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Alameda County
Environmental Health

June 15, 2010

Mr. Paresh Khatri
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94501-6577

Subject: Soil and Groundwater Investigation Work Plan
Crown Chevrolet Cadillac Isuzu
7544 Dublin Boulevard and 6707 Golden Gate Drive
Dublin, California
Fuel Leak Case No. RO0003014

Dear Mr. Khatri:

Enclosed please find the *Soil and Groundwater Investigation Work Plan (Work Plan)* for the Crown Chevrolet Cadillac Isuzu site at 7544 Dublin Boulevard and 6707 Golden Gate Drive, in Dublin, California (Fuel Leak Case No. RO0003014, GeoTracker Global ID T10000001616). This work plan was prepared by AMEC Geomatrix, Inc. (AMEC), on behalf of Crown Chevrolet Cadillac Isuzu.

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.

Please contact me at (925) 556-3201 or Avery Patton of AMEC at 510-663-4154 if you have any questions regarding this Work Plan.

Sincerely yours,



Patrick Costello
Owner
Crown Chevrolet Cadillac Isuzu

Attachment: Soil and Groundwater Investigation Work Plan

cc: Gregory Brandt, Wendel, Rosen, Black & Dean LLP
John Mullian, Zurich North American Insurance
Thomas L. Vormbrock, Rinkus Consulting Group, Inc.
Ed Conti, AMEC Geomatrix, Inc.



June 15, 2010

Project OD10160070

Mr. Patrick Costello
Crown Chevrolet
P.O. Box 2010
Dublin, CA 94568

Subject: Soil and Groundwater Investigation Work Plan
Crown Chevrolet Cadillac Isuzu
7544 Dublin Boulevard and 6707 Golden Gate Drive
Dublin, California
Fuel Leak Case No. RO0003014

Dear Mr. Costello:

AMEC Geomatrix, Inc. (AMEC), prepared this *Soil and Groundwater Investigation Work Plan* (work plan) on behalf of Crown Chevrolet for the property located at 7544 Dublin Boulevard and 6707 Golden Gate Drive in Dublin, California (the site; Figure 1). This work plan has been prepared pursuant to a letter dated March 24, 2010, from the Alameda County Environmental Health Services Department (ACEH) to Betty J. Woolverton of the Betty K. Woolverton Trust and Patrick Costello of Crown Chevrolet,¹ requesting submission of a work plan for a subsurface investigation.

OBJECTIVES

The objectives of the environmental activities are to attempt to identify potential contamination source areas and delineate the extent of impacts around source areas at the site.

BACKGROUND

The site is located on the relatively flat floor of a valley that extends to the north-northwest, toward San Ramon and Danville. The closest water body is a creek that flows through a culvert; the creek flows from a gully west of the site, enters a culvert north of the site, and then bends to the south, passing approximately 1,000 feet east of the site. Groundwater has been encountered in the vicinity of the site at depths of 11 to 16 feet below ground surface (bgs), and flows regionally to the east, based on data from monitoring at the Montgomery Ward property across Dublin Boulevard to the north of the site.² A recent investigation at Quest Laboratory, immediately south of the site, identified groundwater flow to the north, toward the site.³ Later measurements indicated groundwater flow to the southeast.

In October 2008, Basics Environmental, Inc. (Basics), performed a Phase I environmental site assessment, which summarized the site's history and use.⁴ A second Phase I environmental

¹ Alameda County Environmental Health, 2010, Site Investigation for Fuel Leak Case No. RO0003014 and GeoTracker Global ID T10000001616, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard, Dublin, CA 94568, March 24.

² Environmental Audit, Inc., 1996, Ground Water Monitoring Report, Fourth Quarter 1996, Montgomery Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California, December 12.

³ Bureau Veritas, 2009, Additional Soil and Groundwater Investigation (Fuel Leak Case No. RO0002860), Former Quest Laboratory, 6511 Golden Gate Drive, Dublin, California, March 13.

⁴ Basics Environmental, Inc., 2008, Phase I Environmental Site Assessment, 7544 Dublin Boulevard and 6707 Golden Gate Drive,

site assessment was performed by AEI Consultants, and submitted in the same month.⁵ Based on the Phase I reports, which documented similar information, Basics performed a limited soil and groundwater investigation in February 2009, advancing 10 borings for the collection of soil and grab groundwater samples near potential sources of contamination. The results were documented in a report titled *Limited Phase II Environmental Sampling Report* (Phase II report).⁶

PROPOSED FIELD INVESTIGATION

Twelve soil borings will be advanced at the proposed boring locations shown on Figure 2. The field and laboratory methods, rationale for each boring location, and specific analyses are discussed in more detail in the following sections.

