control Board 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.

Farah Naz
November 1, 2005
Page 3

## 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) 567-6791.
Sincerely,
Jerry Virchinerm
Jejy Wiskham
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions
cc: Jim Ho
Clearwater Group
229 Tewksbury Avenue
Point Richmond, CA 94801

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

Environmental Services
1

November 1, 2005

Mr. Muhammad Jamil
40092 Davis Street
Fremont, CA 94538


RE: Notice for Interim Remediation Groundwater Treatment Pilot Test
Eagle Gas Station
4301 San Leandro Street
Oakland, California 94601
LOP StID\# 2118
USTCF Claim No. 014551
Clearwater Group Project \# ZP046E

Dear Mr. Jamil,
According to Alameda County Environmental Health Services' May 26, 2005, June 24, 2005, and September 21, 2005 letters, interim remedial actions have to be implemented. In order to save the cost and space for the groundwater remedial system, Clearwater Group (Clearwater) will conduct a pilot test for the Advanced Oxidation (AO) technology. This technology uses ultraviolet light and hydrogen peroxide/ozone to oxidize the MTBE and TBA. If this technology is found cost-effective, Clearwater will design and install a full-scale AO system along with smaller activated carbon columns to treat the extracted groundwater, instead of using many and larger activated columns, to save the cost and space.

Clearwater proposes to conduct the pilot test on November 14 and 15, 2005. In case the schedule is changed for any unanticipated reasons, we will call you. We will install a $5,000-\mathrm{gal}$ water storage tank on site to store the treated water on November 11. We also will mobilize a pilot scale treatment unit and one $500-\mathrm{gal}$ holding tank and two $250-\mathrm{gal}$ retention tanks on the trucks. The treatment unit and tanks will be transported back to our facility after the daily test work. Only the $5,000-\mathrm{gal}$ tank will stay on site pending future water disposal. In addition, we will conduct a geophysical survey using Ground Penetration Radar (GPR) on November 11 so that the underground fuel pipes at the gas station will be protected during the installation of remedial wells. Clearwater will also use the regular power outlets available at the gas station for our equipment during the pilot test.

## CLEARNATER

Environmental Services
Your support and cooperation to make the pilot test successful and the interim remedial
system working are very appreciated.

Sincerely,
Clearwater Group


Jim Ho, Ph.D., P.E.
Principal Engineer

Cc: Mr. Jerry Wickham, Hazardous Material Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

October 6, 2005

Mr. Jerry Wickham
Alameda County Environmental Health Services
Environmental Protection Division
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

## RE: Kesponse to Cormments - Soil and Groundwater Investigation Workplan Eagle Gas Station <br> 4301 San Leandro Street <br> Oakland, California 94601 <br> LOP StID\# 2118 <br> USTCF Claim No. 014551 <br> Clearwater Group Project \# ZP046C

Dear Mr. Wickham,
Thank you so much for your review of the Soil and Groundwater Investigation Workplan dated August 10, 2005. Since a Response to Comments for the Technical Comment \#3 was requested in your September 21, 2005 letter, enclosed please find the response Clearwater prepared.

If you have any questions regarding the information presented in the Response to Comments, please do not hesitate to contact me at 510-307-9943 ext 231.

Sincerely,
Clearwater Group


Jim Ho, Ph.D., P.E.
Principal Engineer
Enclosure

October 6, 2005

## RECEIVED

By lopprojectop at 9:37 am, May 10, 2006

Mr. Jerry Wickham
Alameda County Environmental Health Services
Environmental Protection Division
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

## RE: Response to Comments - Soil and Groundwater Investigation Workplan Eagle Gas Station <br> 4301 San Leandro Street <br> Oakland, California 94601 <br> LOP StID\# 2118 <br> USTCF Claim No. 014551 <br> Clearwater Group Project \# ZP046C

Dear Mr. Wickham,
Thank you so much for your review of the Soil and Groundwater Investigation Workplan dated August 10, 2005. Since a Response to Comments for the Technical Comment \#3 was requested in your September 21, 2005 letter, enclosed please find the response Clearwater prepared.

If you have any questions regarding the information presented in the Response to Comments, please do not hesitate to contact me at 510-307-9943 ext 231.

Sincerely,
Clearwater Group


Jim Ho, Ph.D., P.E.
Principal Engineer
Enclosure

## RESPONSE TO COMMENTS FOR TECHNICAL COMMENT NO. 3

## 1. Confirmation for Technical Comment No. 2

Clearwater agrees with ACEH to drill a pilot boring using a direct push technology rig (Geoprobe or equivalent) with a continuous soil sampling depth of 50 feet bgs at five locations (MW-4, MW-5, MW-6, MW-7 and MW-8). The continuous soil samples will be logged in detail with each soil layer described in detail. The soils will be screened for organic vapors with a photoionization detector (PID). The PID readings and observations of staining and odor will be recorded on the Clearwater field sheets.

Soil samples will be collected for analyses at a minimum of five-foot intervals and from all zones where elevated PID readings, odor, or staining are observed. The intervals for grab groundwater sampling and screen intervals for monitoring wells are to be selected based on a review of the boring logs from the pilot borings. Soil layers where significant contamination was observed and permeable soil layers below the screened intervals for the proposed shallow monitoring wells are to be targeted for grab groundwater sampling. A grab groundwater sample will be collected using a Geoprobe discrete water sampler or a temporary $3 / 4$ "-diameter well casing. A small mini-bailer will be used to collect the groundwater sample. After the groundwater sample is collected, the boring will be sealed using a bentonite grout to the total depth of the proposed monitoring well, which is approximately 25 feet below ground surface for shallow wells MW-6 through MW-8. The boring will also be sealed using a bentonite grout to a total depth of 45 feet below ground surface for deep wells MW-4D and MW-5D. Two additional borings will be drilled at a distance of five feet from deep wells MW-4D and MW-5D to install shallow wells MW-4 and MW-5. No soil and groundwater samples will be collected from these two shallow borings for wells MW-4 and MW-5. A hollow stem auger rig will be used to overdrill the boring to create a 6 to 8 inch diameter annulus, depending on the auger diameter. The 2 -inch diameter monitoring well will be constructed within the borehole. The drill cuttings will be placed in 17-H DOT approved 55 -gallon drums.

## 2. Response to Technical Comment No. 3

As described above, a grab groundwater sample may be collected if the depth of the grab groundwater sample is different than the depth of the screen for the groundwater monitoring well. An example is if the grab sample is collected at 50 feet below ground surface, but first water is encountered at 10 feet and the well total depth is at 20 feet. In this case, the grab groundwater sample may provide additional information. Grab groundwater samples will be collected by one of two methods. The Geoprobe discrete water sampler consists of an outer rod with a slotted screen nested inside. The Geoprobe discrete water sampler (Screen Point 16) is driven to the total depth, and the outer rod is retracted about 48 inches, exposing about 48 inches of slotted screen. A mini-bailer is dropped into the screen section of the sampler and a grab groundwater sample is collected. Another method for water sampling uses a $3 / 4$-inch diameter PVC 0.01 " slotted well casing with a bottom cap that is dropped to the depth of the borehole. This
temporary well is left in place and a mini-bailer is used for a grab groundwater sample, or a peristaltic pump with clear Tygon tubing is used to lift the water sample to the surface.

Clearwater is well aware of the issue of screening across multiple water-bearing zones. A review of the water level data from the site since 2000 to 2005 , show the following: MW-1 ( 7 ft to 11 ft ), MW-2 ( 12 ft to 20 ft ), and MW-3 ( 10 ft to 19 ft ). This high variability shows the top of water ranges between 7 to 12 feet between three wells that are all within the same quarter acre site. The data within each well shows a potential range of variation from 4 feet in MW-1 to 9 feet in MW-3. Based on this historic water level data, Clearwater recommends a full 15 feet of screen, so that the proposed monitoring wells will continue to have water during the significant changes in the hydrologic cycle. Clearwater will construct the groundwater monitoring wells so that approximately five feet of the well screen will be above the static water levels and the screen will extend down about 10 feet below the top of the static water level, for a total screen length of 15 feet. Clearwater agrees with ACEH that the monitoring well screens will be designed not to intersect two or more discrete water-bearing zones within the same well.

## Wickham, Jerry, Env. Health

From:
Sent:
To:
Subject:

Wickham, Jerry, Env. Health
Wednesday, October 05, 2005 5:15 PM
'Jimmy Ho'
RE: Interim remedial action for the NAZ Gas Station (4301 San Leandro Street, Oakland)

Jim,
Based on the information you have presented regarding water treatment, a pilot test to identify a more cost effective method for groundwater treatment appears to be acceptable. Regards,
Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577
510-567-6791 phone
510-337-9335 Fax
jerry.wickham@acgov.org
-----Original Message-----
From: Jimmy Ho [mailto:jho@clearwatergroup.com]
Sent: Tuesday, October 04, 2005 4:48 PM
To: Wickham, Jerry, Env. Health
Cc: Olivia Jacobs; Jim Jacobs
Subject: Interim remedial action for the NAZ Gas Station (4301 San Leandro street, Oakland)

Hello, Jerry:
You probably remember that activated carbon has been proposed to treat the groundwater to be pumped from the extraction wells EW1 and EW2 for the interim remediation action detailed in the August 10, 2005 Workplan for the subject site. Based on the high MTBE and TBA concentrations obtained from the quarterly monitoring events, short carbon changeout time is expected. An isotherm calculation has been performed. The results indicate that if the extraction rate is between 10 and 20 gpm and the averaged MTBE concentration obtained from wells MW-1 through MW-3 is 25 ppm and TBA concentration is 6 ppm , the anticipated carbon consumtion rate will be 370 to 700 lb per day.
It will make the water treatment very expensive. The breakthrough time will be 3 - 6 days for a 2,000 pounder.

As a result, we are in the process of doing a pilot test for the use of ozone/UV/hydrogen peroxide. The test equipment will be a built and rental test unit Model X-l provided by the Ozotech. Based on the pilot test results, we would be able to determine the effectiveness and the required ozone dose as well as the required full-scale for the advanced oxidation treatment method. We will pump water from the well MW-2. The maximum volume of water to be pumped from the site will not exceed 5,000 gallons. The treated/tested water will be temporarily stored in a $5,000 \mathrm{gal}$ tank to be place on-site and then properly disposed of by Instrat - a waste management contractor, which we are currently using to handle the purged groundwater from this site.

I hope you will agree with this test. Please comment. Thanks.
Jim Ho, Ph.D., P.E., CGWP
Principal Engineer
Clearwater Group
229 Tewksbury Ave.
Point Richmond, CA 94801
Phone: (510) 307-9943 ext. 231
FAX: (510) 232-2823

## ALAMEDA COUNTY

AGENCY
DAVID J. KEARS, Agency Director

September 21, 2005
ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700

FAX (510) 337-9335
Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis Street
Fremont, CA 94538

Subject: Fuel Leak Case No
Dear Ms. Naz:
Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site and the documents entitled, "Soil and Groundwater Investigation Work Plan," dated August 10, 2005 and "Quarterly Groundwater Monitoring Report - Third Quarter 2005," dated September 8, 2005. Both documents were prepared on your behalf by Clearwater Group. ACEH requests that a response to agency comments be submitted (e-mail preferred to jerry.wickham@acgov.org) to address the technical comments below prior to implementing the field investigation proposed in the Work Plan.

