Project No.
9432.000.000

October 16, 2012

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

GROUNDWATER INVESTIGATION WORK PLAN

Dear Ms. Roe:

ENGEO is pleased to present this groundwater investigation work plan for the subject property ("Property"), located at 7544 Dublin Boulevard and 6707 Golden Gate Drive in Dublin, California (Figure 1). We have prepared this work plan based on the consulting team's recent discussions with you regarding the Property owner's request to further explore potential upgradient sources for a chlorinated solvent plume that extends across the northern portion of the Property. The plume, consisting primarily of tetrachloroethene (PCE), exhibits maximum on-site concentrations at the western Property border, suggesting a source or origin located off-site, to the west of the Property.

BACKGROUND

The Property, consisting of two parcels measuring a total of 6.33 acres in area, 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 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.

As presented 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. 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. A preliminary site conceptual model is presented in Table 1 of the referenced August 2012 AMEC work plan.

Specifically, this study is focused on further assessment of chlorinated solvent plume conditions upgradient from the Property.

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:

- *Upgradient delineation of PCE plume* – The recent site investigation performed by AMEC, combined with data obtained in prior investigations by Basics Environmental (2009), Ninyo & Moore (2011), and AMEC (2011), identified the presence of a chlorinated solvent plume extending across the northern portion of the Property. Based on the collected data, the highest detected PCE concentrations are present at the western Property boundary, indicating that the plume is likely emanating from an off-site source(s) located to the west of the Property. A sanitary sewer extends in a north/south direction through the middle of Golden Gate Drive, and has been identified as a potential source/origin of the plume. Borings will be situated within Golden Gate Drive to the west of the sewer line in the locations depicted on Figure 2 to assess if the source of PCE in groundwater is west or east of the sewer line. If PCE is detected in the borings at concentrations similar to those detected during AMEC's 2012 investigation, the source may be upgradient of the sewer line; if PCE is not detected or is detected at significantly lower concentrations than at the western Property boundary, the source of PCE to groundwater may be the sewer line.

For convenience, this identified data gap is presented in tabular form in Table 1 with the previous data gaps identified by AMEC and presented in their referenced August 2012 work plan.

PROPOSED SCOPE OF FIELD EXPLORATION

To address the data gap presented above and in Table 1, grab groundwater sampling will be performed. Grab groundwater samples will be collected from first encountered groundwater from up to six borings situated on the west side of Golden Gate Drive, as depicted on Figure 2.

ENGEO has obtained a soil boring permit from Zone 7 Water Agency and an encroachment permit from the City of Dublin. Additionally, ENGEO will mark the proposed boring locations with white paint and contact Underground Service Alert (USA) for utilities clearance. Further, a private utility locator will be used to determine the potential presence of underground utilities at each proposed boring location. Although the specific method for locating underground utilities will be determined at the time of exploration, potential methods include use of a magnetometer or ground penetrating radar (GPR).

We will retain a C-57 licensed drilling contractor to advance the groundwater grab sampling borings using Geoprobe® direct push technology. A dual-tube Geoprobe system will be used. The first five feet of each boring will be advanced using a hand auger. All borings will be logged by an ENGEO engineer/geologist under the supervision of a Professional Engineer based 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.

Soil cuttings will also be screened with a photoionization detector (PID) for volatile organic vapors. If field indications of impacts are noted (e.g., PID readings, odor, staining), soil samples will be collected. Any soil sampling will be conducted in accordance with the August 2012 work plan, Soil samples for analysis of volatile organic compounds (VOCs) and total petroleum hydrocarbons as gasoline (TPH-g) will be collected using a field preservation method in accordance with United States Environmental Protection Agency (USEPA) Method 5035. Upon collection of samples, a sample label will be placed on each container that indicates the sample ID and date and time of collection. The samples will be placed in an ice-cooled chest for delivery under documented chain-of-custody to TestAmerica Laboratories, Inc., a State-accredited laboratory in Pleasanton, California, for analysis.

