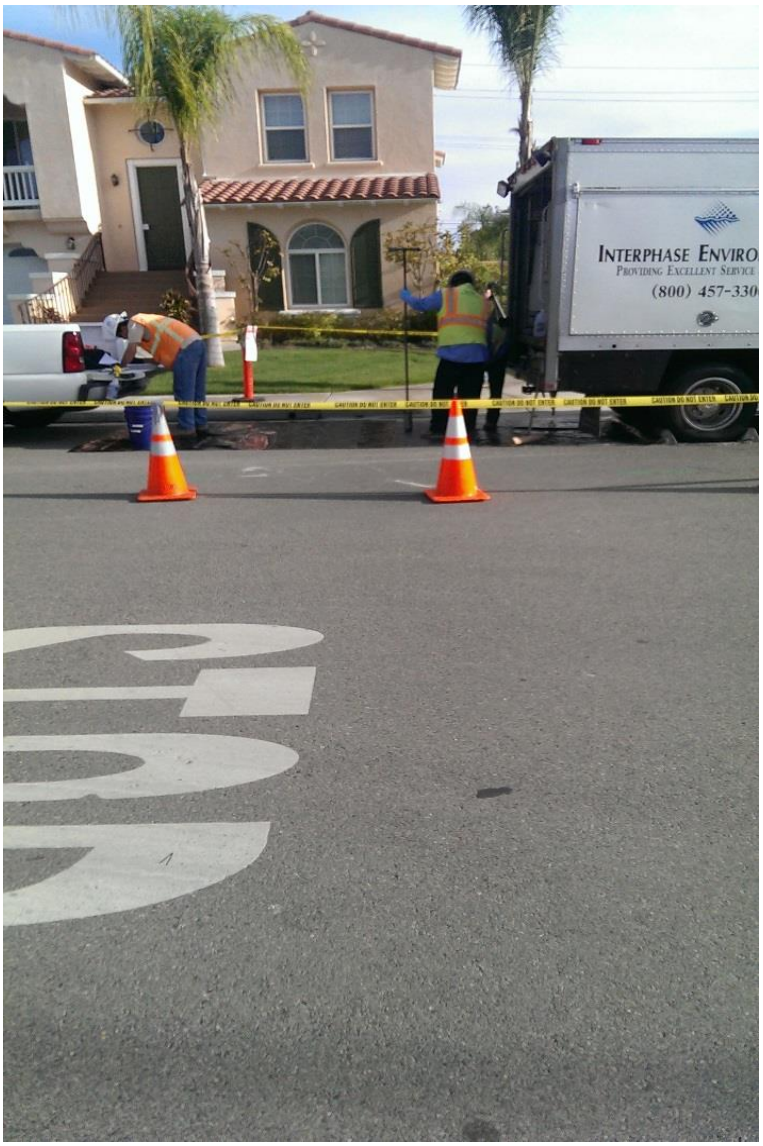

AUTUMNWOOD DEVELOPMENT INVESTIGATION REPORT AUTUMNWOOD DEVELOPMENT WILDOMAR, CALIFORNIA

Prepared by the Department of Toxic Substances Control

DECEMBER 2013

Autumnwood Development Investigation Report
Autumnwood Development
Wildomar, California

Prepared by the Department of Toxic Substances Control

December 2013

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1.0 INTRODUCTION

This Investigation Report (Report) summarizes analytical results of soil, soil gas, and groundwater sampling conducted at the Autumnwood Development in the City of Wildomar (City), California (herein referred to as the Study Area; Figures 1 and 2). (DTSC 2013). AMEC Environment and Infrastructure, Inc. (AMEC) implemented field sampling activities in the Study Area on behalf of the Department of Toxic Substances Control (DTSC). The work was conducted in general accordance with the *Soil, Soil Gas, and Groundwater Sampling Workplan for Autumnwood Development, Amaryllis Court and Vicinity Wildomar, California* [Workplan, October 2013]. Figures 1 and 2 show the Study Area location.

The Study Area consists of single-family residential homes and roadways. As shown on Figure 2, it is located between Penrose Street and South Pasadena Street to the northwest and southeast, respectively. Palomar Street and a drainage channel/gully south of Front Street define the approximate northeastern and southwestern boundaries of the Study Area, respectively. Reportedly, groundwater flow is generally towards the south-southeast.

1.1 OBJECTIVES AND SCOPE

In general, the purpose of this investigation was 1) to determine whether volatile organic compounds (VOCs) in the subsurface are present in soil and groundwater and if VOCs are present in sufficient concentrations to pose a health risk via the vapor intrusion pathway; and 2) to determine if hazardous substances were released that may pose a threat to human health. Risk to human health from VOCs are primarily driven by exposure through the inhalation and ingestion pathways. Residences in this development use municipal water, hence ingestion of groundwater is not considered to be an exposure pathway. Inhalation may be a complete exposure pathway if VOCs are intruding into indoor air spaces. Soil gas sampling is the primary method used to gather data to assess potential vapor intrusion into indoor air and evaluate the resulting risk to human health.

Through the Orphan Site Fund, DTSC allocated limited funding to conduct soil, soil gas, and groundwater sampling at sites where there is a potential health risk. To meet these objectives, investigation activities were conducted to evaluate VOC concentrations in soil, soil gas, and groundwater in portions of the Study Area through a field sampling and analysis program described in the Workplan (DTSC 2013). The field investigation was conducted on November 7, 8, 9, and 13 through 15, 2013. Sampling was conducted on Amaryllis Court, Pink Ginger Court, Protea Court, Front Street, Penrose Street, Palomar

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Street, and South Pasadena Street in the City of Wildomar. Additionally, sub-slab sampling was conducted inside 3 residences within the Development (See Figure 2).

1.2 REPORT ORGANIZATION

This report is organized as follows:

Section 1.0	Introduction
Section 2.0	Study Area Background
Section 3.0	Environmental Setting
Section 4.0	Field Investigation
Section 5.0	Investigation Results
Section 6.0	Summary of Findings
Section 7.0	References

Additional supporting information is presented in the Tables, Figures, and Attachments.

Work performed pursuant to the *Soil, Soil Gas, and Groundwater Sampling Workplan, October 2013* and applicable state and federal guidance. The work was done under the direction and supervision of the AMEC Project Manager who is a qualified registered professional geologist (PG) in compliance with the requirements of the Professional Engineers Act, Business and Professions Code Sections 6700-6899 and Section 7838, and the Geologist and Geophysicists Act, Business and Professions Code sections 7800-7887.

2.0 STUDY AREA BACKGROUND

The Site is a residential housing tract identified as the Autumnwood Development in Wildomar, California. The Autumnwood Development is bound by South Pasadena Street on the southeast, Penrose Street on the northwest, Palomar Street on the northeast and drainage canal south of Front Street on the southwest. The development was constructed between 2004, and 2006, and consists of single and multistory homes constructed with slabs on grade (Figure 1 and 2).

2.1 Previous Investigations

Prior to construction of the Autumnwood Development, C.H.J. Incorporated (CHJ), of Colton, California, prepared a *Preliminary Environmental Site Assessment* (Phase 1), dated June 13, 2003. Based on aerial photographs dating back to 1949, CHJ indicated

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that the site was primarily vacant and undeveloped between 1949, and 2001(Adini 2012).