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

## TECHNICAL COMMENTS

1. Section 8 - Design and Operation of the Interim Remedial System. In correspondence dated July 25,2005 , ACEH indicated no objection to implementation of the proposed groundwater extraction wells and oxygen diffusion iSOC wells prior to implementing the site investigation. Mr. Jim Ho and Mr. James Jacobs of Clearwater Group met with ACEH staff on September 7, 2005 to provide an overview of the planned interim remedial system.
2. Proposed Borings and Screen Intervals for Monitoring Wells. The Work Plan currently proposes to drill and sample seven borings and then to over drill each boring and install monitoring wells. Soil samples and grab groundwater samples are to be collected during drilling. The Work Plan proposes to install monitoring wells at fixed intervals of 10 to 25 feet bgs for the shallow wells and 35 to 45 feet bgs for the "deep " wells. ACEH concurs with the proposed boring locations but requests that a different approach be used to select intervals for soil and groundwater sampling. ACEH requests that a pilot boring be drilled with continuous soil sampling to a depth of 50 feet bgs at five locations (MW-4, MW-5, MW-6, MW-7, and MW-8). The continuous soil samples are to be logged in detail with each soil layer described in detail and all PID readings and observations of staining or odor recorded. Soil samples are to be collected for analyses at minimum five-foot intervals and from all zones where elevated PID readings, odor, or staining are observed. Intervals for grab groundwater sampling and screen intervals for monitoring wells are to be selected based on
review of the boring logs from the pilot borings. Soil layers where significant contamination was observed and permeable soil layers below the screen intervals for the proposed shallow monitoring wells, are to be targeted for groundwater sampling (see next comment regarding groundwater sampling).
3. Grab Groundwater Sampling and Monitoring Well Installation. It is not clear why both grab groundwater sampling and monitoring well installation are proposed for the same borings. The methods for collection of grab groundwater samples, whether grab groundwater samples are to be collected from separate borings, and procedures to prevent cross contamination of deeper grab groundwater samples are also not defined. ACEH requests that a response to comments be prepared to clarify when and how grab groundwater samples would be collected and when monitoring wells would be installed within a specific interval. ACEH requests that the screen intervals for monitoring wells installed below the shallow water table monitoring wells be specifically targeted to permeable zones. In most cases, the filter pack and screen intervals for monitoring wells screened below the water table should not exceed 5 feet in length. In no case, should the monitoring well screen intersect multiple water-bearing zones.
4. Soil and Groundwater Analyses. Please analyze all soil and groundwater samples collected during the site investigation for TPH as gasoline, TPH as diesel, MTBE, TAME, ETBE, DIPE, TBA, EDB, EDC, and ethanol.
5. Estimate the MTBE Mass and Flux. ACEH recommends that fate and transport modeling not be conducted until sufficient data have been collected to fully characterize the lateral and vertical extent of MTBE on and off the site.
6. Quarterly Groundwater Monitoring. The analytes for quarterly groundwater rmonitoring currently includes total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, BTEX, MTBE, TAME, ETBE, DIPE, and TBA. In addition to the above analytes, we request that analysis for EDB, EDC, and ethanol be performed on groundwater samples from all monitoring wells for the next two quarters, at a minimum. Include cumulative analytical data tables for these compounds (columns for both EPA Method 8020/21 and 8260 results) in your Quarterly Reports with ND results reported as a less than ( $<$ ) the detection limit value. We request that you review the results of your analysis after the 2 quarters of monitoring and if any of the above compounds are detected at your site and are judged to be of concern (pose a risk to human health, the environment, or water resources), provide recommendations for incorporating these compounds into your regular monitoring schedule.

## TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- October 6, 2005 - Response to Agency Comments
- January 13, 2006 - Interim Remediation Start-up Report
- January 17, 2006 - Quarterly Report for the Fourth Quarter 2005
- February 13, 2006 - Soil and Groundwater Investigation Report with Recommendations for Off-site Investigation

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

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) now request submission of reports in electronic form. The electronic copy is intended to replace the need for a paper copy and is expected to 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 Instructions." 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. 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 monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all reports is required in Geotracker (in PDF format). Please visit the State Water Resources Control Board 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) 567-6791.
Sincerely,


Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Jim Ho<br>Clearwater Group<br>229 Tewksbury Avenue<br>Point Richmond, CA 94801

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

Environmental Services

September 8, 2005


Dear Mr. Wickham,
Enclosed please find a copy of the Third Quarter 2005 Groundwater Monitoring Report for the above referenced project location. If you have any questions regarding the monitoring report, please do not hesitate to contact our office at 510-307-9943 ext 231.

Sincerely,
Clearwater Group


Jim Ho, Ph.D., P.E., CGWP
Principal Engineer
Enclosure

Dear Ms. Naz:

Alameda County Environmental Health (ACEH) staff has reviewed correspondence received from Clearwater Group regarding "Recommendations for Interim Remedial Actions," dated June 13, 2005. The correspondence suggests that interim remediation be implemented before or together with the investigation activities requested by ACEH in a letter dated May 26,2005 . Figures 1 and 2, which were attached to the June 13, 2005 correspondence, showed proposed locations for groundwater extraction wells and oxygen diffusion iSoc wells, respectively. Please note that the ACEH letter dated May 26, 2005 requested that interim remediation be implemented at the site. ACEH has no objection to implementation of the proposed groundwater extraction well and oxygen diffusion iSOC well locations prior to implementing the investigation requested in ACEH's May 26, 2005 correspondence. However, the proposed operation of the interim remediation system and the proposed verification sampling for the interim remediation system are to be fully described in the Work Plan requested below.

Please note that all work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party as described in the section entitled "Perjury Statement," below. The June 13, 2005 correspondence from Clearwater Group and the most recent report entitled, "Quarterly Groundwater Monitoring Report - Second Quarter 2005," did not include cover letters from you.

## TECHNICAL REPORT REQUEST

As previously requested in our May 26, 2005 correspondence, please submit technical reports to Alameda County Environmental Health (Attention: Mr. Jerry Wickham), according to the following schedule:

- August 10, 2005 - Work Plan for Soil and Groundwater Investigation and Interim Remedial Action with initial SCM
- 120 days after ACEH approval of Work Plan - Soil and Groundwater Investigation Report (to include interim remediation start-up report)
- 60 days after ACEH comments on the Soil and Groundwater Investigation Report Corrective Action Plan

Ms. Farah Naz
June 24, 2005
Page 2

- September 30, 2005 - Quarterly Report for the Third Quarter 2005
- December 30, 2005 - Quarterly Report for the Fourth Quarter 2005

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.

## 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.

Ms. Farah Naz
June 24, 2005
Page 3

If you have any questions, please call me at (510) 567-6791.
Sincerely,
Juy Hidbluam
Jerry Wickham, P.G. Hazardous Materials Specialist
cc: James Ho
Clearwater Group
229 Tewksbury Avenue
Point Richmond, CA 94801
Donna Drogos, ACEH
Jerry Wickham, ACEH

June 24, 2005

Ms. Farah Naz c/o<br>Mr. Muhammad Jamil<br>40092 Davis Street<br>Fremont, CA 94538

Subject: Fuel Leak Case No. RO0000096, Eagle Gas, 4301 San Leandro Street, Oakland, CA 94601

Dear Ms. Naz:
Alameda County Environmental Health (ACEH) staff has reviewed correspondence received from Clearwater Group regarding "Recommendations for Interim Remedial Actions," dated June 13, 2005. The correspondence suggests that interim remediation be implemented before or together with the investigation activities requested by ACEH in a letter dated May 26, 2005. Figures 1 and 2, which were attached to the June 13, 2005 correspondence, showed proposed locations for groundwater extraction wells and oxygen diffusion iSoc wells, respectively. Please note that the ACEH letter dated May 26, 2005 requested that interim remediation be implemented at the site. ACEH has no objection to implementation of the proposed groundwater extraction well and oxygen diffusion iSOC well locations prior to implementing the investigation requested in ACEH's May 26, 2005 correspondence. However, the proposed operation of the interim remediation system and the proposed verification sampling for the interim remediation system are to be fully described in the Work Plan requested below.

Please note that all work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party as described in the section entitled "Perjury Statement," below. The June 13, 2005 correspondence from Clearwater Group and the most recent report entitled, "Quarterly Groundwater Monitoring Report - Second Quarter 2005," did not include cover letters from you.

## TECHNICAL REPORT REQUEST

As previously requested in our May 26, 2005 correspondence, please submit technical reports to Alameda County Environmental Health (Attention: Mr. Jerry Wickham), according to the following schedule:

- August 10, 2005 - Work Plan for Soil and Groundwater Investigation and Interim Remedial Action with initial SCM
- 120 days after ACEH approval of Work Plan - Soil and Groundwater Investigation Report (to include interim remediation start-up report)
- 60 days after ACEH comments on the Soil and Groundwater Investigation Report Corrective Action Plan

Ms. Farah Naz
June 24, 2005
Page 2

- September 30, 2005 - Quarterly Report for the Third Quarter 2005
- December 30, 2005 - Quarterly Report for the Fourth Quarter 2005

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.

## 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.

Ms. Farah Naz
June 24, 2005
Page 3

If you have any questions, please call me at (510) 567-6791.
Sincerely,


Jerry Wickham, P.G.
Hazardous Materials Specialist
cc: James Ho
Clearwater Group
229 Tewksbury Avenue
Point Richmond, CA 94801
Donna Drogos, ACEH Jerry Wickham, ACEH File

## CLEARWATER

G R O U

Environmental Services

13 June 2005

Mr. Jerry Wickham<br>Alameda County Environmental Health Services<br>Environmental Protection Division<br>1131 Harbor Bay Parkway, Suite 250<br>Alameda, CA 94502-6577

RE: Recommendations for Interim Remedial Actions<br>Eagle Gas Station<br>4301 San Leandro Street<br>Oakland, California 94601<br>LOP StD\# 2118<br>USTCF Claim No. 014551

Dear Mr. Wickham,
Based on the historical groundwater monitoring results presented in the Second Quarter 2005 Groundwater Monitoring Report, a significant groundwater gradient and high concentrations of MTBE and TBA have been confirmed at the site. To prevent or reduce the off-site migration of MTBE and TBA very likely already exists; the Clearwater Group (Clearwater) recommends implementing a fast-track interim site remediation.

The interim remediation will include two 4 -inch-diameter and 25 -feet-deep groundwater extraction wells and an aerobic enhanced biodegradation system, which has been described in the Interim Remedial Action Plan (IRAP) submitted by Clearwater on 14 January 2004. The proposed locations for the extraction wells and oxygen diffusion SOC wells are presented in Figures 1 and 2. Clearwater strongly suggests that an interim remediation such as the one described above should be implemented for the site before or together with the investigation activities requested by ACEHS in a letter dated 26 May 2005.

Please consider and respond to this request. If you any questions regarding the site conditions, please do not hesitate to contact our office at (510) 307-9943 ext 231.

Sincerely,
Clearwater Group


Jim Ho, Ph.D., P.E., CGWP Principal Engineer

Enclosure


$\frac{\mathrm{G} \mathrm{R} O \mathrm{O} \mathrm{J}}{\text { Environmental Services }}$

Mr. Jerry Wickham<br>Alameda County Environmental Health Services<br>Environmental Protection Division<br>1131 Harbor Bay Parkway, Suite 250<br>Alameda, CA 94502-6577

## RE: Groundwater Monitoring Report, Second Quarter 2005 <br> Eagle Gas Station <br> 4301 San Leandro Street <br> Oakland, California 94601 <br> LOP StD\# 2118 <br> USTCF Claim No. 014551 <br> Clearwater Group Project \# ZP046C

Dear Mr. Wickham,
Enclosed please find a copy of the Second Quarter 2005 Groundwater Monitoring Report for the above referenced project location. We have received a copy of your May 26, 2005 letter including your comments on our $\mathbb{R} A P$ and the first quarter 2005 groundwater monitoring report. Thank you so much. We will perform the requested tasks and submit the associated reports according to the schedule included in your letter.

Due to the existence of a significant groundwater gradient and high concentrations of MTBE and TBA under the site, the potential of MTBE and TBA off-site migration exists. To prevent or reduce the anticipated migration of MTBE and TBA off site, Clearwater recommends that an interim site remediation shall be implemented as soon as possible. If there are any questions regarding the information as it is presented in the plan, please do not hesitate to contact our office at 510-307-9943 ext 231 .

Sincerely,
Clearwater Group


Jim Ho, Ph.D., P.E., CGWP
Principal Engineer

[^1]Ms. Farah Naz c/o<br>Mr. Muhammad Jamil<br>40092 Davis Street<br>Fremont, CA 94538

Dear Ms. Naz:

Subject: Fuel Leak Case 94601

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the subject site and two reports, the "Interim Remedial Action Plan," dated June 16, 2004, prepared by Clearwater Group and the "Groundwater Monitoring Report, First Quarter, 2005," dated March 14, 2005, also prepared by Clearwater Group. The Interim Remedial Action Plan (IRAP) proposed the installation of approximately nine groundwater monitoring wells at the site. The IRAP also discussed potential remediation methods and proposed enhanced bioremediation through the use an oxygen infusion system for groundwater treatment at the site. The oxygen infusion system would utilize the proposed nine additional on-site monitoring wells and three existing on-site monitoring wells to inject oxygen into the groundwater.

The Groundwater Monitoring Report, First Quarter 2005 presented the results of groundwater sampling conducted in February, 2005 and recommended the following:

- An additional on-site and off-site subsurface investigation that would include continuous coring.
- Implementation of an interim site remediation program.
- Groundwater monitoring of existing wells on a quarterly basis.