The groundwater samples will be collected from the depth of the first encountered groundwater, believed to be approximately 15 feet below the ground surface. Following advancement of the boring to the desired sampling depth, temporary polyvinyl chloride (PVC) casing will be placed within the outer drill casing. The PVC will include a five-foot-long, 0.01-inch slotted screen. Once the PVC casing is in place, the outer drill casing will be retracted approximately 5 feet, exposing the PVC casing screening and allowing for the infiltration of groundwater. The depth to the groundwater surface within each respective casing will be measured using a decontaminated electronic water level indicator. Prior to groundwater sample collection, a dedicated, single-use disposable polyethylene (PE) bailer will be used to purge the PVC casing until the groundwater is relatively sediment-free and field parameters, including dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance, have stabilized. The purge water will be transferred into labeled 55-gallon drums to be temporarily stored pending disposal.

Following the completion of purging process for a given sample location, a groundwater sample will be collected using the single-use bailer described above. The groundwater samples will be placed in laboratory-provided glassware preserved with hydrochloric acid (HCl). If a visible reaction between the groundwater sample and the preservative occurs, an unpreserved sample will be collected, and the corresponding allowable hold time will be reduced from 14 days to 7 days. Upon collection of samples, a sample label will be placed on each container that indicates the sample ID and date and time of collection. The samples will be placed in an ice-cooled chest for delivery under documented chain-of-custody to TestAmerica Laboratories, Inc., a State-accredited laboratory in Pleasanton, California, for analysis. Additionally, one field duplicate groundwater sample will be collected from a randomly selected boring at the time of sampling using the methods described above.

The borings will be advanced in accordance with Zone 7 Water Agency protocols and regulations. Further details pertaining to sampling protocols are presented in in Section 4.1.4 of the referenced August 2012 AMEC work plan. 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 as well as groundwater parameters will be recorded in a field sampling log as they are completed during the field exploration.

LABORATORY ANALYTICAL METHODS

The grab groundwater samples (and soil samples as appropriate) will be analyzed for the following target analytes:

- VOCs and TPH-g by USEPA Test Method 8260B.

Additional characterization of waste materials will be performed as described in the Investigation-Derived Waste section below.

EQUIPMENT DECONTAMINATION

All reusable sampling equipment that comes into contact with potentially contaminated soil or water 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 groundwater analysis will be compared to the applicable Environmental Screening Levels (ESLs) established

by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB)[1]. 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 one day. Depending on driller avalability, and pending approval of this work plan, we propose to perform the field exploration during the week of October 22, 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.

We understand that an overall project schedule was prepared and submitted to ACEH in mid-August. The schedule will be updated to include this dates and timeline associated with this specific work plan.

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, REAII
Principal

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

[1] SFRWQCB ESLs, 2008: Tables E-1 and F-1a – Groundwater Screening Levels for Residential Land Use where Groundwater is a Potential Drinking Water Source.

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.

