

By Alameda County Environmental Health at 10:38 am, Jul 12, 2013



## Via Electronic Mail

July 2, 2013

Ms. Dilan Roe Alameda County Environmental Health 1131 Harbor Bay Parkway Alameda, California 94502

Re: Work Plan for Additional Investigation for Park Avenue Cleaners at 7100-7120 Dublin Boulevard, Dublin, Alameda County, California ACEH Case No. RO3113

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Dear Ms. Roe:

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.

Sincerely,

SHELTER BAY RETAIL GROUP

As authorized agent for Ready Family Partnership, L. P.

Sharlene A. Hassler FMA, RPA

Property Manager

Via Email

July 2, 2013

Ms. Dilan Roe Alameda County Environmental Health 1131 Harbor Bay Parkway Alameda, California 94502

Re: Work Plan for Additional Investigation for Park Avenue Cleaners at 7100-7120 Dublin Boulevard, Dublin, Alameda County, California ACEH Case No. RO3113

Dear Ms. Roe:

Iris Environmental is submitting this *Work Plan for Additional Investigation* (Work Plan) on behalf of the Ready Family Partnership, L.P. for the Park Avenue Cleaners property located at 7104 Dublin Boulevard in Dublin, California (the "Site"). This Work Plan was prepared in response to our teleconference call with Alameda County Environmental Health's (ACEH) letter on May 30, 2013 requesting that the Site be enrolled into a voluntary cleanup program with ACEH oversight. Background information in this Work Plan is based on information presented in Basics Environmental's (Basics) *Limited Phase II Environmental Site Sampling Report* (Phase II Report), dated November 9, 2012 and Basics Phase I Environmental Site Assessment (Phase I ESA), dated July 19, 2012. This Work Plan is focused on investigation of volatile organic compounds (VOCs) associated with current and historical dry cleaning machines at the Site.

#### **BACKGROUND**

The Site is part of a commercial retail shopping center that is developed with three one-story multi-tenant commercial buildings, associated parking and landscaped areas. The entire complex is referred to as the "Dublin Village Center" (7100-7120 Dublin Boulevard) and was constructed in 1976. Prior to that time, the property was undeveloped.

Park Avenue Cleaners operated a laundry and dry cleaning facility at 7102B Dublin Boulevard from 1990 to 2004. The approximate location of the former dry cleaner is presented in Figure 2; the previous Basics reports incorrectly depict the former dry cleaning machine in the eastern adjoining retail space at 7102 Dublin Boulevard. The former dry cleaner unit at 7102B Dublin Boulevard utilized tetrachloroethene (PCE) in the former dry cleaning machine. In 2004, Park Avenue Cleaners relocated to the adjacent retail space at 7104 Dublin Boulevard and has occupied the subject unit to the present.

Two dry cleaning machines are located within the central portion of the suite; one of which (the southernmost) is the former dry cleaning machine from the adjacent unit at 7102B Dublin Boulevard relocated to the current suite. The northernmost dry cleaning machine reportedly is a petroleum-based system purchased circa 2005/2006.

Prior to the dry cleaning use, the unit at 7104 Dublin Boulevard was previously occupied by a Kragen Auto Parts store from 1976 to 2004 that formerly used an above-ground storage tank (AST) containing used motor oil. The former Kragen Auto Parts store also used small quantities of antifreeze, new motor oil in plastic bottles, sulfuric acid from used car batteries, methanol from windshield wiper fluid in plastic bottles and Freon in cylinders.

In October 2012, Basics performed a limited subsurface investigation (LSI) for the Dublin Village Center in response to the findings of Basic's *Phase I Environmental Site Assessment* (Phase I ESA), dated July 19, 2012. The LSI included advancing ten (10) borings (B1 to B5, SG1 to SG5) to collect a total of three (3) soil, two (2) grabgroundwater and five (5) soil vapor samples. Key findings from the LSI included:

- Concentrations of PCE were detected in the two of the three soil samples analyzed at concentrations of 0.011 milligrams per kilogram (mg/kg) (B2 @4.5 ft) and 0.12 mg/kg (B3 @ 4.5 ft).
- PCE was not detected in the analyzed grab-groundwater samples; however, cis-1,2-dichloroethene (DCE), a degradation product of PCE, was detected in one (1) grab-groundwater sample (B5) at a concentration of 220 micrograms per liter (μg/L), which is above the California EPA Department of Health Services (DHS) Primary Maximum Contaminant Level (MCL) established at 6.0 μg/L.
- In addition, PCE was detected in the analyzed soil vapor samples at concentrations of 130 micrograms per cubic meter (μg/m³) (SG1), 150 μg/m³ (SG2 and SG5), 3,200 μg/m³ (SG4), and 54,000 μg/m³ (SG3). The detected concentrations of PCE in the soil vapor samples at SG3 and SG4 exceed the commercial land use the Environmental Screening Level (ESL) promulgated by the San Francisco Bay Regional Water Quality Control Board (Regional Board) and California Department of Toxics Substances Control (DTSC) California Human Heath Screening Level (CHHSL).
- Concentrations of total petroleum hydrocarbons (TPH) as Stoddard solvent (TPH-ss) and gasoline (TPH-g) were not detected in the analyzed samples. Only low-level concentrations of bunker oil (TPH-bo) and motor oil (TPH-mo) were detected in the two analyzed grab-groundwater samples (270 to 310 µg/L) above the San Francisco Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL) of 100 µg/L, where groundwater is considered a potential drinking source; however, the grab-groundwater samples analyzed for extractable TPH were not prepared using a silica gel clean-up method (SGCM) to remove polar non-petroleum hydrocarbons. In addition, the low-levels of diesel (TPH-d) and kerosene (TPH-k) at 1.1 mg/kg to 2.1 mg/kg detected in soil (below the ESL of 83 mg/kg) were also not prepared using a SGCM. Based on this information, Basic's noted that no evidence of TPH

contamination was detected with the former use of the Kragen Auto Parts store or other non-dry cleaning operation uses. Iris Environmental notes that the low-level concentrations of heavy-end TPH detected in the analyzed grab-groundwater samples and TPH-d/k in the soil samples are likely not indicative of whether a petroleum release occurred because the samples were not prepared using an SGCM prior to analysis. In addition, the heavy-end TPH detected in the grab-groundwater samples may also be associated with sediment interference commonly associated with unfiltered, grab-groundwater samples collected from open boreholes and not from properly developed groundwater monitoring wells. Based on this information, this Work Plan is focused on evaluating VOCs associated with the former and current dry cleaning units.

• Groundwater was encountered during drilling of B4 and B5 between approximately 11.5 and 20 feet below the ground surface (bgs). Groundwater flow is presumed to be to the southeast based upon regional information provided by the Zone 7 Water Agency.

#### SITE CONCEPTUAL MODEL

Based on the initial and limited analytical data, a release of PCE has likely occurred to the subsurface soil and/or groundwater. Additional information appears necessary before an adequate Site conceptual model (SCM) can be performed. Potential data gaps include the following:

- Evaluate the lateral and vertical extent of soil impacts beneath the building/Site;
- Investigation of potential source locations including the current and former dry cleaning machines, storage areas and along sanitary sewer lines;
- Evaluate the degree of groundwater impacts beneath the building and the on-Site lateral extent to locate suitable groundwater monitoring well locations that can be used to provide hydrogeological information (i.e. flow, gradient, seasonal variations) and the potential for off-Site impacts; and,
- Further evaluate the potential for vapor intrusion.

The former dry cleaning tenant space at 7102B Dublin Boulevard is currently vacant and the existing dry cleaning tenant space at 7104 Dublin Boulevard will become vacant in the short term. These vacancies provide an excellent opportunity to investigate the lateral and vertical extent of potential soil impacts and degree of groundwater impacts to assist in the identification of source areas and potentially remediate subsurface soil and groundwater beneath the building.

#### SCOPE OF WORK

Iris Environmental proposes the following scope of work:

1. Perform pre-field activities that include obtaining drilling permits, obtaining sanitary sewer plans, developing a Site Health and Safety Plan (HASP), determining suitable boring locations and clearing boring locations of potential underground utilities.

