Project No.
9432.000.000

January 11, 2013

Ms. Dilan Roe
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6540

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

SUBSURFACE INVESTIGATION WORK PLAN

Dear Ms. Roe:

ENGEO is pleased to present this subsurface investigation work plan for the subject property ("Property"), located at 7544 Dublin Boulevard and 6707 Golden Gate Drive in Dublin, California (Figure 1). Specifically, this work plan is focused on proposed investigation on the 6707 Golden Gate Drive parcel ("Study Area"). We have prepared this work plan to support due diligence activities underway on behalf of a party's potential acquisition of the Study Area. The purpose of the work plan is to further assess the Study Area to determine if historic site use at the Property has resulted in subsurface impacts that could affect beneficial reuse. Previous investigation work has been performed at the Study Area as well as the greater Property, which has identified subsurface impacts. Some of the impacts have been determined to be the result of historic activities. Additionally, a chlorinated solvent plume has been identified at the northern portion of the 7544 Dublin Boulevard parcel (outside of the Study Area). The plume, consisting primarily of tetrachloroethene (PCE), exhibits maximum on-site concentrations at the western border of the 7544 Dublin Boulevard parcel.

BACKGROUND

The Study Area, measuring a total of 1.36 acres in area and located southeast of the intersection of Golden Gate Drive and St. Patrick Way, is located within the Coast Ranges geomorphic province of California. The Coast Ranges are dominated by a series of northwest-trending mountain ranges that have been folded and faulted in a tectonic regime that involves both translational and compressional deformation. Specific details pertaining to subsurface stratigraphy at the greater Property are presented in Table 1 and Figures 3, 4, and 5 of the referenced August 2012 AMEC work plan. In general, soils at the Property consist of finer-grained deposits (clays and silts) with interbedded lenses of sand. Groundwater has been encountered at depths between 9 and 15 feet below the ground surface, although fluctuations in groundwater levels may be expected during seasonal changes or over a period of years because of precipitation changes and changes in drainage patterns. Recent sampling and measurement of groundwater monitoring wells at the Property indicate that the shallow groundwater gradient is generally directed toward the east-northeast to east.

Details of past investigations, remediation activities, and contaminants of concern (COCs) present at the Property are provided in Section 2.0 of the referenced August 2012 AMEC work plan. The Property has been operated as an automotive dealership since 1968, including retail sales of automobiles and related automotive repair services. Operations at the Property have been significantly reduced in recent years. Specifically, the Study Area has reportedly been used as a parking lot for new and used automobile inventory for the retail automotive sales at the Property. Additionally, much of the area near the Property has been used for agricultural purposes since the 1940s. Historically, persistent agricultural chemicals were commonly used on farmland, and there is potential that agricultural chemicals remain in soil.

Specifically, this study is focused on further assessment on surface soil, subsurface soil, and soil gas to determine if the Study Area has been affected by 1) potential historic agricultural activities, and/or 2) activities associated with storage and retail sales of automobiles.

DATA GAPS AND OBJECTIVE OF STUDY

Based on a review of the previously reported environmental investigations and mitigation activities, the objective of this study is to address one specific data gap:

- *Incomplete delineation of surface soil, subsurface soil, and soil gas* - Recent site investigations performed by AMEC, combined with data obtained in prior investigations (AMEC, 2012b), identified low concentrations of tetrachloroethene (PCE) in soil gas within the Study Area. These concentrations were below the respective Environmental Screening Level established by the California Regional Water Quality Control Board, San Francisco Bay Region (SFRWQCB), assuming a residential land use scenario[1]. Additionally, the majority of gas samples were collected in the northwest portion of the Study Area. Further, limited soil (both surface and subsurface) sampling has been performed to determine if soils have been impacted by potential or confirmed historic site activities. The proposed scope of work will attempt to further the lateral and/or vertical extent of soil impact as well as the lateral extent of soil gas impact (if any).

For convenience, this identified data gap is presented in tabular form in Table 1.

PROPOSED SCOPE OF FIELD EXPLORATION

To address the data gap presented above and in Table 1, surface soil sampling, subsurface soil sampling, and soil gas sampling will be performed at the locations depicted on Figure 2.

ENGEO will obtain a soil boring permit from Zone 7 Water Agency. Additionally, ENGEO will mark the proposed boring locations with white paint and contact Underground Service Alert (USA) for utilities clearance.

