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July 26, 2017

Ms. Dilan Roe  
Chief – Land Water Division  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94501-6577

**Subject: Site Management Plan**  
Aster Apartments  
6775 Golden Gate Drive  
Dublin, California  
Assessor's Parcel No. 941-1500-015-09  
Post-Closure O&M Document Repository No. RO0003252

Dear Ms. Roe:

Enclosed please find the *Site Management Plan* for the Aster Apartments site at 6775 Golden Gate Drive, in Dublin, California (Post-Closure O&M Document Repository No. RO0003252, GeoTracker Global ID T10000010517). This document was prepared by Amec Foster Wheeler Environment & Infrastructure, Inc. ("Amec Foster Wheeler"), on behalf of Dublin Apartment Properties, LLC.

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the State Water Quality Control Board's GeoTracker website.

Please contact me at (408) 680-4938 or Avery Whitmarsh of Amec Foster Wheeler at (510) 663-4154 if you have any questions regarding this document.

Sincerely yours,



Pete Beritzhoff  
Dublin Apartment Properties, LLC

Attachment: Site Management Plan

cc: Colleen Winey, Zone 7 Water Agency (electronic)  
Gregory Shreeve, City of Dublin (electronic)



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## **SITE MANAGEMENT PLAN**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

*Prepared for:*

**Dublin Apartment Properties, LLC**  
Dublin, California

*Prepared by:*

**Amec Foster Wheeler Environment & Infrastructure, Inc.**  
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July 2017

Project No. 8617170810.1.5

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## **SITE MANAGEMENT PLAN**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

July 26, 2017  
Project 8617170810.1.5

This document was prepared by the staff of Amec Foster Wheeler under the supervision of the Engineer whose seal and signature appear hereon.

The findings, recommendations, specifications, or professional opinions are presented within the limits described by the client, in accordance with generally accepted professional engineering practice. No warranty is expressed or implied.



*Douglas C. Bablitch*

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Douglas C. Bablitch, PE  
Senior Associate Engineer

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## ACRONYMS AND ABBREVIATIONS

ACDEH	Alameda County Department of Environmental Health
AMEC	AMEC Environment & Infrastructure, Inc. (now Amec Foster Wheeler)
BAAQMD	Bay Area Air Quality Management District
BMPs	best management practices
Cal-OSHA	California Occupational Safety and Health Administration
CB&G	Carlson, Barbee & Gibson, Inc.
CCR	California Code of Regulations
COCs	constituents of concern
ESLs	Environmental Screening Levels
HASP	health and safety plan
NPDES	National Pollution Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PPE	personal protective equipment
PRB	permeable reactive barrier
QSD	qualified SWPPP developer
CSMP	Construction Site Management Plan
SWPPP	Storm Water Pollution Prevention Plan
VMS	vapor mitigation system
VOCs	volatile organic compounds
Water Board	San Francisco Bay Regional Water Quality Control Board

# **SITE MANAGEMENT PLAN**

**Aster Apartments**  
**6775 Golden Gate Drive**  
**Dublin, California**

## **1.0 INTRODUCTION**

Amec Foster Wheeler Environment & Infrastructure, Inc. (“Amec Foster Wheeler”; formerly AMEC Environment & Infrastructure, Inc.), has prepared this *Site Management Plan* (SMP) on behalf of Dublin Apartment Properties, LLC (“Dublin Apartments”) for the Aster Apartments site, located at 6775 Golden Gate Drive in Dublin, California (“Site”; Figure 1).<sup>1</sup> This SMP provides guidelines for the protection of human health and the environment during potential future handling of and exposure to site soil, soil vapor, and groundwater. The geographic scope of this SMP is the site’s deed restriction area (Figure 2 and Appendix A), as well as the permeable reactive barrier (PRB) footprint and the surrounding area (Figure 2). This SMP was developed to meet the requirements set forth in the August 16, 2013, and August 7, 2015, letters from Alameda County Department of Environmental Health (ACDEH, 2013 and 2015).

Terms used in this SMP include the following:

- Owner – Current property owner or their agent responsible for managing the property at any given time. The site is currently owned and operated by Dublin Apartment Properties, LLC.
- Tenant – Current party holding a commercial or residential lease or otherwise occupying the site under agreement with the Owner.
- Contractor – Party conducting on-site activities as engaged by the Owner or other parties.
- Engineer/Consultant – Current engineer/consultant engaged by the Owner to assist in implementing this SMP.

Owner’s workers and/or Contractor(s) are responsible for adhering to this SMP and maintaining job and site safety. Each Contractor is also responsible for providing a copy of this SMP to its subcontractors.

## **1.1 OBJECTIVES**

The objectives of this SMP are as follows:

- Communicate information to future site construction and maintenance workers about site environmental conditions and the presence and location of site mitigation systems.

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<sup>1</sup> The site was formerly known as the Crown Chevrolet North Parcel, with an address at 7544 Dublin Boulevard, Dublin California. The site was previously associated with Site Cleanup Program Case No. RO0003014 and GeoTracker Site ID T10000001616.

- Present guidelines for appropriate health and safety precautions for on-site workers who may access soil, soil vapor, and groundwater that could contain residual chemicals.
- Provide a plan for management of site soil and groundwater disturbed during operations, maintenance, or development activities in a manner that protects human health and the environment.
- Present procedures for long-term management (i.e. during ongoing site operations or maintenance activities) of the residual chemicals present in soil, soil vapor, and groundwater at the site.

## **1.2 BACKGROUND**

This section provides information regarding the current and past site setting, as well as environmental investigation activities that have been conducted at the site.

### **1.2.1 Site Setting and Historical Uses**

The site is currently owned and operated by Dublin Apartment Properties, LLC as Aster Apartments. Site redevelopment was conducted from 2015 through 2017. There are currently mixed residential/commercial buildings at the site, comprising 313 apartments (a total of approximately 323,000 gross square feet in multi-unit structures) and 17,000 square feet of retail space at ground level along Dublin Boulevard with apartments located above (Figure 2). A 230,000-square-foot parking garage is located in the eastern central portion of the site.

Prior to redevelopment, the site was operated as Crown Chevrolet, a car dealership, repair shop, and auto body shop, beginning in 1968 (Figure 3); all operations ceased in 2013. The property was sold in the fall of 2014, and the demolition and removal of existing parking areas, buildings, sumps, and hydraulic lifts was performed by Dublin Apartment Properties in 2014 and 2015 in preparation for redevelopment (Amec Foster Wheeler, 2015c).

### **1.2.2 Previous Environmental Investigations**

Multiple investigations were conducted at the site from 2009 to 2014 and are summarized in the *Final Feasibility Study and Corrective Action Plan* (“FS/CAP”; AMEC, 2014). In addition, the 2015 *Vapor Mitigation and Permeable Reactive Barrier Basis of Design Report* (“2015 BoD Report”; Amec Foster Wheeler, 2015b) presented the results of a PRB pre-design investigation, as well as an update to the site conceptual model presented in the FS/CAP. These investigations were performed to address regulatory concerns, as well as in support of transactional and potential redevelopment activities, and included collection of soil, groundwater, and soil vapor samples throughout the site.

### **1.2.3 Constituents of Concern**

Two main areas of soil, groundwater, and/or soil vapor impacts have been identified. A summary of the constituents of concern (COCs) for the site, as well as their distribution in affected media and suspected origin, is as follows:

- Volatile organic compounds (VOCs), primarily tetrachloroethene (PCE) and trichloroethene (TCE), are present in shallow groundwater throughout the northern portion of the site. The PCE and TCE are attributed to an off-site source; the specific source has not been identified. Soil vapor impacts (PCE, TCE, and some breakdown products) have been identified in the vicinity of the groundwater plume, extending approximately 200 to 240 feet south from the northern property boundary, as summarized in the FS/CAP (AMEC, 2014). Groundwater monitoring at the site has indicated that concentrations of VOCs in groundwater are generally stable or declining (Amec Foster Wheeler, 2015a).
- Past releases at the site impacted soil with chlorobenzene and related compounds at a former front-end alignment pit (“former F.E. Pit”) and former sump within former Building B. Limited groundwater and soil vapor impacts have also been identified at the former sump (AMEC, 2014).

As noted in the following section, remediation has been conducted in the vicinity for the former F.E. Pit and sump.

#### **1.2.4 Source Removal**

Remedial activities were performed to address the chlorobenzenes and petroleum hydrocarbons at the former F.E. Pit and sump, beneath the historical site buildings. These included excavation of historical sumps and surrounding soil in 2011 and removal of other subsurface features and impacted soils in 2015 as summarized in the *Remediation Report* (AMEC, 2011) and *Post-Demolition Investigation and Soil Removal Completion Report* (“2015 Completion Report”; Amec Foster Wheeler, 2015c). Additionally, a former underground storage tank was removed in 2012 (ENGEO, 2012). The remedial activities successfully addressed the soil impacts to concentrations consistent with protection of human health.

Additionally, during the post-demolition sampling performed in late 2014 and early 2015, Amec Foster Wheeler identified six areas with limited impacts to soil from total petroleum hydrocarbons, polychlorinated biphenyls, VOCs, semivolatile organic compounds (SVOCs), and/or metals. The soil in these areas that contained concentrations of COCs above relevant Environmental Screening Levels (ESLs)<sup>2</sup> in effect at the time was removed and disposed of off-site, as documented in the 2015 Completion Report (Amec Foster Wheeler, 2015c).

#### **1.2.5 Corrective Actions**

Corrective actions were implemented to mitigate the risk of exposure of future site occupants and workers to COCs. As outlined in the *Dublin Apartments Permeable Reactive Barrier Construction Completion Certification* (Amec Foster Wheeler, 2016) and the *Vapor Mitigation System Construction Completion Certification* (Amec Foster Wheeler, 2017a), this risk is mitigated by a PRB at the upgradient site boundary and a vapor mitigation system (VMS)

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<sup>2</sup> San Francisco Bay Regional Water Quality Control Board (Water Board) Environmental Screening Levels (ESLs) for shallow soil in commercial/industrial areas where groundwater is considered a drinking water source.

beneath the site buildings in areas where elevated VOC concentrations were measured in soil vapor.

The following sections include descriptions of the two corrective actions, as well as their corresponding monitoring, operation, and maintenance requirements.

#### **1.2.5.1 Permeable Reactive Barrier**

The PRB was installed October 2015 near the northwest corner of the site, where the impacted groundwater is entering the site (Figure 4). It was designed to passively treat the impacted groundwater as it moves beneath the site. The PRB consists of a 24-inch wide, 146-foot-long continuous trench that is backfilled with ZVI/sand treatment media. The PRB extends to approximately 29 feet below ground surface (bgs), including a 1-foot key into an existing clay layer observed from approximately 28-30 feet bgs. The upper 7-8 feet of was completed with controlled-density fill (CDF) to existing grade. The PRB does not require regular maintenance.

A total of 11 monitoring wells (six PRB performance monitoring wells and five on-site monitoring wells) make up the groundwater monitoring well network at the site (Figure 4).

#### **1.2.5.2 Vapor Mitigation System**

The VMS was installed from December 2015 through February 2017 during the building construction activities, following the structural excavation and placement of base rock beneath each building footprint. The VMS includes a vapor mitigation membrane, and a passive sub-slab venting system installed beneath the vapor mitigation membrane, within the footprint of the site buildings where elevated concentrations of VOCs were detected in soil vapor (Figure 5).

As part of, and supplemental to the VMS, utility trench plugs along the building foundations where utilities entered the building footprints to establish an impermeable collar (Figure 4). The trench plugs were installed to prevent preferential flow of potentially contaminated soil vapor from areas outside the building footprint to the sub-slab area, as well as a geotechnical measure (Rockridge Geotechnical, 2015) to prevent water from entering the sub-slab area. The plugs consist of a concrete sand slurry backfill material that is installed at each location over a length of 3 feet along the trench axis.

The venting system is generally maintenance free, but requires inspections of the 15 roof-mounted wind-driven turbine fans and replacement of any potential worn/damaged equipment as necessary. The trench plugs and vapor membrane do not require regular maintenance.

#### **1.2.6 Nature and Extent of Impacted Media**

The nature and extents of groundwater, soil, and soil vapor impacts at the site are discussed in the following subsections, and the analytical data are summarized in Appendix C. In addition

to the data provided Appendix C, Contractors and other interested parties should refer to the more recent annual groundwater monitoring report for the most current groundwater analytical results.<sup>3</sup>

It is each Contractor's responsibility to determine potential exposure risks for their workers related to residual impacts in groundwater, soil, and/or soil vapor. Contractors and other interested parties may refer to the most current and applicable ESLs as a screening tool.<sup>4</sup>

#### **1.2.6.1 Soil**

No COCs have been detected above their respective Tier 1 ESLs in shallow, unsaturated soil, with the exception of arsenic, which is interpreted to be naturally occurring and consistent with regional background concentrations. However, it should be noted that saturated soil would likely contain the chemicals known to be present in groundwater. Please refer to Section 1.2.5.2 below for information regarding chemical concentrations in groundwater. Soil-disturbing activities that occur below 7 feet or within saturated soil must be performed under the requirements included in this SMP.

Soil removal activities conducted in 2011 and 2015 removed unsaturated, impacted soil at concentrations greater than ESLs (AMEC, 2011, and Amec Foster Wheeler, 2015c).<sup>5</sup> Additionally, Stellar Environmental Solutions, Inc. ("Stellar") conducted post-demolition soil profiling during site clearing and grubbing activities to characterize the soil for both off-site disposal or reuse options and to identify and evaluate any potential site worker exposure issues that could be present during redevelopment construction activities. The results of the soil profiling are included in Appendix B and indicate that residual concentrations of COCs in unsaturated soil are below commercial/industrial and construction/trench worker ESLs. Although not a COC, naturally-occurring arsenic was observed in composite waste characterization soil samples at levels above commercial/industrial and construction worker direct exposure ESLs. These sample levels were within the range of common background concentrations of arsenic in Bay Area soil (Duvergé, Dylan Jacques, 2011). Nonetheless, Stellar indicated that exceeding the ESL warrants dermal, inhalation protection, and dust mitigation measures during critical earthwork activities (Stellar, 2015a,b).

Supplemental to the Stellar soil profiling results in Appendix B, Tables C-1 through C-10 in Appendix C provide a summary of the laboratory analytical results for soil samples collected at

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<sup>3</sup> The most recent groundwater monitoring report can be downloaded from the Geotracker page for the site: [http://geotracker.waterboards.ca.gov/profile\\_report?global\\_id=T10000001616](http://geotracker.waterboards.ca.gov/profile_report?global_id=T10000001616).

<sup>4</sup> Current ESLs can be downloaded from the following page:  
[http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/esl.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml).

<sup>5</sup> The 2015 Completion Report (Amec Foster Wheeler, 2015c) noted that there were limited areas where soil impacts were greater than the 2013 ESLs they were compared to at the time; however, these concentrations are less than the 2016 ESLs (i.e., those in effect at the time of publication of this document).

the site from 2009 through 2015. The soil sample locations are shown on Figures C-1 through C-3.

#### **1.2.6.2 Groundwater**

Groundwater is impacted by VOCs in the northern portion of the site. For reference, Figure 4 shows the extent of impacted groundwater as of 2012; refer to the most recent groundwater monitoring report for current data.

Impacted groundwater is expected to be encountered at depths ranging from approximately 9 to 16 feet bgs in the northern portion of the site (refer to the most recent groundwater monitoring report for recent depths to groundwater and corresponding groundwater elevations). Intrusive activities during which workers have the potential to contact impacted groundwater must be performed under the requirements included in this SMP.

Tables C-11 through C-15 in Appendix C provide a summary of the laboratory analytical results for groundwater samples collected at the site from 2009 through 2015. Figure C-1 shows the groundwater sample locations.

#### **1.2.6.3 Soil Vapor**

Benzene, PCE, TCE, and vinyl chloride were detected in soil vapor at concentrations greater than ESLs during sampling performed from 2010 through 2012. For reference, Figure 5 shows the extent of impacted soil vapor as of 2012 (however, the extent of soil vapor impacts may have changed).

Intrusive activities during which workers have the potential to contact impacted groundwater must be performed under the requirements included in this SMP. Although VOC concentrations in outdoor air emanating from soil vapor would be diluted significantly with atmospheric air (DTSC, 2013), the potential risk to workers should be evaluated by a qualified professional prior to beginning the work. Calculation of site-specific screening levels for workers and/or personal air monitoring may be considered.

Tables C-16 in Appendix C provides a summary of the laboratory analytical results for soil vapor samples collected at the site in 2012. The soil vapor sample locations are shown on Figure C-1.

### **1.3 DEED RESTRICTION AREA**

Appendix A contains a copy of the deed restriction placed on the property that prevents the use of groundwater underlying the site and requires adherence to this SMP for all intrusive work. The extents of the deed restriction within the site are shown on Figure 2; the extents of groundwater and soil vapor impacts are limited to the northern portion of the deed restriction area, as shown on Figures 4 and 5.



As described in more detail in Section 2.2 below, the Owner must notify ACDEH of planned intrusive work within the boundaries of the deed restriction area prior to activity commencement. The deed restriction also requires that the Owner provide reasonable access to the property for the purpose of inspection, surveillance, maintenance, or monitoring. The access agreement will cover ACDEH, other regulatory personnel, and any persons conducting corrective action performance monitoring in accordance with the *Operations, Maintenance, and Monitoring Plan for Permeable Reactive Barrier* (PRB OMM Plan; Amec Foster Wheeler, 2017b), and the *Operations, Maintenance, and Monitoring Plan for Vapor Mitigation System* (VMS OMM Plan; Amec Foster Wheeler, 2017c).

This SMP also addresses the required site management activities pertaining to the PRB and the area in the vicinity of the PRB, which is adjacent to, but beyond, the property boundary and the deed restriction area (Figure 4).

## **2.0 REGULATORY STATUS AND GENERAL REQUIREMENTS**

ACDEH is the designated lead agency for site remediation. The additional stakeholder agencies include the City of Dublin and Zone 7 Water Agency.

### **2.1 REGULATORY REQUIREMENTS**

Operations, maintenance, monitoring, and earthwork activities may be subject to federal, state, and local laws and regulations, including those promulgated by U.S. Environmental Protection Agency (U.S. EPA), California Environmental Protection Agency (“Cal-EPA”), California Department of Toxic Substances, the Bay Area Air Quality Management District (BAAQMD), and the Occupational Safety and Health Administration (OSHA). These laws address issues such as dust generation, hazardous waste, storm water, health and safety, Proposition 65 notifications, and community right-to-know. While some of these issues are discussed in this SMP, it is the responsibility of the Owner or Contractor performing work that may involve contact with potentially impacted site soil, groundwater, and soil vapor to ensure worker safety and to comply with currently applicable laws and regulations.

### **2.2 NOTIFICATIONS**

ACDEH and the Owner must be contacted prior to any intrusive work. The Tenant will also obtain approval in writing from the Owner prior to commencing such work. Intrusive work includes, but is not limited to the following:

- Grading, drilling, and/or excavation within the building footprint (inclusive of utility trench plugs) or at planned depths below 7 feet within the boundaries of the deed restriction area, or any work in the vicinity of the PRB; and
- Cutting or drilling through the floor slab, walls, and/or ceiling (including anchoring).

Regular site maintenance activities outside of the site buildings that would not encounter soil below 7 feet bgs or saturated soil (e.g., landscaping, paving, utility repairs) would not require the notifications described in this section.

ACDEH and the Owner must also be contacted in the event that the PRB, vapor barrier, or associated systems are damaged. Repairs must be conducted under the oversight of ACDEH and overseen by the appropriate Contractor, as outlined in the PRM OMM Plan and VMS OMM Plan (Amec Foster Wheeler, 2017b,c).

The following ACDEH and Owner’s personnel are the primary points of contact regarding environmental conditions:

<b>Contact</b>	<b>Telephone No.</b>
ACDEH Land Use and Local Oversight Program Manager	Dilan Roe 510-567-6767
Dublin Apartment Properties Project Manager	Pete Beritzhoff 408-680-4938
Dublin Apartment Properties Construction Manager	Adam Lambert 415-509-1441

### **2.3 SITE INSPECTIONS AND REPORTING**

Below is a summary of the inspections, sampling, and reporting associated with monitoring the performance of the corrective actions at the site. The contents of this section may be subject to change based on regulatory review and updates.

#### **2.3.1 PRB and Groundwater Monitoring**

An above-ground visual inspection of the PRB, groundwater sampling of the 11 wells in the groundwater monitoring system, and corresponding reporting will be conducted on a quarterly basis for the 2 years following the PRB installation (through 1Q2019). The monitoring events will be carried out annually for years 3 through 5. Data collected during the monitoring program will be evaluated relative to development of final functional objectives for an O&M phase for the site.

Further details on required groundwater monitoring well sampling protocols, along with other operation and maintenance requirements, can be found in the PRB OMM Plan (Amec Foster Wheeler, 2017b). The Owner and Contractors must adhere to all applicable operation, maintenance, monitoring, and contingency requirements described in the PRB OMM Plan.

#### **2.3.2 VMS Monitoring**

Routine piping and turbine inspections, vent riser sampling, and corresponding reporting will be performed monthly for the first year, through April 2018, then quarterly for years 2-5. During the vent riser monitoring, vented soil vapor is collected from sampling ports installed at each of the vent risers. Data collected during the initial monitoring period will be used toward development of final functional objectives for an O&M phase for the site.

Further details on required VMS monitoring protocols, as well as other operation and maintenance requirements, can be found in the VMS OMM Plan (Amec Foster Wheeler, 2017c). The Owner and Contractors must adhere to all applicable operation, maintenance, monitoring, and contingency requirements described in the VMS OMM Plan.

### **2.3.3 General Site Inspections**

Site inspections will be arranged by the Owner and will be conducted to observe and document the integrity and maintenance of the corrective actions, including observation of roof turbines, auditing of on-site maintenance and monitoring records, and confirming that required on-site documentation is available and up-to-date (e.g., copies of the OMM Plans and this SMP). The site inspections will be conducted until such time that all ICs are terminated with approval of ACDEH.

During each site inspection, an inspection form will be completed (Appendix D). Following each site inspection, the Owner (or designated inspection entity) will provide ACDEH with a site inspection report and IC compliance certificate indicating that all IC objectives have been maintained.

The site inspections and reporting will occur with the following frequency:

- Semiannually for years 1 and 2,
- Annually for years 3 and 4, and
- Every 5 years for years 5 through 20.

Should any action inconsistent with IC restrictions be identified during the site inspection, the Owner and/or designated inspection entity will notify ACDEH. A written explanation will be submitted to the ACDEH that describes the nature of the specific, inconsistent action, and the efforts or measures that have been or will be taken to correct the action. The associated time frame to correct the inconsistent action also will be provided.

## **3.0 GUIDELINES FOR HEALTH AND SAFETY DURING INTRUSIVE ACTIVITIES**

The Owner is responsible for the health and safety of its employees during activities that could encounter site soil, groundwater, or soil vapor. Contractors are responsible for the health and safety of their employees engaged in work at the site. Preparation of a site-specific Health and Safety Plan (HASP) covering applicable activities is the responsibility of the Owner's project manager and/or Contractor at the site and must be prepared by an appropriately trained person (e.g., certified industrial hygienist or other qualified professional). Such HASPs must meet the requirements of Title 8 in California Code of Regulations (CCR), Section 5192, at a minimum, and must cover all activities to be performed by Contractor or subcontractors' personnel. All applicable federal, state, and local regulations and codes relating to health and safety must be adhered to, including all sections of California Occupational Safety and Health

Administration (“Cal-OSHA”) regulations contained in CCR Title 8 as they apply to site activities.

Guidelines provided in this SMP apply only to the classes of chemicals previously detected and characterized at the site and do NOT address health and safety issues related to any other hazards or activities at the site (including, but not limited to, activities related to electrical work, trenching and shoring, and weather-related hazards). These guidelines represent minimum health and safety measures related to the chemical impacts addressed herein. Additional measures may be implemented at the discretion of the Owner and/or Contractor, based on the specific construction tasks to be performed.

The depth intervals of intrusive construction activities are relevant to worker health and safety monitoring and protection, and should be considered in the development of HASPs and protocols, as described above, in Section 1.2.6.

### **3.1 PERSONAL PROTECTIVE EQUIPMENT**

Site workers who have the potential to be in contact with soil, soil vapor, and/or groundwater at the site will use appropriate protective equipment (PPE) to minimize potential exposures. The PPE required may be upgraded (e.g., use of a respirator may be required) in the event that site conditions change. Potential events that may require an upgrade of PPE may include the following:

- Identification of additional chemicals or an increase in chemical concentrations in soil, groundwater, and/or soil vapor during any future sampling conducted by Owner and/or Contractor;
- Exposure monitoring indicating the need to upgrade PPE; and/or
- Temperature or individual medical conditions limiting the effectiveness of PPE.

### **3.2 DECONTAMINATION PROCEDURES**

Contractors engaged in soil-disturbing activities in areas with potentially contaminated soil will provide an area for personnel decontamination adjacent to the work area in accordance with the contractors HASP. This area will include boot washing and hand washing facilities, toilet facilities, and receptacles for used protective clothing. Decontamination procedures for site workers wearing PPE may include:

- Wash boots and gloves (if washable);
- Remove protective gloves and place in plastic bags for disposal (if disposable);
- Wash hands and face with soap and water before eating, drinking, using tobacco, or leaving the work area; and
- Clean respirators, if used, and dry as needed, and place in sealed plastic bags with individual identification.

Equipment contacting potentially impacted saturated soil or groundwater within the known area of impacts (i.e., the deed restriction area and PRB) will require decontamination prior to leaving the active area due to the possible presence of VOCs and other potential contaminants. Decontamination requirements will vary depending on the type of equipment and nature and condition of subsurface material encountered. For dry soils, dry removal of dirt from tires and bucket or blade using brooms should be performed, at a minimum (see 4.1.5 for additional discussion on soil/dust management measures). For equipment encountering saturated soils or groundwater, cleaning with a steam cleaner or pressure washer should be performed on the portions of the equipment in contact with the saturated soil or groundwater. Equipment decontamination will be performed in a contained area with the means to contain and collect decontamination rinsate. Decontamination water, if generated, will be containerized, sampled, and properly recycled/disposed.

**3.3 SPILL RESPONSE PROCEDURES**

In the event of a release of hazardous material or waste to the surface during maintenance or intrusive activities, such as a fuel release associated with construction equipment, the following spill response procedures will be implemented:

1. Evacuate all on-site personnel to a designated assembly area in an upwind direction until the site safety officer determines that it is safe for work to resume.
2. Contain the spill, if it is possible and it can be performed safely.
3. Immediately notify the appropriate emergency contacts (the current contacts are shown below). The Owner’s emergency contact will subsequently notify the appropriate regulatory agency(ies).

**3.4 EMERGENCY CONTACTS**

Current emergency contacts for the site are shown below:

<b>Contact</b>	<b>Telephone No.</b>
Police, Fire, Ambulance (Land line or mobile phone)	911
Emergency Contact, Dublin Apartment Properties after hours	Pete Beritzhoff 408-680-4938
Certified Unified Program Agency (CUPA)	Rob Weston 510-567-6781
Alameda County Department of Environmental Health (ACDEH)	Dilan Roe 510-567-6767

**4.0 SOIL AND WATER MANAGEMENT PROCEDURES**

Soil and groundwater handling procedures to be followed during future intrusive activities are summarized in the following sections.

#### **4.1 PERFORMING INTRUSIVE WORK IN THE VICINITY OF THE PRB OR VMS**

The Owner/Tenant may not take any action that would interfere with the integrity or operation of the VMS or PRB. In addition to the notification requirements described in Section 2.2, the precautions described in this section should be taken when performing intrusive work in the vicinity of the PRB or VMS. The information presented below is also included in each Tenant's lease.

The Owner must submit a work plan to ACDEH for prior approval of all intrusive work, with the exception of regular maintenance activities (e.g., landscaping, paving, utility repairs) outside of the site buildings that would a) not have the potential to impact the VMS (including the utility trench plugs) or PRB, and b) not encounter soil below 7 feet bgs or saturated soil.

If the Tenant plans to perform intrusive work, the Tenant must submit to the Owner a full and complete work plan approved in writing by an engineer that is reasonably acceptable to the Owner, which will then be approved by ACDEH. The work described in the plan must be in accordance with the requirements outlined in this SMP. The plan must include without limitation all applicable plans, specifications, reports and drawings in connection with such proposed work in form and substance suitable for the Owner to submit to the ACDEH for prior approval of such work.

If the Owner/Tenant's work plans include cutting or drilling through the floor slab, walls, and/or ceiling, the Owner/Tenant must take all necessary measures to avoid damaging, disrupting, or impairing the function of any VMS components (including, but not limited to vapor barrier membrane, horizontal and/or vertical piping, and utility trench plugs). If portions of the VMS piping require relocation, then procedures should be implemented to properly repair cut or damaged sections of horizontal and/or vertical piping or to appropriately relocate, as needed, specific sections of piping, as approved by the Owner. Damaged sections of the horizontal and/or vertical piping will be removed, and replacement sections will be connected to existing segments in accordance with manufacturer-approved procedures and in conformance with the VMS record drawings. If such improvements include cutting or drilling holes through the main floor slab to allow passage of conduit, piping, or other systems, the vapor barrier must be repaired in accordance with manufacturer requirements and specifications.

All intrusive work at the site that includes cutting or drilling through the floor slab, walls, and/or ceiling must comply with the OMM Plans (Amec Foster Wheeler, 2017b,c). Intrusive work performed by the Tenant must be overseen by a professional engineer appointed and compensated by the Owner to ensure compliance with the OMM Plans. All sub-slab membrane repairs will be performed by an applicator certified by Land Science®, a division of REGENESIS® and will conform to manufacturer's repair procedures current at the time the repairs are performed, such that the manufacturer's warranty remains in full force and effect. For any such work, the responsible party (e.g., general contractor) will prepare a HASP, which

will be reviewed and approved by a Certified Industrial Hygienist acceptable to the Owner. The SSHSP may, if appropriate, include provisions for monitoring of indoor air for vapors and for adequate ventilation of the work area, as well as any other necessary safety measures.

The Tenant must immediately notify the Owner of any observed damage to the PRB or VMS components, including, but not limited to: the monitoring wells, PRB (if work includes off-site activities that could affect the PRB), vapor barrier, horizontal and vertical pipes, vent equipment, utility trench plugs, and any alterations, repairs, improvements or other changes made to the VMS in connection with any tenant work. Upon completion of any work, the Tenant must provide to the Owner as-built drawings documenting the work that was completed and the final configuration of the PRB, VMS and monitoring equipment. Any and all intrusive work performed by the Tenant will be subject to the prior written consent, and requirements, of ACDEH.

#### **4.2 SOIL HANDLING**

During any excavation, when handling soil, health and safety protocols will be followed, including all applicable federal, state, and local regulations and codes relating to health and safety and all sections of Cal-OSHA regulations contained in CCR Title 8 (see Section 3.0). Additionally, dust control and monitoring measures will be followed in accordance with Cal-OSHA and BAAQMD requirements (see Section 4.5).

If any soil is encountered that exhibits physical evidence of environmental impacts (e.g., staining, sheen, or odors), it will be segregated for characterization and off-site disposal. If off-site removal of stockpiled material is required, the procedures described in Section 4.5 will be implemented.

#### **4.3 SOIL STOCKPILING**

Excavated soil will be temporarily stockpiled and protected as necessary from the adverse effects of rainfall (runoff) and/or wind (dust). All soil stockpiles will be watered, as needed, and securely covered with a suitable tarp to prevent wind erosion and dust generation. To limit public access to stockpiled soil, stockpiled soil areas will be fenced or otherwise protected and will be located in a contained area with no direct connection to storm drains. Soil and stockpile management will be performed in accordance with dust control and storm water management practices and will be consistent with all applicable rules and regulations, as described in Sections 4.6 and 4.8.

#### **4.4 ON-SITE REUSE OF SOIL**

To the extent possible, soil excavated during intrusive activities will be reused so that removal and disposal of soil to other locations will not be necessary or will be limited. If there is a need to import soil to the site, the soil will be tested in accordance with California Department of Toxic Substances Control (DTSC) guidelines.

Shallow soils from 0 to 7 feet below grade (e.g., unsaturated soils above the water table) were previously profiled (Stellar, 2015a,b) and the data indicated that the soil did not contain COCs at concentrations above the commercial/industrial and construction worker ESLs in effect at that time. As noted in Section 1.2.6.1, although not a site COC, arsenic was found above ESLs but within the range of background concentrations in the Bay Area. These soils are considered suitable for regrading or reuse on other portions of the property (Stellar, 2015a,b). The results of the soil profiling are presented in the reports included in Appendix A.

Deeper unsaturated or saturated soil that may be excavated during intrusive activities will be stockpiled and evaluated for potential reuse on the site. This evaluation may require additional chemical testing of the material based on the proposed area or depth interval the soil came from or will be placed within. The need for additional testing, and the specific testing requirements, such as sampling frequency and chemical analyses, will be determined by the Engineer/Consultant.

#### **4.5 OFF-SITE SOIL DISPOSAL**

If soil generated during construction activities is to be removed from the site, the soil will be characterized (i.e., tested for the presence of chemical constituents) before disposal, as required by the receiving facility. Appendix A presents the reports that summarize the profiling completed on shallow soil for off-site disposal; however, the receiving facility may have additional testing requirements.

Saturated and/or deeper soils will require separate waste characterization and profiling. Based on previously collected soil data, it is not anticipated that saturated, deeper soils will require management as hazardous waste.

#### **4.6 DUST MANAGEMENT MEASURES**

Workers at the site may need to disturb soil in areas where residual chemicals (i.e., VOCs) or naturally occurring metals (e.g., arsenic) that may pose a potential exposure risk to workers may be present. The dust management measures provided herein are designed to minimize potential exposures to residual chemicals and/or naturally occurring metals in dust.

##### **4.6.1 Dust Control**

Chemicals identified in soil at the site include VOCs, petroleum hydrocarbons, and naturally occurring arsenic. When earthwork activities occur, dust control measures must be implemented to minimize dust generation, as recommended by the BAAQMD, and other recommended practices may be undertaken. Engineering controls are the preferred methods of controlling on-site and off-site exposures to dust generated through intrusive activities. Additional dust control measures may be required by the project specifications.



#### **4.6.1.1 Minimum Requirements for Dust Control**

The generation of dust during intrusive activities will be minimized and controlled through implementation of the following requirements based on BAAQMD Regulation 8 Rule 40 Section 306 (BAAQMD 8-40-306), at a minimum, so that no visible dust will be generated during the intrusive activities that disturb soil at the site:

- Have a water supply available on-site at all times to mist or spray water while excavating, stockpiling, and/or loading soil onto transportation vehicles;
- Control excavation activities to minimize dust generation;
- Keep drop heights to a minimum while loading transportation vehicles; and
- Cover soil stockpiles and/or soil bins when not actively adding to or subtracting from the pile and at the end of each day.

#### **4.6.1.2 Contingency Requirements for Dust Control**

No visible dust will be permitted during site preparation, soil excavation, or excavated soil stockpiling or loading. If visible dust is observed during intrusive activities, the Contractor will be required to immediately cease all dust generating activities until alternative dust control measures acceptable to Owner are implemented. If visible dust is observed, the following additional dust-control measures will be performed:

- Increase the magnitude of dust control measures;
- Increase the frequency of implementation of dust control measures; and/or
- Use Engineer-approved dust suppressant additives in the water.

#### **4.6.1.3 Excessive Watering**

Except where specifically approved by the Engineer/Consultant, the dust control methods which result in ponded water or surface erosion will not be performed.

#### **4.6.2 Dust Monitoring**

Dust monitoring may be implemented, along with the specific health and safety requirements of the Contractor, based on the scope of the specific intrusive activities to be conducted. If dust monitoring is implemented, the results of the monitoring should be used to evaluate the effectiveness of the dust control measures and determine the need for additional dust control procedures.

#### **4.7 CONSTRUCTION DEWATERING/LIQUIDS MANAGEMENT**

In addition to soil stockpile requirements discussed above, Contractor will implement procedures to limit the dermal contact with site groundwater by workers during excavations that extend into the saturated zone, due to the presence of VOCs in groundwater as well as water that has come in contact with potential contaminated soils (contact water). Preparations will be made to remove, store, characterize, and properly dispose of standing water from

excavations and/or contract water during intrusive activities such as excavation and soil stockpiling activities. All Best Management Practices (BMPs) will be installed and in place to control and collect soils/liquids and prevent them from migrating outside of the designated areas.

Appropriate precautions may include having a storage tank (e.g., frac tank) on site to temporarily contain decontamination water or groundwater that may be removed from the excavation. Contained water or groundwater may be disposed off-site at an appropriate facility or through other arrangements, such as on-site following a prearranged disposal agreement (e.g., with the City of Dublin Publically Owned Treatment Works). Prior to disposal, the water must be tested in accordance with requirements of the receiving facility. In the event that the dewatering effluent is to be disposed to the storm system, a permit (e.g., National Pollution Discharge Elimination System [NPDES]) from the Water Board will likely be required. Specific testing requirements and sampling frequency will be designated in the permit to discharge water.

#### **4.8 STORM WATER MANAGEMENT**

Under the General Permit for Discharges of Storm Water Associated with Construction Activity (currently 2009-0009-DWQ as Modified by 2010-0014-DWQ; "General Permit"), storm water pollution controls are required at construction sites where the surface area of construction activities is greater than 1 acre in size, or for projects that disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres. The Construction General Permit requires that a Storm Water Pollution Prevention Plan (SWPPP) be developed by Qualified SWPPP Developers and that implementation of the plan be performed by Qualified SWPPP Practitioners. If future intrusive work at the site falls within these categories, the Contractor(s) must file a Notice of Intent (NOI) to comply with the General Permit for earthwork activities disturbing greater than 1 acre of the site. Prior to mobilization, the Contractors must develop SWPPPs in accordance with the General Permit.

Under those circumstances, storm water pollution controls will be implemented by the Contractor(s) and will be based on BMPs. Specific practices that may be implemented to reduce the sediment load of storm water runoff from the site include grading the site, installing storm water control devices (earth berms, silt fences, or other barriers) around the perimeter of unpaved portions of the site until construction is completed, and protecting existing catch basins with silt fences or gravel bags. In addition, all contractors will store fuel and chemicals in such a manner that prevents accidental spills from impacting storm water (e.g., within secondary containment).

#### **4.9 SITE ACCESS AND SECURITY**

Vehicle and personnel access will be controlled in areas where soil will be disturbed. Caution tape, cones, fencing, steel plates, or other measures will be used to clearly designate the

active work area and to prevent access by the public. Stockpiles of excavated soil will be protected as described in Section 5.1.2 and secured by temporary fences or other means to prevent unauthorized access.

#### **4.10 UNANTICIPATED SUBSURFACE CONDITIONS**

It is unlikely, but possible, that unknown, historical subsurface features and structures may remain at the site. If present, these structures or features may be encountered during intrusive activities. Unanticipated subsurface conditions may include, but are not limited to, the following items:

- Slabs and piping associated with former aboveground storage tanks;
- Underground storage tank(s) (USTs);
- Concrete vault(s);
- Underground piping; or
- Chemically impacted soil (e.g., with staining, sheen, or odor).

Whenever unanticipated conditions are encountered, Owner and/or Contractor(s) will stop work in that area, secure the work area, and evaluate the situation before any further action is taken. The Owner's workers and/or Contractor will notify the Owner if unanticipated surface conditions are encountered; the Project Manager will be responsible for notifying the appropriate agency, as necessary (see Section 2.2). If any subsurface structures are encountered, the CUPA must be immediately notified; if any chemically impacted soil is encountered, ACDEH must be immediately notified.

If visually impacted soil is encountered, following communication with ACDEH, it will be removed from the excavation and segregated from other site soil under the oversight of the Engineer/Consultant. The removal and segregation of visually impacted soil will be conducted as not to limit the progress of excavation activities or work flow at the site, if possible. It may be necessary to notify BAAQMD regarding excavation of contaminated soil as required in accordance with Regulation 8, Rule 40, and exemption Regulation 2 Rule 5-110.

If significant odors are encountered, work will stop immediately and the work area will be covered and secured. A log will be maintained of any complaints received by the public, and ACDEH will be immediately notified if any odor complaints are logged.

### **5.0 ADMINISTRATION OF THE SITE MANAGEMENT PLAN**

This section discusses responsibilities for managing this SMP and the circumstances under which this SMP may be modified.

#### **5.1 RESPONSIBILITIES**

The Owner will oversee implementation of this SMP at the site. The Owner's workers and Contractor(s) will be responsible for adhering to this SMP, following project specifications, and

maintaining job and site safety. Each Contractor is also responsible for providing a copy of the SMP to its subcontractors. The Owner and/or its representative may observe intrusive activities, but are not responsible for directing/supervising the Contractor's operations/work.

## **5.2 MODIFICATIONS OR TERMINATION OF SITE MANAGEMENT PLAN**

This SMP is based on current conditions at the property. It may be necessary to modify this SMP from time to time for any of several reasons, including:

- Reduction of concentrations of site COCs below applicable screening levels;
- Change in property use;
- Change in understanding of environmental conditions (e.g., newly identified chemicals);
- Intrusive activity that is not addressed by this SMP; or
- New legal or regulatory requirements.

In the event a modification to the SMP is required, an SMP Addendum will be prepared by the Owner and submitted to ACDEH. Following ACDEH approval of the Addendum, the site SMP will then be implemented per the requirements of the SMP and SMP Addendum. Site Management and OMM activities will continue as scheduled while changes to the SMP are coordinated and approved.

The SMP may be terminated following written concurrence by ACDEH that it is no longer required to protect human health and the environment from site contaminants. The Owner may apply to ACDEH to terminate one or more of the provisions outlined in the SMP.

In the event that the Owner wishes to perform further investigation or remediation activities at the site in order support termination of part or all of the SMP, the Owner will submit a work plan detailing the proposed activities for ACDEH review and approval.

## **5.3 DOCUMENTATION**

Records will be kept on-site to document any off-site removal of soil during intrusive activities. Additionally, any previously unidentified subsurface conditions encountered during intrusive activities will be documented. Copies will be kept of any exposure assessments performed and their supporting analyses to support similar future work activities. A log will be maintained of any complaints received by the public and, as noted above, ACDEH will be immediately notified if any odor complaints are logged.

A copy of this SMP will be present at the site at all times. The on-site storage area for this plan and other environmental records is located within the leasing office. Additionally, all relevant environmental documents for the site will be retained in ACDEH's Post-Closure O&M Document Repository No. RO0003252.

## **6.0 SCOPE, REPRESENTATIONS, AND LIMITATIONS**

This SMP was developed exclusively to manage worker exposure to residual chemicals (i.e., VOCs) in soil, soil vapor, and groundwater at the site during intrusive activities. This SMP does not address issues related to other chemicals or media that may be encountered during construction or other activities including, but not limited to, demolition and construction debris, asphalt, concrete, asbestos-containing building materials, lead-based paint, or any chemicals brought on-site by workers. If such materials are encountered during a project, each Contractor is responsible for complying with all applicable laws pertaining to the handling and disposal of these materials.

This SMP is based on current known site conditions and current laws, policies, and regulations as of publication in Jun 2017. No representation is made to any present or future developer or Owner of the site or portions of the site with respect to future site conditions, other than those specifically identified within this report.

## **7.0 REFERENCES**

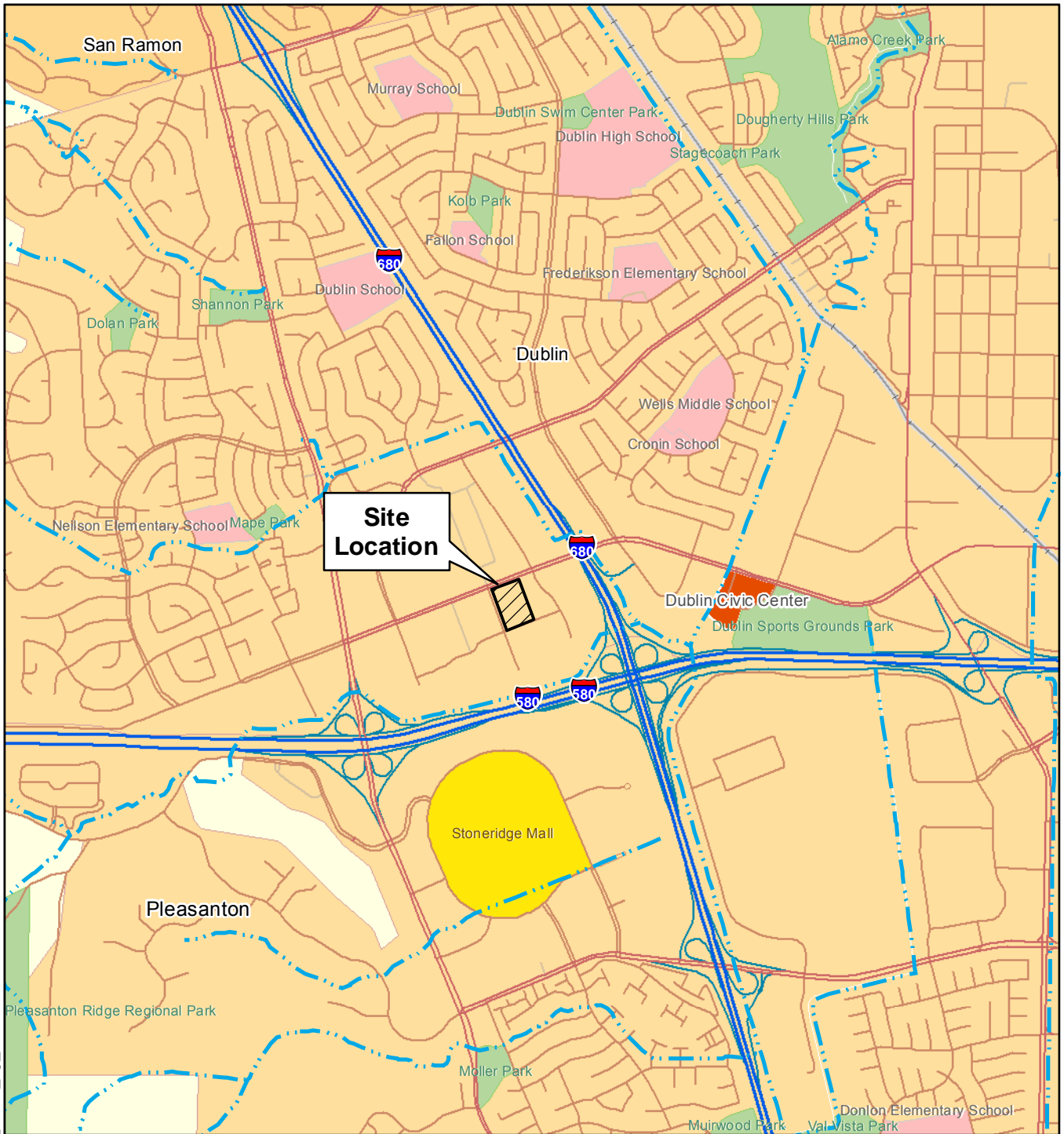
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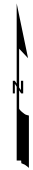
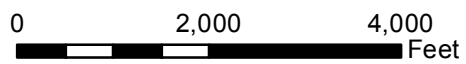
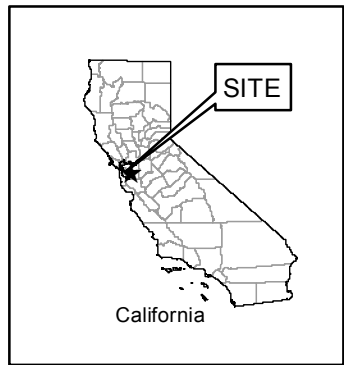


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**FIGURES**



Street map from ESRI, 2007.



**SITE LOCATION MAP**  
 Aster Apartments  
 6775 Golden Gate Drive  
 Dublin, California



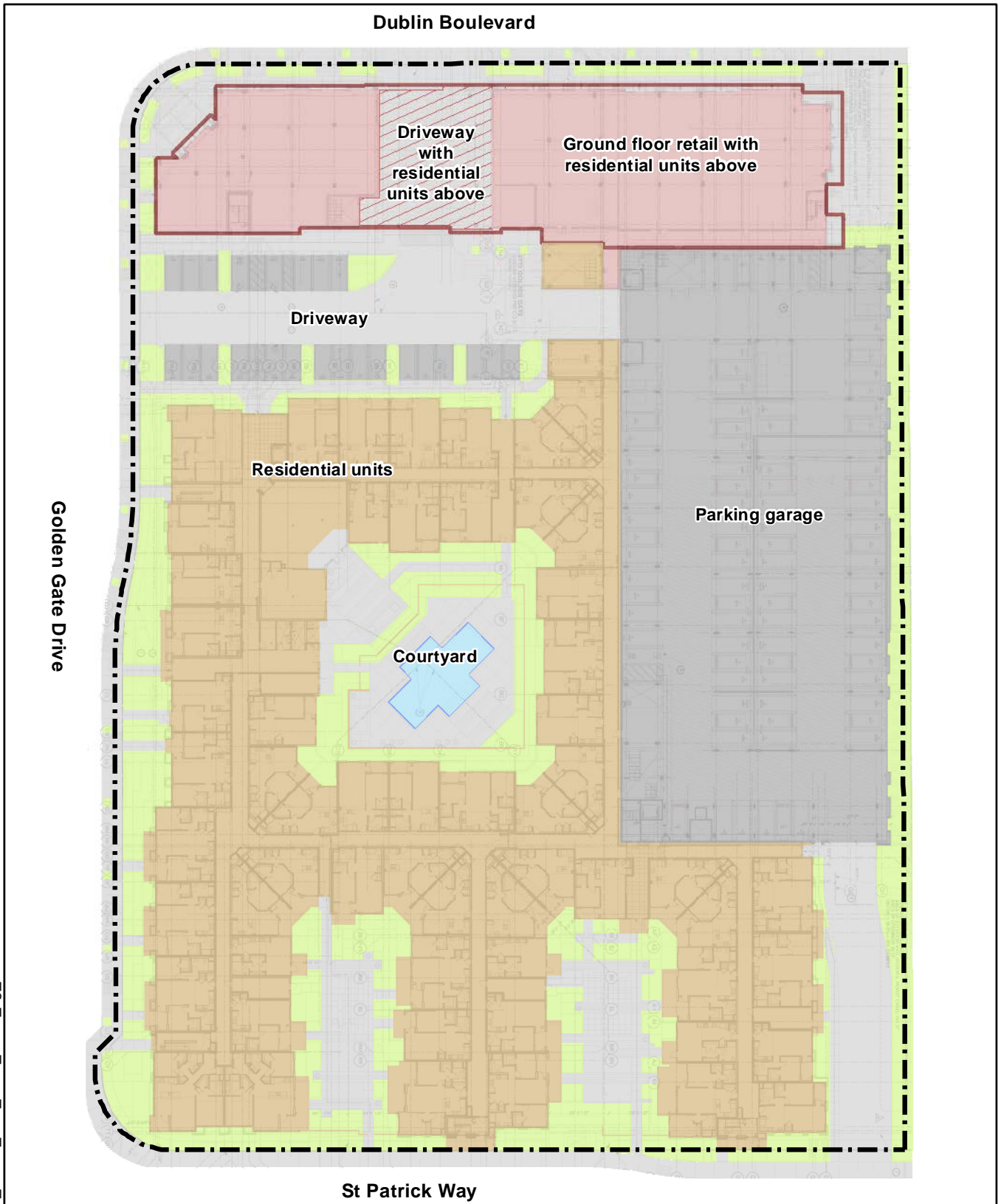
**Figure 1**

Date: 07/17/2017

Project No. 8617170810.1.5

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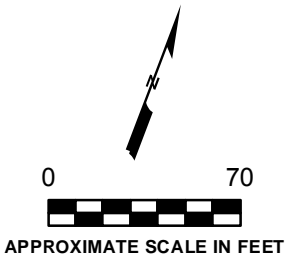




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**Explanation**  
 - - - - - Property line and deed restriction area

**Note:**  
 1. Locations of structures and foundation layouts provided by Carlon, Barbee, & Gibson, Inc., and BDE Architecture in January 2015. Building site plan and interior details provided by BDE Architecture, dated 02/28/2017..