- 2. Perform a utility line survey (video and line trace) for the sanitary sewer that services the rear of the building for the current and former dry cleaning tenant spaces.
- 3. Advance 27 borings (IE-01 to IE-27) and collect soil, grab-groundwater, soil vapor or sub-slab soil vapor samples to further evaluate:
  - a. primary sources of soil and groundwater contamination in the vicinity of the current/former dry cleaning machines;
  - b. whether there are secondary sources of PCE contamination in the rear of the building or along the sanitary sewer line that services the rear of the building;
  - c. lateral/vertical extent of potential soil impacts beneath the building;
  - d. lateral extent of groundwater impacts on-Site to determine locations for installation of groundwater monitoring wells;
  - e. potential for vapor intrusion.
- 4. Prepare a report documenting the results, which will include a SCM and recommendations; the report may also include a work plan to potentially remediate the subsurface soil and/or groundwater beneath the footprint of the vacant tenant spaces.

#### **Pre-Field Activities**

Iris Environmental proposes to complete the following pre-field activities:

- Obtain and review City and/or County agency records regarding existing sanitary sewer utility line that services the rear of the building.
- Prepare a HASP for the work proposed in accordance with the requirements of the State of California General Industry Safety Order (GISO) 5192 and Title 29 of the Code of Federal Regulations, Section 1910.120 (29 CFR 1910.120). A copy of the HASP will be kept onsite during field activities. The HASP will detail the work to be performed, safety precautions, emergency response procedures, nearest hospital information, and onsite personnel responsible for managing emergency situations.
- Perform a video inspection and utility line trace of the sanitary sewer line that services the former and current dry cleaning units to document visible joints and/or cracks. The locations of some of the borings outlined in the Work Plan may be subject to change, based on the results of the video inspection and line trace.
- Obtain a drilling permit from the Zone 7 Water Agency. We will not begin work until the permit has been secured.
- Mark each proposed boring location in white paint and contact Underground Service Alert (USA) at least 48 hours prior to drilling, as required by law.
- Utilize a private utility locating service prior to conducting the field activities to clear proposed boring locations relative to the presence and/or marked locations of subsurface utilities.

#### **Field Activities**

Iris Environmental proposes to advance up to 27 borings (IE-01 to IE-27) to evaluate current subsurface soil, groundwater, soil vapor and/or sub-slab soil vapor conditions. We propose to advance the borings using truck-mounted and limited-access direct-push technology (DPT) drill rigs to approximate depths of 20 feet bgs, first-encountered groundwater or drilling refusal (whichever is encountered first). An Iris Environmental staff professional under direct supervision by an Iris Environmental Professional Geologist will perform the field activities. The tentative locations and media that are proposed for potential chemical analysis are presented in Figure 4 and Table 1. Exact locations will be based on the outcome of our Site reconnaissance and utility clearance activities.

### Soil Sampling

The borings are proposed to be continuously cored to the extent practical; recovered soil cores will be examined for soil classification purposes and described on borings logs using the Unified Soil Classification System as a guide. Soil samples from various intervals will be field screened using a photoionization detector (PID), with the results recorded on the boring logs.

As presented in Table 1, up to four soil samples per location (where soil sampling is proposed) will be collected from each boring for potential chemical analysis of VOCs. Soil samples are proposed to be collected from approximately 2', 5', 10' and 15' bgs for potential analysis; only the soil samples collected from 2', 5' and 10' will be initially analyzed. The 15-foot soil samples are proposed to be analyzed if the 10-foot samples have detectable concentrations of VOCs. If there are other indications of contamination or elevated PID readings in the other borings, then additional soil samples may be retained for chemical analysis.

### **Grab-Groundwater Sampling**

As presented in Table 1 and Figure 4, Iris Environmental will attempt to collect 19 grab-groundwater samples from the boring locations using one of the following methods:

- A closed-system Hydropunch® sampling tool (or equivalent) will be advanced beyond the drill bit into undisturbed soil. The sampling tool will be retracted thereby exposing the screen and allowing water to flow into the sampling chamber.
- Install temporary, one-inch-diameter schedule 40 PVC casing with 5 feet of slotted-screen into the open borehole approximately 2 to 4 feet below first encountered groundwater.