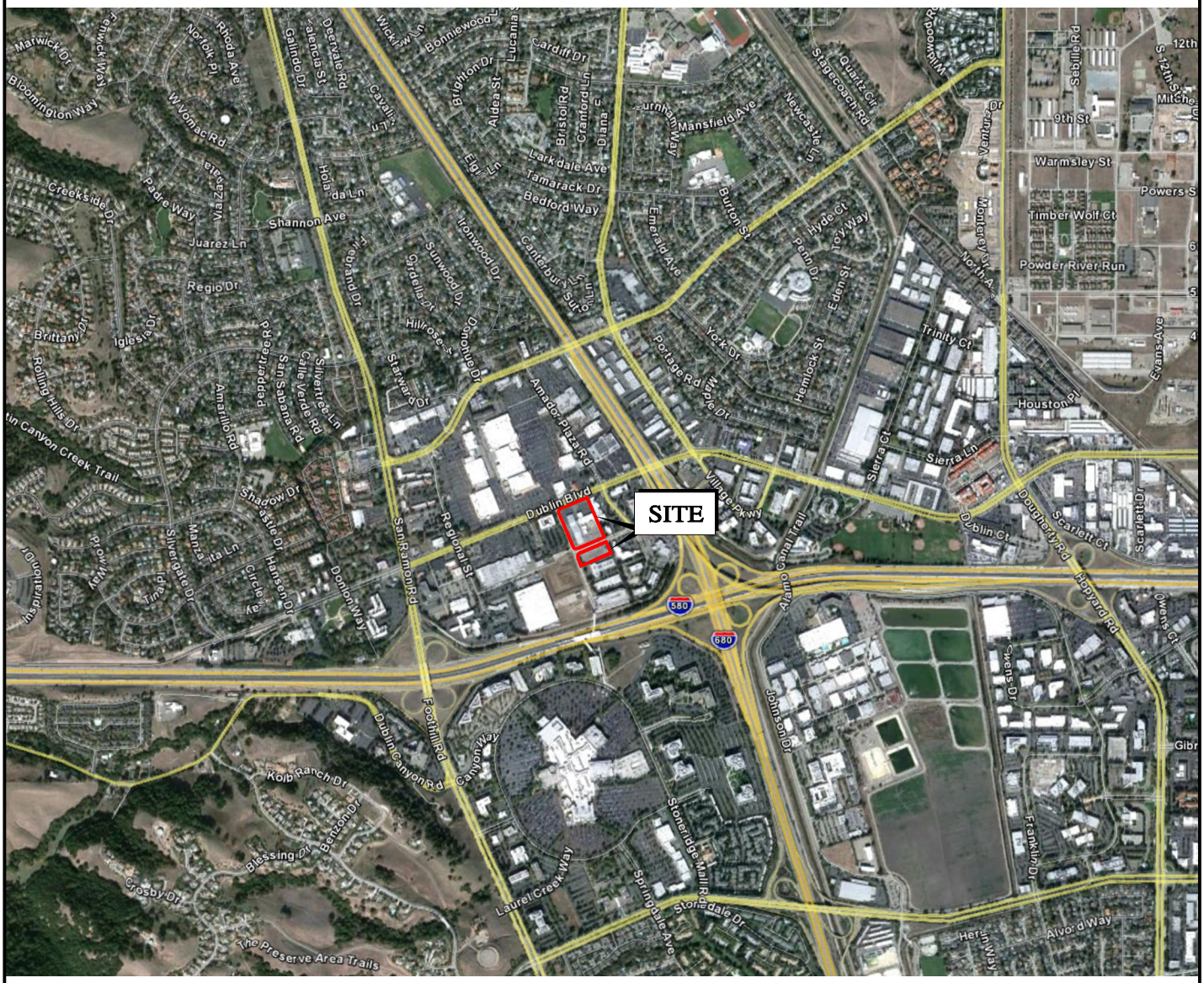
Basics Environmental, Inc., Limited Phase II Environmental Site Sampling Report, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, March 16 2009.

