

  
**CLEARWATER**  
G R O U P  
*Environmental Services*

June 5, 2006

**RECEIVED**

*By loprojectop at 8:59 am, Jun 07, 2006*

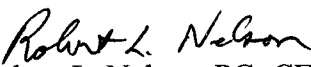
Mr. Jerry Wickham, P.G.  
Hazardous Materials Specialist  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Re: Fuel Leak Case No. RO000212  
Holland Oil  
16301 East 14<sup>th</sup> Street  
San Leandro, California

Dear Mr. Wickham;

The Clearwater Group is pleased to present its **Workplan Addendum**, Response to technical comments regarding the document entitled "Work Plan: Additional Subsurface Investigation Groundwater Monitoring Well Installation", dated March 3, 2003, by Environmental Bio-Systems, Inc., of Mill Valley, California, for the Holland Oil site, located at 16310 East 14<sup>th</sup> Street, San Leandro, California. Accompanying the **Workplan Addendum** is a Penalty of Perjury Statement signed by Ms. Ann Marie Holland Tiers, the Executor of the Holland Estate. Please contact me if you have any questions or concerns.

Sincerely,


  
Robert L. Nelson, PG, CEG  
Senior Geologist

cc: Edward Martins

**ANN MARIE HOLLAND TIERS**  
Executor of the  
Estate of John Holland Sr.  
1498 Hamrick Lane  
Hayward, CA 94544  
(510) 782 4307

Penalty of Perjury Statement to be attached to the Work Plan  
Addendum re 16301 East 14th St. San Leandro, CA

I declare under penalty of perjury that the information and or  
recommendation contained in the attached document or report is true  
and correct to the best of my knowledge and that this declaration  
was executed on June 1, 2006, at Hayward, Alameda County,  
California.

  
Ann Marie Holland Tiers, Executor  
of the Estate of John Holland Sr.



**Fuel Leak Case No. RO000212  
Holland Oil  
16301 East 14<sup>th</sup> Street  
San Leandro, California**

**Clearwater Group Project No. CB015D**

### **WORKPLAN ADDENDUM**

**Response to technical comments regarding the document entitled “Work Plan: Additional Subsurface Investigation Groundwater Monitoring Well Installation” dated March 3, 2003, by Environmental Bio-Systems, Inc., Mill Valley, California.**

This Workplan Addendum was prepared in response to comments from Alameda County Health Care Services, Environmental Health Services (ACEH), in a letter dated October 23, 2005.

#### **Comment 1: Proposed Soil Borings**

Clearwater Group (Clearwater) will drill three additional direct push soil borings (SC58 through SC60) to 12 feet below ground surface (bgs) to collect soil and groundwater samples along the western edge of the property (Figures 1 and 2). The additional borings and previously proposed borings SC55, SC50, SC54 and SC52, will be used to create a transect near the western property edge to assess whether shallow groundwater contamination is moving offsite. The additional borings will be between borings SC54 and SC50, between SC50 and SC55, and one location south of SC55.

#### **Comment 2: Laboratory Analysis of Soil Samples**

Soil samples collected from all of the proposed borings, from depths of 2 feet bgs, 5 feet bgs, and the capillary fringe, will be submitted for laboratory analysis. In addition, at locations where staining, odor, or elevated photo-ionization detector (PID) readings are observed, soil samples will be submitted for analysis. If staining, odor, or elevated PID readings are observed over an interval of several feet, a sufficient number of soil samples from this interval will be submitted for analysis to characterize the contamination within this interval. All of this data will be submitted in the Soil and Groundwater Investigation Report, requested in the 28 November 2005 ACEH staff letter.

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### **Comment 3: Grab Groundwater Samples in Direct Push Soil Borings**

A temporary, 1-inch diameter PVC casing will be set in each borehole. The casing will have a slotted screen section (0.010 inch slots), which will be set to the sample interval depth. The grab groundwater samples will be collected within 5 feet of the water table in each soil boring. Each grab water sample will be collected from within the temporary casing using a stainless steel bailer, then decanted into laboratory supplied sample containers. Following sample collection the casing will be removed and the borehole grouted with a lean cement grout.