Field Methods

Prior to conducting the field work, AMEC will obtain a soil boring permit from Zone 7 Water Agency. Additionally, AMEC will mark the proposed boring locations with white paint, contact Underground Service Alert, and contract with a private utility locator to clear boring locations for underground utilities.

Soil Borings

The soil borings will be advanced using dual-tube direct-push technology by a licensed drilling contractor under the supervision of AMEC field personnel. Soil borings will be advanced to approximately 2 feet below first encountered groundwater, which is assumed to occur approximately 11 to 16 feet below ground surface (bgs). The soil sample depths will be based on field observations.

A continuous core of soil will be collected at each soil boring location for lithologic logging. Lithology will be described by an AMEC field geologist, under the supervision of an AMEC California Professional Geologist, using the visual-manual procedures of the ASTM International Standard D 2488 for guidance, which is based on the Unified Soil Classification System (USCS). Recovered soil will be screened for the presence of volatile organic compounds using a photoionization detector (PID). The PID readings will be recorded on the lithologic logs prepared for each boring. Field observations of the presence of any staining or odor will also be recorded.

Once each soil boring has been advanced to total depth, at locations where a grab groundwater sample will be collected, temporary polyvinyl chloride (PVC) casing with a 0.01-inch slotted screen will be installed in the boring. Prior to collection of the groundwater sample, the casing will be purged using a new, disposable, polyethylene bailer or inertial lift pump, to decrease turbidity in the sample. Following purging, a grab groundwater sample will be collected from each boring.

The groundwater samples will be placed into laboratory-provided containers equipped with preservatives appropriate for the desired analyses, and stored in an ice chilled cooler pending transport to a California Department of Public Health–certified analytical laboratory under chain of custody procedures.

Dublin, California, October 14.

⁵ AEI Consultants, 2008, Phase I Environmental Site Assessment, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, October 29.

⁶ Basics Environmental, Inc., 2009, Limited Phase II Environmental Site Sampling Report, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, March 16.



Following completion of sampling, the borings will be backfilled using a tremie hose or pipe from total depth to ground surface with neat cement grout.

Investigation-Derived Waste

Investigation-derived waste, including drill cuttings, purge water, and equipment wash water, will be stored at the site in 55-gallon drums pending disposal by Crown Chevrolet.

Laboratory Analytical Methods

The soil and grab groundwater samples will be analyzed for one or more of the following:

- Volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, and xylenes (BTEX, collectively) and MTBE, using U.S. Environmental Protection Agency (EPA) Method 8260B;
- Total petroleum hydrocarbons quantified as gasoline (TPHg) using U.S. EPA Method 8260B;
- Total petroleum hydrocarbons quantified as diesel (TPHd) and motor oil (TPHmo) using U.S. EPA Method 8015, following a silica gel preparation procedure in accordance with U.S. EPA Method 3630B. In addition, from each boring where a groundwater sample is collected, a duplicate grab groundwater sample will be filtered by the laboratory using a 0.7-micron glass-fiber filter prior to analysis, in order to provide an analysis that limits representation of TPH in the extractable range that may be adsorbed onto sediment present in the grab groundwater samples;⁷
- Polynuclear aromatic hydrocarbons (PAHs) using U.S. EPA Method 8270C with selective ion monitoring (SIM); and
- Dissolved total chromium and dissolved hexavalent chromium using U.S. EPA Method 6020.

A duplicate grab groundwater sample will be collected from one boring and analyzed for the same suite of constituents as the primary sample. Additionally, to assist with waste disposal profiling, one sample of soil cuttings generated during the investigation will be analyzed for Title 22 metals, using U.S. EPA Method 6020, with the exception of mercury, which will be analyzed using U.S. EPA Method 7471A.

Rationale and Specific Analyses

The rationale for each boring location, and the planned laboratory analyses, are as follows:

Location A

Montgomery Ward monitoring well MW-102, historically located to the east of location A, indicated low levels of total petroleum hydrocarbons as gasoline present in groundwater in 1996, the last time it was sampled. Available Montgomery Ward monitoring reports do not indicate that the contaminant plume was delineated to the west of MW-102, and significantly higher levels of constituents were historically detected in well MW-102. This boring is intended to evaluate if the Montgomery Ward groundwater plume extends onto the site in this area. One soil sample will be collected from near the top of the zone of saturation and one grab

⁷ Copies of the laboratory analytical reports included in Basics' Phase II report indicated that each groundwater sampled contained at least 1% sediment. It is possible that the results of the Phase II may overestimate the concentrations of TPH in groundwater due to analysis of TPH that may be adsorbed onto sediment in the samples.

groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for TPHg, BTEX, and MTBE.