A peristaltic pump with new polyethylene disposable tubing, single-use disposable bailers or new polyethylene tubing outfitted with a ball-check valve will be used to obtain the grab-groundwater samples. Upon retrieval, the grab-groundwater sample will be transferred directly into appropriate sample containers provided by the analytical laboratory. The grab-groundwater samples will be sealed, labeled and placed in a prechilled ice chest for delivery to the laboratory. A duplicate sample is proposed to be collected from one of the borings (IE-18) for quality assurance. Chain-of-custody

records will be completed and accompany the grab-groundwater sample shipments to the laboratory.

### Soil Vapor Sampling

As presented in Table 1 and Figure 4, soil vapor samples will be collected from step-out borings at eight locations to evaluate soil vapor conditions and potential sources of PCE. A duplicate soil vapor sample will also be collected from one of the samples (IE-26) for quality assurance. Temporary soil vapor probes will be constructed within the complete boreholes at approximately five (5) feet bgs. A temporary soil vapor probe attached to an approximate 8-foot length of inert Teflon tubing containing a stainless-steel vapor inlet filter will be installed at approximate depths of 4.5 feet bgs in each boring. After the tubing is set in place, approximately 6 inches of clean sand will be added above and below the tip of the probe. The borehole annulus will then be filled with approximately one foot of dry granular bentonite and then hydrated bentonite grade.

The soil vapor probes will be allowed to stabilize for a minimum of two hours prior to sample collection. Soil vapor samples will be collected in accordance with DTSC's Advisory, *Active Soil Gas Investigations*, dated April 2012. During purging and sampling, a tracer compound will used within a shroud; subsequent soil vapor samples will be analyzed for this leak check compound to evaluate whether there were significant leaks into the subsurface and/or sample tubing. In addition, a duplicate soil vapor sample (location to be determined during sampling) will be collected for laboratory quality control.

Collected soil vapor samples will be recorded on a chain-of-custody document that shall accompany the samples from the point of collection to the analytical laboratory. After collection and analysis of the soil vapor samples, the sample tubing will be withdrawn from the boreholes, the bentonite hydrated, and the borehole will be restored to match the surrounding surface to the extent practical.

#### Sub-Slab Soil Sampling

To further evaluate the potential for vapor intrusion that may be occurring beneath the Site, Iris Environmental proposes to collect two sub-slab soil vapor samples at IE-11 and IE-18 below the concrete slab approximately three inches within the sub-slab base material. To construct the sub-slab soil vapor wells, we propose to core an approximate 2-inch diameter by ~6-inch thick hole through the concrete surface at each location.

Temporary sub-slab vapor "wells" will be constructed of ¼ inch diameter inert tubing attached to a permeable probe tip that will be covered with sand to the approximate base of the slab. Hydrated granular bentonite will then be used to fill the borehole annular space to just below the top of the concrete foundation. Sufficient water will be added to hydrate the bentonite to ensure proper sealing.

Sub-slab soil vapor sampling will be conducted in general conformance with the Advisory, as previously described. Upon collection, the sub-slab soil vapor samples will be recorded on a chain-of-custody document that will accompany the samples from the point of collection to the analytical laboratory. The sample tubing will then be removed from each location and the remaining annulus will be finished with concrete.

#### **Boring Abandonment and Waste Generation**

The borings will be backfilled and sealed using an approved Zone 7 Water Agency method. Boreholes advanced through concrete or asphaltic pavement will have a surface seal of concrete leveled to grade.

Soil cuttings and decontamination rinsate generated during drilling and sampling activities will be placed into appropriate, sealed and labeled waste containers for temporary onsite storage pending receipt of the analytical results. The wastes will be stored on Site until they are removed to appropriate disposal facilities.