Pre-grading reports described the site soils as “low to medium” density and consisting of silty and clayey sands and silts. These sediments required densification to prevent dynamic settlement due to liquefaction and differential settlement of the proposed structures. To remedy the low density soils, the soils were removed to 10 to 15 feet below original grade and re-compacted to form a stable base for the planned structures.

Environmental assessments conducted in May and July 2012 indicated low levels of volatile organic compounds (VOCs) in sub-slab soil gas and indoor and outdoor air samples collected from several of the houses. In September 2012, soil gas and soil samples collected from the surrounding subsurface areas on Amaryllis Court in the Autumnwood Development also detected low levels of VOCs. The Adini report concluded that the chlorobenzene, chloroform, chloromethane, toluene, trichloroethylene, and trichlorofloromethane detected in soil gas did not exceeded their respective residential California Human Health Screening Levels (CHHSLs) for soil-gas below buildings constructed on engineered fill (Adini 2012).

Soil samples were also collected from seven borings for lithologic description and laboratory analysis for VOCs, semi-VOCs, total petroleum hydrocarbons, organochlorine pesticides (OCPs), and polychlorinated biphenyls (PCBs). Analytical results for the soil samples indicated that none of the analytes were present above the analytical laboratory’s method detection limits in any of the soil samples submitted for analysis (Adini 2012).

Additionally, the South Coast Air Quality Management District (SCAQMD) collected various environmental samples, mainly to evaluate indoor air quality and evaluate drinking water quality. The Office of Environmental Health Hazard Assessment (OEHHA) and the California Department of Public Health (CDPH) have also evaluated environmental data collected to date in the Autumnwood Development.

3.0 ENVIRONMENTAL SETTING

The information on the environmental characteristics of the Study Area, as presented in the following subsections, was summarized from various sources/documents referenced herein.

3.1 GEOLOGIC SETTING

The site is located in the Perris Block between San Jacinto and Santa Ana Blocks in the Peninsular Ranges geomorphic province of California. The Perris Block is bound by the San Jacinto Fault to the north and Elsinore and Chino, Willard, and Wildomar Faults to the South. The Peninsular Ranges province is characterized by northwest-trending mountain ranges and valleys and extends from the San Gabriel and San Bernardino Mountains in the north to California's southern border and beyond, forming Baja California (Adini 2012).

According to the Geologic Map of California, Santa Ana Sheet, the site is located above Quaternary Age alluvium in the Elsinore Fault Zone between the Wildomar Fault, adjacent to the north, and the Willard Fault approximately 0.5-miles to the southwest. Quaternary alluvium within the Elsinore Fault Zone and Temecula Valley Groundwater Basin is estimated to exceed 2,500 feet in thickness (DWR, 2004). Mesozoic age granitic rock form the Elsinore Mountains to the south of the site and Mesozoic age granitic rock and basic intrusive rock form the hills to the north (Adini 2012).

Sediments encountered during drilling in the Study Area show that the property is underlain by engineered fill and alluvium consisting primarily of silty and clayey sands with some sandier and gravely zones, to depths of approximately 36 feet below ground surface (bgs). A zone of potential engineered fill in the central portion of the Study Area was encountered from the surface to approximately eight feet bgs, consisting mainly of inter-layered clayey and silty sands.

Soil borings at locations 1, 6, 7, 8, 11, 12, and 13 were continuously cored to depths up to 36 feet bgs. Sediments encountered within the borings are classified as sand with varying amounts of clay. Some gravely zones were also encountered mainly in the central section of the Study Area. No staining was observed in the soil borings. Photoionization Detector (PID) readings ranged between 0.0 and 5.3 parts per million (ppm) with the majority of readings below 1.0 ppm. Groundwater was encountered at depths of approximately 20 ft. bgs. at location 1 to 30 ft. bgs. at location 13. Boring logs are provided in Attachment C.

Figures 3 and 4 show geologic cross sections A-A' and B-B' across the Study Area using lithologic logs from boring locations 1, 6, 8, 12 (A-A') and locations 11, 9, 8, and 7 (B-B').

3.3 HYDROGEOLOGIC SETTING

The City of Wildomar lies between the south-southwestern boarder of the San Jacinto Sub-basin of the Santa Ana drainage basin and the northeastern boundary of the San Dieguito Basin of the greater San Diego drainage basin. The sediments of the hydrologic

basin below Wildomar can be characterized as a series of interconnected alluvium filled valleys, bounded by bedrock mountains and hills cut by the Elsinore Fault Zone. Within the Elsinore Fault Zone are the parallel Wildomar Fault to the east and the Willard Fault to the west of Wildomar. These faults form a down dropped fault block or graben, creating scarps and sag ponds, such as Lake Elsinore. Water flows from the Murrieta-Temecula Basin, to the southeast of Wildomar, to the Lake Elsinore area in the northwest (Kennedy 1977).

Groundwater produced for potable purposes in the area north of Wildomar is in excess of 250 ft. bgs. (City 2011). During the November 2013 investigation conducted by AMEC, groundwater was encountered in grab groundwater sampling locations 1, 7, 11, and 13 at depths of approximately 21 to 28 feet. bgs. (See cross sections A-A' and B-B').

4.0 FIELD INVESTIGATION

Soil, soil gas, and grab groundwater samples were collected from the Study Area following the methods and procedures described in the DTSC Work Plan October 2013. The field investigation was conducted in two phases. The first phase occurred November 6 through 9, 2013 and included soil and grab groundwater sampling, and installing nested soil gas probes. The second phase occurred November 13 through 15, 2013 and included collecting and analyzing soil gas samples from nested soil gas probes, and installation and sampling of sub-slab soil gas probes. DTSC staff was present during both phases of field investigation.

Sample locations are shown on Figure 2.

4.1 DEVIATIONS FROM PROPOSED WORK SCOPE

The field investigation was implemented following the procedures and methods described in the DTSC Work Plan. Deviations from the DTSC Work Plan included the following:

- Some proposed sample locations were moved based on access constraints or subsurface utilities.
- Soil samples were collected from locations 6, 8, and 12 (placed in the assumed center of the fill area) and submitted to Calscience Environmental Laboratories, Inc. (Calscience) for analysis.
- Groundwater samples were collected from locations 1, 7, 11, and 13 placed around the perimeter of the Study Area.
- Soil and groundwater sample locations 1, 6, 7, 8, 11, 12 and 13 were continuously cored and used to generate soil boring logs following visual-manual

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procedures of ASTM D2488 for guidance, which are based on the Unified Soil Classification System.

- Groundwater samples were submitted to Calscience and analyzed for volatile organic compounds (VOCs) and formaldehyde.
- A groundwater split sample was collected in preserved VOA vials from sample location 7 and provided to Nancy Caraway, a community representative.
- Groundwater samples were not screened for field parameters due to time constraints.
- The 5-foot depth soil gas probe at location 6 had no vapor flow and a replacement probe was installed at depth of 3 feet.
- The 5-foot depth soil gas probe at location 8 contained water and a replacement probe was installed at depth of 3 feet.
- The 15-foot depth soil gas probe at location 1 had no vapor flow and a replacement probe was installed at depth of 10 feet.
- Selected soil gas samples were collected in dinitrophenylhydrazine (DNPH) coated cartridges and were analyzed for formaldehyde by Environmental Analytical Services, Inc. using United States Environmental Protection Agency (U.S. EPA) Method TO-11A.
- Sub-slab soil gas samples were collected in 400 milliliter stainless steel Summa canisters and were analyzed for VOCs using U.S. EPA Method TO-15 allowing for methanol to be added to the compound reporting list.