Location B

Historical Montgomery Ward data indicates that their plume extended east along Dublin Boulevard, and also south into the property located adjacent to the Crown Chevrolet site, to the east. This boring is intended to evaluate if the Montgomery Ward groundwater plume extends onto the Crown Chevrolet site in this area. One soil sample will be collected from near the top of the zone of saturation and one grab groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for TPHg, BTEX, and MTBE.

Location C

We understand that boring B8 was advanced by Basics approximately 7 feet southeast of the existing sump in Service Area 2. A boring will be advanced adjacent to the sump at location C to help evaluate the source of TPHg and VOCs detected in groundwater sample B8. Soil sample depths will be based on field observations. In the absence of field indications of contamination, samples will be collected from approximately 3.0 feet bgs and from near the top of the zone of saturation. In addition, a grab groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for TPHg and VOCs (including BTEX and MTBE).

Location D

The Phase II Report did not find a source of TPH in groundwater. This boring will be advanced in the location of a historical diesel aboveground storage tank (AST) in order to evaluate whether impacted soil, that may be a source of groundwater impact, exists in that area. This is also near the location of the current gasoline UST. Soil sample depths will be based on field observations. In the absence of field indications of contamination, samples will be collected from 3.0 feet bgs and from near the top of the zone of saturation. In addition, a grab groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for BTEX, MTBE, TPHg, TPHd, TPHmo, and PAHs.

Location E

A site plan in the Phase I report prepared by AEI Consultants identified a historical bulk storage area in the approximate location shown on Figure 1. Basics boring B3 targeted the western edge of this area. This boring will be advanced in the approximate center of the bulk storage area in order to evaluate if it is a potential source of groundwater impact, as well as to help delineate the extent of chromium in groundwater, which was detected at a concentration above the screening level in groundwater from Basics boring B1. Soil sample depths will be based on field observations. In the absence of field indications of contamination, samples will be collected from approximately 3.0 feet bgs and from near the top of the zone of saturation. In addition, a grab groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for TPHd, TPHmo, and PAHs. The grab groundwater sample will additionally be analyzed for dissolved total chromium and dissolved hexavalent chromium.

Location F

This boring is located near a historical storm water drain, and will be used to evaluate if historical storm water drainage was a source of groundwater impact. This boring will also help delineate the extent of TPH detected in groundwater from boring B2 and chromium detected in groundwater from boring B1, advanced by Basics. Soil sample depths will be based on field observations. In the absence of field indications of contamination, samples will be collected from

approximately 3.0 feet bgs and from near the top of the zone of saturation. In addition, a grab groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for TPHd, TPHmo, and PAHs. The grab groundwater sample will additionally be analyzed for dissolved total chromium and dissolved hexavalent chromium.

Location G

This boring is intended to help evaluate the extent of TPH detected in groundwater from boring B2 and chromium detected in groundwater from boring B1, advanced by Basics. One soil sample will be collected from near the top of the zone of saturation and one grab groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for TPHd, TPHmo, and PAHs. The grab groundwater sample will additionally be analyzed for dissolved total chromium and dissolved hexavalent chromium.

Location H

The California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) recently re-opened the case regarding a former underground storage tank (UST) on the historical Quest Laboratory property to the south of the site. Three monitoring wells were installed in early 2009 and preliminary data indicated that low levels of TPHg and TPHd were present in groundwater adjacent to the property line with the site, and that groundwater flow was to the north (possibly as a result of potential dewatering of a construction trench that was present along Golden Gate Drive at the time). Based on more recent data, groundwater flow appears to be to the southeast, and TPHg and TPHd have not been detected at or above laboratory reporting limits in the past two quarters of groundwater monitoring. However, the planned boring will help evaluate the potential presence of contamination extending onto the site from the former Quest Laboratory property, and will also help evaluate the extent of chromium detected in groundwater from boring B1. One soil sample will be collected from near the top of the zone of saturation and one grab groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for BTEX, MTBE, TPHg, TPHd, TPHmo, and PAHs. The grab groundwater sample will additionally be for dissolved total chromium and dissolved hexavalent chromium.