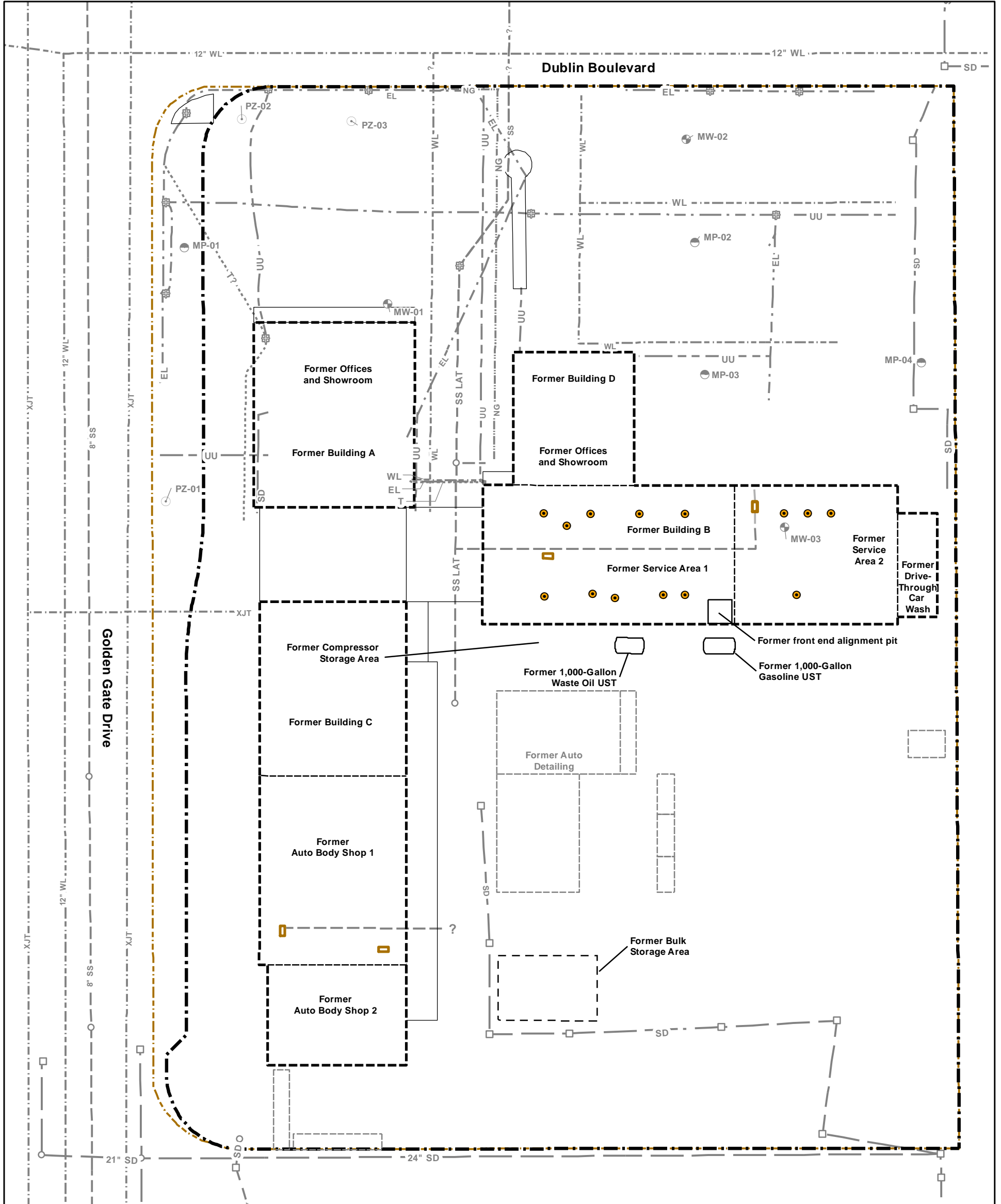
**SITE PLAN AND DEED RESTRICTION AREA**  
 Aster Apartments  
 6775 Golden Gate Drive  
 Dublin, California

Date: 07/17/2017

Project No. 8617170810.1.5



**Figure 2**



Explanation

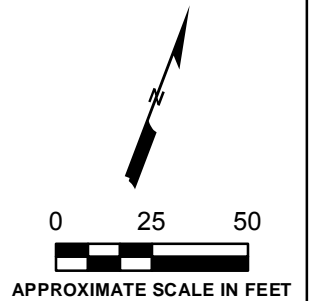
- Former hydraulic lift
- Former piezometer location (destroyed in December 2014)
- Former shallow monitoring well location (destroyed in August or December 2014)
- Former multi-port monitoring well (3-channel) location (destroyed in December 2014)
- Former building envelope (demolished December 2014)
- Current property line
- Former property line

Former utilities and subsurface features

- Former drain line
- Former sump location
- Storm drain inlet
- Manhole
- Utility vault
- Electric line
- Natural gas line
- Sanitary sewer line
- Sanitary sewer lateral line
- Storm drain line
- Telecommunications line
- Suspected telecommunications line
- Undifferentiated utility line
- Joint trench
- Water line

Abbreviation:  
UST = underground storage tank

Note:  
1. Locations of utilities in north parking lot provided by NorCal Geophysical Consultants, Inc., in October 2012. Locations of all other utilities provided by Carlson, Barbee, & Gibson, Inc., in July 2012 (locations are approximate).



**FORMER BUILDINGS AND FEATURES**  
Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

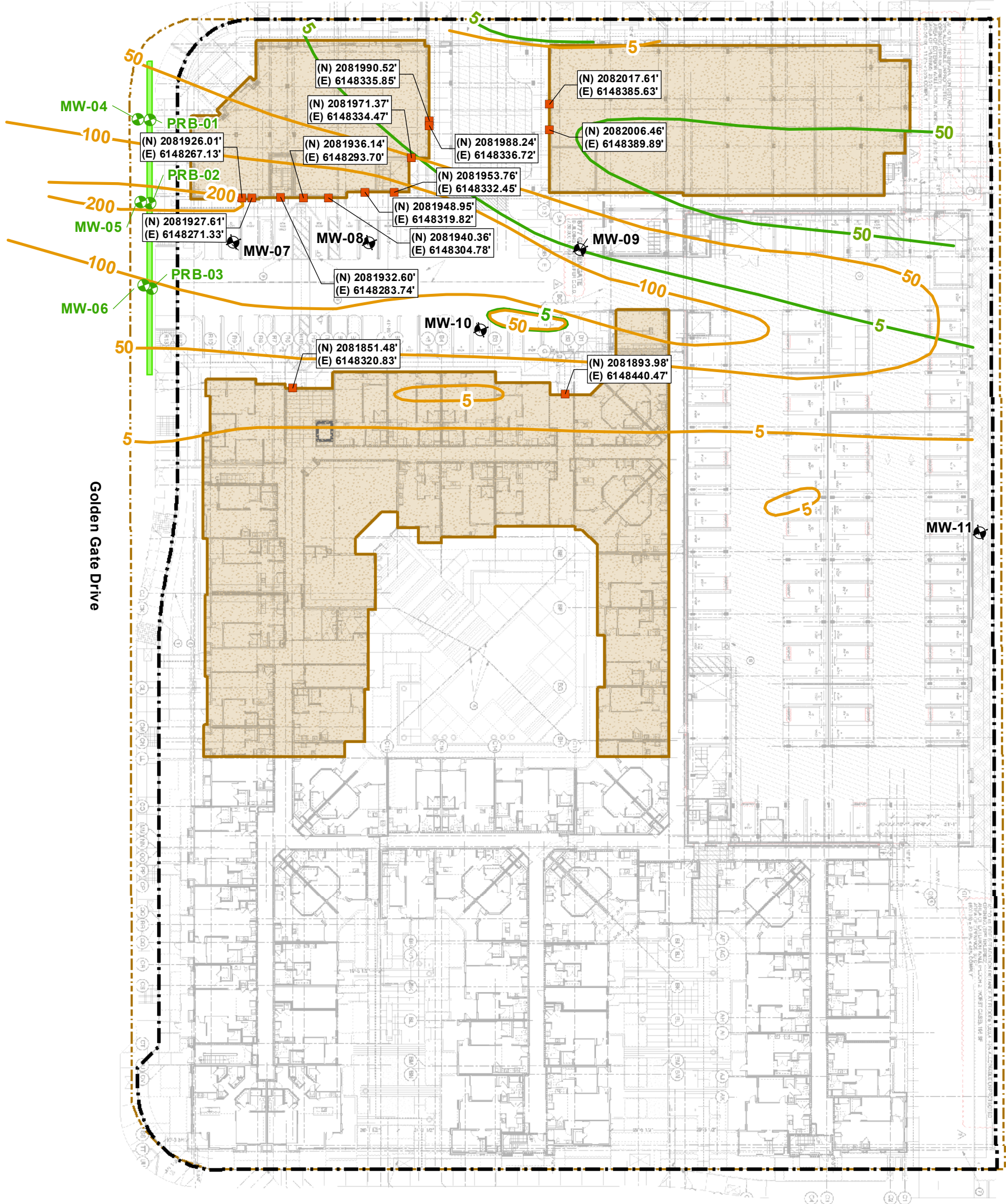


Figure  
**3**

Date: 07/17/2017 Project No. 8617170810.1.5



Dublin Boulevard



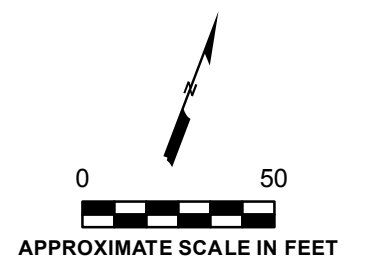
Explanation

- PRB performance monitoring well location
- On-site monitoring well location
- Approximate line of equal PCE concentration in shallow groundwater (µg/L)
- Approximate line of equal TCE concentration in shallow groundwater (µg/L)
- Extent of permeable reactive barrier (PRB)
- Extent of vapor mitigation system (VMS)
- Current property line
- Former property line
- Concrete utility trench plug

St Patrick Way

Abbreviations:  
 PCE = tetrachloroethene  
 TCE = trichloroethene  
 µg/L = micrograms per liter

- Notes:
1. Locations of structures and foundation layouts provided by Carlon, Barbee, & Gibson, Inc., and BDE Architecture in January 2015. Building site plan and interior details provided by BDE Architecture, dated 02/28/2017.
  2. Groundwater contours are based on results for samples collected from site borings and monitoring wells from 2009 through 2014 and may not be representative of current conditions. See Appendix C for individual sample results.
  3. Concrete utility trench plug locations provided by Carson Barbee & Gibson, Inc. via email on July 11, 2017. Coordinates for concrete utility trench plugs are provided on the figure relative to the North American Datum of 1983, Zone 3.



PERMEABLE REACTIVE BARRIER  
 AND VAPOR MITIGATION SYSTEM  
 Aster Apartments  
 6775 Golden Gate Drive  
 Dublin, California



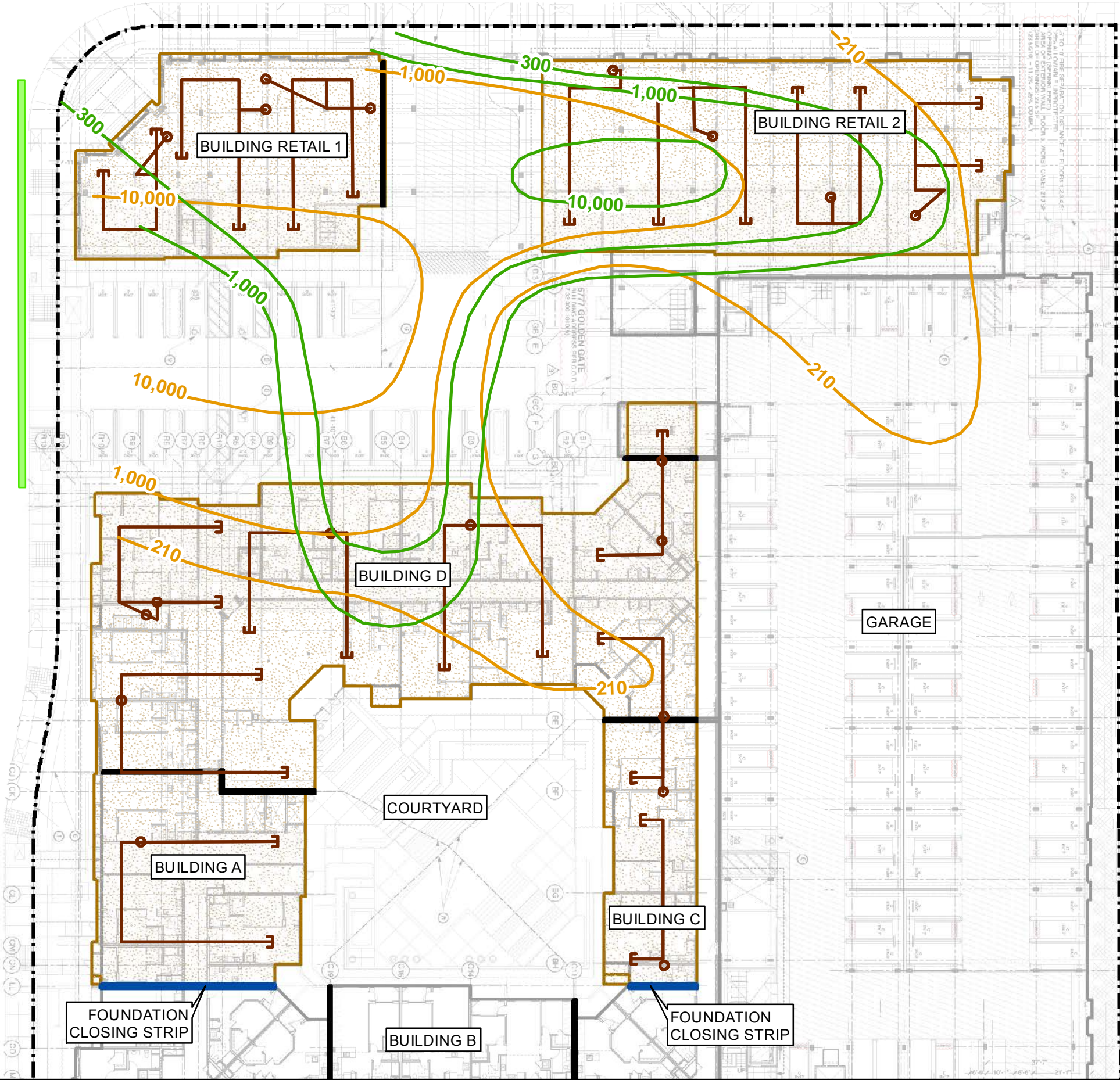
Date: 07/25/2017 Project No. 8617170810.1.5

Figure  
**4**



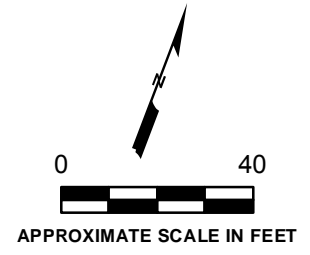
Dublin Boulevard

Golden Gate Drive



- Explanation
- 210 — Approximate line of equal PCE concentration in  $\mu\text{g}/\text{m}^3$
  - 1,000 — Approximate line of equal TCE concentration in  $\mu\text{g}/\text{m}^3$
  - Extent of permeable reactive barrier (PRB)
  - Soil vapor mitigation membrane extents
  - Sub-slab venting system
  - Vent riser
  - Building boundary (fire wall)
  - Current property line and deed restricted area

- Notes:
1. Locations of structures and foundation layouts provided by Carlon, Barbee, & Gibson, Inc., and BDE Architecture in January 2015. Building site plan and interior details provided by BDE Architecture, dated 02/28/2017.
  2. Soil vapor contours are based on results for samples collected from the site monitoring wells from 2010 through 2012 and may not be representative of current conditions. See Appendix C for individual sample results.



SUB-SLAB VENTING SYSTEM  
Aster Apartments  
6775 Golden Gate Drive  
Dublin, California



Date: 07/17/2017 Project No. 8617170810.1.5

Figure 5

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**APPENDIX A**

Deed Restriction



2017158637

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OFFICIAL RECORDS OF ALAMEDA COUNTY  
STEVE MANNING  
RECORDING FEE: 70.00

16 PGS

**Recording Requested By:**  
Dublin Apartment Properties LLC  
6775 Golden Gate Drive  
Dublin, California 94568

**When Recorded, Mail To:**  
Ms. Dilan Roe  
Chief – Land Water Division  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, California 94502

A23  
16  
12

COVENANT AND ENVIRONMENTAL RESTRICTION  
ON PROPERTY

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

This Covenant and Environmental Restriction on Property (this "Covenant") is made as of the 17<sup>th</sup> day of July, 2017 by Dublin Apartment Properties, LLC ("Covenantor") who is the Owner of record of that certain property situated at 6775 Golden Gate Drive, Assessor's Parcel Number (APN) 941-1500-015-09, in the City of Dublin, County of Alameda, State of California, which is more particularly described in Exhibit A attached hereto and incorporated herein by this reference (such portion hereinafter referred to as the "Burdened Property"), for the benefit of the Alameda County Department of Environmental Health (the "County"), with reference to the following facts:

A. The Burdened Property and groundwater and soil vapor underlying the property contains hazardous materials.

B. Contamination of the Burdened Property. The approximately 4.73-acre Burdened Property was formerly operated as an auto dealership and auto body and service center. Groundwater and soil vapor at the Burdened Property were contaminated by both historic site uses and an unidentified off-site source west of the Burdened Property. The groundwater and soil vapor are contaminated with volatile organic chemicals, primarily tetrachloroethene and trichloroethene, above their respective Environmental Screening Levels.<sup>1</sup> A full description of volatile organic chemicals in groundwater and soil vapor can be found in the 2012 Soil,

<sup>1</sup> California Regional Water Quality Control Board, San Francisco Bay Region, 2016. Environmental Screening Level Workbook, February, [http://www.waterboards.ca.gov/rwqcb2/water\\_issues/programs/esl.shtml](http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/esl.shtml)



Groundwater, and Soil Vapor Investigation Report.<sup>2</sup>

Corrective actions have been implemented to mitigate the risk of exposure of future Occupants, maintenance workers, and construction workers to contamination: soil excavation was conducted in areas impacted by releases of chemicals from former sumps, underground storage tanks and piping, and hydraulic lifts beneath the former building slabs; a vapor mitigation system ("VMS") was installed beneath the site buildings and concrete plugs were installed in utility trenches where they enter the building in areas where groundwater and related soil vapor organic chemical concentrations exceed Environmental Screening Levels; and a permeable reactive barrier ("PRB") was installed at the northwest boundary of the Burdened Property (Exhibit B).

The VMS consists of a vapor membrane and a passive sub-slab venting system beneath the vapor membrane within the footprint of selected buildings on the Property, as described above. The VMS and concrete utility plugs are designed to mitigate the potential for soil vapor originating from contaminated groundwater beneath the Burdened Property to contribute to unacceptable human health risk in indoor air.

The PRB is located off-property, near the northwest corner of the Burdened Property within the City of Dublin right-of-way for Golden Gate Drive, where contaminated groundwater enters the Burdened Property. The PRB is designed to passively treat groundwater contamination as it moves beneath the Burdened Property and provide supplemental protection to human health in addition to that provided by the VMS.

Additionally, remediation was conducted in 2015 under County oversight to address soil that was primarily impacted by petroleum compounds related to historical site operations as an auto body and service center. The remediation successfully removed the impacted soil to levels consistent with protection of human health.<sup>3</sup>

The operations and maintenance of the vapor mitigation system, permeable reactive barrier, and concrete plugs is pursuant to the Operations, Maintenance, and Monitoring Plan for Vapor Mitigation System<sup>4</sup>; the Operations, Maintenance, and Monitoring Plan for Permeable Reactive Barrier<sup>5</sup>; and the Site Management Plan<sup>6</sup>. The Covenantor shall hire a qualified environmental consultant/contractor to inspect and maintain the integrity of the remedial measures described

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<sup>2</sup> AMEC, 2012. Soil, Groundwater, and Soil Vapor Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, October 19.

<sup>3</sup> Amec Foster Wheeler, 2015. Post-Demolition Investigation and Soil Removal Completion Report, Former Crown Chevrolet North Parcel, 7544 Dublin Boulevard, Dublin, California, June 26.

<sup>4</sup> Amec Foster Wheeler Environment & Infrastructure, Inc., 2017. Operations, Maintenance, and Monitoring Plan for Vapor Mitigation System, Aster Apartments, 6775 Golden Gate Drive, Dublin, California, July.

above at the burdened property, as specified in the above referenced plans and submit a report annually to the County (Record ID: RO0003252) and the State Water Board's GeoTracker website (GeoTracker Global ID: T10000010517) for the life of the improvements at the burdened property.

Covenantor accepts on going annual County fees for oversight and review of Operations and Maintenance Reports by the County, as provided by Health and Safety Code §101480 and establish a deposit/refund account as authorized in Alameda County Ordinance Code § 6.92.040L.

C. Exposure Pathways. The contaminants addressed in this Covenant are present in groundwater and soil vapor on the Burdened Property. Without the remedial and mitigation measures which have been performed on the Burdened Property, exposure to these contaminants could take place via in place contact or vapor intrusion resulting in inhalation, dermal contact, or ingestion by humans. The risk of public exposure to the contaminants has been substantially lessened by the remediation and controls described herein.

D. Adjacent Land Uses and Population Potentially Affected. The Burdened Property is used for residential and commercial land uses and is adjacent to residential and commercial land uses.

E. Full and voluntary disclosure to the County of the presence of hazardous materials on the Burdened Property has been made and extensive sampling of the Burdened Property has been conducted.

F. Covenantor desires and intends that in order to benefit the County, and to protect the present and future public health and safety, the Burdened Property shall be used in such a manner as to avoid potential harm to persons or property that may result from hazardous materials that may have been deposited on portions of the Burdened Property.

## ARTICLE I GENERAL PROVISIONS

1.1 Provisions to Run with the Land. This Covenant sets forth protective provisions, covenants, conditions and restrictions (collectively referred to as "Restrictions") upon and subject to which the Burdened Property and every portion thereof shall be improved, held, used, occupied, leased, sold, hypothecated, encumbered, and/or conveyed. The restrictions set forth in

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<sup>5</sup> Amec Foster Wheeler Environment & Infrastructure, Inc., 2017. Operations, Maintenance, and Monitoring Plan for Permeable Reactive Barrier, Aster Apartments, 6775 Golden Gate Drive, Dublin, California, July.

<sup>6</sup> Amec Foster Wheeler Environment & Infrastructure, Inc., 2017. Site Management Plan, Aster Apartments, 6775 Golden Gate Drive, Dublin, California, July.



Each and all of the Restrictions shall run with the land, and pass with each and every portion of the Burdened Property, and shall apply to, inure to the benefit of, and bind the respective successors in interest thereof, for the benefit of the County and all Owners and Occupants. Each and all of the Restrictions are imposed upon the entire Burdened Property unless expressly stated as applicable to a specific portion of the Burdened Property. Each and all of the Restrictions run with the land pursuant to section 1471 of the Civil Code. Each and all of the Restrictions are enforceable by the County.

1.2 Concurrence of Owners and Lessees Presumed. All purchasers, lessees, or possessors of any portion of the Burdened Property shall be deemed by their purchase, leasing, or possession of such Burdened Property, to be in accord with the foregoing and to agree for and among themselves, their heirs, successors, and assignees, and the agents, employees, and lessees of such owners, heirs, successors, and assignees, that the Restrictions as herein established must be adhered to for the benefit of the County and the Owners and Occupants of the Burdened Property and that the interest of the Owners and Occupants of the Burdened Property shall be subject to the Restrictions contained herein.

1.3 Incorporation into Deeds and Leases. Covenantor desires and covenants that the Restrictions set out herein shall be incorporated in and attached to each and all deeds and leases of any portion of the Burdened Property. Recordation of this Covenant shall be deemed binding on all successors, assigns, and lessees, regardless of whether a copy of this Covenant has been attached to or incorporated into any given deed or lease.

1.4 Purpose. It is the purpose of this instrument to convey to the County real property rights, which will run with the land, to facilitate the continuing remediation of past environmental contamination, and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

## ARTICLE II DEFINITIONS

2.1 Burdened Property. "Burdened Property" shall mean that certain property situated at 6775 Golden Gate Drive in Dublin, California, which is more particularly described in Exhibit A attached hereto.

2.2 County. "County" shall mean the Alameda County Department of Environmental Health and shall include its successor agencies, if any.

2.3 Improvements. "Improvements" shall mean all buildings, roads, driveways, regradings, paved parking areas, wells, and plantings constructed or placed upon any portion of the Burdened Property.

2.4 Occupants. "Occupants" shall mean Owners and those persons entitled by ownership, leasehold, or other legal relationship to the exclusive right to use and/or occupy all or any portion of the Burdened Property.

2.5 Owner or Owners. "Owner" or "Owners" shall mean the Covenantor and its corporate successors in interest, and/or its successors in interest title to all or any portion of the Burdened Property.

ARTICLE III  
DEVELOPMENT, USE AND CONVEYANCE OF THE BURDENED PROPERTY

3.1 Restrictions on Development and Use. Covenantor promises to restrict the use of the Burdened Property as follows:

- a. No hospitals shall be permitted on the Burdened Property;
- b. No schools for persons under 21 years of age shall be permitted on the Burdened Property;
- c. No day care centers for children or day care centers for Senior Citizens shall be permitted on the Burdened Property;
- d. No Owners or Occupants of the Property or any portion thereof shall conduct any excavation work on the Property, with the exception of routine maintenance activities outside of the site buildings that would not encounter soil below 7 feet below ground surface or saturated soil (e.g., landscaping, paving, utility repairs), unless approval is first sought and then expressly permitted in writing by the County. Any disturbance of the concrete utility plugs during utility repair or contaminated soils brought to the surface by grading, excavation, trenching, or backfilling shall be managed by Covenantor or his agent in accordance with the Site Management Plan and all applicable provisions of local, state and federal law;
- e. All uses and development of the Burdened Property shall be consistent with any applicable site documents, including the Site Management Plan, which is hereby incorporated by reference including future amendments thereto. All uses and development shall preserve the integrity of any remedial measures taken or remedial equipment installed, mitigation measures, and any groundwater monitoring network installed on the Burdened Property pursuant to the requirements of the County, specifically including the VMS installed under specified buildings and the PRB, unless otherwise expressly permitted in writing by the County.
- f. No Owners or Occupants of the Property or any portion thereof shall drill, bore, otherwise construct, or use a well for the purpose of extracting water for any use, including but not limited to, domestic, potable, or industrial uses, unless expressly permitted in writing by the County.
- g. The Owner shall notify the County of each of the following: (1) The type, cause, location and date of any disturbance to any remedial measures taken or remedial equipment installed, including the VMS, PRB, concrete utility trench plugs, and/or monitoring well network which could affect the ability of such VMS, PRB or other remedial measures to perform their respective functions and (2) the type and date of repair of such disturbance, which shall be Owner's obligation to have performed. Notification to the County shall be made by registered mail within

ten (10) working days of both the discovery of such disturbance and the completion of repairs;

h. The Covenantor agrees that the County, and/or any persons acting pursuant to County cleanup orders or responsible for implementing operations and maintenance activities with respect to the VMS, PRB, concrete utility trench plugs, and/or monitoring well network, shall have reasonable access to the Burdened Property, including but not limited to the VMS, PRB, concrete utility trench plugs, and monitoring well network, for the purposes of inspection, surveillance, maintenance, monitoring, repair, and related activities as provided for in Division 7 of the Water Code.

i. No Owner or Occupant of the Burdened Property shall act in any manner that will aggravate or contribute to the existing environmental conditions of the Burdened Property resulting from the residual hazardous materials. All use and development of the Burdened Property shall preserve the integrity of: (1) the VMS, and (2) the PRB, and (3) the concrete utility trench plugs.

j. No Owner or Occupant of the Burdened Property shall grow fruits or vegetables for consumption using site soils. Gardening on the Burdened Property shall only be permitted using imported soil within raised beds that do not allow direct contact between tree or plant roots and the underlying site soil.

3.2 Enforcement. Failure of an Owner or Occupant to comply with any of the restrictions, as set forth in paragraph 3.1, shall be grounds for the County, by reason of this Covenant, to have the authority to require that the Owner modify or remove any Improvements constructed in violation of that paragraph. Violation of the Covenant shall be grounds for the County to file civil actions against the Owner as provided by law.

3.3 Notice in Agreements. After the date of recordation hereof, all Owners and Occupants shall execute a written instrument which shall accompany all purchase agreements or leases relating to the property. Any such instrument shall contain the following statement:

The land described herein contains hazardous materials in soil vapor and in the groundwater under the property, and is subject to a deed restriction dated as of July 18<sup>th</sup>, 2017, and recorded on July 18<sup>th</sup>, 2017, in the Official Records of Alameda County, California, as Document No. \_\_\_\_\_, which Covenant and Environmental Restriction imposes certain covenants, conditions, and restrictions on usage of the property described herein. This statement is not a declaration that a hazard exists.

#### ARTICLE IV VARIANCE AND TERMINATION

4.1 Variance. Any Owner or, with the Owner's consent, any Occupant of the Burdened Property or any portion thereof may apply to the County for a written variance from the provisions of this Covenant.

4.2 Termination. Any Owner or, with the Owner's consent, any Occupant of the Burdened Property or a portion thereof may apply to the County for a termination of the Restrictions as they apply to all or any portion of the Burdened Property.

4.3 Term. Unless terminated in accordance with paragraph 4.2 above, by law or otherwise, this Covenant shall continue in effect in perpetuity.

## ARTICLE V MISCELLANEOUS

5.1 No Dedication Intended. Nothing set forth herein shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Burdened Property or any portion thereof to the general public.

5.2 Notices. Whenever any person gives or serves any notice, demand, or other communication with respect to this Covenant, each such notice, demand, or other communication shall be in writing and shall be deemed effective (1) when delivered, if personally delivered to the person being served or official of a government agency being served, or (2) three (3) business days after deposit in the mail if mailed by United States mail, postage paid certified, return receipt requested:

*If To: "Covenantor"*  
Dublin Apartment Properties, LLC  
6775 Golden Gate Drive  
Dublin, California

*If To: "County"*  
Alameda County Department of Environmental Health  
Attention: Director  
1131 Harbor Bay Parkway  
Alameda, California 94502

5.3 Partial Invalidity. If any portion of the Restrictions or terms set forth herein is determined to be invalid for any reason, the remaining portion shall remain in full force and effect as if such portion had not been included herein.

5.4 Article Headings. Headings at the beginning of each numbered article of this Covenant are solely for the convenience of the parties and are not a part of the Covenant.

5.5 Recordation. This instrument shall be executed by the Covenantor and by the Director of the Alameda County Department of Environmental Health. This instrument shall be recorded by the Covenantor in the County of Alameda within ten (10) days of the date of execution.

5.6 References. All references to Code sections include successor provisions.

**5.7 Construction.** Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the Covenant to effect the purpose of this instrument and the policy and purpose of the Water Code. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

IN WITNESS WHEREOF, the parties execute this Covenant as of the date set forth above.

Covenantor: Dublin Apartment Properties, LLC

By: [Signature] Bill R. Poland  
Title: Manager  
Date: July 17, 2017

STATE OF CALIFORNIA, COUNTY OF San Francisco

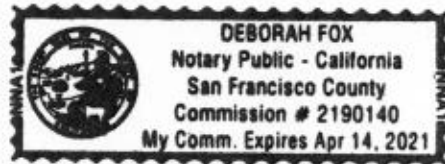
On July 17, 2017, before me Deborah Fox, Notary Public,  
personally appeared Bill R. Poland

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is /are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[Signature]  
Notary Public in and for said  
County and State



A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Agency: Alameda County Department of Environmental Health

By: [Signature] Ronald Browder  
Title: Director  
Date: 07-18-2017



STATE OF CALIFORNIA, COUNTY OF Alameda

On 7/18/2017 before me Emi Johnston, Notary Public,  
personally appeared

Ronald Browder

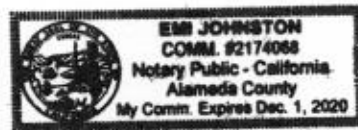
, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Emi Johnston

Notary Public in and for said  
County and State



A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

**ACKNOWLEDGMENT**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California  
County of San Francisco

On July 18, 2017 before me, Deborah Fox, Notary Public  
(insert name and title of the officer)

personally appeared Bill R. Poland  
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Deborah Fox

(Seal)



# CALIFORNIA CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California )

County of Alameda )

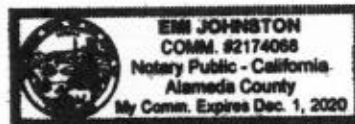
On 7/18/2017 before me, Emi Johnston, Notary Public,  
(here insert name and title of the officer)

personally appeared Ronald Browder

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature

Emi Johnston

(Seal)

## Optional Information

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

### Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document

titled for the purpose of Covenant of Environmental Restriction on Property, Dublin, CA containing \_\_\_\_\_ pages, and dated 7/18/2017.

The signer(s) capacity or authority is/are as:

- Individual(s)  
 Attorney-in-Fact  
 Corporate Officer(s) \_\_\_\_\_  
Title(s)

- Guardian/Conservator  
 Partner - Limited/General  
 Trustee(s)  
 Other: \_\_\_\_\_

representing: \_\_\_\_\_  
Name(s) of Person(s) or Entity(ies) Signer is Representing

### Additional Information

#### Method of Signer Identification

Proved to me on the basis of satisfactory evidence:  
 form(s) of identification     credible witness(es)

Notarial event is detailed in notary journal on:  
Page # \_\_\_\_\_ Entry # \_\_\_\_\_

Notary contact: 415-676-8007

#### Other

Additional Signer(s)     Signer(s) Thumbprint(s)



EXHIBIT A

LEGAL DESCRIPTION OF BURDENED PROPERTY

MAY 11, 2017  
JOB NO.: 2019-020

**DESCRIPTION**  
**DUBLIN APARTMENT PROPERTIES LLC**  
**DUBLIN, CALIFORNIA**

REAL PROPERTY, SITUATE IN THE INCORPORATED TERRITORY OF THE CITY OF DUBLIN, COUNTY OF ALAMEDA, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

BEING ALL THAT CERTAIN PARCEL OF LAND DESCRIBED IN THAT CERTAIN GRANT DEED RECORDED ON DECEMBER 31, 2014, AS DOCUMENT NO. 2014-319374 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF ALAMEDA COUNTY,

**EXCEPTING THEREFROM:**

BEING A PORTION OF SAID PARCEL OF LAND DESCRIBED IN SAID GRANT DEED RECORDED ON DECEMBER 31, 2014, AS DOCUMENT NO. 2014-319374 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF ALAMEDA COUNTY, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEASTERN CORNER OF SAID PARCEL OF LAND (2014-319374), SAID POINT ALSO BEING THE SOUTHEASTERN CORNER OF THAT CERTAIN PARCEL OF LAND DESCRIBED IN THAT CERTAIN FINAL ORDER OF CONDEMNATION RECORDED APRIL 8, 1997 AS DOCUMENT NO. 97090524 OF OFFICIAL RECORDS, IN SAID OFFICE OF THE COUNTY RECORDER OF ALAMEDA COUNTY;

THENCE, FROM SAID POINT OF COMMENCEMENT, ALONG THE NORTHERN LINE OF SAID PARCEL OF LAND (2014-319374), SOUTH 69°08'15" WEST 343.97 FEET TO THE TRUE POINT OF BEGINNING FOR THIS DESCRIPTION;

THENCE, LEAVING SAID NORTHERN LINE, ALONG THE ARC OF A TANGENT 35.00 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 90°00'00", AN ARC DISTANCE OF 54.98 FEET;

THENCE, SOUTH 20°51'45" EAST 176.60 FEET;

THENCE, ALONG THE ARC OF A TANGENT 210.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 12°05'44", AN ARC DISTANCE OF 44.33 FEET, TO A POINT OF REVERSE CURVATURE TO WHICH A RADIAL BEARS NORTH 81°13'59" EAST;

THENCE, ALONG THE ARC OF A 190.00 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 12°05'44", AN ARC DISTANCE OF 40.11 FEET;

THENCE, SOUTH 20°51'45" EAST 183.30 FEET;

THENCE, SOUTH 24°08'15" WEST 14.14 FEET TO A POINT ON THE WESTERN LINE OF SAID PARCEL OF LAND (2014-319374);

LEGAL DESCRIPTION

MAY 12, 2017  
JOB NO.: 2019-020

THENCE, ALONG SAID WESTERN LINE AND SAID NORTHERN LINE, THE FOLLOWING  
THREE (3) COURSES:

- 1) NORTH  $20^{\circ}51'45''$  WEST 446.72 FEET,
- 2) ALONG THE ARC OF A TANGENT 42.00 FOOT RADIUS CURVE TO THE  
RIGHT, THROUGH A CENTRAL ANGLE OF  $90^{\circ}00'00''$ , AN ARC  
DISTANCE OF 65.97 FEET, AND
- 3) NORTH  $69^{\circ}08'15''$  EAST 11.88 FEET TO SAID TRUE POINT OF  
BEGINNING.

EXHIBIT II  
END OF DESCRIPTION

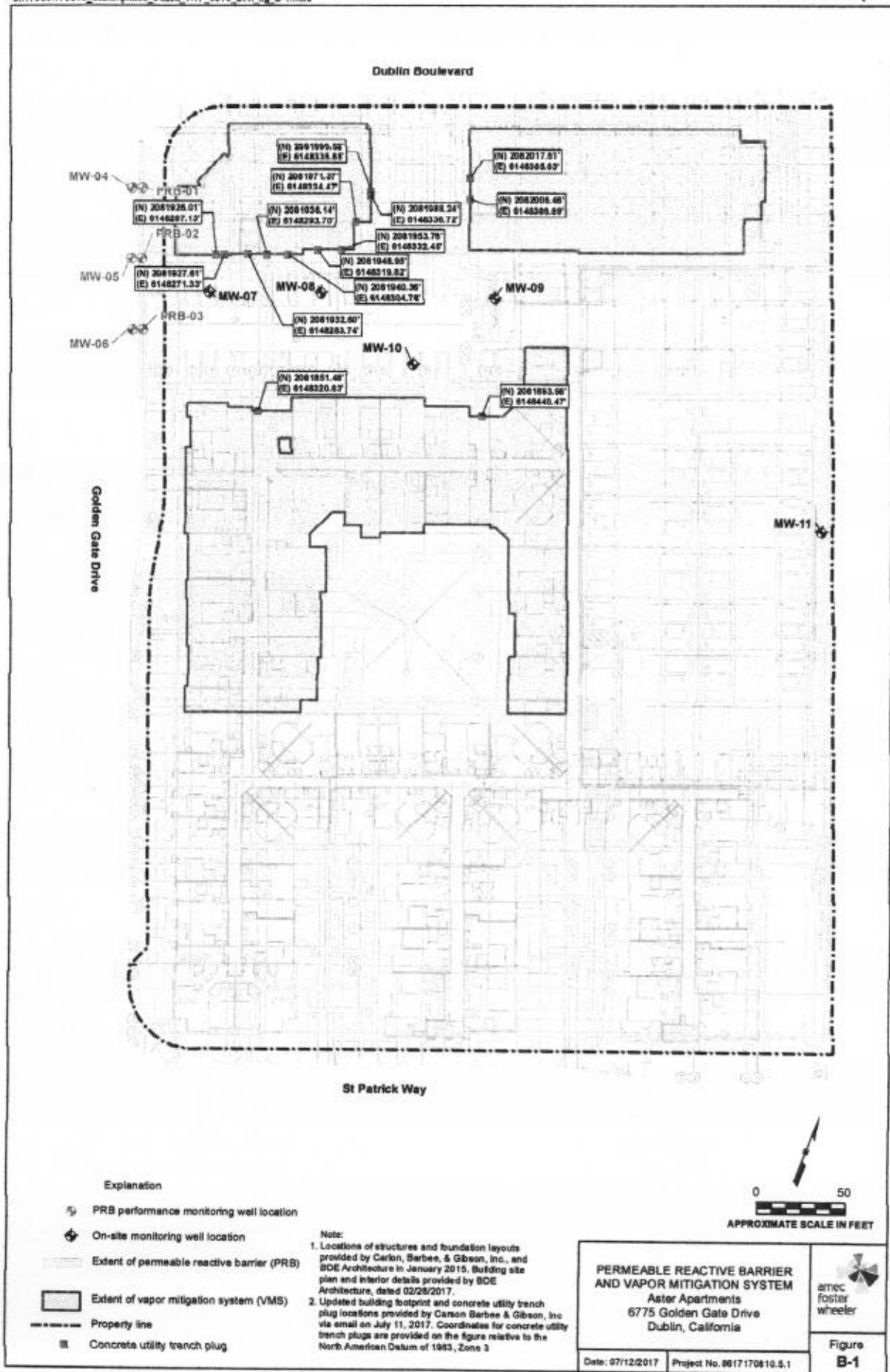


MARK WEHBER, P.L.S.  
L.S. NO. 7960



The original map can be found at: Aster Apartments  
 6775 Golden Gate Dr.  
 Dublin, CA 94568

S:\17000\170810\_dublin\phase 5\task 1\17\_0616 DR\fig B-1.mxd





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**APPENDIX B**

Soil Profiling Reports

May 5, 2015

Mr. Pete Beritzhoff  
Bay West Development  
2 Henry Adams Street  
Suite #450  
San Francisco, CA 94103

Subject: Results of Soil Profiling for Health and Safety Evaluation and Off-Site Disposal in Support of Redevelopment Activity at 7544 Dublin Blvd, Dublin, California.

## INTRODUCTION

Dear Mr. Beritzhoff

Stellar Environmental Solutions, Inc. (Stellar Environmental) is pleased to provide Bay West Development with this technical documentation report presenting the findings of the pre-grubbing excavation soil sampling investigation in the area of the planned redevelopment. The development area required demolition of existing parking areas and buildings including a former fuel tank and waste oil tank area. According to the grading plans provided by CBG the project area is approximately 337,500 square feet (sf) which includes 42,330 sf of existing building areas that will be demolished. The existing buildings, concrete and asphalt had been demolished and removed from the site prior to the time of the profile sampling discussed in this report.

The principal objective of this sampling work was conducted to characterize the soil for both offsite disposal options and to identify and evaluate any potential site worker exposure issues that may be present during upcoming construction/excavation activities.

Figure 1 is a site location map. The boring locations are shown on Figure 2.

## PRE-FIELD WORK ELEMENTS

This task encompasses the pre-field work elements of the project. Pre-fieldwork subtasks included:

- Schedule the analytical laboratory subcontractor;
- Preparation of project Health and Safety Plan in conformance with CalOSHA regulation including identifying route to the nearest hospital.

The specific project objectives for this project included:

- Collect two 4-point composite samples sets from 0-1 foot below ground surface (bgs);
- Evaluate the data against regulatory consideration for exposure and offsite disposal;
- Identify potential site worker exposure that may be present during upcoming construction/excavation activities; and
- Prepare this letter documentation report of the analytical results of the soil sampling, with conclusions and recommendations based on the findings.

### **SOIL SAMPLING PROTOCOL**

Based upon a total estimated export volume of 380 CYs (570 tons using a 1 to 1.5 multiplier for CY to tons), two 4-point composite samples were required (a minimum of one 4-point sample per 500 tons) to adequately profile the soil soils for offsite disposal to a California Class II landfill facility and make an assessment of the potential health risk concerns to site construction workers. This sampling provides sufficient density and representative coverage of the current soil conditions to characterize the site. Because the shallow upper foot of soil to be grubbed and graded likely contains some debris (asphalt, concrete, roots, etc.) making it less undesirable for beneficial re-use, the soil material is assumed to be required to be disposed of to a Class II landfill facility.

The soil samples were collected by Henry Pietropaoli, P.G, of Stellar Environmental, on April 20, 2015. The weather was clear and sunny. The samples were collected using a stainless-steel shovel/trowel to dig a 1 foot deep pothole from which a representative section of soil was collected from the surface to 1 foot deep. The shovel was decontaminated between potholes with a clean water rinse. Following sampling, each pothole was backfilled with the removed soil. Four potholes were dug to collect soil from which the 4-point composite sample was made.

Compositing entailed removal of any larger obvious rocks and organic debris from the retained soil sections and homogenizing the mix in a clean plastic bag. The mix was then placed into a 16-ounce laboratory-supplied glass jar, labeled and transferred to a cooler chilled with ice for transport to the analytical laboratory.

### **Site Soil Observations**

The site surface soils in the north and eastern portion of the area were observed to consist primarily of gravel baserock in a light brown fine sandy matrix that extended to a depth of 3- 6 inches that was underlain by black clay. Soil in the southwestern quadrant consisted of gravel baserock in light brown fine sandy matrix that extended to a depth of 6- 8 inches that was underlain by light brown silty sand. The footprint areas of the former buildings were slightly mounded, 6-8 inches higher than the surrounding site area.

Attachment A contains photodocumentation of the field activity. The locations of the sample points are shown on Figure 2.

## **ANALYTICAL METHODS**

### **Laboratory Analyses**

The analytical suite below is based on the general site history and typical regulated California landfill facility requirements.

The two composite samples collected were analyzed by the following the analytical method:

- Total extractable hydrocarbons – diesel and motor oil and hydraulic oil ranges (TEH-d/mo/ho) by EPA Method 8015M;
- Total volatile hydrocarbons – gasoline range (TVHg) by EPA Method 8020;
- Volatile Organic Compounds (VOCs) by EPA Method 8260 (includes benzene, toluene, ethylbenzene and xylenes);
- Semi Volatile Organic Compounds (SVOCs) by EPA Method 8270;
- Title 22 (17 listed metals) by EPA Method 6000 or 7000 series;
- Organochlorine Pesticides by EPA Method 8081;
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082; and
- California Waste Extraction Test (WET) analyses for the metal chromium (Cr).

Upon collection, soil samples were labeled and immediately placed in an ice chest with ice at approximately 4°C and transported by courier under chain-of-custody to McCampbell Analytical Laboratory of Pittsburg, California, a California Environmental Laboratory Accreditation Program (ELAP) certified laboratory.

Re-analysis by the CA Waste Extraction Test (CA-WET) of both samples for soluble Cr was required to make the hazardous vs. non-hazardous waste classification, pertaining to offsite disposal, because the total concentration exceeded the non-hazardous landfill screening criteria, (i.e., 10 times the Soluble Threshold Limit Concentrations [STLC]), or 50 mg/kg.

## **ANALYTICAL RESULTS OF SOIL SAMPLING**

The following is a brief summary of the sample analytical results discussed in the context of comparative regulatory criteria published by the California Regional Water Quality Control Board



(Water Board) commercial and construction/trench worker direct exposure Environmental Screening Limits (ESLs) and California landfill disposal guidelines:

### **Total Petroleum Hydrocarbons as Gasoline, Diesel and Motor Oil-Hydraulic Oil**

Both samples contained trace concentrations of TEHd and only sample C1 contained low concentrations of TEHmo-ho but was below the most conservative Water Board residential ESL exposure criteria and the direct exposure construction/trench worker ESL criteria. No TPH as gasoline was detected in either sample.

### **Volatile Organic Compounds (VOCs)**

No VOCs, including those associated with petroleum hydrocarbons (benzene, toluene, ethylbenzene, xylenes and methyl-tert butyl ether (MTBE)] were detected at concentrations above the laboratory detection limits in either of the samples.

### **Title 22 List Metals**

The soils showed elevated chromium (Cr) in both samples that required additional analysis by the CA Waste Extraction Test (WET) method to determine whether there were offsite landfill disposal constraints.

The sampling results showed concentrations of the metal arsenic (As) in both samples to be above the Water Board ESL criteria pertaining to risk of direct exposure to construction/trench workers.

### **CA Waste Extraction Test Results**

The results the CA WET analysis of both sample showed no Cr solute at or exceeding the 5 mg/L, hazardous waste threshold for soluble chromium. Therefore the soil may be disposed to a regulated or non-hazardous, at a California landfill facility and/or any acceptable unregulated/unclassified receiving facility that would like to use the soil.

### **Polychlorinated Biphenols (PCBs)**

No PCBs were detected at concentrations above the laboratory detection limits.

### **Semi-Volatile Organic Hydrocarbons (SVOCs)**

No SVOCs were detected at concentrations above the laboratory detection limits.

## **Organochlorine Pesticides**

Only a trace concentration of the pesticide dichlorodiphenyldichloroethylene (p,p-DDE) was detected at a concentration above the laboratory detection limits but is below the Water Board residential and direct exposure ESLs

## **LABORATORY QUALITY ASSURANCE**

Laboratory internal quality control (QC) procedures included analysis of method blanks, control spikes, and surrogate spiked samples. The certified analytical laboratory reports and chain of custody records are contained in Attachment B.

## **REGULATORY CONSIDERATIONS**

Stellar Environmental compared the soil data to the relevant Regional Water Quality Control Board (Water Board) Environmental Screening level (ESL) criteria for shallow soil in commercial /industrial areas where groundwater is considered a drinking water source (Water Board 2013). The analytical results of this soil evaluation showed no significant contaminant concentrations of regulatory concern pertaining to risks to human health and the environment, although the metal arsenic was, as is commonly the case, above its ESL. The relevant regulatory criteria are discussed here for information purposes. The landfill and regulatory considerations regarding detected contaminant of concern identified in soil that pertain to this site project include:

- Hazardous concentration thresholds defining the lead as hazardous (California Administrative Code Title 22) and offsite disposal and analytical considerations;
- Regional Water Quality Control Board (Water Board) guidance related to whether additional investigations should be considered ESLs; and
- Health and Safety consideration established by the Occupational Safety and Health Administration (OSHA).

**Hazardous Concentration Thresholds:** Soil sample analytical results are also compared to both total and soluble concentration-based criteria (Total Threshold Limit Concentrations [TTLCs] and Soluble Threshold Limit Concentrations [STLCs]). A soil that exceeds the TTLC is by definition a hazardous waste. STLC is used to define the “soluble fraction” that classifies a “waste” as California hazardous waste. This is only applied to waste soil that is being considered for offsite disposal to a landfill. Non-hazardous disposal facilities utilize a rule-of-thumb guideline to interpret total contaminant concentrations relative to the STLC hazardous waste criteria. Soils or waste with total contaminant concentrations in excess of 10 times the STLC have the potential to be classified as hazardous and are required to be analyzed by the California Waste Extraction Test (WET) and if the

subsequent solute analysis results exceeds 5 mg/L, (the STLC for Cr), the soil or waste must then be disposed of to a California Class I hazardous waste facility. The Class I landfill would then also require an additional Toxic Characteristic Leaching Procedure (TCLP) test to determine whether stabilization of the waste will be required. In this case, chromium in both samples exceeded 10x the STLC, having a concentration greater than 50 mg/kg and therefore the WET was required, however both samples passed the WET and the soil can therefore be disposed to a non-hazardous landfill facility or even to an unclassified reuse facility if a recipient site can be found.

**Water Board Considerations:** The Water Board established ESLs as conservative numerical standards for evaluating the likelihood of environmental impact, specifically to groundwater. ESLs are screening-level criteria for soil and groundwater, designed to be generally protective of drinking water resources and aquatic environments. There are also ESLs for soil gas to address the potential for indoor air intrusion from volatile organic compounds off-gassing from soil or groundwater but those are not relevant here. ESLs are not cleanup criteria (i.e., health-based numerical values or disposal-based values). The ESLs are conservative criteria used to evaluate if remediation and/or additional investigation are needed to determine potential impacts to human health or the environment, particularly groundwater, which the Water Board has a mandate to protect.