We will retain a C-57 licensed drilling contractor to advance the soil borings using Geoprobe® direct push technology and to install soil gas wells, as described below. All borings will be logged by an ENGEO engineer/geologist under the supervision of a Professional Engineer based

[1] SFRWQCB ESLs, 2008: Table E-2 – Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns for Residential Land Use.

on the Unified Soil Classification System (USCS). Onsite workers will possess OSHA HAZWOPER training (24/40 hour). A site-specific health and safety plan is provided as an attachment.

The borings will be advanced in accordance with Zone 7 Water Agency protocols and regulations. Following completion of sampling, the borings will be backfilled with neat cement grout using a tremie hose or pipe to seal the total depth of the boring in accordance with Zone 7 Water Agency protocols.

A summary of field sampling activities will be recorded in a field sampling log as they are completed during the field exploration. Details pertaining to each sampling task are presented below.

Surface Soil Sampling

The surface soil sampling study will attempt to assess if areas of soil impact are present at the Study Area resulting from automotive-related activities or historic agricultural activities. A total of four soil samples (Figure 1) will be collected across the Study Area.

Surface soil samples will be collected from the same borings used to collect subsurface soil samples, as described below. Soil samples will be retrieved within continuous Geoprobe® acetate core liners measuring five feet in length. Specific soil samples will be collected for laboratory analysis by cutting a six-inch portion of the Geoprobe® soil core liners corresponding to the respective desired sampling depth of 3 to 9 inches below existing grade, or immediately below paving materials (asphaltic concrete and aggregate base).

During advancement of the soil borings, retrieved soils will be screened for visual and olfactory evidence of impact as well as with a photoionization detector (PID) for volatile organic vapors. Additional soil exhibiting significant PID readings (indicating the potential presence of volatile compounds) will also be retained for laboratory analyses using a field preservation method in accordance with United States Environmental Protection Agency (EPA) Method 5035.

The sample sleeves will be sealed using Teflon® sheets secured by tight-fitting plastic end caps. Upon collection of samples, a sample label will be placed on the sample and will include a unique sample number, sample location, time/date collected, lab analysis, and the sampler's identification. The soil samples will be placed in an ice-cooled chest and will be submitted under documented chain-of-custody to TestAmerica Laboratories, Inc., a State-accredited laboratory in Pleasanton, California, for analysis. The submitted soil samples will be analyzed for the following target analytes:

- Organochlorine pesticides (EPA 8081).
- Chlorinated herbicides (EPA 8151).
- Total lead and arsenic (EPA 6010)

Subsurface Soil Sampling

The subsurface soil sampling study will attempt to assess if areas of subsurface soil impact are present at the Study Area. A total of four soil borings (Figure 1) will be advanced in the locations across the Study Area.

Soil samples will be retrieved within continuous Geoprobe® acetate core liners measuring five feet in length. Continuous soil cores from each boring will be logged by an ENGEO geologist or engineer. Specific soil samples will be collected for laboratory analysis by cutting a six-inch portion of the Geoprobe® soil core liners corresponding to the respective desired sampling depths of approximately two, five, and nine feet below the ground surface. Soil samples to be analyzed for the presence of volatile organic compounds (VOCs) will be collected using a field preservation method in accordance with United States Environmental Protection Agency (EPA) Method 5035.

During sampling, retrieved soils will be screened for visual and olfactory evidence of impact as well as with a photoionization detector (PID) for volatile organic vapors. Additional soil exhibiting significant PID readings will also be retained for laboratory analyses.

The sample sleeves will be sealed using Teflon® sheets secured by tight-fitting plastic end caps. Upon collection of samples, a sample label will be placed on the sample and will include a unique sample number, sample location, time/date collected, lab analysis, and the sampler's identification. The soil samples will be placed in an ice-cooled chest and will be submitted under documented chain-of-custody to TestAmerica Laboratories, Inc., a State-accredited laboratory in Pleasanton, California, for analysis. The submitted soil samples will be analyzed for the following target analytes:

- VOCs by EPA Test Method 8260B.
- CAM-17 metals by EPA Test Methods 7471A and 6010B.

Soil Gas Sampling

In addition to soil sampling, a soil gas sampling program will be performed. Four soil gas monitoring wells will be installed in locations situated across the Study Area (Figure 1). The soil gas monitoring wells will be installed and sampling will be performed in accordance with the Department of Toxic Substances Control (DTSC) Final Advisory Active Soil Gas Investigations (April 2012).