Field conditions and deviations to the Workplan (2013) were performed with DTSC staff's directions and/or concurrence.

4.2 WORK PLAN IMPLEMENTATION

The following activities were performed during the implementation of the scope of work:

- Pre-Field Activities;
- Soil Sampling;
- Groundwater Sampling;
- Soil Gas Sampling; and
- Sub-Slab Soil Gas Sampling.

Each activity is described in the following subsections.

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4.2.1 Pre-field Activities

Before initiating each phase of the field work, AMEC conducted the following pre-field activities:

- Obtained an encroachment permit from the City of Wildomar (City) to work in public right-of-ways;
- Attend pre-construction meeting with the City;
- Notified DTSC and the City of planned field activities;
- DTSC notified the Autumnwood Development residents with a Work Notice
- Notified Underground Service Alert of the planned field activities;
- Erected “No Parking” signs in advance of conducting sampling activities;
- Retained Subsurface Surveys & Associates, Inc., a private utility locating company, to conduct geophysical surveys around the drilling and sampling locations to check for underground utilities and/or other obstructions; and
- Contracted and scheduled the drilling and laboratory services.

A copy of the City encroachment permit is provided in Attachment A. A copy of the Community Work Notice is provided in Attachment B.

4.2.2 Soil Sampling

To assess soil conditions in the Study Area, continuous core soil samples were collected from sample locations 6, 8, and 12 located in the assumed central portion of the former fill area. The subsurface materials encountered were described in the field by an AMEC geologist, licensed by the State of California as a Professional Geologist (PG). Soil characteristics were described following visual-manual procedures of ASTM D2488 for guidance, which are based on the Unified Soil Classification System. Soil was screened in the field using a photoionization detector (PID) for potential presence of VOCs. Color, moisture content, grain size, PID reading, and other pertinent soil characteristics were recorded on the boring logs. Following soil sampling, the boreholes were subsequently converted to soil gas monitoring points (see Section 4.2.4 Soil Gas Sampling). Soil boring logs for sample locations 6, 8, and 12 are provided in Attachment C.

Soil samples were collected from sample locations 6, 8, and 12 at approximate depths of 5, 10, and 15 feet. A duplicate soil sample collected from a depth of 10 feet at sample location 6 was designated as “60” and was submitted as a “blind” sample to the laboratory. The soil samples were submitted to Calscience and select samples were analyzed for the following:

- Title 22 metals (metals) using U.S. EPA Method 6010B/7470A;
- Semi-Volatile Organic Compounds (SVOCs) using U.S. EPA Method 8270C;
- Polychlorinated biphenyls (PCBs) using U.S. EPA Method 8082; and
- Organochlorine Pesticides (OCPs) using U.S. EPA Method 8081A.

Soil samples analytical results are summarized in Table 1. PCBs and pesticide compounds were not detected in any of the soil samples. Bis (2-ethylhexyl) Phthalate was the only SVOC detected and was reported at a concentration of 2.6 milligrams per kilogram (mg/kg) in the soil sample collected from a depth of 5 feet in sample location 12. Metal results are summarized in Table 1. A more detailed discussion of the results are in Section 6.1.1.

Laboratory reports and chain-of-custody records for the soil sample analyses are provided in Attachment D.

4.2.3 Groundwater Sampling

To assess groundwater conditions in the Study Area, groundwater samples were collected from sample locations 1, 7, 11, 13 (Figure 2). Groundwater was encountered in each sample locations at depths ranging from approximately 21 to 28 feet. Temporary PVC well casing was installed in each boring and was used to collect a groundwater sample. Groundwater samples were collected from each temporary well using a new disposable bailer. Duplicate samples designated as “110” and “130” were collected from sample locations 11 and 13, respectively, and were submitted as “blind” samples to the laboratory. The groundwater samples were submitted to Calscience and analyzed for the following:

- VOCs using U.S. EPA Method 8260B; and
- Formaldehyde using U.S. EPA Method 8315A.

The samples for formaldehyde analysis were subcontracted to Weck Laboratories, Inc. As shown in Table 2, VOCs and formaldehyde were not detected in any of the groundwater samples. Laboratory reports and chain-of-custody records for the groundwater sample analyses are provided in Attachment D.

Continuous core soil samples were collected from sample locations 1, 7, 11, and 13 located around the perimeter of in the Study Area (Figure 2). The geologic materials encountered were described in the field by an AMEC geologist, licensed by the State of California as a PG. Soil characteristics were described following visual-manual procedures of ASTM D2488 for guidance. The boreholes were subsequently converted

to soil gas monitoring points (see Section 4.2.4 Soil Gas Sampling). Soil boring logs for sample locations 1, 7, 11, and 13 are provided in Attachment C.

4.2.4 Soil Gas Sampling

To assess soil gas conditions in the Study Area, soil gas samples were collected and analyzed following the DTSC April 2012 *Advisory-Active Soil Gas Investigations* (Advisory). Soil gas samples were collected by H&P Mobile Geochemistry, Inc. (H&P) from temporary-type probes installed using direct push techniques. The temporary-type probes were installed during the first phase of field investigation and allowed to equilibrate for minimum of 48 hours before sampling commenced. At each location, soil gas probes were installed at approximate depths of 5 and 15 feet.

Soil gas probe construction details are noted on the soil boring logs for each location cored and are similar to the multilevel figure, Figure 1, in the Advisory. Typical soil gas probe construction consisted of placing a one-foot layer of #3 silica sand with the probe tip centrally emplaced in the sand pack. The sand layer was followed by a one-foot layer of dry granular bentonite followed by a layer of hydrated powdered bentonite to six inches below the shallow soil gas probe at 5 feet bgs. The process was repeated for the five-foot probe to approximately 1-foot below the top of the asphalt layer where the soil gas tubes were enclosed in a plastic baggie for protection and then embedded in #3 silica sand placed to one-half inch from the top of the asphalt layer. A temporary protective concrete patch covered the silica sand to the level of the asphalt.

Soil gas samples were collected from a total of 12 locations (Figure 2). Purge-volume tests were conducted at sampling locations 2 at 5 feet and 12 at 15 feet by collecting soil vapor samples after purging 1, 3 and 10 system volumes, as recommended by the Advisory. Based on the test results, a 3 purge volume was optimal at the 5-foot depth, while a 1 purge volume was optimal at the 15-foot depth.

Soil gas samples were analyzed for VOCs and fuel oxygenate compounds by an on-site mobile laboratory operated by H&P using U.S. EPA Method 8260.

During sampling, no flow conditions were observed at locations 1 (15-foot probe) and 6 (5-foot probe) and replacement probes were installed at depths of 10 and 3 feet, respectively. In addition, water was observed in location 8 (5-foot probe) and a replacement probe was installed at depth of 3 feet at that location. During initial purge testing, elevated concentrations of leak check compound (LCC) or tracer gas 1,1-difluoroethane were detected in location 12 at a depth of 5 feet. The source of LCC was later traced to faulty hardware at the surface. Following replacement of the faulty system parts, subsequent sample results were within acceptable limits. As shown in Table 3,

several VOC analytes were detected in soil gas samples. In general, VOC concentrations, where detected, are relatively low and consistent with background or ambient levels detected in soil gas throughout southern California.