We are concerned with the high levels of petroleum products and associated blending compounds and additives in soil and groundwater at the site. We are also concerned with off-site migration of the groundwater contaminant plume and the lack of sufficient data to appropriately characterize your site. This letter presents a request for full three-dimensional definition, investigation, and a proposal for cleanup of soil and groundwater contamination from the unauthorized release at your site. You are hereby required to complete a Soil and Groundwater Investigation, conduct an interim remedial action, and prepare a Corrective Action Plan (CAP) for the subject site in accordance with California Code of Regulations 23 CCR, Section 2720-2728; State Water Resources Control Board Resolution 92-49, "Policies and Procedures for Investigation, Cleanup and Abatement of discharges Under Water Code Section 13304"; and within the Regional Water Quality Control Board (Water Board) Water Quality Control Plan for the basin.

The following technical comments address investigation and cleanup performance objectives that shall be considered as part of the required Soil and Water Investigation and CAP. We request

## that you prepare and submit a work plan for the Soil and Water Investigation by August 10, 2005, that addresses each of the following technical directives.

Note, 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. All work performed for your site, including field work, is required to be designed, interpreted, and overseen by the appropriately registered professional.

Based on ACEH staff review of the documents referenced above, we request that you address the following technical comments, perform the proposed work, and send us the reports described below.

## TECHNICAL COMMENTS

## 1. Regional Geologic and Hydrogeologic Study

The purpose of a regional geologic and hydrogeologic study is to identify the geologic and hydrogeologic setting in the vicinity of your site. This data is then used to develop your initial Site Conceptual Model (SCM) requested below, and determine the appropriate scope of investigation activities.

We request that you provide information on the regional geologic and hydrogeologic setting of your site by reviewing the available technical literature for the area. Background information for your review includes but is not limited to regional geologic maps, United States Geological Survey (USGS) technical reports and documents, Department of Water Resources (DWR) Bulletins, Regional Water Quality Control Board reports on the groundwater basin, data from contaminant investigations in the area, etc.

Provide a narrative discussion of the regional geologic and hydrogeologic setting obtained from your background study. Use photocopies of regional geologic maps, groundwater contours, cross-sections, etc., to illustrate your results and include a list of technical references you reviewed (reference Technical Comment \#5 below). Report your results as part of your SCM in the Work Plan requested below.

## 2. Preferential Pathway Study

A Sensitive Receptor Survey was conducted for the site and provided in a report entitled, "Groundwater Monitoring Report, Second Quarter 2001, Sensitive Receptor Survey and Workplan for Continuing Investigation," dated August 3, 2001. We request that this information be supplemented and incorporated into the work plan requested below. The Sensitive Receptor Survey did not provide maps showing the utilities that could potentially act as preferential pathways and did not show the locations of wells within $1 / 2$ mile of the site. The results of your study shall contain all information required by 23 CCR, Section 2654(b). Please supplement the Sensitive Receptor Survey previously performed for the site to include the following information:

## a) Utility Survey

An evaluation of all utility lines and trenches (including sewers, storm drains, pipelines, trench backfill, etc.) within and near the site and plume area(s) is required as part of your study. Submittal of map(s) and cross-sections showing the location and depth of all utility lines and trenches within and near the site and plume area(s) is required as part of your study.

## b) Well Survey

The preferential pathway study shall include a well survey of all wells (monitoring and production wells: active, inactive, standby, decommissioned (sealed with concrete), abandoned (improperly decommissioned or lost); and dewatering, drainage, and cathodic protection wells) within a $1 / 2$-mile radius of the subject site. Please review historical maps such as Sanborn maps, aerial photos, etc., when performing the background study. Submittal of map(s) showing the location of all wells identified in your study, and the use of tables to report the data collected as part of your survey are required. Include appropriate prints of historic aerial photos used as part of your study. We also request that you list by date all aerial photographs available for the site from the aerial survey company or library you use during your study. Please refer to the Regional Board's guidance for identification, location, and evaluation of potential deep well conduits when conducting your preferential pathway study.

## 3. Characterization of Lateral and Vertical Extent of Contamination.

The three-dimensional extent of soil and groundwater contamination at your site has not been defined. The results of recent groundwater monitoring at the site indicate the presence of high levels of methyl tert-butyl ether (MTBE) and other petroleum products in groundwater at your site. Concentrations up to 630,000 micrograms per liter ( $\mu \mathrm{g} / \mathrm{L}$ ) of MTBE and $160,000 \mu \mathrm{~g} / \mathrm{L}$ of tert butyl alcohol (TBA) were detected in groundwater during the February 2005 groundwater monitoring event. The concentrations of total petroleum hydrocarbons as gasoline ( THPg ) and benzene could not be quantified due to the effects of such high concentrations of MTBE on the laboratory analyses. Soil sample results indicate that up 320 milligrams per kilogram ( $\mathrm{mg} / \mathrm{kg}$ ) of MTBE, up to $4,300 \mathrm{mg} / \mathrm{kg}$ of $T P H g$, and up to $11 \mathrm{mg} / \mathrm{kg}$ of benzene have been detected in soil at your site. We agree with the recommendation by your consultant (Clearwater) presented in the First Quarter 2005 Groundwater Monitoring Report that an additional on-site and off-site subsurface investigation should be performed.

We request that you perform a detailed, expedited site assessment using depth discrete sampling techniques on borings installed along transects, to the extent practicable, to define and quantify the full three-dimensional extent of fuel contamination in soil and groundwater.
The on-site investigation should include additional characterization of the source area. Approximately 750 tons of petroleum-impacted soil was excavated and removed from the site in 1999. However, further characterization of the source area is required to determine the nature and extent of free product (liquid phase), petroleum-saturafed soils (residual phase), and high concentrations of fuel constituents in soil vapor (vapor phase) that will continue to increase the mass of the dissolved phase contaminant plume. Contaminant source characterization also includes characterization of dissolved phase contamination and an estimation of contaminant mass in the source area. We request that source area characterization be initiated at the start of the on-site investigation. Source area characterization and contaminant mass estimations are
needed to define the scope and aggressiveness of interim source area cleanup and/or dissolved phase mass removal. Please provide your proposal for source characterization in the work plan requested below.

The chemical and physical properties of MTBE should be considered in planning the on-site and off-site subsurface investigation. MTBE is highly soluble, very mobile in groundwater, and is not readily biodegradable. Conventional monitoring wells currently installed at fuel leak sites are generally insufficient to properly locate and define the extent of MTE plumes. MTBE plumes can be long, narrow, and erratic (meandering). Thus, the positioning of typical monitoring well networks for UST releases can miss the MTBE plume core, and the monitoring well's design can incorrectly reflect the severity of the release.

A substantial portion of the soil and groundwater contamination should be defined during one mobilization by using expedited site assessment techniques at your site. The appropriatelyqualified professionals performing field work at your site should use the data obtained from the field work to refine the initial three-dimensional conceptual model of site conditions developed from existing site information. Using expedited site assessment techniques, the appropriatelyqualified professionals are to analyze the field data as it is collected, refine the conceptual model as new data is produced and evaluated, and modify the sampling and analysis program as needed to fill data gaps and resolve anomalies prior to demobilization.

Expedited site assessment tools and methods are a scientifically valid and cost-effective approach to fully define the three-dimensional extent of the plume. Technical protocol for expedited site assessments are provided in the U.S. Environmental Protection Agency's (EPA) "Expedited Site Assessment Tools for Underground Storage Tank Sites: A Guide for Regulators" (EPA 510-B-97-001), dated March 1997.

Please submit a detailed work plan detailing your proposal to fully characterize the lateral and vertical extent of soil and groundwater contamination. The work plan should be prepared by a qualified professional. The work plan must fully describe the proposed scope and methods for the soil and groundwater investigation.

We request that you immediately pursue off-site access agreements that you will need to complete your investigation activities.

## 4. Characterization of Local Hydrogeology and Groundwater Flow Conditions.

The purpose of this characterization is to understand the physical and geochemical characteristics of the subsurface, which may affect groundwater flow, the breakdown (fate), migration (transport), and the distribution of contaminants through the subsurface. Additionally, factors such as water level fluctuations, gradient changes, local hydrogeology, groundwater extraction, and groundwater recharge activities (natural and artificial) can significantly alter groundwater flow conditions.

The local hydrogeology and hydraulic gradient have not been sufficiently defined at the site. Therefore, we request that you collect detailed lithologic information using soil borings, direct push sampling, and/or cone penetrometer together with other methods to understand the hydrogeology of your site. We agree with the recommendation of your consultant that borings should be continuously cored. The use of additional methods to understand the hydrogeology, such as pumping tests, geophysical methods, etc. may be proposed.

Additional monitoring wells will be needed on-site and off-site to provide groundwater elevation data to be used in estimating the direction and magnitude of the hydraulic gradient. The additional monitoring wells should be installed as part of or following the expedited site assessment described in item 1 above. Please see the discussion in item 7 regarding the requirements for contaminant plume monitoring and monitoring well design.

We require that detailed boring logs, cross sections, and rose diagrams for hydraulic gradient be prepared and presented in the Soil and Groundwater Investigation Report. Rose diagrams showing the variations in hydraulic gradient shall be plotted on groundwater contour maps and updated in all future reports submitted for your site. Include plots of the contaminant plumes on your maps, cross sections, and diagrams. Structural contours, isopachs, and fence diagrams should be presented where necessary, to illustrate the three-dimensional distribution of contaminants in the subsurface.

The IRAP indicates that a brief step-drawdown test will be performed on well MW-2. We agree that step drawdown tests should be performed but request that step-drawdown tests be performed on a minimum of two on-site wells to be installed in the northeastern or eastern portion of the site for groundwater monitoring, rather than well MW-2.

The results of the on-site and off-site subsurface investigation, including the expedited site assessment, should be presented in the Soil and Groundwater Investigation Report, which is requested below.

## 5. Project Approach and Investigation Reporting

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.
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) 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.

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 Soil and Water Investigation (Results of Expedited Site Assessment) Report requested below.

## 6. Interim Remediation

This section requests that you initiate interim remediation at your site. Please note that additional remediation may be required in the future based upon the results of additional investigation work at and near your site.
a) Source Removal. The purpose of the interim source removal is to remove the ongoing source(s) that is continuing to add mass to the plume and immediately begin removal of contaminant mass in the source area.

Interim remediation is necessary to reduce the ultimate impact of the unauthorized release by limiting continued growth and migration of the contaminant plume, and reduce overall cleanup costs. We request that interim remediation be performed following contaminant source characterization. The interim remediation should be conducted on site in the source area and may include a pilot study using the oxygen infusion system as proposed in the IRAP. The IRAP should include a discussion of the effectiveness of enhanced biodegradation using oxygen infusion based on the site-specific conditions. Specifically, the effects of high concentrations of TPHg and other additives and oxygenates on the aerobic degradation of MTBE should be evaluated. Groundwater monitoring wells that will not be used for oxygen infusion should be installed in order to monitor the effectiveness of the remediation within the plume at selected distances from the oxygen infusion wells.

Please report the results of the interim remediation in the Soil and Groundwater Investigation Report. Please document the progress of your interim remediation in the Quarterly Reports requested below.
b) Near-Source Plume Control. The purpose of migration control is to prevent continued creation of a dissolved contaminant plume. The results of the off-site subsurface investigation and step-drawdown tests should be used to evaluate the need for migration control. Please include an evaluation of the need for and feasibility of migration control in the Soil and Groundwater Investigation Report requested below.

## 7. Date of Unauthorized Release

The purpose of dating the unauthorized release is to assist in the determination of the rate of transport of MTBE and other petroleum hydrocarbons in groundwater. Please determine the approximate time frame of the MTBE release first occurring at your site, the history of MTBE use at your site, and the history of all unauthorized releases and spills at your site. Using chromatographs from previously analyzed samples, the laboratory should be able to quantify the level of MTBE present during previous sampling events. Report your findings in the Soil and Water Investigation (Results of Expedited Site Assessment) report requested below.

## 8. Estimation of MTBE Contaminant Mass Flux

The purpose of estimating contaminant mass flux is to determine the contaminant mass that is moving through the subsurface over time relative to a known transect (e.g., a property boundary). This can provide an approximate estimate of the potential threat or nuisance to a receptor, and possible attenuation (degradation) of the plume.