The soil gas monitoring well casings will consist of ¼-inch-diameter Teflon® tubing equipped with a filter at the base of the tubing. The wells will be installed with a direct push probe rig, which will advance an approximately 3-inch-diameter boring. The well borings will extend to a depth of six feet below the ground surface. The bottom of the well casing will be equipped with a filter and will be situated at a depth of five feet below the ground surface, centered in the middle of a two-foot layer of No. 3 sand. The proposed two-foot-long sand pack is designed to provide adequate flow in the low permeability geology found at the site. Six inches of dry bentonite will be installed on top of the sand, and the remaining annular space will be filled with hydrated bentonite grout to six inches below grade. The wells will be completed with an eight-inch-diameter flush mount well box set in concrete. The well tubing will extend an additional two feet beyond the ground surface so that it can be directly connected to the sample train. When not in use, the well tubing will be coiled and capped inside the well box.

Once the installation of the annular seal is complete, the well casings will be equipped with a permanent Swagelok® ferrule and nut. A threaded plug will then be screwed into the nut and the mandatory two-hour equilibration time will begin.

The sample train will consist of a stainless steel twin Summa™ manifold with built-in flow controller set to 100-200 ml/min. A purge vacuum pump will be attached to the manifold connection that is closest to the well casing, and the sampling canister will be connected to the manifold fitting furthest away from the well casing. Prior to connecting the sample train to the well casing, a "shut-in" test will be performed to assess for potential leaks. The shut-in test will consist of capping the end of the manifold, then cracking and closing the purge canister to apply a vacuum. The vacuum gauge will be observed for two minutes to determine if there is a leak.

The sample train will be connected threading the permanent Swagelok® fitting on the well casing onto the manifold. Three well volumes will be purged from the wells. After purging is completed, the purge valve on the manifold will be closed, and the vacuum pump can be removed and connected to another well if desired. Samples will be collected by opening the sample canister valve and allowing the sample canister to extract soil gas until the vacuum in the sample canister reaches approximately 5 inches of mercury. The leak detection compound 1,1-diflouroethane will be applied by wrapping a doused rag around the manifold fittings during sample collection.

Each sample canister will be labeled with a unique identification number, sampling time, and pre- and post-sample vacuum readings. The soil gas samples will be submitted to a State-certified laboratory under documented chain-of-custody for analysis of volatile organic compounds (VOCs), including TPH-g and naphthalene, by EPA Test Method TO-15.

EQUIPMENT DECONTAMINATION

All reusable sampling equipment that comes into contact with potentially contaminated soil will be decontaminated. Decontamination will occur prior to and after each use of a piece of equipment. The following decontamination procedure will be carried out in sequence:

- Non-phosphate detergent (e.g., Alconox® and tap water solution), using a brush if necessary, or steam cleaning.
- Tap-water rinse.
- De-ionized/distilled water rinse.

Disposable equipment intended for one-time use will not be decontaminated but will be packaged for appropriate disposal.

INVESTIGATION-DERIVED WASTE

Investigation-derived waste, including soil cuttings, excess collected or purged groundwater, and rinsate from equipment decontamination, will be placed into 55-gallon drums. The drums will be clearly labeled as containing "Investigation-derived Waste". Lids and bungholes will be securely closed. The drums will be stored at the Crown Chevrolet premises prior to removal by a licensed transporter for appropriate disposal. Prior to transport, samples will be collected from the drums and analyzed at the laboratory listed above for waste characterization purposes. The specific analytes for waste characterization and the transporter will be determined at a later date.

REPORTING

Following completion of the proposed field activities, a summary report, including all analytical results, will be prepared and submitted electronically to ACEH. The results of the soil and soil gas analysis will be compared to the applicable ESLs. As appropriate, all reports and analytical data will be electronically uploaded to the California State Water Resources Control Board (SWRCB) GeoTracker website.

In addition to all analytical laboratory data, the summary report will include soil boring logs for each boring. Summary tables will also be constructed for the analytical results with appropriate ESLs. Laboratory data will also be presented in graphical format on figures depicting a site plan with boring locations. Further, field documentation summarizing sampling activities and protocols will be presented in the report. The raw data, as well as complete report, will be provided as available to AMEC so they may incorporate it into future reports for the Property.