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



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0 FEET 2000

0 METERS 1000

BASE MAP SOURCE: GOOGLE EARTH

ENGEO Expect Excellence

VICINITY MAP

CROWN CHEVROLET CADILLAC ISUZU

DUBLIN, CALIFORNIA

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

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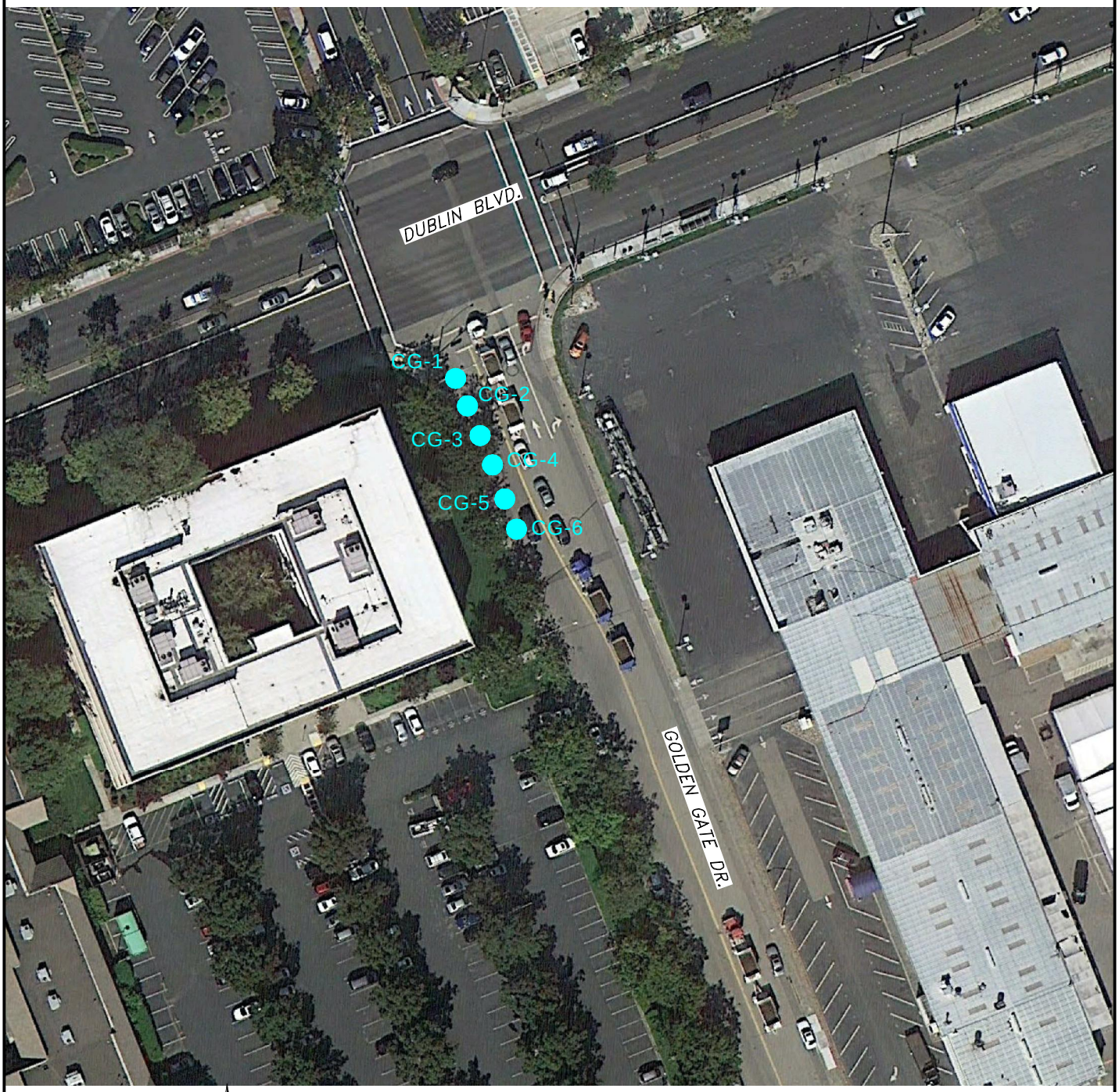

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EXPLANATION

CG-6 APPROXIMATE LOCATION OF GROUNDWATER SAMPLE

BASE MAP SOURCE: GOOGLE EARTH

ENGEO Expect Excellence

SITE PLAN

CROWN CHEVROLET CADILLAC ISUZU

DUBLIN, CALIFORNIA

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

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HEALTH AND SAFETY PLAN

9432.000.000
October 16, 2012

SITE HEALTH AND SAFETY PLAN

I. PROJECT INFORMATION

Project Number: 9432.000.000	**Date:** October 15, 2012
Project Name: Crown Chevrolet, 7544 Dublin Blvd	**Client:** The Kingsmill Group, LLC
Contact: Jeff Adams	**Phone:** 925-570-4795
Site Location: Golden Gate Drive adjacent to 7544 Dublin Blvd, Dublin, CA	
Site Description: Existing public street adjacent to inactive auto dealership	

Type of Work:

- ☒ **Soil Borings (environmental)**
- ☒ **Groundwater 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
AMEC	Environmental field observation

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***
R **Hard Hat**	A **Safety Glasses**
R **Safety Boots**	__ **Respirator (Type)**
R **Safety Vest**	__ **Filter (Type)**
A **Hearing Protection**	A **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:

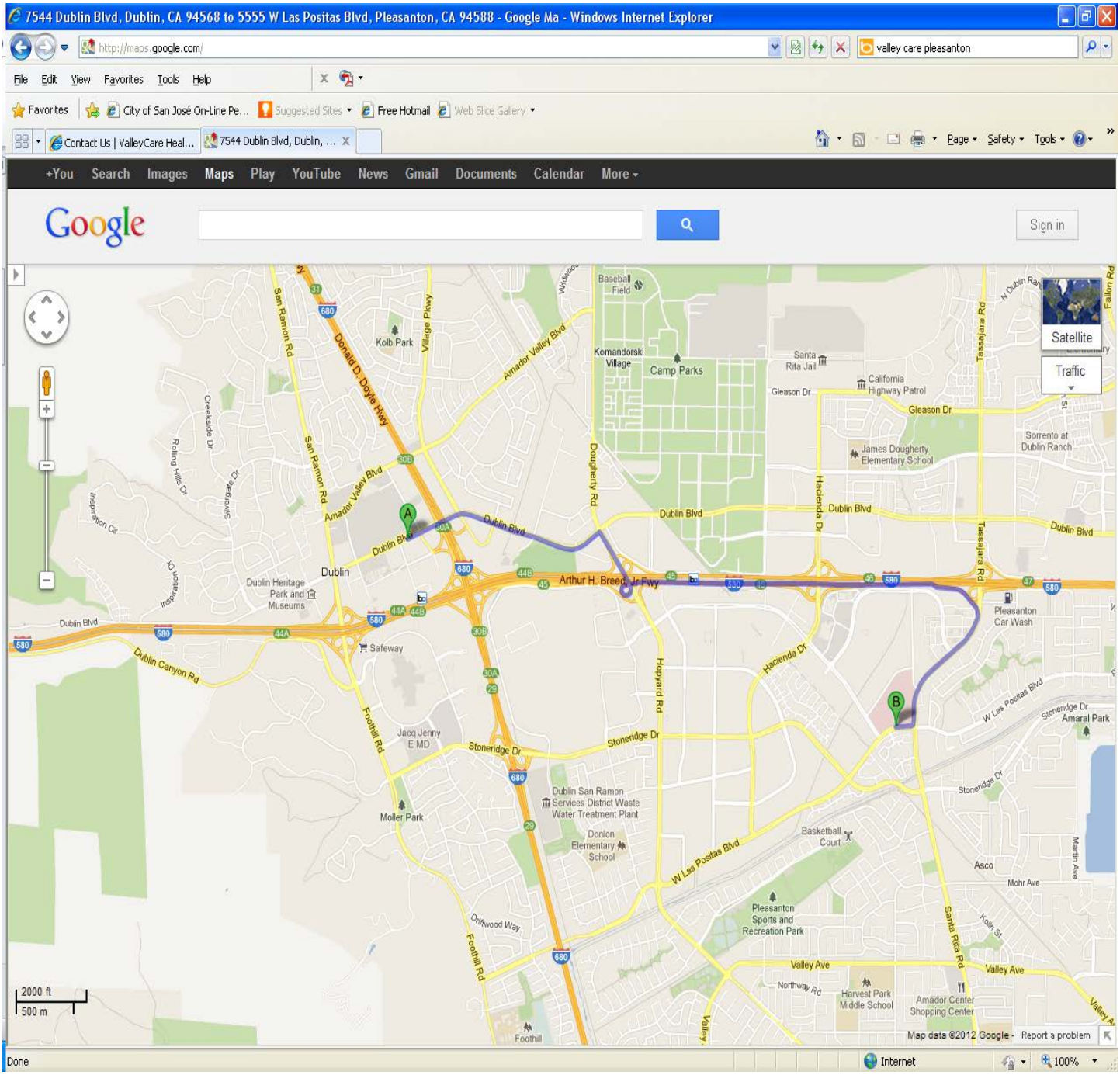
Water Supply	**Yes**	☐	**No**	☒
Telephone	**Yes**	☒	**No**	☐
Radio	**Yes**	☐	**No**	☒
Other:				