In the most preliminary stage (Tier 1, as utilized in this assessment), direct “look-up” tables provide numerical criteria, below which contamination is generally determined to have little or no significant risk to human receptors or the environment. The Tier 1 ESL values for soil are used depending on various site factors (land use: commercial/industrial versus residential), soil depth, lithology, and groundwater usage) and various risk pathways (direct exposure, groundwater protection, indoor air impacts, etc.). Exceedance of ESLs may warrant additional actions, such as more extensive sampling events, and/or remediation is warranted.

For the construction/trench worker direct exposure scenario, only arsenic was detected above the ESL of 10 mg/kg in sample C2 (at 15 mg/kg). The naturally-occurring (background) concentrations of arsenic in soil throughout the San Francisco Bay Area commonly ranges from 10 mg/kg to 20 mg/kg, with 11 mg/kg arsenic currently designated by the Water Board as the California background concentration. Exceeding the ESL for arsenic in sample C2 warrants dermal, inhalation protection and dust mitigation measures during critical earthwork activities. Dermal exposure is easy to mitigate by standard practices of hand washing, etc. Inhalation exposure is only a risk when significant fugitive dust allows particulates into the breathing zone. Future dust can be controlled by standard construction phase wetting practices.

**OSHA Considerations:** There were no contaminants detected in the site soils at concentrations in excess of California Occupational Safety and Health Administration (Cal-OSHA) Title 8 published “threshold criterion” that dictate whether air (particulates, dusts, fumes, mists, vapors, and gases)

monitoring is necessary to document adherence to site occupant and worker safety and health standards during redevelopment including construction, excavations and demolition activities.

When standard industry Best Management Practices (BMPs) are implemented (to minimize fugitive dust emissions), during development activities, the potential is very low for worker or bystander exposure to airborne dust, even during construction activity. Worker exposure limits for various contaminants by dermal, ingestion or inhalation are set by the U.S.OSHA, as well as the State OSHA (Cal-OSHA). The most stringent criterion for dust inhalation is the OSHA Permissible Exposure Level (PEL) = 8-hour time-weighted average per cubic meter air ( $\text{mg}/\text{m}^3$ ).

### **SUMMARY AND CONCLUSIONS**

Stellar Environmental compared the analytical concentrations to the applicable Water Board ESL and criterion for applicable exposure risk scenario and for offsite landfill disposal and have arrived at the following conclusions:

- There were no petroleum hydrocarbons, volatile organochlorine pesticides, PCBs, or metals detected in excess of any regulatory screening levels pertaining to risks to human health or the environment.
- All of the analyzed compounds were documented at concentrations below hazardous levels for all compounds. All compounds were below ESLs except the metal except arsenic (As) which exceeded the Water Board ESL as it pertains to construction/trench worker direct exposure risk. Exceedance of the ESL for As in sample C2 may warrant a fugitive dust abatement plan with best management practices to mitigate the dermal and inhalation worker exposure scenario. This dust mitigation monitoring measures during earthwork activities could be established at the onset of the excavation phase to demonstrate that the BMP are mitigating the fugitive dust. Other than best management practices to minimize dust and dermal contact, discussed below, no additional health and safety precautions should be required during the earth moving operations.
- Both soil samples Cr concentrations above the 50 mg/kg that stipulates the samples be re-analyzed by the CA WET method to determine the waste classification. The WET solute did not meet or exceed the concentration of 5 mg/l which would classify it as hazardous Class I disposal and thus the soil is classified as non-hazardous and may be disposed to a regulated Class II facility or any acceptable unregulated/unclassified or receiving facility that would like to use the soil.
- Standard construction phase Best Management practices to mitigate fugitive dust should be employed during redevelopment activities.

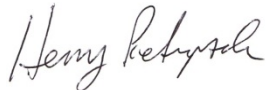
## **RECOMMENDATIONS**

The following are recommendations made to ensure the health and safety to both site occupants and construction workers during redevelopment activities include:

- Best Management Practices such as gloves and water spray for dust control should always be employed during earthwork to minimize the potential risk of exposure via dermal, ingestion or inhalation routes to the one identified contaminant of concern, arsenic (in soil) .
- Particulate air sampling could be conducted during earth moving activities as part of health and safety monitoring to document usage of proper dust control measures to mitigate potential exposure risk.
- Work upwind of soils being excavated (or plan the work on a non-windy day) with active dust controls in effect (water spray suppression on-hand).
- During soil excavation and grading open areas, ground and soil stockpiles should be wetted or covered if fugitive dust emissions are observed.
- Soil stockpiles must be protected against the possibility of children or other non-construction persons contacting the soil and to prevent fugitive dust emissions. This can be achieved by secure site fencing and securing (adequately weighted down) stockpiled soil beneath heavy plastic (Visqueen) sheeting cover (6-mil nominal).
- Construction vehicle wheels leaving the site should be inspected and brushed/cleaned as necessary to ensure that soils are not incidentally tracked offsite.

Stellar Environmental appreciates the opportunity to provide Bay West Development with the requested technical services. If you have any questions, please feel free to call us at 510-644-3123.

Sincerely,



Henry Pietropaoli, P.G.  
Project Manager



Richard Makdisi, P.G.  
Principal Geochemist/President

## **FIGURES**

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2015-28-01



**SITE LOCATION MAP**

7544 Dublin Blvd  
Dublin, California

By: MJC

APRIL 2015

**Figure 1**







**LEGEND**

- - - Subject property boundary
- Composite sample collection point

0 130

SCALE: 1" = 130 FEET



**LOCATION OF DISPOSAL PROFILE COMPOSITE SAMPLING POINTS**

7544 Dublin Blvd  
Dublin, California

By: MJC

APRIL 2015

**Figure 2**





## **ANALYTICAL SUMMARY TABLE**

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**Analytical Results of Four Point Composite Soil Profile Sampling  
Redevelopment Activity at 7544 Dublin Blvd,  
Dublin, California**

Sample ID	Depth (inches bg)	Title 22 Metals (mg/kg)		Chromium CA-WET Result (mg/L)	TPH motor oil - hydraulic oil (mg/kg)	TPH-diesel (mg/kg)	TPH-gas MBTEX (mg/kg)	Pesticides and PCBs * (mg/kg)	SVOCs
		Arsenic	Chromium						
C1	0-12	<b>7.2</b>	<u>56</u>	0.43	280	1.1	All ND	DDE = 0.017	All ND
C2	0-12	<b>15</b>	<u>65</u>	0.11	<5.0	<5.0	All ND	All ND	All ND
<b>ESL (commercial/industrial designation)</b>		1.6	2,500	NA	100,000	1,100	various	DDE = 7.0	various
<b>ESL (construction/trench worker exposure)</b>		10	2,500	NA	28,000	900	various	DDE = 50	various

Notes: TPH = total petroleum hydrocarbons; MBTEX = methyl tert-butyl ether, benzene, toluene, ethylbenzene, and total xylenes; SVOCs = semi-volatile organic compounds; STLC = Soluble Threshold Limit Concentration; ND = no detection above laboratory reporting limit; NA = not analyzed or not applicable; mg/kg = milligrams per kilogram; mg/L = milligrams per liter; bg = below grade; ESL = Environmental Screening Level for shallow soil in commercial /industrial areas where groundwater is considered a drinking water source (Water Board 2013); Results in **bold-face** type exceed applicable ESL ; Results underlined show concentration at or exceeds 50 mg/kg (>10x the Cr STLC of 5 mg/kg) and required additional analysis by CA WET; CA-WET = California waste extraction test (> 5 mg/L Cr elevates material to hazardous waste in California); NLP = No level published; \* = only the pesticide dichlorodiphenyldichloroethylene (p,p-DDE) was detected

# **ATTACHMENT A**

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## **Photo-Documentation**



Subject: Recently graded site

Site: 7544 Dublin Blvd, Dublin, California

Date Taken: April 20, 2015

Project No.: SES 2015-28

Photographer: H. Pietropaoli

Photo No.: 01



Subject: Location of composite sample point

Site: 7544 Dublin Blvd, Dublin, California

Date Taken: April 20, 2015

Project No.: SES 2015-28

Photographer: H. Pietropaoli

Photo No.: 02

## **ATTACHMENT B**

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### **Certified Analytical Lab Report and Chain-of-Custody Documentation**



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1504840

**Report Created for:** Stellar Environmental Solutions  
2198 Sixth St. #201  
Berkeley, CA 94710

**Project Contact:** Richard Makdisi  
**Project P.O.:**  
**Project Name:** #2015-28; Soil Profile

**Project Received:** 04/21/2015

Analytical Report reviewed & approved for release on 04/28/2015 by:

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.*





## Glossary of Terms & Qualifier Definitions

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**WorkOrder:** 1504840

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

### Analytical Qualifiers

a3	sample diluted due to high organic content.
a4	reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant

### Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.
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## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A/8082  
**Unit:** mg/kg

### Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	GC23	103903

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.020	20	04/24/2015 07:44
a-BHC	ND	0.020	20	04/24/2015 07:44
b-BHC	ND	0.020	20	04/24/2015 07:44
d-BHC	ND	0.020	20	04/24/2015 07:44
g-BHC	ND	0.020	20	04/24/2015 07:44
Chlordane (Technical)	ND	0.50	20	04/24/2015 07:44
a-Chlordane	ND	0.020	20	04/24/2015 07:44
g-Chlordane	ND	0.020	20	04/24/2015 07:44
p,p-DDD	ND	0.020	20	04/24/2015 07:44
p,p-DDE	ND	0.020	20	04/24/2015 07:44
p,p-DDT	ND	0.020	20	04/24/2015 07:44
Dieldrin	ND	0.020	20	04/24/2015 07:44
Endosulfan I	ND	0.020	20	04/24/2015 07:44
Endosulfan II	ND	0.020	20	04/24/2015 07:44
Endosulfan sulfate	ND	0.020	20	04/24/2015 07:44
Endrin	ND	0.020	20	04/24/2015 07:44
Endrin aldehyde	ND	0.020	20	04/24/2015 07:44
Endrin ketone	ND	0.020	20	04/24/2015 07:44
Heptachlor	ND	0.020	20	04/24/2015 07:44
Heptachlor epoxide	ND	0.020	20	04/24/2015 07:44
Hexachlorobenzene	ND	0.20	20	04/24/2015 07:44
Hexachlorocyclopentadiene	ND	0.40	20	04/24/2015 07:44
Methoxychlor	ND	0.020	20	04/24/2015 07:44
Toxaphene	ND	1.0	20	04/24/2015 07:44
Aroclor1016	ND	1.0	20	04/24/2015 07:44
Aroclor1221	ND	1.0	20	04/24/2015 07:44
Aroclor1232	ND	1.0	20	04/24/2015 07:44
Aroclor1242	ND	1.0	20	04/24/2015 07:44
Aroclor1248	ND	1.0	20	04/24/2015 07:44
Aroclor1254	ND	1.0	20	04/24/2015 07:44
Aroclor1260	ND	1.0	20	04/24/2015 07:44
PCBs, total	ND	1.0	20	04/24/2015 07:44

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	112	70-130	04/24/2015 07:44

Analyst(s): SS

Analytical Comments: a3

(Cont.)





## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A/8082  
**Unit:** mg/kg

### Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	GC23	103903

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	04/24/2015 06:30
a-BHC	ND	0.0010	1	04/24/2015 06:30
b-BHC	ND	0.0010	1	04/24/2015 06:30
d-BHC	ND	0.0010	1	04/24/2015 06:30
g-BHC	ND	0.0010	1	04/24/2015 06:30
Chlordane (Technical)	ND	0.025	1	04/24/2015 06:30
a-Chlordane	ND	0.0010	1	04/24/2015 06:30
g-Chlordane	ND	0.0010	1	04/24/2015 06:30
p,p-DDD	ND	0.0010	1	04/24/2015 06:30
p,p-DDE	<b>0.0017</b>	0.0010	1	04/24/2015 06:30
p,p-DDT	ND	0.0010	1	04/24/2015 06:30
Dieldrin	ND	0.0010	1	04/24/2015 06:30
Endosulfan I	ND	0.0010	1	04/24/2015 06:30
Endosulfan II	ND	0.0010	1	04/24/2015 06:30
Endosulfan sulfate	ND	0.0010	1	04/24/2015 06:30
Endrin	ND	0.0010	1	04/24/2015 06:30
Endrin aldehyde	ND	0.0010	1	04/24/2015 06:30
Endrin ketone	ND	0.0010	1	04/24/2015 06:30
Heptachlor	ND	0.0010	1	04/24/2015 06:30
Heptachlor epoxide	ND	0.0010	1	04/24/2015 06:30
Hexachlorobenzene	ND	0.010	1	04/24/2015 06:30
Hexachlorocyclopentadiene	ND	0.020	1	04/24/2015 06:30
Methoxychlor	ND	0.0010	1	04/24/2015 06:30
Toxaphene	ND	0.050	1	04/24/2015 06:30
Aroclor1016	ND	0.050	1	04/24/2015 06:30
Aroclor1221	ND	0.050	1	04/24/2015 06:30
Aroclor1232	ND	0.050	1	04/24/2015 06:30
Aroclor1242	ND	0.050	1	04/24/2015 06:30
Aroclor1248	ND	0.050	1	04/24/2015 06:30
Aroclor1254	ND	0.050	1	04/24/2015 06:30
Aroclor1260	ND	0.050	1	04/24/2015 06:30
PCBs, total	ND	0.050	1	04/24/2015 06:30

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	90	70-130	04/24/2015 06:30

Analyst(s): SS



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	GC28	103881

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	04/28/2015 12:44
tert-Amyl methyl ether (TAME)	ND	0.0050	1	04/28/2015 12:44
Benzene	ND	0.0050	1	04/28/2015 12:44
Bromobenzene	ND	0.0050	1	04/28/2015 12:44
Bromochloromethane	ND	0.0050	1	04/28/2015 12:44
Bromodichloromethane	ND	0.0050	1	04/28/2015 12:44
Bromoform	ND	0.0050	1	04/28/2015 12:44
Bromomethane	ND	0.0050	1	04/28/2015 12:44
2-Butanone (MEK)	ND	0.020	1	04/28/2015 12:44
t-Butyl alcohol (TBA)	ND	0.050	1	04/28/2015 12:44
n-Butyl benzene	ND	0.0050	1	04/28/2015 12:44
sec-Butyl benzene	ND	0.0050	1	04/28/2015 12:44
tert-Butyl benzene	ND	0.0050	1	04/28/2015 12:44
Carbon Disulfide	ND	0.0050	1	04/28/2015 12:44
Carbon Tetrachloride	ND	0.0050	1	04/28/2015 12:44
Chlorobenzene	ND	0.0050	1	04/28/2015 12:44
Chloroethane	ND	0.0050	1	04/28/2015 12:44
Chloroform	ND	0.0050	1	04/28/2015 12:44
Chloromethane	ND	0.0050	1	04/28/2015 12:44
2-Chlorotoluene	ND	0.0050	1	04/28/2015 12:44
4-Chlorotoluene	ND	0.0050	1	04/28/2015 12:44
Dibromochloromethane	ND	0.0050	1	04/28/2015 12:44
1,2-Dibromo-3-chloropropane	ND	0.0040	1	04/28/2015 12:44
1,2-Dibromoethane (EDB)	ND	0.0040	1	04/28/2015 12:44
Dibromomethane	ND	0.0050	1	04/28/2015 12:44
1,2-Dichlorobenzene	ND	0.0050	1	04/28/2015 12:44
1,3-Dichlorobenzene	ND	0.0050	1	04/28/2015 12:44
1,4-Dichlorobenzene	ND	0.0050	1	04/28/2015 12:44
Dichlorodifluoromethane	ND	0.0050	1	04/28/2015 12:44
1,1-Dichloroethane	ND	0.0050	1	04/28/2015 12:44
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	04/28/2015 12:44
1,1-Dichloroethene	ND	0.0050	1	04/28/2015 12:44
cis-1,2-Dichloroethene	ND	0.0050	1	04/28/2015 12:44
trans-1,2-Dichloroethene	ND	0.0050	1	04/28/2015 12:44
1,2-Dichloropropane	ND	0.0050	1	04/28/2015 12:44
1,3-Dichloropropane	ND	0.0050	1	04/28/2015 12:44
2,2-Dichloropropane	ND	0.0050	1	04/28/2015 12:44
1,1-Dichloropropene	ND	0.0050	1	04/28/2015 12:44

(Cont.)



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	GC28	103881

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.0050	1	04/28/2015 12:44
trans-1,3-Dichloropropene	ND	0.0050	1	04/28/2015 12:44
Diisopropyl ether (DIPE)	ND	0.0050	1	04/28/2015 12:44
Ethylbenzene	ND	0.0050	1	04/28/2015 12:44
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	04/28/2015 12:44
Freon 113	ND	0.0050	1	04/28/2015 12:44
Hexachlorobutadiene	ND	0.0050	1	04/28/2015 12:44
Hexachloroethane	ND	0.0050	1	04/28/2015 12:44
2-Hexanone	ND	0.0050	1	04/28/2015 12:44
Isopropylbenzene	ND	0.0050	1	04/28/2015 12:44
4-Isopropyl toluene	ND	0.0050	1	04/28/2015 12:44
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	04/28/2015 12:44
Methylene chloride	ND	0.0050	1	04/28/2015 12:44
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	04/28/2015 12:44
Naphthalene	ND	0.0050	1	04/28/2015 12:44
n-Propyl benzene	ND	0.0050	1	04/28/2015 12:44
Styrene	ND	0.0050	1	04/28/2015 12:44
1,1,1,2-Tetrachloroethane	ND	0.0050	1	04/28/2015 12:44
1,1,2,2-Tetrachloroethane	ND	0.0050	1	04/28/2015 12:44
Tetrachloroethene	ND	0.0050	1	04/28/2015 12:44
Toluene	ND	0.0050	1	04/28/2015 12:44
1,2,3-Trichlorobenzene	ND	0.0050	1	04/28/2015 12:44
1,2,4-Trichlorobenzene	ND	0.0050	1	04/28/2015 12:44
1,1,1-Trichloroethane	ND	0.0050	1	04/28/2015 12:44
1,1,2-Trichloroethane	ND	0.0050	1	04/28/2015 12:44
Trichloroethene	ND	0.0050	1	04/28/2015 12:44
Trichlorofluoromethane	ND	0.0050	1	04/28/2015 12:44
1,2,3-Trichloropropane	ND	0.0050	1	04/28/2015 12:44
1,2,4-Trimethylbenzene	ND	0.0050	1	04/28/2015 12:44
1,3,5-Trimethylbenzene	ND	0.0050	1	04/28/2015 12:44
Vinyl Chloride	ND	0.0050	1	04/28/2015 12:44
Xylenes, Total	ND	0.0050	1	04/28/2015 12:44

(Cont.)



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	GC28	103881

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	106	70-130		04/28/2015 12:44
Toluene-d8	122	70-130		04/28/2015 12:44
4-BFB	115	70-130		04/28/2015 12:44

**Analyst(s):** AK



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	GC28	103881

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	04/28/2015 12:06
tert-Amyl methyl ether (TAME)	ND	0.0050	1	04/28/2015 12:06
Benzene	ND	0.0050	1	04/28/2015 12:06
Bromobenzene	ND	0.0050	1	04/28/2015 12:06
Bromochloromethane	ND	0.0050	1	04/28/2015 12:06
Bromodichloromethane	ND	0.0050	1	04/28/2015 12:06
Bromoform	ND	0.0050	1	04/28/2015 12:06
Bromomethane	ND	0.0050	1	04/28/2015 12:06
2-Butanone (MEK)	ND	0.020	1	04/28/2015 12:06
t-Butyl alcohol (TBA)	ND	0.050	1	04/28/2015 12:06
n-Butyl benzene	ND	0.0050	1	04/28/2015 12:06
sec-Butyl benzene	ND	0.0050	1	04/28/2015 12:06
tert-Butyl benzene	ND	0.0050	1	04/28/2015 12:06
Carbon Disulfide	ND	0.0050	1	04/28/2015 12:06
Carbon Tetrachloride	ND	0.0050	1	04/28/2015 12:06
Chlorobenzene	ND	0.0050	1	04/28/2015 12:06
Chloroethane	ND	0.0050	1	04/28/2015 12:06
Chloroform	ND	0.0050	1	04/28/2015 12:06
Chloromethane	ND	0.0050	1	04/28/2015 12:06
2-Chlorotoluene	ND	0.0050	1	04/28/2015 12:06
4-Chlorotoluene	ND	0.0050	1	04/28/2015 12:06
Dibromochloromethane	ND	0.0050	1	04/28/2015 12:06
1,2-Dibromo-3-chloropropane	ND	0.0040	1	04/28/2015 12:06
1,2-Dibromoethane (EDB)	ND	0.0040	1	04/28/2015 12:06
Dibromomethane	ND	0.0050	1	04/28/2015 12:06
1,2-Dichlorobenzene	ND	0.0050	1	04/28/2015 12:06
1,3-Dichlorobenzene	ND	0.0050	1	04/28/2015 12:06
1,4-Dichlorobenzene	ND	0.0050	1	04/28/2015 12:06
Dichlorodifluoromethane	ND	0.0050	1	04/28/2015 12:06
1,1-Dichloroethane	ND	0.0050	1	04/28/2015 12:06
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	04/28/2015 12:06
1,1-Dichloroethene	ND	0.0050	1	04/28/2015 12:06
cis-1,2-Dichloroethene	ND	0.0050	1	04/28/2015 12:06
trans-1,2-Dichloroethene	ND	0.0050	1	04/28/2015 12:06
1,2-Dichloropropane	ND	0.0050	1	04/28/2015 12:06
1,3-Dichloropropane	ND	0.0050	1	04/28/2015 12:06
2,2-Dichloropropane	ND	0.0050	1	04/28/2015 12:06
1,1-Dichloropropene	ND	0.0050	1	04/28/2015 12:06

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## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	GC28	103881

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.0050	1	04/28/2015 12:06
trans-1,3-Dichloropropene	ND	0.0050	1	04/28/2015 12:06
Diisopropyl ether (DIPE)	ND	0.0050	1	04/28/2015 12:06
Ethylbenzene	ND	0.0050	1	04/28/2015 12:06
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	04/28/2015 12:06
Freon 113	ND	0.0050	1	04/28/2015 12:06
Hexachlorobutadiene	ND	0.0050	1	04/28/2015 12:06
Hexachloroethane	ND	0.0050	1	04/28/2015 12:06
2-Hexanone	ND	0.0050	1	04/28/2015 12:06
Isopropylbenzene	ND	0.0050	1	04/28/2015 12:06
4-Isopropyl toluene	ND	0.0050	1	04/28/2015 12:06
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	04/28/2015 12:06
Methylene chloride	ND	0.0050	1	04/28/2015 12:06
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	04/28/2015 12:06
Naphthalene	ND	0.0050	1	04/28/2015 12:06
n-Propyl benzene	ND	0.0050	1	04/28/2015 12:06
Styrene	ND	0.0050	1	04/28/2015 12:06
1,1,1,2-Tetrachloroethane	ND	0.0050	1	04/28/2015 12:06
1,1,2,2-Tetrachloroethane	ND	0.0050	1	04/28/2015 12:06
Tetrachloroethene	ND	0.0050	1	04/28/2015 12:06
Toluene	ND	0.0050	1	04/28/2015 12:06
1,2,3-Trichlorobenzene	ND	0.0050	1	04/28/2015 12:06
1,2,4-Trichlorobenzene	ND	0.0050	1	04/28/2015 12:06
1,1,1-Trichloroethane	ND	0.0050	1	04/28/2015 12:06
1,1,2-Trichloroethane	ND	0.0050	1	04/28/2015 12:06
Trichloroethene	ND	0.0050	1	04/28/2015 12:06
Trichlorofluoromethane	ND	0.0050	1	04/28/2015 12:06
1,2,3-Trichloropropane	ND	0.0050	1	04/28/2015 12:06
1,2,4-Trimethylbenzene	ND	0.0050	1	04/28/2015 12:06
1,3,5-Trimethylbenzene	ND	0.0050	1	04/28/2015 12:06
Vinyl Chloride	ND	0.0050	1	04/28/2015 12:06
Xylenes, Total	ND	0.0050	1	04/28/2015 12:06

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## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	GC28	103881

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	106	70-130		04/28/2015 12:06
Toluene-d8	119	70-130		04/28/2015 12:06
4-BFB	113	70-130		04/28/2015 12:06

**Analyst(s):** AK





## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	GC21	103879
Analytes	Result	RL	DF	Date Analyzed	
Acenaphthene	ND	10	5	04/21/2015 22:40	
Acenaphthylene	ND	10	5	04/21/2015 22:40	
Acetochlor	ND	10	5	04/21/2015 22:40	
Anthracene	ND	10	5	04/21/2015 22:40	
Benzidine	ND	52	5	04/21/2015 22:40	
Benzo (a) anthracene	ND	10	5	04/21/2015 22:40	
Benzo (b) fluoranthene	ND	10	5	04/21/2015 22:40	
Benzo (k) fluoranthene	ND	10	5	04/21/2015 22:40	
Benzo (g,h,i) perylene	ND	10	5	04/21/2015 22:40	
Benzo (a) pyrene	ND	10	5	04/21/2015 22:40	
Benzyl Alcohol	ND	52	5	04/21/2015 22:40	
1,1-Biphenyl	ND	10	5	04/21/2015 22:40	
Bis (2-chloroethoxy) Methane	ND	10	5	04/21/2015 22:40	
Bis (2-chloroethyl) Ether	ND	10	5	04/21/2015 22:40	
Bis (2-chloroisopropyl) Ether	ND	10	5	04/21/2015 22:40	
Bis (2-ethylhexyl) Adipate	ND	10	5	04/21/2015 22:40	
Bis (2-ethylhexyl) Phthalate	ND	10	5	04/21/2015 22:40	
4-Bromophenyl Phenyl Ether	ND	10	5	04/21/2015 22:40	
Butylbenzyl Phthalate	ND	10	5	04/21/2015 22:40	
4-Chloroaniline	ND	20	5	04/21/2015 22:40	
4-Chloro-3-methylphenol	ND	10	5	04/21/2015 22:40	
2-Chloronaphthalene	ND	10	5	04/21/2015 22:40	
2-Chlorophenol	ND	10	5	04/21/2015 22:40	
4-Chlorophenyl Phenyl Ether	ND	10	5	04/21/2015 22:40	
Chrysene	ND	10	5	04/21/2015 22:40	
Dibenzo (a,h) anthracene	ND	10	5	04/21/2015 22:40	
Dibenzofuran	ND	10	5	04/21/2015 22:40	
Di-n-butyl Phthalate	ND	10	5	04/21/2015 22:40	
1,2-Dichlorobenzene	ND	10	5	04/21/2015 22:40	
1,3-Dichlorobenzene	ND	10	5	04/21/2015 22:40	
1,4-Dichlorobenzene	ND	10	5	04/21/2015 22:40	
3,3-Dichlorobenzidine	ND	20	5	04/21/2015 22:40	
2,4-Dichlorophenol	ND	10	5	04/21/2015 22:40	
Diethyl Phthalate	ND	10	5	04/21/2015 22:40	
2,4-Dimethylphenol	ND	10	5	04/21/2015 22:40	
Dimethyl Phthalate	ND	10	5	04/21/2015 22:40	
4,6-Dinitro-2-methylphenol	ND	52	5	04/21/2015 22:40	
2,4-Dinitrophenol	ND	250	5	04/21/2015 22:40	

(Cont.)



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	GC21	103879

Analytes	Result	RL	DF	Date Analyzed
2,4-Dinitrotoluene	ND	10	5	04/21/2015 22:40
2,6-Dinitrotoluene	ND	10	5	04/21/2015 22:40
Di-n-octyl Phthalate	ND	20	5	04/21/2015 22:40
1,2-Diphenylhydrazine	ND	10	5	04/21/2015 22:40
Fluoranthene	ND	10	5	04/21/2015 22:40
Fluorene	ND	10	5	04/21/2015 22:40
Hexachlorobenzene	ND	10	5	04/21/2015 22:40
Hexachlorobutadiene	ND	10	5	04/21/2015 22:40
Hexachlorocyclopentadiene	ND	52	5	04/21/2015 22:40
Hexachloroethane	ND	10	5	04/21/2015 22:40
Indeno (1,2,3-cd) pyrene	ND	10	5	04/21/2015 22:40
Isophorone	ND	10	5	04/21/2015 22:40
2-Methylnaphthalene	ND	10	5	04/21/2015 22:40
2-Methylphenol (o-Cresol)	ND	10	5	04/21/2015 22:40
3 & 4-Methylphenol (m,p-Cresol)	ND	10	5	04/21/2015 22:40
Naphthalene	ND	10	5	04/21/2015 22:40
2-Nitroaniline	ND	52	5	04/21/2015 22:40
3-Nitroaniline	ND	52	5	04/21/2015 22:40
4-Nitroaniline	ND	52	5	04/21/2015 22:40
Nitrobenzene	ND	10	5	04/21/2015 22:40
2-Nitrophenol	ND	52	5	04/21/2015 22:40
4-Nitrophenol	ND	52	5	04/21/2015 22:40
N-Nitrosodiphenylamine	ND	10	5	04/21/2015 22:40
N-Nitrosodi-n-propylamine	ND	10	5	04/21/2015 22:40
Pentachlorophenol	ND	52	5	04/21/2015 22:40
Phenanthrene	ND	10	5	04/21/2015 22:40
Phenol	ND	10	5	04/21/2015 22:40
Pyrene	ND	10	5	04/21/2015 22:40
1,2,4-Trichlorobenzene	ND	10	5	04/21/2015 22:40
2,4,5-Trichlorophenol	ND	10	5	04/21/2015 22:40
2,4,6-Trichlorophenol	ND	10	5	04/21/2015 22:40

(Cont.)



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	GC21	103879

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
2-Fluorophenol	114		30-130	04/21/2015 22:40
Phenol-d5	75		30-130	04/21/2015 22:40
Nitrobenzene-d5	89		30-130	04/21/2015 22:40
2-Fluorobiphenyl	86		30-130	04/21/2015 22:40
2,4,6-Tribromophenol	62		16-130	04/21/2015 22:40
4-Terphenyl-d14	83		30-130	04/21/2015 22:40

**Analyst(s):** HD

**Analytical Comments:** a4,a3



# Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

## Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	GC21	103879

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.25	1	04/22/2015 17:27
Acenaphthylene	ND	0.25	1	04/22/2015 17:27
Acetochlor	ND	0.25	1	04/22/2015 17:27
Anthracene	ND	0.25	1	04/22/2015 17:27
Benzidine	ND	1.3	1	04/22/2015 17:27
Benzo (a) anthracene	ND	0.25	1	04/22/2015 17:27
Benzo (b) fluoranthene	ND	0.25	1	04/22/2015 17:27
Benzo (k) fluoranthene	ND	0.25	1	04/22/2015 17:27
Benzo (g,h,i) perylene	ND	0.25	1	04/22/2015 17:27
Benzo (a) pyrene	ND	0.25	1	04/22/2015 17:27
Benzyl Alcohol	ND	1.3	1	04/22/2015 17:27
1,1-Biphenyl	ND	0.25	1	04/22/2015 17:27
Bis (2-chloroethoxy) Methane	ND	0.25	1	04/22/2015 17:27
Bis (2-chloroethyl) Ether	ND	0.25	1	04/22/2015 17:27
Bis (2-chloroisopropyl) Ether	ND	0.25	1	04/22/2015 17:27
Bis (2-ethylhexyl) Adipate	ND	0.25	1	04/22/2015 17:27
Bis (2-ethylhexyl) Phthalate	ND	0.25	1	04/22/2015 17:27
4-Bromophenyl Phenyl Ether	ND	0.25	1	04/22/2015 17:27
Butylbenzyl Phthalate	ND	0.25	1	04/22/2015 17:27
4-Chloroaniline	ND	0.50	1	04/22/2015 17:27
4-Chloro-3-methylphenol	ND	0.25	1	04/22/2015 17:27
2-Chloronaphthalene	ND	0.25	1	04/22/2015 17:27
2-Chlorophenol	ND	0.25	1	04/22/2015 17:27
4-Chlorophenyl Phenyl Ether	ND	0.25	1	04/22/2015 17:27
Chrysene	ND	0.25	1	04/22/2015 17:27
Dibenzo (a,h) anthracene	ND	0.25	1	04/22/2015 17:27
Dibenzofuran	ND	0.25	1	04/22/2015 17:27
Di-n-butyl Phthalate	ND	0.25	1	04/22/2015 17:27
1,2-Dichlorobenzene	ND	0.25	1	04/22/2015 17:27
1,3-Dichlorobenzene	ND	0.25	1	04/22/2015 17:27
1,4-Dichlorobenzene	ND	0.25	1	04/22/2015 17:27
3,3-Dichlorobenzidine	ND	0.50	1	04/22/2015 17:27
2,4-Dichlorophenol	ND	0.25	1	04/22/2015 17:27
Diethyl Phthalate	ND	0.25	1	04/22/2015 17:27
2,4-Dimethylphenol	ND	0.25	1	04/22/2015 17:27
Dimethyl Phthalate	ND	0.25	1	04/22/2015 17:27
4,6-Dinitro-2-methylphenol	ND	1.3	1	04/22/2015 17:27
2,4-Dinitrophenol	ND	6.3	1	04/22/2015 17:27

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## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	GC21	103879

Analytes	Result	RL	DF	Date Analyzed
2,4-Dinitrotoluene	ND	0.25	1	04/22/2015 17:27
2,6-Dinitrotoluene	ND	0.25	1	04/22/2015 17:27
Di-n-octyl Phthalate	ND	0.50	1	04/22/2015 17:27
1,2-Diphenylhydrazine	ND	0.25	1	04/22/2015 17:27
Fluoranthene	ND	0.25	1	04/22/2015 17:27
Fluorene	ND	0.25	1	04/22/2015 17:27
Hexachlorobenzene	ND	0.25	1	04/22/2015 17:27
Hexachlorobutadiene	ND	0.25	1	04/22/2015 17:27
Hexachlorocyclopentadiene	ND	1.3	1	04/22/2015 17:27
Hexachloroethane	ND	0.25	1	04/22/2015 17:27
Indeno (1,2,3-cd) pyrene	ND	0.25	1	04/22/2015 17:27
Isophorone	ND	0.25	1	04/22/2015 17:27
2-Methylnaphthalene	ND	0.25	1	04/22/2015 17:27
2-Methylphenol (o-Cresol)	ND	0.25	1	04/22/2015 17:27
3 & 4-Methylphenol (m,p-Cresol)	ND	0.25	1	04/22/2015 17:27
Naphthalene	ND	0.25	1	04/22/2015 17:27
2-Nitroaniline	ND	1.3	1	04/22/2015 17:27
3-Nitroaniline	ND	1.3	1	04/22/2015 17:27
4-Nitroaniline	ND	1.3	1	04/22/2015 17:27
Nitrobenzene	ND	0.25	1	04/22/2015 17:27
2-Nitrophenol	ND	1.3	1	04/22/2015 17:27
4-Nitrophenol	ND	1.3	1	04/22/2015 17:27
N-Nitrosodiphenylamine	ND	0.25	1	04/22/2015 17:27
N-Nitrosodi-n-propylamine	ND	0.25	1	04/22/2015 17:27
Pentachlorophenol	ND	1.3	1	04/22/2015 17:27
Phenanthrene	ND	0.25	1	04/22/2015 17:27
Phenol	ND	0.25	1	04/22/2015 17:27
Pyrene	ND	0.25	1	04/22/2015 17:27
1,2,4-Trichlorobenzene	ND	0.25	1	04/22/2015 17:27
2,4,5-Trichlorophenol	ND	0.25	1	04/22/2015 17:27
2,4,6-Trichlorophenol	ND	0.25	1	04/22/2015 17:27

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## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	GC21	103879

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
2-Fluorophenol	96	30-130		04/22/2015 17:27
Phenol-d5	87	30-130		04/22/2015 17:27
Nitrobenzene-d5	85	30-130		04/22/2015 17:27
2-Fluorobiphenyl	78	30-130		04/22/2015 17:27
2,4,6-Tribromophenol	70	16-130		04/22/2015 17:27
4-Terphenyl-d14	90	30-130		04/22/2015 17:27

**Analyst(s):** HD



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	ICP-MS2	103916

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	04/22/2015 20:03
Arsenic	7.2	0.50	1	04/22/2015 20:03
Barium	140	5.0	1	04/22/2015 20:03
Beryllium	0.67	0.50	1	04/22/2015 20:03
Cadmium	0.26	0.25	1	04/22/2015 20:03
Chromium	56	0.50	1	04/22/2015 20:03
Cobalt	9.8	0.50	1	04/22/2015 20:03
Copper	26	0.50	1	04/22/2015 20:03
Lead	10	0.50	1	04/22/2015 20:03
Mercury	0.094	0.050	1	04/22/2015 20:03
Molybdenum	0.92	0.50	1	04/22/2015 20:03
Nickel	49	0.50	1	04/22/2015 20:03
Selenium	ND	0.50	1	04/22/2015 20:03
Silver	ND	0.50	1	04/22/2015 20:03
Thallium	ND	0.50	1	04/22/2015 20:03
Vanadium	52	0.50	1	04/22/2015 20:03
Zinc	71	5.0	1	04/22/2015 20:03
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Tb 350.917	122	70-130		04/22/2015 20:03

Analyst(s): DB





## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	ICP-MS2	103916

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	04/22/2015 20:09
Arsenic	15	0.50	1	04/22/2015 20:09
Barium	140	5.0	1	04/22/2015 20:09
Beryllium	0.71	0.50	1	04/22/2015 20:09
Cadmium	0.41	0.25	1	04/22/2015 20:09
Chromium	65	0.50	1	04/22/2015 20:09
Cobalt	9.5	0.50	1	04/22/2015 20:09
Copper	26	0.50	1	04/22/2015 20:09
Lead	10	0.50	1	04/22/2015 20:09
Mercury	0.088	0.050	1	04/22/2015 20:09
Molybdenum	2.2	0.50	1	04/22/2015 20:09
Nickel	61	0.50	1	04/22/2015 20:09
Selenium	ND	0.50	1	04/22/2015 20:09
Silver	ND	0.50	1	04/22/2015 20:09
Thallium	ND	0.50	1	04/22/2015 20:09
Vanadium	53	0.50	1	04/22/2015 20:09
Zinc	74	5.0	1	04/22/2015 20:09
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Tb 350.917	127	70-130		04/22/2015 20:09

Analyst(s): DB



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	GC7	103880

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	04/22/2015 23:32
MTBE	---	0.050	1	04/22/2015 23:32
Benzene	---	0.0050	1	04/22/2015 23:32
Toluene	---	0.0050	1	04/22/2015 23:32
Ethylbenzene	---	0.0050	1	04/22/2015 23:32
Xylenes	---	0.0050	1	04/22/2015 23:32

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	109	70-130	04/22/2015 23:32

Analyst(s): IA

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	GC7	103880

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	04/23/2015 00:02
MTBE	---	0.050	1	04/23/2015 00:02
Benzene	---	0.0050	1	04/23/2015 00:02
Toluene	---	0.0050	1	04/23/2015 00:02
Ethylbenzene	---	0.0050	1	04/23/2015 00:02
Xylenes	---	0.0050	1	04/23/2015 00:02

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	108	70-130	04/23/2015 00:02

Analyst(s): IA



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/21/15

**WorkOrder:** 1504840  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

### Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	GC6B	103904

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	20	20	20	04/25/2015 03:37
TPH-Motor Oil (C18-C36)	280	100	20	04/25/2015 03:37
TPH-Hydraulic Oil (C18-C36)	280	100	20	04/25/2015 03:37

Surrogates	REC (%)	Limits	Date Analyzed
C9	92	70-130	04/25/2015 03:37

**Analyst(s):** TK **Analytical Comments:** e7,e2

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	GC6A	103904

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.1	1.0	1	04/28/2015 03:37
TPH-Motor Oil (C18-C36)	ND	5.0	1	04/28/2015 03:37
TPH-Hydraulic Oil (C18-C36)	ND	5.0	1	04/28/2015 03:37

Surrogates	REC (%)	Limits	Date Analyzed
C9	74	70-130	04/28/2015 03:37

**Analyst(s):** TK **Analytical Comments:** e2



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/20/15  
**Date Analyzed:** 4/21/15  
**Instrument:** GC10, GC16  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103881  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-103881  
 1504815-003AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0501	0.0050	0.050	-	100	53-116
Benzene	ND	0.0626	0.0050	0.050	-	125	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.258	0.050	0.20	-	129	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0535	0.0050	0.050	-	107	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0510	0.0040	0.050	-	102	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0570	0.0040	0.050	-	114	58-135
1,1-Dichloroethene	ND	0.0575	0.0050	0.050	-	115	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

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## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/20/15  
**Date Analyzed:** 4/21/15  
**Instrument:** GC10, GC16  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103881  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-103881  
 1504815-003AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	0.0583	0.0050	0.050	-	117	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0538	0.0050	0.050	-	108	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0541	0.0050	0.050	-	108	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0575	0.0050	0.050	-	115	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0552	0.0050	0.050	-	110	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

**Surrogate Recovery**

Dibromofluoromethane	0.114	0.120		0.12	91	96	72-126
Toluene-d8	0.129	0.122		0.12	103	98	81-115
4-BFB	0.0147	0.0114		0.012	117	91	55-127

(Cont.)



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/20/15  
**Date Analyzed:** 4/21/15  
**Instrument:** GC10, GC16  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103881  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-103881  
 1504815-003AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0387	0.0397	0.050	ND	77	79	70-130	2.54	20
Benzene	0.0439	0.0440	0.050	ND	88	88	70-130	0	20
t-Butyl alcohol (TBA)	0.132	0.137	0.20	ND	66,F1	69,F1	70-130	3.67	20
Chlorobenzene	0.0409	0.0410	0.050	ND	82	82	70-130	0	20
1,2-Dibromoethane (EDB)	0.0394	0.0405	0.050	ND	79	81	70-130	2.75	20
1,2-Dichloroethane (1,2-DCA)	0.0410	0.0419	0.050	ND	82	84	70-130	2.35	20
1,1-Dichloroethene	0.0430	0.0433	0.050	ND	86	87	70-130	0.874	20
Diisopropyl ether (DIPE)	0.0407	0.0418	0.050	ND	81	84	70-130	2.69	20
Ethyl tert-butyl ether (ETBE)	0.0404	0.0418	0.050	ND	81	83	70-130	3.35	20
Methyl-t-butyl ether (MTBE)	0.0396	0.0407	0.050	ND	79	81	70-130	2.70	20
Toluene	0.0422	0.0420	0.050	ND	84	84	70-130	0	20
Trichloroethene	0.0440	0.0442	0.050	ND	88	88	70-130	0	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.119	0.124	0.12		95	99	70-130	4.31	20
Toluene-d8	0.120	0.120	0.12		96	96	70-130	0	20
4-BFB	0.0132	0.0133	0.012		106	106	70-130	0	20

(Cont.)



# Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/21/15  
**Date Analyzed:** 4/24/15  
**Instrument:** GC23  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103903  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A/8082  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-103903  
 1504830-001AMS/MSD

## QC Summary Report for SW8081A/8082

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aldrin	ND	0.0559	0.0010	0.050	-	112	70-130
a-BHC	ND	-	0.0010	-	-	-	-
b-BHC	ND	-	0.0010	-	-	-	-
d-BHC	ND	-	0.0010	-	-	-	-
g-BHC	ND	0.0549	0.0010	0.050	-	110	70-130
Chlordane (Technical)	ND	-	0.025	-	-	-	-
a-Chlordane	ND	-	0.0010	-	-	-	-
g-Chlordane	ND	-	0.0010	-	-	-	-
p,p-DDD	ND	-	0.0010	-	-	-	-
p,p-DDE	ND	-	0.0010	-	-	-	-
p,p-DDT	ND	0.0453	0.0010	0.050	-	91	70-130
Dieldrin	ND	0.0554	0.0010	0.050	-	111	70-130
Endosulfan I	ND	-	0.0010	-	-	-	-
Endosulfan II	ND	-	0.0010	-	-	-	-
Endosulfan sulfate	ND	-	0.0010	-	-	-	-
Endrin	ND	0.0620	0.0010	0.050	-	124	70-130
Endrin aldehyde	ND	-	0.0010	-	-	-	-
Endrin ketone	ND	-	0.0010	-	-	-	-
Heptachlor	ND	0.0549	0.0010	0.050	-	110	70-130
Heptachlor epoxide	ND	-	0.0010	-	-	-	-
Hexachlorobenzene	ND	-	0.010	-	-	-	-
Hexachlorocyclopentadiene	ND	-	0.020	-	-	-	-
Methoxychlor	ND	-	0.0010	-	-	-	-
Toxaphene	ND	-	0.050	-	-	-	-
Aroclor1016	ND	-	0.050	-	-	-	-
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	-	0.050	-	-	-	-
PCBs, total	ND	-	0.050	-	-	-	-

**Surrogate Recovery**

Decachlorobiphenyl	0.0479	0.0497		0.050	96	99	70-130
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(Cont.)





## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/21/15  
**Date Analyzed:** 4/24/15  
**Instrument:** GC23  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103903  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A/8082  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-103903  
 1504830-001AMS/MSD

### QC Summary Report for SW8081A/8082

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	0.0572	0.0562	0.050	ND	114	112	70-130	1.65	30
g-BHC	0.0554	0.0551	0.050	ND	111	110	70-130	0.403	30
p,p-DDT	0.0570	0.0550	0.050	0.009189	100	96	70-130	3.48	30
Dieldrin	0.0745	0.0717	0.050	0.003238	142,F1	137,F1	70-130	3.83	30
Endrin	0.0677	0.0640	0.050	ND	135,F1	128	70-130	5.63	30
Heptachlor	0.0568	0.0555	0.050	ND	113	110	70-130	2.36	30
<b>Surrogate Recovery</b>									
Decachlorobiphenyl	0.0454	0.0455	0.050		91	91	70-130	0	30



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/20/15  
**Date Analyzed:** 4/20/15  
**Instrument:** GC21  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103879  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-103879  
 1504813-002AMS/MSD

### QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	4.78	0.25	5	-	96	30-130
Acenaphthylene	ND	-	0.25	-	-	-	-
Acetochlor	ND	-	0.25	-	-	-	-
Anthracene	ND	-	0.25	-	-	-	-
Benzidine	ND	-	1.3	-	-	-	-
Benzo (a) anthracene	ND	-	0.25	-	-	-	-
Benzo (b) fluoranthene	ND	-	0.25	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.25	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.25	-	-	-	-
Benzo (a) pyrene	ND	-	0.25	-	-	-	-
Benzyl Alcohol	ND	-	1.3	-	-	-	-
1,1-Biphenyl	ND	-	0.25	-	-	-	-
Bis (2-chloroethoxy) Methane	ND	-	0.25	-	-	-	-
Bis (2-chloroethyl) Ether	ND	-	0.25	-	-	-	-
Bis (2-chloroisopropyl) Ether	ND	-	0.25	-	-	-	-
Bis (2-ethylhexyl) Adipate	ND	-	0.25	-	-	-	-
Bis (2-ethylhexyl) Phthalate	ND	-	0.25	-	-	-	-
4-Bromophenyl Phenyl Ether	ND	-	0.25	-	-	-	-
Butylbenzyl Phthalate	ND	-	0.25	-	-	-	-
4-Chloroaniline	ND	-	0.50	-	-	-	-
4-Chloro-3-methylphenol	ND	4.74	0.25	5	-	95	30-130
2-Chloronaphthalene	ND	-	0.25	-	-	-	-
2-Chlorophenol	ND	4.76	0.25	5	-	95	30-130
4-Chlorophenyl Phenyl Ether	ND	-	0.25	-	-	-	-
Chrysene	ND	-	0.25	-	-	-	-
Dibenzo (a,h) anthracene	ND	-	0.25	-	-	-	-
Dibenzofuran	ND	-	0.25	-	-	-	-
Di-n-butyl Phthalate	ND	-	0.25	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.25	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.25	-	-	-	-
1,4-Dichlorobenzene	ND	4.38	0.25	5	-	88	30-130
3,3-Dichlorobenzidine	ND	-	0.50	-	-	-	-
2,4-Dichlorophenol	ND	-	0.25	-	-	-	-
Diethyl Phthalate	ND	-	0.25	-	-	-	-
2,4-Dimethylphenol	ND	-	0.25	-	-	-	-
Dimethyl Phthalate	ND	-	0.25	-	-	-	-
4,6-Dinitro-2-methylphenol	ND	-	1.3	-	-	-	-
2,4-Dinitrophenol	ND	-	6.3	-	-	-	-
2,4-Dinitrotoluene	ND	4.93	0.25	5	-	99	30-130
2,6-Dinitrotoluene	ND	-	0.25	-	-	-	-

(Cont.)



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/20/15  
**Date Analyzed:** 4/20/15  
**Instrument:** GC21  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103879  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-103879  
 1504813-002AMS/MSD

### QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Di-n-octyl Phthalate	ND	-	0.50	-	-	-	-
1,2-Diphenylhydrazine	ND	-	0.25	-	-	-	-
Fluoranthene	ND	-	0.25	-	-	-	-
Fluorene	ND	-	0.25	-	-	-	-
Hexachlorobenzene	ND	-	0.25	-	-	-	-
Hexachlorobutadiene	ND	-	0.25	-	-	-	-
Hexachlorocyclopentadiene	ND	-	1.3	-	-	-	-
Hexachloroethane	ND	-	0.25	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.25	-	-	-	-
Isophorone	ND	-	0.25	-	-	-	-
2-Methylnaphthalene	ND	-	0.25	-	-	-	-
2-Methylphenol (o-Cresol)	ND	-	0.25	-	-	-	-
3 & 4-Methylphenol (m,p-Cresol)	ND	-	0.25	-	-	-	-
Naphthalene	ND	-	0.25	-	-	-	-
2-Nitroaniline	ND	-	1.3	-	-	-	-
3-Nitroaniline	ND	-	1.3	-	-	-	-
4-Nitroaniline	ND	-	1.3	-	-	-	-
Nitrobenzene	ND	-	0.25	-	-	-	-
2-Nitrophenol	ND	-	1.3	-	-	-	-
4-Nitrophenol	ND	4.10	1.3	5	-	82	30-130
N-Nitrosodiphenylamine	ND	-	0.25	-	-	-	-
N-Nitrosodi-n-propylamine	ND	4.30	0.25	5	-	86	30-130
Pentachlorophenol	ND	3.14	1.3	5	-	63	30-130
Phenanthrene	ND	-	0.25	-	-	-	-
Phenol	ND	4.35	0.25	5	-	87	30-130
Pyrene	ND	5.09	0.25	5	-	102	30-130
1,2,4-Trichlorobenzene	ND	4.77	0.25	5	-	95	30-130
2,4,5-Trichlorophenol	ND	-	0.25	-	-	-	-
2,4,6-Trichlorophenol	ND	-	0.25	-	-	-	-

#### Surrogate Recovery

2-Fluorophenol	3.62	4.58		5	72	92	30-130
Phenol-d5	3.51	4.31		5	70	86	30-130
Nitrobenzene-d5	3.45	4.33		5	69	87	30-130
2-Fluorobiphenyl	3.14	4.07		5	63	81	30-130
2,4,6-Tribromophenol	2.12	3.55		5	43	71	16-130
4-Terphenyl-d14	3.77	4.56		5	75	91	30-130

(Cont.)



# Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/20/15  
**Date Analyzed:** 4/20/15  
**Instrument:** GC21  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103879  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-103879  
 1504813-002AMS/MSD

## QC Summary Report for SW8270C

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Acenaphthene	NR	NR		ND<4	NR	NR	-	NR	
4-Chloro-3-methylphenol	NR	NR		ND<4	NR	NR	-	NR	
2-Chlorophenol	NR	NR		ND<4	NR	NR	-	NR	
1,4-Dichlorobenzene	NR	NR		ND<4	NR	NR	-	NR	
2,4-Dinitrotoluene	NR	NR		ND<4	NR	NR	-	NR	
4-Nitrophenol	NR	NR		ND<21	NR	NR	-	NR	
N-Nitrosodi-n-propylamine	NR	NR		ND<4	NR	NR	-	NR	
Pentachlorophenol	NR	NR		ND<21	NR	NR	-	NR	
Phenol	NR	NR		ND<4	NR	NR	-	NR	
Pyrene	NR	NR		ND<4	NR	NR	-	NR	
1,2,4-Trichlorobenzene	NR	NR		ND<4	NR	NR	-	NR	
<b>Surrogate Recovery</b>									
2-Fluorophenol	NR	NR			NR	NR	-	NR	
Phenol-d5	NR	NR			NR	NR	-	NR	
Nitrobenzene-d5	NR	NR			NR	NR	-	NR	
2-Fluorobiphenyl	NR	NR			NR	NR	-	NR	
2,4,6-Tribromophenol	NR	NR			NR	NR	-	NR	
4-Terphenyl-d14	NR	NR			NR	NR	-	NR	



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/21/15  
**Date Analyzed:** 4/22/15  
**Instrument:** ICP-MS2  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103916  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-103916  
 1504831-001AMS/MSD

### QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Antimony	ND	48.2	0.50	50	-	96	75-125
Arsenic	ND	48.2	0.50	50	-	96	75-125
Barium	ND	457	5.0	500	-	91	75-125
Beryllium	ND	48.8	0.50	50	-	98	75-125
Cadmium	ND	47.5	0.25	50	-	95	75-125
Chromium	ND	47.8	0.50	50	-	96	75-125
Cobalt	ND	46.7	0.50	50	-	93	75-125
Copper	ND	48.6	0.50	50	-	97	75-125
Lead	ND	48.9	0.50	50	-	98	75-125
Mercury	ND	1.09	0.050	1.25	-	88	75-125
Molybdenum	ND	46.7	0.50	50	-	93	75-125
Nickel	ND	48.1	0.50	50	-	96	75-125
Selenium	ND	48.8	0.50	50	-	98	75-125
Silver	ND	48.7	0.50	50	-	97	75-125
Thallium	ND	48.3	0.50	50	-	97	75-125
Vanadium	ND	48.2	0.50	50	-	96	75-125
Zinc	ND	498	5.0	500	-	100	75-125
<b>Surrogate Recovery</b>							
Tb 350.917	566	480		500	113	96	70-130



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/21/15  
**Date Analyzed:** 4/22/15  
**Instrument:** ICP-MS2  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103916  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-103916  
 1504831-001AMS/MSD

### QC Summary Report for Metals

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Antimony	56.0	54.5	50	ND	111	108	75-125	2.68	20
Arsenic	54.8	53.9	50	4.443	101	99	75-125	1.77	20
Barium	780	817	500	441.6	68,F1	75	75-125	4.64	20
Beryllium	51.9	50.5	50	0.8156	102	99	75-125	2.79	20
Cadmium	54.5	53.9	50	ND	109	108	75-125	1.09	20
Chromium	75.4	70.5	50	17.61	116	106	75-125	6.65	20
Cobalt	60.6	62.6	50	11.73	98	102	75-125	3.28	20
Copper	67.9	63.6	50	14.94	106	97	75-125	6.45	20
Lead	64.9	60.8	50	5.657	119	110	75-125	6.52	20
Mercury	NR	NR	1.25	4.229	NR	NR	75-125	NR	20
Molybdenum	55.3	53.3	50	0.5511	110	105	75-125	3.78	20
Nickel	80.2	76.7	50	23.03	114	107	75-125	4.51	20
Selenium	50.6	49.1	50	0.5882	100	97	75-125	3.05	20
Silver	54.4	53.8	50	ND	109	107	75-125	1.15	20
Thallium	55.1	54.3	50	ND	110	108	75-125	1.52	20
Vanadium	96.3	89.0	50	31.47	130,F1	115	75-125	7.83	20
Zinc	574	550	500	46.69	105	101	75-125	4.29	20
<b>Surrogate Recovery</b>									
Tb 350.917	564	551	500		113	110	70-130	2.31	20



# Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/20/15  
**Date Analyzed:** 4/21/15  
**Instrument:** GC7  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103880  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-103880  
 1504815-003AMS/MSD

## QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.664	0.40	0.60	-	111	70-130
MTBE	ND	0.104	0.050	0.10	-	104	70-130
Benzene	ND	0.123	0.0050	0.10	-	123	70-130
Toluene	ND	0.121	0.0050	0.10	-	121	70-130
Ethylbenzene	ND	0.124	0.0050	0.10	-	124	70-130
Xylenes	ND	0.382	0.0050	0.30	-	127	70-130

### Surrogate Recovery

2-Fluorotoluene	0.114	0.121		0.10	114	121	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.676	0.604	0.60	ND	113	101	70-130	11.3	20
MTBE	0.0731	0.0785	0.10	ND	73	79	70-130	7.19	20
Benzene	0.0821	0.0868	0.10	ND	82	87	70-130	5.52	20
Toluene	0.0852	0.0880	0.10	ND	85	88	70-130	3.22	20
Ethylbenzene	0.0846	0.0877	0.10	ND	85	88	70-130	3.63	20
Xylenes	0.251	0.262	0.30	ND	84	87	70-130	4.09	20

### Surrogate Recovery

2-Fluorotoluene	0.0755	0.0767	0.10		75	77	70-130	1.54	20
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## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/21/15  
**Date Analyzed:** 4/21/15  
**Instrument:** GC11A  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 103904  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-103904  
 1504830-001AMS/MSD

### QC Summary Report for SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	37.5	1.0	40	-	94	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-

**Surrogate Recovery**

C9	23.9	24.0		25	96	96	70-130
----	------	------	--	----	----	----	--------

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	37.9	37.1	40	ND	95	93	70-130	2.11	30

**Surrogate Recovery**

C9	24.2	24.2	25		97	97	70-130	0	30
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1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1504840

ClientCode: SESB

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQulS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Richard Makdisi  
Stellar Environmental Solutions  
2198 Sixth St. #201  
Berkeley, CA 94710  
(510) 644-3123    FAX: (510) 644-3859

Email: rmakdisi@stellar-environmental.com;sbittm  
cc/3rd Party:  
PO:  
ProjectNo: #2015-28; Soil Profile

**Bill to:**

Accounts Payable  
Stellar Enviornmental Solutions  
2198 Sixth St. #201  
Berkeley, CA 94710  
lwheeler@stellar-environmental.com

**Requested TAT:**

**5 days**

*Date Received:*    **04/21/2015**

*Date Printed:*    **04/21/2015**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1504840-001	C1	Soil	4/20/2015 11:30	<input type="checkbox"/>	A	A	A	A	A	A						
1504840-002	C2	Soil	4/20/2015 12:30	<input type="checkbox"/>	A	A	A	A	A	A						

**Test Legend:**

1	8081PCB_S	2	8260B_S	3	8270_S	4	CAM17MS_S	5	G-MBTEX_S
6	TPH_S	7		8		9		10	
11		12							

The following SamplIDs: 001A, 002A contain testgroup.

**Prepared by: Maria Venegas**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** STELLAR ENVIRONMENTAL SOLUTIONS

**QC Level:** LEVEL 2

**Work Order:** 1504840

**Project:** #2015-28; Soil Profile

**Client Contact:** Richard Makdisi

**Date Received:** 4/21/2015

**Comments:**

**Contact's Email:** rmakdisi@stellar-  
 environmental.com;sbittman@stellar-

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1504840-001A	C1	Soil	Multi-Range TPH(g,d,mo)	1	16OZ GJ	<input type="checkbox"/>	4/20/2015 11:30	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days			
			SW8270C (SVOCs)			<input type="checkbox"/>		5 days			
			SW8260B (VOCs)			<input type="checkbox"/>		5 days			
			SW8081A/8082 (OC Pesticides+PCBs)			<input type="checkbox"/>		5 days			
1504840-002A	C2	Soil	Multi-Range TPH(g,d,mo)	1	16OZ GJ	<input type="checkbox"/>	4/20/2015 12:30	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days			
			SW8270C (SVOCs)			<input type="checkbox"/>		5 days			
			SW8260B (VOCs)			<input type="checkbox"/>		5 days			
			SW8081A/8082 (OC Pesticides+PCBs)			<input type="checkbox"/>		5 days			

**NOTES:** - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).  
 - MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1504840

# Chain of Custody Record

Lab job no. \_\_\_\_\_

Laboratory McC Campbell Analytical Inc  
Address 1534 Willow Pass Road  
Pittsburg, CA 94565-1701  
877-252-9262

Method of Shipment Hand Delivery / courier  
Shipment No. \_\_\_\_\_  
Airbill No. \_\_\_\_\_

Date \_\_\_\_\_

Page 1 of 1

Project Owner BayWest Dev  
Site Address 7544 Dublin Blvd, Dublin CA

Cooler No. \_\_\_\_\_  
Project Manager Richard Makdisi  
Telephone No. (510) 644-3123

Project Name Soil Profile  
Project Number 2015-28

Fax No. (510) 644-3859  
Samplers: (Signature) [Signature]

Filtered	No. of Containers	Analysis Required										Remarks
		TEH mg/kg	TVH mg/kg	8260	VOCs	OC Pest 8270	PCBs 8081	PCBs 8082	T.T.H.e 22 metals			
	1	X	X	X	X	X	X	X				
	1	X	X	X	X	X	X	X				

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation	
						Cooler	Chemical
C1	0-1'	4/20/15	1130	Soil	16oz glass	yes	no
C2	0-1'	4/21/15	1230	Soil	16oz glass	yes	no

Relinquished by: [Signature]  
Signature \_\_\_\_\_  
Printed Henry Pietropaoli  
Company Stellar Environmental

Date 4/21/15  
Time 1320  
Received by: [Signature]  
Signature \_\_\_\_\_  
Printed CUMMINS  
Company MAI

Date 4-21-15  
Time 1450  
Relinquished by: [Signature]  
Signature \_\_\_\_\_  
Printed Cummins  
Company MAI

Date 4/21/15  
Time 1450  
Received by: [Signature]  
Signature \_\_\_\_\_  
Printed Maria Venegas  
Company MAI

Turnaround Time: Samples on ice  
Comments: Standard TAT  
save soil for possible added tests

Relinquished by: \_\_\_\_\_  
Signature \_\_\_\_\_  
Date \_\_\_\_\_  
Time \_\_\_\_\_  
Printed 3.2  
ICE/°  
GOOD CONDITION  
COMPANY SPACE ABSENT  
DECLORINATED IN LAB  
PRESERVED IN \_\_\_\_\_  
APPROPRIATE CONTAINERS  
PRESERVED IN \_\_\_\_\_  
Company \_\_\_\_\_

2000-00-01



2198 Sixth Street #201, Berkeley, CA 94710  
PRESERVATION VOAS O&G METALS OTHER



### Sample Receipt Checklist

Client Name: **Stellar Environmental Solutions** Date and Time Received: **4/21/2015 3:07:18 PM**  
 Project Name: **#2015-28; Soil Profile** LogIn Reviewed by: **Maria Venegas**  
 WorkOrder No: **1504840** Matrix: Soil Carrier: Bernie Cummins (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes  No   
 Sample/Temp Blank temperature Temp: 3.2°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes  No  NA   
 Samples Received on Ice? Yes  No   
 (Ice Type: WET ICE )

#### UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes  No  NA   
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes  No  NA

\* NOTE: If the "No" box is checked, see comments below.

Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1504840 A

**Report Created for:** Stellar Environmental Solutions

2198 Sixth St. #201  
Berkeley, CA 94710

**Project Contact:** Richard Makdisi

**Project P.O.:**

**Project Name:** #2015-28; Soil Profile

**Project Received:** 04/21/2015

Analytical Report reviewed & approved for release on 05/04/2015 by:

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.*





## Glossary of Terms & Qualifier Definitions

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**WorkOrder:** 1504840

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

### Analytical Qualifiers

a3	sample diluted due to high organic content.
a4	reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant

### Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.
----	--





# Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profile  
**Date Received:** 4/21/15 15:07  
**Date Prepared:** 4/28/15

**WorkOrder:** 1504840  
**Extraction Method:** CA Title 22  
**Analytical Method:** SW6010B  
**Unit:** mg/L

## STLC Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C1	1504840-001A	Soil	04/20/2015 11:30	ICP-JY	104205

Analytes	Result	RL	DF	Date Analyzed
Chromium	0.43	0.050	1	05/01/2015 18:33

Analyst(s): DB

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C2	1504840-002A	Soil	04/20/2015 12:30	ICP-JY	104205

Analytes	Result	RL	DF	Date Analyzed
Chromium	0.11	0.050	1	05/01/2015 14:55

Analyst(s): DB



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 4/28/15  
**Date Analyzed:** 5/1/15  
**Instrument:** ICP-JY  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profile

**WorkOrder:** 1504840  
**BatchID:** 104205  
**Extraction Method:** CA Title 22  
**Analytical Method:** SW6010B  
**Unit:** mg/L  
**Sample ID:** MB/LCS-104205  
 1504840-002AMS/MSD

### QC Summary Report for Metals (STLC)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Chromium	ND	0.990	0.050	1	-	99	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Chromium	1.09	1.09	1	0.1119	98	98	70-130	0	30



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1504840 **A** ClientCode: SESB

WaterTrax  
  WriteOn  
  EDF  
  Excel  
  Fax  
 Email  
  HardCopy  
  ThirdParty  
  J-flag

**Report to:**  
 Richard Makdisi  
 Stellar Environmental Solutions  
 2198 Sixth St. #201  
 Berkeley, CA 94710  
 (510) 644-3123    FAX: (510) 644-3859

**Email:**    rmakdisi@stellar-environmental.com;sbittm  
 cc/3rd Party:  
**PO:**  
 ProjectNo: #2015-28; Soil Profile

**Bill to:**  
 Accounts Payable  
 Stellar Enviornmental Solutions  
 2198 Sixth St. #201  
 Berkeley, CA 94710  
 lwheeler@stellar-environmental.com

**Requested TAT:**            **5 days**  
**Date Received:**        **04/21/2015**  
**Date Add-On:**           **04/28/2015**  
**Date Printed:**          **04/28/2015**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1504840-001	C1	Soil	4/20/2015 11:30	<input type="checkbox"/>	A												
1504840-002	C2	Soil	4/20/2015 12:30	<input type="checkbox"/>	A												

**Test Legend:**

1	STLC_METALS_S	2		3		4		5	
6		7		8		9		10	
11		12							

**Prepared by: Maria Venegas**

**Add-On Prepared By: Jena Alfaro**

**Comments:**    STLC Cr added 4/28/15 5D TAT

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** STELLAR ENVIRONMENTAL SOLUTIONS

**QC Level:** LEVEL 2

**Work Order:** 1504840

**Project:** #2015-28; Soil Profile

**Client Contact:** Richard Makdisi

**Date Received:** 4/21/2015

**Comments:** STLC Cr added 4/28/15 5D TAT

**Contact's Email:** rmakdisi@stellar-  
 environmental.com;sbittman@stellar-

**Date Add-On:** 4/28/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1504840-001A	C1	Soil	SW6010B (Metals) (STLC) <Chromium>	1	16OZ GJ	4/20/2015 11:30	5 days*		<input type="checkbox"/>	
1504840-002A	C2	Soil	SW6010B (Metals) (STLC) <Chromium>	1	16OZ GJ	4/20/2015 12:30	5 days*		<input type="checkbox"/>	

**NOTES:** - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1504840

# Chain of Custody Record

Laboratory McC Campbell Analytical Inc  
Address 1534 Willow Pass Road  
Pittsburg, CA 94565-1701  
877-252-9262

Method of Shipment Hand Delivery / courier  
Shipment No. \_\_\_\_\_  
Airbill No. \_\_\_\_\_

Lab job no. \_\_\_\_\_  
Date \_\_\_\_\_  
Page 1 of 1

Project Owner BayWest Dev  
Site Address 7544 Dublin Blvd, Dublin CA

Cooler No. \_\_\_\_\_  
Project Manager Richard Makdisi

Project Name Soil Profile  
Project Number 2015-28

Telephone No. (510) 644-3123  
Fax No. (510) 644-3859  
Samplers: (Signature) [Signature]

Filtered	No. of Containers	Analysis Required										Remarks
		TEH	TVH	8260	SVOCs	OC Pest	PCBs	THHe	22 metals	STLC	CC	
	1	X	X	X	X	X	X	X	X	X	X	
	1	X	X	X	X	X	X	X	X	X	X	

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation	
						Cooler	Chemical
C1	0-1'	4/20/15	1130	Soil	16 oz glass	yes	no
C2	0-1'	4/21/15	1230	Soil	16 oz glass	yes	no

Relinquished by: [Signature]  
Signature \_\_\_\_\_  
Printed Henry Pietropaoli  
Company Stellar Environmental

Date 4/21/15  
Time 1320  
Received by: [Signature]  
Signature \_\_\_\_\_  
Printed CUMMINS  
Company MAI

Date 4-21-15  
Time 1450  
Relinquished by: [Signature]  
Signature \_\_\_\_\_  
Printed CUMMINS  
Company MAI

Date 4/21/15  
Time 1450  
Received by: [Signature]  
Signature \_\_\_\_\_  
Printed Maria Venegas  
Company MAI

Turnaround Time: Samples on ice  
Comments: Standard TAT  
save soil for possible added tests

Relinquished by: \_\_\_\_\_  
Signature \_\_\_\_\_  
Date \_\_\_\_\_  
Time \_\_\_\_\_  
Received by: \_\_\_\_\_  
Signature \_\_\_\_\_  
Date \_\_\_\_\_  
Time \_\_\_\_\_



2198 Sixth Street #201, Berkeley, CA 94710  
PRESERVATION VOAS O&G METALS OTHER  
GOOD CONDITION  
DECHLORINATED IN LAB  
APPROPRIATE CONTAINERS  
PRESERVED IN



2198 SIXTH STREET, SUITE 201-BERKELEY, CA 94710  
TEL: (510)644-3123 · FAX: (510)644-3859

GEOSCIENCE & ENGINEERING CONSULTING

June 17, 2015

Mr. Pete Beritzhoff  
Bay West Development  
2 Henry Adams Street  
Suite #450  
San Francisco, CA 94103

Subject: Results of Soil Profiling for Health and Safety Evaluation and Off-Site Disposal in Support of Redevelopment Activity at 7544 Dublin Blvd, Dublin, California.

## INTRODUCTION

Dear Mr. Beritzhoff

This Stellar Environmental Solutions, Inc. (Stellar Environmental) provides Bay West Development with the findings of the soil profiling of approximately 6,600 Cubic Yards (CY) of soil to be off-hauled as non-hazardous landfill disposal. The six additional samples collected recently augments the original two composite samples collected last month when the extent of net export was considered to be substantially smaller. The preliminary soil samples was analyzed for a wide range of contaminants not expected by site history but required by truckers considering off haul as non-classified (reuse) soil.

Although there were no contaminants of concern (COCs) associate with the initial two composite samples the decision was made to pursue disposal to a classified landfill in order to expedite the soil transfer. The six additional composite sample sets were submitted for analyses based on the historical use and informed by the result from the previous broad analytical suite completed, as well as the Republic Services density of sampling per analytical suite type.

The development area required demolition of existing parking areas and buildings (completed) including a former fuel tank area. According to the grading plans provided by the project geotechnical engineer (CBG) the project area is approximately 337,500 square feet (sf) which includes 42,330 sf of existing building areas that were demolished. The existing buildings, concrete and asphalt had been demolished and removed from the site prior to the time of the profile sampling discussed in this report.

The planned development involves no excavation as such but with an approximately 6 -inch deep grading/grubbing which will produce an estimated 6,000 CY for net export. The geotechnical engineer for the project estimates the next export is likely on the order of half that due to “an average difference of only 3” over the site with the new topographic survey, so the export volume may be lower.

Because the shallow upper foot of soil to be grubbed and graded likely contains some debris (asphalt, concrete, roots, etc.) making it less undesirable for beneficial re-use, the soil material is assumed to be required to be disposed of to a Class II landfill facility.

The principal objective of this sampling work has been conducted to characterize the soil for both offsite disposal options and to identify and evaluate any potential site worker exposure issues that may be present during upcoming construction/excavation activities.

Figure 1 is a site location map. The boring locations are shown on Figure 2.

### **PRE-FIELD WORK ELEMENTS**

This task encompasses the pre-field work elements of the project. Pre-fieldwork subtasks included:

- Schedule the analytical laboratory subcontractor; and
- Preparation of project Health and Safety Plan.

The specific project objectives for this project included:

- Collect eight 4-point composite samples sets from 0- 8 inches below ground surface (bgs);
- Evaluate the data against regulatory consideration for exposure and offsite disposal;
- Identify potential site worker exposure that may be present during upcoming construction/excavation activities; and
- Prepare this letter documentation report of the analytical results of the soil sampling, with conclusions and recommendations based on the findings.

### **SOIL SAMPLING PROTOCOL**

Based upon a total estimated export volume of 6,000 CYs, a total of eight 4-point composite samples were required to adequately profile the soil for offsite disposal to a California Class II landfill facility and make an assessment of the potential health risk concerns to site construction workers. This sampling provides sufficient density and representative coverage of the current soil conditions to characterize the site. The number of composite samples and analytical methods used to profile this volume of soil is based upon the acceptance criteria used by Republic Services for disposal to their

Ox Mountain Landfill (Half Moon Bay), Newby Island Landfill (Milpitas), Forward Landfill (Manteca) and Keller Canyon Landfill (Pittsburgh) facilities.

Two composite soil samples (C1 and C2) were collected on April 20, 2015 and an additional six soil samples (C3 thru C8) were collected on June 3, 2015, by Henry Pietropaoli, P.G, of Stellar Environmental. The samples were collected using a stainless-steel shovel/trowel to dig an 8-inch deep pothole from which a representative section of soil was collected from the surface to 8 inches deep. The shovel was decontaminated between potholes with a clean water rinse. Following sampling, each pothole was backfilled with the removed soil. Four potholes were dug to collect soil from which each 4-point composite sample was made.

Compositing entailed removal of any larger obvious rocks and organic debris from the retained soil sections and homogenizing the mix in a clean plastic bag. The mix was then placed into a 16-ounce laboratory-supplied glass jar, labeled and transferred to a cooler chilled with ice for transport to the analytical laboratory.

Attachment A contains photo-documentation of the field activity. The locations of the sample collection points are shown on Figure 2.

## **ANALYTICAL METHODS**

### **Laboratory Analyses**

The analytical suite below is based on the general site history and typical regulated California landfill facility requirements. The number of recommended analyses by each analytical method used for profiling this soil volume is shown in parentheses after each analytical method listed.

The eight composite samples collected were analyzed by the following the analytical method:

- Total extractable hydrocarbons – diesel and motor oil and hydraulic oil ranges (TEH-d/mo) by EPA Method 8015M (six 4-point composite samples);
- Total volatile hydrocarbons – gasoline range (TVHg) and benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Methods 8020 and 8260 (eight 4-point composite samples);
- Volatile Organic Compounds (VOCs) by EPA Method 8260 (three 4-point composite samples);
- Semi Volatile Organic Compounds (SVOCs) by EPA Method 82708260 (three 4-point composite samples);
- Title 22 (17 listed metals) by EPA Method 6000 or 7000 series 8260 (three 4-point composite samples for all metals except 6 that are required for lead);



- Organochlorine Pesticides by EPA Method 80818260 (three 4-point composite samples);
- Polychlorinated Biphenyls (PCBs) by EPA Method 80828260 (three 4-point composite samples); and
- California Waste Extraction Test (CA-WET) analysis was required based on the result of the initial analyses as explained below for the metal chromium (Cr) on two samples (C1, C2)

Upon collection, the soil samples were labeled and immediately placed in an ice chest with ice at approximately 4°C and transported by courier under chain-of-custody to McCampbell Analytical Laboratory of Pittsburg, California, a California Environmental Laboratory Accreditation Program (ELAP) certified laboratory.

Re-analysis by the CA Waste Extraction Test (CA-WET) of samples C1 and C2 for soluble Cr was required to make the hazardous vs. non-hazardous waste classification, pertaining to offsite disposal, because the total concentration exceeded the non-hazardous landfill screening criteria, (i.e., 10 times the Soluble Threshold Limit Concentrations [STLC]), or 50 mg/kg.

### **ANALYTICAL RESULTS OF SOIL SAMPLING**

The following is a brief summary of the sample analytical results discussed in the context of comparative regulatory criteria published by the California Regional Water Quality Control Board (Water Board) commercial and construction/trench worker direct exposure Environmental Screening Limits (ESLs) and California landfill disposal guidelines. Table 1, attached at the end of this report summarized the analytical findings.

#### **Total Petroleum Hydrocarbons as Gasoline, Diesel and Motor Oil-Hydraulic Oil**

All of the samples contained low to trace concentrations of TEHd and TEHmo-ho except sample C2 that showed no detection above the laboratory reporting limit but all were below the most conservative Water Board commercial ESL exposure criteria and the direct exposure construction/trench worker ESL criteria. No TPH as gasoline was detected in any sample.

#### **Volatile Organic Compounds (VOCs)**

No VOCs, including those associated with petroleum hydrocarbons (benzene, toluene, ethylbenzene, xylenes and methyl-tert butyl ether (MTBE)) were detected at concentrations above the laboratory detection limits in any of the samples.

## **Title 22 List Metals**

The soils showed slightly elevated (at 56 and 65 mg/kg) chromium (Cr) in samples C1 and C2 above the 50 mg/kg that required additional analysis by the CA Waste Extraction Test (WET) method to determine whether there were offsite landfill disposal constraints.

The sampling results showed concentrations of the metal arsenic (As) in all samples in which it was analyzed to be above the Water Board ESL criteria pertaining to risk of direct exposure to construction/trench workers.

## **CA Waste Extraction Test Results**

The results the CA WET analysis of the two samples showed no Cr solute at or exceeding the 5 mg/L, hazardous waste threshold for soluble chromium. The results ranged between 0.11 and 0.43 mg/L chromium. Therefore the soil may be disposed to a regulated or non-hazardous, at a California landfill facility and/or any acceptable unregulated/unclassified receiving facility that would like to use the soil.

## **Polychlorinated Biphenols (PCBs)**

No PCBs were detected at concentrations above the laboratory detection limits in any sample..

## **Semi-Volatile Organic Hydrocarbons (SVOCs)**

Butylbenzyl phthalate (BBP) was the only SVOC detected above the laboratory detection limits. It was detected in sample C7 at 1.0 mg/kg, however there is no published Water Board Environmental Screening level (ESL) criteria to evaluate this compound.

## **Organochlorine Pesticides**

Only a trace concentration of the pesticide dichlorodiphenyldichloroethylene (p,p-DDE) was detected in sample C1 at a concentration above the laboratory detection limits but is below the Water Board residential and direct exposure ESLs

## **LABORATORY QUALITY ASSURANCE**

Laboratory internal quality control (QC) procedures included analysis of method blanks, control spikes, and surrogate spiked samples. The certified analytical laboratory reports and chain of custody records are contained in Attachment B.

## REGULATORY CONSIDERATIONS

Stellar Environmental compared the soil data to the relevant Regional Water Quality Control Board (Water Board) Environmental Screening level (ESL) criteria for shallow soil in commercial /industrial areas where groundwater is considered a drinking water source (Water Board 2013). The analytical results of this soil evaluation showed no significant contaminant concentrations of regulatory concern pertaining to risks to human health and the environment, although the metal arsenic was, as is commonly the case, above its ESL. The relevant regulatory criteria are discussed here for information purposes. The landfill and regulatory considerations regarding detected contaminant of concern identified in soil that pertain to this site project include:

- Hazardous concentration thresholds defining the lead as hazardous (California Administrative Code Title 22) and offsite disposal and analytical considerations;
- Regional Water Quality Control Board (Water Board) guidance related to whether additional investigations should be considered ESLs; and
- Health and Safety consideration established by the Occupational Safety and Health Administration (OSHA).

**Hazardous Concentration Thresholds:** Soil sample analytical results are also compared to both total and soluble concentration-based criteria (Total Threshold Limit Concentrations [TTLCs] and Soluble Threshold Limit Concentrations [STLCs]). A soil that exceeds the TTLC is by definition a hazardous waste. STLC is used to define the “soluble fraction” that classifies a “waste” as California hazardous waste. This is only applied to waste soil that is being considered for offsite disposal to a landfill. Non-hazardous disposal facilities utilize a rule-of-thumb guideline to interpret total contaminant concentrations relative to the STLC hazardous waste criteria. Soils or waste with total contaminant concentrations in excess of 10 times the STLC have the potential to be classified as hazardous and are required to be analyzed by the California Waste Extraction Test (WET) and if the subsequent solute analysis results exceeds 5 mg/L, (the STLC for Cr), the soil or waste must then be disposed of to a California Class I hazardous waste facility. The Class I landfill would then also require an additional Toxic Characteristic Leaching Procedure (TCLP) test to determine whether stabilization of the waste will be required. In this case, chromium in both samples exceeded 10x the STLC, having a concentration greater than 50 mg/kg and therefore the WET was required, however both samples passed the WET and the soil can therefore be disposed to a non-hazardous landfill facility or even to an unclassified reuse facility if a recipient site can be found.

**Water Board Considerations:** The Water Board established the ESLs as conservative numerical guidance for evaluating the likelihood of environmental impact, specifically to groundwater. ESLs are screening-level criteria for soil and groundwater, designed to be generally protective of drinking water resources and aquatic environments. There are also ESLs for soil gas to address the potential

for indoor air intrusion from volatile organic compounds off-gassing from soil or groundwater but those are not relevant here. ESLs are not cleanup criteria (i.e., health-based numerical values or disposal-based values). The ESLs are conservative criteria used to evaluate if remediation and/or additional investigation are needed to determine potential impacts to human health or the environment, particularly groundwater, which the Water Board has a mandate to protect.

In the most preliminary stage (Tier 1, as utilized in this assessment), direct “look-up” tables provide numerical criteria, below which contamination is generally determined to have little or no significant risk to human receptors or the environment. The Tier 1 ESL values for soil are used depending on various site factors (land use: commercial/industrial versus residential), soil depth, lithology, and groundwater usage) and various risk pathways (direct exposure, groundwater protection, indoor air impacts, etc.). Exceedance of ESLs may warrant additional actions, such as more extensive sampling events, and/or remediation is warranted.

The naturally-occurring (background) concentrations of arsenic in soil throughout the San Francisco Bay Area commonly ranges from 10 mg/kg to 20 mg/kg, with 11 mg/kg arsenic currently designated by the Water Board as the California background concentration. For the construction/trench worker direct exposure scenario, only arsenic was detected above the ESL of 10 mg/kg in sample C2 (at 15 mg/kg). Exceeding the ESL for arsenic in sample C2 warrants dermal, and inhalation protection and dust mitigation measures during critical earthwork activities. Dermal exposure is easy to mitigate by standard practices of hand washing, etc. Inhalation exposure is only a risk when significant fugitive dust allows particulates into the breathing zone. Fugitive dust can be controlled by standard construction phase wetting practices.

***OSHA and Construction Phase Exposure Considerations:*** There were no contaminants detected in the site soils at concentrations in excess of California Occupational Safety and Health Administration (Cal-OSHA) Title 8 published “threshold criterion” that dictate whether air (particulates, dusts, fumes, mists, vapors, and gases) monitoring is necessary to document adherence to site occupant and worker safety and health standards during redevelopment including construction, excavations and demolition activities.

When standard industry Best Management Practices (BMPs) are implemented (to minimize fugitive dust emissions), during development activities, the potential is very low for worker or bystander exposure to airborne dust, even during construction activity. Worker exposure limits for various contaminants by dermal, ingestion or inhalation are set by the U.S. OSHA, as well as the State OSHA (Cal-OSHA). The most stringent criterion for dust inhalation is the OSHA Permissible Exposure Level (PEL) = 8-hour time-weighted average per cubic meter air (mg/m<sup>3</sup>).

## **SUMMARY AND CONCLUSIONS**

Stellar Environmental compared the analytical concentrations to the applicable Water Board ESL and criterion for applicable exposure risk scenario and for offsite landfill disposal and have arrived at the following conclusions:

- There were no petroleum hydrocarbons, volatile organic compounds, organochlorine pesticides, PCBs, or metals detected in excess of any regulatory screening levels pertaining to risks to human health or the environment.
- All of the analyzed compounds were documented at concentrations below hazardous levels for all compounds. All compounds were below ESLs except the metal arsenic (As) which exceeded the Water Board ESL as it pertains to construction/trench worker direct exposure risk. Exceedance of the direct exposure ESL for As in sample C2 may warrant a fugitive dust abatement plan with best management practices to mitigate the dermal and inhalation worker exposure scenario. This dust mitigation monitoring measures during earthwork activities could be established at the onset of the excavation phase to demonstrate that the BMP are mitigating the fugitive dust. Other than best management practices to minimize dust and related inhalation and dermal exposure, discussed below, no additional health and safety precautions should be required during the earth moving operations.
- Butylbenzyl phthalate was the only SVOC detected above the laboratory detection limits. It may be a toxin but is not at a level of regulatory concern to have regulatory exposure criteria or published ESLs by the Water Board.
- Two soil samples (C1 and C2) contained Cr concentrations above the 50 mg/kg that stipulates the samples be re-analyzed by the CA WET method to determine the waste classification. The WET solute was significantly less than the 5 mg/l STLC value and therefore the soil is classified as non-hazardous and may be disposed to a regulated Class II facility or any acceptable unregulated/unclassified receiving facility that would like to use the soil.
- Standard construction phase Best Management practices to mitigate fugitive dust should be employed during redevelopment activities.

## **RECOMMENDATIONS AND CONSIDERATIONS**

The following are recommendations and/or considerations made with respect to the health and safety to both site occupants and construction workers during redevelopment activities include:

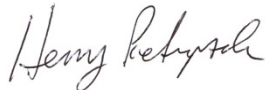
- Best Management Practices such as gloves and water spray for dust control should always be employed during earthwork to minimize the potential risk of exposure via dermal, ingestion or inhalation routes to the one identified contaminant of concern, arsenic (in soil) .

*Mr. Pete Beritzhoff*  
*Bay West Development*  
*June 17, 2015*  
*Page 9 of 9*

- Work upwind of soils being excavated (or plan the work on a non-windy day) with active dust controls in effect (water spray suppression on-hand).
- During soil excavation and grading open areas, ground and soil stockpiles should be wetted or covered if fugitive dust emissions are observed.
- Soil stockpiles must be protected against the possibility of children or other non-construction persons contacting the soil and to prevent fugitive dust emissions. This can be achieved by secure site fencing and securing (adequately weighted down) stockpiled soil beneath heavy plastic (Visqueen) sheeting cover (6-mil nominal).
- Construction vehicle wheels leaving the site should be inspected and brushed/cleaned as necessary to ensure that soils are not incidentally tracked offsite.
- Particulate air sampling could be considered during earth moving activities as part of health and safety monitoring to document usage of proper dust control measures to mitigate potential exposure risk, but is not a requirement given the soil data findings.

Stellar Environmental appreciates the opportunity to provide Bay West Development with the requested technical services. If you have any questions, please feel free to call us at 510-644-3123.

Sincerely,



Henry Pietropaoli, P.G.  
Senior Geologist/Project Manager



Richard Makdisi, P.G.  
Principal Geochemist/President

## **FIGURES**

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**SITE LOCATION MAP**

7544 Dublin Blvd  
Dublin, California

By: MJC

APRIL 2015

**Figure 1**



2015-28-01





**LEGEND**

- - - Subject property boundary
- 4-point composite sample collection points

0                      130  
 ┌──────────────────┴──────────────────┐  
 SCALE: 1" = 130 FEET



**LOCATION OF DISPOSAL PROFILE COMPOSITE SAMPLING POINTS**

7544 Dublin Blvd  
 Dublin, California

By: MJC

JUNE 2015

**Figure 2**



2015-28-02

## **ANALYTICAL SUMMARY TABLE**

---

**Table 1: Analytical Results of Four Point Composite Soil Profile Sampling  
Redevelopment Activity at 7544 Dublin Blvd,  
Dublin, California**

Sample ID	Depth (inches bg)	Title 22 Metals (mg/kg)			Chromium CA-WET (mg/L)	TPH motor oil - hydraulic oil (mg/kg)	TPH-diesel (mg/kg)	TPH-gas MBTEX (mg/kg)	VOCs (mg/kg)	Pesticides and PCBs (mg/kg)	SVOCs (mg/kg)
		As	Pb	Cr							
C1	0-12	<b>7.2</b>	10	<u>56</u>	0.43	280	1.1	All ND	All ND	* DDE = 0.017	All ND
C2	0-12	<b>15</b>	10	<u>65</u>	0.11	<5.0	<5.0	All ND	All ND	All ND	All ND
C3	0-8	<b>7.5</b>	11	<u>49</u>	NR	NA	NA	All ND	All ND	NA	NA
C4	0-8	NA	8.1	NA	NR	13	1.1	All ND	All ND	All ND***	NA
C5	0-8	NA	7.7	NA	NR	80	10	All ND	All ND	All ND	NA
C6	0-8	<b>5.1</b>	7.7	35	NR	17	2.3	All ND	All ND	NA	NA
C7	0-8	NA	27	NA	NR	11	1.6	All ND	All ND	All ND***	**BBP =1.0
C8	0-8	NA	ND	NA	NR	NA	NA	All ND	All ND	NA	NA
<b>ESL (commercial/industrial designation)</b>		1.6	320	1,000	NA	100,000	1,100	various	various	DDE = 7.0	various **
<b>ESL (construction/trench worker exposure)</b>		10	320	1,000	NA	28,000	900	various	various	DDE = 50	various

Notes:

TPH = total petroleum hydrocarbons; MBTEX = methyl tert-butyl ether, benzene, toluene, ethylbenzene, and total xylenes; VOCs = volatile organic compounds; SVOCs = semi-volatile organic compounds; ;ND = no detection above laboratory reporting limit; NA = not analyzed or not applicable; mg/kg = milligrams per kilogram; mg/L = milligrams per liter; bg = below grade;

ESL = Environmental Screening Level for shallow soil in commercial /industrial areas where groundwater is considered a drinking water source (Water Board 2013); Concentration; Results in **bold-face** type exceed applicable ESL ; Results underlined show concentration at or exceeds 50 mg/kg (>10x the Cr STLC of 5 mg/kg) and required additional analysis by CA WET; CA-WET = California waste extraction test (> 5 mg/L STLC = Soluble Threshold Limit ;

\* = only the pesticide dichlorodiphenyldichloroethylene (p,p-DDE) was detected; \*\* = only the SVOC, butylbenzyl phthalate (BBP) was detected, however it has no published ESL; \*\*\* = sample not analyzed for PCBs

# **ATTACHMENT A**

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## **Photo-Documentation**





Subject: Recently graded site

Site: 7544 Dublin Blvd, Dublin, California

Date Taken: April 20, 2015

Project No.: SES 2015-28

Photographer: H. Pietropaoli

Photo No.: 01



Subject: Location of composite sample point

Site: 7544 Dublin Blvd, Dublin, California

Date Taken: June 3, 2015

Project No.: SES 2015-28

Photographer: H. Pietropaoli

Photo No.: 02

## **ATTACHMENT B**

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### **Certified Analytical Lab Report and Chain-of-Custody Documentation**



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1506294

**Report Created for:** Stellar Environmental Solutions

2198 Sixth St. #201  
Berkeley, CA 94710

**Project Contact:** Richard Makdisi

**Project P.O.:**

**Project Name:** #2015-28; Soil Profiling

**Project Received:** 06/05/2015

Analytical Report reviewed & approved for release on 06/12/2015 by:

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.*





## Glossary of Terms & Qualifier Definitions

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**WorkOrder:** 1506294

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

### Analytical Qualifiers

a3	sample diluted due to high organic content.
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant
h4	sulfuric acid permanganate (EPA 3665) cleanup

### Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.
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## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C4	1506294-002A	Soil	06/03/2015 11:55	GC40	105921

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	06/09/2015 18:29
a-BHC	ND	0.0010	1	06/09/2015 18:29
b-BHC	ND	0.0010	1	06/09/2015 18:29
d-BHC	ND	0.0010	1	06/09/2015 18:29
g-BHC	ND	0.0010	1	06/09/2015 18:29
Chlordane (Technical)	ND	0.025	1	06/09/2015 18:29
a-Chlordane	ND	0.0010	1	06/09/2015 18:29
g-Chlordane	ND	0.0010	1	06/09/2015 18:29
p,p-DDD	ND	0.0010	1	06/09/2015 18:29
p,p-DDE	ND	0.0010	1	06/09/2015 18:29
p,p-DDT	ND	0.0010	1	06/09/2015 18:29
Dieldrin	ND	0.0010	1	06/09/2015 18:29
Endosulfan I	ND	0.0010	1	06/09/2015 18:29
Endosulfan II	ND	0.0010	1	06/09/2015 18:29
Endosulfan sulfate	ND	0.0010	1	06/09/2015 18:29
Endrin	ND	0.0010	1	06/09/2015 18:29
Endrin aldehyde	ND	0.0010	1	06/09/2015 18:29
Endrin ketone	ND	0.0010	1	06/09/2015 18:29
Heptachlor	ND	0.0010	1	06/09/2015 18:29
Heptachlor epoxide	ND	0.0010	1	06/09/2015 18:29
Hexachlorobenzene	ND	0.010	1	06/09/2015 18:29
Hexachlorocyclopentadiene	ND	0.020	1	06/09/2015 18:29
Methoxychlor	ND	0.0010	1	06/09/2015 18:29
Toxaphene	ND	0.050	1	06/09/2015 18:29
<b>Surrogates</b>	<b>REC (%)</b>	<b>Limits</b>		
Decachlorobiphenyl	104	70-130		06/09/2015 18:29

**Analyst(s):** SS



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C7	1506294-005A	Soil	06/03/2015 13:25	GC40	105921

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0050	5	06/09/2015 19:05
a-BHC	ND	0.0050	5	06/09/2015 19:05
b-BHC	ND	0.0050	5	06/09/2015 19:05
d-BHC	ND	0.0050	5	06/09/2015 19:05
g-BHC	ND	0.0050	5	06/09/2015 19:05
Chlordane (Technical)	ND	0.12	5	06/09/2015 19:05
a-Chlordane	ND	0.0050	5	06/09/2015 19:05
g-Chlordane	ND	0.0050	5	06/09/2015 19:05
p,p-DDD	ND	0.0050	5	06/09/2015 19:05
p,p-DDE	ND	0.0050	5	06/09/2015 19:05
p,p-DDT	ND	0.0050	5	06/09/2015 19:05
Dieldrin	ND	0.0050	5	06/09/2015 19:05
Endosulfan I	ND	0.0050	5	06/09/2015 19:05
Endosulfan II	ND	0.0050	5	06/09/2015 19:05
Endosulfan sulfate	ND	0.0050	5	06/09/2015 19:05
Endrin	ND	0.0050	5	06/09/2015 19:05
Endrin aldehyde	ND	0.0050	5	06/09/2015 19:05
Endrin ketone	ND	0.0050	5	06/09/2015 19:05
Heptachlor	ND	0.0050	5	06/09/2015 19:05
Heptachlor epoxide	ND	0.0050	5	06/09/2015 19:05
Hexachlorobenzene	ND	0.050	5	06/09/2015 19:05
Hexachlorocyclopentadiene	ND	0.10	5	06/09/2015 19:05
Methoxychlor	ND	0.0050	5	06/09/2015 19:05
Toxaphene	ND	0.25	5	06/09/2015 19:05

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	105	70-130	06/09/2015 19:05

**Analyst(s):** SS

**Analytical Comments:** a3



# Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8082  
**Unit:** mg/kg

## Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C5	1506294-003A	Soil	06/03/2015 12:25	GC5A	105946

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.050	1	06/12/2015 11:05
Aroclor1221	ND	0.050	1	06/12/2015 11:05
Aroclor1232	ND	0.050	1	06/12/2015 11:05
Aroclor1242	ND	0.050	1	06/12/2015 11:05
Aroclor1248	ND	0.050	1	06/12/2015 11:05
Aroclor1254	ND	0.050	1	06/12/2015 11:05
Aroclor1260	ND	0.050	1	06/12/2015 11:05
PCBs, total	ND	0.050	1	06/12/2015 11:05

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	76	70-130	06/12/2015 11:05

Analyst(s): SS

Analytical Comments: h4



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C5	1506294-003A	Soil	06/03/2015 12:25	GC16	105924

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	06/11/2015 01:55
tert-Amyl methyl ether (TAME)	ND	0.0050	1	06/11/2015 01:55
Benzene	ND	0.0050	1	06/11/2015 01:55
Bromobenzene	ND	0.0050	1	06/11/2015 01:55
Bromochloromethane	ND	0.0050	1	06/11/2015 01:55
Bromodichloromethane	ND	0.0050	1	06/11/2015 01:55
Bromoform	ND	0.0050	1	06/11/2015 01:55
Bromomethane	ND	0.0050	1	06/11/2015 01:55
2-Butanone (MEK)	ND	0.020	1	06/11/2015 01:55
t-Butyl alcohol (TBA)	ND	0.050	1	06/11/2015 01:55
n-Butyl benzene	ND	0.0050	1	06/11/2015 01:55
sec-Butyl benzene	ND	0.0050	1	06/11/2015 01:55
tert-Butyl benzene	ND	0.0050	1	06/11/2015 01:55
Carbon Disulfide	ND	0.0050	1	06/11/2015 01:55
Carbon Tetrachloride	ND	0.0050	1	06/11/2015 01:55
Chlorobenzene	ND	0.0050	1	06/11/2015 01:55
Chloroethane	ND	0.0050	1	06/11/2015 01:55
Chloroform	ND	0.0050	1	06/11/2015 01:55
Chloromethane	ND	0.0050	1	06/11/2015 01:55
2-Chlorotoluene	ND	0.0050	1	06/11/2015 01:55
4-Chlorotoluene	ND	0.0050	1	06/11/2015 01:55
Dibromochloromethane	ND	0.0050	1	06/11/2015 01:55
1,2-Dibromo-3-chloropropane	ND	0.0040	1	06/11/2015 01:55
1,2-Dibromoethane (EDB)	ND	0.0040	1	06/11/2015 01:55
Dibromomethane	ND	0.0050	1	06/11/2015 01:55
1,2-Dichlorobenzene	ND	0.0050	1	06/11/2015 01:55
1,3-Dichlorobenzene	ND	0.0050	1	06/11/2015 01:55
1,4-Dichlorobenzene	ND	0.0050	1	06/11/2015 01:55
Dichlorodifluoromethane	ND	0.0050	1	06/11/2015 01:55
1,1-Dichloroethane	ND	0.0050	1	06/11/2015 01:55
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	06/11/2015 01:55
1,1-Dichloroethene	ND	0.0050	1	06/11/2015 01:55
cis-1,2-Dichloroethene	ND	0.0050	1	06/11/2015 01:55
trans-1,2-Dichloroethene	ND	0.0050	1	06/11/2015 01:55
1,2-Dichloropropane	ND	0.0050	1	06/11/2015 01:55
1,3-Dichloropropane	ND	0.0050	1	06/11/2015 01:55
2,2-Dichloropropane	ND	0.0050	1	06/11/2015 01:55
1,1-Dichloropropene	ND	0.0050	1	06/11/2015 01:55

(Cont.)



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C5	1506294-003A	Soil	06/03/2015 12:25	GC16	105924

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.0050	1	06/11/2015 01:55
trans-1,3-Dichloropropene	ND	0.0050	1	06/11/2015 01:55
Diisopropyl ether (DIPE)	ND	0.0050	1	06/11/2015 01:55
Ethylbenzene	ND	0.0050	1	06/11/2015 01:55
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	06/11/2015 01:55
Freon 113	ND	0.0050	1	06/11/2015 01:55
Hexachlorobutadiene	ND	0.0050	1	06/11/2015 01:55
Hexachloroethane	ND	0.0050	1	06/11/2015 01:55
2-Hexanone	ND	0.0050	1	06/11/2015 01:55
Isopropylbenzene	ND	0.0050	1	06/11/2015 01:55
4-Isopropyl toluene	ND	0.0050	1	06/11/2015 01:55
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/11/2015 01:55
Methylene chloride	ND	0.0050	1	06/11/2015 01:55
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	06/11/2015 01:55
Naphthalene	ND	0.0050	1	06/11/2015 01:55
n-Propyl benzene	ND	0.0050	1	06/11/2015 01:55
Styrene	ND	0.0050	1	06/11/2015 01:55
1,1,1,2-Tetrachloroethane	ND	0.0050	1	06/11/2015 01:55
1,1,2,2-Tetrachloroethane	ND	0.0050	1	06/11/2015 01:55
Tetrachloroethene	ND	0.0050	1	06/11/2015 01:55
Toluene	ND	0.0050	1	06/11/2015 01:55
1,2,3-Trichlorobenzene	ND	0.0050	1	06/11/2015 01:55
1,2,4-Trichlorobenzene	ND	0.0050	1	06/11/2015 01:55
1,1,1-Trichloroethane	ND	0.0050	1	06/11/2015 01:55
1,1,2-Trichloroethane	ND	0.0050	1	06/11/2015 01:55
Trichloroethene	ND	0.0050	1	06/11/2015 01:55
Trichlorofluoromethane	ND	0.0050	1	06/11/2015 01:55
1,2,3-Trichloropropane	ND	0.0050	1	06/11/2015 01:55
1,2,4-Trimethylbenzene	ND	0.0050	1	06/11/2015 01:55
1,3,5-Trimethylbenzene	ND	0.0050	1	06/11/2015 01:55
Vinyl Chloride	ND	0.0050	1	06/11/2015 01:55
Xylenes, Total	ND	0.0050	1	06/11/2015 01:55

(Cont.)



# Analytical Report

**Client:** Stellar Environmental Solutions

**WorkOrder:** 1506294

**Project:** #2015-28; Soil Profiling

**Extraction Method:** SW5030B

**Date Received:** 6/5/15 17:55

**Analytical Method:** SW8260B

**Date Prepared:** 6/5/15

**Unit:** mg/kg

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C5	1506294-003A	Soil	06/03/2015 12:25	GC16	105924

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	104	70-130		06/11/2015 01:55
Toluene-d8	94	70-130		06/11/2015 01:55
4-BFB	93	70-130		06/11/2015 01:55
Benzene-d6	74	60-140		06/11/2015 01:55
Ethylbenzene-d10	81	60-140		06/11/2015 01:55
1,2-DCB-d4	83	60-140		06/11/2015 01:55

Analyst(s): KF



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C7	1506294-005A	Soil	06/03/2015 13:25	GC16	105924

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	06/11/2015 02:37
tert-Amyl methyl ether (TAME)	ND	0.0050	1	06/11/2015 02:37
Benzene	ND	0.0050	1	06/11/2015 02:37
Bromobenzene	ND	0.0050	1	06/11/2015 02:37
Bromochloromethane	ND	0.0050	1	06/11/2015 02:37
Bromodichloromethane	ND	0.0050	1	06/11/2015 02:37
Bromoform	ND	0.0050	1	06/11/2015 02:37
Bromomethane	ND	0.0050	1	06/11/2015 02:37
2-Butanone (MEK)	ND	0.020	1	06/11/2015 02:37
t-Butyl alcohol (TBA)	ND	0.050	1	06/11/2015 02:37
n-Butyl benzene	ND	0.0050	1	06/11/2015 02:37
sec-Butyl benzene	ND	0.0050	1	06/11/2015 02:37
tert-Butyl benzene	ND	0.0050	1	06/11/2015 02:37
Carbon Disulfide	ND	0.0050	1	06/11/2015 02:37
Carbon Tetrachloride	ND	0.0050	1	06/11/2015 02:37
Chlorobenzene	ND	0.0050	1	06/11/2015 02:37
Chloroethane	ND	0.0050	1	06/11/2015 02:37
Chloroform	ND	0.0050	1	06/11/2015 02:37
Chloromethane	ND	0.0050	1	06/11/2015 02:37
2-Chlorotoluene	ND	0.0050	1	06/11/2015 02:37
4-Chlorotoluene	ND	0.0050	1	06/11/2015 02:37
Dibromochloromethane	ND	0.0050	1	06/11/2015 02:37
1,2-Dibromo-3-chloropropane	ND	0.0040	1	06/11/2015 02:37
1,2-Dibromoethane (EDB)	ND	0.0040	1	06/11/2015 02:37
Dibromomethane	ND	0.0050	1	06/11/2015 02:37
1,2-Dichlorobenzene	ND	0.0050	1	06/11/2015 02:37
1,3-Dichlorobenzene	ND	0.0050	1	06/11/2015 02:37
1,4-Dichlorobenzene	ND	0.0050	1	06/11/2015 02:37
Dichlorodifluoromethane	ND	0.0050	1	06/11/2015 02:37
1,1-Dichloroethane	ND	0.0050	1	06/11/2015 02:37
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	06/11/2015 02:37
1,1-Dichloroethene	ND	0.0050	1	06/11/2015 02:37
cis-1,2-Dichloroethene	ND	0.0050	1	06/11/2015 02:37
trans-1,2-Dichloroethene	ND	0.0050	1	06/11/2015 02:37
1,2-Dichloropropane	ND	0.0050	1	06/11/2015 02:37
1,3-Dichloropropane	ND	0.0050	1	06/11/2015 02:37
2,2-Dichloropropane	ND	0.0050	1	06/11/2015 02:37
1,1-Dichloropropene	ND	0.0050	1	06/11/2015 02:37

(Cont.)





## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C7	1506294-005A	Soil	06/03/2015 13:25	GC16	105924

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.0050	1	06/11/2015 02:37
trans-1,3-Dichloropropene	ND	0.0050	1	06/11/2015 02:37
Diisopropyl ether (DIPE)	ND	0.0050	1	06/11/2015 02:37
Ethylbenzene	ND	0.0050	1	06/11/2015 02:37
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	06/11/2015 02:37
Freon 113	ND	0.0050	1	06/11/2015 02:37
Hexachlorobutadiene	ND	0.0050	1	06/11/2015 02:37
Hexachloroethane	ND	0.0050	1	06/11/2015 02:37
2-Hexanone	ND	0.0050	1	06/11/2015 02:37
Isopropylbenzene	ND	0.0050	1	06/11/2015 02:37
4-Isopropyl toluene	ND	0.0050	1	06/11/2015 02:37
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/11/2015 02:37
Methylene chloride	ND	0.0050	1	06/11/2015 02:37
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	06/11/2015 02:37
Naphthalene	ND	0.0050	1	06/11/2015 02:37
n-Propyl benzene	ND	0.0050	1	06/11/2015 02:37
Styrene	ND	0.0050	1	06/11/2015 02:37
1,1,1,2-Tetrachloroethane	ND	0.0050	1	06/11/2015 02:37
1,1,2,2-Tetrachloroethane	ND	0.0050	1	06/11/2015 02:37
Tetrachloroethene	ND	0.0050	1	06/11/2015 02:37
Toluene	ND	0.0050	1	06/11/2015 02:37
1,2,3-Trichlorobenzene	ND	0.0050	1	06/11/2015 02:37
1,2,4-Trichlorobenzene	ND	0.0050	1	06/11/2015 02:37
1,1,1-Trichloroethane	ND	0.0050	1	06/11/2015 02:37
1,1,2-Trichloroethane	ND	0.0050	1	06/11/2015 02:37
Trichloroethene	ND	0.0050	1	06/11/2015 02:37
Trichlorofluoromethane	ND	0.0050	1	06/11/2015 02:37
1,2,3-Trichloropropane	ND	0.0050	1	06/11/2015 02:37
1,2,4-Trimethylbenzene	ND	0.0050	1	06/11/2015 02:37
1,3,5-Trimethylbenzene	ND	0.0050	1	06/11/2015 02:37
Vinyl Chloride	ND	0.0050	1	06/11/2015 02:37
Xylenes, Total	ND	0.0050	1	06/11/2015 02:37

(Cont.)



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C7	1506294-005A	Soil	06/03/2015 13:25	GC16	105924

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	103	70-130		06/11/2015 02:37
Toluene-d8	97	70-130		06/11/2015 02:37
4-BFB	93	70-130		06/11/2015 02:37
Benzene-d6	77	60-140		06/11/2015 02:37
Ethylbenzene-d10	84	60-140		06/11/2015 02:37
1,2-DCB-d4	86	60-140		06/11/2015 02:37

Analyst(s): KF



# Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/8/15

**WorkOrder:** 1506294  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

## Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C7	1506294-005A	Soil	06/03/2015 13:25	GC17	106005

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.25	1	06/08/2015 21:20
Acenaphthylene	ND	0.25	1	06/08/2015 21:20
Acetochlor	ND	0.25	1	06/08/2015 21:20
Anthracene	ND	0.25	1	06/08/2015 21:20
Benzidine	ND	1.3	1	06/08/2015 21:20
Benzo (a) anthracene	ND	0.25	1	06/08/2015 21:20
Benzo (b) fluoranthene	ND	0.25	1	06/08/2015 21:20
Benzo (k) fluoranthene	ND	0.25	1	06/08/2015 21:20
Benzo (g,h,i) perylene	ND	0.25	1	06/08/2015 21:20
Benzo (a) pyrene	ND	0.25	1	06/08/2015 21:20
Benzyl Alcohol	ND	1.3	1	06/08/2015 21:20
1,1-Biphenyl	ND	0.25	1	06/08/2015 21:20
Bis (2-chloroethoxy) Methane	ND	0.25	1	06/08/2015 21:20
Bis (2-chloroethyl) Ether	ND	0.25	1	06/08/2015 21:20
Bis (2-chloroisopropyl) Ether	ND	0.25	1	06/08/2015 21:20
Bis (2-ethylhexyl) Adipate	ND	0.25	1	06/08/2015 21:20
Bis (2-ethylhexyl) Phthalate	ND	0.25	1	06/08/2015 21:20
4-Bromophenyl Phenyl Ether	ND	0.25	1	06/08/2015 21:20
Butylbenzyl Phthalate	1.0	0.25	1	06/08/2015 21:20
4-Chloroaniline	ND	0.50	1	06/08/2015 21:20
4-Chloro-3-methylphenol	ND	0.25	1	06/08/2015 21:20
2-Chloronaphthalene	ND	0.25	1	06/08/2015 21:20
2-Chlorophenol	ND	0.25	1	06/08/2015 21:20
4-Chlorophenyl Phenyl Ether	ND	0.25	1	06/08/2015 21:20
Chrysene	ND	0.25	1	06/08/2015 21:20
Dibenzo (a,h) anthracene	ND	0.25	1	06/08/2015 21:20
Dibenzofuran	ND	0.25	1	06/08/2015 21:20
Di-n-butyl Phthalate	ND	0.25	1	06/08/2015 21:20
1,2-Dichlorobenzene	ND	0.25	1	06/08/2015 21:20
1,3-Dichlorobenzene	ND	0.25	1	06/08/2015 21:20
1,4-Dichlorobenzene	ND	0.25	1	06/08/2015 21:20
3,3-Dichlorobenzidine	ND	0.50	1	06/08/2015 21:20
2,4-Dichlorophenol	ND	0.25	1	06/08/2015 21:20
Diethyl Phthalate	ND	0.25	1	06/08/2015 21:20
2,4-Dimethylphenol	ND	0.25	1	06/08/2015 21:20
Dimethyl Phthalate	ND	0.25	1	06/08/2015 21:20
4,6-Dinitro-2-methylphenol	ND	1.3	1	06/08/2015 21:20
2,4-Dinitrophenol	ND	6.3	1	06/08/2015 21:20

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## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/8/15

**WorkOrder:** 1506294  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C7	1506294-005A	Soil	06/03/2015 13:25	GC17	106005

Analytes	Result	RL	DF	Date Analyzed
2,4-Dinitrotoluene	ND	0.25	1	06/08/2015 21:20
2,6-Dinitrotoluene	ND	0.25	1	06/08/2015 21:20
Di-n-octyl Phthalate	ND	0.50	1	06/08/2015 21:20
1,2-Diphenylhydrazine	ND	0.25	1	06/08/2015 21:20
Fluoranthene	ND	0.25	1	06/08/2015 21:20
Fluorene	ND	0.25	1	06/08/2015 21:20
Hexachlorobenzene	ND	0.25	1	06/08/2015 21:20
Hexachlorobutadiene	ND	0.25	1	06/08/2015 21:20
Hexachlorocyclopentadiene	ND	1.3	1	06/08/2015 21:20
Hexachloroethane	ND	0.25	1	06/08/2015 21:20
Indeno (1,2,3-cd) pyrene	ND	0.25	1	06/08/2015 21:20
Isophorone	ND	0.25	1	06/08/2015 21:20
2-Methylnaphthalene	ND	0.25	1	06/08/2015 21:20
2-Methylphenol (o-Cresol)	ND	0.25	1	06/08/2015 21:20
3 & 4-Methylphenol (m,p-Cresol)	ND	0.25	1	06/08/2015 21:20
Naphthalene	ND	0.25	1	06/08/2015 21:20
2-Nitroaniline	ND	1.3	1	06/08/2015 21:20
3-Nitroaniline	ND	1.3	1	06/08/2015 21:20
4-Nitroaniline	ND	1.3	1	06/08/2015 21:20
Nitrobenzene	ND	0.25	1	06/08/2015 21:20
2-Nitrophenol	ND	1.3	1	06/08/2015 21:20
4-Nitrophenol	ND	1.3	1	06/08/2015 21:20
N-Nitrosodiphenylamine	ND	0.25	1	06/08/2015 21:20
N-Nitrosodi-n-propylamine	ND	0.25	1	06/08/2015 21:20
Pentachlorophenol	ND	1.3	1	06/08/2015 21:20
Phenanthrene	ND	0.25	1	06/08/2015 21:20
Phenol	ND	0.25	1	06/08/2015 21:20
Pyrene	ND	0.25	1	06/08/2015 21:20
1,2,4-Trichlorobenzene	ND	0.25	1	06/08/2015 21:20
2,4,5-Trichlorophenol	ND	0.25	1	06/08/2015 21:20
2,4,6-Trichlorophenol	ND	0.25	1	06/08/2015 21:20

(Cont.)



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/8/15

**WorkOrder:** 1506294  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C7	1506294-005A	Soil	06/03/2015 13:25	GC17	106005

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
2-Fluorophenol	95		30-130	06/08/2015 21:20
Phenol-d5	97		30-130	06/08/2015 21:20
Nitrobenzene-d5	79		30-130	06/08/2015 21:20
2-Fluorobiphenyl	81		30-130	06/08/2015 21:20
2,4,6-Tribromophenol	53		16-130	06/08/2015 21:20
4-Terphenyl-d14	88		30-130	06/08/2015 21:20

Analyst(s): HK



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C3	1506294-001A	Soil	06/03/2015 11:25	ICP-MS1	105932

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	06/09/2015 09:06
Arsenic	<b>7.5</b>	0.50	1	06/09/2015 09:06
Barium	<b>120</b>	5.0	1	06/09/2015 09:06
Beryllium	<b>0.51</b>	0.50	1	06/09/2015 09:06
Cadmium	ND	0.25	1	06/09/2015 09:06
Chromium	<b>49</b>	0.50	1	06/09/2015 09:06
Cobalt	<b>10</b>	0.50	1	06/09/2015 09:06
Copper	<b>29</b>	0.50	1	06/09/2015 09:06
Lead	<b>11</b>	0.50	1	06/09/2015 09:06
Mercury	ND	0.050	1	06/09/2015 09:06
Molybdenum	<b>0.63</b>	0.50	1	06/09/2015 09:06
Nickel	<b>46</b>	0.50	1	06/09/2015 09:06
Selenium	ND	0.50	1	06/09/2015 09:06
Silver	ND	0.50	1	06/09/2015 09:06
Thallium	ND	0.50	1	06/09/2015 09:06
Vanadium	<b>50</b>	0.50	1	06/09/2015 09:06
Zinc	<b>83</b>	5.0	1	06/09/2015 09:06
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Terbium	94	70-130		06/09/2015 09:06

Analyst(s): DB



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C6	1506294-004A	Soil	06/03/2015 12:55	ICP-MS1	105932

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	06/09/2015 18:10
Arsenic	<b>5.1</b>	0.50	1	06/09/2015 18:10
Barium	<b>93</b>	5.0	1	06/09/2015 18:10
Beryllium	ND	0.50	1	06/09/2015 18:10
Cadmium	ND	0.25	1	06/09/2015 18:10
Chromium	<b>35</b>	0.50	1	06/09/2015 18:10
Cobalt	<b>6.9</b>	0.50	1	06/09/2015 18:10
Copper	<b>20</b>	0.50	1	06/09/2015 18:10
Lead	<b>7.7</b>	0.50	1	06/09/2015 18:10
Mercury	ND	0.050	1	06/09/2015 18:10
Molybdenum	ND	0.50	1	06/09/2015 18:10
Nickel	<b>36</b>	0.50	1	06/09/2015 18:10
Selenium	ND	0.50	1	06/09/2015 18:10
Silver	ND	0.50	1	06/09/2015 18:10
Thallium	ND	0.50	1	06/09/2015 18:10
Vanadium	<b>32</b>	0.50	1	06/09/2015 18:10
Zinc	<b>43</b>	5.0	1	06/09/2015 18:10
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Terbium	94	70-130		06/09/2015 18:10

**Analyst(s):** DVH





## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C3	1506294-001A	Soil	06/03/2015 11:25	GC7	105944

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/09/2015 00:51
MTBE	---	0.050	1	06/09/2015 00:51
Benzene	ND	0.0050	1	06/09/2015 00:51
Toluene	ND	0.0050	1	06/09/2015 00:51
Ethylbenzene	ND	0.0050	1	06/09/2015 00:51
Xylenes	ND	0.0050	1	06/09/2015 00:51

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	100	70-130	06/09/2015 00:51

Analyst(s): HD

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C4	1506294-002A	Soil	06/03/2015 11:55	GC7	105944

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/09/2015 01:54
MTBE	---	0.050	1	06/09/2015 01:54
Benzene	ND	0.0050	1	06/09/2015 01:54
Toluene	ND	0.0050	1	06/09/2015 01:54
Ethylbenzene	ND	0.0050	1	06/09/2015 01:54
Xylenes	ND	0.0050	1	06/09/2015 01:54

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	97	70-130	06/09/2015 01:54

Analyst(s): HD

(Cont.)



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C5	1506294-003A	Soil	06/03/2015 12:25	GC19	105944

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/09/2015 22:30
MTBE	---	0.050	1	06/09/2015 22:30
Benzene	ND	0.0050	1	06/09/2015 22:30
Toluene	ND	0.0050	1	06/09/2015 22:30
Ethylbenzene	ND	0.0050	1	06/09/2015 22:30
Xylenes	ND	0.0050	1	06/09/2015 22:30

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	109	70-130	06/09/2015 22:30

Analyst(s): HD

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C6	1506294-004A	Soil	06/03/2015 12:55	GC19	105944

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/09/2015 22:00
MTBE	---	0.050	1	06/09/2015 22:00
Benzene	ND	0.0050	1	06/09/2015 22:00
Toluene	ND	0.0050	1	06/09/2015 22:00
Ethylbenzene	ND	0.0050	1	06/09/2015 22:00
Xylenes	ND	0.0050	1	06/09/2015 22:00

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	84	70-130	06/09/2015 22:00

Analyst(s): HD

(Cont.)



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C7	1506294-005A	Soil	06/03/2015 13:25	GC19	105944

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/10/2015 04:34
MTBE	---	0.050	1	06/10/2015 04:34
Benzene	ND	0.0050	1	06/10/2015 04:34
Toluene	ND	0.0050	1	06/10/2015 04:34
Ethylbenzene	ND	0.0050	1	06/10/2015 04:34
Xylenes	ND	0.0050	1	06/10/2015 04:34

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	105	70-130	06/10/2015 04:34

Analyst(s): HD

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C8	1506294-006A	Soil	06/03/2015 13:55	GC19	105944

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/10/2015 05:05
MTBE	---	0.050	1	06/10/2015 05:05
Benzene	ND	0.0050	1	06/10/2015 05:05
Toluene	ND	0.0050	1	06/10/2015 05:05
Ethylbenzene	ND	0.0050	1	06/10/2015 05:05
Xylenes	ND	0.0050	1	06/10/2015 05:05

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	94	70-130	06/10/2015 05:05

Analyst(s): HD



## Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15-6/8/15

**WorkOrder:** 1506294  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6010B  
**Unit:** mg/Kg

### Lead

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C4	1506294-002A	Soil	06/03/2015 11:55	ICP-JY	105945

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Lead	8.1	5.0	1	06/08/2015 15:27

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>
Tb 350.917	106	70-130

Analyst(s): DVH

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C5	1506294-003A	Soil	06/03/2015 12:25	ICP-JY	105949

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Lead	7.7	5.0	1	06/09/2015 13:06

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>
Tb 350.917	95	70-130

Analyst(s): DVH

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C7	1506294-005A	Soil	06/03/2015 13:25	ICP-JY	105949

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Lead	27	5.0	1	06/09/2015 13:09

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>
Tb 350.917	96	70-130

Analyst(s): DVH

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C8	1506294-006A	Soil	06/03/2015 13:55	ICP-JY	105996

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Lead	ND	5.0	1	06/09/2015 13:11

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>
Tb 350.917	96	70-130

Analyst(s): DVH



# Analytical Report

**Client:** Stellar Environmental Solutions  
**Project:** #2015-28; Soil Profiling  
**Date Received:** 6/5/15 17:55  
**Date Prepared:** 6/5/15

**WorkOrder:** 1506294  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

## Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C4	1506294-002A	Soil	06/03/2015 11:55	GC2B	105926

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.1	1.0	1	06/07/2015 06:06
TPH-Motor Oil (C18-C36)	13	5.0	1	06/07/2015 06:06

Surrogates	REC (%)	Limits	Date Analyzed
C9	94	70-130	06/07/2015 06:06

**Analyst(s):** TK **Analytical Comments:** e7,e2

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C5	1506294-003A	Soil	06/03/2015 12:25	GC31B	105926

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	10	10	1	06/09/2015 16:26
TPH-Motor Oil (C18-C36)	80	50	1	06/09/2015 16:26

Surrogates	REC (%)	Limits	Date Analyzed
C9	90	70-130	06/09/2015 16:26

**Analyst(s):** TK **Analytical Comments:** e7,e2

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C6	1506294-004A	Soil	06/03/2015 12:55	GC2A	105926

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	2.3	2.0	2	06/11/2015 13:08
TPH-Motor Oil (C18-C36)	17	10	2	06/11/2015 13:08

Surrogates	REC (%)	Limits	Date Analyzed
C9	102	70-130	06/11/2015 13:08

**Analyst(s):** TK **Analytical Comments:** e7,e2

(Cont.)



# Analytical Report

**Client:** Stellar Environmental Solutions

**WorkOrder:** 1506294

**Project:** #2015-28; Soil Profiling

**Extraction Method:** SW3550B

**Date Received:** 6/5/15 17:55

**Analytical Method:** SW8015B

**Date Prepared:** 6/5/15

**Unit:** mg/Kg

## Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
C7	1506294-005A	Soil	06/03/2015 13:25	GC2A	105926

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.6	1.0	1	06/09/2015 09:33
TPH-Motor Oil (C18-C36)	11	5.0	1	06/09/2015 09:33

Surrogates	REC (%)	Limits	Date Analyzed
C9	106	70-130	06/09/2015 09:33

**Analyst(s):** TK

**Analytical Comments:** e7,e2



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/6/15  
**Instrument:** GC23  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105921  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-105921  
 1506276-022AMS/MSD

### QC Summary Report for SW8081A

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aldrin	ND	0.0576	0.0010	0.050	-	114	70-130
a-BHC	ND	-	0.0010	-	-	-	-
b-BHC	ND	-	0.0010	-	-	-	-
d-BHC	ND	-	0.0010	-	-	-	-
g-BHC	ND	0.0530	0.0010	0.050	-	106	70-130
Chlordane (Technical)	ND	-	0.025	-	-	-	-
a-Chlordane	ND	-	0.0010	-	-	-	-
g-Chlordane	ND	-	0.0010	-	-	-	-
p,p-DDD	ND	-	0.0010	-	-	-	-
p,p-DDE	ND	-	0.0010	-	-	-	-
p,p-DDT	ND	0.0442	0.0010	0.050	-	88	70-130
Dieldrin	ND	0.0648	0.0010	0.050	-	130	70-130
Endosulfan I	ND	-	0.0010	-	-	-	-
Endosulfan II	ND	-	0.0010	-	-	-	-
Endosulfan sulfate	ND	-	0.0010	-	-	-	-
Endrin	ND	0.0570	0.0010	0.050	-	114	70-130
Endrin aldehyde	ND	-	0.0010	-	-	-	-
Endrin ketone	ND	-	0.0010	-	-	-	-
Heptachlor	ND	0.0495	0.0010	0.050	-	99	70-130
Heptachlor epoxide	ND	-	0.0010	-	-	-	-
Hexachlorobenzene	ND	-	0.010	-	-	-	-
Hexachlorocyclopentadiene	ND	-	0.020	-	-	-	-
Methoxychlor	ND	-	0.0010	-	-	-	-
Toxaphene	ND	-	0.050	-	-	-	-
Aroclor1016	ND	-	0.050	-	-	-	-
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	-	0.050	-	-	-	-
PCBs, total	ND	-	0.050	-	-	-	-
<b>Surrogate Recovery</b>							
Decachlorobiphenyl	0.0474	0.0439		0.050	95	88	70-130

(Cont.)





## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/6/15  
**Instrument:** GC23  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105921  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8081A  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-105921  
 1506276-022AMS/MSD

### QC Summary Report for SW8081A

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	0.0559	0.0568	0.050	ND	112	114	70-130	1.62	30
g-BHC	0.0538	0.0559	0.050	ND	108	112	70-130	3.80	30
p,p-DDT	0.0315	0.0313	0.050	ND	63,F1	63,F1	70-130	0	30
Dieldrin	0.0618	0.0618	0.050	ND	124	124	70-130	0	30
Endrin	0.0566	0.0577	0.050	ND	113	115	70-130	2.01	30
Heptachlor	0.0516	0.0529	0.050	ND	103	106	70-130	2.43	30
<b>Surrogate Recovery</b>									
Decachlorobiphenyl	0.0407	0.0393	0.050		81	79	70-130	3.36	30



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/6/15  
**Instrument:** GC5A  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105946  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8082  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-105946  
 1506294-003AMS/MSD

### QC Summary Report for SW8082

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aroclor1016	ND	-	0.050	-	-	-	-
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	0.149	0.050	0.15	-	100	70-130
PCBs, total	ND	-	0.050	-	-	-	-

**Surrogate Recovery**

Decachlorobiphenyl	0.0421	0.0431		0.050	84	86	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aroclor1260	0.144	0.142	0.15	ND	96	95	70-130	1.28	30

**Surrogate Recovery**

Decachlorobiphenyl	0.0398	0.0375	0.050		80	75	70-130	6.00	30
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## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/6/15 - 6/8/15  
**Instrument:** GC16, GC18  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105924  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-105924  
 1506270-002AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0516	0.0050	0.050	-	103	53-116
Benzene	ND	0.0491	0.0050	0.050	-	98	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.239	0.050	0.20	-	120	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0459	0.0050	0.050	-	92	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0513	0.0040	0.050	-	103	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0499	0.0040	0.050	-	100	58-135
1,1-Dichloroethene	ND	0.0433	0.0050	0.050	-	87	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/6/15 - 6/8/15  
**Instrument:** GC16, GC18  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105924  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-105924  
 1506270-002AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	0.0485	0.0050	0.050	-	97	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0512	0.0050	0.050	-	103	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0523	0.0050	0.050	-	105	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0455	0.0050	0.050	-	91	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0472	0.0050	0.050	-	94	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

#### Surrogate Recovery

Dibromofluoromethane	0.126	0.132		0.12	101	106	70-130
Toluene-d8	0.124	0.118		0.12	100	94	70-130
4-BFB	0.0126	0.0116		0.012	101	92	70-130
Benzene-d6	0.140	0.0853		0.10	140	85	60-140
Ethylbenzene-d10	0.128	0.0927		0.10	128	93	60-140
1,2-DCB-d4	0.101	0.0938		0.10	101	94	60-140

(Cont.)



# Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/6/15 - 6/8/15  
**Instrument:** GC16, GC18  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105924  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-105924  
 1506270-002AMS/MSD

## QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0501	0.0480	0.050	ND	100	96	70-130	4.26	20
Benzene	0.0450	0.0428	0.050	ND	90	86	70-130	5.01	20
t-Butyl alcohol (TBA)	0.238	0.235	0.20	ND	119	118	70-130	1.26	20
Chlorobenzene	0.0512	0.0486	0.050	ND	102	97	70-130	5.17	20
1,2-Dibromoethane (EDB)	0.0564	0.0536	0.050	ND	113	107	70-130	5.09	20
1,2-Dichloroethane (1,2-DCA)	0.0531	0.0512	0.050	ND	106	102	70-130	3.71	20
1,1-Dichloroethene	0.0443	0.0423	0.050	ND	89	85	70-130	4.79	20
Diisopropyl ether (DIPE)	0.0482	0.0460	0.050	ND	96	92	70-130	4.74	20
Ethyl tert-butyl ether (ETBE)	0.0545	0.0520	0.050	ND	109	104	70-130	4.74	20
Methyl-t-butyl ether (MTBE)	0.0554	0.0534	0.050	ND	111	107	70-130	3.64	20
Toluene	0.0467	0.0446	0.050	ND	93	89	70-130	4.59	20
Trichloroethene	0.0493	0.0470	0.050	ND	99	94	70-130	4.68	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.128	0.129	0.12		103	103	70-130	0	20
Toluene-d8	0.123	0.123	0.12		98	98	70-130	0	20
4-BFB	0.0127	0.0127	0.012		102	101	70-130	0.268	20
Benzene-d6	0.131	0.125	0.10		131	125	60-140	4.21	20
Ethylbenzene-d10	0.122	0.116	0.10		122	116	60-140	4.66	20
1,2-DCB-d4	0.104	0.100	0.10		104	100	60-140	3.76	20



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/8/15  
**Date Analyzed:** 6/8/15  
**Instrument:** GC17  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 106005  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-106005  
 1506294-005AMS/MSD

### QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	3.84	0.25	5	-	77	30-130
Acenaphthylene	ND	-	0.25	-	-	-	-
Acetochlor	ND	-	0.25	-	-	-	-
Anthracene	ND	-	0.25	-	-	-	-
Benzidine	ND	-	1.3	-	-	-	-
Benzo (a) anthracene	ND	-	0.25	-	-	-	-
Benzo (b) fluoranthene	ND	-	0.25	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.25	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.25	-	-	-	-
Benzo (a) pyrene	ND	-	0.25	-	-	-	-
Benzyl Alcohol	ND	-	1.3	-	-	-	-
1,1-Biphenyl	ND	-	0.25	-	-	-	-
Bis (2-chloroethoxy) Methane	ND	-	0.25	-	-	-	-
Bis (2-chloroethyl) Ether	ND	-	0.25	-	-	-	-
Bis (2-chloroisopropyl) Ether	ND	-	0.25	-	-	-	-
Bis (2-ethylhexyl) Adipate	ND	-	0.25	-	-	-	-
Bis (2-ethylhexyl) Phthalate	ND	-	0.25	-	-	-	-
4-Bromophenyl Phenyl Ether	ND	-	0.25	-	-	-	-
Butylbenzyl Phthalate	ND	-	0.25	-	-	-	-
4-Chloroaniline	ND	-	0.50	-	-	-	-
4-Chloro-3-methylphenol	ND	4.30	0.25	5	-	86	30-130
2-Chloronaphthalene	ND	-	0.25	-	-	-	-
2-Chlorophenol	ND	4.35	0.25	5	-	87	30-130
4-Chlorophenyl Phenyl Ether	ND	-	0.25	-	-	-	-
Chrysene	ND	-	0.25	-	-	-	-
Dibenzo (a,h) anthracene	ND	-	0.25	-	-	-	-
Dibenzofuran	ND	-	0.25	-	-	-	-
Di-n-butyl Phthalate	ND	-	0.25	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.25	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.25	-	-	-	-
1,4-Dichlorobenzene	ND	3.70	0.25	5	-	74	30-130
3,3-Dichlorobenzidine	ND	-	0.50	-	-	-	-
2,4-Dichlorophenol	ND	-	0.25	-	-	-	-
Diethyl Phthalate	ND	-	0.25	-	-	-	-
2,4-Dimethylphenol	ND	-	0.25	-	-	-	-
Dimethyl Phthalate	ND	-	0.25	-	-	-	-
4,6-Dinitro-2-methylphenol	ND	-	1.3	-	-	-	-
2,4-Dinitrophenol	ND	-	6.3	-	-	-	-
2,4-Dinitrotoluene	ND	4.13	0.25	5	-	83	30-130
2,6-Dinitrotoluene	ND	-	0.25	-	-	-	-

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## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/8/15  
**Date Analyzed:** 6/8/15  
**Instrument:** GC17  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 106005  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-106005  
 1506294-005AMS/MSD

### QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Di-n-octyl Phthalate	ND	-	0.50	-	-	-	-
1,2-Diphenylhydrazine	ND	-	0.25	-	-	-	-
Fluoranthene	ND	-	0.25	-	-	-	-
Fluorene	ND	-	0.25	-	-	-	-
Hexachlorobenzene	ND	-	0.25	-	-	-	-
Hexachlorobutadiene	ND	-	0.25	-	-	-	-
Hexachlorocyclopentadiene	ND	-	1.3	-	-	-	-
Hexachloroethane	ND	-	0.25	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.25	-	-	-	-
Isophorone	ND	-	0.25	-	-	-	-
2-Methylnaphthalene	ND	-	0.25	-	-	-	-
2-Methylphenol (o-Cresol)	ND	-	0.25	-	-	-	-
3 & 4-Methylphenol (m,p-Cresol)	ND	-	0.25	-	-	-	-
Naphthalene	ND	-	0.25	-	-	-	-
2-Nitroaniline	ND	-	1.3	-	-	-	-
3-Nitroaniline	ND	-	1.3	-	-	-	-
4-Nitroaniline	ND	-	1.3	-	-	-	-
Nitrobenzene	ND	-	0.25	-	-	-	-
2-Nitrophenol	ND	-	1.3	-	-	-	-
4-Nitrophenol	ND	3.14	1.3	5	-	63	30-130
N-Nitrosodiphenylamine	ND	-	0.25	-	-	-	-
N-Nitrosodi-n-propylamine	ND	3.40	0.25	5	-	68	30-130
Pentachlorophenol	ND	3.00	1.3	5	-	60	30-130
Phenanthrene	ND	-	0.25	-	-	-	-
Phenol	ND	3.92	0.25	5	-	78	30-130
Pyrene	ND	4.08	0.25	5	-	82	30-130
1,2,4-Trichlorobenzene	ND	4.12	0.25	5	-	82	30-130
2,4,5-Trichlorophenol	ND	-	0.25	-	-	-	-
2,4,6-Trichlorophenol	ND	-	0.25	-	-	-	-

**Surrogate Recovery**

2-Fluorophenol	4.37	4.19		5	87	84	30-130
Phenol-d5	4.81	4.47		5	96	89	30-130
Nitrobenzene-d5	4.16	4.00		5	83	80	30-130
2-Fluorobiphenyl	4.15	3.87		5	83	77	30-130
2,4,6-Tribromophenol	1.98	2.67		5	40	53	16-130
4-Terphenyl-d14	4.36	4.15		5	87	83	30-130

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## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/8/15  
**Date Analyzed:** 6/8/15  
**Instrument:** GC17  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 106005  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-106005  
 1506294-005AMS/MSD

### QC Summary Report for SW8270C

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Acenaphthene	4.04	4.24	5	ND	81	85	30-130	4.82	30
4-Chloro-3-methylphenol	4.47	4.68	5	ND	89	94	30-130	4.54	30
2-Chlorophenol	4.47	4.75	5	ND	89	95	30-130	6.21	30
1,4-Dichlorobenzene	3.66	3.86	5	ND	73	77	30-130	5.26	30
2,4-Dinitrotoluene	4.34	4.51	5	ND	87	90	30-130	3.68	30
4-Nitrophenol	3.96	4.10	5	ND	79	82	30-130	3.47	30
N-Nitrosodi-n-propylamine	3.50	3.72	5	ND	70	74	30-130	5.97	30
Pentachlorophenol	5.63	5.83	5	ND	113	117	30-130	3.48	30
Phenol	3.97	4.23	5	ND	79	85	30-130	6.30	30
Pyrene	4.30	4.60	5	ND	86	92	30-130	6.84	30
1,2,4-Trichlorobenzene	4.15	4.41	5	ND	83	88	30-130	6.12	30
<b>Surrogate Recovery</b>									
2-Fluorophenol	4.16	4.46	5		83	89	30-130	6.79	30
Phenol-d5	4.43	4.59	5		89	92	30-130	3.73	30
Nitrobenzene-d5	3.87	4.03	5		77	81	30-130	4.08	30
2-Fluorobiphenyl	3.92	4.16	5		78	83	30-130	5.92	30
2,4,6-Tribromophenol	2.95	3.07	5		59	61	16-130	3.99	30
4-Terphenyl-d14	4.12	4.40	5		82	88	30-130	6.48	30





## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/8/15  
**Instrument:** ICP-MS2  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105932  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-105932  
 1506276-024AMS/MSD

### QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Antimony	ND	53.4	0.50	50	-	107	75-125
Arsenic	ND	57.6	0.50	50	-	115	75-125
Barium	ND	570	5.0	500	-	114	75-125
Beryllium	ND	58.0	0.50	50	-	116	75-125
Cadmium	ND	55.6	0.25	50	-	111	75-125
Chromium	ND	56.4	0.50	50	-	113	75-125
Cobalt	ND	56.4	0.50	50	-	113	75-125
Copper	ND	59.3	0.50	50	-	119	75-125
Lead	ND	55.2	0.50	50	-	110	75-125
Mercury	ND	1.25	0.050	1.25	-	100	75-125
Molybdenum	ND	52.0	0.50	50	-	104	75-125
Nickel	ND	58.4	0.50	50	-	117	75-125
Selenium	ND	57.4	0.50	50	-	115	75-125
Silver	ND	54.0	0.50	50	-	108	75-125
Thallium	ND	52.7	0.50	50	-	105	75-125
Vanadium	ND	56.2	0.50	50	-	112	75-125
Zinc	ND	591	5.0	500	-	118	75-125
<b>Surrogate Recovery</b>							
Terbium	483	522		500	97	104	70-130



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/8/15  
**Instrument:** ICP-MS2  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105932  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-105932  
 1506276-024AMS/MSD

### QC Summary Report for Metals

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Antimony	48.3	51.0	50	ND	96	101	75-125	5.32	20
Arsenic	51.3	55.7	50	5.241	92	101	75-125	8.16	20
Barium	1050	926	500	400	129,F1	105	75-125	12.3	20
Beryllium	42.4	43.3	50	0.70	83	85	75-125	2.03	20
Cadmium	49.2	52.0	50	ND	98	104	75-125	5.41	20
Chromium	77.0	87.6	50	33	87	108	75-125	12.9	20
Cobalt	55.7	61.5	50	9.2	93	105	75-125	9.95	20
Copper	69.2	79.0	50	24	89	109	75-125	13.2	20
Lead	56.1	61.5	50	8.6	95	106	75-125	9.24	20
Mercury	1.13	1.22	1.25	ND	89	96	75-125	7.80	20
Molybdenum	45.4	48.2	50	ND	90	96	75-125	5.99	20
Nickel	68.9	78.8	50	22	94	114	75-125	13.5	20
Selenium	48.2	52.0	50	ND	96	103	75-125	7.46	20
Silver	42.7	45.4	50	ND	85	91	75-125	6.04	20
Thallium	44.8	47.9	50	ND	89	95	75-125	6.73	20
Vanadium	NR	NR	50	70	NR	NR	75-125	NR	20
Zinc	553	602	500	58	99	109	75-125	8.64	20
<b>Surrogate Recovery</b>									
Terbium	469	498	500		94	100	70-130	6.06	20



# Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/8/15  
**Instrument:** GC7  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105944  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-105944  
 1506283-001AMS/MSD

## QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.574	0.40	0.60	-	96	70-130
MTBE	ND	0.104	0.050	0.10	-	104	70-130
Benzene	ND	0.0955	0.0050	0.10	-	95	70-130
Toluene	ND	0.0922	0.0050	0.10	-	91	70-130
Ethylbenzene	ND	0.0984	0.0050	0.10	-	98	70-130
Xylenes	ND	0.308	0.0050	0.30	-	102	70-130

**Surrogate Recovery**

2-Fluorotoluene	0.106	0.102		0.10	106	102	70-130
-----------------	-------	-------	--	------	-----	-----	--------

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.508	0.509	0.60	ND	85	85	70-130	0	20
MTBE	0.0984	0.107	0.10	ND	98	107	70-130	8.29	20
Benzene	0.0819	0.0844	0.10	ND	82	84	70-130	3.00	20
Toluene	0.0800	0.0836	0.10	ND	80	84	70-130	4.36	20
Ethylbenzene	0.0865	0.0886	0.10	ND	86	89	70-130	2.46	20
Xylenes	0.269	0.276	0.30	ND	90	92	70-130	2.52	20

**Surrogate Recovery**

2-Fluorotoluene	0.0893	0.0897	0.10		89	90	70-130	0.470	20
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## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/8/15  
**Instrument:** ICP-JY  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105945  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6010B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-105945  
 1506294-002AMS/MSD

### QC Summary Report for Lead

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	50.2	5.0	50	-	100	75-125

**Surrogate Recovery**

Tb 350.917	507	504		500	101	101	70-130
------------	-----	-----	--	-----	-----	-----	--------

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	60.1	56.9	50	8.138	104	98	75-125	5.51	25

**Surrogate Recovery**

Tb 350.917	502	464	500		100	93	70-130	7.76	20
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## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/8/15  
**Instrument:** ICP-JY  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105949  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6010B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-105949  
 1506294-006AMS/MSD

### QC Summary Report for Lead

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	53.4	5.0	50	-	107	75-125

**Surrogate Recovery**

Tb 350.917	508	521		500	102	104	70-130
------------	-----	-----	--	-----	-----	-----	--------

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	58.8	60.4	50	ND	113	116	75-125	2.77	25

**Surrogate Recovery**

Tb 350.917	503	534	500		101	107	70-130	5.98	20
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## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/8/15  
**Date Analyzed:** 6/9/15  
**Instrument:** ICP-JY  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105996  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6010B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-105996

### QC Summary Report for Lead

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	50.6	5.0	50	-	101	75-125
<b>Surrogate Recovery</b>							
Tb 350.917	536	577		500	107	115	70-130



## Quality Control Report

**Client:** Stellar Environmental Solutions  
**Date Prepared:** 6/5/15  
**Date Analyzed:** 6/5/15  
**Instrument:** GC6A, GC6B  
**Matrix:** Soil  
**Project:** #2015-28; Soil Profiling

**WorkOrder:** 1506294  
**BatchID:** 105926  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-105926  
 1506272-002AMS/MSD

### QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	46.2	1.0	40	-	115	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-

**Surrogate Recovery**

C9	26.3	24.9		25	105	100	70-130
----	------	------	--	----	-----	-----	--------

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	74.6	77.6	40	31.91	107	114	70-130	3.95	30
<b>Surrogate Recovery</b>									
C9	24.2	24.7	25		97	99	70-130	2.04	30

1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1506294

ClientCode: SESB

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQUIS   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

**Report to:**  
 Richard Makdisi  
 Stellar Environmental Solutions  
 2198 Sixth St. #201  
 Berkeley, CA 94710  
 (510) 644-3123    FAX: (510) 644-3859

**Email:**    rmakdisi@stellar-environmental.com;sbittm  
 cc/3rd Party:  
**PO:**  
 ProjectNo: #2015-28; Soil Profiling

**Bill to:**  
 Accounts Payable  
 Stellar Enviornmental Solutions  
 2198 Sixth St. #201  
 Berkeley, CA 94710  
 lwheeler@stellar-environmental.com

**Requested TAT:**                    **5 days**  
  
**Date Received:**            **06/05/2015**  
**Date Printed:**                **06/05/2015**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1506294-001	C3	Soil	6/3/2015 11:25	<input type="checkbox"/>						A	A						
1506294-002	C4	Soil	6/3/2015 11:55	<input type="checkbox"/>	A						A	A	A				
1506294-003	C5	Soil	6/3/2015 12:25	<input type="checkbox"/>		A	A				A	A	A				
1506294-004	C6	Soil	6/3/2015 12:55	<input type="checkbox"/>						A	A		A				
1506294-005	C7	Soil	6/3/2015 13:25	<input type="checkbox"/>	A		A	A			A	A	A				
1506294-006	C8	Soil	6/3/2015 13:55	<input type="checkbox"/>							A	A					

**Test Legend:**

1	8081_S	2	8082_PCB_S	3	8260B_S	4	8270_S	5	CAM17MS_S
6	G-MBTEX_S	7	PB_S	8	TPH(DMO)_S	9		10	
11		12							

**Prepared by: Agustina Venegas**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.





## WORK ORDER SUMMARY

**Client Name:** STELLAR ENVIRONMENTAL SOLUTIONS

**QC Level:** LEVEL 2

**Work Order:** 1506294

**Project:** #2015-28; Soil Profiling

**Client Contact:** Richard Makdisi

**Date Received:** 6/5/2015

**Comments:**

**Contact's Email:** rmakdisi@stellar-  
 environmental.com;sbittman@stellar-

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506294-001A	C3	Soil	SW8021B/8015Bm (G/MBTEX)	1	16OZ GJ	<input type="checkbox"/>	6/3/2015 11:25	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days			
1506294-002A	C4	Soil	SW8015B (Diesel & Motor Oil)	1	16OZ GJ	<input type="checkbox"/>	6/3/2015 11:55	5 days		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days			
			SW8021B/8015Bm (G/MBTEX)			<input type="checkbox"/>		5 days			
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days			
1506294-003A	C5	Soil	SW8015B (Diesel & Motor Oil)	1	16OZ GJ	<input type="checkbox"/>	6/3/2015 12:25	5 days		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days			
			SW8021B/8015Bm (G/MBTEX)			<input type="checkbox"/>		5 days			
			SW8260B (VOCs)			<input type="checkbox"/>		5 days			
			SW8082 (PCBs Only)			<input type="checkbox"/>		5 days			
1506294-004A	C6	Soil	SW8015B (Diesel & Motor Oil)	1	16OZ GJ	<input type="checkbox"/>	6/3/2015 12:55	5 days		<input type="checkbox"/>	
			SW8021B/8015Bm (G/MBTEX)			<input type="checkbox"/>		5 days			
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days			
1506294-005A	C7	Soil	SW8015B (Diesel & Motor Oil)	1	16OZ GJ	<input type="checkbox"/>	6/3/2015 13:25	5 days		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days			

**NOTES:** - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



## WORK ORDER SUMMARY

**Client Name:** STELLAR ENVIRONMENTAL SOLUTIONS

**QC Level:** LEVEL 2

**Work Order:** 1506294

**Project:** #2015-28; Soil Profiling

**Client Contact:** Richard Makdisi

**Date Received:** 6/5/2015

**Comments:**

**Contact's Email:** rmakdisi@stellar-  
 environmental.com;sbittman@stellar-

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506294-005A	C7	Soil	SW8021B/8015Bm (G/MBTEX)	1	16OZ GJ	<input type="checkbox"/>	6/3/2015 13:25	5 days		<input type="checkbox"/>	
			SW8270C (SVOCs)			<input type="checkbox"/>		5 days			
			SW8260B (VOCs)			<input type="checkbox"/>		5 days			
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days			
1506294-006A	C8	Soil	SW6010B (Lead)	1	16OZ GJ	<input type="checkbox"/>	6/3/2015 13:55	5 days		<input type="checkbox"/>	
			SW8021B/8015Bm (G/MBTEX)			<input type="checkbox"/>		5 days			

**NOTES:** - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

# 1506294 Chain of Custody Record

Lab job no. \_\_\_\_\_

Date \_\_\_\_\_

Page 1 of 1

Laboratory McC Campbell Analytical Inc  
 Address 1534 Willow Pass Road  
Pittsburg, CA 94565-1701  
877-252-9262

Method of Shipment Hand-Delivery Courier

Shipment No. \_\_\_\_\_

Airbill No. \_\_\_\_\_

Cooler No. \_\_\_\_\_

Project Owner BayWest Dev  
 Site Address 7544 Dublin Blvd, Dublin CA

Project Manager Richard Makdisi

Telephone No. (510) 644-3123

Project Name Soil Profiling

Fax No. (510) 644-3859

Project Number 2015-28

Samplers: (Signature) [Signature]

Filtered	No. of Containers	Analysis Required										Remarks			
		TPH GAS	BTEX	VOCs	8260	Pesticides	TPH	22 metals	PCBs	MD	8082		SVOCs	8270	
	1	X				X									
	1	X	X			X			X						
	1	X	X	X		X			X	X					
	1	X	X	X	X	X			X						
	1	X	X			X			X						

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Cooler	Chemical
						yes	no		
C3	0-8"	6/3/15	1125	Soil	16 oz glass	yes	no	no	
C4	↓	↓	1155	↓	↓	↓	↓	↓	
C5	↓	↓	1225	↓	↓	↓	↓	↓	
C6	↓	↓	1255	↓	↓	↓	↓	↓	
C7	↓	↓	1325	↓	↓	↓	↓	↓	
C8	↓	↓	1355	↓	↓	↓	↓	↓	

ICE IT - 2.5  
 GOOD CONDITION  APPROPRIATE  
 HEAD SPACE ABSENT CONTAINERS  
 DECHLORINATED IN LAB  PRESERVED IN LAB   
 PRESERVATION: VOCs  U&G  METALS  OTHER

Relinquished by: [Signature]  
 Signature \_\_\_\_\_  
 Printed Henry Pietropaoli  
 Company Stellar Environmental

Date 6/5/15  
 Received by: [Signature]  
 Signature \_\_\_\_\_  
 Printed Christian V. [Signature]  
 Company NAI

Date 6-5-15  
 Relinquished by: [Signature]  
 Signature \_\_\_\_\_  
 Printed Christian V. [Signature]  
 Company NAI

Date 6/5/15  
 Received by: [Signature]  
 Signature \_\_\_\_\_  
 Printed Christian V. [Signature]  
 Company NAI

Turnaround Time: Samples on ice  
 Comments: Standard

Relinquished by: \_\_\_\_\_  
 Signature \_\_\_\_\_  
 Printed \_\_\_\_\_  
 Company \_\_\_\_\_

2000-00-01



### Sample Receipt Checklist

Client Name: **Stellar Environmental Solutions** Date and Time Received: **6/5/2015 5:55:43 PM**  
 Project Name: **#2015-28; Soil Profiling** LogIn Reviewed by: **Agustina Venegas**  
 WorkOrder No: **1506294** Matrix: Soil Carrier: Bernie Cummins (MAI Courier)

**Chain of Custody (COC) Information**

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No   
 Sample/Temp Blank temperature Temp: 2.5°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

**UCMR3 Samples:**

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes  No  NA   
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes  No  NA

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:



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**APPENDIX C**

Historical Groundwater, Soil, and Soil Vapor Sample Results



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## **APPENDIX C**

Tables

TABLE C-1

VOLATILE ORGANIC COMPOUNDS IN SOIL<sup>1</sup>

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in micrograms per kilogram (µg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	Acetone	Bromo-benzene	n-Butyl-benzene	Chloro-benzene	2-Chloro-toluene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	Ethyl-benzene	Naphthalene	n-Propyl-benzene	Tetrachloro-ethene	Toluene	Trichloro-ethene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Xylenes, Total	All Other VOCs <sup>2</sup>
<b>Samples Collected within Footprint of Former Building B</b>																				
SSB1-1.0	12/16/2014	1.0	75	<4.4 <sup>3</sup>	<4.4	<4.4	<4.4	36	<4.4	<4.4	<4.4	<8.7	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.7	ND
SSB2-1.0	12/16/2014	1.0	<37	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<7.3	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<7.3	ND
SSB3-1.0	12/16/2014	1.0	<41	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	ND
SSB4-1.0	12/17/2014	1.0	59	<4	<4	<4	<4	<4	<4	<4	<4	<8	<4	<4	<4	<4	<4	<4	<8	ND
SSB5-1.5	12/17/2014	1.5	<41	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.3	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.3	ND
SSB6-1.0	12/22/2014	1.0	<51	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<10	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<10	ND
SSB7-1.0	12/22/2014	1.0	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.8	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.8	ND
SSB8-2.5	12/30/2014	2.5	<40	<4	<4	<4	<4	<4	<4	<4	<4	<7.9	<4	<4	<4	<4	<4	<4	<7.9	ND
HL-2-8.0	12/29/2014	8.0	<37	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<7.4	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<7.4	ND
HL3-W-8.0	2/16/2015	8.0	<37	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<7.4	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<7.4	ND
HL3-E-8.0	2/16/2015	8.0	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	ND
HL3-SW-10.0	2/20/2015	10.0	<43	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<8.6	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<8.6	ND
HL3-N-8.0	2/16/2015	8.0	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	ND
HL3-12.8	2/20/2015	12.8	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	4.4	<4.2	<4.2	<4.2	<4.2	<8.4	ND
HL3-15.0	2/20/2015	15.0	<40	<4	<4	<4	<4	<4	<4	<4	<4	<8	<4	<4	<4	<4	<4	<4	<8	ND
HL-4-8.0	12/29/2014	8.0	<47	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<9.3	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<9.3	ND
HL-5-8.0	12/29/2014	8.0	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	ND
HL-7-8.0	12/29/2014	8.0	<36	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<7.2	<3.6	6.8 J	<3.6	<3.6	<3.6	<3.6	<7.2	ND
HL-9-8.0	12/29/2014	8.0	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	<3.9	11 J	<3.9	<3.9	<3.9	<3.9	<7.7	ND
HL-10-8.0	12/29/2014	8.0	61	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	<3.9	5.5 J	<3.9	<3.9	<3.9	<3.9	<7.7	ND
HL-11-8.0	12/29/2014	8.0	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	ND
HL-12-8.0	12/29/2014	8.0	<40	<4	<4	<4	<4	<4	<4	<4	<4	<8	<4	<4	<4	<4	<4	<4	<8	ND
HL-13-8.0	12/29/2014	8.0	<39	<3.9	<3.9	20	<3.9	18	<3.9	<3.9	<3.9	<7.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	ND
HL-14-8.0	12/29/2014	8.0	<40	<4	<4	<4	<4	<4	<4	<4	<4	<7.9	<4	<4	<4	<4	<4	<4	<7.9	ND
DL-2-2.5	12/30/2014	2.3	<43	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<8.5	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<8.5	ND
DL-3-2.75	12/30/2014	2.8	<51	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<10	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<10	ND
DL-4-3.0	12/30/2014	3.0	<50	<5	<5	<5	<5	<5	<5	<5	<5	<9.9	<5	<5	<5	<5	<5	<5	<9.9	ND
DL-5-3.25	12/30/2014	3.3	<46	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<9.1	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<9.1	ND
DL-6-3.5	12/30/2014	3.5	<43	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<8.5	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<8.5	ND
DL-7-3.75	12/30/2014	3.8	110	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<9.4	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<9.4	ND
DL-8-4.0	12/30/2014	4.0	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	ND
DL9-5.0	3/30/2015	5.0	<40	<4	<4	<4	<4	<4	<4	<4	<4	<8.1	<4	<4	<4	<4	<4	<4	<8.1	ND
BBFS1-2.5	1/6/2015	2.5	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND
<b>Confirmation Samples Collected at the Former Front End Alignment Pit in Building B</b>																				
FEPIT-EXS-11	2/17/2015	6.0	<50	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<10	ND
FEPIT-EXB-12	2/17/2015	12.0	<50	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<10	ND
FEPIT-EXS-13	2/17/2015	6.0	<44	5.4	<4.4	4.7	20	250	36	170	<4.4	<8.8	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.8	ND
FEPIT-EXB-14	2/17/2015	12.0	<41	<4.1	<4.1	6.3	<4.1	45	5	26	<4.1	<8.2	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	ND

TABLE C-1

VOLATILE ORGANIC COMPOUNDS IN SOIL<sup>1</sup>

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in micrograms per kilogram (µg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	Acetone	Bromo-benzene	n-Butyl-benzene	Chloro-benzene	2-Chloro-toluene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	Ethyl-benzene	Naphthalene	n-Propyl-benzene	Tetrachloro-ethene	Toluene	Trichloro-ethene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Xylenes, Total	All Other VOCs <sup>2</sup>
<b>Confirmation Samples Collected at the Former Front End Alignment Pit in Building B (cont'd)</b>																				
FEPIT-EXS-15	2/17/2015	6.0	<41	<4.1	<4.1	<4.1	<4.1	5.4	<4.1	<4.1	<4.1	<8.2	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	ND
FEPIT-EXB-16	2/17/2015	12.0	70	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.8	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.8	ND
<b>Confirmation Samples Collected at the Former Sump in Building B</b>																				
SUMP-EXS-10	2/18/2015	8.0	<40	<4	<4	<4	<4	8.9	<4	<4	<4	<8	<4	<4	<4	<4	<4	<4	<8	ND
SUMP-EXB-11	2/18/2015	14.0	<42	<4.2	<4.2	240	<4.2	1,200	<4.2	9.1	<4.2	<8.4	<4.2	56	<4.2	<4.2	<4.2	<4.2	<8.4	ND
SUMP-EXS-13	2/18/2015	10.0	<42	<4.2	<4.2	140	<4.2	240	<4.2	<4.2	<4.2	<8.3	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.3	ND
SUMP-EXB-14	2/18/2015	15.5	<45	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<8.9	<4.5	49	<4.5	<4.5	<4.5	<4.5	<8.9	ND
SUMP-EXB-15	2/18/2015	15.0	<47	<4.7	<4.7	10	<4.7	9.1	<4.7	<4.7	<4.7	<9.3	<4.7	48	<4.7	<4.7	<4.7	<4.7	<9.3	ND
SUMP-EXS-17	2/20/2015	8.0	<40	<4	<4	97	<4	170	<4	4.3	<4	<8.1	<4	<4	<4	<4	<4	<4	<8.1	ND
SUMP-EXS-18	2/20/2015	4.0	<40	<3.9	<3.9	36	<3.9	50	<3.9	<3.9	<3.9	<7.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	ND
<b>Samples Collected within Footprint of Former Building C</b>																				
SSC1-1.0	12/19/2014	1.0	<47	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<9.4	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<9.4	ND
SSC2-1.0	12/19/2014	1.0	<46	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<9.1	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<9.1	ND
SSC3-1.0	12/19/2014	1.0	<44	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.9	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.9	ND
SSC4-1.0	12/23/2014	1.0	<46	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<9.2	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<9.2	ND
SSC5-1.0	12/23/2014	1.0	50	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.8	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.8	ND
SSC6-1.0	12/23/2014	1.0	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	ND
BCFS2-2.5	1/6/2015	2.5	<40	<4	<4	<4	<4	<4	<4	<4	<4	<8.1	<4	<4	<4	<4	<4	<4	<8.1	ND
BCDL1-1.0	12/30/2014	1.0	<45	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<8.9	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<8.9	ND
BCDL2-1.0	12/30/2014	1.0	<48	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<9.7	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<9.7	ND
BCDL3-1.0	12/30/2014	1.0	95	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND
BCDL4-2.5	3/30/2015	2.5	<38	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<7.5	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<7.5	ND
BCDL5-2.8	3/30/2015	2.8	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.8	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.8	ND
<b>Samples Collected within Footprint of Former Building D</b>																				
SSD1-1.5	12/15/2014	1.5	<38	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<7.6	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<7.6	ND
<b>Samples Collected at Other Areas of the Site</b>																				
CW-S-3.5	12/16/2014	3.5	54	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<7.2	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<7.2	ND
WOTP2-2.5	12/30/2014	2.5	<44	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.9	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.9	ND
WOTP3-4.0	12/30/2014	4.0	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND
<b>Sanitary Sewer Line Samples</b>																				
SL1-6.2	3/25/2015	6.2	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	ND
SL2-5.8	3/25/2015	5.8	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND
SL3-6.2	3/25/2015	6.2	<38	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<7.6	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<7.6	ND
SL4-6.2	3/25/2015	6.2	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	ND
SL5-6.1	3/25/2015	6.1	<44	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.8	<4.4	8.4	<4.4	<4.4	<4.4	<4.4	<8.8	ND
SL6-6.0	3/25/2015	6.0	<43	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<8.6	<4.3	6.9	<4.3	<4.3	<4.3	<4.3	<8.6	ND
SL7-6.5	3/25/2015	6.5	<43	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<8.6	<4.3	19	<4.3	<4.3	<4.3	<4.3	<8.6	ND



TABLE C-1

VOLATILE ORGANIC COMPOUNDS IN SOIL<sup>1</sup>

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in micrograms per kilogram (µg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	Acetone	Bromo-benzene	n-Butyl-benzene	Chloro-benzene	2-Chloro-toluene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	Ethyl-benzene	Naphthalene	n-Propyl-benzene	Tetrachloro-ethene	Toluene	Trichloro-ethene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Xylenes, Total	All Other VOCs <sup>2</sup>
<b>Sanitary Sewer Line Samples (cont'd)</b>																				
SL8-6.4	3/25/2015	6.4	<36	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<7.2	<3.6	9.2	<3.6	4.1	<3.6	<3.6	<7.2	ND
SL9-6.5	3/25/2015	6.5	<51	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<10	<5.1	6.6	<5.1	7	<5.1	<5.1	<10	ND
SL10-6.8	3/25/2015	6.8	<47	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<9.5	<4.7	<4.7	<4.7	7.2	<4.7	<4.7	<9.5	ND
SL11-6.5	3/25/2015	6.5	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.3	<4.2	4.4	<4.2	<4.2	<4.2	<4.2	<8.3	ND
SL12-6.3	3/25/2015	6.3	<41	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	ND
SL13-5.5	3/30/2015	5.5	<41	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.1	ND
SL14-5.3	3/30/2015	5.3	<48	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<9.6	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<9.6	ND
SL15-5.3	3/30/2015	5.3	<36	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<7.2	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<7.2	ND
SL16-4.7	3/30/2015	4.7	<60	<6	<6	<6	<6	<6	<6	<6	<6	<12	<6	<6	<6	<6	<6	<6	<12	ND
SL17-4.8	3/30/2015	4.8	<49	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<9.7	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<9.7	ND
SL18-4.8	3/30/2015	4.8	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND
SL19-4.2	3/30/2015	4.2	<41	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	ND
SL20-3.7	3/30/2015	3.7	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND
SL21-3.0	3/30/2015	3.0	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND
<b>Overburden Soil Samples</b>																				
OB1-1-4	2/25/2015	--	<50	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<10	ND
OB2-1-4	2/25/2015	--	<47	<4.7	<4.7	5.4	<4.7	<4.7	<4.7	<4.7	<4.7	<9.5	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<9.5	ND

Notes

1. Samples were analyzed for VOCs using U.S. EPA Method 8260B.
2. No other VOCs were detected. The other VOCs analyzed include benzene, bromochloromethane, bromodichloromethane, bromoform, bromomethane, 2-butanone, sec-butylbenzene, tert-butylbenzene, carbon disulfide,
3. "<" indicates the compound was not detected at a concentration at or greater than the laboratory reporting limit shown.
4. "J" indicates the analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.