#### **Laboratory Analyses**

A total of up to 84 soil samples, 20 grab-groundwater samples, 9 soil vapor samples and 2 sub-slab vapor samples are proposed to be submitted to State-certified laboratories for chemical analysis by the following United States Environmental Protection Agency (USEPA) Methods:

- Soil: Volatile organic compounds (VOCs) by Method 8260B prepared in accordance with Method 5035
- Groundwater: VOCs by Method 8260B
- Soil vapor and sub-slab vapor samples: VOCs by TO-15

The samples are proposed to be submitted on a standard turn-around time.

#### REPORTING

Upon project completion of the field activities and receipt of the laboratory analyses, Iris Environmental will prepare an electronic report documenting the scope of work conducted and associated findings. The Report will include a description of the Site, summary of investigative methodologies, summary tables of the analytical data, figures, findings, an SCM, conclusions and recommendations, as appropriate. Appendices will also be provided, which will include borings logs, certified analytical reports and a copy of the drilling permit.

Note: The information obtained during this investigation may allow for development of an interim remedial action plan (IRAP) to potentially excavate and remove PCE-impacted soils within the building. The information obtained during this information will be also used to select locations for long-term groundwater monitoring wells and to confirm and qualify the previous low-level detections of heavy-end TPH range compounds that were reported in the initial unfiltered grab-groundwater samples (presented in Basics Phase II Report) that were not prepared using a SGCM. The locations of the future monitoring wells will be selected based on the outcome of the VOC grab-groundwater sample analytical data.

#### **CLOSING**

Iris Environmental would like to commence work in July 2013 and would appreciate an expeditious review and approval of this Work Plan. If you have any questions or

comments regarding the information provided herein, please do not hesitate to contact us at 510.834.4747.

Sincerely,

IRIS ENVIRONMENTAI

Craig Pelletier, PG Senior Manager

Christopher Alger, PG, CEG, ChG Principal Engineering Geologist

Attachments:

## **Figures**

Figure 1 – Site Location Map

Figure 2 – Site Layout

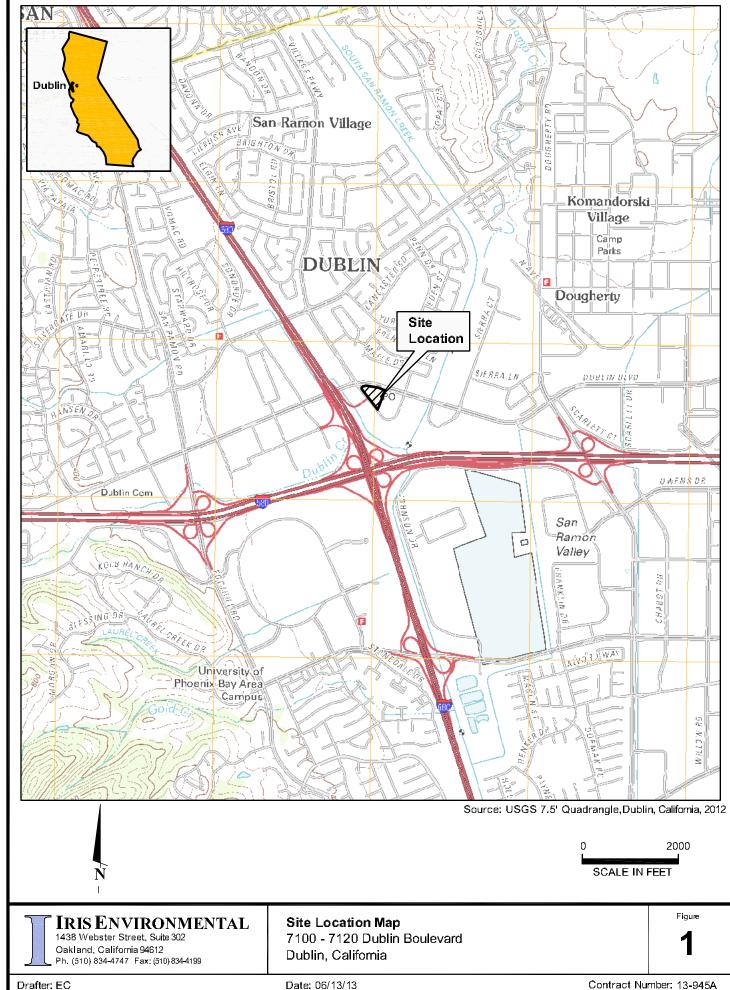
Figure 3 – Previous Boring Locations with PCE and Cis-1,2-DCE Analytical Results