Location I

The Phase II Report indicated that 180 milligrams per kilogram (mg/kg) of TPHmo was detected in soil from approximately 3.0 feet bgs in boring B7. Boring B7 is located in the hazardous materials storage area, which is located on the opposite side of a wall from the former AST and existing UST area. Proposed boring location D is just south of Basics boring location B7. Boring location I is intended to help delineate the extent of TPHmo impacts to soil north of Basics boring B7. Soil sample depths will be based on field observations. In the absence of field indications of contamination, soil samples will be collected from approximately 3.0 feet bgs and from near the top of the zone of saturation. The soil samples will be analyzed for TPHd, TPHmo, and PAHs.

Location J

The Phase II indicated that 23,000 micrograms per liter ($\mu\text{g/L}$) of TPHmo was detected in groundwater from boring B10, adjacent to the car wash in the service area. Boring location J is intended to help delineate the extent of TPHmo impacts to groundwater east of Basics boring B10. One soil sample will be collected from near the top of the zone of saturation and one grab groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for TPHd, TPHmo, and PAHs.



Location K

The Phase II indicated that 22,000 µg/L of TPHmo was detected in groundwater from boring B9, located near the gasoline UST. Boring location K is intended to help delineate the extent of TPHmo impacts to groundwater east of Basics boring B9. One soil sample will be collected from near the top of the zone of saturation and one grab groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for TPHd, TPHmo, and PAHs.

Location L

The Phase II indicated that 49,000 µg/L of TPHmo was detected in groundwater from boring B2, located east of the former bulk storage area. Boring location L is intended to help delineate the extent of TPHmo impacts to groundwater north of Basics boring B2. One soil sample will be collected from near the top of the zone of saturation and one grab groundwater sample will be collected from first encountered water. The soil and grab groundwater samples will be analyzed for TPHd, TPHmo, and PAHs.

REPORTING

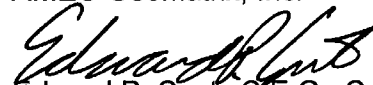
AMEC will prepare a report that documents the results of this investigation for submittal to ACEH. The report will include a data summary table, figures, and copies of the analytical laboratory reports and sample chain of custody records.

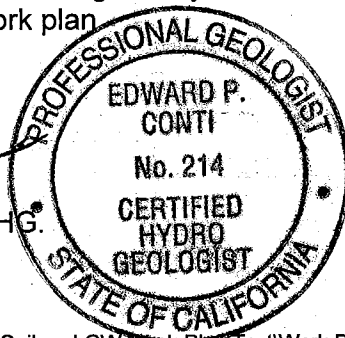
ANTICIPATED SCHEDULE


We anticipate that field work will commence within four weeks of approval of this work plan by ACEH, pending subcontractor availability. We anticipate the field investigation can be performed in two days. A report documenting the results will be submitted to the ACEH approximately six weeks following the receipt of final laboratory data.

Please contact either of the undersigned if you have any questions or require additional information regarding this work plan.

Sincerely yours,
AMEC Geomatrix, Inc.


