

November 6, 2012

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

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8:41 am, Nov 20, 2012

Alameda County
Environmental Health

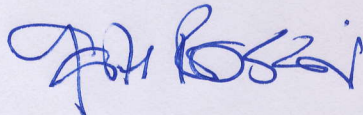
Attention: Mark Detterman

Subject: Workplan to Conduct Soil and Groundwater Investigation
Albany Fire Station UST Site
1001 Marin Avenue, Albany, California
ACEH RO#0000297; Geotracher Global ID T0600102152

Ladies and Gentlemen:

Attached please find a copy of the *Workplan to Conduct Soil and Groundwater Investigation* prepared by Gribi Associates. I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report are true and correct to the best of my knowledge.

Very truly yours,



Mr. Gale Rossi
City of Albany
1000 San Pablo Avenue
Albany, CA 94706



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Ladies and Gentlemen:

Gribi Associates is pleased to submit this workplan on behalf of the City of Albany to drill and sample two soil borings at the Albany Fire Station underground storage tank site (Site) located at 1001 Marin Avenue in Albany, California (see Figure 1 and Figure 2). The purpose of the proposed investigation will be to assess soil and groundwater quality downgradient from former Site USTs in order to address regulatory site closure.

1.0 SITE DESCRIPTION AND BACKGROUND

1.1 General Site Description

According to the USGS Richmond, California 7.5-Minute Quadrangle Map, the Site lies on a gently west-southwest-sloping plain approximately one-half mile east-northeast from the San Francisco Bay. The elevation at the project site is approximately 40 feet above mean sea level. Based on topographic gradient and proximity to the bay, we would expect groundwater flow direction to be to the west-southwest. Note, however, that the groundwater flow direction on the Former Exxon Service Station 79374 site, located approximately 80 feet northeast from the Site at 990 San Pablo Avenue, is generally to the northwest.

The City of Albany is located on the of the Berkeley Alluvial Plain, which is a subarea of the East Bay Plain area. Alluvial deposits that generally consist of silt and clay containing thin sandy and gravelly lenses underlie the alluvial plain. Estuarine mud, known as "Bay Mud," extends east of the San Francisco Bay where in interfingers with the surficial fluvial deposits. Important regional sands such as the Merritt Sand, do not appear to exist (or exist intermittently) beneath the Berkeley Alluvial Plain. The depth to bedrock in the Berkeley Alluvial Plain varies

from near zero on the north to 500 feet on the south end of the Plain. The Hayward fault defines the eastern boundary of the Berkeley Alluvial Plain and forms a geologic discontinuity. Bedrock in the East Bay Area is mostly Franciscan Complex melange, which includes marine sandstone and shale, chert, metavolcanics, serpentinized ultramafic rocks, and limestone.

Groundwater elevation data from the shallow water bearing zones wells in the Site area suggest that groundwater generally flows westward towards San Francisco Bay. Subsurface features, such as old creek beds or the former shoreline location, cause local variation of shallow groundwater flow direction.

Soils in logged investigative borings generally consisted of silts and clays to total depths with occasional thin discontinuous sands and gravels below eight feet in depth. Groundwater depth in the two borings was approximately eight feet in depth.

1.2 Environmental Investigation and Remediation Activities

One 1,000-gallon diesel UST and one 10,000-gallon unleaded gasoline UST were removed from separate locations at the project site by HK2, Inc./Semco in April 1998. Two soil samples collected beneath the removed diesel UST at a depth of about nine feet below surface grade contained 4 milligrams per kilogram (mg/kg) and 110 mg/kg of Total Petroleum Hydrocarbons as Diesel (TPH-D), with no detectable levels of BTEX constituents. The four-point composite soil sample from the diesel UST removal soil stockpile contained 3 mg/kg of TPH-D, with no detectable levels of BTEX constituents.

Two soil samples collected beneath the removed unleaded gasoline UST at a depth of about 11 feet below surface grade showed no detectable levels of Total Petroleum Hydrocarbons as Gasoline (TPH-G), with low to nondetectable levels of BTEX constituents and Methyl-t-butyl Ether (MTBE). One soil sample collected beneath the removed fuel dispenser at a depth of about two feet showed 3.0 mg/kg of TPH-G, with low to nondetectable levels of BTEX constituents and MTBE. One grab groundwater sample collected from the UST excavation cavity following tank removal showed 4,000 micrograms per liter (ug/l) of TPH-G, 70 ug/l of Benzene, 330 ug/l of Toluene, 90 ug/l of Ethylbenzene, 260 ug/l of Xylenes, and 380 ug/l of MTBE

Gribi Associates drilled and sampled two soil borings, IB-1 and IB-2, on the site on January 22, 1999. Boring IB-1 was sited southwest and IB-2 was sited west from the former gasoline UST excavation cavity. Field screening and laboratory analytical results from the two soil borings indicated minimal hydrocarbon impacts in subsurface soils in both investigative borings. The groundwater sample from IB-2, located about ten feet west from the former gasoline UST excavation cavity, showed 320 ug/l of MTBE. In order to assess downgradient groundwater MTBE impacts, the investigation report, dated March 15, 1999, included a workplan to install

and sample one additional soil boring approximately 20 to 30 feet west from previous boring IB-2. This workplan was approved by Alameda County Environmental Health (ACEH) on March 19, 1999.