Abbreviations

- = not applicable
- µg/kg = micrograms per kilogram
- bgs = below ground surface
- ND = not detected above laboratory reporting limit
- U.S. EPA = United States Environmental Protection Agency
- VOCs = volatile organic compounds

**TABLE C-2**

**TOTAL PETROLEUM HYDROCARBONS IN SOIL<sup>1</sup>**

Aster Apartments  
 6775 Golden Gate Drive  
 Dublin, California

Results reported in milligrams per kilogram (mg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	TPHg	TPHd	TPHmo
<b>Samples Collected within Footprint of Former Building B</b>					
SSB1-1.0	12/16/2014	1.0	<0.220 <sup>2</sup>	23	<50
SSB2-1.0	12/16/2014	1.0	<0.180	2.2	<50
SSB3-1.0	12/16/2014	1.0	<0.210	<0.98	<49
SSB4-1.0	12/17/2014	1.0	<0.200	4.8	<49
SSB5-1.5	12/17/2014	1.0	<0.210	2.4	<50
SSB6-1.0	12/22/2014	1.0	<0.260	<1.0	<49
SSB7-1.0	12/22/2014	1.0	<0.190	2.1	<50
SSB8-2.5	12/30/2014	2.5	<0.200	10	<49
HL1-W-8.0	2/16/2015	8.0	NA	<0.99	<50
HL1-E-8.0	2/16/2015	8.0	NA	<0.99	<49
HL1-S-8.0	2/16/2015	8.0	NA	<1	<50
HL1-N-8.0	2/16/2015	8.0	NA	<0.99	<50
HL1-10	2/16/2015	10.0	NA	<0.99	<50
HL-2-8.0	12/29/2014	8.0	<0.180	<0.99	<49
HL3-W-8.0	2/16/2015	8.0	NA	<0.99	<50
HL3-E-8.0	2/16/2015	8.0	NA	<0.99	<50
HL3-SW-10.0	2/19/2015	10.0	<0.210	<0.99	<49
HL3-N-8.0	2/16/2015	8.0	NA	3.2	<50
HL3-12.8	2/19/2015	12.8	<0.210	<0.99	<50
HL3-15.0	2/19/2015	15.0	<0.200	<0.99	<50
HL-4-8.0	12/29/2014	8.0	<0.230	1.7	<50
HL-5-8.0	12/29/2014	8.0	<0.190	<1.0	<50
HL6-W-8.0	2/16/2015	8.0	NA	4.8	<50
HL6-E-8.0	2/16/2015	8.0	NA	<1	<50
HL6-S-8.0	2/16/2015	8.0	NA	11	<50
HL6-N1-8.0	2/19/2015	8.0	NA	1.9	<50
HL6-10-8.0	2/16/2015	10.0	NA	<1	<50
HL-7-8.0	12/29/2014	8.0	<0.180	58	77
HL8-W1-8.0	2/19/2015	8.0	NA	<0.99	<50
HL8-E-8.0	2/16/2015	8.0	NA	1.1	<50
HL8-S-4.0	2/16/2015	4.0	NA	4.4	<50
HL8-S-8.0	2/16/2015	8.0	NA	<1	<50
HL8-N-8.0	2/16/2015	8.0	NA	<1	<50
HL8-10	2/16/2015	10.0	NA	2.5	<50
HL-9-8.0	12/29/2014	8.0	<0.190	<1.0	<50
HL-10-8.0	12/29/2014	8.0	<0.190	<1.0	<50
HL-11-8.0	12/29/2014	8.0	<0.200	<1.0	<50
HL-12-8.0	12/29/2014	8.0	<0.200	<0.99	<49

**TABLE C-2**

**TOTAL PETROLEUM HYDROCARBONS IN SOIL<sup>1</sup>**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in milligrams per kilogram (mg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	TPHg	TPHd	TPHmo
<b>Samples Collected within Footprint of Former Building B (cont'd)</b>					
HL-13-8.0	12/29/2014	8.0	<0.200	<1.0	<50
HL-14-8.0	12/29/2014	8.0	<0.200	<0.99	<49
DL-2-2.5	12/30/2014	2.5	<0.210	2.6	<49
DL-3-2.75	12/30/2014	2.8	<0.260	<1.0	<50
DL-4-3.0	12/30/2014	3.0	<0.250	1.4	<50
DL-5-3.25	12/30/2014	3.3	<0.230	4.0	<49
DL-6-3.5	12/30/2014	3.5	<0.210	5.4	<50
DL-7-3.75	12/30/2014	3.8	<0.230	4.5	<50
DL-8-4.0	12/30/2014	4.0	<0.200	1.3	<50
DL9-5.0	3/30/2015	5.0	<0.200	<0.99	<50
BBFS1-2.5	1/6/2015	2.5	<0.210	16	<50
<b>Confirmation Samples Collected at the Former Front End Alignment Pit in Building B</b>					
FEPIT-EXS-11	2/17/2015	6.0	<0.250	<1	<50
FEPIT-EXB-12	2/17/2015	12.0	<0.250	<0.99	<50
FEPIT-EXS-13	2/17/2015	6.0	<0.220	1.5	<50
FEPIT-EXB-14	2/17/2015	12.0	<0.210	160	300
FEPIT-EXS-15	2/17/2015	6.0	<0.200	2.5	<49
FEPIT-EXB-16	2/17/2015	12.0	<0.190	<1	<50
<b>Confirmation Samples Collected at the Former Sump in Building B</b>					
SUMP-EXS-10	2/18/2015	8.0	<0.200	1.2	<50
SUMP-EXB-11	2/18/2015	14.0	<0.210	<1	<50
SUMP-EXS-13	2/18/2015	10.0	<0.210	<1	<50
SUMP-EXB-14	2/18/2015	15.5	<0.220	<0.99	<50
SUMP-EXB-15	2/18/2015	15.0	<0.230	<0.99	<49
SUMP-EXS-17	2/18/2015	8.0	<0.200	<1	<50
SUMP-EXS-18	2/18/2015	4.0	<0.200	<1	<50
<b>Samples Collected within Footprint of Former Building C</b>					
SSC1-1.0	12/19/2014	1.0	<0.230	<0.99	<50
SSC2-1.0	12/19/2014	1.0	<0.230	<0.99	<50
SSC3-1.0	12/19/2014	1.0	<0.220	1.1	<49
SSC4-1.0	12/23/2014	1.0	<0.230	2.5	<50
SSC5-1.0	12/23/2014	1.0	<0.220	2.0	<50
SSC6-1.0	12/23/2014	1.0	<0.190	<0.99	<49
BCFS1-W-2.5	2/16/2015	2.5	NA	<0.99	<49
BCFS1-S-2.5	2/16/2015	2.5	NA	5	<50
BCFS1-N-2.5	2/16/2015	2.5	NA	<0.99	<49
BCFS1-4.5	2/16/2015	4.5	NA	<0.99	<50

**TABLE C-2**

**TOTAL PETROLEUM HYDROCARBONS IN SOIL<sup>1</sup>**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in milligrams per kilogram (mg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	TPHg	TPHd	TPHmo
<b>Samples Collected within Footprint of Former Building C (cont'd)</b>					
BCFS2-2.5	1/6/2015	2.5	<0.200	1.1	<50
BCDL1-1.0	12/30/2014	1.0	<0.220	1.8	<50
BCDL2-1.0	12/30/2014	1.0	<0.240	2.3	<49
BCDL3-1.0	12/30/2014	1.0	<0.210	2.8	<49
BCDL4-2.5	3/30/2015	2.5	<0.190	2.1	<49
BCDL5-2.8	3/30/2015	2.8	<0.190	<1	<50
<b>Samples Collected within Footprint of Former Building D</b>					
SSD1-1.5	12/15/2014	1.5	<0.190	1.3	<50
<b>Samples Collected at Other Areas of the Site</b>					
CW-S-3.5	12/16/2014	3.5	<0.180	21	74
WOTP1-W-1.25	2/16/2015	1.25	NA	NA	<50
WOTP1-E1-1.25	2/19/2015	1.25	NA	4.7	<49
WOTP1-S-1.25	2/16/2015	1.25	NA	NA	<49
WOTP1-N-1.25	2/16/2015	1.25	NA	NA	<49
WOTP1-3.25	2/16/2015	3.25	NA	NA	<50
WOTP2-2.5	12/30/2014	2.5	<0.220	2.5	<50
WOTP3-4.0	12/30/2014	4.0	<0.210	1.3	<50
<b>Sanitary Sewer Line Samples</b>					
SL1-6.2	3/25/2015	6.2	<0.190	<0.99	<49
SL2-5.8	3/25/2015	5.8	<0.210	<1	<50
SL3-6.2	3/25/2015	6.2	<0.190	<0.99	<50
SL4-6.2	3/25/2015	6.2	<0.190	<1	<50
SL5-6.1	3/25/2015	6.1	<0.220	<0.99	<49
SL6-6.0	3/25/2015	6.0	<0.210	<0.99	<49
SL7-6.5	3/25/2015	6.5	<0.220	1.3	<50
SL8-6.4	3/25/2015	6.4	<0.180	<1	<50
SL9-6.5	3/25/2015	6.5	<0.250	<1	<50
SL10-6.8	3/25/2015	6.8	<0.240	<1	<50
SL11-6.5	3/25/2015	6.5	<0.210	<1	<50
SL12-6.3	3/25/2015	6.3	<0.200	<1	<50
SL13-5.5	3/30/2015	5.5	<0.200	<1	<50
SL14-5.3	3/30/2015	5.3	<0.240	<0.98	<49
SL15-5.3	3/30/2015	5.3	<0.180	<0.99	<50
SL16-4.7	3/30/2015	4.7	<0.300	<0.99	<50
SL17-4.8	3/30/2015	4.8	<0.240	<1	<50
SL18-4.8	3/30/2015	4.8	<0.210	<0.99	<49
SL19-4.2	3/30/2015	4.2	<0.200	<0.99	<50
SL20-3.7	3/30/2015	3.7	<0.210	<0.98	<49
SL21-3.0	3/30/2015	3.0	<0.210	<1	<50

**TABLE C-2**

**TOTAL PETROLEUM HYDROCARBONS IN SOIL<sup>1</sup>**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in milligrams per kilogram (mg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	TPHg	TPHd	TPHmo
<b>Overburden Soil Samples</b>					
OB1-1-4	2/25/2015	--	<0.250	75	97
OB2-1-4	2/25/2015	--	<0.240	24	64

Notes

1. Samples analyzed for TPHd and TPHmo using U.S. EPA Method 8015B, following a silica gel preparation procedure in accordance with U.S. EPA Method 3630B and for TPHg using U.S. EPA Method 8260B.
2. "<" indicates the compound was not detected at a concentration at or greater than the laboratory reporting limit shown.

Abbreviations

-- = not applicable  
bgs = below ground surface  
NA = not analyzed  
TPHd = total petroleum hydrocarbons quantified as diesel  
TPHg = total petroleum hydrocarbons quantified as gasoline  
TPHmo = total petroleum hydrocarbons quantified as motor oil  
U.S. EPA = United States Environmental Protection Agency

TABLE C-3

SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL<sup>1</sup>

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in milligrams per kilogram (mg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	Benzo[b]-fluoranthene	Benzo[g,h,i]-perylene	Naphthalene	2-Methylnaphthalene	Bis(2-ethylhexyl)-phthalate	Butylbenzylphthalate	Hexachlorocyclopentadiene	3- and 4-Methylphenol	All Other SVOCs <sup>2</sup>
<b>Samples Collected within Footprint of Former Building B</b>											
SSB1-1.0	12/16/2014	1.0	<0.066 <sup>3</sup>	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SSB2-1.0	12/16/2014	1.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SSB3-1.0	12/16/2014	1.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SSB4-1.0	12/17/2014	1.0	<0.067	<0.067	<0.067	<0.067	<0.33 UJ <sup>4</sup>	<0.17 UJ	<0.17 R <sup>5</sup>	<0.067	ND
SSB5-1.5	12/17/2014	1.5	<0.067	<0.067	<0.067	<0.067	<0.33 UJ	<0.17 UJ	<0.17 R	<0.067	ND
SSB6-1.0	12/22/2014	1.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SSB7-1.0	12/22/2014	1.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SSB8-2.5	12/30/2014	2.5	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
HL-2-8.0	12/29/2014	8.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
HL3-W-8.0	2/16/2015	8.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
HL3-E-8.0	2/16/2015	8.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
HL3-SW-10.0	2/19/2015	10.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
HL3-N-8.0	2/16/2015	8.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
HL3-12.8 <sup>6</sup>	2/19/2015	12.8	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
HL3-15.0 <sup>6</sup>	2/19/2015	15.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
HL-4-8.0	12/29/2014	8.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
HL-5-8.0	12/29/2014	8.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
HL-7-8.0	12/29/2014	8.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
HL-9-8.0	12/29/2014	8.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
HL-10-8.0	12/29/2014	8.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
HL-11-8.0	12/29/2014	8.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
HL-12-8.0	12/29/2014	8.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
HL-13-8.0	12/29/2014	8.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
HL-14-8.0	12/29/2014	8.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
DL-2-2.25	12/30/2014	2.3	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
DL-3-2.75	12/30/2014	2.8	<0.066	<0.066	<0.066	<0.066	<0.32	<0.17	<0.17	<0.066	ND
DL-4-3.0	12/30/2014	3.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
DL-5-3.25	12/30/2014	3.3	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
DL-6-3.5	12/30/2014	3.5	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
DL-7-3.75	12/30/2014	3.75	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	0.067	ND
DL-8-4.0	12/30/2014	4.0	<0.066	<0.066	<0.066	<0.066	<0.32	<0.17	<0.17	<0.066	ND
DL9-5.0	3/30/2015	5.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
BBFS1-2.5	1/6/2015	2.5	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
<b>Samples Collected within Footprint of Former Building C</b>											
SSC1-1.0	12/19/2014	1.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SSC2-1.0	12/19/2014	1.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SSC3-1.0	12/19/2014	1.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SSC4-1.0	12/23/2014	1.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND

TABLE C-3

SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL<sup>1</sup>

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in milligrams per kilogram (mg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	Benzo[b]-fluoranthene	Benzo[g,h,i]-perylene	Naphthalene	2-Methyl-naphthalene	Bis(2-ethylhexyl)-phthalate	Butyl-benzyl-phthalate	Hexachloro-cyclo-pentadiene	3- and 4-Methyl-phenol	All Other SVOCs <sup>2</sup>
<b>Samples Collected within Footprint of Former Building C (cont'd)</b>											
SSC5-1.0	12/23/2014	1.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SSC6-1.0	12/23/2014	1.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
BCFS1-W-2.5	2/16/2015	2.5	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
BCFS1-E1-2.5	2/25/2015	2.5	0.094	0.13	<0.067	<0.067	1.8	<0.17	<0.17	<0.067	ND
BCFS1-S-2.5	2/16/2015	2.5	<0.067	<0.067	<0.067	0.12	<0.33	<0.17	<0.17	<0.067	ND
BCFS1-N-2.5	2/16/2015	2.5	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
BCFS1-4.5 <sup>6</sup>	2/16/2015	4.5	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
BCFS2-2.5	1/6/2015	2.5	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
BCDL1-1.0	12/30/2014	1.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
BCDL2-1.0	12/30/2014	1.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
BCDL3-1.0	12/30/2014	1.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	0.19	ND
BCDL4-2.5	3/30/2015	2.5	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
BCDL5-2.8	3/30/2015	2.8	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
<b>Samples Collected within Footprint of Former Building D</b>											
SSD1-1.5	12/15/2014	1.5	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
<b>Samples Collected at Other Areas of the Site</b>											
CW-S-3.5	12/16/2014	3.5	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
WOTP2-2.5	12/30/2014	2.5	<0.066	<0.066	<0.066	<0.066	<0.32	<0.17	<0.17	<0.066	ND
WOTP3-4.0	12/30/2014	4.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
<b>Sanitary Sewer Line Samples</b>											
SL1-6.2	3/25/2015	6.2	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL2-5.8	3/25/2015	5.8	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL3-6.2	3/25/2015	6.2	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SL4-6.2	3/25/2015	6.2	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SL5-6.1	3/25/2015	6.1	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL6-6.0	3/25/2015	6.0	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL7-6.5	3/25/2015	6.5	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL8-6.4	3/25/2015	6.4	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL9-6.5	3/25/2015	6.5	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL10-6.8	3/25/2015	6.8	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL11-6.5	3/25/2015	6.5	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL12-6.3	3/25/2015	6.3	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL13-5.5	3/30/2015	5.5	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SL14-5.3	3/30/2015	5.3	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SL15-5.3	3/30/2015	5.3	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SL16-4.7	3/30/2015	4.7	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL17-4.8	3/30/2015	4.8	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND
SL18-4.8	3/30/2015	4.8	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SL19-4.2	3/30/2015	4.2	<0.067	<0.067	<0.067	<0.067	<0.33	<0.17	<0.17	<0.067	ND

**TABLE C-3**

**SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL<sup>1</sup>**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in milligrams per kilogram (mg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	Benzo[b]-fluoranthene	Benzo[g,h,i]-perylene	Naphthalene	2-Methyl-naphthalene	Bis(2-ethylhexyl)-phthalate	Butyl-benzyl-phthalate	Hexachloro-cyclo-pentadiene	3- and 4-Methyl-phenol	All Other SVOCs <sup>2</sup>
<b>Sanitary Sewer Line Samples (cont'd)</b>											
SL20-3.7	3/30/2015	3.7	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
SL21-3.0	3/30/2015	3.0	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
<b>Overburden Soil Samples</b>											
OB1-1-4	2/25/2015	--	<0.066	<0.066	<0.066	<0.066	<0.33	<0.17	<0.17	<0.066	ND
OB2-1-4	2/25/2015	--	<0.13	<0.13	<0.13	<0.13	<0.66	<0.34	<0.34	<0.13	ND

Notes

1. Samples were analyzed for SVOCs using U.S. EPA Method 8270C.
2. No other SVOCs were detected. The other SVOCs analyzed include acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[k]fluoranthene,
3. "<" indicates the compound was not detected at a concentration at or greater than the laboratory reporting limit shown.
4. "UJ" indicates the analyte was not detected at a level greater than or equal to the adjusted quantitation limit. The reported adjusted quantitation limit is approximate and
5. "R" indicates the result for the analyte is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may be present in
6. Sample analyzed using both U.S. EPA Method 8270C and U.S. EPA Method 8270C with SIM; results shown were analyzed by U.S. EPA Method 8270C with SIM.

Abbreviations

-- = not applicable  
bgs = below ground surface  
ND = not detected above laboratory reporting limit  
SIM = selective ion monitoring  
SVOCs = semivolatile organic compounds  
U.S. EPA = United States Environmental Protection Agency



**TABLE C-4**

**METALS IN SOIL <sup>1</sup>**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in milligrams per kilogram (mg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	Cadmium	Chromium	Nickel	Lead	Zinc
<b>Samples Collected within Footprint of Former Building B</b>							
SSB1-1.0	12/16/2014	1.0	0.27	33	31	8.9	48
SSB2-1.0	12/16/2014	1.0	0.21	27	35	4.8	30
SSB3-1.0	12/16/2014	1.0	<0.39 <sup>2</sup>	51	85	7.6	69
SSB4-1.0	12/17/2014	1.0	<0.41	40	42	15	63
SSB5-1.5	12/17/2014	1.0	0.28	28	39	5.1	36
SSB6-1.0	12/22/2014	1.0	0.13	26	36	4.2	27
SSB7-1.0	12/22/2014	1.0	0.91	34	47	6.2	42
SSB8-2.5	12/30/2014	2.5	<0.42	41	43	7.7	49
HL-2-8.0	12/29/2014	8.0	0.40	36	37	6.6	54
HL-4-8.0	12/29/2014	8.0	<0.46	41	55	10	59
HL-5-8.0	12/29/2014	8.0	<0.36	33	30	5.4	41
HL-7-8.0	12/29/2014	8.0	0.41	34	39	7.3	56
HL-9-8.0	12/29/2014	8.0	<0.35	30	28	5.2	39
HL-10-8.0	12/29/2014	8.0	<0.41	33	28	5.3	41
HL-11-8.0	12/29/2014	8.0	0.40	37	40	6.7	54
HL-12-8.0	12/29/2014	8.0	<0.37	41	38	6.8	51
HL-13-8.0	12/29/2014	8.0	0.35	40	41	7.4	57
HL-14-8.0	12/29/2014	8.0	<0.40	34	34	5.5	45
DL-2-2.5	12/30/2014	2.5	0.16	33	46	7.9	45
DL-3-2.75	12/30/2014	2.8	0.56	32	45	6.4	49
DL-4-3.0	12/30/2014	3.0	<0.11	33	49	7.1	46
DL-5-3.25	12/30/2014	3.3	<0.11	34	45	6.3	44
DL-6-3.5	12/30/2014	3.5	0.29	34	49	7.0	47
DL-7-3.75	12/30/2014	3.8	<0.50	43	38	13	72
DL-8-4.0	12/30/2014	4.0	<0.45	51	44	8.8	72
DL9-5.0	3/30/2015	5.0	<0.31	41	7.8	39	54
BBFS1-2.5	1/6/2015	2.5	<0.11	46 J- <sup>4</sup>	37	5.2	34
<b>Samples Collected within Footprint of Former Building C</b>							
SSC1-1.0	12/19/2014	1.0	<0.45 UJ <sup>5</sup>	44	45	12 J+ <sup>6</sup>	74 J+
SSC2-1.0	12/19/2014	1.0	<0.50 UJ	44	45	12 J+	74 J+
SSC3-1.0	12/19/2014	1.0	0.25 J <sup>7</sup>	26	38	4.9 J+	33 J+
SSC4-1.0	12/23/2014	1.0	<0.42	32	44	6.6	42
SSC5-1.0	12/23/2014	1.0	0.32	34	36	11	55
SSC6-1.0	12/23/2014	1.0	0.48	37	37	10	65
BCFS1-W-2.5	2/16/2015	2.5	NA	NA	NA	8.0	NA
BCFS1-S-2.5	2/16/2015	2.5	NA	NA	NA	7.5	NA
BCFS1-N-2.5	2/16/2015	2.5	NA	NA	NA	7.9	NA

**TABLE C-4**

**METALS IN SOIL <sup>1</sup>**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in milligrams per kilogram (mg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	Cadmium	Chromium	Nickel	Lead	Zinc
<b>Samples Collected within Footprint of Former Building C (cont'd)</b>							
BCFS1-4.5	2/16/2015	4.5	NA	NA	NA	7.3	NA
BCFS2-2.5	1/6/2015	2.5	<0.43	40 J-	39	6.8	60
BCDL1-1.0	12/30/2014	1.0	<0.46	29	40	6.8	41
BCDL2-1.0	12/30/2014	1.0	<0.50	42	41	12	70
BCDL3-1.0	12/30/2014	1.0	<0.49	55	47	14	78
BCDL4-2.5	3/30/2015	2.5	<0.49	48	13	45	68
BCDL5-2.8	3/30/2015	2.8	<0.41	48	8.0	42	55
<b>Samples Collected within Footprint of Former Building D</b>							
SSD1-1.5	12/15/2014	1.5	0.19	34	36	4.8	30
<b>Samples Collected at Other Areas of the Site</b>							
CW-S-3.5	12/16/2014	3.5	0.27	28	25	9.6	46
WOTP2-2.5	12/30/2014	2.5	<0.44	36	46	6.6	42
WOTP3-4.0	12/30/2014	4.0	<0.47	47	45	8.1	70
<b>Sanitary Sewer Line</b>							
SL1-6.2	3/25/2015	6.2	0.20	30	6.4	28	42
SL2-5.8	3/25/2015	5.8	0.34	33	7.1	42	48
SL3-6.2	3/25/2015	6.2	<0.33	30	6.0	33	42
SL4-6.2	3/25/2015	6.2	<0.34	32	5.5	31	44
SL5-6.1	3/25/2015	6.1	<0.38	34	5.9	31	48
SL6-6.0	3/25/2015	6.0	<0.29	31	5.8	30	42
SL7-6.5	3/25/2015	6.5	<0.34	30	5.5	30	41
SL8-6.4	3/25/2015	6.4	<0.36	44	7.2	44	60
SL9-6.5	3/25/2015	6.5	<0.41	35	5.6	36	45
SL10-6.8	3/25/2015	6.8	<0.37	34	6.0	31	45
SL11-6.5	3/25/2015	6.5	<0.50	47	6.2	41	58
SL12-6.3	3/25/2015	6.3	<0.35	44	6.1	33	49
SL13-5.5	3/30/2015	5.5	<0.49	39	8.6	45	50
SL14-5.3	3/30/2015	5.3	<0.44	45	6.9	45	59
SL15-5.3	3/30/2015	5.3	<0.32	37	6.7	35	45
SL16-4.7	3/30/2015	4.7	<0.28	44	7.8	45	58
SL17-4.8	3/30/2015	4.8	<0.39	43	9.0	44	49
SL18-4.8	3/30/2015	4.8	<0.47	43	7.8	42	51
SL19-4.2	3/30/2015	4.2	<0.38	45	8.3	44	53
SL20-3.7	3/30/2015	3.7	<0.41	46	8.3	45	54
SL21-3.0	3/30/2015	3.0	<0.43	47	7.7	44	58

## TABLE C-4

### METALS IN SOIL <sup>1</sup>

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

#### Notes

1. Samples analyzed for CA LUFT-5 Metals (cadmium, chromium, lead, nickel, and zinc) by U.S. EPA Method 6010B.
2. "<" indicates the compound was not detected at a concentration at or greater than the laboratory reporting limit shown.
3. "J-" indicates the result is an estimated quantity, but the result may be biased low.
4. "UJ" indicates the analyte was not detected at a level greater than or equal to the adjusted quantitation limit.
5. "J+" indicates the result is an estimated quantity, but the result may be biased high.
6. "J" indicates the analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.

#### Abbreviations

bgs = below ground surface  
NA = not analyzed  
U.S. EPA = United States Environmental Protection Agency

**TABLE C-5**

**METALS IN OVERBURDEN SOIL <sup>1</sup>**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in milligrams per kilogram (mg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
OB1-1-4	2/25/2015	--	<1.3 UJ <sup>2,3</sup>	6	75	<0.26	0.41	32	8.2	15	5.6	0.057	<1.3	41	<2.6	<0.65	<1.3	20	45
OB2-1-4	2/25/2015	--	0.54 J <sup>4</sup>	4.1	75	<0.095	0.27	47	6.6	17	7.2	0.061	0.61	42	<0.95	<0.24	<0.48	23	59

Notes

1. Samples analyzed for California Title 22 Metals by U.S. EPA Method 6010B and for Mercury by U.S. EPA Method 7470/7471.
2. "<" indicates the compound was not detected at a concentration at or greater than the laboratory reporting limit shown.
3. "UJ" indicates the analyte was not detected at a level greater than or equal to the adjusted quantitation limit. The reported adjusted quantitation limit is approximate and may be inaccurate or imprecise.
4. "J-" indicates the result is an estimated quantity, but the result may be biased low.

Abbreviations

- = not applicable
- bgs = below ground surface

**TABLE C-6**

**POLYCHLORINATED BIPHENYLS IN SOIL <sup>1</sup>**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Results reported in micrograms per kilogram (µg/kg)

Sample ID	Date Collected	Sample Depth (feet bgs)	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260
<b>Building B</b>									
HL1-W-8.0	2/16/2015	8.0	<49	<49	<49	<49	<49	<49	<49
HL1-E-8.0	2/16/2015	8.0	<48	<48	<48	<48	<48	<48	<48
HL1-S-8.0	2/16/2015	8.0	<49	<49	<49	<49	<49	<49	<49
HL1-N-8.0	2/16/2015	8.0	<50	<50	<50	<50	<50	<50	<50
HL-1-10	2/16/2015	10.0	<49	<49	<49	<49	<49	<49	<49
HL-2-8.0	12/29/2014	8.0	<49	<49	<49	<49	<49	<49	<49
HL3-W-8.0	2/16/2015	8.0	<49	<49	<49	<49	<49	<49	<49
HL3-E-8.0	2/16/2015	8.0	<48	<48	<48	<48	<48	<48	<48
HL3-SW-10.0	2/19/2015	10.0	<48	<48	<48	<48	<48	<48	<48
HL3-N-8.0	2/16/2015	8.0	<49	<49	<49	<49	<49	<49	<49
HL3-12.8	2/19/2015	12.8	<50	<50	<50	<50	<50	<50	<50
HL3-15.0	2/19/2015	15.0	<49	<49	<49	<49	<49	<49	<49
HL-4-8.0	12/29/2014	8.0	<50	<50	<50	<50	<50	<50	<50
HL-5-8.0	12/29/2014	8.0	<50	<50	<50	<50	<50	<50	<50
HL-7-8.0	12/29/2014	8.0	<50	<50	<50	<50	<50	<50	<50
HL-9-8.0	12/29/2014	8.0	<50	<50	<50	<50	<50	<50	<50
HL-10-8.0	12/29/2014	8.0	<49	<49	<49	<49	<49	<49	<49
HL-11-8.0	12/29/2014	8.0	<50	<50	<50	<50	<50	<50	<50
HL-12-8.0	12/29/2014	8.0	<49	<49	<49	<49	<49	<49	<49
HL-13-8.0	12/29/2014	8.0	<50	<50	<50	<50	<50	<50	<50
HL-14-8.0	12/29/2014	8.0	<49	<49	<49	<49	<49	<49	<49
<b>Overburden Soils</b>									
OB1-1-4	2/25/2015	--	<49	<49	<49	<49	<49	<49	<49
OB2-1-4	2/25/2015	--	<49	<49	<49	<49	<49	<49	<49

Notes

1. Samples were analyzed for PCBs using U.S. EPA Method 8082.
2. "<" indicates the compound was not detected at a concentration at or greater than the laboratory reporting limit shown.

Abbreviations

- = not applicable
- bgs = below ground surface
- PCBs = polychlorinated biphenyls
- U.S. EPA = United States Environmental Protection Agency

TABLE C-7

SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per kilogram (µg/kg)

Location	Sample ID	Depth (feet bgs)	Date	Acetone	Benzene	Bromo-benzene	n-Butyl-benzene	sec-Butyl-benzene	Chloro-benzene	2-Chloro-toluene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	cis-1,2-Dichloro-ethene	Ethyl-benzene	Naphthalene	PCE	1,2,4-Trichloro-benzene	TCE	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Xylenes, Total	All Other VOCs	
<b>Basics February 2009 Investigation<sup>1</sup></b>																								
B1	B1-4.0	4.0	2/25/2009	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5	<5	<5	<5	ND
B2	B2-4.0	4.0	2/25/2009	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5	<5	<5	<5	ND
B3	B3-4.0	4.0	2/24/2009	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5	<5	<5	<5	ND
B4	B4-4.0	4.0	2/25/2009	180	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5	<5	<5	<5	ND
B5	B5-4.0	4.0	2/24/2009	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5	<5	<5	<5	ND
B6	B6-10.0	10.0	2/25/2009	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5	<5	<5	<5	ND
B7	B7-4.0	4.0	2/24/2009	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5	<5	<5	<5	ND
B9	B9-14.0	14.0	2/25/2009	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5	<5	<5	<5	ND
B10	B10-4.0	4.0	2/24/2009	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5	<5	<5	<5	ND
<b>AMEC September 2010 Investigation<sup>2</sup></b>																								
SB-01	SB-01-11.7	11.7	9/27/2010	NA	<3.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.7	NA	NA	NA	NA	NA	NA	NA	<7.4	ND
	SB-01-13.8	13.8	9/27/2010	NA	<3.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 J	NA	NA	NA	NA	NA	NA	NA	0.43 J	ND
SB-02	SB-02-9.1	9.1	9/27/2010	NA	<3.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.8	NA	NA	NA	NA	NA	NA	NA	<7.6	ND
	SB-02-11.5	11.5	9/27/2010	NA	<3.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.6	NA	NA	NA	NA	NA	NA	NA	<7.2	ND
SB-04	SB-04-3.0	3.0	9/27/2010	NA	<3.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.3	NA	NA	NA	NA	NA	NA	NA	<6.5	ND
	SB-04-7.0	7.0	9/27/2010	NA	<4.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4.0	NA	NA	NA	NA	NA	NA	NA	<7.9	ND
	SB-04-8.5	8.5	9/27/2010	NA	<3.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.9	NA	NA	NA	NA	NA	NA	NA	<7.8	ND
	SB-04-12.0	12.0	9/27/2010	NA	<4.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4.0	NA	NA	NA	NA	NA	NA	NA	<7.9	ND
<b>Ninyo &amp; Moore December 2010 Investigation<sup>3</sup></b>																								
NM-B-1	NM-B-1-1.5-2.0	2.0	12/16/2010	NA	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	NA	ND
	NM-B-1-4.5-5.0	5.0	12/16/2010	NA	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	NA	ND
NM-B-4	NM-B-4-1.5-2.0	2.0	12/16/2010	NA	<4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4.6	NA	NA	NA	NA	NA	NA	NA	NA	ND
	NM-B-4-4.5-5.0	5.0	12/16/2010	NA	<4.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4.7	NA	NA	NA	NA	NA	NA	NA	NA	ND
NM-B-5	NM-B-5-1.5-2.0	2.0	12/16/2010	NA	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	NA	ND
	NM-B-5-4.5-5.0	5.0	12/16/2010	NA	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	NA	ND
<b>AMEC May-July 2011 Investigation<sup>4</sup></b>																								
SB-18	SB-18-4.0	4.0	6/7/2011	<59	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<12	<5.9	<5.9	<5.9	<5.9	<5.9	<5.9	<12	ND
	SB-18-8.0	8.0	6/7/2011	<40	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	ND
	SB-18-12.0	12.0	6/7/2011	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND
SB-19	SB-19-4.0	4.0	6/7/2011	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND
	SB-19-8.0	8.0	6/9/2011	<43	<4.3	<4.3	<4.3	<4.3	110	<4.3	98	<4.3	<4.3	<4.3	<4.3	<8.7	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<8.7	ND
	SB-19-11.0	11.0	6/9/2011	<53	<5.3	<5.3	<5.3	<5.3	29	<5.3	12	<5.3	<5.3	<5.3	<5.3	<11	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<11	ND
SB-22	SB-19-13.0	13.0	6/9/2011	<58	<5.8	<5.8	<5.8	<5.8	21	<5.8	<5.8	<5.8	<5.8	<5.8	<12	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<12	ND	
	SB-22-4.0	4.0	6/8/2011	<49	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<9.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<9.9	ND	
	SB-22-9.0	9.0	6/8/2011	<38	<3.8	<3.8	<3.8	<3.8	200	<3.8	69	<3.8	<3.8	<3.8	<7.7	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<7.7	ND	
SB-24	SB-22-12.0	12.0	6/8/2011	<63	<6.3	<6.3	<6.3	<6.3	310	<6.3	110	<6.3	<6.3	<6.3	<13	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<13	ND	
	SB-24-6.0	6.0	6/9/2011	<40	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	ND	
	SB-24-11.5	11.5	6/9/2011	<41	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	ND	
SB-29	SB-29-4.0	4.0	7/26/2011	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	ND	
	SB-29-8.0	8.0	7/26/2011	<39	<3.9	4.8	<3.9	<3.9	4.7	19	240	32	160	<3.9	<3.9	<7.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	ND
	SB-29-12.0	12.0	7/26/2011	<38	<3.8	<3.8	<3.8	<3.8	<3.8	8.2	220	25	120	<3.8	<3.8	<7.7	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<7.7	ND
SB-30	SB-29-12.0	12.0	7/26/2011	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	26	3.9	19	<3.9	<3.9	<7.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	ND	
	SB-30-4.0	4.0	7/26/2011	<40	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	ND	
	SB-30-8.0	8.0	7/26/2011	<36	<3.6	<3.6	<3.6	<3.6	<3.6	9.8	110	18	74	<3.6	<3.6	<7.2	<3.6	<3.6	<3.6	<3.6	<3.6	<7.2	ND	
SB-31	SB-30-12.0	12.0	7/26/2011	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	26	3.9	19	<3.9	<3.9	<7.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	ND	
	SB-31-4.0	4.0	7/26/2011	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND	
	SB-31-8.0	8.0	7/26/2011	<41	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	12	<4.1	5.6	<4.1	<4.1	<8.2	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	ND	
SB-31-12.0	12.0	7/26/2011	<40	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	11	<4.0	6.8	<4.0	<4.0	<8.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	ND		

TABLE C-7

SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per kilogram (µg/kg)

Location	Sample ID	Depth (feet bgs)	Date	Acetone	Benzene	Bromo-benzene	n-Butyl-benzene	sec-Butyl-benzene	Chloro-benzene	2-Chloro-toluene	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	cis-1,2-Dichloro-ethene	Ethyl-benzene	Naphthalene	PCE	1,2,4-Trichloro-benzene	TCE	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Xylenes, Total	All Other VOCs
<b>Ninyo &amp; Moore August 2011 Investigation<sup>5</sup></b>																							
NM-B-13	NM-B-13-12.5-13.0	13.0	8/10/2011	NA	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	NA	ND
NM-B-18	NM-B-18-3.5-4.0	4.0	8/10/2011	NA	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	NA	ND
	NM-B-18-12.5-13.0	13.0	8/12/2011	NA	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	NA	ND
	NM-B-18-13.5-14.0	14.0	8/10/2011	NA	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	NA	ND
NM-B-19	NM-B-19-3.5-4.0	4.0	8/11/2011	NA	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	NA	ND
	NM-B-19-5.5-6.0	6.0	8/11/2011	NA	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	NA	ND
	NM-B-19-13.5-14.0	14.0	8/11/2011	NA	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	NA	ND
NM-B-21	NM-B-21-3.5-4.0	4.0	8/11/2011	NA	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	NA	ND
	NM-B-21-6.0-6.5	6.5	8/11/2011	NA	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	NA	ND
	NM-B-21-12.0-12.9	12.9	8/11/2011	NA	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	NA	ND
NM-B-23B	NM-B-23B-3.5-4.0	4.0	8/11/2011	NA	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	NA	ND
	NM-B-23B-5.0-5.5	5.5	8/11/2011	NA	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	6.8	<4.3	<4.3	<4.3	<4.3	NA	ND
	NM-B-23B-13.5-14.0	14.0	8/11/2011	NA	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	36	<4.2	<4.2	<4.2	<4.2	NA	ND
NM-B-25	NM-B-25-3.5-4.0	4.0	8/11/2011	NA	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	NA	ND
	NM-B-25-5.0-5.5	5.5	8/11/2011	NA	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	NA	ND
	NM-B-25-12.5-13.0	13.0	8/11/2011	NA	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	13	<4.2	<4.2	NA	ND
NM-B-27	NM-B-27-4.5-5.0	5.0	8/11/2011	NA	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	NA	ND
	NM-B-27-7.5-8.0	8.0	8/11/2011	NA	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	NA	ND
	NM-B-27-14.0-14.5	14.5	8/11/2011	NA	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	NA	ND
NM-B-24	NM-B-24-12.5-13.0	13.0	8/9/2011	NA	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	<4.6	13	<4.6	<4.6	<4.6	<4.6	NA	ND
NM-B-26	NM-B-26-13.5-14.0	14.0	8/9/2011	NA	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	12	<4.5	<4.5	NA	ND
NM-B-28	NM-B-28-13.0-13.5	13.5	8/9/2011	NA	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	NA	ND
NM-B-29	NM-B-29-12.5-13.0	13.0	8/9/2011	NA	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	7.1	<4.2	<4.2	<4.2	<4.2	NA	ND
NM-B-30	NM-B-30-14.0-14.5	14.5	8/9/2011	NA	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	<4.5	17	<4.5	<4.5	<4.5	<4.5	NA	ND
NM-B-23B2	NM-B-23B2-5.0-5.5	5.5	9/8/2011	NA	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	5.8	<3.4	<3.4	<3.4	<3.4	NA	ND
NM-B-23C	NM-B-23C-5.0-5.5	5.5	9/8/2011	NA	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	5.7	<3.2	<3.2	<3.2	<3.2	NA	ND
NM-B-23D	NM-B-23D-5.0-5.5	5.5	9/8/2011	NA	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	4.5	<3.6	<3.6	<3.6	<3.6	NA	ND
NM-B-23E	NM-B-23E-5.0-5.5	5.5	9/8/2011	NA	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	5	<4.2	<4.2	<4.2	<4.2	NA	ND
NM-B-32A	NM-B-32A-5.0-5.5	5.5	9/8/2011	NA	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	5.7	<3.6	<3.6	<3.6	<3.6	NA	ND
<b>AMEC October 2011 Remediation Confirmation Sampling<sup>6</sup></b>																							
PIT-EXS-10	FEPIT-EXS-10-12	12.0	10/26/2011	<4.3	<4.3	4.3 J	<4.3	<4.3	10 J	17 J	170 J	20 J	110 J	5.6 J	<4.3	<8.6	<4.3	<4.3	6.8 J	<4.3	<4.3	<8.6	ND
<b>AMEC August-September 2012 Investigation<sup>8</sup></b>																							
SB-33	SB-33-5.3	5.3	8/27/2012	<38	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<7.7	5.7	<3.8	<3.8	<3.8	<3.8	<7.7	ND
	SB-33-10.3	10.3	8/27/2012	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	28	<3.9	<3.9	<3.9	<3.9	<7.9	ND
SB-34	SB-34-5.0	5.0	8/27/2012	<41	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	14	<4.1	<4.1	<4.1	<4.1	<4.1	<8.2	ND
	SB-34-10.0	10.0	8/27/2012	<36	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6	<7.2	38	<3.6	<3.6	<3.6	<3.6	<3.6	<7.2	ND
SB-35	SB-35-5.0	5.0	8/27/2012	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	21	<3.9	<3.9	<3.9	<3.9	<3.9	<7.7	ND
	SB-35-10.0	10.0	8/27/2012	<39	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	48	<3.9	<3.9	<3.9	<3.9	<3.9	<7.9	ND
SB-38	SB-38-5.0	5.0	8/28/2012	<44	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.7	5.1	<4.4	<4.4	<4.4	<4.4	<4.4	<8.7	ND
	SB-38-10.0	10.0	8/28/2012	<40	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	12	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	ND
SB-39	SB-39-5.0	5.0	8/28/2012	<41	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.3	7.1	<4.1	<4.1	<4.1	<4.1	<4.1	<8.3	ND
	SB-39-10.0	10.0	8/28/2012	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.3	15	<4.2	<4.2	<4.2	<4.2	<4.2	<8.3	ND
SB-40	SB-40-5.0	5.0	8/28/2012	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	36	<5.0	<5.0	<5.0	<5.0	<5.0	<10	ND
	SB-40-10.0	10.0	8/28/2012	<48	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<9.6	19	<4.8	<4.8	<4.8	<4.8	<4.8	<9.6	ND
SB-41	SB-41-5.0	5.0	8/28/2012	<42	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	20	<4.2	<4.2	<4.2	<4.2	<4.2	<8.4	ND
	SB-41-10.0	10.0	8/28/2012	<43	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<8.5	9.1	<4.3	<4.3	<4.3	<4.3	<4.3	<8.5	ND
MW-02	MW-02-11.0	11.0	8/30/2012	<39																			

**TABLE C-7**

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS IN SOIL**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Notes

1. Basics Environmental, Inc., 2009, Limited Phase II Environmental Site Sampling Report, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, March 16.
2. AMEC, 2011, Revised Soil and Groundwater Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, April 4. California, August 16.
3. Ninyo & Moore, 2011, Limited Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, January 7.
4. AMEC, 2011, Soil, Groundwater, and Soil Vapor Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, September 27.
5. Ninyo & Moore, 2011, Additional Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, September 16.
6. AMEC, 2011, Remediation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, December 21.
7. m,p-Xylene was detected in this sample at 150 µg/kg. o-Xylene was not detected above the reporting limit of 50 µg/kg.
8. Samples were collected by AMEC in August and September 2012 and analyzed for VOCs by TestAmerica Laboratories, Inc., of Pleasanton, California, for TPHg using U.S. EPA Method 8260B.