We request that you consider approaches to estimating the MTBE contaminant mass flux using plume transects or fences located perpendicular to the MTBE plume. Please refer to the following guidance documents regarding mass flux estimates: API Publication No. 4730 and the ChevronTexaco document dated June 2002, both referenced above. We recommend the use of expedited site assessment tools and/or appropriately-screened monitoring wells (sand pack for the screened intervals not greater than $5^{\prime}$ in length) to provide data for these estimates. In deciding the location of transects and developing mass flux estimates, please consider the variable dissolution of MTBE from the source. Please report your results in the Soil and Water Investigation (Results of Expedited Site Assessment) Report requested below.

## 9. Groundwater Contaminant Plume Monitoring

The purpose of groundwater contaminant plume monitoring is to determine the three-dimensional movement of the plume, the rate of plume growth, and the effectiveness of remediation activities.

Once the extent of the plume(s) is defined, we request that you install permanent monitoring wells capable of monitoring depth discrete zones and/or monitoring well clusters (screened at appropriate discrete depths with appropriate length of screen) and piezometers to monitor the three-dimensional movement of the plume. We request that you use the detailed cross sections, structural contours, isopachs, and rose diagrams for groundwater gradient developed for Technical Comment 4 above, to determine the appropriate locations and designs for monitoring weils/well clusters and piezometers that are needed to appropriately monitor the three-dimensional movement of the plume. To appropriately evaluate your site, your monitoring wells/well clusters will need to be screened in the permeable zones with screen lengths that match the stratigraphic sequence. Sand pack for these screened intervals will not be greater than 5 feet in length. The number of piezometer/wells should be sufficient to evaluate all permeable zones.

Include your proposal for the installation of wells/piezometers in the work plan requested below. We request that wells be installed in transects. Please refer to the guidance document by API Publication No. 4730 referenced above regarding transects. We recommend that you submit your proposal for the installation of monitoring wells/well clusters and piezometers to ACEH for comment prior to installation. Report on the installation of welis/piezometers in the Soil and Water Investigation (Results of Expedited Site Assessment) Report and the Soil and Water Investigation Completion Report.

We request that you monitor the groundwater contaminant plumes on a quarterly basis. Additional wells will be required to define the downgradient extent of the plume if it continues to migrate. Discuss the results of your plume monitoring in the Quarterly Reports requested below. Discuss the results of your plume monitoring in the Quarterly Reports requested below. Please compile your monitoring data on cross-sections, include groundwater contours, and rose diagrams for groundwater gradient. We require that Quarterly Reports contain a discussion of the results of your plume monitoring, in particular whether the results are consistent with the SCM. Be sure to point out any anomalies in the data, and include recommended activities to investigate. and resolve those data anomalies.

We request that you perform an EPA Method 8260 analysis for BTEX, MTBE, TAME, ETBE, DIPE, TBA, EDB, and EDC on groundwater samples from all monitoring wells for the next two quarters, at a minimum. Include cumulative analytical data tables for these compounds (columns
for both EPA Method 8020/21 and 8260 results) in your Quarterly Reports with ND results reported as a less than ( $<$ ) the detection limit value. We request that you review the results of your analysis after the 2 quarters of monitoring and if any of the above compounds are detected at your site and are judged to be of concern (pose a risk to human health, the environment, or water resources), provide recommendations for incorporating these compounds into your regular monitoring schedule. Also, we request that site maps included in future reports for the site show the locations of all current and former USTs, dispenser islands, monitoring wells, and soil borings.

## 10. Corrective Action Plan

The purpose of the CAP is to use the information obtained during investigation activities to propose cost-effective final cleanup objectives for the entire contaminant plume and remedial alternatives for soil and groundwater that will adequately protect human health and safety, the environment, eliminate nuisance conditions, and protect water resources.

Please submit a Corrective Action Plan (CAP) for the final cleanup of contamination in soil and groundwater at your site by the date specified below. The CAP should be based on the results of the on-site and off-site subsurface investigation and interim remediation. The CAP must address at least three technically and economically feasible methods to restore and protect beneficial uses of groundwater and to meet the cleanup objective for each contaminant established in the CAP. The CAP must propose verification monitoring to confirm completion of corrective actions and evaluate CAP implementation effectiveness.

## 11. GeoTracker EDF Submittals

A review of the case file and the State Water Resources Control Board's (SWRCB) GeoTracker website indicate that electronic copies of analytical data have not been submitted for your site. Pursuant to CCR Sections 2729 and 2729.1, beginning September 1, 2001, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the LUFT program, must be transmitted electronically to the SWRCB GeoTracker system via the internet. Additionally, beginning January 1, 2002, all permanent monitoring points utilized to collected groundwater samples (i.e. monitoring wells) and submitted in a report to a regulatory agency, must be surveyed (top of casing) to mean sea level and latitude and longitude to submeter accuracy, using NAD 83, and transmitted electronically to the SWRCB GeoTracker system via the internet.

In order to remain in regulatory compliance, please upload all analytical data (collected on or after September 1, 2001), to the SWRCB's GeoTracker database website in accordance with the above-cited regulation. Please perform the electronic submittals for applicable data and submit verification to this Agency by June 30, 2005.

## TECHNICAL REPORT REQUEST

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

- August 10, 2005 - Work Plan for Soil and Groundwater Investigation and Interim Remedial Action with initial SCM
- 120 days after ACEH approval of Work Plan - Soil and Groundwater Investigation Report (to include interim remediation start-up report)
- 60 days after ACEH comments on the Soil and Groundwater Investigation Report Corrective Action Plan
- September 30, 2005 - Quarterly Report for the Third Quarter 2005
- December 30, 2005 - Quarterly Report for the Fourth Quarter 2005

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.

## 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 \& CONCLUSIONSIRECOMMENDATIONS

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

Page 11
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) 567-6791.
Sincerely,


Jerry Wickham, P.G.
Hazardous Materials Specialist
cc: Mr. David Mog
Clearwater Group
229 Tewksbury Avenue
Point Richmond, CA 94801
Donna Drogos, ACEH

October 18, 2001
StID 2118/ RO0000096
Ms. Farah Naz c/o
Mr. Muhammed Jamil
40092 Davis St.
Fremont, CA 94538

## Re: Groundwater Monitoring Report, Sensitive Receptor Survey and Workplan for Continuing Investigation, Eagle Gas Station, 4301 San Leandro St., Oakland 94601

Dear Ms. Naz:
Our office has received and reviewed the August 3, 2001 referenced report prepared by Clearwater Group, Inc., your consultant. The following observations were made from the monitoring report:

- Elevated gasoline, diesel and MTBE are found in all three wells. These levels require some type of interim remediation.
- Groundwater elevation in MW-1 is significantly higher than in the other two wells accounting for the unexpected easterly groundwater gradient. Apparently redeveloping the wells did not correct the groundwater elevation problem.
- Semi-volatiles were not found (with the exception of 6 ppb napthalene) in MW-2 and therefore may be omitted in future monitoring. Quarterly monitoring should continue at this site.

The sensitive receptor survey did not identify any surface water, homes with basements or drinking water wells that could likely be impacted by the fuel release. The one industrial well along High St. is screened below 170 feet and is therefore not likely to be impacted. The only utilities that could be impacted are sewer lines running along High St. to the northwest. These may need to be investigated once the groundwater gradient is confirmed.

This report includes a proposal to install eight additional off-site monitoring wells to determine the extent of contamination and verify gradient. At this time, our office does not recommend installing these wells because the site has not been adequately characterized on-site. We recommend additional on-site wells be installed to help clarify the groundwater gradient prior to proposing strategic off-site well installations. Please have your consultant submit their recommended on-site well locations. In addition, please investigate whether the underground storage tank pit can be used for collection and treatment of groundwater.

Ms. Farah Naz

## Eagle Gas

4301 San Leandro St., Oakland 9460
October 18, 2001
Page 2

You may contact me at (510) 567-6765 if you have any questions.
Sincerely,


Barney M. Chan
Hazardous Materials Specialist
$\sqrt{\text { C: B. Chan, files }}$
Mr. B. Gwinn, Clearwater Group, Inc., 520 Third St., Suite 104, Oakland CA 94607
Onsitewl 4301 San LeandroSt.

(For Capantmantal information: coples tent $\qquad$

Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis St.
Fremont, CA 94538
Re: Subsurface Investigation at Eagle Gas, 4301 San Leandro St., Oakland CA 94601
Dear Ms. Naz:
Our office has received and reviewed the April 30, 2001 Groundwater Monitoring Report, First Quarter 2001 for the above referenced site as prepared by Clearwater Group, Inc., your consultant. The results of this monitoring event indicate comparable and higher petroleum contamination than the previous sampling event in October 2000. This might be attributed to the large difference in groundwater elevation observed in these wells. Clearwater recommends additional site investigation to delineate the extent of the contamination and to determine the amount of residual contamination onsite. Apparently, Clearwater is seeking access to adjacent and surrounding properties to determine locations for borings and/or monitoring wells.

Since site conditions have worsened since the last monitoring event, the items previously requested in my November 3, 2000 letter (copy enclosed) are still warranted. As stated in that letter, please have your consultant perform a utility and sensitive receptor survey within a $2000^{\prime}$ radius of this site. The elevated MTBE in groundwater requires that such a survey be done. Groundwater gradient continues to be very unusual. There continues to be large differences in groundwater elevation in the wells resulting in a steep gradient. It is likely that additional on-site wells, necessary for residual contamination determination, may show that some of the existing wells should not be included in gradient determination. Please have your consultant provide a work plan for additional on-site investigation and include the installation of at least one additional monitoring well. Your next monitoring event should include the analysis for PAHs (polyaromatic hydrocarbons) in MW2 as requested in my prior letter.

The elevated MTBE concentrations in groundwater will require remediation. Please have your consultant provide a feasibility study to evaluate potential remediation alternatives. The exact design and location of remediation equipment should be proposed after the site has been better characterized.

Please provide your sensitive receptor survey, work plan for additional on-site characterization and remediation feasibility study along with your next quarterly monitoring report. These technical reports should be submitted within $\mathbf{6 0}$ days or no later than July 10, 2001.

Ms. Farah Naz c/o
Mr. Muhammad Jamil
4301 San Leandro St., Oakland 94601
May 10, 2001
StID \# 2118
Page 2

You may contact me at (510) 567-6765 if you have any questions or comments.
Sincerely,

## BarnegmChan

Barney M. Chan
Hazardous Materials Specialist
Enclosure (Ms. Naz)
C: B. Chan, files
Mr. B. Gwinn, Clearwater Group, 520 Third St., Suite 104, Oakland CA 94607
Mr. H. Gomez, City of Oakland Fire Services, 1605 MLK Jr. Way, Oakland CA 94612
Rprq4301SanLeandreSt

Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis St.
Fremont, CA 94538

## Re: Well Installation and Groundwater Monitoring Report for Eagle Gas, 4301 San Leandro St., Oakland CA 94601

Dear Ms. Naz:
Our office has received and reviewed the October 31, 2000 Clearwater Group, Inc. (Clearwater) report referenced above. As you are aware, this report gives the findings of the installation and sampling of three monitoring wells installed in late September 2000. This investigation is being done in stages to spread out your financial impact.

The results of the investigation were consistent with the results of the previous samples taken during the tank and piping removals. Even though the monitoring wells were located at three of the four corners of the site, considerable soil and groundwater contamination was found.

Our office has the following comments to your consultant's conclusions and recommendations:

- Clearwater states that the groundwater contaminant plume has not been delineated and additional investigation will be required. Our office agrees that in the future, additional groundwater investigation will be required, likely off-site. Prior to performing any off-site investigation, you are requested to perform a utility and sensitive receptor survey. Because of the unreliable groundwater gradient, please survey a radius of $\mathbf{2 0 0 0}$ feet around your site.
- Clearwater observed a significant difference in groundwater elevation among the three wells. This resulted in reporting a steep gradient in the northeast direction, opposite of what might be expected. Our office does not believe this data reflects the actual site conditions. It is unreasonable to observe such large differences in groundwater elevation in wells so close to each other at a homogenous site. We agree with your consultant's suggestion to redevelop the wells until similar recharge rates are observed and hopefully more reasonable groundwater elevations. Although the former tank pit might cause unexpected changes in groundwater elevation, you'd expect wells, MW-1 and MW-2 to be affected, which is not seen.
- Our office concurs with continued quarterly groundwater monitoring at the site. Because of the detection of polyaromatic hydrocarbons (PAHs) in grab groundwater sample GW3, please analyze MW2 for PAHs during your next monitoring event in addition to the other . parameters.

Ms. Farah Naz
4301 San Leandro St., Oakland
November 3, 2000
SID \# 2118
Page 2

- The elevated TPHg and MTBE concentration in groundwater are a potential problem that may require active remediation. Since the highest concentrations appear to be within the former tank pit, please verify the nature of the fill material in the former tank pit. Would the permeable back-fill allow treatment of this impacted area?
- After completing your receptor and preferential pathway survey, please be prepared to evaluate risk both off and onsite.