Figure 4 – Proposed Boring Locations

## **Tables**

Table 1 – Proposed Analytical Program

**FIGURES** 



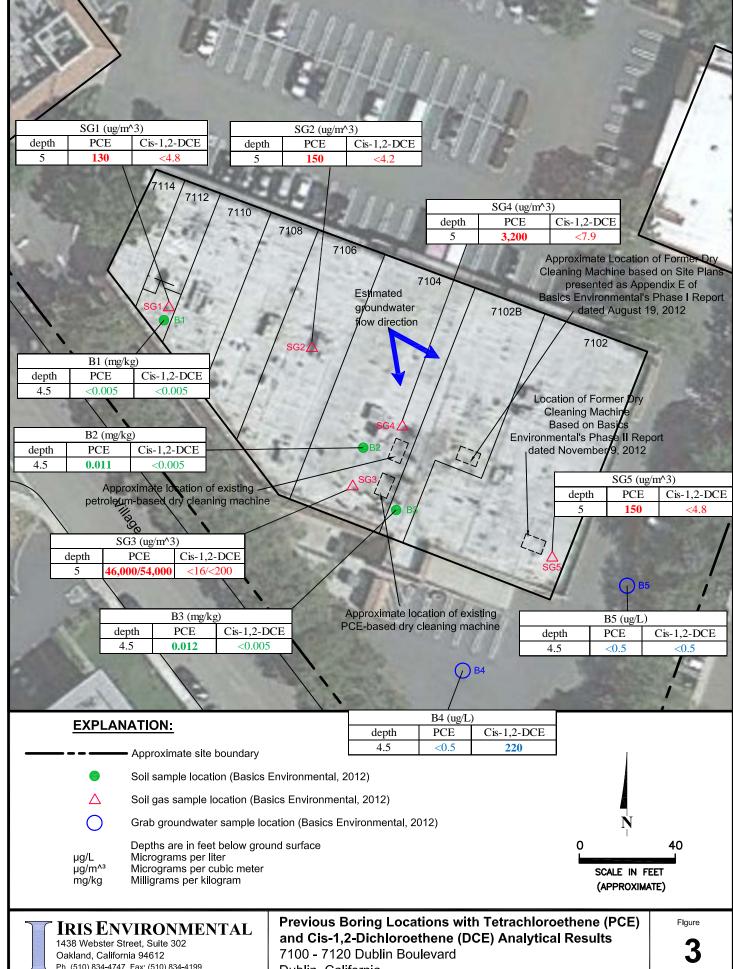
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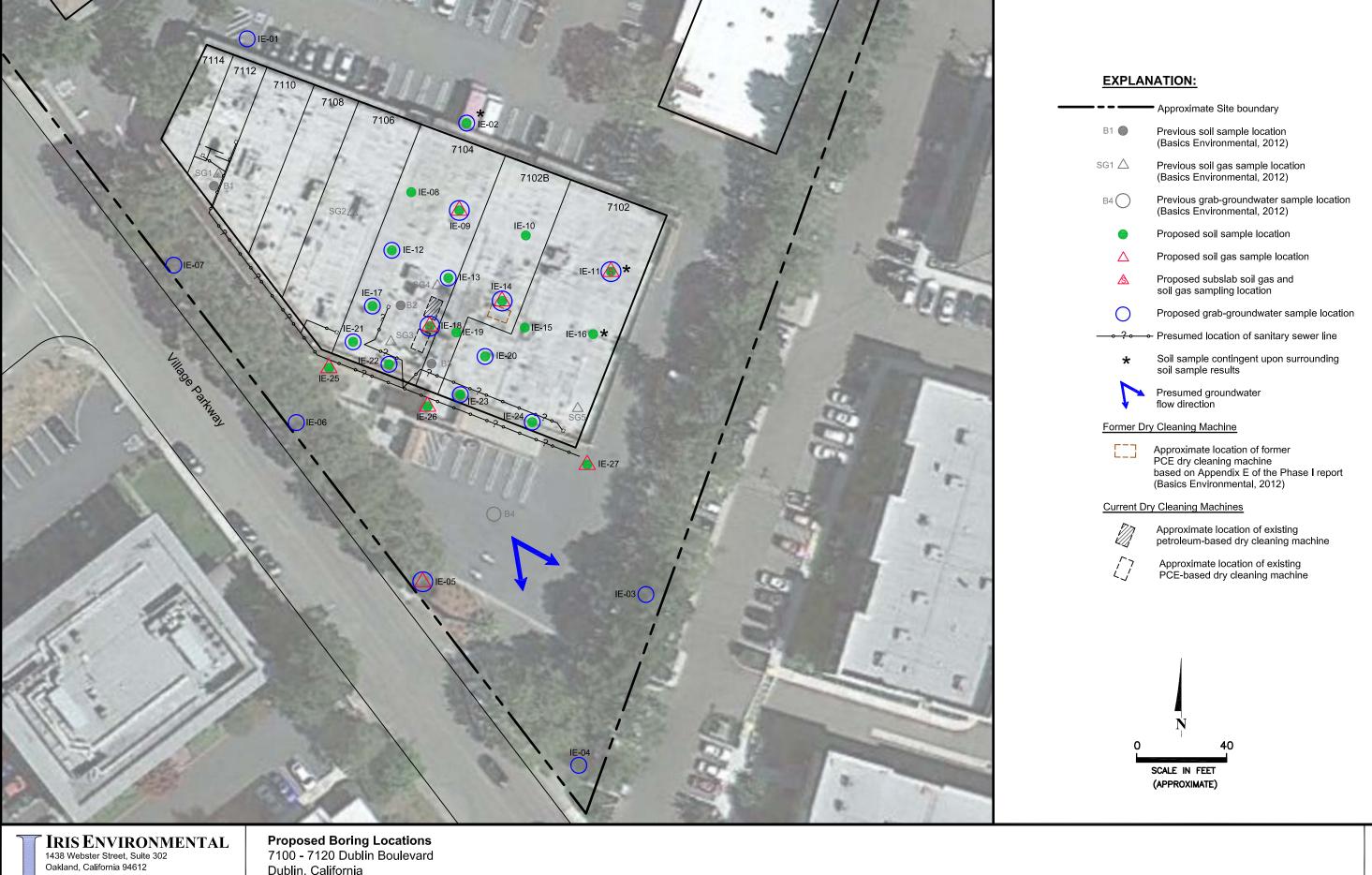