SCHEDULE

We will schedule the field exploration to occur within one to two weeks of receiving approval of this work plan. We expect that we will complete the field exploration in two days. Depending on driller avalability, and pending approval of this work plan, we propose to perform the field exploration during the week of January 17, 2012. Laboratory analysis data will be available approximately five days after the completion of the field exploration. We anticipate that a summary report will be avaiable for review within two weeks following the completion of the field exploration.

If you have any questions on any portion of the work plan, please call and we will be glad to discuss them with you.

Sincerely,

ENGEO Incorporated

Jeffrey A. Adams, PhD, PE
Associate

Shawn Munger, CHG
Principal

Attachments: Selected References
Figures 1 – 2
Health and Safety Plan
Table 1 – Data Gap Analysis

SELECTED REFERENCES

AMEC, Revised Soil and Groundwater Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, April 4, 2011.

AMEC, Soil, Groundwater, and Soil Vapor Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, September 27, 2011.

AMEC, Soil, Groundwater, and Soil Vapor Investigation Work Plan, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, August 16, 2012 (2012a).

AMEC, Soil, Groundwater, and Soil Vapor Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, October 19, 2012 (2012b).

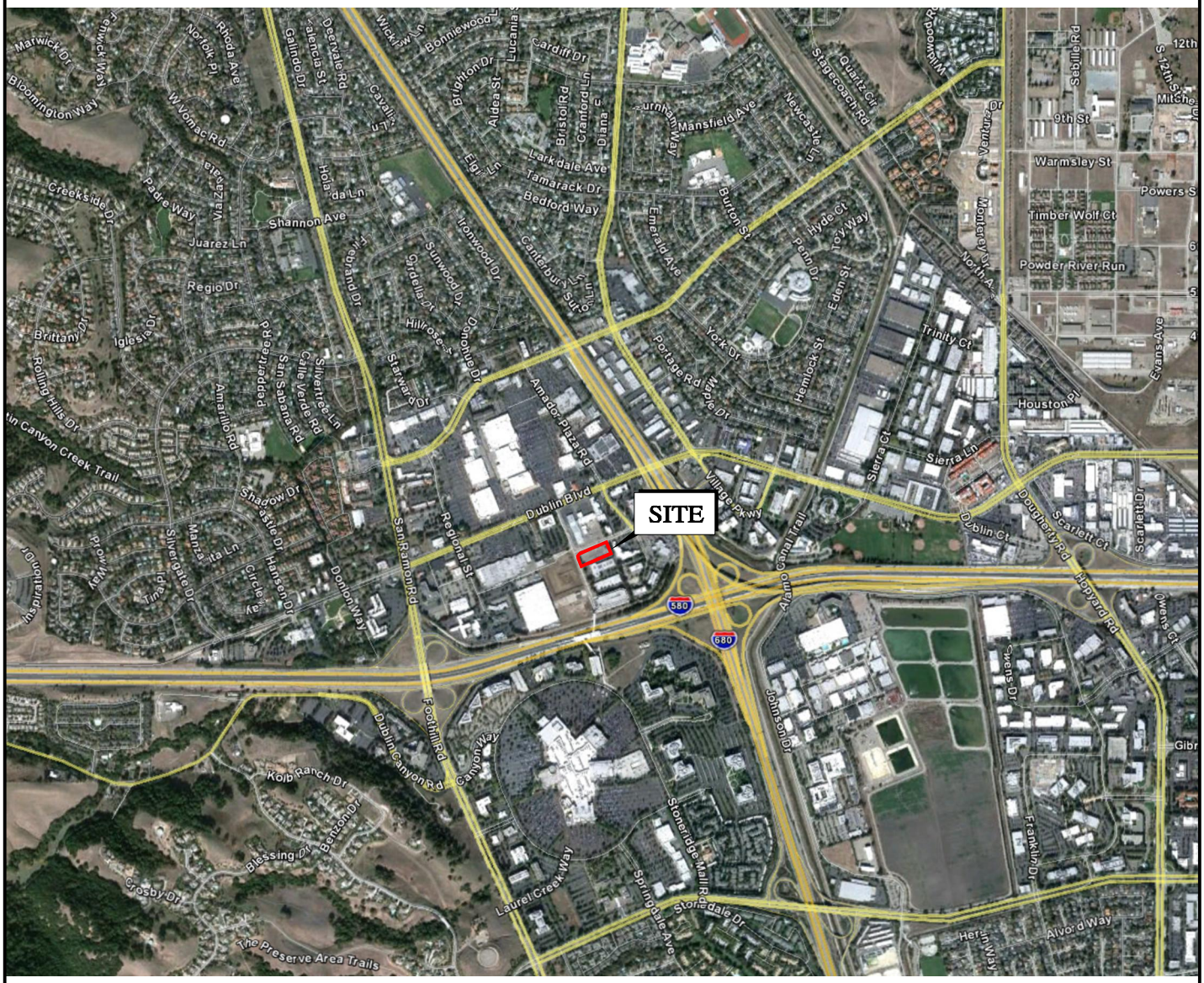
Basics Environmental, Inc., Limited Phase II Environmental Site Sampling Report, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, March 16 2009.