Soil gas samples were collected from locations 2, 6 (and its duplicate), 8, 12, and 13 in DNPH cartridges and were submitted to Environmental Analytical Services, Inc. for analysis of formaldehyde using U.S. EPA Method TO-11A. As shown in Table 4, formaldehyde was not detected in any of these soil gas probe samples.

Laboratory reports and chain-of-custody records for the VOC and formaldehyde analyses are provided in Attachments E and F, respectively.

4.2.5 Sub-slab Sampling

To assess soil gas conditions beneath concrete slabs for select residential homes, sub-slab soil gas samples were collected from three properties in the Study Area. These include:

- 21689 Front Street address (samples 3B-SV located beneath the bedroom and 3G-SV located beneath the garage);
- 21645 Protea Court address (samples 10B-SV located beneath the bedroom and 10L-SV located beneath in living room); and
- 21730 Amaryllis Court address (samples 14B-SV located beneath the bedroom and 14G-SV located beneath the garage).

Soil gas samples were collected by H&P Mobile Geochemistry, Inc. from temporary-type, sub-slab probes drilled through the concrete slab and into sub-slab fill. Soil gas samples were collected in Summa canisters and analyzed for VOCs including methanol using U.S. EPA Method TO-15. As shown in Table 5, several VOC analytes (including methanol) were detected in sub-slab soil gas samples. In general, VOC concentrations, where detected, are relatively low. Elevated concentrations of LCC were also detected in samples 10B-SV and its duplicate 10B-SV-Rep. However, the elevated concentrations of LCC are most likely attributed to cracks in the concrete slab. Sub-slab soil gas samples 3B-SV, 10L-SV, and 14B-SV were collected in DNPH cartridges and analyzed for formaldehyde using U.S. EPA Method TO-11A. As shown in Table 4, formaldehyde was detected in each sub-slab soil gas sample at concentrations ranging from 6.53 to 8.10 micrograms per cubic meter ($\mu g/m^3$). A more detailed discussion of the results are in Section 6.1.4.

Laboratory reports and chain-of-custody records for the formaldehyde and VOC analyses are provided in Attachments F and G, respectively.

4.2.6 Equipment Cleaning and Investigative Derived Waste Management

During this investigation, all reusable downhole drilling and sampling equipment were cleaned before use by using Alconox-water solution, and rinsed twice using potable water. Soil cuttings and purged groundwater/equipment rinse water generated during this investigation were contained in Department of Transportation-approved 55-gallon drums. Each drum was labeled with the content, date of accumulation, and project contact information. Based on the sample results, the soil and waste water were characterized as non-hazardous and were subsequently transported by for disposal at offsite facilities.

5.0 INVESTIGATION RESULTS

As noted in Section 1.0, the overall purpose of this investigation was to assess the presence, distribution, and potential origin of VOC impact to the subsurface in the Study Area. To meet this purpose, the investigation included implementation of a Sampling and Analysis Plan (SAP) to obtain data to evaluate the potential nature and concentrations of VOCs present in subsurface soil, soil gas, and groundwater, and their relationship, if any, to vapor intrusion in the Study Area.

The results of the data collection and quality assurance/quality control (QA/QC) evaluation are summarized in the following subsections.

5.1 LABORATORY RESULTS

The soil, soil gas, groundwater, and QA/QC sample results are summarized in the following subsections. The field procedures were described in Section 4.0.

5.1.1 Soil Sample Results

A total of 10 soil samples, including 1 duplicate, were collected at 3 locations (6, 8, and 12) from approximate depths of 5, 10, and 15 feet. Soil samples were analyzed for SVOCs, PCBs, OCPs, and metals.

Soil samples analytical results are summarized in Table 1. PCBs and pesticide compounds were not detected in any of the soil samples. Bis (2-ethylhexyl) phthalate was the only SVOC detected and was reported at a concentration of 2.6 milligrams per kilogram (mg/kg) in the soil sample collected from a depth of 5 feet in sample location 12. Metal results are summarized in Table 1 and are considered within background levels for metals in soil. The laboratory analytical reports for soil samples are provided in Attachment D.

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5.1.2 Grab Groundwater Sample Results

A total of 6 grab groundwater samples, including 1 duplicate and 1 split, were collected from 4 locations (1, 7, 11, and 13) from depth intervals between approximately 20 and 30 feet.

Groundwater samples were analyzed for VOCs using U.S. EPA Method 8260B. As shown in Table 2, VOCs and formaldehyde were not detected in any of the groundwater samples. Laboratory reports and chain-of-custody records for the groundwater sample analyses are provided in Attachment D.

5.1.3 Soil Gas Results

During this investigation, a total of 24 soil gas probes were installed at 12 locations (1, 2, 4-10, 11 through 13, and 15) at approximate depths of 5 and 15 feet except as noted in Section 4.2.4.

A total of 33 soil gas samples, including 6 purge volume test samples for the 5 and 15 foot depths and 3 replicate samples, were collected and analyzed for VOCs using U.S. EPA Method 8260B.

BTEX compounds were the primary VOCs detected in soil gas samples. VOC concentrations were generally approximately double in the 15 foot samples compared to the five foot samples although both concentrations are considered very low level. The following is a breakdown of the VOC concentration ranges detected in soil gas with depth during the investigation.

- <u>Sampling depth intervals between approximately 3 and 5 feet</u>:
  - Benzene was detected concentrations ranging from ND to 0.06 micrograms per liter (μg/L).
  - Chloroform was detected at concentrations ranging from ND to 0.04 μg/L.
  - m, p-Xylene was detected at concentrations ranging from ND to 0.27 μg/L.
  - 1,2,4-Trimethylbenzene at concentrations ranging from ND to 0.11 μg/L.
- <u>Sampling depth intervals between approximately 10 and 15 feet</u>:
  - Benzene was detected at concentrations ranging from ND to 0.10 μg/L.
  - Toluene was detected at concentrations ranging from ND to 0.29 μg/L.

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- Ethylbenzene was detected at concentrations ranging from ND to 0.25 μg/L.
- m, p-Xylene was detected at concentrations ranging from ND to 1.5 μg/L.
- o-Xylene was detected at concentrations ranging from ND to 0.42 μg/L.
- 1,2,4-Trimethylbenzene at concentrations ranging from ND to 0.37 μg/L.
- 1,3,5- Trimethylbenzene at concentrations ranging from ND to 0.14 μg/L.
- Naphthalene at concentrations ranging from ND to 0.20 μg/L.
- p-Isopropyltoluene at concentrations ranging from ND to 0.22 μg/L.

Analytical results for VOCs detected in the soil gas samples are summarized in Table 2. A comparison between the primary and replicate VOC sample are presented in Table 6. The laboratory analytical reports for soil gas samples analyzed by the mobile laboratory are provided in Attachment E.

Additionally, soil gas samples were collected from locations 2, 6 (and its duplicate), 8, 12, and 13 in DNPH cartridges and were submitted to Environmental Analytical Services, Inc. for analysis of formaldehyde using U.S. EPA Method TO-11A. As shown in Table 4, formaldehyde was not detected in any of these soil gas probe samples.