You may contact me at (510) 567-6765 if you have any questions.
Sincerely,
barney m Cha
Barney M. Chan
Hazardous Materials Specialist


C: B. Chan, files
Ms. J. Fox, Clearwater Group, 520 Third St., Suite 104, Oakland CA 94607
Mr. H. Gomez, City of Oakland Fire Services, 1605 MLY Jr. Dr., Oakland 94607
slat a301SLSL.

DAVID J. KEARS, Agency Director

November 3, 2000
ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION

StID \# 2118
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700

FAX (510) 337-9335
Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis St.
Fremont, CA 94538

## Re: Well Installation and Groundwater Monitoring Report for Eagle Gas, 4301 San Leandro St., Oakland CA 94601

Dear Ms. Naz:
Our office has received and reviewed the October 31, 2000 Clearwater Group, Inc. (Clearwater) report referenced above. As you are aware, this report gives the findings of the installation and sampling of three monitoring wells installed in late September 2000. This investigation is being done in stages to spread out your financial impact.

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- Our office concurs with continued quarterly groundwater monitoring at the site. Because of the detection of polyaromatic hydrocarbons (PAHs) in grab groundwater sample GW3, please analyze MW2 for PAHs during your next monitoring event in addition to the other parameters.

Ms. Fatah Naz
4301 San Leandro St., Oakland
November 3, 2000
SID \# 2118
Page 2

- The elevated TPHg and MTBE concentration in groundwater are a potential problem that may require active remediation. Since the highest concentrations appear to be within the former tank pit, please verify the nature of the fill material in the former tank pit. Would the permeable back-fill allow treatment of this impacted area?
- After completing your receptor and preferential pathway survey, please be prepared to evaluate risk both off and on-site.

You may contact me at (510) 567-6765 if you have any questions.
Sincerely,
bandy m Cha
Barney M. Chan
Hazardous Materials Specialist
C:
: B. Chan, files
Ms. J. Fox, Clearwater Group, 520 Third St., Suite 104, Oakland CA 94607
Mr. H. Gomez, City of Oakland Fire Services, 1605 MLK Jr. Dr., Oakland 94607
stata301SLSt.


Alameda county, department of
1131 Harbor Bay Pkwy Alameda CA 94502 510/567-6700

Hazardous Materials Inspection Form

City _-_ Aha Rip 94601 Phone $\qquad$
_-_- MAX AMT stor ed $>500 \mathrm{lbs}, 55$ gal., 200 cft ?
Inspection Categories:
__- 1. Has. Mat/Waste GENERATOR/TRANSPORTER
___ II. Hazard dous Materials Business Plan, Acutely Hazard dons Materials
_- III. Under ground Stor age Tanks Inc

* Calif. Administr ation Code (CAC) or the Health \& Safety Code (HS\&C)

Comments:
Present to observe the location of $3 \mathrm{Mws} \otimes$ will 3 of the 44 formers of the site.
wells Acreaed fun $10-25^{-1}$, odors observed en sol y boring GU member 0 an $n^{\prime}$
Loren Taylor - Cleannater

- Did unit instal any tank bout till a ells


Contact $\qquad$
Title $\qquad$
Signature $\qquad$
$\qquad$ B. Chan

## CLEARWATER

$\xrightarrow[\mathrm{G} R \mathrm{O} \quad \mathrm{U} \quad \mathrm{P}, \mathrm{I} \mathrm{N} \mathrm{C} .]{\text { Environmental Services }}$

August 31, 2000
Mr. Barney M. Chan
Hazardous Materials Specialist
Alameda County Health Care Services Agency - EHS
1131 Harbor Bay Parkway, Suite 250
Alameda CA 94502-6700

## Re: Hydrogeologic Site Investigation for Eagle Gas 4301 San Leandre Street, Oakland, California StID \# 2118

Dear Mr. Chan,
Thank you for our recent telephone conversation. The purpose of this letter is to clarify the actions currently proposed for the above site, and to provide you with a written explanation of the relationship between Clearwater Group, Inc. (Clearwater) and Artesian Environmental.

Clearwater was recently acquired by The Auger Group, Inc. (TAGI), an environmental consulting firm located in Point Richmond, California. Artesian Environmental (a division of TAGI) prepared a September 10, 1999 Soil Remediation Pilot Study and Well Installation Workplan for the above site. This workplan was subsequently approved by your office. Artesian Environmental still exists as a division of TAGI concerned with overseas projects, whereas Clearwater acts as the TAGI division handling domestic projects. Clearwater assumed project management responsibilities from Artesian at the time of acquisition.

As we have discussed, Clearwater intends to implement the approved workplan in stages as appropriate. The original workplan proposed the installation of three monitoring wells, two UST basin dewatering wells, and a pilot study to determine the effectiveness of direct oxidation of MTBE on site soils. We have scheduled fieldwork for the installation of the three monitoring wells for September 26, 2000.

Thank you very much for your tine. If yoa have any gicstions, please coltmet (510) 893-5160. Sincerely, Clearwater Group, Inc.


Project Scientist

[^2]
## Re: Subsurface Investigation at Eagle Gas, 4301 San Leandro St., Oakland CA 94601

Dear Ms. Naz:
This letter serves as a reminder of your requirements for performing a subsurface investigation at the above referenced site. As you will recall, both the City of Oakland and Alameda County offices agree to allow you time to operate the newly installed fuel tanks and generate revenue prior to starting the required soil and groundwater investigation at this site. You were aware, however, that this was only temporarily suspension.

Our office has received a letter dated July 11, 2000 from Ms. Judi Fox of Clearwater Group providing a prospective timeline for actions at the site. Clearwater's proposal is somewhat unclear since it states that within 60 days of the Cleanup Fund's pre-approval, they will arrange the necessary field activities. This is not an acceptable time schedule. Please be reminded that you are required to start your investigation within six (6) months of receiving your operating permit for the underground tanks. Accordingly, you should start the field activities by September 29, 2000. The work may be done in stages as suggested by Clearwater. In addition, because Artesian Environmental has become Clearwater Group, a letter indicating this and any changes in the original work plan should be submitted to our office signed by the new lead registered professional. Please keep in mind that maintaining compliance with all prevailing underground tank requirements, including site investigation and remediation, is a condition of yourunderground tank operating permit. The City of Oakland may withdraw your operating permit for failure to perform this investigation.

You may contact me at (510) 567-6765 if you have any questions.
Sincerely,


Barney M. Chan
Hazardous Materials Specialist
C: B. Chan, files
Ms. J. Fox, Clearwater Group Inc., 520 Third St., Suite 104, Oakland CA 94607
SSI430ISLSt

# State Water Resources Control Board 

## Division of Clean Water Programs

2014 T Street * Sacramento, California 95814 • (916) 227-7886 Mailing Address: P.O. Box $944212 \cdot$ Sacramento, California $\cdot 94244-2120$ FAX (916) 227-4530• Internet Address: http://www.swrcb.ca.gov/cwphome/ustcf

August 23, 2000
Ms Farah Naz
40092 Davis St
Fremont, CA 94538

> PRE-APPROVAL OF CORRECTIVE ACTION COSTS, CLAIM NO. 014551, PRE-APPROVAL REQUEST NO. 1 SITE ADDRESS: 4301 SAN LEANDRO ST, OAKLAND, CA 94601

I have reviewed your request, received on August 14, 2000, for pre-approval of corrective action costs. I have included a copy of the "Cost Pre-Approval Request" form; please use this form in the future for requesting pre-approval of corrective action costs.

With the following provisions, the total cost pre-approved as eligible for reimbursement for completing the September 10, 1999, Artesian Environmental workplan approved by the Alameda County EHD (County) in their September 15, 1999 letter, is $\$ 17,800$; see the table below for a breakdown of costs. (The total amount that has been reimbursed and approved for payment up to this point is $\$ 122,020$.)

Be aware that this pre-approval does not constitute a decision on reimbursement: necessary (as determined by the Fund) corrective action costs for action work directed and approved by the County will be eligible for reimbursement at costs consistent with those pre-approved in this letter. However, depending on what happens in the field, some costs may not actually be necessary. If the Fund agrees that they were in fact necessary, the Fund will reimburse at reasonable rates (rates consistent with those pre-approved.)

In an effort to expedite future reimbursement requests associated with the implementation of the corrective action tasks pre-approved in this letter, we ask that the attached 'Pre-Approval Specific Reimbursement Request Form' be completed, updated and submitted with each reimbursement request. All relevant supporting documentation must also be included with each reimbursement request.

In order for future costs for corrective action to be part of the expedited reimbursement process, they must be pre-approved in writing by Fund staff.

All costs for corrective action must meet the requirements of Article 11, Chapter 16, Underground Storage Tank Regulations in order to be eligible for reimbursement.

COST PRE-APPROVAL BREAKDOWN

| \# | Task* | Amount PreApproved | Comments |
| :---: | :---: | :---: | :---: |
| 1 | Execute WP, PM, Planning \& Permitting | \$ 693 | Prepare a workplan for the installation of 3 GWMW, obtaining permits, Planning and Project Management. |
| 2 | Locate Underground Utilities | \$ 105 | Pre-mark the boring locations for USA (dig alert) for underground utilities. |
| 3 | GWMW installation | \$5,367 | Install 3 GWMW to $25^{\prime}$ bgs. Includes geologist, drilling (costs appear excessive, provide detailed invoices), field instruments, collect soil samples (lithological characterization \& Lab), lab. analysis of 3 soil sample for TPH (g-d), BTEX \& Oxygenates |
| 4 | GWMW development, surveying \& sampling | \$1,754 | Survey the TOC of the GWMW to a benchmark of known elevation, develop the wells, GW sample collection and analysis for TPH(g), TPH(d), BTEX, \& Oxygenates. |
| 5 | Waste Disposal | \$ 935 | Disposal of 4-55 gallon drums of soil and 3-55 gallon drums of GW. |
| 6 | Report Preparation | \$1,635 | Prepare detailed SAR (sections for site background, history, geology, geohydology, field activites, methodology, log of borings, figures, corss-sections, isoconcentration maps in soil and GW [TPH(g), TPH(d), benzene, MTBE], conclusions \& Recommendations |
| 7 | QMR - 3 events with reports | \$7,311 | Perform three QMR events (\$2437 each). Each QMR shall contain, historical data, gw flow gradient, iso cons for TPH (g), benzene and MTBE, conclusions and recommendations. |
|  | TOTAL PRE- APPROVED | \$ 17,800 |  |

* Task descriptions are the same as those identified in Clearwater Group, Inc.'s July 26, 2000 Cost Estimate
- Only the tasks/costs reflected on the above table are pre-approved at this time. The Fund will review any tasks/cost that go beyond the pre-approved amount to be determined if the additional tasks and costs are necessary and reasonable. However, if costs exceed the above pre-approved amounts, the Fund will be unable to expedite your Reimbursement Request.
- The work products must be acceptable to the County and the Regional Water Quality Control Board.
- If a different scope of work becomes necessary, then you must request pre-approval of costs on the new scope of work.
- Although I have referred to the Clearwater Group, Inc. proposal in my pre-approval above, please be aware that you will be entering into a private contract: the State of California cannot compel you to sign any specific contract. This letter pre-approves the costs as presented in the proposal dated July 26,2000 by Clearwater Group, Inc. for conducting the work approved by the County for implementing the September 10, 1999, Artesian Environmental workplan.

I also want to remind you that the Fund's regulations require that you obtain at least three bids, or a bid waiver from Fund staff, from qualified firms for all necessary future corrective action work. If you need assistance in procuring contractor and consultant services, don't hesitate to call me.

Please remember that it is still necessary to submit the actual costs of the work as explained in the Reimbursement Request Instructions to confirm that the costs are consistent with this preapproval before you will be reimbursed. Please insure that your consultant prepares their invoices to include the required breakdown of costs on a time and materials basis, that invoiced tasks are consistent with the original proposal, and that reasonable explanations are provided for any changes made in the scope of work or increases in the costs. When the invoices are submitted you must include copies of all:

- subcontractor invoices,
- technical reports, when available, and
- applicable correspondence from the County.