Ninyo & Moore, Limited Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, January 7, 2011.

Ninyo & Moore, Additional Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, September 16, 2011.

FIGURES

Figure 1 – Vicinity Map
Figure 2 – Site Plan



BASE MAP SOURCE: GOOGLE EARTH PRO, 2012

ENGEO Expect Excellence

VICINITY MAP

6707 GOLDEN GATE DRIVE

DUBLIN, CALIFORNIA

PROJECT NO.: 9432.000.000		FIGURE NO. 1
SCALE: AS SHOWN		
DRAWN BY: SRP	CHECKED BY: SM	

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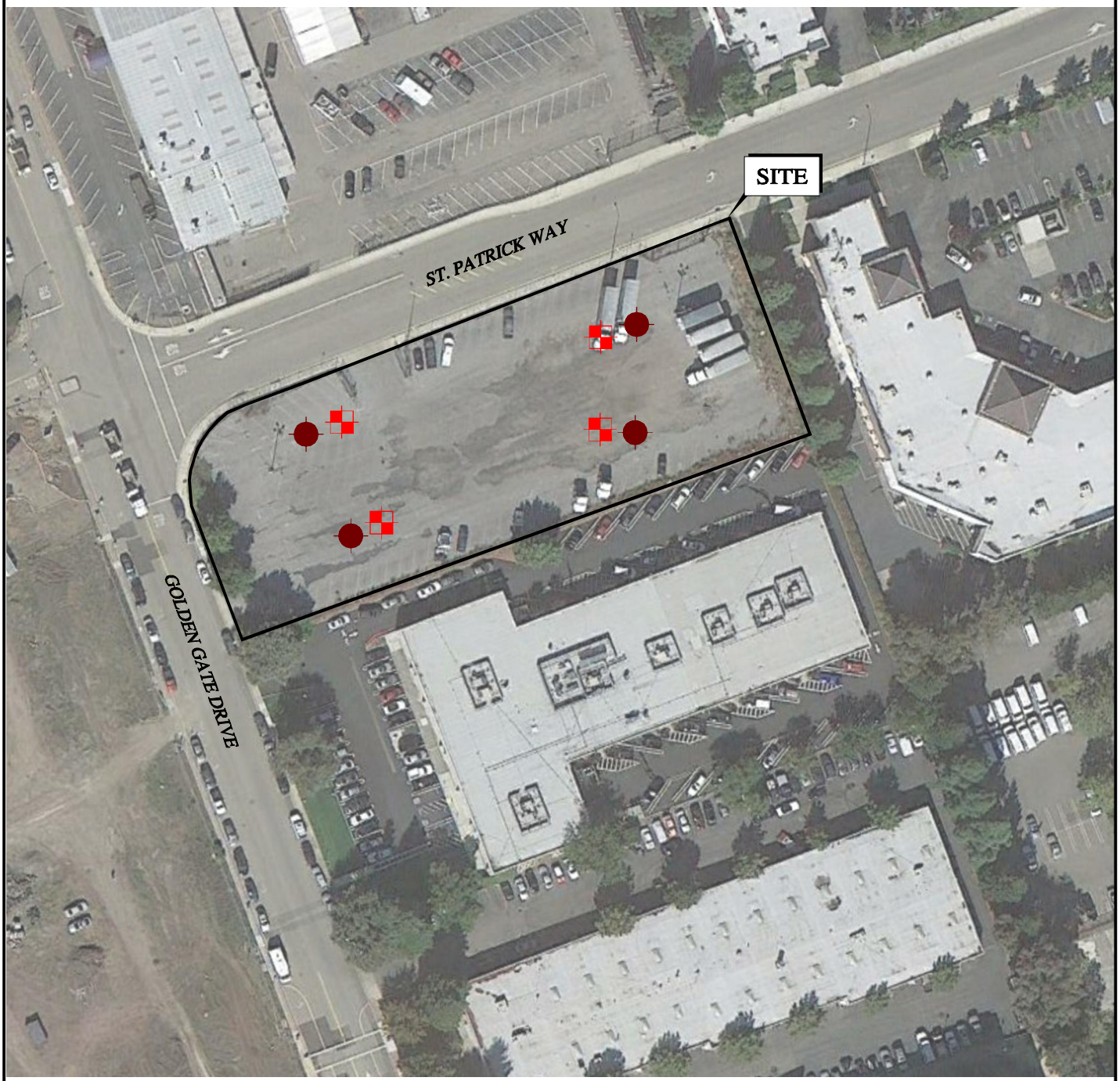