On June 28, 2012, ACEH issued a letter requesting submittal of an updated and revised workplan for the Site. Based on our recent phone conversation with Mr. Mark Detterman of ACEH, we recommend the drilling and sampling of two soil borings, rather than only one as proposed in the March 1999 workplan. These two borings will be drilled using direct-push coring equipment and both soil and grab groundwater samples will be collected from both borings.

2.0 WORKPLAN ELEMENTS

The proposed investigation will include the following workplan elements. All activities will be conducted in accordance with the approved workplan and with applicable State and Federal guidelines and statutes.

2.1 Prefield Activities

Prior to implementing this workplan, written approval will be obtained from the ACEH. Also, drilling permits for the two borings will be obtained from the Alameda County Public Works. In addition, prior to initiating drilling activities, proposed boring and well locations will be marked with white paint and Underground Services Alert (USA) will be notified at least 48 hours prior to drilling. In addition, a private underground utility locator will be contracted to clear proposed boring locations. Prior to drilling, a Site Safety Plan will be prepared, and a tailgate safety meeting will be conducted with all site workers.

2.2 Location of Borings

Proposed borings IB-3 and IB-4 are shown on Figure 2. Boring IB-3 will be sited approximately 40 feet west from the former Site UST, and boring IB-4 will be sited approximately 70 feet northwest from the former Site UST. These borings will provide soil and groundwater data in the possible expected downgradient groundwater directions based on both topographic gradient (west) and measured gradient on the adjacent northeast Former Exxon Service Station 79374 site (northwest).

2.3 Drilling and Sampling of Investigative Boring

Boring activities will be conducted by a State-licensed drilling contractor using direct-push coring equipment. The two investigative borings will be drilled to approximately 12 to 15 feet in depth (first encountered groundwater is expected at about eight feet in depth) using direct-push hydraulically-driven soil coring equipment. Continuous soil cores will be collected to total depth in a clear plastic acetate tube, nested inside a stainless steel core barrel. After each four-foot core barrel is brought to the surface and exposed, the core will be sliced lengthwise to

expose the soil core, examined, logged, and field screened for hydrocarbons by a qualified geologist using sight, smell, and an organic vapor monitor (OVM). Following completion, the investigative boring will be grouted to match existing grade using a cement/sand slurry. Soil cuttings generated during this investigation will be stored onsite in sealed DOT-approved containers.

Each soil core will first be sliced open lengthwise along the length of the acetate tube, allowing full examination and logging of the soil core prior to sampling. Soil samples will then be collected from specific zones of interest in an acetate liner, which will be cut to the desired length (typically four to six inches), capped with teflon tape and plastic end caps, labeled and placed in cold storage pending transport to a laboratory under formal chain-of-custody. All coring and sampling equipment will be thoroughly cleaned and decontaminated between each sample collection by triple rinsing first with water, then with dilute tri-sodium phosphate solution, and finally with distilled water. Cleaning rinseate will be contained onsite in a sealed drum pending laboratory results.

One grab groundwater sample will be collected from the boring at first encountered groundwater (expected at approximately eight feet in depth). This grab groundwater samples will be collected from the open boring after placing 1-1/4-inch diameter well casing in the boring. Groundwater will then be sampled using a clean small diameter bailer, and poured directly into laboratory-supplied containers. Each sample container will then be tightly sealed, labeled, and placed in cold storage for transport to the laboratory under formal chain-of-custody.

2.4 Laboratory Analysis of Soil and Water Samples

Approximately two soil samples (one per boring) and two water samples (one per boring) will be analyzed for the following parameters.

- USEPA 8015M Total Petroleum Hydrocarbons as Diesel/Motor Oil (TPH-D/MO)
- USEPA 8260B Total Petroleum Hydrocarbons as Gasoline (TPH-G)
- USEPA 8260B Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)
- USEPA 8260B Oxygenates & Lead Scavengers (TBA, MTBE, DIPE, ETBE, TAME, EDB, & 1,2-DCA)

All samples will be analyzed by a state-certified laboratory with standard turn around time for laboratory results.

2.5 Preparation of Summary Report

A report summarizing investigative activities and results will be prepared for submittal to ACEH. This report will describe all investigative methods and results, and will include tabulated laboratory results and graphical depictions of result.

2.6 Project Schedule

Subject to ACEH approval, completion of proposed activities can be completed within approximately four to six weeks.

We appreciate this opportunity to provide this report for your review. Please contact us if there are questions or if additional information is required.