Please call if you have any questions; I can be reached at (916) 227-7886.
Sincerely,


Hari Patel, Sanitary Engineering Associate Technical Review Unit Underground Storage Tank Cleanup Fund

Enclosure
cc: Mr. Barney M. Chan
Alameda County EHD
1131 Harbor Bay Pkway, 2nd Fl.
Alameda, CA 94502-6577

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$\frac{\mathrm{G} R \mathrm{O} \mathrm{U} \mathrm{P}, \mathrm{I} \mathrm{N} \mathrm{C} .}{\text { Environmental Services }}$

July 11, 2000
Mr. Barney M. Chan
Hazardous Materials Specialist
Alameda County Health Care Services Agency - EHS
1131 Harbor Bay Parkway, Suite 250
Alameda CA 94502-6700

## Re: Hydrogeologic Site Investigation for Eagle Gas 4301 San Leandro Street, Oakland, California StID \# 2118

Dear Mr. Chan,
Thank you for our recent telephone conversation. The purpose of this letter is to provide you with a prospective timeline for the implementation of the approved September 10, 1999 workplan submitted by Artesian Environmental.

Clearwater Group, Inc. intends to implement the approved workplan in stages as appropriate. As per our conversation, we will immediately implement that portion of the workplan which calls for the installation of three monitoring wells and the initiation of quarterly groundwater sampling.

Ms. Farah Naz is currently enrolled in the California Underground Storage Tank Cleanup Fund. Clearwater Group, Inc., will be preparing a cost pre-approval package for the approved workplan within the next 30 days. Within 60 days of USTCUF cost pre-approval, we will arrange and schedule necessary field activities.

We appreciate your willingness to work with us to expedite investigation activities for the above site.

Thank you very much for your time. If you have any questions, please call me at (510) 893-5160.

Sincerely,


Judi Fox
Project Scientist

[^3]
## Division of Clean Water Programs

2014 T Street • Sacramento, California 95814 • (916) 227-4366

The State Water Resources Control Board (State Board) is able to issue, pursuant to applicable regulations, the enclosed Letter of Commitment (LOC) in an amount not to exceed $\$ 20,000$. This LOC is based upon our review of the corrective action costs you reported to have incurred to date. The LOC may be modified by the State Board.

It is very important that you read the terms and conditions listed in the enclosed LOC. Claims filed with the Underground Storage Tank Cleanup Fund far exceed the funding available and it is very important that you make use of the funding that has been committed to your cleanup in a timely manner.

You are reminded that you must comply with all regulatory agency time schedules and requirements and you must obtain three bids for any required corrective action. Only corrective action costs required by the regulatory agency to protect human health, safety and the environment can be claimed for reimbursement. Unless waived in writing, you are required to obtain preapproval of costs for all future corrective action work (form enclosed). If you have any questions on obtaining preapproval of your costs or the three bid requirement, please call Mark Owens, our Technical Reviewer assigned to claims in your Region, at (916) 227-7883. Failure to obtain preapproval of your future costs may result in the costs not being reimbursed.

The following documents needed to submit your reimbursement request are enclosed:
"Reimbursement Request Instructions" package. Retain this package for future reimbursement requests. These instructions must be followed when seeking reimbursement for corrective action costs incurred after January 1, 1988. Included in the instruction package are samples of completed reimbursement request forms and spreadsheets.
"Bid Summary Sheet" to list information on bids received which must be completed and returned.
> "Reimbursement Request" forms which you must use to request reimbursement of costs incurred.

"Spreadsheet" forms which you must use in conjunction with your reimbursement request.

## * THIS IS IMPORTANT TO YOU, PLEASE NOTE:

You have 90 calendar days from the date of this letter to submit your first reimbursement request for incurred corrective action costs. NO EXTENSIONS CAN BE GRANTED. If you fail to do so, your LOC funds will automatically be reduced to zero (deobligated). Once this occurs, any future funds for this site are subject to availability when you submit your first reimbursement request. We continuously review the status of all active claims. You must continue to remain in compliance and submit a reimbursement request every 6 months. Failure to do so will result in the Fund taking steps to withdraw your LOC.

If you have any questions regarding the enclosed documents, please contact Anna Torres at (916) 227-4388.

Sincerely,


Enclosures
cc: Mr. Steve Morse
RWQCB, Region 2
1515 Clay Street, Ste. 1400
Oakland, CA 94612
Mr. Thomas Peacock
Alameda County EHD
1131 Harbor Bay Pkway, 2nd Fl.
Alameda, CA 94502-6577

Division of Clean Water Programs

2014 T Street • Sacramento, California 95814 • (916) 227-4366
Gray Davis Secretary for Environmental Protection


Paul E. Jones/Artesian Environmental Ms Farah Na<br>40092 Davis St<br>Fremont, CA 94538



## UNDERGROUND STORAGE TANK CLEANUP FUND PROGRAM, NOTICE OF ELIGIBILITY DETERMINATION: CLAIM NUMBER 014551; FOR SITE ADDRESS: 4301 SAN LEANDRO ST, OAKLAND

Your claim has been accepted for placement on the Priority List in Priority Class " $B$ " with a deductible of $\$ 5,000$. compliance review.

Compliance Review: Staff reviews, verifies, and processes claims based on the priority and rank within a priority class. After the Board adopts the Priority List, your claim will remain on the Priority List until your Priority Class and rank are reached. At that time, staff will conduct an extensive Compliance Review at the local regulatory agency or Regional Water Quality Control Board. During this Compliance Review, staff may request additional information needed to verify eligibility. Once the Compliance Review is completed, staff will determine if the claim is valid or must be rejected. If the claim is valid, a Letter of Commitment will be issued obligating funds toward the cleanup. If staff determine that you have not complied with regulations governing site cleanup, you have not supplied necessary information or documentation, or your claim application contains a material error, the claim will be rejected. In such event, you will be issued a Notice of Intended Removal from the Priority List, informed of the basis for the proposed removal of your claim, and provided an opportunity to correct the condition that is the basis for the proposed removal. Your claim will be barred from further participation in the Fund, if the claim application contains a material error resulting from fraud or intentional or negligent misrepresentation.
Record keeping: During your cleanup project you should keep complete and well organized records of all corrective action activity and payment transactions. If you are eventually issued a Letter of Commitment, you will be required to submit: (1) copies of detailed invoices for all corrective action activity performed, (including subcontractor invoices), (2) copies of canceled checks used to pay for work shown on the invoices, (3) copies of technical documents (bids, narrative work description, reports), and (4) evidence that the claimant paid for the work performed (not paid by another party). These documents are necessary for reimbursement and failure to submit them could impact the amount of reimbursement made by the Fund. It is not necessary to submit these documents at this time; however, they will definitely be
require required prior to reimbursement.

Compliance with Corrective Action Requirements: In order to be reimbursed for your eligible costs of cleanup incurred after December 2, 1991, you must have complied with corrective action requirements of Article 11, Chapter 16, Division 3, Title 23, California Code of Regulations. Article 11 categorized the corrective action process into phases. In addition, Article 11 requires the responsible party to submit an
investigative workplan/Corrective Action Plan (CAP) before performing any work. This phasing process and the workplan/CAP requirements were intended to:

1. help the responsible party undertake the necessary corrective action in a cost-effective, efficient and timely manner;
2. enable the regulatory agency to review and approve the proposed cost-effective corrective action alternative before any corrective action work was performed; and
3. ensure the Fund will only reimburse the most cost-effective corrective action alternative required by the regulatory agency to achieve the minimum cleanup necessary to protect human health, safety and the environment.

In some limited situations interim cleanup will be necessary to mitigate a demonstrated immediate hazard to public health, or the environment. Program regulations allow the responsible party to undertake interim remedial action after: (1) notifying the regulatory agency of the proposed action, and; (2) complying with any requirements that the regulatory agency may set. Interim remedial action should only be proposed when necessary to mitigate an immediate demonstrated hazard. Implementing interim remedial action does not eliminate the requirement for a CAP and an evaluation of the most costeffective corrective action alternative.

Three bids and Cost Preapproval: Only corrective action costs required by the regulatory agency to protect human health, safety and the environment can be claimed for reimbursement. You must comply with all regulatory agency time schedules and requirements and you must obtain three bids for any required corrective action. Unless waived in writing, you are required to obtain preapproval of costs for all future corrective action work. If you do not obtain three bids and cost preapproval, reimbursement is not assured and costs may be rejected as ineligible.

If you have any questions, please contact me at (916) 227-4366.

Sincerely,


Shari Knieriem
Claims Review Unit
Underground Storage Tank Cleanup Fund
cc: Mr. Steve Morse
RWQCB, Region 2
1515 Clay Street, Ste. 1400
Oakland, CA 94612

Mr. Thomas Peacock $\begin{aligned} \text { SID } \\ 2118\end{aligned}$ Alameda County EHD
1131 Harbor Bay Pkway, 2nd Fl.
Alameda, CA 94502-6577

84: 2 Hd hz 20N66


Inspector Ilernan Gomez
City of Oakland Fire Services Agency $50514^{\text {th }}$ Street
Oakland, CA 94612
fAX (510) 238-7761
Re: Project Status
UST Installations / Remedial Action
Eagle Gas
4301 San Leandro Sireet
Oakland, California
Dear Mr. Gumez:
Reliance Petro Chem (RPC), ol Bukersfield, California originally obtained the underground storage tank (UST) installation permit number 28-99 frum your agency for removal and replacement of USTs at the referenced Site. The role of RPC on this project is as the prime contractor for UST removal and replacement. Recently I became aware that RPC has disconnected all telephone lines and cannot be reached by our firm, the property owner, or the equipmient lender. At this time, the property owner, equipment lender, and our firn must assume that RPC is no longer doing business. While a letter has been sent to RPC, Artesian and the equipment lender are working to establish contracts with the property owner to do the work ourselves or hire another UST installation contractor to complete the work. At this time, the replacement of USTs and associated remedial action is temporarily on hold pending resolution of this issue. I will update you as further information is available.

If you have any questions or comments, please do not hesitate to contact me at (510) 307-9943, extension 230.

Sincerely,
Artesian Environmental

cc: Mr. Barney Chan, Alameda County Env. Ilealth Services FAX (510) 337-9335

# State Water Resources Control Board 

Division of Clean Water Programs
2014 T Street • Sacramento, Califomia 95814 * (916) 227-4366
Winston H. Hickox Secretary for Environmental Protection

November 2, 1999
Paul E. Jones/Artesian Environmental Ms Farah Naz
40092 Davis St
Fremont, CA 94538


UNDERGROUND STORAGE TANK CLEANUP FUND PROGRAM, REQUEST FOR FURTHER DOCUMENTATION DURING INITIAL REVIEW: CLAIM NUMBER 014551; FOR SITE ADDRESS: 4301 SAN LEANDRO ST, OAKLAND

Thank you for submitting the documentation that was requested on our letter dated September 28, 1999. The Settlement Unit has determined that you did not purchase the property at a discount.

Claimant's consultant, Artesian Environmental, prepared the UST Removal Report, dated May 24, 1999. The background stated that Reliance Petro Chem of Bakersfield, California was performing the removal of the old USTs and replacement with new ones. On our letter dated August 6, 1999, the Fund requested a copy of your UST Upgrade Certificate. To date, claimant has not provided a copy of the UST Upgrade Certificate. Please submit a copy of your UST Upgrade Certificate or explain why you do not have an Upgrade Certificate. This information is needed to determine your eligibility for placement on the Priority List:

NOTE: Failure to respond to this request within thirty (30) calendar days from the date of this letter may result in an ineligibility determination of your claim.

If you have any questions, please contact me at (916) 227-4366.
Sincerely,

## ORIGINAL SIGNED BY

Shari Knieriem
Claims Review Unit
Underground Storage Tank Cleanup Fund

cc: Mr. Steve Morse<br>RWQCB, Region 2<br>1515 Clay Street, Ste. 1400<br>Oakland, CA 94612


GGUTH CARE SERUVES


October 29,190
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ST10 42118


Ms Fardi Nazch
Mr Matambatil.
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ALAMEDA COUNTY
HEALTH CARE SERVICES
1131 Harbor Bay Parkway suite 250
Alameda, CA 94502-6577

SUBJECT: Record Fee Title Owner (4301 San Leandro St. Oakland, CA 94601)
2. In accordance with section 25297. 15 (a) of chapter 6.7 of the health \& safety code, I, FARAH NAZ certify that I am the sole landowner for the above site.


ALAMEDA COUNTY
HEALTH CARE SERVICES
1131 Harbor Bay Parkway suite 250
Alameda, CA 94502-6577

SUBJECT: Record Fee Title Owner (4301 San Leandro St. Oakland, CA 94601)
2. In accordance with section 25297.15 (a) of chapter 6.7 of the health $\&$ safety code, I, FARAH NAZ certify that I am the sole landowner for the above site.