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0 METERS 50

EXPLANATION

- APPROXIMATE LOCATION OF PROPOSED SOIL BORING
- APPROXIMATE LOCATION OF PROPOSED SOIL VAPOR SAMPLE

BASE MAP SOURCE: GOOGLE EARTH PRO, 2012

ENGEO Expect Excellence

SITE PLAN

6707 GOLDEN GATE DRIVE

DUBLIN, CALIFORNIA

PROJECT NO.: 9432.000.000		FIGURE NO. 2
SCALE: AS SHOWN		
DRAWN BY: SRP	CHECKED BY: SM	

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ORIGINAL FIGURE PRINTED IN COLOR

HEALTH AND SAFETY PLAN

9432.000.000
January 11, 2013

SITE HEALTH AND SAFETY PLAN

I. PROJECT INFORMATION

Project Number: 9432.000.000	**Date:** January 3, 2013
Project Name: Crown Chevrolet, 6707 Golden Gate Drive	**Client:** The Kingsmill Group, LLC
Contact: Jeff Adams	**Phone:** 925-570-4795
Site Location: Golden Gate Drive adjacent to Saint Patrick Way, Dublin, CA	
Site Description: Open lot across street from inactive auto dealership	

Type of Work:

- ☒ **Soil Borings (environmental)**
- ☒ **Soil Gas Sampling (environmental)**
- ☐ **Piezometer Installation**
- ☐ **Other**:
- ☐ **Monitoring Well Installation**
- ☐ **Domestic/Irrigation Well Installation**
- ☐ **Inclinometer Installation**

Work Activities: Advancement of six direct-push soil borings for groundwater sampling

Site Personnel:

Company:	**Responsibility:**
ENGEO	Environmental field observation and sampling
Vironex	Drilling subcontractor

Project Health and Safety Officer:	**Site Health and Safety Officer:**
Jeff Adams	Scott Johns

II. HAZARD EVALUATION

Physical Hazards

- ☒ **Heat**
- ☐ **Oxygen**
- ☐ **Noise**
- ☒ **Traffic**
- ☐ **Explosion/Fire Hazards**
- ☐ **Excavations/Trenches**
- ☒ **Slip, Trip, Fall**
- ☒ **Underground Hazards**

☒ **Equipment** ☒ **Overhead Hazards**

Expected Chemical Hazards

☐ **Not Applicable**

Chemical Name (CAS)	PEL/TLV (ppm)	IDLH (ppm)	LEL %	Field Criteria
PCE	25	500		See Attached
TCE	25	1000		See Attached

III. PERSONAL PROTECTIVE EQUIPMENT

Level of Protection Equipment

A ☐ **B** ☐ **C** ☐ **D** ☐ **Mod. D** ☒

Personal Protective Equipment

R = Required	*A = As Needed*
__ **Hard Hat**	__ **Safety Glasses**
__ **Safety Boots**	__ **Respirator (Type)**
__ **Safety Vest**	__ **Filter (Type)**
__ **Hearing Protection**	__ **Gloves (Type)** Nitrile
__ **Tyvek Coveralls**	__ **Other**

Field Monitoring Equipment:

Photoionization detector (PID)

Site Control Measures/Exclusion Zones:

Cones/caution tape as necessary

IV. EMERGENCY RESPONSE

Emergency Response Plans:

Stop operations; evaluate conditions, administer first aid; call for emergency personnel; transport injured

Hospital: ValleyCare Medical Center	**Phone:** 925-847-3000
Address: 5555 Las Positas , Pleasanton, California (map attached)	
Fire Department: 911	**Police:** 911

Site Resources:

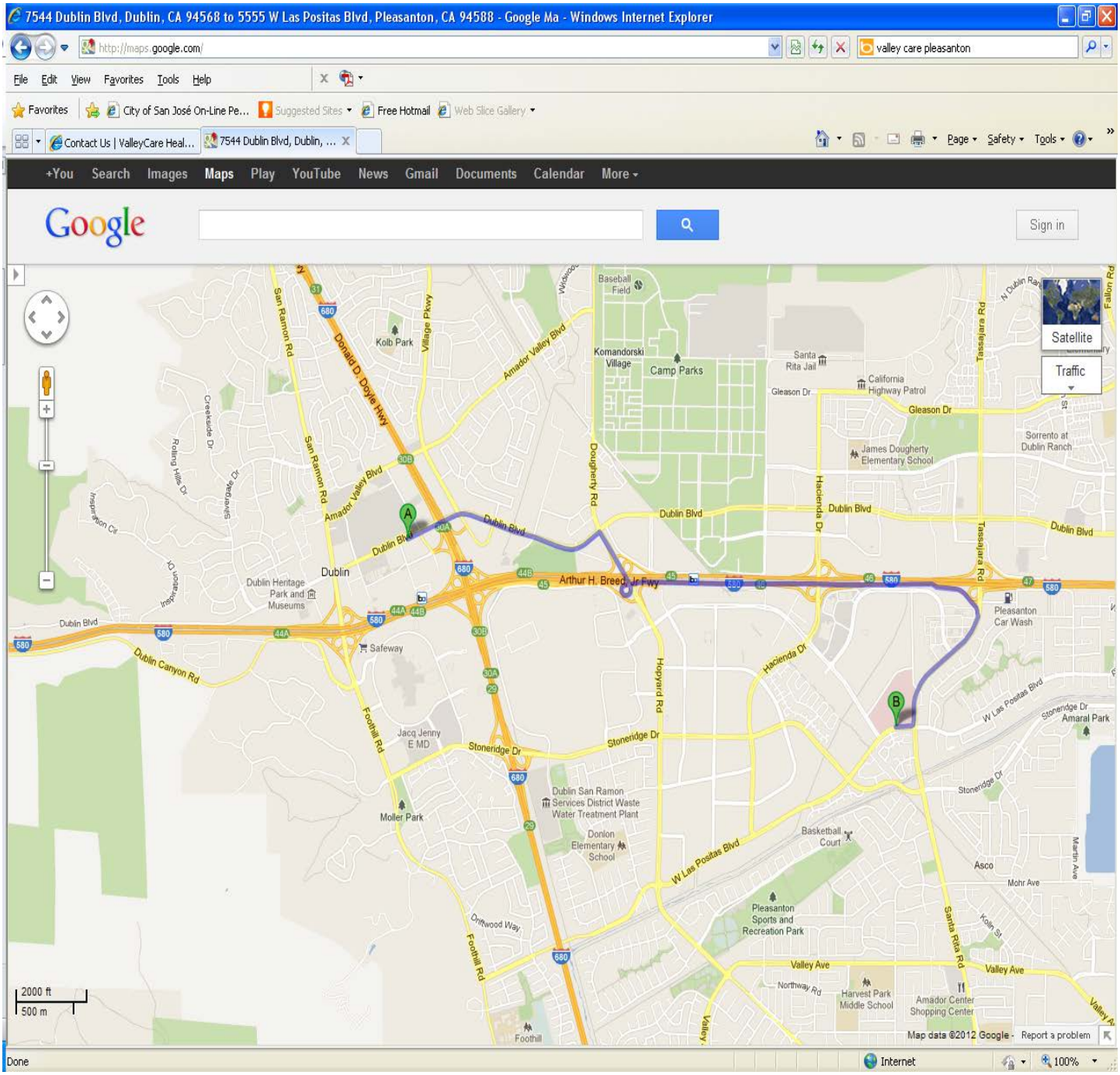
Water Supply	**Yes**	☐	**No**	☒
Telephone	**Yes**	☒	**No**	☐
Radio	**Yes**	☐	**No**	☒
Other:				