### **Comment 4: Vertical Delineation**

#### **Proposed Soil Boring Method**

Proposed soil boring SC52, which was proposed to a depth of 12 feet, will be extended to 40 feet bgs. In addition, two new borings (SC61 and SC62; Figure 2) will also be drilled to 40 feet bgs. At each boring location a continuous soil conductivity test boring will be made to approximately 40 feet bgs, prior to driving a separate nearby boring to collect soil and groundwater samples. The continuous soil conductivity log will be used to identify coarse grained (higher porosity) soil intervals from which to collect depth discrete groundwater samples. The conductivity log will be visually correlated with soil samples from the borings. The advantage of the continuous soil conductivity log method is that a continuous log of the boring can be made. Cone penetration test (CPT) borings may be used in place of the continuous soil conductivity test borings.

The direct push soil borings are to be continuously sampled and logged to assess the vertical extent of contamination. Representative soil samples will be used to correlate the continuous soil conductivity log with actual site lithology.

#### **Proposed Method of Depth-Discrete Groundwater Sampling**

Water samples will be collected with a discrete interval groundwater sampler, such as a Geoprobe Dual Tube Profiler. The Profiler is a direct push groundwater sampling tool capable of collecting multiple depth-discrete grab groundwater samples in a single borehole and can be driven by a direct push drill rig. In addition, the Profiler will be used to perform slug tests over selected vertical intervals to determine the permeabilities of the selected intervals. After all of the samples have been collected, the boring will be sealed with neat cement grout.



### **Comment 5: Monitoring Well Installation**

Clearwater proposes driving a continuous soil conductivity test boring near each well location (MW-6 and MW-7) prior to drilling and installing the groundwater monitoring well. The conductivity log will provide a continuous record of the soil conductivity penetrated, allowing coarse grained intervals to be accurately located.

If single coarse grained intervals of less than 10 feet in thickness are located, a 2-inch diameter groundwater monitoring well will be constructed with its screened interval set within the coarse grained interval. The screened interval will not exceed 10 feet in length for either of these new wells.

If multiple thick, coarse grained intervals are located, the well will be constructed with Multi-Channel Tubing or cluster wells will be used. Cluster wells consist of nearby separate wells set to different depth intervals. Multi-Channel Tubing wells may have up to 7 depth specific screen intervals from which discreet groundwater samples may be collected. The wells are constructed with distinct filter packs separated by bentonite pellet seals within the same borehole.

The need to install groundwater monitoring wells MW-8 through MW-10 will be evaluated, based on the results of grab groundwater sampling along the western boundary of the property. These wells will not be installed until the results of the soil boring event analytical results are evaluated.

### **Comment 6: Laboratory Analysis**

As requested by ACEH, the grab groundwater samples will not be analyzed for PCBs (polychlorophenols), SVOCs (semi-volatile organic compounds), or total oil and grease, due to potential problems with high turbidity in the samples. Clearwater recommends that the groundwater samples collected from developed groundwater monitoring wells MW-6 and MW-7 (as opposed to the grab groundwater samples) be analyzed for PCBs, SVOCs, and total oil and grease.

All soil and groundwater samples will be analyzed for 1,2-dichloroethane and ethylene dibromide. All soil samples will be analyzed for lead.

Clearwater will provide a revised summary of the planned soil and groundwater sample analytes for ACEH approval, prior to beginning the field activities.