October 29, 1999
SID \# 2118
Gaur Gurdev
757 Limerick Lane
Alameda, CA 94501

## Re: Eagle Gas, 4301 San Leandro St., Oakland CA 94601

Dear Kaur Gurdev:
Enclosed please find a copy of your Notice of Responsibility (NOR), which apparently was not sent to you originally due to a clerical error. This notice identifies you as the property owner and responsible party for the investigation and cleanup of the underground tank release at the above site. Should you have any questions or comments, please contact me at (510) 567-6765.

Sincerely,


## Barney M. Chan

Hazardous Materials Specialist

[^4]October 29, 1999
STID \# 2118

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis St.
Fremont, CA 94538

## RE: Eagle Gas, 4301 San Leandro St., Oakland CA 94601

## LANDOWNER NOTIFICATION AND PARTICIPATION REQUIREMENTS

Dear Mr. Jamil:

This letter is to inform you of new legislative requirements pertaining to cleanup and closure of sites where an unauthorized release of hazardous substance, including petroleum, has occurred from an underground storage tank (UST). Section 25297.15(a) of Ch. 6.7 of the Health \& Safety Code requires the primary or active responsible party to notify all current record owners of fee title to the site of: 1) a site cleanup proposal, 2) a site closure proposal, 3) a local agency intention to make a determination that no further action is required, and 4) a local agency intention to issue a closure letter. Section 25297.15(b) requires the local agency to take all reasonable steps to accommodate responsible landowners' participation in the cleanup or site closure process and to consider their input and recommendations.

For purposes of implementing these sections, Ms. Farah Naz has been identified as the primary or active responsible party. Please provide to this agency, within twenty (20) calendar days of receipt of this notice, a complete mailing list of all current record owners of fee title to the site. You may use the enclosed "list of landowners" form (sample letter 2) as a template to comply with this requirement. If the list of current record owners of fee title to the site changes, you must notify the local agency of the change within 20 calendar days from when you are notified of the change.

If you are the sole landowner, please indicate that on the landowner list form. The following notice requirements do not apply to responsible parties who are the sole landowner for the site.

## LANDOWNER NOTIFICATION

In accordance with Section 25297.15(a) of Ch. 6.7 of the Health \& Safety Code, you must certify to the local agency that all current record owners of fee title to the site have been informed of the proposed action before the local agency may do any of the following:

1) consider a cleanup proposal (corrective action plan)
2) consider a site closure proposal
3) make a determination that no further action is required
4) issue a closure letter

You may use the enclosed "notice of proposed action" form (sample letter 3) as a template to comply with this requirement. Before approving a cleanup proposal or site closure proposal, determining that no further action is required, or issuing a closure letter, the local agency will take all reasonable steps necessary to accommodate responsible landowner participation in the cleanup and site closure process and will consider all input and recommendations from any responsible landowner.

Please call me at (510) $567-6765$ should you have any questions about the content of this letter.

Sincerely,
Barey dutac
Barney M. Chan
Hazardous Materials Specialist
Attachments

cc: Chuck Headlee, RWQCB

Name of local agency
Street address
City

## SUBJECT: CERTIFIED LIST OF RECORD FEE TITLE OWNERS FOR (Site Name and Address)

(Note: Fill out item 1 if there are multiple site landowners. If you are the sole site landowner, skip item 1 and fill out item 2.)

1. In accordance with section 25297.15 (a) of Chapter 6.7 of the Health \& Safety Code, I, (name of primary responsible party), certify that the following is a complete list of current record fee title owners and their mailing addresses for the above site:
2. In accordance with section 25297.15(a) of Chapter 6.7 of the Health \& Safety Code, I, (name of primary responsible party), certify that I am the sole landowner for the above site.

Sincerely,

Signature of primary responsible party
Name of primary responsible party

# Name of local agency <br> Street address <br> City <br> <br> SUBJECT: NOTICE OF PROPOSED ACTION SUBMITTED TO LOCAL AGENCY <br> <br> SUBJECT: NOTICE OF PROPOSED ACTION SUBMITTED TO LOCAL AGENCY FOR (Site Name and Address) 

 FOR (Site Name and Address)}

In accordance with section 25297,15(a) of Chapter 6.7 of the Health \& Safety Code, I, (name of primary responsible party), certify that I have notified all responsible landowners of the enclosed proposed action. Check space for applicable proposed action(s):
$\qquad$ cleanup proposal (corrective action plan)
$\qquad$ site closure proposal
$\qquad$ local agency intention to make a determination that no further action is required
$\qquad$ local agency intention to issue a closure letter

Sincerely,

Signature of primary responsible party
Name of primary responsible party
cc: Names and addresses of all record fee title owners

DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

## Re: Soil Remediation Pilot Study and Well Installation Workplan for Eagle Gas, 4301 San Leandro St., Oakland CA 94601

Dear Mr. Jamil:
Our office has received and reviewed the Artesian Environmental September 10, 1999 work plan referenced above. This work plan responds to my prior request for such actions before you proceed with the underground tank installations and permitting. It is necessary to perform as much site remediation as possible prior to installing your new underground tank system. This report provides specific details of a soil remediation pilot study to determine the effectiveness of chemical oxidation with peroxide and also proposes the installation of three monitoring wells to determine local groundwater quality.

Artesian has previously examined available technologies for this site and determined that chemical oxidation would be the most reasonable remediation approach. The pilot study will be performed in an area south of the existing building. A grid of borings will be advanced for the injection of the solution of hydrogen peroxide. Four locations have been designated where preand post-injection samples will be taken to measure the effectiveness of the remediation. It is hopeful that this remediation will be effective on all the petroleum released including MTBE, which is currently a difficult contaminant to handle. If this proves successful, I assume this approach will be extended to other areas at this site.

Our office also requested the installation of wells at this site to determine groundwater quality. Both the amount and extent of petroleum contamination is required, therefore, additional investigation and wells may be necessary. In addition, groundwater monitoring should be initiated on a quarterly schedule after well installation.

The work plan is approved. Please inform our office prior to performing this work. I may be reached at (510) 567-7665 if you have any questions.

Sincerely,


Barney M. Chan
Hazardous Materials Specialist
C: B. Chan, files
Mr. P. Jones, Artesian Environmental, 229 Tewksbury Ave., Point Richmond, CA 94801

August 23, 1999
StID \# 2118
Ms. Farah Naz c/o
Mr. Muhammad Jamil
40092 Davis St.
Fremont, CA 94538

## Re: Soil and Groundwater Investigation at Eagle Gas, 4301 San Leandro St., Oakland CA 94601

Dear Ms. Naz:
Our office has received and reviewed the August 18, 1999 Artesian Environmental response to my August 13,1999 letter. As you may recall, my letter requested that you consider what interim remedial actions could be done at the above site given the high residual methyl tertiary butyl ether (MTBE) concentrations left in soil. Another question is whether any remediation should take place prior to underground tank installation.

The Artesian response evaluates the following options for remediation:

- Soil vapor extraction
- Assisted natural attenuation and
- Chemical oxidation.

These remediation options were evaluated under site specific circumstances that put a premium on cost, effectiveness, technical feasibility and the ability to evaluate the action quickly. Based on these constraints, it was determined that chemical oxidation may be the best remedial approach. Our office agrees with this approach along with these additional items mentioned in Artesian's letter:

- Two groundwater extraction wells should be installed within the tank pit prior to surfacing the site.
- A pilot test evaluating the effectiveness of chemical oxidation should be run immediately. If it proves effective, the perimeter of the tank pit, the former piping run and beneath the existing building should be considered for this treatment.
- Three monitoring wells should be installed to measure groundwater gradient and water quality impact.
- If the piping run cannot be treated by chemical oxidation, slotted piping will be installed in the piping trench for possible soil vapor extraction.

As long as these items are addressed, you may initiate underground tank installation.
You may contact me at (510) 567-6765 if you have any questions or comments.

Ms. Farah Naz
4301 San Leandro St., Oakland 94601
StID \# 2118
August 23, 1999
Page 2.

Sincerely,


Barney M. Chan
Hazardous Materials Specialist

## C: B. Chan, flies

Mr. P. Jones, Artesian Environmental, 229 Tewksbury Ave., Pt. Richmond, CA 94801 Mr. H. Gomez, Oakland Fire Services Agency, $50414^{\text {th }}$ St., $7^{\text {th }}$ Floor, Oakland CA 94612 3SWI4301SL

August 13, 1999
SID \# 2118
Ms. Farah Naze coo
Mr. Muhammad Jami
40092 Davis St.
Fremont, CA 94538

## Re: Soil and Groundwater Investigation at Eagle Gas, 4301 San Leandro St., Oakland 94601

Dear Ms. Naz:
Our office has been working with Artesian Environmental Consultants (Artesian) in overseeing the investigation of soil and groundwater at the above site. As you may be aware, the former fuel tank pit was over-excavated. Our office has reviewed the analytical results of samples taken after this excavation and find that the concentrations of methyl tertiary butyl ether (MTBE) are extraordinarily high. Therefore, our office requests that you investigate what can be done within the existing tank pit and open trenches to aid in the remediation of MTBE. In addition, our office will require the installation of a minimum of three monitoring wells at this site to investigate groundwater quality.

Please respond to the above requests as soon as possible to expedite your tank installation job.
You may contact me at (510) 567-6765 if you have any questions.
Sincerely,


Barney M. Chan
Hazardous Materials Specialist
C: B. Chan, files
Mr. P. Jones, Artesian Environmental, 229 Tewksbury Ave., Pt. Richmond, CA 94801
Mr. H. Gomez, Oakland Fire Services Agency, $50414^{\text {th }}$ St., $7^{\text {th }}$ Floor, Oakland CA 94612


GEN/SUPP RPT(REV, 7/G) JNS /RCO


June 3, 1999
StID \# 2118
ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700

Ms. Farah Naz c/o
(510) 337-9335 (FAX)

Mr. Muhammad Jamil
40092 Davis St.
Fremont, CA 94538

## Re: Soil and Groundwater Remediation Work Plan for Eagle Gas, 4301 San Leandro St., Oakland CA 94601

Dear Mr. Jamil:

Our office has received and reviewed the May 26, 1999 soil and groundwater work plan as prepared by Artesian Environmental. This work plan responds to my May 10, 1999 letter recommending additional soil excavation and groundwater removal, if possible, due to the elevated concentrations of petroleum found in samples taken from the tank removal.
The work plan proposes, among other things:

- Excavation of petroleum impacted soil,
- Confirmation sidewall sampling after excavation,
- Pumping of encountered groundwater into an aboveground tank and the proper characterization and disposal of soil and groundwater.

It is acknowledged that shoring may be needed to prevent caving and jeopardizing adjacent buildings. One soil sample will be collected for every 20 linear feet of wall excavation. Should groundwater be encountered, the soil sample should be collected just above groundwater. In addition, if groundwater is removed, additional groundwater samples may be taken after this removal. The exact number of samples is estimated as at least five (5) soil and five (5) groundwater, however, these numbers may vary. It appears that less than five groundwater as necessary to characterize the soil and tank pit, however, additional samples will be required samples will be analyzed for total petrol groundwater for proper disposal. The confirmation hydrocarbons as gasoline ( TPHg ), benzene hydrocarbons as diesel (TPHd), total petroleum methyl tertiary butyl ether (MTBE). Please run se, ethyl benzene and xylenes (BTEX), and one of the groundwater samples.

This work plan is approved. Please notify our office prior to this work so someone can be present to witness the soil and groundwater sampling. In addition, you should complete the underground piping and dispenser soil sampling to identify any other areas, which may need over-excavation. You should contact the City of Oakland, Fire Services Agency to witness this sampling.

Mr. Muhammad Jami
SID \# 2118
4301 San Leandro St., Oakland 94601
June 3, 1999
Page 2.

You may contact me at (510) 567-6765 if you have any questions
Sincerely,
Barnes m Chan
Barney M. Chan
Hazardous Materials Specialist
C: B. Chan, files
Mr. P. Jones, Artesian Environmental, 229 Tewksbury Ave., Point Richmond, CA 94801
Mr. H. Gomez, City of Oakland Fire Services Agency, $50414^{\text {th }}$ St., $7^{\text {th }}$ Floor, Oakland 94612
Oxwpap4301

Mr. Farah Naz Eagle Gas 4301 San Leandro St. Oakland CA 94601

## Re: Underground Storage Tank Removal at 4301 San Leandro St., Oakland CA 94601

Dear Mr. Naz:

This letter is to inform you of our office's role in the investigation of the above referenced site upon the discovery of a release of petroleum hydrocarbon to soil and groundwater. Our office has been made aware of soil and groundwater analytical results from samples taken during the removal of the gasoline, diesel and waste oil tanks on 4/22/99. Because of these results, our office will take over the oversight of the required soil and groundwater investigation of the petroleum release. The City of Oakland Fire Services will continue to complete the supervision of soil and groundwater sampling and the installation and permitting of any new tanks.