Abbreviations and Data Qualifiers

< = not detected at or above the laboratory reporting limit shown

µg/kg = micrograms per kilogram

bgs = below ground surface

J = the analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample

NA = not analyzed

NC = no change to 2008 ESL

NL = not listed

PCE = tetrachloroethene

TCE = trichloroethene

U.S. EPA = U.S. Environmental Protection Agency

VOCs = volatile organic compounds



**TABLE C-8**

**SUMMARY OF TOTAL PETROLEUM HYDROCARBONS AND POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in milligrams per kilogram (mg/kg)

Location	Sample ID	Depth (feet bgs)	Date	TPH					PAHs	
				TPHg	TPHd	TPHmo	TPHho	TPHss	Naphthalene	All Other PAHs
<b>Basics February 2009 Investigation <sup>1</sup></b>										
B1	B1-4.0	4	2/25/2009	<1.0	<1.0	<5.0	NA	<1.0	NA	NA
B2	B2-4.0	4	2/25/2009	<1.0	1.1	5.4	NA	<1.0	NA	NA
B3	B3-4.0	4	2/24/2009	<1.0	<1.0	<5.0	NA	<1.0	NA	NA
B4	B4-4.0	4	2/25/2009	<1.0	<1.0	<5.0	NA	<1.0	NA	NA
B5	B5-4.0	4	2/24/2009	<1.0	1.9	<5.0	NA	<1.0	NA	NA
B6	B6-10.0	10	2/25/2009	<1.0	<1.0	<5.0	NA	<1.0	NA	NA
B7	B7-4.0	4	2/24/2009	<1.0	33	180	NA	<1.0	NA	NA
B9	B9-14.0	14	2/25/2009	<1.0	1.4	5.5	NA	<1.0	NA	NA
B10	B10-4.0	4	2/24/2009	<1.0	1.6	<5.0	NA	<1.0	NA	NA
<b>AMEC September 2010 Investigation <sup>2</sup></b>										
SB-01	SB-01-11.7	11.7	9/27/2010	<0.18	NA	NA	NA	NA	NA	NA
	SB-01-13.8	13.8	9/27/2010	13 J	NA	NA	NA	NA	NA	NA
SB-02	SB-02-9.1	9.1	9/27/2010	<0.19	NA	NA	NA	NA	NA	NA
	SB-02-11.5	11.5	9/27/2010	1.4	NA	NA	NA	NA	NA	NA
SB-04	SB-04-3.0	3	9/27/2010	<0.16	2.6	<50	NA	NA	<0.005	NA
	SB-04-7.0	7	9/27/2010	<0.20	<0.99	<50	NA	NA	NA	NA
	SB-04-8.5	8.5	9/27/2010	<0.19	<0.99	<49	NA	NA	NA	NA
	SB-04-12.0	12	9/27/2010	<0.20	<1.0	<50	NA	NA	<0.005	ND
SB-05	SB-05-0.7	0.7	9/28/2010	NA	20	58	NA	NA	<0.01 UJ	ND
	SB-05-2.0	2	9/28/2010	NA	<0.99	<50	NA	NA	NA	NA
	SB-05-11.5	11.5	9/28/2010	NA	<1.0	<50	NA	NA	<0.005 UJ	ND
SB-06	SB-06-3.0	3	9/28/2010	NA	<0.99	<50	NA	NA	0.0094 J	ND
	SB-06-11.0	11	9/28/2010	NA	<1.0	<50	NA	NA	<0.005 UJ	ND
SB-09	SB-09-3.0	3	9/28/2010	NA	<0.99	<50	NA	NA	NA	NA
	SB-09-4.9	4.9	9/28/2010	NA	1.4	<50	NA	NA	0.005 J	ND
	SB-09-6.0	6	9/28/2010	NA	<0.99	<50	NA	NA	NA	NA
	SB-09-11.8	11.8	9/28/2010	NA	<1.0	<50	NA	NA	0.0051 J	ND

**TABLE C-8**

**SUMMARY OF TOTAL PETROLEUM HYDROCARBONS AND POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in milligrams per kilogram (mg/kg)

Location	Sample ID	Depth (feet bgs)	Date	TPH					PAHs	
				TPHg	TPHd	TPHmo	TPHho	TPHss	Naphthalene	All Other PAHs
SB-10	SB-10-4.0	4	9/28/2010	NA	1.1	<50	NA	NA	NA	NA
	SB-10-9.0	9	9/28/2010	NA	<0.99	<50	NA	NA	NA	NA
	SB-10-10.5	10.5	9/28/2010	NA	<0.99	<49	NA	NA	NA	NA
	SB-10-11.5	11.5	9/28/2010	NA	<1.0	<50	NA	NA	<0.005 UJ	ND
SB-11	SB-11-12.8	12.8	9/27/2010	NA	<0.99	<50	NA	NA	<0.005	ND
SB-12	SB-12-12.0	12	9/28/2010	NA	<0.98	<49	NA	NA	<0.0049 UJ	ND
<b>Ninyo &amp; Moore December 2010 Investigation <sup>3</sup></b>										
NM-B-1	NM-B-1-1.5-2.0	2	12/16/2010	<0.98	<1.0	<1.0	NA	NA	NA	NA
	NM-B-1-4.5-5.0	5	12/16/2010	<1.7	<1.0	<1.0	NA	NA	NA	NA
NM-B-2	NM-B-2-1.5-2.0	2	12/16/2010	NA	11	40	NA	NA	NA	NA
	NM-B-2-4.5-5.0	5	12/16/2010	NA	8.0	34	NA	NA	NA	NA
NM-B-3	NM-B-3-1.5-2.0	2	12/16/2010	NA	2.4	6.6	NA	NA	NA	NA
	NM-B-3-4.5-5.0	5	12/16/2010	NA	<1.0	<1.0	NA	NA	NA	NA
NM-B-4	NM-B-4-1.5-2.0	2	12/16/2010	<1.2	11	33	NA	NA	NA	NA
	NM-B-4-4.5-5.0	5	12/16/2010	<1.1	<1.0	1.7	NA	NA	NA	NA
NM-B-5	NM-B-5-1.5-2.0	2	12/16/2010	<0.93	<1.0	<1.0	NA	NA	NA	NA
	NM-B-5-4.5-5.0	5	12/16/2010	<0.93	<1.0	<1.0	NA	NA	NA	NA
<b>AMEC May-July 2011 Investigation <sup>4</sup></b>										
SB-18	SB-18-4.0	4	6/7/2011	<0.29	NA	NA	NA	NA	NA	NA
	SB-18-8.0	8	6/7/2011	<0.20	NA	NA	NA	NA	NA	NA
	SB-18-12.0	12	6/7/2011	<0.21	NA	NA	NA	NA	<0.005	NA
SB-19	SB-19-4.0	4	6/7/2011	<0.21	NA	NA	NA	NA	NA	NA
	SB-19-8.0	8	6/9/2011	<0.22	NA	NA	NA	NA	NA	NA
	SB-19-11.0	11	6/9/2011	<0.27	NA	NA	NA	NA	<0.0049	NA
	SB-19-13.0	13	6/9/2011	<0.29	NA	NA	NA	NA	NA	NA
SB-22	SB-22-4.0	4	6/8/2011	<0.25	NA	NA	NA	NA	NA	NA
	SB-22-9.0	9	6/8/2011	<0.19	NA	NA	NA	NA	<0.005	NA
	SB-22-12.0	12	6/8/2011	<0.32	NA	NA	NA	NA	NA	NA

**TABLE C-8**

**SUMMARY OF TOTAL PETROLEUM HYDROCARBONS AND POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in milligrams per kilogram (mg/kg)

Location	Sample ID	Depth (feet bgs)	Date	TPH					PAHs	
				TPHg	TPHd	TPHmo	TPHho	TPHss	Naphthalene	All Other PAHs
SB-23	SB-23-6.0	6	6/8/2011	NA	NA	NA	<50	NA	<0.005	NA
	SB-23-12.0	12	6/8/2011	NA	NA	NA	<50	NA	NA	NA
SB-24	SB-24-6.0	6	6/9/2011	<0.20	<0.99	<49	NA	NA	<0.0049	ND
	SB-24-11.5	11.5	6/9/2011	<0.21	<1.0	<50	NA	NA	<0.005	ND
SB-26	SB-26-6.0	6	6/9/2011	NA	NA	NA	<49	NA	<0.0049	NA
	SB-26-9.0	9	6/9/2011	NA	NA	NA	<50	NA	NA	NA
SB-27	SB-27-6.0	6	6/10/2011	NA	NA	NA	<49	NA	<0.005	NA
	SB-27-11.0	11	6/10/2011	NA	NA	NA	<50	NA	NA	NA
SB-28	SB-28-6.0	6	6/10/2011	NA	NA	NA	<50	NA	<0.005	NA
	SB-28-10.8	10.8	6/10/2011	NA	NA	NA	<50	NA	NA	NA
SB-29	SB-29-4.0	4	7/26/2011	<0.20	51	97	98	NA	NA	NA
	SB-29-8.0	8	7/26/2011	<0.2	<1.0	<50	<50	NA	NA	NA
	SB-29-12.0	12	7/26/2011	<0.19	<0.99	<50	<50	NA	NA	NA
SB-30	SB-30-4.0	4	7/26/2011	<0.20	2.9	<50	<50	NA	NA	NA
	SB-30-8.0	8	7/26/2011	<0.18	<0.99	<49	<49	NA	NA	NA
	SB-30-12.0	12	7/26/2011	<0.2	<1.0	<50	<50	NA	NA	NA
SB-31	SB-31-4.0	4	7/26/2011	<0.21	2.8	<50	<50	NA	NA	NA
	SB-31-8.0	8	7/26/2011	<0.21	<1.0	<50	<50	NA	NA	NA
	SB-31-12.0	12	7/26/2011	<0.20	<1.0	<50	<50	NA	NA	NA
<b>Ninyo &amp; Moore August 2011 Investigation <sup>5</sup></b>										
NM-B-7	NM-B-7-12.0-12.5	12.5	8/11/2011	NA	NA	NA	<10	NA	NA	NA
NM-B-8	NM-B-8-12.5-13.0	13	8/11/2011	NA	NA	NA	<10	NA	NA	NA
NM-B-9	NM-B-9-12.0-12.5	12.5	8/11/2011	NA	NA	NA	<10	NA	NA	NA
NM-B-10	NM-B-10-12.0-12.5	12.5	8/12/2011	NA	NA	NA	<10	NA	NA	NA
NM-B-11	NM-B-11-14.5-15.0	15	8/12/2011	NA	NA	NA	230 J	NA	NA	NA
NM-B-12	NM-B-12-12.5-13.0	13	8/12/2011	NA	NA	NA	<10	NA	NA	NA
NM-B-13	NM-B-13-12.5-13.0	13	8/10/2011	NA	NA	NA	<10	NA	NA	NA
NM-B-14	NM-B-14-13.0-13.5	13.5	8/12/2011	NA	NA	NA	<10	NA	NA	NA
NM-B-15	NM-B-15-12.0-12.5	12.5	8/12/2011	NA	NA	NA	<10	NA	NA	NA

**TABLE C-8**

**SUMMARY OF TOTAL PETROLEUM HYDROCARBONS AND POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in milligrams per kilogram (mg/kg)

Location	Sample ID	Depth (feet bgs)	Date	TPH					PAHs	
				TPHg	TPHd	TPHmo	TPHho	TPHss	Naphthalene	All Other PAHs
NM-B-16	NM-B-16-12.0-12.5	12.5	8/12/2011	NA	NA	NA	<10	NA	NA	NA
NM-B-17	NM-B-17-12.5-13.0	13	8/11/2011	NA	NA	NA	<10	NA	NA	NA
NM-B-18	NM-B-18-3.5-4.0	4	8/10/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-18-12.5-13.0	13	8/10/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-18-12.5-13.0	13	8/12/2011	NA	NA	NA	<10	NA	NA	NA
	NM-B-18-13.5-14.0	14	8/10/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-19	NM-B-19-3.5-4.0	4	8/11/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-19-5.5-6.0	6	8/11/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-19-13.5-14.0	14	8/11/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-21	NM-B-21-3.5-4.0	4	8/11/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-21-6.0-6.5	6.5	8/11/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-21-12.0-12.9	12.9	8/11/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-23B	NM-B-23B-3.5-4.0	4	8/11/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-23B-5.0-5.5	5.5	8/11/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-23B-13.5-14.0	14	8/11/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-23B2	NM-B-23B2-5.0-5.5	5.5	9/8/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-23C	NM-B-23C-5.0-5.5	5.5	9/8/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-23D	NM-B-23D-5.0-5.5	5.5	9/8/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-23E	NM-B-23E-5.0-5.5	5.5	9/8/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-24	NM-B-24-12.5-13.0	13	8/9/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-25	NM-B-25-3.5-4.0	4	8/11/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-25-5.0-5.5	5.5	8/11/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-25-12.5-13.0	13	8/11/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-26	NM-B-26-13.5-14.0	14	8/9/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-27	NM-B-27-4.5-5.0	5	8/11/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-27-7.5-8.0	8	8/11/2011	NA	NA	NA	NA	NA	NA	NA
	NM-B-27-14.0-14.5	14.5	8/11/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-28	NM-B-28-13.0-13.5	13.5	8/9/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-29	NM-B-29-12.5-13.0	13	8/9/2011	NA	NA	NA	NA	NA	NA	NA

**TABLE C-8**

**SUMMARY OF TOTAL PETROLEUM HYDROCARBONS AND POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in milligrams per kilogram (mg/kg)

Location	Sample ID	Depth (feet bgs)	Date	TPH					PAHs	
				TPHg	TPHd	TPHmo	TPHho	TPHss	Naphthalene	All Other PAHs
NM-B-30	NM-B-30-14.0-14.5	14.5	8/9/2011	NA	NA	NA	NA	NA	NA	NA
NM-B-32A	NM-B-32A-5.0-5.5	5.5	9/8/2011	NA	NA	NA	NA	NA	NA	NA
<b>AMEC October 2011 Remediation Confirmation Sampling <sup>6</sup></b>										
PIT-EXB-10	FEPIT-EXB-10-12	12	10/26/2011	<0.21	89 J	170 J	NA	NA	NA	NA
<b>AMEC August-September 2012 Investigation <sup>7</sup></b>										
SB-33	SB-33-5.3	5.3	8/27/2012	<0.19	NA	NA	NA	NA	NA	NA
	SB-33-10.3	10.3	8/27/2012	<0.20	NA	NA	NA	NA	NA	NA
SB-34	SB-34-5.0	5.0	8/27/2012	<0.21	NA	NA	NA	NA	NA	NA
	SB-34-10.0	10.0	8/27/2012	<0.18	NA	NA	NA	NA	NA	NA
SB-35	SB-35-5.0	5.0	8/27/2012	<0.19	NA	NA	NA	NA	NA	NA
	SB-35-10.0	10.0	8/27/2012	<0.20	NA	NA	NA	NA	NA	NA
SB-38	SB-38-5.0	5.0	8/28/2012	<0.22	NA	NA	NA	NA	NA	NA
	SB-38-10.0	10.0	8/28/2012	<0.20	NA	NA	NA	NA	NA	NA
SB-39	SB-39-5.0	5.0	8/28/2012	<0.21	NA	NA	NA	NA	NA	NA
	SB-39-10.0	10.0	8/28/2012	<0.21	NA	NA	NA	NA	NA	NA
SB-40	SB-40-5.0	5.0	8/28/2012	<0.25	NA	NA	NA	NA	NA	NA
	SB-40-10.0	10.0	8/28/2012	<0.24	NA	NA	NA	NA	NA	NA
SB-41	SB-41-5.0	5.0	8/28/2012	<0.21	NA	NA	NA	NA	NA	NA
	SB-41-10.0	10.0	8/28/2012	<0.21	NA	NA	NA	NA	NA	NA
MW-02	MW-02-11.0	11.0	8/30/2012	3.2	NA	NA	NA	NA	NA	NA
SB-46	SB-46-13.8	13.8	9/4/2012	1.6	NA	NA	NA	NA	NA	NA

## TABLE C-8

### SUMMARY OF TOTAL PETROLEUM HYDROCARBONS AND POLYNUCLEAR AROMATIC HYDROCARBONS IN SOIL

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

#### Notes

1. Basics Environmental, Inc., 2009, Limited Phase II Environmental Site Sampling Report, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, March 16.
2. AMEC, 2011, Revised Soil and Groundwater Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, April 4. California, August 16.
3. Ninyo & Moore, 2011, Limited Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, January 7.
4. AMEC, 2011, Soil, Groundwater, and Soil Vapor Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, September 27.
5. Ninyo & Moore, 2011, Additional Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, September 27.
6. AMEC, 2011, Remediation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, September 27.
7. Samples were collected by AMEC in August and September 2012 analyzed by TestAmerica Laboratories, Inc., for TPHg using U.S. EPA Method 8260B.

#### Abbreviations and Data Qualifiers

< = not detected at or above the laboratory reporting limit shown

bgs = below ground surface

J = the analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample

mg/kg = milligrams per kilogram

NA = not analyzed

ND = not detected

PAHs = polynuclear aromatic hydrocarbons

TPH = total petroleum hydrocarbons

TPHd = total petroleum hydrocarbons quantified as diesel

TPHg = total petroleum hydrocarbons quantified as gasoline

TPHho = total petroleum hydrocarbons quantified as hydraulic oil

TPHmo = total petroleum hydrocarbons quantified as motor oil

TPHss = total petroleum hydrocarbons quantified as Stoddard solvent

U.S. EPA = United States Environmental Protection Agency

UJ = the analyte was not detected at a level greater than or equal to the quantitation limit shown; the quantitation limit is approximate and may be inaccurate or imprecise.

**TABLE C-9**

**SUMMARY OF POLYCHLORINATED BIPHENYLS IN SOIL**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per kilogram (µg/kg)

Location	Sample ID	Depth (feet bgs)	Date	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
<b>Basics February 2009 Investigation <sup>1</sup></b>													
B5	B5-4.0	4.0	2/24/2009	<1,200	<1,200	<1,200	<1,200	<1,200	<1,200	<1,200	NA	NA	<1,200
B7	B7-4.0	4.0	2/24/2009	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25
B10	B10-4.0	4.0	2/24/2009	<25	<25	<25	<25	<25	<25	<25	NA	NA	<25
<b>Ninyo &amp; Moore December 2010 Investigation <sup>2</sup></b>													
NM-B-5	NM-B-5-4.5-5.0	5.0	12/16/2010	<16	<33	<16	25	<16	<16	<16	<16	<16	NA
<b>AMEC May-July 2011 Investigation <sup>3</sup></b>													
SB-23	SB-23-6.0	6.0	6/8/2011	<50	<50	<50	<50	<50	<50	<50	NA	NA	NA
	SB-23-12.0	12.0	6/8/2011	<50	<50	<50	<50	<50	<50	<50	NA	NA	NA
SB-26	SB-26-6.0	6.0	6/9/2011	<50	<50	<50	<50	<50	<50	<50	NA	NA	NA
	SB-26-9.0	9.0	6/9/2011	<49	<49	<49	<49	<49	<49	<49	NA	NA	NA
SB-27	SB-27-6.0	6.0	6/10/2011	<50	<50	<50	<50	<50	<50	<50	NA	NA	NA
	SB-27-11.0	11.0	6/10/2011	<50	<50	<50	<50	<50	<50	<50	NA	NA	NA
SB-28	SB-28-6.0	6.0	6/10/2011	<49	<49	<49	<49	<49	<49	<49	NA	NA	NA
	SB-28-10.8	10.8	6/10/2011	<49	<49	<49	<49	<49	<49	<49	NA	NA	NA

**Notes**

1. Basics Environmental, Inc., 2009, Limited Phase II Environmental Site Sampling Report, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, March 16.
2. Ninyo & Moore, 2011, Limited Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, January 7.
3. AMEC, 2011, Soil, Groundwater, and Soil Vapor Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, September 27.

**Abbreviations**

- < = not detected at or above the laboratory reporting limit shown
- µg/kg = micrograms per kilogram
- bgs= below ground surface
- m = meter
- NA = not analyzed
- NC = no change to 2008 ESL
- PCBs = polychlorinated biphenyls

**TABLE C-10**

**SUMMARY OF METALS IN SOIL**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in milligrams per kilogram (mg/kg)

Location	Sample ID	Depth (feet bgs)	Date	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Vanadium	Zinc	All Other Metals
<b>Basics February 2009 Investigation <sup>1</sup></b>															
B1	B1-4.0	4.0	2/25/2009	8.9	NA	0.56	0.42	46	NA	25	8	41	NA	56	ND
B6	B6-10.0	10.0	2/25/2009	8.2	NA	0.54	0.31	51	NA	28	7.3	41	NA	61	ND
<b>Ninyo &amp; Moore December 2010 Investigation <sup>2</sup></b>															
NM-B-2	NM-B-2-1.5-2.0	2.0	12/16/2010	6.0	97	<1.0	<1.0	29	9.4	27	12	33	35	56	ND
NM-B-3	NM-B-3-4.5-5.0	5.0	12/16/2010	6.2	100	<1.0	<1.0	28	8.9	25	6.2	33	33	47	ND

Notes

1. Basics Environmental, Inc., 2009, Limited Phase II Environmental Site Sampling Report, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, March 16.
2. Ninyo & Moore, 2011, Limited Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, January 7.

Abbreviations

-- = not applicable  
 < = not detected at or above the laboratory reporting limit shown  
 bgs = below ground surface  
 m = meter  
 mg/kg = milligrams per kilogram  
 NA = not analyzed  
 ND = not detected



**TABLE C-11**

**VOLATILE ORGANIC COMPOUNDS IN GRAB GROUNDWATER SAMPLES<sup>1</sup>**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per liter (µg/L)

Location	Sample ID	Sample Type	Date	Acetone	PCE	TCE	TPHg	All Other VOCs <sup>2</sup>
PRB-01HP	PRB-01HP-19.0	Primary	8/25/2014	<50	<0.50	<0.50	<50	ND
PRB-02HP	PRB-02HP-18.5	Primary	8/19/2014	<50	39	<0.50	<50	ND
	PRB-02HP-23.0	Primary	8/19/2014	<50	59	<0.50	60 R	ND
	PRB-02HP-27.5	Primary	8/21/2014	<50	58	2.8	61 R	ND
	PRB-02HP-33.0	Primary	8/25/2014	<50	2.3	<0.50	<50	ND
PRB-03HP	PRB-03HP-18.0	Primary	8/19/2014	<50	45	<0.50	<50	ND
	PRB-03HP-24.0	Primary	8/19/2014	74	3.3	<0.50	<50	ND
	PRB-03HP-28.0	Primary	8/20/2014	<50	110	2.3	110 R	ND
	PRB-03HP-34.0	Primary	8/25/2014	<50	11	1.3	<50	ND
	PRB-03HP-340.0	Duplicate	8/25/2014	<50	12	1.3	<50	ND
PRB-04HP	PRB-04HP-28.0	Primary	8/26/2014	<50	91	2.1	92 R	ND
	PRB-04HP-280.0	Duplicate	8/26/2014	<50	74	1.9	82 R	ND
P-01HP	P-01HP-19.0	Primary	8/20/2014	<50	2.1	<0.50	<50	ND
P-02HP	P-02HP-18.0	Primary	8/21/2014	70	12	3.0	<50	ND
	P-02HP-27.5	Primary	8/21/2014	<50	40	1.9	<50	ND

Notes

1. Samples were collected by Amec Foster Wheeler between August 19 and August 26, 2014, and analyzed for VOCs by TestAmerica Laboratories, Inc., of Pleasanton, California, using U.S. EPA Method 8260B.
2. Laboratory results for all other VOCs were reviewed for quality control purposes and were determined to be less than the method reporting limits, with all compound reporting limits below their respective screening levels.

Abbreviations

< = not detected at or above the laboratory reporting limit shown  
 µg/L = micrograms per liter  
 PCE = tetrachloroethene  
 R = the sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria; the presence or absence of the analyte cannot be verified  
 TCE = trichloroethene  
 U.S. EPA = United States Environmental Protection Agency  
 VOCs = volatile organic compounds

TABLE C-12

## SUMMARY VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per liter (µg/L)

Location	Sample ID	Sample Type	Date	Acetone	Benzene	Bromo-dichloro-methane	Chloro-benzene	Chloro-form	Dibromo-chloro-methane	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	1,1-Dichloro-ethene	cis-1,2-Dichloro-ethene	trans-1,2-Dichloro-ethene	Ethyl-benzene	Methyl tert-butyl ether	Naphthalene	n-Propyl-benzene	PCE	Toluene	1,2,4-Trichloro-benzene	TCE	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Xylenes, Total	All Other VOCs	
<b>Basics February 2009 Investigation <sup>1</sup></b>																												
B1	B1-W	Primary	2/25/2009	54	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<5.0	1.2	<0.5	<0.5	3.0	<0.5	<0.5	4.8	1.9	12	NA	
B2	B2-W	Primary	2/25/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	0.77	<0.5	<0.5	<0.5	<0.5	<0.5	NA	
B3	B3-W	Primary	2/24/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	0.65	<0.5	0.66	NA	
B4	B4-W	Primary	2/25/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	0.56	<0.5	<0.5	<0.5	<0.5	<0.5	NA	
B5	B5-W	Primary	2/24/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	NA	
B7	B7-W	Primary	2/24/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	
B8	B8-W	Primary	2/24/2009	<10	<b>2.9</b>	<5.0	<b>370</b>	<5.0	<5.0	<b>140</b>	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<b>9.6</b>	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	
B9	B9-W	Primary	2/25/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.94	<0.5	<0.5	<0.5	0.84	<0.5	<0.5	<0.5	<0.5	<0.5	NA	
B10	B10-W	Primary	2/24/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	1.9	0.58	<0.5	<0.5	<0.5	<0.5	<0.5	NA	
<b>AMEC September 2010 Investigation <sup>2</sup></b>																												
SB-01	SB-01	Primary	9/27/2010	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	0.11 J	<0.5	<0.5	<0.5	<1.0	<1.0	<b>44</b>	<0.5	<1.0	3.7	<0.5	<0.5	<1.0	NA	
SB-02	SB-02	Primary	9/27/2010	<50	0.087 J	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	0.18 J	2.1	0.34 J	<0.5	<0.5	<1.0	<1.0	<b>15</b>	<0.5	<1.0	<b>60</b>	<0.5 UJ	<0.5	<1.0	NA	
SB-03	SB-03	Primary	9/28/2010	<50	<b>1.5</b>	<0.5	<b>85</b>	<1.0	<0.5	<b>42</b>	<0.5	1.3	<0.5	1.3	<0.5	<0.5	<0.5	<1.0	<1.0	3.2	<0.5	<1.0	0.96	<0.5	<0.5	<1.0	NA	
SB-04	SB-04	Primary	9/27/2010	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	<0.5	NA	NA	NA	NA	<1.0	NA	
	SB-40	Duplicate	9/27/2010	NA	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	<0.5	NA	NA	NA	<0.5	NA	NA	NA	NA	<1.0	NA	
<b>Ninyo &amp; Moore September 2010 Investigation <sup>3</sup></b>																												
NM-B-1	NM-B-1-GW	Primary	12/16/2010	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	ND
NM-B-4	NM-B-4-GW	Primary	12/16/2010	NA	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	NA	NA	NA	<0.50	NA	NA	NA	NA	NA	NA	ND
NM-B-5	NM-B-5-GW	Primary	12/16/2010	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	ND
NM-B-6	NM-B-6-GW	Primary	12/16/2010	NA	<b>12</b>	<1.0	<b>620</b>	<1.0	<1.0	<b>350</b>	<1.0	<b>11</b>	<1.0	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	3.5	<1.0	<1.0	1.4	<1.0	<1.0	NA	ND	
<b>AMEC May-August 2011 Investigation <sup>4</sup></b>																												
SB-13	SB-13-GW-2	Primary	5/16/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
	SB-13-GW-3	Primary	5/16/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-15	SB-15-GW	Primary	6/7/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<b>19</b>	<0.5	<1.0	1.0	<0.5	<0.5	<1.0	ND	
SB-16	SB-16-GW	Primary	6/7/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<b>37</b>	<0.5	<1.0	1.5	<0.5	<0.5	<1.0	ND	
SB-17	SB-17-GW	Primary	6/7/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-18	SB-18	Primary	6/8/2011	<50 UJ	<b>2.1</b>	<0.5	<b>320</b>	<1.0	<0.5	<b>650</b>	<0.5	<b>15</b>	<0.5	1.2	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-19	SB-19	Primary	6/9/2011	<50 UJ	<0.5	<0.5	1.4	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	1.1	<0.5	<1.0	0.51	<0.5	<0.5	<1.0	ND	
	SB-190	Duplicate	6/9/2011	<50 UJ	<0.5	<0.5	1.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	0.53	<0.5	<0.5	<0.5	<1.0	<1.0	1.1	<0.5	<1.0	0.53	<0.5	<0.5	<1.0	ND	
SB-20	SB-20	Primary	6/9/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	1.4	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-21	SB-21-GW	Primary	6/8/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-23	SB-23	Primary	6/8/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	3.6	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-24	SB-24	Primary	6/8/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-25	SB-25	Primary	6/9/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	6.6	0.81	3.7	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	0.62	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-26	SB-26	Primary	6/9/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	0.98	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-27	SB-27	Primary	6/10/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-28	SB-28	Primary	6/10/2011	<50 UJ	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	4.6	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
SB-31	SB-31	Primary	7/26/2011	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	ND	
<b>Ninyo &amp; Moore August-September 2011 Investigation <sup>5</sup></b>																												
NM-B-7	NM-B-7-W	Primary	8/12/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	<0.50	<0.50	<0.50	0.9	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	ND
NM-B-9	NM-B-9-W	Primary	8/12/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	0.92	<0.50	<0.50	<0.50	0.97	<0.50	<0.50	NA	<0.50	<0.50	0.87	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	ND
NM-B-13	NM-B-13-W	Primary	8/10/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	ND
NM-B-17	NM-B-17-W	Primary	8/11/2011	NA	<0.50	<0.50	<0.																					

TABLE C-12

SUMMARY VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per liter (µg/L)

Location	Sample ID	Sample Type	Date	Acetone	Benzene	Bromo-dichloro-methane	Chloro-benzene	Chloro-form	Dibromo-chloro-methane	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	1,1-Dichloro-ethene	cis-1,2-Dichloro-ethene	trans-1,2-Dichloro-ethene	Ethyl-benzene	Methyl tert-butyl ether	Naphthalene	n-Propyl-benzene	PCE	Toluene	1,2,4-Trichloro-benzene	TCE	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Xylenes, Total	All Other VOCs
NM-B-27	NM-B-27W	Primary	8/9/2011	NA	<0.50	<0.50	<0.50	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	ND
NM-B-28	NM-B-28-W	Primary	8/10/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	16	<0.50	<0.50	48	<0.50	<0.50	NA	ND
NM-B-29	NM-B-29-W	Primary	8/10/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	53	<0.50	<0.50	3.7	<0.50	<0.50	NA	ND
NM-B-30	NM-B-30-W	Primary	8/10/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.75	<0.50	<0.50	NA	<0.50	<0.50	58	<0.50	<0.50	18	<0.50	<0.50	NA	ND
NM-B-31	NM-B-31-W	Primary	8/10/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	1.3	<0.50	<0.50	<0.50	<0.50	<0.50	NA	ND
NM-B-32	NM-B-32-W	Primary	8/10/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	190	<0.50	<0.50	1.0	<0.50	<0.50	NA	ND
NM-B-32A	NM-B-32A-W	Primary	9/8/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	72	<0.50	<0.50	0.71	<0.50	<0.50	NA	ND
NM-B-33	NM-B-33-W	Primary	8/10/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	25	<0.50	<0.50	2.1	<0.50	<0.50	NA	ND
NM-B-34	NM-B-34W	Primary	8/9/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	27	<0.50	<0.50	0.5	<0.50	<0.50	NA	ND
NM-B-35	NM-B-35-W	Primary	8/10/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	ND
NM-B-36	NM-B-36-W	Primary	8/10/2011	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	ND
AMEC October 2011 Remediation Confirmation Sampling <sup>6</sup>																											
SUMP-EXB-1	SUMP-EXB-WATER-1-16	Primary	10/26/2011	<500	8.2	<5.0	2,800	<10	<5.0	18,000	7.6	250	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	12	<5.0	24	8.3	<10	ND
		Split	10/26/2011	10	7.0	<1	2,400	<1	<1	21,000 J	6.8	240	<1	<1	<1	<1	<1	<1	1.7	3.1	3.5	<1	12	<1	23	8.0	NA
SUMP-EXB-2	SUMP-EXB-WATER-2-16	Primary	10/28/2011	<50	6.3	<0.5	3,000	<1.0	<0.5	21,000	4.5	130	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	1.5	6.5	0.58	6.6	<0.5	8.3	3.7	1.8	ND
		Split	10/28/2011	<50	7.1	<1	2,100	<1	<1	11,000	4.0	130	<1	<1	<1	<1	<1	<1	1.3	8.9	<1	5.1	<1	9.1	3.3	NA	ND
AMEC August-September 2012 Investigation <sup>7</sup>																											
SB-33	SB-33	Primary	8/28/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	130	<0.50	<1.0	0.57	<0.50	<0.50	<1.0	ND
SB-34	SB-34	Primary	8/27/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	210	<0.50	<1.0	<2.5	<0.50	<0.50	<1.0	ND
SB-35	SB-35	Primary	8/28/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	170	<0.50	<1.0	0.58	<0.50	<0.50	<1.0	ND
SB-38	SB-38	Primary	8/28/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	100	<0.50	<1.0	2.0	<0.50	<0.50	<1.0	ND
SB-39	SB-39	Primary	8/28/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	120	<0.50	<1.0	2.0	<0.50	<0.50	<1.0	ND
	SB-390	Duplicate	8/28/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	140	<0.50	<1.0	1.8	<0.50	<0.50	<1.0	ND
SB-40	SB-40	Primary	8/29/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	160	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
SB-41	SB-41	Primary	8/29/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	53	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
SB-42	SB-42	Primary	9/4/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	140	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
SB-43	SB-43	Primary	9/4/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	25	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
SB-44	SB-44	Primary	9/5/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	7.3	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
SB-45	SB-45	Primary	9/5/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	70	<0.50	<1.0	0.59	<0.50	<0.50	<1.0	ND
SB-46	SB-46	Primary	9/5/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	0.8	<0.50	<0.50	<0.50	<1.0	<1.0	45	<0.50	<1.0	8.5	<0.50	<0.50	<1.0	ND
MP-01	MP-01-1	Primary	9/10/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	120	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
	MP-01-2	Primary	9/10/2012	130 <sup>8</sup>	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
	MP-01-3	Primary	9/10/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
MP-02	MP-02-1	Primary	9/10/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	<0.50	<0.50	<0.50	<1.0	<1.0	1.2	<0.50	<1.0	15	<0.50	<0.50	<1.0	ND
	MP-02-10	Duplicate	9/10/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	<0.50	<0.50	<0.50	<1.0	<1.0	1.6	<0.50	<1.0	19	<0.50	<0.50	<1.0	ND
	MP-02-2	Primary	9/10/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
MP-03	MP-02-3	Primary	9/10/2012	130 <sup>8</sup>	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
	MP-03-1	Primary	9/10/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	120	<0.50	<1.0	6.4	<0.50	<0.50	<1.0	ND
MP-04	MP-03-3	Primary	9/10/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
	MP-04-1	Primary	9/10/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	4.0	<0.50	<1.0	1.3	<0.50	<0.50	<1.0	ND
	MP-04-2	Primary	9/10/2012	100 <sup>8</sup>	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
MW-01	MP-04-3	Primary	9/10/2012	150 <sup>8</sup>	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	ND
	MW-01-(17-22)-GW <sup>9</sup>	Primary	8/30/2012	<50 UJ	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	150	<0.50	<1.0	1.1	<0.50	<0.50	<1.0	ND
	MW-01	Primary</																									

**TABLE C-12**

**SUMMARY VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Notes

1. Basics Environmental, Inc., 2009, Limited Phase II Environmental Site Sampling Report, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, March 16. Note that each sample was analyzed for benzene, ethylbenzene, toluene, and xylenes by two different U.S. EPA methods (U.S. EPA Methods 8260B and 8021). The greater of the two results for each constituent is shown herein.
2. AMEC, 2011, Revised Soil and Groundwater Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, April 4.
3. Ninyo & Moore, 2011, Limited Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, January 7.
4. AMEC, 2011, Soil, Groundwater, and Soil Vapor Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, September 27.
5. Ninyo & Moore, 2011, Additional Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, September 16.
6. AMEC, 2011, Remediation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, December 21.
7. Samples were collected by AMEC in August and September 2012, and analyzed by TestAmerica Laboratories, Inc., of Pleasanton, California, for VOCs using U.S. EPA Method 8260B.
8. Acetone is a common laboratory contaminant and is not a constituent of concern in shallow groundwater; acetone detected in deeper groundwater may not be representative.
9. Results are shown for grab groundwater samples collected from borings MW-01 through MW-03 before the pre-pack monitoring wells were installed.

Abbreviations and Data Qualifiers

< = not detected at or above the laboratory reporting limit shown

-- = not applicable

J = the analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample

NA = not analyzed

PCE = tetrachloroethene

TCE = trichloroethene

µg/L = micrograms per liter

UJ = the analyte was not detected at a level greater than or equal to the quantitation limit shown; the quantitation limit is approximate and may be inaccurate or imprecise.

U.S. EPA = United States Environmental Protection Agency

VOCs = volatile organic compounds

TABLE C-13

SUMMARY OF TOTAL PETROLEUM HYDROCARBONS AND POLYNUCLEAR AROMATIC HYDROCARBONS IN GROUNDWATER

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per liter (µg/L)

Location	Sample ID	Sample Type	Date	TPHg	TPHd (unfiltered)	TPHd (Filtered) <sup>1</sup>	TPHmo (unfiltered)	TPHmo (filtered) <sup>1</sup>	TPHho (unfiltered)	TPHho (Filtered)	TPH-Stoddard Solvent	TPH-Kerosene	TPH-Bunker Oil	PAHs	
														Naphthalene	All other PAHs
<b>Basics February 2009 Investigation <sup>2</sup></b>															
B1	B1-W	Primary	2/25/2009	65	2,400	NA	2,100	NA	NA	NA	57	1,500	2,700	NA	NA
B2	B2-W	Primary	2/25/2009	<50	6,400	NA	49,000	NA	NA	NA	<50	1,200	58,000	NA	NA
B3	B3-W	Primary	2/24/2009	<50	930	NA	4,500	NA	NA	NA	<50	230	6,100	NA	NA
B4	B4-W	Primary	2/25/2009	<50	600	NA	3,200	NA	NA	NA	<50	110	4,100	NA	NA
B5	B5-W	Primary	2/24/2009	<50	65	NA	<250	NA	NA	NA	<50	<50	170	NA	NA
B7	B7-W	Primary	2/24/2009	<50	62	NA	410	NA	NA	NA	<50	<50	470	NA	NA
B8	B8-W	Primary	2/24/2009	550	230	NA	270	NA	NA	NA	170	180	530	NA	NA
B9	B9-W	Primary	2/25/2009	<50	3,400	NA	22,000	NA	NA	NA	<50	<500	25,000	NA	NA
B10	B10-W	Primary	2/24/2009	<50	2,400	NA	23,000	NA	NA	NA	<50	<1,000	25,000	NA	NA
<b>AMEC September 2010 Investigation <sup>3</sup></b>															
SB-01	SB-01	Primary	9/27/2010	49 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-02	SB-02	Primary	9/27/2010	63	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-03	SB-03	Primary	9/28/2010	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-04	SB-04	Primary	9/27/2010	<50	<51	<52	<300	<310	NA	NA	NA	NA	NA	<1.0	ND
	SB-40	Duplicate	9/27/2010	<50	<52	<53	<310	<320	NA	NA	NA	NA	NA	<1.0	ND
SB-05	SB-05	Primary	9/28/2010	NA	<51	<52	<300	<310	NA	NA	NA	NA	NA	<0.1	ND
SB-06	SB-06	Primary	9/28/2010	NA	<51	<53	<310	<320	NA	NA	NA	NA	NA	<0.1	ND
SB-10	SB-10	Primary	9/28/2010	NA	<51	<53	<300	<320	NA	NA	NA	NA	NA	<1.0	ND
SB-11	SB-11	Primary	9/27/2010	NA	<51	<52	<300	<310	NA	NA	NA	NA	NA	<1.0	ND
SB-12	SB-12	Primary	9/28/2010	NA	11 J	<52	<310	<310	NA	NA	NA	NA	NA	<0.1	ND
<b>Ninyo &amp; Moore December 2010 Investigation <sup>4</sup></b>															
NM-B-1	NM-B-1-GW	Primary	12/16/2010	NA	<50	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA
NM-B-2	NM-B-2-GW	Primary	12/16/2010	NA	<50	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA
NM-B-3	NM-B-3-GW	Primary	12/16/2010	NA	<50	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA
NM-B-4	NM-B-4-GW	Primary	12/16/2010	<50	<50	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA
NM-B-5	NM-B-5-GW	Primary	12/16/2010	<50	<50	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA
NM-B-6	NM-B-6-GW	Primary	12/16/2010	1,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>AMEC May-July 2011 Investigation <sup>5</sup></b>															
SB-13	SB-13-GW-2	Primary	5/16/2011	<50	<120	NA	<250	NA	NA	NA	NA	NA	NA	NA	NA
	SB-13-GW-3	Primary	5/16/2011	<50	<50	<50	<99	<99	NA	NA	NA	NA	NA	<0.1	NA
SB-15	SB-15-GW	Primary	6/7/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.11	NA
SB-16	SB-16-GW	Primary	6/7/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-17	SB-17-GW	Primary	6/7/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-18	SB-18	Primary	6/8/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA
SB-19	SB-19	Primary	6/9/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA
	SB-190	Primary	6/9/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.11	NA

TABLE C-13

SUMMARY OF TOTAL PETROLEUM HYDROCARBONS AND POLYNUCLEAR AROMATIC HYDROCARBONS IN GROUNDWATER

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per liter (µg/L)

Location	Sample ID	Sample Type	Date	TPHg	TPHd (unfiltered)	TPHd (Filtered) <sup>1</sup>	TPHmo (unfiltered)	TPHmo (filtered) <sup>1</sup>	TPHho (unfiltered)	TPHho (Filtered)	TPH-Stoddard Solvent	TPH-Kerosene	TPH-Bunker Oil	PAHs	
														Naphthalene	All other PAHs
SB-20	SB-20	Primary	6/9/2011	NA	NA	NA	NA	NA	1,500 J	<530	NA	NA	NA	<0.11	NA
SB-21	SB-21-GW	Primary	6/8/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-23	SB-23	Primary	6/8/2011	NA	NA	NA	NA	NA	<500	37 J	NA	NA	NA	NA	NA
SB-24	SB-24	Primary	6/8/2011	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	ND
SB-25	SB-25	Primary	6/9/2011	NA	NA	NA	NA	NA	<520	<520	NA	NA	NA	<0.11	NA
SB-26	SB-26	Primary	6/9/2011	NA	NA	NA	NA	NA	<510	<540	NA	NA	NA	NA	NA
SB-27	SB-27	Primary	6/10/2011	NA	NA	<51	NA	<100	<520	<510	NA	NA	NA	NA	NA
SB-28	SB-28	Primary	6/10/2011	NA	NA	NA	NA	NA	55 J	<520	NA	NA	NA	1.7	NA
SB-31	SB-31	Primary	7/26/2011	NA	<52	<51	60 J	<100	<520	<510	NA	NA	NA	NA	NA
<b>Ninyo &amp; Moore August-September 2011 Investigation <sup>6</sup></b>															
NM-B-7	NM-B-7-W	Primary	8/12/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-8	NM-B-8-W	Primary	8/12/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-9	NM-B-9-W	Primary	8/12/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-10	NM-B-10-W	Primary	8/12/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-11	NM-B-11-W	Primary	8/12/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-12	NM-B-12-W	Primary	8/12/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-13	NM-B-13-W	Primary	8/10/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-14	NM-B-14-W	Primary	8/12/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-15	NM-B-15-W	Primary	8/12/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-16	NM-B-16-W	Primary	8/12/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-17	NM-B-17-W	Primary	8/11/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
NM-B-18	NM-B-18-W	Primary	8/10/2011	NA	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA
<b>AMEC October 2011 Remediation Confirmation Sampling <sup>7</sup></b>															
SUMP-EXB-1	SUMP-EXB-WATER-1-16	Primary	10/26/2011	<25,000	NA	2,200 J <sup>8</sup>	NA	<120	NA	NA	NA	NA	NA	NA	NA
		Split	10/26/2011	3,900 J <sup>8</sup>	NA	5,200 J <sup>8</sup>	NA	<50	NA	NA	NA	NA	NA	NA	NA
SUMP-EXB-2	SUMP-EXB-WATER-2-16	Primary	10/28/2011	<100,000	NA	6,200 J <sup>8</sup>	NA	<110	NA	NA	NA	NA	NA	NA	NA
		Split	10/28/2011	4,900 J <sup>8</sup>	NA	5,600 J <sup>8</sup>	NA	64 J	NA	NA	NA	NA	NA	NA	NA
<b>AMEC August-September 2012 Investigation <sup>9</sup></b>															
SB-33	SB-33	Primary	8/28/2012	140 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-34	SB-34	Primary	8/27/2012	200 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-35	SB-35	Primary	8/28/2012	170 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-38	SB-38	Primary	8/28/2012	110 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-39	SB-39	Primary	8/28/2012	110 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-390	Duplicate	8/28/2012	150 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-40	SB-40	Primary	8/29/2012	130 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-41	SB-41	Primary	8/29/2012	62 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-42	SB-42	Primary	9/4/2012	120 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE C-13

SUMMARY OF TOTAL PETROLEUM HYDROCARBONS AND POLYNUCLEAR AROMATIC HYDROCARBONS IN GROUNDWATER

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per liter (µg/L)

Location	Sample ID	Sample Type	Date	TPHg	TPHd (unfiltered)	TPHd (Filtered) <sup>1</sup>	TPHmo (unfiltered)	TPHmo (filtered) <sup>1</sup>	TPHho (unfiltered)	TPHho (Filtered)	TPH-Stoddard Solvent	TPH-Kerosene	TPH-Bunker Oil	PAHs		
														Naphthalene	All other PAHs	
SB-43	SB-43	Primary	9/4/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-44	SB-44	Primary	9/5/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-45	SB-45	Primary	9/5/2012	61 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-46	SB-46	Primary	9/5/2012	67 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MP-01	MP-1-1	Primary	9/10/2012	110 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MP-1-2	Primary	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MP-1-3	Primary	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MP-02	MP-2-1	Primary	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MP-2-10	Duplicate	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MP-2-2	Primary	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MP-2-3	Primary	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MP-03	MP-3-1	Primary	9/10/2012	140 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MP-3-3	Primary	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MP-04	MP-4-1	Primary	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MP-4-2	Primary	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MP-4-3	Primary	9/10/2012	86	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-01	MW-01-(17-22)-GW <sup>10</sup>	Primary	8/30/2012	150 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-1	Primary	9/10/2012	120 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-10	Duplicate	9/10/2012	140 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-02	MW-02-(15-20)-GW <sup>10</sup>	Primary	8/30/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-2	Primary	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-03	MW-03-(15-20)-GW <sup>10</sup>	Primary	8/31/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-3	Primary	9/10/2012	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes

1. Extra sample volume for samples for TPHd and TPHmo analyses was filtered at the laboratory prior to analysis using a 0.7-micron glass fiber filter.
2. Basics Environmental, Inc., 2009, Limited Phase II Environmental Site Sampling Report, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, March 16. It should be noted that the elevated concentrations of TPH detected in groundwater during this investigation are not believed to be representative, as subsequent investigations have not replicated any of the TPHd and TPHmo results generated from the Basics investigation. It is our interpretation that the anomalous data is not the result of a laboratory issue, but likely resulted from sample collection procedures that may have compromised the representativeness of the samples.
3. AMEC, 2011, Revised Soil and Groundwater Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, April 4.
4. Ninyo & Moore, 2011, Limited Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, January 7.
5. AMEC, 2011, Soil, Groundwater, and Soil Vapor Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, September 27. Groundwater,
6. Ninyo & Moore, 2011, Additional Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, September 16.
7. AMEC, 2011, Remediation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, December 21.
8. The laboratory (Friedman & Bruya, Inc., of Seattle, Washington) indicated that the sample chromatographic pattern does not resemble the fuel standard used for quantitation.
9. Samples were collected by AMEC in August and September 2012, and analyzed by TestAmerica Laboratories, Inc., of Pleasanton, California, for TPHg using U.S. EPA Method 8260B.
10. Results are shown for grab groundwater samples collected from borings MW-01 through MW-03 before the pre-pack monitoring wells were installed.

**TABLE C-13**

**SUMMARY OF TOTAL PETROLEUM HYDROCARBONS AND POLYNUCLEAR AROMATIC HYDROCARBONS IN GROUNDWATER**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Abbreviations

-- = not applicable

< = not detected at or above the laboratory reporting limit shown

µg/L = micrograms per liter

J = the analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample

NA = not analyzed

PAHs = polynuclear aromatic hydrocarbons

TPHd = total petroleum hydrocarbons quantified as diesel

TPHg = total petroleum hydrocarbons quantified as gasoline

TPHho = total petroleum hydrocarbons quantified as hydraulic oil

TPHmo = total petroleum hydrocarbons quantified as motor oil

R = the sample results are rejected due to serious deficiencies in the ability to meet quality control criteria; the presence or absence of the analyte cannot be verified

U.S. EPA = United States Environmental Protection Agency



**TABLE C-14**

**SUMMARY OF METALS IN GROUNDWATER**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per liter (µg/L)

Location	Sample ID	Date	Antimony	Arsenic	Total Chromium <sup>1</sup>	Dissolved Chromium <sup>2</sup>	Hexavalent Chromium	Copper	Mercury	Nickel	Selenium	All Other Metals
<b>Basics February 2009 Investigation <sup>3</sup></b>												
B1	B1-W	2/25/2009	0.64	3.9	59	NA	NA	1.7	0.017	0.86	0.88	ND
B10	B10-W	2/24/2009	<0.5	1.8	<0.5	NA	NA	<0.5	<0.012	3.6	<0.5	ND
<b>AMEC Geomatrix Fall 2010 Investigation <sup>4</sup></b>												
SB-05	SB-05	9/28/2010	NA	NA	20	2.5 J-	1.1	NA	NA	NA	NA	NA
SB-06	SB-06	9/28/2010	NA	NA	250	2.3 J-	0.94	NA	NA	NA	NA	NA

Notes

1. The work plan specified that the samples would be analyzed for dissolved total chromium; however, the laboratory initially performed the analyses with unfiltered samples. Therefore, the resultant total chromium values likely overestimate the concentration of chromium that is dissolved in groundwater.
2. The work plan specified that the samples would be analyzed for dissolved total chromium; however, the laboratory initially performed the analyses with unfiltered samples. After this error was noted, Amec Foster Wheeler requested that the analytical laboratory filter some remaining sample volume (from a different, unpreserved container) and perform a dissolved total chromium analysis on each sample. However, since the unfiltered samples were stored in unpreserved glass containers, rather than being filtered and then stored in preserved plastic containers as required by the analytical method, the dissolved total chromium results were qualified as estimated and may be biased low.
3. Basics Environmental, Inc., 2009, Limited Phase II Environmental Site Sampling Report, 7544 Dublin Boulevard & 6707 Golden Gate Drive, Dublin, California, March 16.
4. AMEC, 2011, Revised Soil and Groundwater Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, April 4.

Abbreviations and Data Qualifiers

- < = not detected at or above the laboratory reporting limit
- = not applicable
- µg/L = micrograms per liter
- ESL = Environmental Screening Level
- J- = the result is an estimated quantity and may be biased low
- NA = not analyzed
- NC = no change to 2008 ESL
- ND = not detected

**TABLE C-15**

**SUMMARY OF GLYCOLS IN GROUNDWATER**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Concentrations reported in micrograms per liter (µg/L)

Location	Sample ID	Date	Glycols <sup>2</sup>
<b>Basics February 2009 Investigation <sup>1</sup></b>			
B4	B4-W	2/25/2009	<0.2
B10	B10-W	2/24/2009	<0.2

Notes

1. Samples collected by Basics Environmental, Inc., and analyzed by McCampbell Analytical, Inc., of Pittsburgh California. Samples were analyzed for glycols using Method MAI Alcohols.
2. Glycols analyzed include ethylene glycol monobutyl ether (EGBE), ethylene glycol monoethyl ether (EGEE), and ethylene glycol monomethyl ether (EGME).