5.1.4 Sub-Slab Sample Results

A total of 10 sub-slab soil gas samples were collected including 6 primary VOC and 1 replicate, and 3 for formaldehyde analysis. As shown in Table 5, several VOC analytes (including methanol) were detected in sub-slab soil gas samples. The following is a breakdown of the VOC concentration ranges detected in soil gas with depth during the investigation:

- Tetrachloroethylene was detected at concentrations ranging from ND to 0.02 μg/L.
- Chloroform was detected at concentrations ranging from ND to 0.01 μg/L.
- Benzene was detected at concentrations ranging from 0.01 to 0.11 μg/L.
- Toluene was detected at concentrations ranging from 0.01 to 0.16 μg/L.
- Ethylbenzene was detected at concentrations ranging from ND to 0.04 μg/L.
- m, p-Xylene was detected at concentrations ranging from 0.01 to 0.08 μg/L.
- o-Xylene was detected at concentrations ranging from 0.01 to 0.03 μg/L.

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- 1,2,4-Trimethylbenzene was detected at concentrations ranging from 0.01 to 0.02 μg/L.
- Methyl tert-butyl ether was detected at concentrations ranging from ND to 0.01 μg/L.
- Methylene Chloride was detected at concentrations ranging from ND to 0.01 μg/L.
- Methanol was detected at concentrations ranging from ND to 0.54 μg/L.

In general, VOC concentrations, where detected, are relatively low. Elevated concentrations of LCC were also detected in samples 10B-SV and its duplicate 10B-SV-Rep. However, the elevated concentrations of LCC are most likely attributed to cracks in the concrete slab. Sub-slab soil gas samples 3B-SV, 10L-SV, and 14B-SV were collected in DNPH cartridges and analyzed for formaldehyde using U.S. EPA Method TO-11A. As shown in Table 4, formaldehyde was detected in each sub-slab soil gas sample at concentrations ranging from 6.53 to 8.10 micrograms per cubic meter (µg/m^3).

Laboratory reports and chain-of-custody records for the formaldehyde and VOC analyses are provided in Attachments F and G, respectively.

5.2 Quality Assurance/Quality Control

Throughout the investigation, AMEC followed quality assurance (QA) and quality control (QC) procedures described in the DTSC Work Plan to demonstrate the proper collection of environmental samples and laboratory measurements of chemical concentrations.

5.2.1 Field Quality Control Samples

During implementation of the work plan, the following types of field QC samples were collected:

- trip blanks
- field equipment blanks
- field duplicates

The field QC sampling results are discussed in the following subsections.

5.2.1.1 Trip Blanks

A total of two trip blanks were collected and analyzed for VOCs using U.S. EPA Method 8260B. No VOCs were detected in any of the trip blanks.

5.2.1.2 Field Equipment Blanks

One field equipment blank was collected from non-dedicated soil sampling equipment and were analyzed for metals using U.S. EPA Method 6010B/7470A, SVOCs using U.S. EPA Method 8270C, PCBs using U.S. EPA Method 8082, and pesticides using U.S. EPA Method 8081A. No analytes were detected in the field equipment blank samples.

5.2.1.3 Field Duplicate Samples

A total of 4 field duplicate samples were collected (1 soil sample, 1 groundwater samples, 2 soil gas samples, and 2 sub-slab soil gas samples) and analyzed using the same methods as the primary samples. Primary/duplicate sample pair results were assessed using the relative percent difference (RPD) between the primary sample and the duplicate sample measurements. As shown on Table 6, the precision goals for field duplicate were all within 30% for water samples and 50% for soil and soil gas samples.

5.2.2 Laboratory Quality Assurance/Quality Control Samples

The analytical data presented in this report were reviewed in general accordance with the U.S. EPA data review methods.

- All samples were analyzed within the appropriate holding times specified by each laboratory method;
- No analytes were detected in the laboratory method blanks at concentrations above laboratory reporting limits;
- Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed and the percent recovery (%R) for the MS and MSD samples and RPDs for the MS/MSD pairs for both analyses were within laboratory QC limits except for antimony in soil samples and formaldehyde in groundwater samples;
    - The MS/MSD %R was below QC limits for antimony due to suspected matrix interference. Antimony was not detected in any of the associated soil samples and thus, the results were qualified with UJ flags;
    - The MSD %R was above QC limits for formaldehyde. All other associated QA/QC sample analyses were within limits and data qualification was not necessary;
- Laboratory control samples (LCS) and duplicate (LCSD) were analyzed and the %R and RPD for the LCS and LCSD samples were within laboratory QC limits; and

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- Surrogates recoveries were within the laboratory QC limits.

5.2.3 Summary of Data Quality Review

All samples proposed in the Workplan (DTSC, 2013) and as modified based on site/field conditions were collected and analyzed as planned. The specified numbers of QA/QC samples were also collected and analyzed as planned. Overall, the results of the QA/QC review indicate that the laboratory results are acceptable and meet the data quality objectives of the project. Other than antimony noted above, none of the assessment data for soil gas, soil, or groundwater required qualification because of the laboratory QA/QC results. The data obtained are considered sufficiently complete and acceptable for the purposes and intended use of this investigation.

6.0 SUMMARY OF FINDINGS

As discussed in Section 1.0, the purpose of this investigation was to determine whether hazardous substances, including VOCs, are present in the soil and groundwater and if detected, do these hazardous substances pose a risk to human health.

6.1 Evaluation of Investigation Results

The following subsections evaluate the data summarized in Section 5.1 and discuss the Investigation findings as they relate to potential human health risk from vapor intrusion or direct contact with soil.

6.1.1 Soil Sample Results

The metals results presented in Table 1 are considered background for southern California, and as such, none of the detected metals would be considered a chemical of potential concern (COPC). No PCBs or OCPs were detected in the soil matrix samples. As shown in Table 1, only one SVOC, bis(2-ethylhexyl)Phthalate was detected in one sample (location 12) at the 5-foot depth. Bis(2-ethylhexyl)Phthalate is a very common environmental contaminant resulting from its use as a plasticizer in all types of plastic products. This SVOC was detected at a concentration of 2.6 mg/kg, just above the reporting limit of 2.5 mg/kg. The EPA Regional Screening Levels (RSLs) in soil are 35 mg/kg for cancer effects and 1,200 mg/kg for non-cancer effects. Unrestricted, direct contact with soil through incidental ingestion, dermal contact and inhalation of particulate would result in a cancer risk and hazard of 7E-08 and 0.002, respectively. Consequently, exposure to bis(2-ethylhexyl)Phthalate would result in a negligible risk and hazard from unlimited exposure to soil, conservatively assuming that it was present at this concentration in soil throughout the Development.

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6.1.2 Groundwater Sample Results

As shown in Table 2, no VOCs, including formaldehyde, were detected in shallow groundwater beneath the Autumnwood Development. Therefore, groundwater beneath the Development does not represent a source of VOCs and would not contribute to vapor intrusion.