You will be receiving shortly a letter notifying of this transfer of oversight. Our office recommends that you or your consultant apply to the Underground Storage Tank Cleanup Fund. This fund may help you in receiving partial reimbursement for money spent in investigating and remediating petroleum releases from underground tanks. The fund may be contacted at 1-800-813-3863.

Our office has been requested to provide guidance for this site given the results of the soil and groundwater samples. Having reviewed the analytical results, our office recommends the overexcavation of the tank pit with the exception of the area around UST \#3, the 6,000 gallon tank. In addition, if possible, as much groundwater as possible should be removed and disposed to remove a source of petroleum contamination.

Please submit a copy of your final underground storage tank closure report to our office as well as the City of Oakland Fire Services.

Enclosed please find a copy of an Underground Storage Tank Unauthorized Release (Leak) report to be completed by you or your consultant. Please return the complete form to our office within 10 days of its receipt. You should also be aware that at a minimum, a groundwater investigation will be required at this site.

You may contact me at (510) 567-6765 if you have any questions.

Mr. Farah Naz
StID \# 2118
4301 San Leandro St., Oakland 94601
May 10, 1999
Page 2.

Sincerely,
Panes M Cha
Barney M. Chan
Hazardous Materials Specialist
Enclosure
C: B. Chan, files
Mr. H. Gomez, Oakland Fire Services Agency, $50414^{\text {th }}$ St., $7^{\text {th }}$ Floor, Oakland CA 94612
Mr. P. Jones, Artesian Environmental, 229 Tewksbury Ave., Pt. Richmond, CA 94801
SWI-4301SanLeandro

4301 San Leaudro St oakland fire services agency
Och' ${ }^{2} 4601$ Transfer of Eligible Local Oversight Case
$\operatorname{stid} 2 / / \int$ Date of input/By $\qquad$

Date: $\qquad$ 8/6/99 From:H. Gúney
Site Name: $\qquad$ Eagle Gas
Address: 4301 San Leandro
$\qquad$ City: $\qquad$ Oak. Zip: 94601
$\qquad$
$\qquad$

To be eligible for LOP, case must meet $\mathbf{3}$ qualifications:

1. $\mathbf{Y} \mathbf{N}$ Tanks Removed? \# removed? 5 Date removed: $4 / 22 / 99$
2. $\mathbf{Y} \mathbf{N}$ Samples received? Contamination level: $7100^{\mathrm{ppm}}$

Type of test Water \& Soil TPH(d) TPH(9) MTBE
Contamination should be over 100 ppm TPH to qualify for LOP
3. $\mathbf{Y}$ Petroleum? Circle Type (s):
Avgas leaded fuel oil jet $\quad$ waste oil kerosene solvents

Leslieos raster this ste to roo.

Abdul Ghaffap (tank owner/op)

$$
415-536-8143
$$

prop Gaur Gurdeu
owner 757 Limanck Lane Alameda CA 94501
Mirier slevisit - overexc may be difficult. due to pergual constraint of bastrigt reighboung building. Transfer of Eligible Local Oversight Case


Date: $\qquad$ 8/6/99 From:H. Gómey
Site Name: $\qquad$ Eagle Gas Address: 4301 San Leendro City: $\qquad$ Oak. zip: 94601

To be eligible for LOP, case must meet $\mathbf{3}$ qualifications:

1. $\mathbf{Y}$ N Tanks Removed? \# removed? 5 Date removed: $4 / 22 / 99$
2. $\mathbf{Y} \mathbf{N}$ Samples received? Contamination level: 7100 ppm

Type of test Water \& Soil TPH(a)TPH(9)
Contamination should be over $\mathbf{1 0 0} \mathbf{~ p p m ~ T P H ~ t o ~ q u a l i f y ~ f o r ~ L O P ~}$
3. $\mathbf{Y}$ Petroleum? Circle Type (s):

| Avgas leaded fuel oil | jet |
| :--- | :--- |
| diesel waste oil |  |

Abdul Ghaffap (tank owner/op)
$415-536-8143$
prop Gaur Garden
sumer 757 Limanck Lane Alameda C494501


## EMERGENCY

Indicate whether emergency response personnel and equipuent were involved at any time. If so, a Hazardous Material Incident Eeport should be filed with the State Office of Emergency Services (OES) at 2800 Meacownew Road Sacranenta, CA 95832. Copies of the OES report form may be obtained at your local underground storage tank permitting agency. Indicate whether the OES report has been filed as of the date of this zeport

## LOCAL AGENCY ONLI

To avoid duplicate notification pursuant to gealth and Safety code Section 25180.5, a government employee should sign and date the form in this biock A signature here does not mean that the leak has been determined to pose a significant threat to human health or sefety, only that notification -rocedures have been followed if required.
SPORTED $B Y$
Enter your name, telephone number, and address. Indicate which party you represent and provide company or agency name

## RESPONSIBLE PARTY

Enter name, telephone number, contact person, and address of the party responsible for the leak. The responsible party would normally be the tark owner

SITE LOCATION
Enter information regarding the tank facility. it a minimum, you must provide the facility name and full address.

IMPLEMENTING AGENCIES
Enter names of the local agency and Regional Water Quality Control board involved.

SUBSTANCES INYOL VED
Enter the name and quantity lost of the hazardous substance involved. Room is provided for information on two substances if appropriate. If move than two substances leaked, list the two of most concern for cleanup.

DISCOVERY/ABATEMENT
covide information regarding the discovery and abatemert of the lear.
SOURCE/CAUSE
Indicate source(s) of leak. Check box(es) indicating cause of leak.
CASE TYPE
Indicate the case type category for this leak. Check one box only. Case type is based on the most sensitive resource affected. for example, if both soil and ground water have been affected, case type will be Ground Water". Indicate "Drinking Water" only if one or more manicipal or domestic water wells have actually been affected. A "Ground Water" designation does not imply that the affected water cannot be, or is not, used for drinking water, but only that water wells have not yet been affected. It is understood that case type may change upon Eurther investigation.

CURRENT STATUS
Indicate the category which best describes the current status of the case. Check one box only. The response ahould be relative to the case type. For example, if case type is "Ground Water", then "Curront Status" should refer to the status of the ground water investigation or cleanup, as opposed to that of soil. Descriptions of options follow:

No Action Taken - No action has been taken by responsible perty beyond
initial report of leak.

Leak Being Confirmed - Leak suspected at site, but has not been confirmed.
reliminary Site Assessment Workplan Submitted - workplan/proposal
requested of/submitted by responsibie party to determine whether ground
water has been, or will be, impacted as $\xlongequal{\text { e result of the release. }}$
Preliminary Site Assessment, Underway - implementation of workplan.
Pollution Characterization - responsible party is in the process of fully defining the extent of contamination $\ln$ soil and ground water and assessing impacts on surface and/or ground water.
Remediation Plan - remediation plan submitted evaluating long term
remediation options. Proposal and implementation schedule for appropriate remediation options also submitted.
Cleanup Underway - implementation of remediation plan.
Post Cleanup Monitoring in Progress - periodic ground water or other monitoring at site, as necessary, to verify and/or evaluate effectiveness of remedial activities.
Case Closed regional board and local agency in concurremce that no
further work is necessary at the site
IMPORTANN: TEE INFORMATION FROVIDED ON THIS FORM IS INTENDED FOR GENERAL STATISTICAL PURPOSES ONLY AND IS HOT TO SE CONSTRUED AS REERESENTING THE OFFICIAL POSITION OF ANY GOVERNMENTAL AGENC:

## REMEDIAL ACTION

Indicate which action have been uged to cleanup or remediate the leak. Descriptions of rptions follow:

Cap Site - install horizontal impermeable layer to reduce rainfall infiltration.
Containment Barriex - install vertical dike to block horizontal movement of contaminant.
Excavate and Dispose - remove contaminated soil and dispose in approved site.
Excavate and Treat - rewove contaminated soil and treat (includes spreading or land farming).
Remove Free Product - remove floating product from water table.
Pump and Treat Groundwater - generaliy employed to remove dissolved contaminsnts
Enhanced Biodegradation - use of any available technology to promote bacterial decomposition of contaminants
Replace Supply - provide alternative water aupply to affected parties Treatment at Hookup - install water treatment devices at each dwelling or other place of use.
Vacuum Extract - use punps or blowers to draw air through soil.
Vent Soil - bore holes in soil to allow volatilization of contaminants.
No Action Required - incident is minor, requiring no remedisl action.
COMMENTS - Use this space to elaborate on any aspects of the incident.
SIGNATURE - Sign the form in the space provided

## DISTRIBUTION

If the form is completed by the tank owner or his agent, retain the last copy and forward the remaining copies intect to your local tank permitting agency for distribution.

1. Original - Local Tank Pemitting Agency
2. State Water Resources Control Eoard, Division of Clean Water Programs, Underground Storage Tank Program, F.O. Box 944212 , Sacramento, CA 94244 2120
3. Regianal Water Quality Control Board
4. Local Heaith Officer and County Board of Supervisors or their designee to feceive Proposition as notifications.
5. Owner/responsible party.

ARTESIAN ENVIRONMENTAL
General Engineering Contracting License 622461: A, B, C-57, Haz., Ash.
229 Tewksbury Ave., Pt. Richmond, CA 94801
Telephone (510) 307-9943 - Facsimile (510) 232-2823 - e-mail: augerpro@aol.com
Phase 1 Environmental Assessments - Limited Access Drilling - Asbestos and Lead Inspections Remediations Tank Removals * Potentially Responsible Party Studies - Subsurface Investigations - ERs

FACSIMILE TRANSMISSION

TO: Mr. Barney Char
DATE: $5 / 13 / 99$

FAX: $(510) 337-9335$ STICH
HOB H: job H: 2118 from: Paul Jones total sheets: 2 MESSAGE: RE: Eagle Gas $4301 \operatorname{San}$ Lequtro $5 c$. Oak lead
I read your letter dated slio/aq to Mr. Naze regarding this site a noticed Hour request for an enauthonlet release report I completed one and sent a copy to Inspector Gomez of Oakland Fire Services $k$ am Faxing here a copy tore you. A hand copy is in the moet.
$\qquad$
NOTES: If you did not receive the complete transmission, please call. This fax is privileged and confidential. If you are not an intended recipient, you are notified that any disclosure, dissemination or duplication of this fax is nor authorized, and no waiver of any privilege or confidentiality is intended by your receipt of this ransmission.

Sent By: The Auger Group Inc.;
smana zas:



ASSESSOR'S OFFICE
PARCEL: 34-2265-1
OWNER: NAD FARAH
C/O NAME: TAC: 17-032 USE CODE: $8500 \mathrm{M} / \mathrm{A}$ EFF: 10/01/93 D
MAIL ADP: 4301 SAN LEANDRO: ST
LATEST DOCUMENT :
LAST APPRAISABLE:

4301 SAN LEANDRO ST

GAUR GURDEV


ENTER 'O' UNDER OPTION TO RETURN TO MENU |-OPTION---REFERENCE NUMBER---: ENTER 'P' UNDER OPTION TO VIEW PRELIMINARY ROLL ; H 34-2265-1
TO CONTINUE HISTORY INQUIRY FOR THIS PARCEL - PRESS PA KEY

ASTR


[^0]:    From: Wickham, Jerry, Env. Health [mailto:jerry.wickham@acgov.org]
    Sent: Friday, January 20, 2006 2:22 PM
    To: Jimmy Ho
    Subject: Interim remediation
    Jim,
    I have received your request for a schedule extension for the Interim Remediation Start-up Report. Based on the information provided, the schedule for the Interim Remediation Start-up Report is extended to July 1, 2006.

    Is the low groundwater yield causing you to reconsider the use of advanced oxidation for the site?
    Regards,
    Jerry Wickham

[^1]:    Enclosure

[^2]:    cc: Mr. Hernan E. Gomez, City of Oakland Fire Services Agency OES Ms. Farah Naz

[^3]:    cc: Mr. Hernan E. Gomez, City of Oakland Fire Services Agency OES Ms. Farah Naz

[^4]:    C: B. Chan, files