Emergency Contact:

Name: Shawn Munger	**Phone:** 916-416-9000
Company: ENGEO	

Comments:

Site Personnel Acknowledgement Signatures/Company:	**Date**


7544 Dublin Blvd, Dublin, CA 94568 to 5555 W Las Positas Blvd, Pleasanton, CA 94588 - Google Ma - Windows Internet Explorer
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Favorites
City of San José On-Line Pe...
Suggested Sites
Free Hotmail
Web Slice Gallery
Contact Us | ValleyCare Heal...
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Google
Sign in
Satellite
Traffic
Dublin
Arthur H. Breed, Jr Fwy
Dublin Blvd
Amador Valley Blvd
San Ramon Rd
Donald D. Doyle Hwy
Village Pkwy
Kolb Park
Komandorski Village
Camp Parks
Baseball Field
Santa Rita Jail
California Highway Patrol
Gleason Dr
James Dougherty Elementary School
Sorrento at Dublin Ranch
Dougherty Rd
Hacienda Dr
Tassajara Rd
Pleasanton Car Wash
Dublin Heritage Park and Museums
Safeway
Dublin Canyon Rd
Foothill Rd
Jacq Jenny E MD
Stoneridge Dr
Hopyard Rd
Moller Park
Dublin San Ramon Services District Waste Water Treatment Plant
Donlon Elementary School
W Las Positas Blvd
Basketball Court
Amaral Park
Asco
Mohr Ave
Pleasanton Sports and Recreation Park
Driftwood Way
Valley Ave
Northway Rd
Harvest Park Middle School
Amador Center Shopping Center
Santa Rita Rd
Foothill
2000 ft
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Map data ©2012 Google - Report a problem
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TABLE 1

Data Gap Analysis

TABLE 1
SUMMARY OF DATA GAPS AND PROPOSED INVESTIGATION
CROWN CHEVROLET - SOUTH PARCEL
DUBLIN, CALIFORNIA

Item	Data Gap	Proposed Investigation	Rationale	Analysis
1	Determine the lateral extent of soil gas impact (if any) within the Study Area.	Install four temporary soil gas probes at approximately 5 feet below the ground surface within the Study Area.	Previous soil gas sampling has mostly confined to the northwest quadrant of the Study Area. Although low-level cocncetrations of PCE were detected (below respective screening levels) inpacts may be present in locations not previously assessed.	*Soil gas*: VOCs, TPH-g, and naphthalene by EPA Method TO-15.
2	Determine if surface soil has been impacted by historic agricultural activities.	Collect one soil sample from each of four soil borings to be advanced within the Study Area. Samples will be collected from an approximate depth of 3 to 9 inches below the ground surface. Borings will be advanced near each of the four soil sample sample wells.	Minimal soil sampling has been performed to date within the Study Area. Historic agricutural activities at or near the Study Area may have involved the use of recalcitrant organochlorine pesticides and/or arsenical herbicides.	*Soil*: Organochlorine pesticides by EPA Method 8081; organochlorine herbicides by EPA Method 8151; total lead and arsenic by EPA Method 6010.
3	Determine if subsurface soil has been impacted by activities associated with retail automobile sales.	Collect three soil samples from each of four soil borings to be advanced within the Study Area corresponding to depths of 2, 5, and 9 feet below the ground surface. Borings will be advanced near each of the four soil sample sample wells.	Minimal soil sampling has been performed to date within the Study Area. Historic automotive retail sales activity may have involved the use of VOCs.	*Soil:* VOCs by EPA Method 8260 (soil samples to be collected using field preservation in accordance with EPA Method 5035) and CAM-17 Metals by EPA Methods 7471 and 6010.

Abbreviations
bgs = below ground surface
EPA = U.S. Environmental Protection Agency
PCE = tetrachloroethene
TPHg = total petroleum hydrocarbons quantified as gasoline
VOCs = volatile organic compounds

January 16, 2013

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

PERJURY STATEMENT

"I declare, that to the best of my knowledge at the present time, the information and/or recommendations contained in the attached document are true and correct."

Submitted by Responsible Party:

Marshall Torre

Mr. Marshall Torre
The Kingsmill Group, LLC
4900 Hopyard Road, Suite 100
Pleasanton, CA 94588