Drafter: EC

Ph. (510) 834-4747 Fax: (510) 834-4199

Dublin, California

Date: 06/18/13 Contract Number: 13-945A



Ph. (510) 834-4747 Fax: (510) 834-4199

Dublin, California

4

Drafter: EC Date: 06/18/13 Contract Number: 13-945A **TABLES** 

# Table 1: Proposed Analytical Program 7100 - 7120 Dublin Boulevard Dublin, California

	Proposed Sample Depths (ft bgs) (1, 2)	- Media	Summary of Analyses <sup>(3)</sup> VOCs
Sample Location			
IE-01	~15	Groundwater	X
	2	Soil	*Hold
	5	Soil	*Hold
IE-02	10	Soil	*Hold
	15	Soil	*Hold
	15	Groundwater	X
IE-03	~15	Groundwater	X
IE-04	~15	Groundwater	X
	5	Soil gas	X
IE-05	15	Groundwater	X
IE-06	15	Groundwater	X
IE-07	15	Groundwater	X
	2	Soil	X
TT 00	5	Soil	X
IE-08	10	Soil	X
	15	Soil	Hold
	2	Soil	X
	5	Soil	X
	5	Soil gas	X
IE-09	10	Soil	X
	15	Soil	Hold
	~15	Groundwater	X
	2	Soil	X
	5	Soil	X
IE-10	10	Soil	X
	15	Soil	Hold
	3-inches below slab	Sub-slab soil gas	X
	2	Soil	*Hold
	5	Soil	*Hold
IE-11	5	Soil gas	X
12.11	10	Soil	*Hold
	15	Soil	*Hold
	~15	Groundwater	X
	2	Soil	X
	5	Soil	X
IE-12	10	Soil	X
12.12	15	Soil	Hold
	~15	Groundwater	X
	2	Soil	X
	5	Soil	X
IE-13	10	Soil	X
11. 13	15	Soil	Hold
	~15	Groundwater	X
	2	Soil	X
	5	Soil	X
	5	Soil gas	X
IE-14	-	5011 546	
IE-14	10	Soil	X
IE-14	10 15	Soil Soil	X Hold