Edward P. Conti, C.E.G., C.H.G.
Principal Geologist

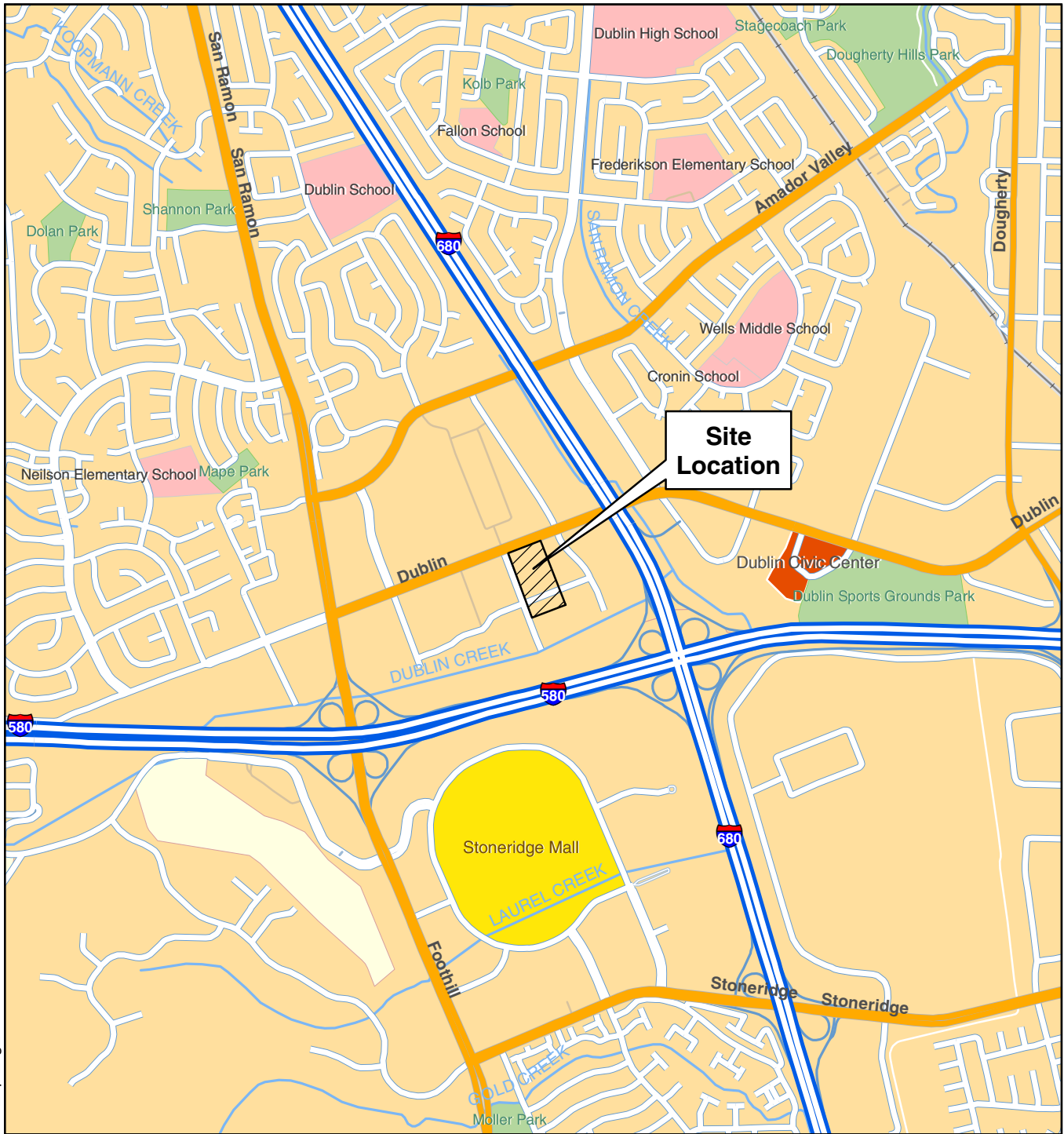



Avery Patton, P.G.
Project Geologist

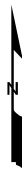
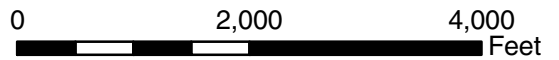
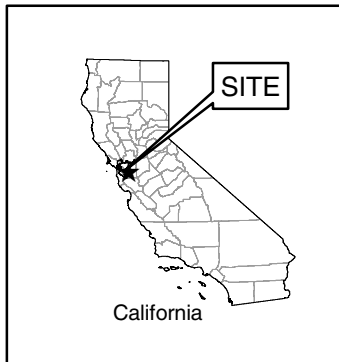
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Attachments: Figure 1 - Site Location Map
Figure 2 - Proposed Boring Locations

cc: Gregory Brandt, Wendel, Rosen, Black & Dean LLP
John Mullan, Zurich North American Insurance
Thomas L. Vormbrock, Rimkus Consulting Group, Inc.



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SITE LOCATION MAP
 7544 Dublin Boulevard and 6707 Golden Gate Drive
 Dublin, California

By: AWP	Date: 5/14/2010	Project No. OD1016007
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AMEC Geomatrix

Figure **1**



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- Explanation**
- ▲ Proposed soil and grab groundwater sample location
 - Basics Environmental soil and/or grab groundwater sample location
 - ✕ Approximate location of historical Montgomery Ward monitoring well MW-102
 - Approximate location of historical Quest Laboratory underground storage tank
 - Approximate outline of former bulk storage area
 - Storm drain inlet or catch basin

0 100 Feet

PROPOSED BORING LOCATIONS
 7544 Dublin Boulevard and 6707 Golden Gate Drive
 Dublin, California

By: AWP	Date: 6/2/2010	Project No. OD1016007
AMEC Geomatrix		Figure 2