**Comment 7: Groundwater Monitoring**

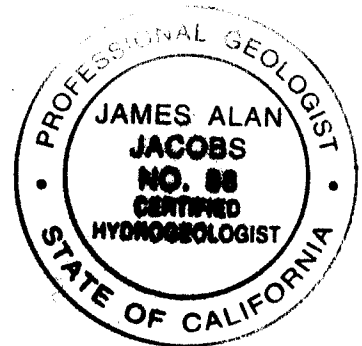
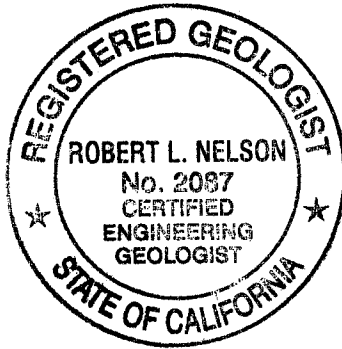
Existing wells MW-1 through MW-5 have not been sampled in approximately 5 years. Clearwater will evaluate wells MW-1 through MW-5 to determine if they require redevelopment. If these wells are partially filled with sediment, turbid, or slow to produce water they will be redeveloped when the new wells are developed.

Following implementation of the proposed subsurface characterization, a quarterly groundwater monitoring program will be implemented. Clearwater proposes that a minimum of one year of quarterly monitoring be performed to evaluate an annual cycle of groundwater conditions. Prior to conducting the first groundwater monitoring event, a survey event will be performed in accordance with California Assembly Bill AB2886. The survey event will include the collection of the latitude and longitude coordinates and elevation data, referenced to mean sea level, of each groundwater monitoring. Site reference marks, such as structures and fence lines will also be surveyed. The well survey will be performed under the direction of either a California Professional Geologist or Professional Engineer.

Each monitoring event will include a determination of groundwater gradient and contour elevations. A Soil and Groundwater Investigation Report summarizing these findings will follow by July 10, 2006, per the extension granted on October 28, 2005. If additional wells MW-8 through MW-10 are approved by the ACEH, another extension will be requested.