# Table 1: Proposed Analytical Program 7100 - 7120 Dublin Boulevard Dublin, California

Sample Location	Proposed Sample Depths (ft bgs) (1, 2)	- Media	Summary of Analyses <sup>(3)</sup> VOCs
TF 15	5	Soil	X
IE-15	10	Soil	X
•	15	Soil	Hold
	2	Soil	*Hold
	5	Soil	*Hold
IE-16	10	Soil	*Hold
	15	Soil	*Hold
	2	Soil	X
	5	Soil	X
IE-17	10	Soil	X
12 17	15	Soil	Hold
	~15	Groundwater	X
	3-inches below slab	Sub-slab soil gas	X
	2	Soil	X
	5	Soil	X
IE-18	5	Soil gas	X
IL-10	10		X
	15	Soil Soil	Hold
		Groundwater	
IE 10DIID	~15		X X
IE-18DUP	~15	Groundwater	
	2	Soil	X
IE-19	5	Soil	X
	10	Soil	X
	15	Soil	Hold
	2	Soil	X
HE 20	5	Soil	X
IE-20	10	Soil	X
	15	Soil	Hold
	~15	Groundwater	X
	2	Soil	X
	5	Soil	X
IE-21	10	Soil	X
	15	Soil	Hold
	~15	Groundwater	X
	2	Soil	X
	5	Soil	X
IE-22	10	Soil	X
	15	Soil	Hold
	~15	Groundwater	X
	2	Soil	X
•	5	Soil	X
IE-23	10	Soil	X
	15	Soil	Hold
•	~15	Groundwater	X
	2	Soil	X
IE-24	5	Soil	X
	10	Soil	X
	15	Soil	Hold
	~15	Groundwater	X

Table 1: Proposed Analytical Program 7100 - 7120 Dublin Boulevard Dublin, California

			Summary of Analyses <sup>(3)</sup>
Sample Location	Proposed Sample Depths (ft bgs) (1, 2)	Media	VOCs
	2	Soil	X
	5	Soil	X
IE-25	5	Soil gas	X
	10	Soil	X
	15	Soil	Hold
	2	Soil	X
IE-26	5	Soil	X
	5	Soil gas	X
IE-26DUP	5	Soil gas	X
IE 26	10	Soil	X
IE-26	15	Soil	Hold
	2	Soil	X
	5	Soil	X
IE-27	5	Soil gas	X
	10	Soil	X
	15	Soil	Hold

#### Notes:

- (1) Proposed sample depths are expressed in feet below ground surface (ft bgs) unless otherwise noted.
- (2) Groundwater is to be collected from temporary sampling points from first encountered groundwater at each location, which is anticipated to be at approximately 15 feet bgs (~15 ft bgs).
- (3) "VOCs" indicates volatile organic compounds by Method 8260B (soil and groundwater analyses) or USEPA Method TO-15 (soil gas analyses). Soil samples will be collected using TerraCore samplers (or similar) in accordance with EPA prep method 5035 to prevent volatile loss.
- \*Hold Indicates that these soil samples will be placed on hold at the laboratory with analyses pending on the analytical results of surrounding soil samples, i.e., if surrounding soil samples have no detected chemical constituents, then these samples will not be analyzed.
- Hold Indicates that these (15 ft bgs) soil samples will be placed on hold at the laboratory with analyses pending on the analytical results of the more shallow samples at this location, i.e., if surrounding soil samples have no detected chemical constituents, then these samples will not be analyzed.
- Dup Indicates a duplicate sample of the specifically listed media will be collected at this location.