6.1.3 Soil Gas Results

Soil gas sample results are summarized in Table 3. The majority of soil gas detections were fuel-related VOCs, specifically benzene, ethylbenzene, toluene, xylenes (otherwise known as BTEX), and 1,2,4-trimethylbenzene. Naphthalene was detected in only two samples at 15-feet (2-SV-15 and 12-SV-15). 1,3,5-trimethylbenzene was detected in only one sample at 15-feet (9-SV-15). Isopropyltoluene was detected in only two samples at 15-feet (7-SV-15 and 8-SV-15). The only chlorinated VOC detected was chloroform, which was detected in only two samples at 5-feet (2-SV-5 and 5-SV-5). Table 3 also presents the soil gas screening criteria, specifically, the soil gas California Human Health Screening Levels (CHHSLs) developed by the Office of Environmental Health Hazard Assessment (OEHHA)(Cal/EPA 2005, 2010). If CHHSLs were not available for a specific chemical, a soil gas screening concentration was derived using the Indoor Air Regional Screening Level (RSL) (EPA 2013) and applying the default residential soil gas attenuation factor of 0.002, as recommended in the Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance) (DTSC 2011). As shown in Table 3, benzene slightly exceeded its CHHSL at one location (4-SV-15) and naphthalene slightly exceeded its CHHSL at one location (2-SV-15).

The levels of BTEX and fuel-related VOCs detected in soil gas are routinely observed in any soil gas investigation and DTSC considers these levels to be background or ambient soil gas concentrations in southern California. Even though these levels are consistent with ambient levels, the potential for vapor intrusion for each VOC detected in soil gas was evaluated. As a conservative and very health protective assumption, the maximum soil gas concentration was selected and assumed to be the maximum reported soil gas concentrations uniformly distributed throughout the Autumnwood Development. Consistent with the Vapor Intrusion Guidance, we conducted a screening-level vapor intrusion risk evaluation using the DTSC-modified Johnson and Ettinger Vapor Intrusion Model. Consistent with the boring logs and previous geotechnical investigations, a sandy clay loam (SCL) soil type was selected and default model parameters for SCL used. The Johnson and Ettinger Screening Model Outputs are presented in Attachment H. The soil gas screening-level indoor air risks and hazards are summarized in Table 7. The maximum estimated indoor air cancer risk and hazard were 1E-06 and 0.04,

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respectively. Based on the results of this very health protective screening evaluation of soil gas results, VOCs detected in soil gas do not pose an indoor air risk or hazard and soil gas does not pose a vapor intrusion threat for the Autumnwood Development.

In addition to the full suite of VOCs analyzed in soil gas samples, formaldehyde was also analyzed by EPA Method TO-11A. No formaldehyde was detected in soil gas.

6.1.4 Sub-Slab Soil Gas Results

The sub-slab analytical results for three homes are summarized in Table 4. As seen for the soil gas samples, low levels of BTEX and fuel-related VOCs were detected in the sub-slab soil gas samples. In addition, low levels of tetrachloroethene were also detected in the sub-slab samples. Consistent with the Vapor Intrusion Guidance, maximum potential indoor air concentrations were estimated from the sub-slab concentrations using a conservative, default attenuation factor of 0.05. Based on our experience, this health protective attenuation factor overestimates potential indoor air concentrations from the sub-slab. Table 8 compares the predicted maximum indoor air concentrations to their respective indoor air screening concentrations, which were either indoor air CHHSLs or RSLs. As can be seen, most of the VOCs were at or below their risk-based indoor air concentrations, with the exception of benzene. However, the predicted indoor air concentrations of benzene were within the range of median or average background indoor air concentrations for homes with no vapor intrusion, as determined by EPA (EPA 2011). Consequently, sub-slab soil gas concentrations of benzene are unlikely to contribute to indoor air quality, as compared to other indoor air sources and ambient air levels.

Table 5 presents the soil gas and sub-slab soil gas results for formaldehyde. As discussed previously, no formaldehyde was detected in the soil gas samples. Low levels of formaldehyde were detected in the sub-slab samples and ranged from 6.5 to 8.1 $\mu g/m^3$. These concentrations of formaldehyde likely come from indoor air, as a 30 Liter volume of air was sampled to achieve risk-based detections limits. As can be seen from Table 4, leak check compound was detected in the sub-slab samples collected using 400 ml Summa canisters, suggesting that the formaldehyde came from indoor air breakthrough. Previous indoor air sampling by the Swanson Law Firm at four homes on Amaryllis Court showed formaldehyde between 23 and 82 $\mu g/m^3$. Again, using the health protective, default attenuation factor of 0.05, if the formaldehyde was coming from the subsurface, the sub-slab soil gas concentrations would have to be between 460 and 1,640 $\mu g/m^3$. Likewise, using the default soil gas attenuation factor of 0.002, the soil gas concentration of formaldehyde would have to be between 11,500 and 41,000 $\mu g/m^3$ to account for the measured indoor air concentrations of formaldehyde; no formaldehyde

was ever detected in soil gas. Based on multiple lines of evidence, the formaldehyde detected in the residences is the result of an indoor air source(s).

6.1.5 Conclusions

Based on multiple lines of evidence, the following conclusions were reached regarding the potential for vapor intrusion or a release of hazardous substances at the Autumnwood Development.

1. Because all metals detected in soil were within background and no PCBs, OCPs or SVOCs of concern were detected in soil, there is no evidence of a release of hazardous substances;

2. VOCs detected in soil gas are consistent with background or ambient levels of VOCs in soil gas throughout southern California;

3. Shallow groundwater is not a source of VOCs;

4. VOCs detected in soil gas do not pose a significant indoor air risk or hazard;

5. Per DTSC's VI Guidance, vapor intrusion is not occurring at the Autumnwood Development;

6. VOCs detected in indoor air are not originating from the subsurface. While elevated levels of VOCs were previously detected in indoor air quality samples at certain homes, these VOCs are not a result of contaminated soil, soil gas or groundwater beneath the homes in the Autumnwood Development.