Sincerely,

Clearwater Group



*Robert L. Nelson*

Robert L. Nelson, P.G. #6270, C.E.G. #2087  
Senior Geologist

*James A. Jacobs*

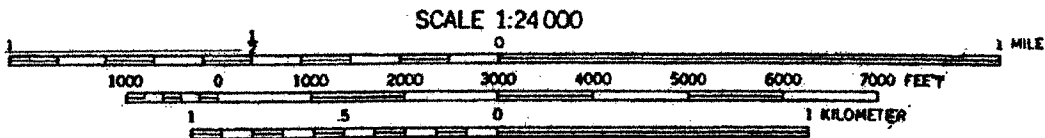
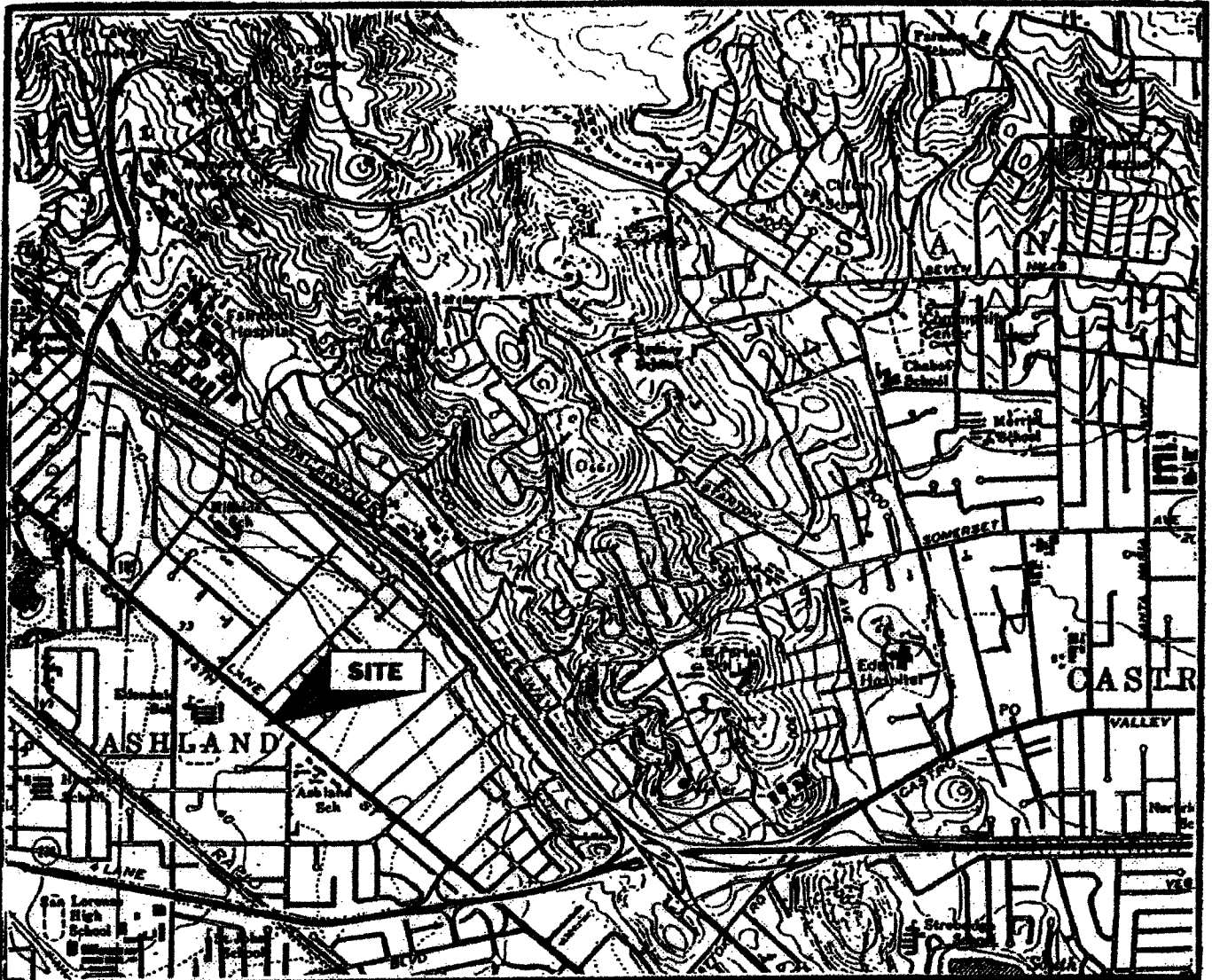
James A. Jacobs, P.G. #4815, C.H.G. #88  
Principal Hydrogeologist.

Attachments:

- Figure 1. Site Location Map
- Figure 2. Proposed Soil Boring and Groundwater Monitoring Well Location Map