Very truly yours,



James E. Gribi
Registered Geologist
California No. 5843



c Mr. Gale Rossi, City of Albany

Enclosures: Figure 1: Site Vicinity Map
Figure 2: Proposed Boring Locations

FIGURES



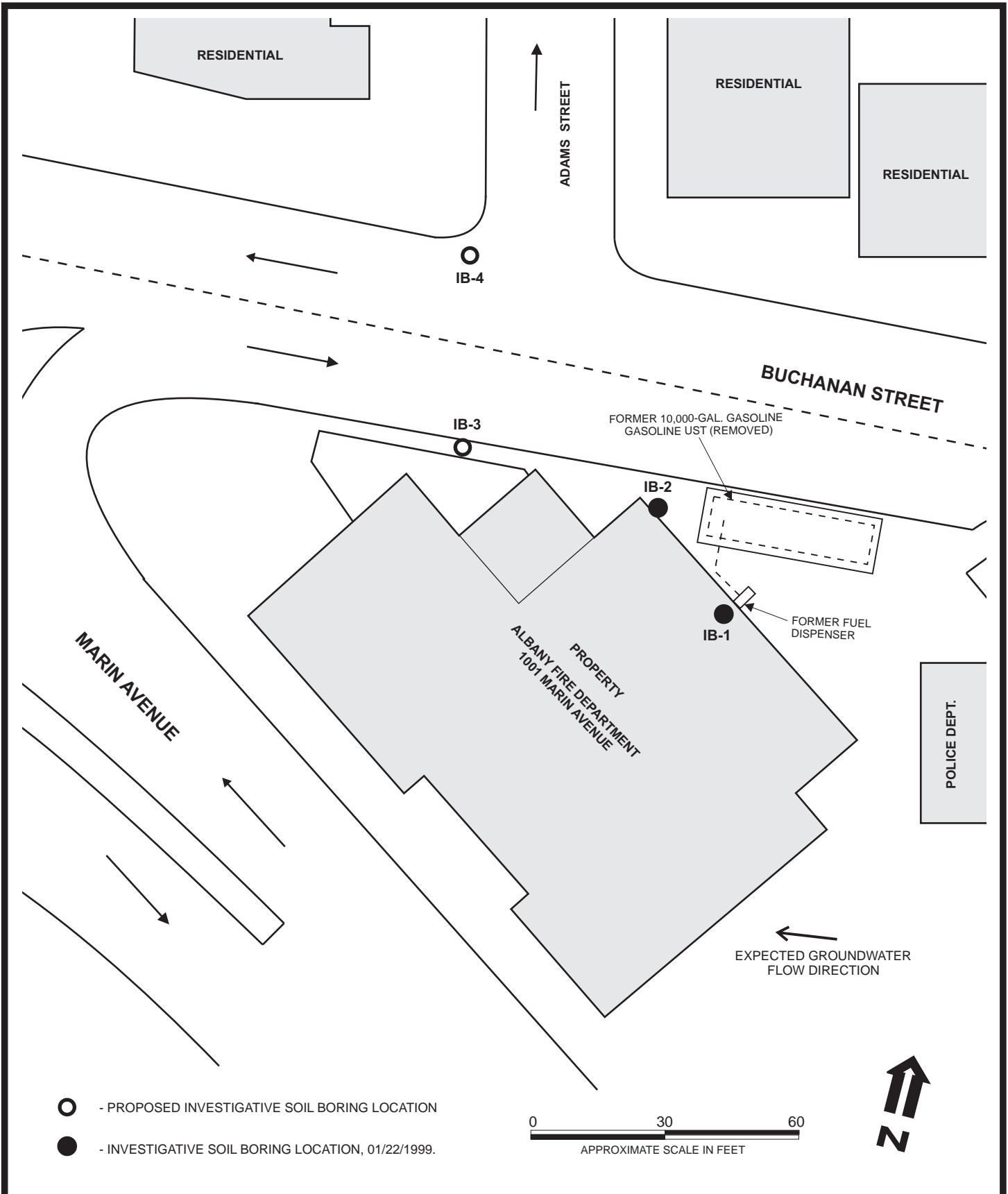
DESIGNED BY:	CHECKED BY: JG
DRAWN BY: RB	SCALE:
PROJECT NO:	

SITE VICINITY MAP

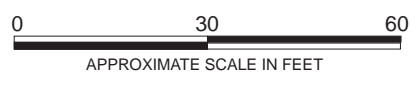
1001 MARIN AVENUE
ALBANY, CALIFORNIA

DATE: 11/06/2012	FIGURE: 1
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- - PROPOSED INVESTIGATIVE SOIL BORING LOCATION
- - INVESTIGATIVE SOIL BORING LOCATION, 01/22/1999.



DESIGNED BY:	CHECKED BY: JG	PROPOSED SOIL BORING LOCATIONS 1001 MARIN AVENUE ALBANY, CALIFORNIA	DATE: 11/06/2012	FIGURE: 2
DRAWN BY: RB	SCALE:			
PROJECT NO:				