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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Google
Sign in
Satellite
Traffic
Dublin
Dublin Blvd
Arthur H. Breed Jr Fwy
Amador Valley Blvd
San Ramon Rd
Donald D. Doyle Hwy
Village Pkwy
Kolb Park
Baseball Field
Komandorski Village
Camp Parks
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
W Las Positas Blvd
Amaral Park
Moller Park
Dublin San Ramon Services District Waste Water Treatment Plant
Donlon Elementary School
Basketball Court
Asco
Mohr Ave
Pleasanton Sports and Recreation Park
Ormwood Way
Valley Ave
Northway Rd
Harvest Park Middle School
Amador Center Shopping Center
Santa Rita Rd
Koll St
2000 ft
500 m
Map data ©2012 Google
Report a problem
Done
Internet
100%

TABLE I

HYDROCARBON VAPOR CRITERIA AND RESPONSES

Hydrocarbon Concentrations	Response
<30 ppmv	No special action.
30 ppmv - 300 ppmv	Half-mask Organic Vapor (OV) respirators worn by all in work area.
>300 ppmv	Discontinue work activities and evacuate area. Evaluate measures to subdue excessive vapor levels.

* in parts-per-million by volume within breathing zone, measured by photoionization detector equipped with 10.04 eV bulb.

TABLE

Table 1 - Data Gap Analysis

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

Item	Data Gap	Proposed Investigation	Rationale	Analysis
1	Refine groundwater contours beneath Building A. Collect data relevant to the potential for biodegradation.	Advance two borings to approximately 20 feet bgs within Building A for collection of soil and grab groundwater samples.[1] Soil samples will be collected at two depths in the vadose zone. Soil samples will be collected based on field indications of impacts (PID readings, odor, staining) or, in the absence of field indications of impacts, at 5 and 10 feet bgs.	The highest concentrations of PCE in groundwater were detected at boring NM-B-32, just north of Building A. One boring will be advanced approximately 15 feet from the northern building wall to provide data close to the highest concentration area. A second boring will be advanced approximately halfway between the first boring and existing boring NM-B-31 to provide additional spatial data for contouring purposes. These borings will be part of a transect in the highest concentration area.	*Groundwater:* VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance. *Soil:* VOCs by EPA Method 8260 (soil samples to be collected using field preservation in accordance with EPA Method 5035).
2	Confirm shallow groundwater flow direction. Evaluate VOC concentration trends over time. Collect data relevant to the potential for biodegradation.	Install seven shallow groundwater monitoring wells to approximately 15 to 20 feet bgs in northern portion of site (monitoring well locations may be adjusted pending results of grab groundwater samples). • Three of these wells will be pre-pack wells installed using direct push technology, and a grab groundwater sample will be collected from these borings prior to installation of the well. • Four of these wells will be part of nested, multi-port wells that will also allow collection of chemical and water level data from deeper groundwater (see Item 6, below). • Soil samples will be collected only if there are field indications of impacts (with the exception of the well planned in the highest PCE concentration area, where soil samples will be collected at two depths in the vadose zone based on field indications of impacts (PID readings, odor, staining) or, in the absence of field indications of impacts, at 5 and 10 feet bgs.). • Groundwater monitoring frequency to be determined.	