7.0 REFERENCES

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FIGURES

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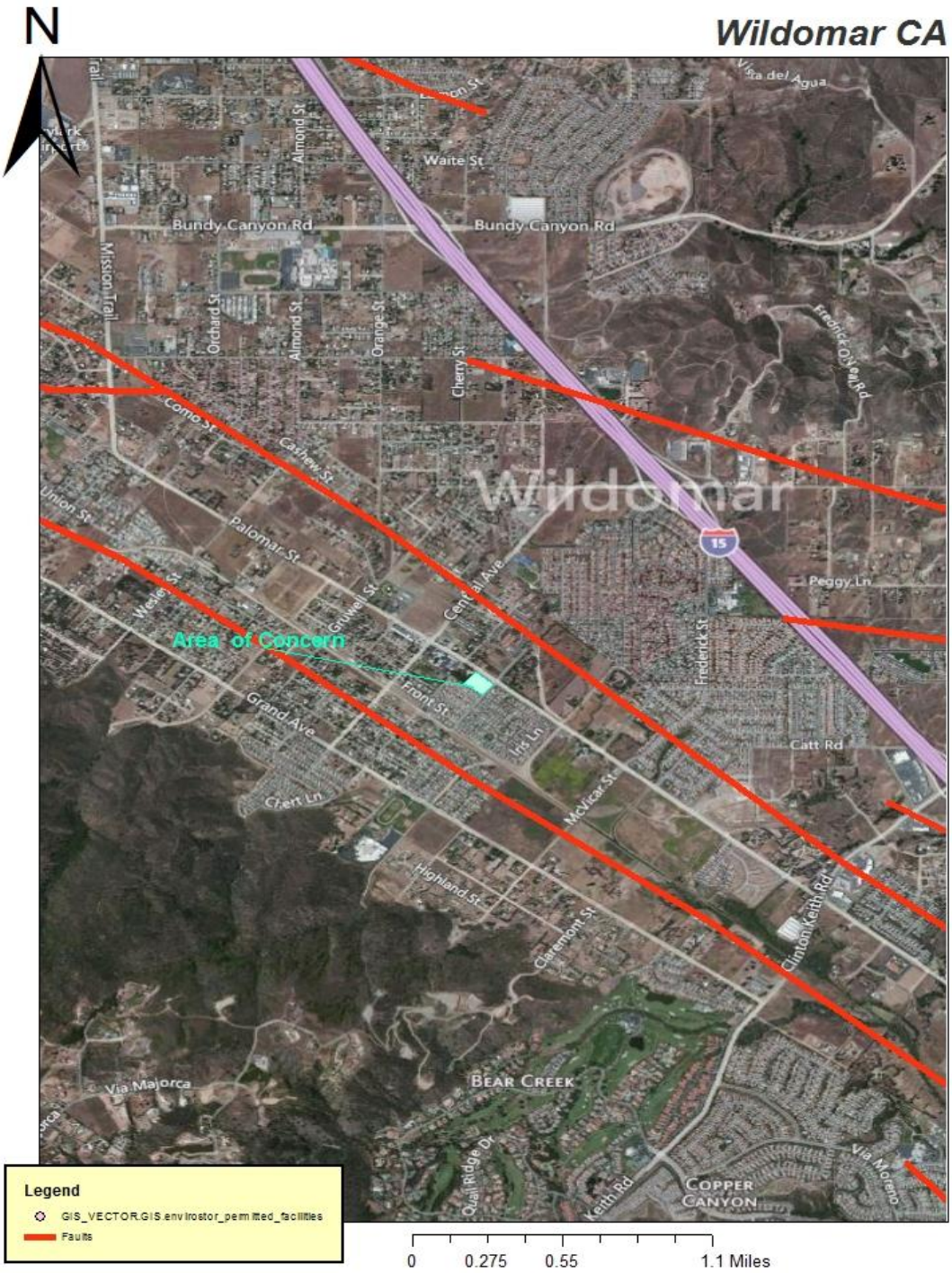
N
Wildomar CA
Vista del Agua
Waite St
Bundy Canyon Rd
Bundy Canyon Rd
Mission Trail
Orchard St
Almond St
Almond St
Orange St
Cherry St
Frederick O'Neal Rd
Como St
Cashew St
Wildomar
Union St
Palomar St
15
Peggy Ln
Gruwell St
Central Ave
Area of Concern
Frederick St
Front St
Grand Ave
Iris Ln
Catt Rd
Clark Ln
McVicar St
Highland St
Claremont St
Clinton Keith Rd
Via Majorca
Bear Creek
Quail Ridge Dr
Keith Rd
Copper Canyon
Via Moreno
Legend
GIS_VECTOR.GIS.envirostor_permitted_facilities
Faults
0
0.275
0.55
1.1 Miles

Explanation:

- Soil Gas sample location
- Sub-slab sample location
- Soil/Soil Gas sample location
- Soil/Soil Gas/Groundwater sample location
- Limits of project area

All locations are approximate

Basemap modified from ESRI World Imagery 2013

SAMPLE LOCATIONS
Autumnwood Development
Wildomar, California

By: jbd	Date: 11/25/2013	Project No. NB1016075P
amec		Figure 2

Plot Date: 11/27/2013 11:42:59 AM, Plotted by: pat.herring Drawing Path: Y:\NB1016075P\ACAD_TB-003_SAMPLING LOCATIONS.DWG, Figure 2_Proposed Sample Locations

A
A'
B
B'
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Palmore St.
Palmer St.
Front St.
Perfect Ct.
Amaryllis
Dahlia Ln.
Approximate Scale in Feet
Explanation:
Soil Gas sample location
Sub-Slab sample location
Soil/Soil Gas sample location
Soil/Soil Gas/Groundwater sample location
Limits of Study Area
All locations are approximate
Basemap modified from ESRI World Imagery 2013
SAMPLE LOCATIONS
Autumnwood Development
Wildomar, California
(Cross Section Locations Added by DTSC)
By: jbd
Date: 12/02/2013
Project No. NB1016075P
amec
Figure 2

Figure 3

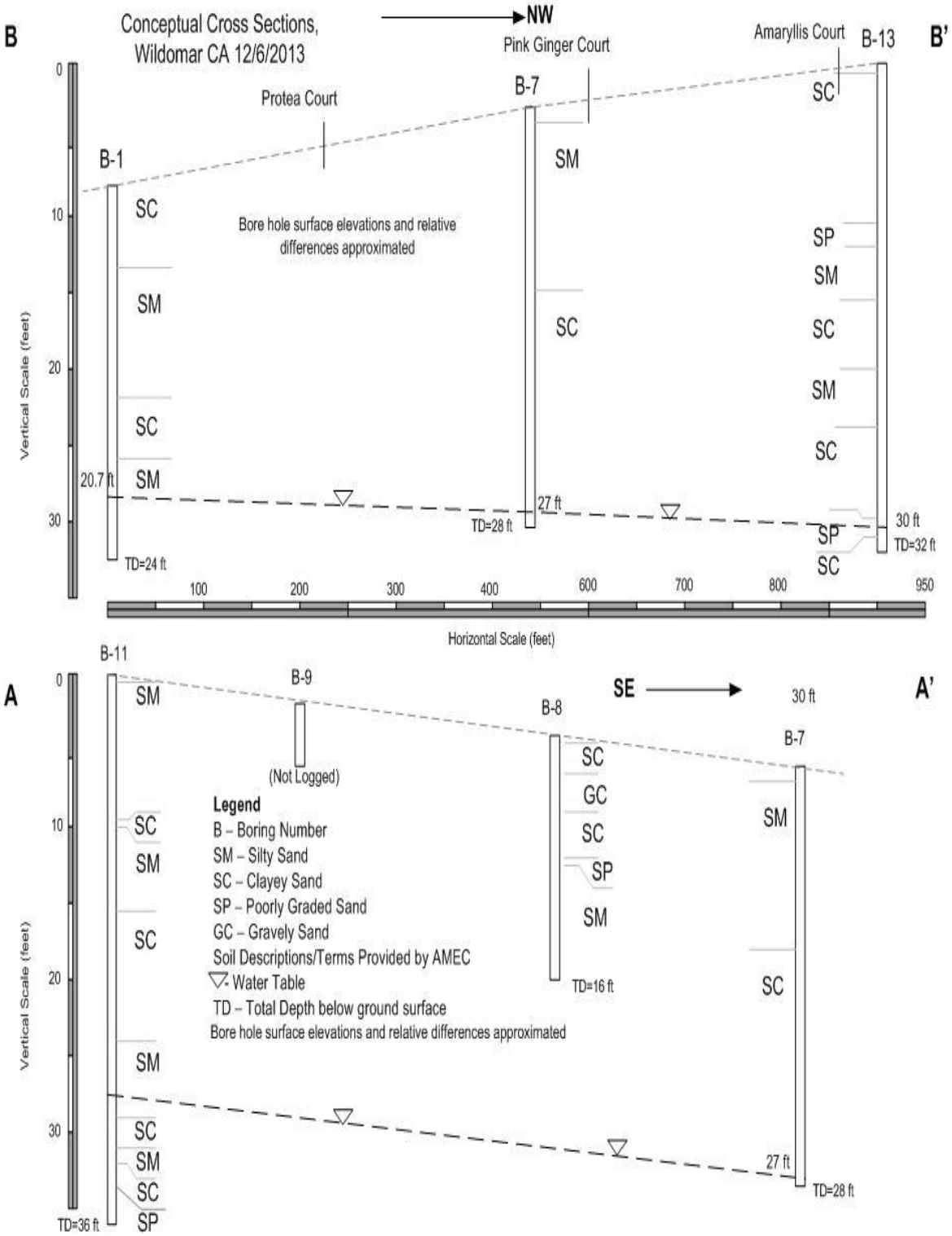
Conceptual Cross Sections,
Wildomar CA 12/6/2013
B
B'
NW
Pink Ginger Court
Amaryllis Court
B-13
Protea Court
B-7
B-1
SC
SM
SP
Bore hole surface elevations and relative differences approximated
Vertical Scale (feet)
20.7 ft
27 ft
30 ft
TD=24 ft
TD=28 ft
TD=32 ft
Horizontal Scale (feet)
A
A'
SE
B-11
B-9
B-8
B-7
(Not Logged)
GC
Legend
B – Boring Number
SM – Silty Sand
SC – Clayey Sand
SP – Poorly Graded Sand
GC – Gravely Sand
Soil Descriptions/Terms Provided by AMEC
Water Table
TD – Total Depth below ground surface
Bore hole surface elevations and relative differences approximated
TD=16 ft
TD=36 ft