Abbreviations

< = not detected at or above the laboratory reporting limit shown  
NL = not listed  
µg/L = micrograms per liter

TABLE C-16

## SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND NAPHTHALENE IN SOIL VAPOR

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Location	Sample ID	Sample Type	Depth (feet bgs)	Date	Acetone	Benzene	Bromo-dichloro-methane	Bromo-methane	2-Butanone	Carbon Disulfide	Chloro-benzene	Chloro-form	Cyclo-hexane	Dibromo-chloro-methane	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	Dichloro-difluoro-methane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene
<b>December 2010 Investigation<sup>1</sup></b>																					
SV-1	SV-1	Primary	4.0-5.0	12/16/2010	170	150	<14	<7.9	<150	25	<9.4	<9.9	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-2	SV-2	Primary	0.50	12/15/2010	<10,000	<500	<500	<500	<2,000	<500	<500	<500	NA	<500	32,000	880	2,200	<500	<500	<500	<500
SV-3	SV-3	Primary	0.50	12/15/2010	1,900	<6.5	<14	<7.9	<150	<6.3	22	<9.9	<180	<17	4,400	970	3,300	<10	87	<8.2	<8.1
SV-4	SV-4	Primary	0.50	12/15/2010	<120	<6.5	<14	<7.9	<150	<6.3	<9.4	<9.9	<180	<17	20	<12	<12	<10	<8.2	<8.2	<8.1
SV-5	SV-5	Primary	0.50	12/15/2010	<120	<6.5	<14	150	<150	<6.3	<9.4	<9.9	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-6	SV-6	Primary	0.50	12/16/2010	<120	<6.5	<14	<7.9	<150	<6.3	<9.4	<9.9	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
<b>August 2011 Investigation<sup>2</sup></b>																					
SG-01	SG-01	Primary	5.5	6/9/2011	37 J	<3.8	<8.0	<4.6	<14	<15	<5.5	<5.8	<4.1	<10	<7.2	<7.2	<7.2	<5.9	<4.8	<4.8	<4.7
SG-02	SG-02	Primary	5.5	6/9/2011	30 J	<6.9	<14	<8.4	<25	<27	<9.9	<10	<7.4	<18	<13	<13	<13	<11	<8.7	8.8	<8.6
SG-03	SG-03	Primary	5.5	6/9/2011	<150	120 J	<100	<60	<180	<190	<72	<76	140 J	<130	<93	<93	<93	<77	<63	<63	120 J
SG-04	SG-04	Primary	5.5	6/9/2011	120 J	140	<61	<36	<110	<110	<42	<45	110	<78	<55	<55	<55	<45	<37	<37	150
SG-05	SG-05	Primary	5.5	6/9/2011	12 J	3.6	<7.1	<4.1	<12	<13	<4.9	21	<3.7	<9.1	<6.4	<6.4	<6.4	6.6	<4.3	<4.3	<4.2
SG-06	SG-06	Primary	4.5	6/9/2011	76 J	<3.6	<7.5	<4.3	<13	15	<5.2	<5.5	<3.8	<9.5	<6.7	<6.7	<6.7	9.2	<4.5	<4.5	<4.4
	SG-60	Duplicate	4.5	6/9/2011	34 J	<3.8	<8.0	<4.6	<14	15	<5.5	<5.8	<4.1	<10	<7.2	<7.2	<7.2	8.4	<4.8	<4.8	<4.7
SG-07	SG-07	Primary	4.5	6/9/2011	55 J	27	11	<4.5	<14	46	<5.4	47	8.2	<9.9	<7.0	<7.0	<7.0	<5.8	17	<4.7	<4.6
SG-08	SG-08	Primary	4.5	6/9/2011	79 J	68	8.7	<4.1	16	86	860	28	9.4	<9.1	440	<6.4	<6.4	<5.3	14	4.5	<4.2
<b>August 2011 Investigation<sup>3</sup></b>																					
SV-7	SV-7	Primary	1.0-1.5	8/23/2011	<120	<6.5	<14	<7.9	<150	<6.3	<9.4	<9.9	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-8	SV-8	Primary	4-5	8/16/2011	210	55	<14	<7.9	<150	35	<9.4	<9.9	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-9	SV-9	Primary	2.5-3.0	8/18/2011	440	44	56	<7.9	<150	38	<9.4	110	<180	23	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-10	SV-10	Primary	4-5	8/16/2011	300	12	<14	<7.9	<150	11	<9.4	<9.9	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-11	SV-11	Primary	4-5	8/18/2011	<120	74	35	<7.9	<150	28	<9.4	270	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-12	SV-12	Primary	4-5	8/16/2011	<1,200	90	46	<7.9	430	44	<9.4	120	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-13	SV-13	Primary	4-5	8/18/2011	<10,000	<500	<500	<500	<2,000	<500	<500	<500	NA	<500	<500	<500	<500	<500	<500	<500	640
SV-14	SV-14	Primary	4-5	8/18/2011	<10,000	<500	<500	<500	<2,000	<500	<500	<500	NA	<500	<500	<500	<500	<500	<500	<500	560
SV-15	SV-15	Primary	2.5-3.0	8/18/2011	280	160	<14	<7.9	180	36	<9.4	44	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-16	SV-16	Primary	1.5-2.0	8/18/2011	<120	1,300	<14	<7.9	<150	29	<9.4	<9.9	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-17	SV-17	Primary	4-5	8/16/2011	<1,200	100	19	<7.9	440	49	<9.4	72	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-18	SV-18	Primary	2.5-3.0	8/18/2011	440	130	24	<7.9	260	170	<9.4	70	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-19	SV-19	Primary	4-5	8/17/2011	170	8.7	<14	<7.9	<150	71	<9.4	74	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-20	SV-20	Primary	0.5-1.0	8/23/2011	150	<6.5	<14	<7.9	<150	<6.3	<9.4	<9.9	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-21	SV-21	Primary	4-5	8/16/2011	150	32	83	<7.9	270	7.4	<9.4	150	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-22	SV-22	Primary	4.5-5.5	8/17/2011	<120	13	<14	<7.9	<150	9.7	<9.4	<9.9	<180	<17	<12	<12	<12	<10	<8.2	<8.2	<8.1
SV-23	SV-23	Primary	3.5-4.0	8/17/2011	<10,000	<500	<500	<500	<2,000	<500	<500	<500	NA	<500	<500	<500	<500	<500	<500	<500	840
SV-24	SV-24	Primary	3.5-4.0	8/17/2011	170	170	28	<7.9	<150	51	<9.4	<9.9	<180	<17	<12	<12	<12	<10	<8.2	<8.2	11
<b>September 2012 Investigation<sup>4</sup></b>																					
SG-13	SG-13A	Primary	3.5-4.5	9/4/2012	<31 R	11	<8.6	<50	<15	<16	<5.9	<6.3	<4.4	<11	<7.8	<7.8	<7.8	<6.4	<5.2	<5.2	<5.1 UJ
	SG-13B	Primary	7.5-8.5	9/4/2012	<30 R	4.2	<8.4	<49	<15	<16	6.1	<6.2	<4.3	<11	<7.6	<7.6	<7.6	<6.2	<5.1	<5.1	<5.0 UJ
SG-14	SG-14A	Primary	3.5-4.5	9/4/2012	<33	<4.5	<9.4	<55	<17	<18	6.9	<6.9	<4.8	<12	<8.5	<8.5	<8.5	<7.0	<5.7	<5.7	<5.6
	SG-14B	Primary	7.5-8.5	9/4/2012	<33 R	<4.4	<9.2	<54	<16	<17	<6.4	<6.7	<4.8	<12	<8.3	<8.3	<8.3	<6.8	<5.6	<5.6	<5.5 UJ
	SG-19A	Duplicate	7.5-8.5	9/4/2012	<33	4.9	<9.2	<54	<16	<17	<6.4	<6.7	<4.8	<12	<8.3	<8.3	<8.3	<6.8	<5.6	<5.6	<5.5
SG-15	SG-15A	Primary	3.5-4.5	9/4/2012	28	<3.9	<8.1	<47	<14	<15	<5.6	<5.9	<4.2	<10	<7.3	<7.3	<7.3	<6.0	<4.9	<4.9	<4.8
	SG-15B	Primary	7.5-8.5	9/4/2012	<30	<4.0	<8.4	<49	<15	<16	<5.8	<6.2	<4.3	<11	<7.6	<7.6	<7.6	<6.2	<5.1	<5.1	<5.0
SG-16	SG-16A	Primary	3.5-4.5	9/4/2012	<29	17	<8.1	<47	<14	27	5.6	<5.9	<4.2	<10	<7.3	<7.3	<7.3	<6.0	<4.9	<4.9	<4.8
	SG-16B	Primary	7.5-8.5	9/4/2012	<36	<4.9	<10	<59	<18	<19	<7.0	<7.4	<5.2	<13	<9.2	<9.2	<9.2	<7.5	<6.2	<6.2	<6.0

TABLE C-16

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND NAPHTHALENE IN SOIL VAPOR

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Location	Sample ID	Sample Type	Depth (feet bgs)	Date	cis-1,2-Dichloro-ethene	trans-1,2-Dichloro-ethene	Ethanol	Ethyl acetate	Ethyl-benzene	4-Ethyl-toluene	Heptane	Hexane	Isopropyl-benzene	Methyl tert-butyl ether	Methylene Chloride	4-Methyl-2-pentanone	Naphthalene	Propene	n-Propyl-benzene	tert-Butyl Alcohol	PCE
<b>December 2010 Investigation<sup>1</sup></b>																					
SV-1	SV-1	Primary	4.0-5.0	12/16/2010	<8.1	<8.1	<96	<7.3	<8.8	<10	<210	<180	NA	280	<7.1	<8.3	<11	<88	NA	<62	<14
SV-2	SV-2	Primary	0.50	12/15/2010	<500	<500	NA	NA	<500	NA	NA	NA	<500	<500	<500	<500	<500	NA	<500	<5,000	<500
SV-3	SV-3	Primary	0.50	12/15/2010	<8.1	<8.1	<96	<7.3	<8.8	<10	<210	<180	NA	<7.3	19	<8.3	<11	<88	NA	<62	4,700
SV-4	SV-4	Primary	0.50	12/15/2010	<8.1	<8.1	1100	57	<8.8	<10	<210	<180	NA	<7.3	<7.1	<8.3	<11	<88	NA	<62	140
SV-5	SV-5	Primary	0.50	12/15/2010	<8.1	<8.1	250	<7.3	94	33	<210	<180	NA	<7.3	47	<8.3	<11	<88	NA	<62	<14
SV-6	SV-6	Primary	0.50	12/16/2010	<8.1	<8.1	<96	<7.3	<8.8	<10	<210	<180	NA	<7.3	<7.1	<8.3	<11	<88	NA	<62	<14
<b>August 2011 Investigation<sup>2</sup></b>																					
SG-01	SG-01	Primary	5.5	6/9/2011	<4.7	<4.7	16	NA	21	<5.8	7.7	9.4	<5.8	<4.3	<4.1	<4.9	<25	NA	<5.8	NA	580
SG-02	SG-02	Primary	5.5	6/9/2011	<8.6	<8.6	<16	NA	21	<11	<8.8	<7.6	<11	<7.8	<7.5	<8.8	<45	NA	<11	NA	4,900
SG-03	SG-03	Primary	5.5	6/9/2011	290 J	450 J	<120	NA	<68	<76	<64	<55	<76	<56	<54	<64	<330	NA	<76	NA	17,000 J
SG-04	SG-04	Primary	5.5	6/9/2011	1,200	380	<69	NA	61	<45	65	310	<45	<33	<32	<37	<190	NA	<45	NA	1,400
SG-05	SG-05	Primary	5.5	6/9/2011	<4.2	<4.2	<8.0	NA	8.4	<5.2	18	<3.8	<5.2	<3.8	<3.7	<4.4	<22	NA	<5.2	NA	100
SG-06	SG-06	Primary	4.5	6/9/2011	<4.4	<4.4	<8.4	NA	5.6	<5.5	<4.6	<3.9	<5.5	<4.0	<3.9	<4.6	<23	NA	<5.5	NA	730
	SG-60	Duplicate	4.5	6/9/2011	<4.7	<4.7	<9.0	NA	5.2	<5.8	<4.9	<4.2	<5.8	<4.3	<4.1	<4.9	<25	NA	<5.8	NA	730
SG-07	SG-07	Primary	4.5	6/9/2011	<4.6	<4.6	<8.8	NA	24	13	30	13	<5.7	<4.2	<4.0	14	<24	NA	<5.7	NA	160
SG-08	SG-08	Primary	4.5	6/9/2011	<4.2	<4.2	<8.0	NA	29	12	69	48	<5.2	<3.8	<3.7	<4.4	<22	NA	<5.2	NA	27
<b>August 2011 Investigation<sup>3</sup></b>																					
SV-7	SV-7	Primary	1.0-1.5	8/23/2011	<8.1	<8.1	<96	<7.3	<8.8	<10	<210	<180	NA	<7.3	<7.1	<8.3	<11	<88	NA	<62	47
SV-8	SV-8	Primary	4-5	8/16/2011	<8.1	<8.1	<96	<7.3	9.5	<10	<210	<180	NA	<7.3	<7.1	<8.3	<11	<880	NA	<62	<14
SV-9	SV-9	Primary	2.5-3.0	8/18/2011	<8.1	<8.1	<96	<7.3	54	47	<210	<180	NA	<7.3	<7.1	77	<11	95	NA	<62	<14
SV-10	SV-10	Primary	4-5	8/16/2011	<8.1	<8.1	<96	<7.3	<8.8	<10	<210	<180	NA	<7.3	<7.1	<8.3	<11	<88	NA	<62	280
SV-11	SV-11	Primary	4-5	8/18/2011	<8.1	<8.1	<96	<7.3	64	52	<210	<180	NA	<7.3	<7.1	13	<11	<88	NA	<62	<14
SV-12	SV-12	Primary	4-5	8/16/2011	84	27	<96	<7.3	52	<10	<210	<180	NA	<7.3	<7.1	25	<11	<880	NA	120	54
SV-13	SV-13	Primary	4-5	8/18/2011	1,300	3,600	NA	NA	<500	NA	NA	NA	<500	<500	<500	<500	<500	NA	<500	<5,000	7,300
SV-14	SV-14	Primary	4-5	8/18/2011	1,000	1,600	NA	NA	<500	NA	NA	NA	<500	<500	<500	<500	<500	NA	<500	<5,000	790
SV-15	SV-15	Primary	2.5-3.0	8/18/2011	21	<8.1	<96	<7.3	540	130	<210	<180	NA	<7.3	<7.1	53	<11	<88	NA	<62	<14
SV-16	SV-16	Primary	1.5-2.0	8/18/2011	<8.1	<8.1	<96	<7.3	1,300	140	<210	480	NA	<7.3	<7.1	64	<11	<88	NA	<62	400
SV-17	SV-17	Primary	4-5	8/16/2011	25	<8.1	110	<7.3	64	<10	<210	<180	NA	<7.3	<7.1	30	<11	<880	NA	240	<14
SV-18	SV-18	Primary	2.5-3.0	8/18/2011	<8.1	<8.1	<96	<7.3	48	34	<210	<180	NA	<7.3	<7.1	36	<11	<88	NA	<62	<14
SV-19	SV-19	Primary	4-5	8/17/2011	<8.1	<8.1	<96	<7.3	28	<10	<210	<180	NA	<7.3	<7.1	<8.3	<11	730	NA	<62	<14
SV-20	SV-20	Primary	0.5-1.0	8/23/2011	<8.1	<8.1	<96	<7.3	<8.8	<10	<210	<180	NA	<7.3	<7.1	<8.3	<11	<88	NA	<62	160
SV-21	SV-21	Primary	4-5	8/16/2011	<8.1	<8.1	<96	<7.3	43	<10	<210	<180	NA	<7.3	<7.1	14	<11	<88	NA	<62	<14
SV-22	SV-22	Primary	4.5-5.5	8/17/2011	<8.1	<8.1	<96	<7.3	9.3	<10	<210	<180	NA	<7.3	<7.1	<8.3	<11	<88	NA	<62	35,000
SV-23	SV-23	Primary	3.5-4.0	8/17/2011	1,200	1,100	<50,000	NA	<500	NA	NA	NA	<500	<500	<500	<500	<500	NA	<500	<5,000	2,300
SV-24	SV-24	Primary	3.5-4.0	8/17/2011	<8.1	<8.1	<96	<7.3	73	34	<210	<180	NA	<7.3	<7.1	<8.3	<11	<88	NA	<62	9,600
<b>September 2012 Investigation<sup>4</sup></b>																					
SG-13	SG-13A	Primary	3.5-4.5	9/4/2012	<5.1	<5.1	<9.7 R	NA	25	37	<5.3	<4.5	11	<4.6	<45 R	<5.3	<27	NA	6.7	NA	<8.8
	SG-13B	Primary	7.5-8.5	9/4/2012	<5.0	9.9	<9.5 R	NA	<5.5	6.7	<5.2	<4.4	<6.2	<4.5	<44 R	<5.2	<26	NA	<6.2	NA	<8.5
SG-14	SG-14A	Primary	3.5-4.5	9/4/2012	<5.6	<5.6	<11 R	NA	11	15	<5.8	<5.0	<6.9	<5.1	<49	<5.8	<30	NA	<6.9	NA	24 J
	SG-14B	Primary	7.5-8.5	9/4/2012	<5.5	<5.5	<10 R	NA	7.1	<6.8	<5.6	<4.9	<6.8	<5.0	<48 R	<5.6	<29	NA	<6.8	NA	41 J
SG-15	SG-19A	Duplicate	7.5-8.5	9/4/2012	<5.5	<5.5	<10 R	NA	<6.0	<6.8	<5.6	<4.9	<6.8	<5.0	<48	<5.6	<29	NA	<6.8	NA	68 J
	SG-15A	Primary	3.5-4.5	9/4/2012	<4.8	<4.8	<9.1 R	NA	10	14	<5.0	<4.3	<5.9	<4.4	<42	<5.0	<25	NA	<5.9	NA	74 J
SG-16	SG-15B	Primary	7.5-8.5	9/4/2012	<5.0	<5.0	<9.5 R	NA	<5.5	7.8	<5.2	<4.4	<6.2	<4.5	<44	<5.2	<26	NA	<6.2	NA	700 J
	SG-16A	Primary	3.5-4.5	9/4/2012	<4.8	<4.8	<9.1 R	NA	30	40	<5.0	<4.3	<5.9	<4.4	<42	<5.0	<25	NA	10	NA	92 J
	SG-16B	Primary	7.5-8.5	9/4/2012	<6.0	<6.0	<11 R	NA	<6.6	<7.5	<6.2	<5.4	<7.5	<5.5	<53	<6.2	<32	NA	<7.5	NA	2,700 J

TABLE C-16

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND NAPHTHALENE IN SOIL VAPOR

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Location	Sample ID	Sample Type	Depth (feet bgs)	Date	Tetrahydrofuran	Toluene	1,1,1-Trichloroethane	TCE	Trichlorofluoromethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2,2,4-Trimethylpentane	Vinyl Chloride	m,p-Xylene	o-Xylene	Xylenes, Total	Leak Detection Compounds		
																	Isopropyl Alcohol	Freon 134A	Helium (%)
<b>December 2010 Investigation</b> <sup>1</sup>																			
SV-1	SV-1	Primary	4.0-5.0	12/16/2010	<6.0	16	<11	<11	<11	<10	<10	NA	<5.2	NA	NA	<27	<10	NA	NA
SV-2	SV-2	Primary	0.50	12/15/2010	NA	<500	<500	<500	<500	4,000	1,800	NA	<500	NA	NA	1,100	<10	NA	NA
SV-3	SV-3	Primary	0.50	12/15/2010	<6.0	30	260	64	13	<10	<10	NA	<5.2	NA	NA	<27	<10	NA	NA
SV-4	SV-4	Primary	0.50	12/15/2010	<6.0	9.6	<11	<11	<11	<10	<10	NA	<5.2	NA	NA	<27	<10	NA	NA
SV-5	SV-5	Primary	0.50	12/15/2010	<6.0	280	<11	<11	<11	200	91	NA	<5.2	NA	NA	550	<10	NA	NA
SV-6	SV-6	Primary	0.50	12/16/2010	<6.0	<7.7	<11	<11	<11	<10	<10	NA	<5.2	NA	NA	<27	<10	NA	NA
<b>August 2011 Investigation</b> <sup>2</sup>																			
SG-01	SG-01	Primary	5.5	6/9/2011	<3.5	51	<6.5	20	<6.7	<5.8	<5.8	<5.6	<3.0	35	17	NA	NA	<20	NA
SG-02	SG-02	Primary	5.5	6/9/2011	<6.4	72	<12	65	<12	<11	<11	34	<5.5	23	11	NA	NA	<36	NA
SG-03	SG-03	Primary	5.5	6/9/2011	<46	61 J	<85	3,200 J	<87	<76	<76	81,000	91 J	<68	<68	NA	NA	<260	NA
SG-04	SG-04	Primary	5.5	6/9/2011	<27	98	<50	5,800	<51	<45	<45	18,000	130 J	80	<40	NA	NA	<150	NA
SG-05	SG-05	Primary	5.5	6/9/2011	<3.1	32	<5.8	<5.7	<6.0	<5.2	<5.2	<5.0	3.8 J	14	5.5	NA	NA	<18	NA
SG-06	SG-06	Primary	4.5	6/9/2011	15	22	<6.1	<6.0	<6.3	<5.5	<5.5	12	<2.9	9.1	<4.9	NA	NA	120	NA
	SG-60	Duplicate	4.5	6/9/2011	13	21	<6.5	<6.4	<6.7	<5.8	<5.8	9.4	<3.0	8.6	<5.2	NA	NA	110	NA
SG-07	SG-07	Primary	4.5	6/9/2011	18	120	25	9.2	6.8	15	8.4	280	<3.0	60	17	NA	NA	550	NA
SG-08	SG-08	Primary	4.5	6/9/2011	<3.1	110	<5.8	<5.7	<6.0	12	7	450	5.0 J	70	22	NA	NA	910	NA
<b>August 2011 Investigation</b> <sup>3</sup>																			
SV-7	SV-7	Primary	1.0-1.5	8/23/2011	<6.0	<7.7	<11	<11	<11	<10	<10	NA	<5.2	NA	NA	<27	<10	NA	NA
SV-8	SV-8	Primary	4-5	8/16/2011	1,100	70	<11	<11	<11	<10	<10	NA	<5.2	NA	NA	42	<10	NA	NA
SV-9	SV-9	Primary	2.5-3.0	8/18/2011	450	140	<11	<11	<11	240	84	NA	<5.2	NA	NA	320	<10	NA	NA
SV-10	SV-10	Primary	4-5	8/16/2011	58	24	<11	<11	<11	<10	<10	NA	<5.2	NA	NA	<27	<10	NA	NA
SV-11	SV-11	Primary	4-5	8/18/2011	1,300	200	<11	<11	<11	250	92	NA	<5.2	NA	NA	390	<10	NA	NA
SV-12	SV-12	Primary	4-5	8/16/2011	4,900	190	<11	300	<11	10	<10	NA	<5.2	NA	NA	260	<10	NA	NA
SV-13	SV-13	Primary	4-5	8/18/2011	<500	<500	<500	12,000	<500	<500	<500	NA	<500	NA	NA	<500	<10	NA	NA
SV-14	SV-14	Primary	4-5	8/18/2011	<500	<500	<500	8,300	<500	<500	<500	NA	<500	NA	NA	1,100	<10	NA	NA
SV-15	SV-15	Primary	2.5-3.0	8/18/2011	1,600	180	<11	30	<11	180	130	NA	<5.2	NA	NA	4,300	<10	NA	NA
SV-16	SV-16	Primary	1.5-2.0	8/18/2011	720	180	<11	27	<11	290	160	NA	<5.2	NA	NA	2,900	<10	NA	NA
SV-17	SV-17	Primary	4-5	8/16/2011	4,400	120	<11	36	<11	<10	<10	NA	<5.2	NA	NA	300	<10	NA	NA
SV-18	SV-18	Primary	2.5-3.0	8/18/2011	1,400	140	<11	<11	<11	150	46	NA	<5.2	NA	NA	260	<10	NA	NA
SV-19	SV-19	Primary	4-5	8/17/2011	93	62	<11	<11	<11	<10	<10	NA	<5.2	NA	NA	120	<10	NA	NA
SV-20	SV-20	Primary	0.5-1.0	8/23/2011	<6.0	8.7	96	<11	<11	<10	<10	NA	<5.2	NA	NA	<27	<10	NA	NA
SV-21	SV-21	Primary	4-5	8/16/2011	3,800	140	<11	<11	<11	<10	<10	NA	<5.2	NA	NA	200	<10	NA	NA
SV-22	SV-22	Primary	4.5-5.5	8/17/2011	500	19	<11	33	<11	17	<10	NA	<5.2	NA	NA	54	<10	NA	NA
SV-23	SV-23	Primary	3.5-4.0	8/17/2011	NA	<500	<500	9,100	<500	<500	<500	NA	510	NA	NA	<500	<10	NA	NA
SV-24	SV-24	Primary	3.5-4.0	8/17/2011	2,800	260	<11	410	<11	120	55	NA	<5.2	NA	NA	410	<10	NA	NA
<b>December 2012 Investigation</b> <sup>4</sup>																			
SG-13	SG-13A	Primary	3.5-4.5	9/4/2012	4.0 J	77	<7.0	<6.9	<7.2	51	20	<6.0	<3.3	120	34	NA	NA	NA	NA
	SG-13B	Primary	7.5-8.5	9/4/2012	<3.7 R	16	<6.9	160	<7.1	9.4	<6.2	<5.9	<3.2	20	7.7	NA	NA	NA	NA
SG-14	SG-14A	Primary	3.5-4.5	9/4/2012	<4.2 R	23	<7.7	<7.6	<7.9	22	7.6	<6.6	<3.6	42	12	NA	NA	NA	NA
	SG-14B	Primary	7.5-8.5	9/4/2012	<4.1 R	17	<7.5	400	<7.8	7.0	<6.8	<6.4	<3.5	18	7.1	NA	NA	NA	NA
	SG-19A	Duplicate	7.5-8.5	9/4/2012	<4.1 R	17	<7.5	380	<7.8	8.8	<6.8	<6.4	<3.5	18	<6.0	NA	NA	NA	NA
SG-15	SG-15A	Primary	3.5-4.5	9/4/2012	<3.6 R	17	<6.6	<6.5	<6.8	22	11	<5.6	<3.1	41	9.4	NA	NA	NA	<0.12
	SG-15B	Primary	7.5-8.5	9/4/2012	<3.7 R	7.9	<6.9	140	<7.1	14	8.1	<5.9	<3.2	22	5.6	NA	NA	NA	NA
SG-16	SG-16A	Primary	3.5-4.5	9/4/2012	5.1 J	80	<6.6	<6.5	<6.8	51	20	<5.6	<3.1	120	34	NA	NA	NA	NA
	SG-16B	Primary	7.5-8.5	9/4/2012	<4.5 R	12	<8.3	<8.2	<8.6	<7.5	<7.5	<7.1	<3.9	14	<6.6	NA	NA	NA	NA

**TABLE C-16**

**SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND NAPHTHALENE IN SOIL VAPOR**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Notes

1. Ninyo & Moore, 2011, Limited Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, January 7.
2. AMEC, 2011, Soil, Groundwater, and Soil Vapor Investigation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, September 27.
3. Ninyo & Moore, 2011, Additional Phase II Environmental Site Assessment, Crown Chevrolet, 7544 Dublin Boulevard, Dublin, California, September 16.
4. Soil vapor samples were collected by AMEC in September 2012 and analyzed by Air Toxics, Ltd., of Folsom, California, using U.S. EPA Method TO-15. Selected samples were additionally analyzed for helium using ASTM-D 1946.

Abbreviations and Data Qualifiers

-- = not applicable

< = not detected at or above the laboratory reporting limit shown

bgs = below ground surface

J = the analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample

NA = not analyzed

PCE = tetrachloroethene

TCE = trichloroethene

R = the sample results are rejected due to serious deficiencies in the ability to meet quality control criteria; the presence or absence of the analyte cannot be verified

UJ = the analyte was not detected at a level greater than or equal to the quantitation limit shown; the quantitation limit is approximate and may be inaccurate or imprecise

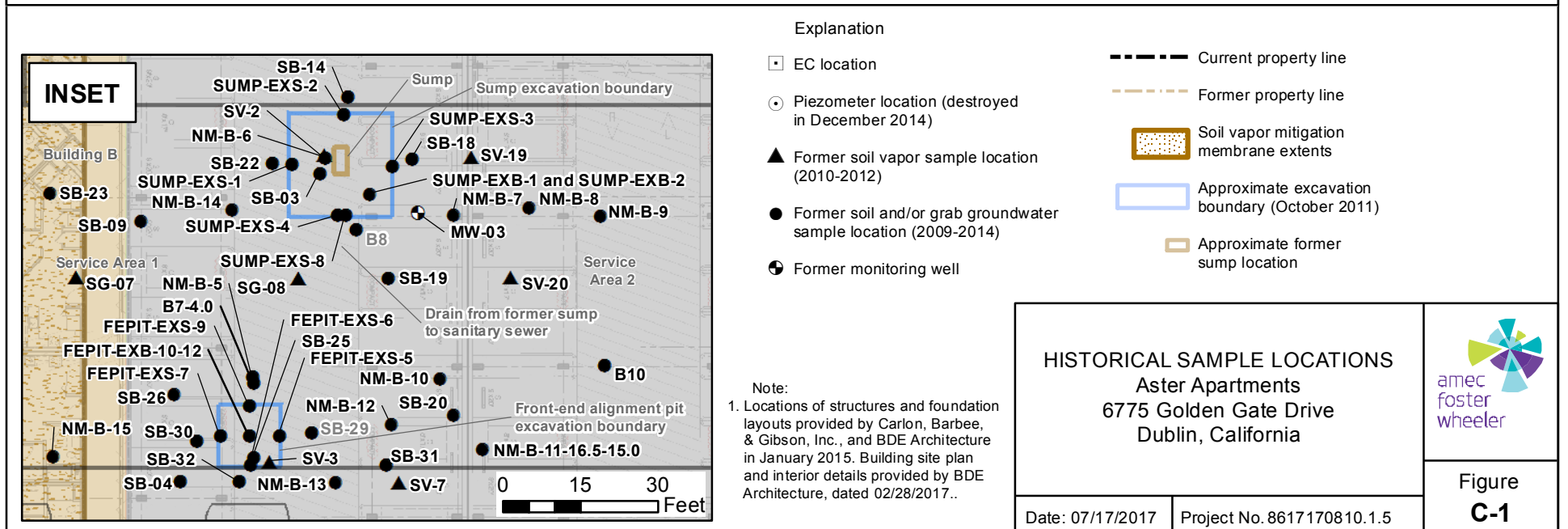
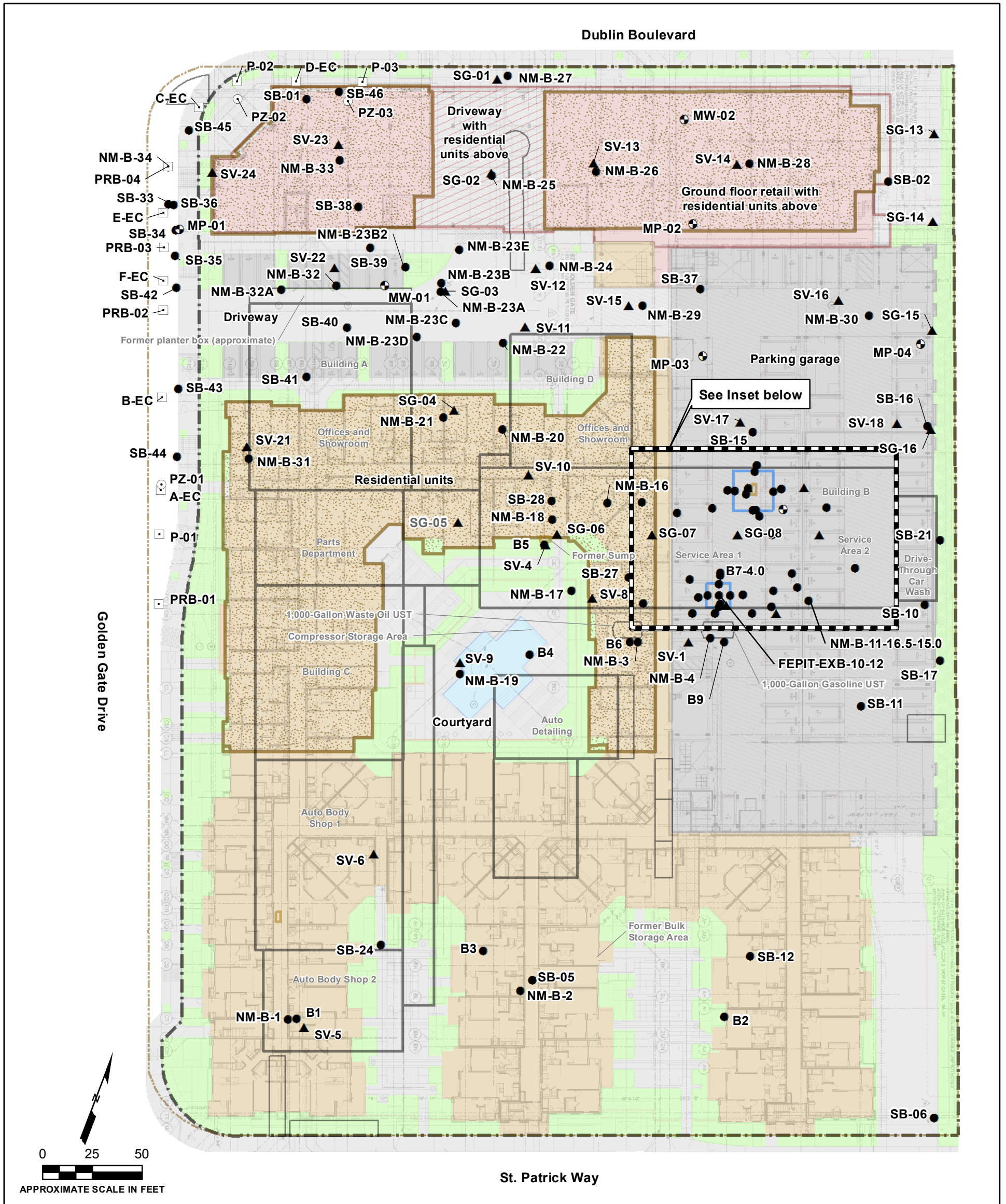


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**APPENDIX C**

Figures





Explanation

- EC location
- Piezometer location (destroyed in December 2014)
- ▲ Former soil vapor sample location (2010-2012)
- Former soil and/or grab groundwater sample location (2009-2014)
- ⊕ Former monitoring well
- Current property line
- - - Former property line
- ▨ Soil vapor mitigation membrane extents
- Approximate excavation boundary (October 2011)
- ▭ Approximate former sump location

Note:  
 1. Locations of structures and foundation layouts provided by Carlon, Barbee, & Gibson, Inc., and BDE Architecture in January 2015. Building site plan and interior details provided by BDE Architecture, dated 02/28/2017..

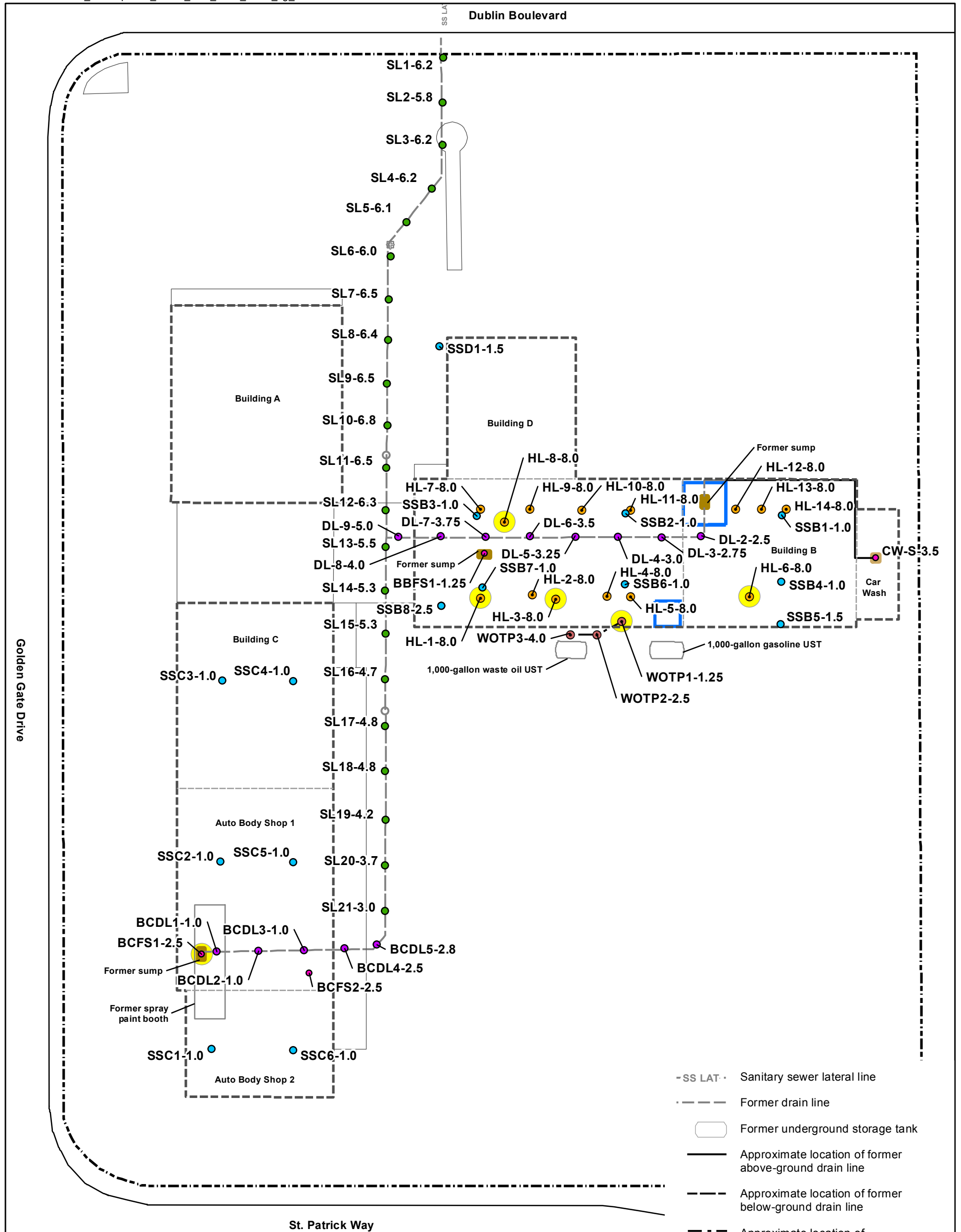
**HISTORICAL SAMPLE LOCATIONS**  
 Aster Apartments  
 6775 Golden Gate Drive  
 Dublin, California



Date: 07/17/2017 Project No. 8617170810.1.5

Figure C-1





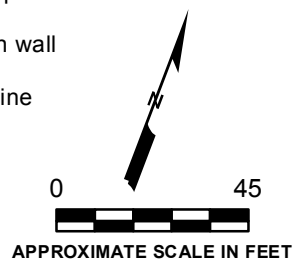
- SS LAT- Sanitary sewer lateral line
- - - Former drain line
- Former underground storage tank
- Approximate location of former above-ground drain line
- - - Approximate location of former below-ground drain line
- - - - - Approximate location of waste oil piping

Abbreviation:  
ESL = Environmental Screening Level

Note:  
1. The buildings and features shown on this figure were demolished in December 2014.

- Explanation**
- Drain pipe confirmation soil sample location
  - Sanitary sewer confirmation soil sample location
  - Former sump confirmation sample location
  - Sub-slab soil sample location
  - Hydraulic lift confirmation soil sample location
  - Waste oil tank pipe confirmation sample location

- Sample location with at least one analyte detected above its ESL
- Approximate excavation boundary (October 2011)
- Former building envelope
- - - Former interior partition wall
- - - - - Approximate property line
- Former sump location
- Manhole
- ⊕ Utility vault



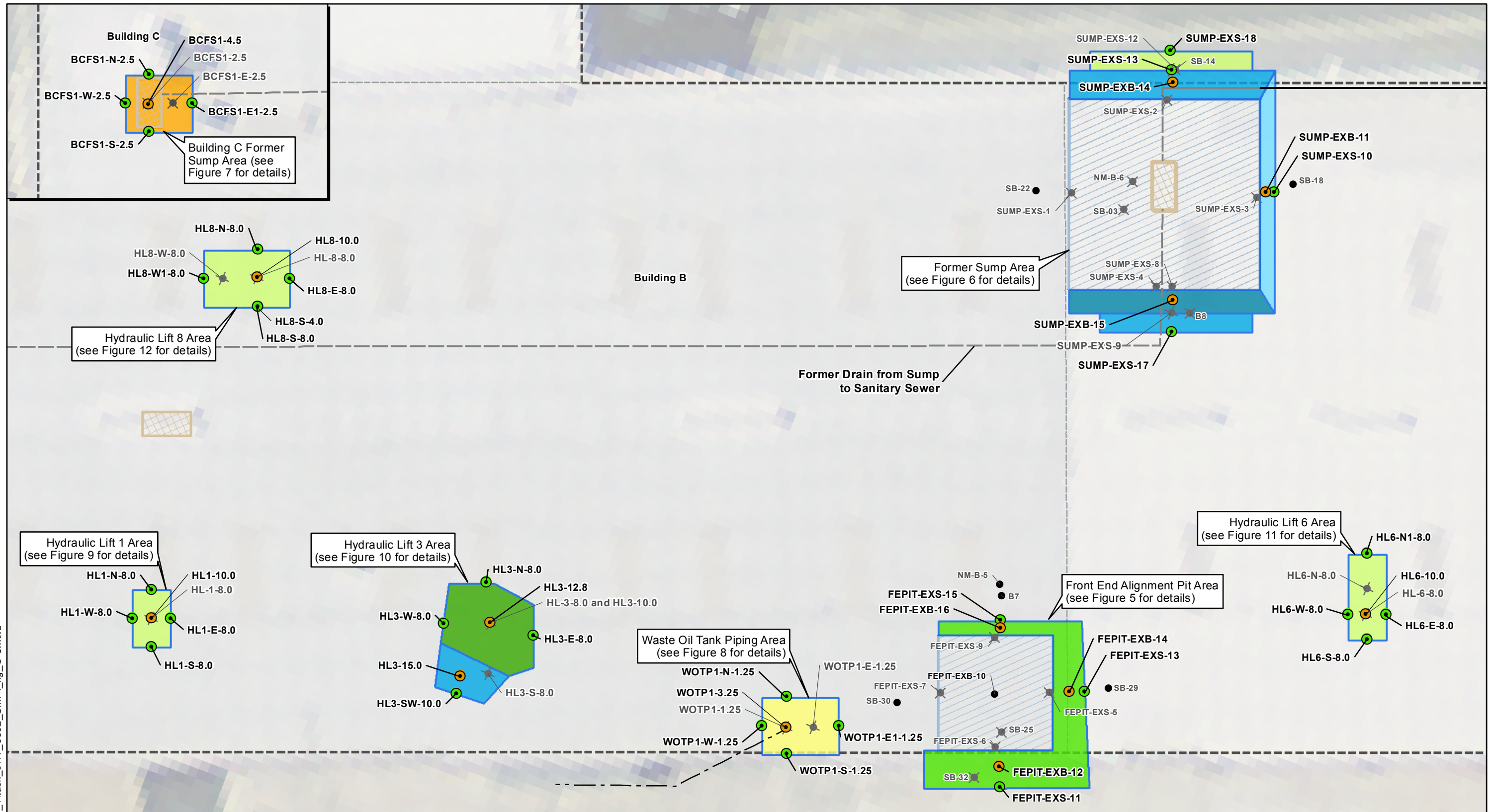
POST-DEMOLITION  
SAMPLE LOCATIONS  
Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Date: 07/17/2017 Project No. 8617170810.1.5

amec  
foster  
wheeler

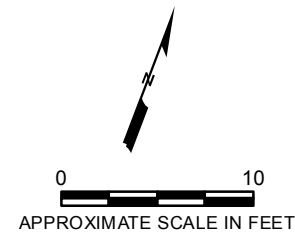
Figure  
**C-2**

S:\17000170810\_dublin\phase\_1\1task\_5117\_0602\_SMP\fig\_C-3.mxd



<p><b>Explanation</b></p> <ul style="list-style-type: none"> <li> Bottom confirmation sample location</li> <li> Sidewall confirmation sample location</li> <li> Soil and/or grab groundwater location</li> <li> Sample collected from soil that was subsequently removed during excavation</li> <li> Approximate former sump location</li> <li> Approximate excavation boundary (2011)</li> </ul>		<p><b>Approximate excavation boundaries (2015):</b></p> <ul style="list-style-type: none"> <li> Area excavated to 3.25 ft bgs</li> <li> Area excavated to 4.5 ft bgs</li> <li> Area excavated to 10.0 ft bgs</li> <li> Area excavated to 12.0 ft bgs</li> <li> Area excavated to 13.0 ft bgs</li> <li> Area excavated to 14.0 ft bgs</li> <li> Area excavated to 15.0 ft bgs</li> <li> Area excavated to 15.5 ft bgs</li> </ul>		<p><b>Approximate location of former above-ground drain line</b> (solid line)</p> <p><b>Approximate location of former below-ground drain line</b> (dashed line)</p> <p><b>Approximate location of former waste oil piping</b> (dash-dot line)</p> <p><b>Former building envelope</b> (dotted line)</p> <p><b>Former interior partition wall</b> (long-dashed line)</p>		<p><b>Abbreviation:</b> bgs = below ground surface</p>			
<p><b>Hydraulic Lift 1 Area</b> (see Figure 9 for details)</p> <ul style="list-style-type: none"> <li>HL1-N-8.0</li> <li>HL1-W-8.0</li> <li>HL1-E-8.0</li> <li>HL1-S-8.0</li> <li>HL1-10.0</li> <li>HL-1-8.0</li> </ul>		<p><b>Hydraulic Lift 3 Area</b> (see Figure 10 for details)</p> <ul style="list-style-type: none"> <li>HL3-N-8.0</li> <li>HL3-W-8.0</li> <li>HL3-E-8.0</li> <li>HL3-S-8.0</li> <li>HL3-12.8</li> <li>HL-3-8.0 and HL3-10.0</li> <li>HL3-15.0</li> <li>HL3-SW-10.0</li> </ul>		<p><b>Waste Oil Tank Piping Area</b> (see Figure 8 for details)</p> <ul style="list-style-type: none"> <li>WOTP1-N-1.25</li> <li>WOTP1-E-1.25</li> <li>WOTP1-W-1.25</li> <li>WOTP1-S-1.25</li> <li>WOTP1-3.25</li> <li>WOTP1-1.25</li> <li>WOTP1-E1-1.25</li> </ul>		<p><b>Front End Alignment Pit Area</b> (see Figure 5 for details)</p> <ul style="list-style-type: none"> <li>FEPIT-EXS-15</li> <li>FEPIT-EXB-16</li> <li>FEPIT-EXS-9</li> <li>FEPIT-EXB-10</li> <li>FEPIT-EXS-7</li> <li>FEPIT-EXS-6</li> <li>FEPIT-EXS-5</li> <li>FEPIT-EXB-14</li> <li>FEPIT-EXS-13</li> <li>FEPIT-EXB-12</li> <li>FEPIT-EXS-11</li> <li>SB-29</li> <li>SB-25</li> <li>SB-32</li> </ul>		<p><b>Hydraulic Lift 6 Area</b> (see Figure 11 for details)</p> <ul style="list-style-type: none"> <li>HL6-N1-8.0</li> <li>HL6-N-8.0</li> <li>HL6-W-8.0</li> <li>HL6-E-8.0</li> <li>HL6-S-8.0</li> <li>HL6-10.0</li> <li>HL-6-8.0</li> </ul>	
<p><b>Building C Former Sump Area</b> (see Figure 7 for details)</p> <ul style="list-style-type: none"> <li>BCFS1-N-2.5</li> <li>BCFS1-W-2.5</li> <li>BCFS1-S-2.5</li> <li>BCFS1-4.5</li> <li>BCFS1-2.5</li> <li>BCFS1-E-2.5</li> <li>BCFS1-E1-2.5</li> </ul>		<p><b>Hydraulic Lift 8 Area</b> (see Figure 12 for details)</p> <ul style="list-style-type: none"> <li>HL8-N-8.0</li> <li>HL8-W-8.0</li> <li>HL8-W1-8.0</li> <li>HL8-E-8.0</li> <li>HL8-S-4.0</li> <li>HL8-S-8.0</li> </ul>		<p><b>Former Sump Area</b> (see Figure 6 for details)</p> <ul style="list-style-type: none"> <li>SUMP-EXS-1</li> <li>SUMP-EXS-2</li> <li>SUMP-EXS-3</li> <li>SUMP-EXS-4</li> <li>SUMP-EXS-8</li> <li>SUMP-EXS-9</li> <li>SUMP-EXS-17</li> <li>SUMP-EXS-12</li> <li>SUMP-EXS-13</li> <li>SUMP-EXS-18</li> <li>SUMP-EXB-14</li> <li>SUMP-EXB-15</li> <li>SUMP-EXB-11</li> <li>SUMP-EXS-10</li> <li>SB-14</li> <li>SB-18</li> <li>SB-22</li> <li>NM-B-6</li> <li>SB-03</li> <li>B8</li> </ul>		<p><b>Former Drain from Sump to Sanitary Sewer</b></p>			

SOIL EXCAVATION AREAS AND CONFIRMATION SAMPLE LOCATIONS  
Aster Apartments  
6775 Golden Gate Drive  
Dublin, California



Date: 07/17/2017 Project No. 8617170810.1.5

Figure C-3



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**APPENDIX D**

Example Site Inspection Form

**APPENDIX D  
EXAMPLE SITE INSPECTION FORM**

Aster Apartments  
6775 Golden Gate Drive  
Dublin, California

Date: \_\_\_\_\_ Weather: \_\_\_\_\_  
 Inspection By: \_\_\_\_\_ Time In: \_\_\_\_\_  
 Others On Site: \_\_\_\_\_ Time Out: \_\_\_\_\_

**Visual Observations – Permeable Reactive Barrier and Monitoring Well Network:**

	YES	NO	Comments
Uneven pavement surface or depressions?			
Cracking that follows the footprint of the PRB?			
Any signs of intrusive work intersecting path of PRB?			
Are the 11 groundwater monitoring wells accessible and intact?			

If maintenance is required to resolve any of the above noted items, describe what actions taken, if any. Were all maintenance items resolved during this site visit? If no, what items remain to be resolved?

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**Visual Observations – Vapor Mitigation System:**

	YES	NO	Comments
Does the vent riser piping have any loose pipe supports, damaged riser guards, cracking resulting from impact, or other signs of physical damage?			
Does the vent riser piping appear to have any obstructions that impede the flow of the turbine?			
Do the wind turbine bearings need additional lubrication?			
Are there any signs of intrusive work that may lead to foundation penetrations (e.g. underground utility construction or trenching activities)?			

If maintenance is required to resolve any of the above noted items, describe what actions taken, if any. Were all maintenance items resolved during this site visit? If no, what items remain to be resolved?

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**Documentation:**

	YES	NO	Comments
Are maintenance records on-site and up-to-date?			
Are monitoring records on-site and up-to-date?			
Is the most recent Permeable Reactive Barrier Operation, Maintenance, and Monitoring Plan on-site?			
Is the most recent Vapor Mitigation System Operation, Maintenance, and Monitoring Plan on-site?			
Have the PRB and VMS OMM Plans been updated as necessary per the Evaluation Checklist contained within each?			
Is the Site Management Plan on-site?			
If there is intrusive work being performed:			
- Is there a Health and Safety Plan on-site?			
- If the surface area of construction activities is greater than 1 acre in size, is there a Stormwater Pollution Prevention Plan (SWPPP) on-site?			

If maintenance is required to resolve any of the above noted items, describe what actions taken, if any. Were all maintenance items resolved during this site visit? If no, what items remain to be resolved?

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*Note: This form is provided as an example template only and should be modified and updated as needed to reflect current project conditions.*