To evaluate groundwater flow direction, a minimum of three wells is needed; the seven proposed wells will provide for a more robust analysis. It is proposed that the wells be spaced throughout the northern portion of the north parcel to evaluate concentration trends while also evaluating groundwater flow direction. • In the west, one well is proposed at the western property boundary at the location where PCE concentrations are highest (the location may be adjusted based on the results of grab groundwater samples to be collected nearby). • A second well is proposed in the area with the highest concentrations of PCE in groundwater, north of Building A. • Three wells are proposed in a north-south line through the middle of the northern parking lot to evaluate spatial variations in PCE and TCE concentrations. • A sixth well is proposed just southwest (downgradent) of the former sump, where VOCs have been detected in groundwater. • A seventh well is proposed at the eastern property boundary; its distance from the northern property boundary is based on where existing data indicate the highest concentrations of PCE are present.	*Groundwater:* VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance. Soil: VOCs by EPA Method 8260 (soil samples to be collected using field preservation in accordance with EPA Method 5035).
3	Evaluate groundwater impacts along western property boundary (presumed upgradient boundary).	Advance a transect of three borings to approximately 20 feet bgs at the western property boundary for collection of soil and grab groundwater samples (one will be converted to a monitoring well; see Item 2, above). Soil samples will be collected at two depths in the vadose zone based on field indications of impacts (PID readings, odor, staining) or, in the absence of field indications of impacts, at 5 and 10 feet bgs.	PCE was detected in boring NM-B-34, at the western property boundary. A transect of three additional borings is proposed at an approximately 15-foot spacing to the south to provide more data regarding PCE at the upgradient property boundary. Data from these borings may be used to modify the location of one of the monitoring wells.	*Groundwater:* VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance. *Soil:* VOCs by EPA Method 8260 (soil samples to be collected using field preservation in accordance with EPA Method 5035).
4	Evaluate deeper lithology at the site.	Advance two direct push borings to approximately 75 feet bgs (one downgradient of the highest concentration area and one upgradient). Soil samples will be collected only if there are field indications of impacts. Soil lithology will be logged.	One boring is proposed adjacent to the location of the westernmost nested well, and one is proposed between the two nested wells in the central portion of the northern parking lot (see Item 6, below). No borings are proposed in the highest concentration area, as a precaution to avoid potential cross-contamination.	None
5	Evaluate the possible presence of impacts to deeper groundwater. Evaluate deeper groundwater concentration trends over time. Obtain data regarding the vertical groundwater gradient. Obtain more lithological data below 20 feet bgs.	Install four continuous multichannel tubing (CMT) groundwater monitoring wells (aka multi-port wells) to approximately 65 feet bgs in the northern parking lot with ports at three depths (monitoring well locations may be adjusted pending results of shallow grab groundwater samples; we will discuss any potential changes with ACEH before proceeding). Groundwater monitoring frequency to be determined. Soil samples will be collected only if there are field indications of impacts. Soil lithology will be logged. However, information regarding the moisture content of soil may not be reliable using sonic drilling technology (two borings will be logged using direct push technology; see Item 4, above).	One well is proposed at the western (upgradient) property boundary to confirm that there are no deeper groundwater impacts from upgradient. Two wells are proposed near the center of the northern parking lot to evaluate potential impacts in an area where deeper impacts, if any, would most likely to be found. One well is proposed at the eastern (downgradient) property boundary to confirm that there are no impacts extending off-site. Port depths will be chosen based on the locations of saturated soils (as logged in direct push borings; see Item 4, above), but are expected at approximately 15, 45, and 60 feet bgs.	*Groundwater:* VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance.