Holland Oil  
16301 East 14<sup>th</sup> Street, San Leandro, California

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CB015D



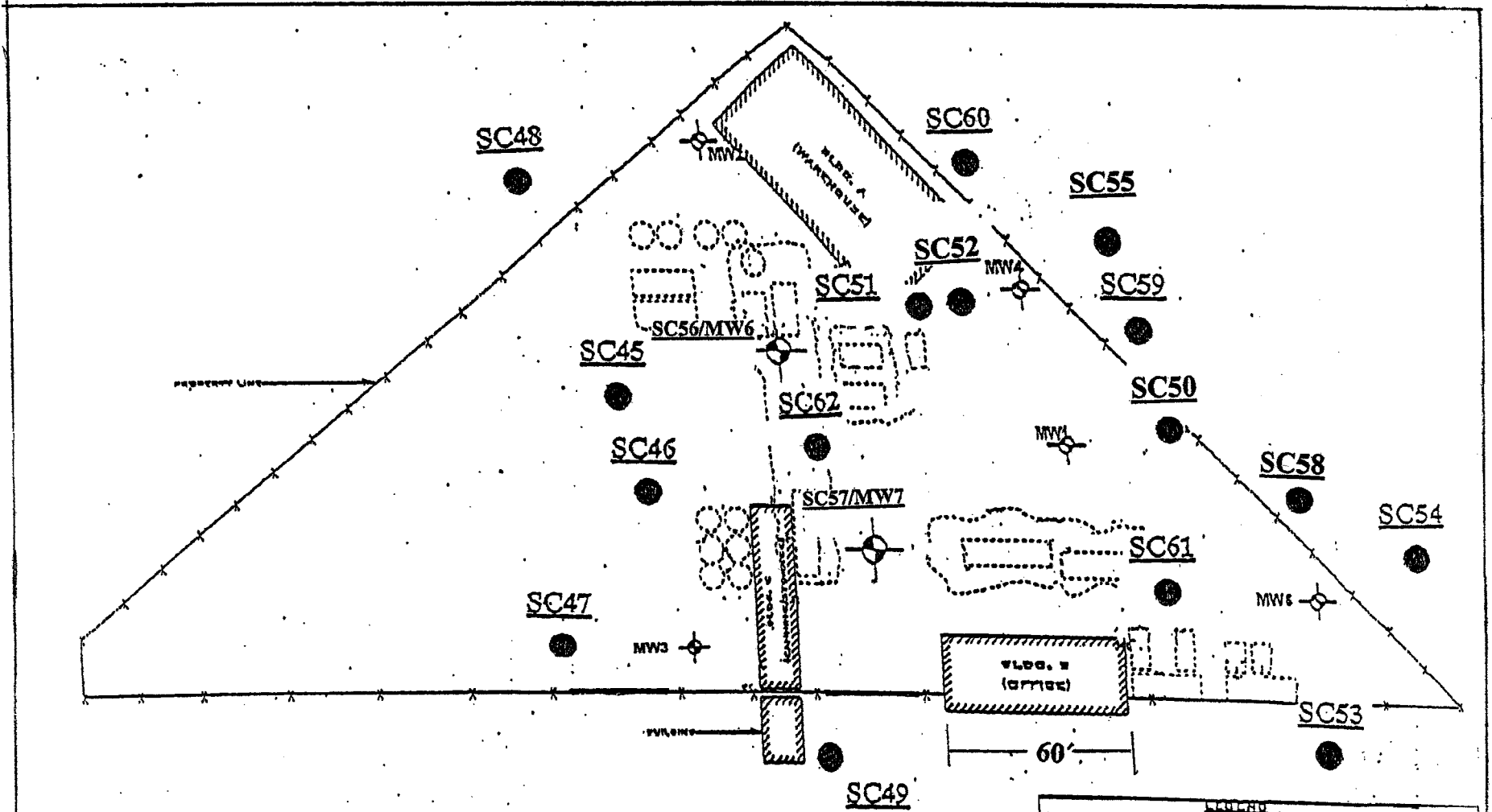
CONTOUR INTERVAL 20 FEET  
 DOTTED LINES REPRESENT 5-FOOT CONTOURS  
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



Source: USGS Hayward, California 7.5-Minute Quadrangle Map

\*Modified from Environmental Bio-Systems, Inc.

<b>SITE LOCATION MAP</b> Holland Oil 16301 E. 14th Street San Leandro, California	<b>CLEARWATER GROUP</b>		
	Project No. <b>CB015D</b>	Figure Date <b>04/06</b>	Figure <b>1</b>



**Proposed Soil Boring & Groundwater Monitoring**  
**Well Location Map**  
 Holland Oil  
 16301 E. 14th Street  
 San Leandro, California

CLEARWATER GROUP		
Project No. CB015D	Figure Date 04/06	Figure 2.

Former horizontal UST or AST location  
 Former vertical UST or AST location  
 UST's shown with dotted area/line perimeter.  
 Ground water monitoring well installed during current project.

**SC60 Proposed Boring**  
**SC57/MW7 Proposed Boring/Well**