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

Item	Data Gap	Proposed Investigation	Rationale	Analysis
6	Evaluate possible off-site migration of impacted soil vapor in the downgradient direction (east). Evaluate concentration trends over time.	Install 4 temporary nested soil vapor probes at approximately 4 and 8 feet bgs along the eastern property boundary. Based on the results of the sampling, two sets of nested probes will be converted to vapor monitoring wells to allow for evaluation of VOC concentration trends over time.	Available data indicate that PCE and TCE are present in soil vapor in the eastern portion of the northern parking lot. Samples are proposed on approximately 50-foot intervals along the eastern property boundary to provide a transect of concentrations through the vapor plume. The depths of 4 and 8 feet bgs are chosen to provide data closest to the source (i.e., groundwater) while avoiding saturated soil, and also provide shallower data to help evaluate potential attenuation within the soil column. Two sets of nested vapor probes will be converted into vapor monitoring wells (by installing well boxes at ground surface); the locations of the permanent wells will be chosen based on the results of samples from the temporary probes.	*Soil vapor* : VOCs by EPA Method TO-15.
7	Evaluate potential for off-site migration of impacted groundwater in the downgradient direction (east).	Advance two borings to approximately 20 feet bgs in the parking lot of the property east of the Crown site for collection of grab groundwater samples.	Two borings are proposed off-site, on the property east of the Crown site, just east of the building in the expected area of highest potential VOC concentrations.	*Groundwater:* VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance.
8	Evaluate VOC concentrations just north of the highest concentration area.	Advance two borings to approximately 20 feet bgs north of Building A for collection of soil and grab groundwater samples. Soil samples will be collected at two depths in the vadose zone. Soil samples will be collected based on field indications of impacts (PID readings, odor, staining) or, in the absence of field indications of impacts, at 5 and 10 feet bgs.	The highest concentrations of PCE in groundwater were detected at boring NM-B-32, just north of Building A. The nearest available data to the north are approximately 75 feet away. One of the borings will be advanced approximately 20 feet north of NM-B-32 to provide data close to the highest concentration area. A second boring will be advanced approximately halfway between the first boring and former boring NM-B-33 to provide additional spatial data for contouring purposes. These borings will be part of a transect in the highest concentration area.	*Groundwater:* VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance. *Soil:* VOCs by EPA Method 8260 (soil samples to be collected using field preservation in accordance with EPA Method 5035).
9	Evaluate VOC concentrations in soil vapor in the south parcel of the site.	Install four temporary soil vapor probes at approximately 5 feet bgs around boring SV-25, where PCE was detected in soil vapor at a low concentration.	PCE was detected in soil vapor sample SV-25 in the southern parcel, although was not detected in groundwater in that area. Three probes will be installed approximately 30 feet from of boring SV-25 to attempt to delineate the extent of impacts. A fourth probe is proposed west of the original sample, close to the property boundary and the location of mapped utility lines, which may be a potential conduit, to evaluate potential impacts from the west.	*Soil vapor* : VOCs by EPA Method TO-15.
10	Obtain additional information regarding subsurface structures and utilities to further evaluate migration pathways and sources.	Ground penetrating radar (GPR) and other utility locating methodologies will be used, as appropriate, to further evaluate the presence of unknown utilities and structures at the site.	Utilities have been identified at the site that include an on-site sewer lateral and drain line, and shallow water, electric, and gas lines. Given the current understanding of the distribution of PCE in groundwater at the site, it is possible that other subsurface utilities, and specifically sewer laterals, exist that may act as a source or migration pathway for distribution of VOCs in the subsurface.	NA
11	Perform a formal well survey to identify water-producing wells.	A formal well survey will be performed to identify water-producing, monitoring, and cathodic protection wells. Data will be obtained regarding nearby, permitted wells from the California Department of Water Resources and Zone 7 Water Agency (Item 11 on Table 2).	If groundwater downgradient of the site is being used for supply purposes, it is possible that VOCs related to the site could be impacting groundwater.	NA
12	Perform a formal well survey to identify water-producing wells.	Advance up to six borings to approximately 15 to 20 feet bgs in the west portion of Golden Gate Drive for collection of grab groundwater samples. Soil samples will be collected based on field indications of impacts (PID readings, odor, staining).	To further assess potnetial upgradient sources of chlorinated solvent plume.	*Groundwater:* VOCs by EPA Method 8260, dissolved oxygen, oxidation/reduction potential, temperature, pH, and specific conductance. *Soil:* VOCs by EPA Method 8260 (soil samples to be collected using field preservation in accordance with EPA Method 5035).

Notes
1. Borings for soil/grab groundwater collection may be terminated at 15 feet bgs if groundwater is encountered and grab groundwater sample collection is possible at that depth. Soil lithology will be logged at all borings.

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

October 16, 2012

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
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