Figure 4

TABLES

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TABLE 1

SOIL SAMPLE ANALYTICAL RESULTS

Autumnwood Development

Wildomar, California

Concentrations reported in milligrams per kilogram (mg/kg)

Sample Location	Sample Depth (feet bgs)	Sample Identification	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury	Semi-volatile organic compounds	Polychlorinated Biphenyls	Pesticides
6-SS	5-6	6-SS-5-6	11/8/2013	ND	**1.67**	**75.4**	ND	ND	**11.5**	**11.2**	**12.7**	**1.05**	ND	**5.70**	ND	ND	ND	**58.0**	**42.1**	ND	ND	ND	ND
	9-11	6-SS-9-11	11/8/2013	ND	**0.815**	**93.0**	**0.308**	ND	**13.5**	**13.7**	**13.9**	**1.51**	ND	**6.39**	ND	ND	ND	**64.3**	**43.6**	ND	ND	ND	ND
	9-11 DUP	60-SS-9-11	11/8/2013	ND	**0.822**	**101**	**0.326**	ND	**13.7**	**14.3**	**15.1**	**1.46**	ND	**6.95**	ND	ND	ND	**66.4**	**46.6**	ND	ND	ND	ND
	13.75-14.75	6-SS-13.75-14.75	11/8/2013	ND	ND	**34.4**	ND	ND	**5.43**	**4.61**	**2.62**	ND	ND	**1.51**	ND	ND	ND	**40.6**	**13.1**	ND	ND	ND	ND
8-SS	5-6	8-SS-5-6	11/8/2013	ND	**1.28**	**66.8**	ND	ND	**9.77**	**9.93**	**10.2**	**1.22**	ND	**5.12**	ND	ND	ND	**48.6**	**36.4**	ND	ND	ND	ND
	9.5-10.5	8-SS-9.5-10.5	11/8/2013	ND	ND	**68.8**	ND	ND	**9.17**	**9.79**	**9.81**	**0.566**	ND	**4.99**	ND	ND	ND	**45.9**	**37.0**	ND	ND	ND	ND
	14.25-15.25	8-SS-14.25-15.25	11/8/2013	ND	ND	**94.7**	**0.297**	ND	**12.6**	**12.9**	**13.4**	**1.41**	ND	**6.61**	ND	ND	ND	**63.0**	**44.1**	ND	ND	ND	ND
12-SS	5-6	12-SS-5-6	11/8/2013	ND	ND	**108**	**0.256**	ND	**9.69**	**6.23**	**4.95**	**0.839**	ND	**4.33**	ND	ND	ND	**29.4**	**34.7**	ND	Bis(2-Ethylhexyl) phthalate= **2.6**	ND	ND
	9.5-10.5	12-SS-9.5-10.5	11/8/2013	ND	**0.855**	**60.5**	ND	ND	**9.36**	**8.91**	**8.76**	ND	ND	**4.51**	ND	ND	ND	**51.1**	**32.4**	ND	ND	ND	ND
	13.25-15.25	12-SS-13.25-15.25	11/8/2013	ND	ND	**102**	**0.316**	ND	**12.0**	**13.4**	**13.4**	**1.48**	ND	**6.98**	ND	ND	ND	**62.0**	**48.0**	ND	ND	ND	ND

Notes:

1. Title 22 Metals were analyzed using EPA Method 6010B/7470A. Polychlorinated biphenyls, semi-volatile organic compounds, and pesticides were analyzed using EPA Method 8082, EPA Method 8270C, and EPA Method 8081A, respectively.
2. bgs = below ground surface.
3. ND = Not detected at or above laboratory reporting limit.
4. DUP = duplicate sample.
5. Detections at or above the laboratory reporting limit are shown in **bold**.

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TABLE 2

GROUNDWATER SAMPLE ANALYTICAL RESULTS

Autumnwood Development
Wildomar, California

Concentrations reported in micrograms per liter (µg/L)

Sample Location	Sample Depth (feet bgs)	Sample Identification	Sample Date	Volatile Organic Compounds (VOCs)	Formaldehyde
1-GW	19-24	1-GW-19-24	11/7/2013	ND	ND
7-GW	23-28	7-GW-23-28	11/8/2013	ND	ND
11-GW	31-36	11-GW-31-36	11/7/2013	ND	ND
11-GW (DUP)	31-36	110-GW-31-36	11/7/2013	ND	--
13-GW	27-32	13-GW-27-32	11/7/2013	ND	ND
13-GW (DUP)	27-32	130-GW-27-32	11/7/2013	--	ND

Notes:

1. VOCs and formaldehyde were analyzed using EPA Method 8260B and EPA Method 8315A, respectively.
2. ND = Not detected at or above laboratory reporting limit.
3. DUP = duplicate sample.
4. bgs = below ground surface.
5. -- = Not analyzed.

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TABLE 3

SOIL GAS SAMPLE ANALYTICAL RESULTS

Autumnwood Development
Wildomar, California

Concentrations reported in micrograms per liter (µg/L)

Sample Location	Sample Depth (feet bgs)	Sample Identification	Sample Date	Tetrachloroethene	Chloroform[1]	Benzene	Toluene	Ethylbenzene	m, p-Xylene	O-Xylene	1,2,4-Trimethylbenzene[2]	1,3,5- Trimethylbenzene[3]	Naphthalene	p-Isopropyltoluene[4]	Methanol	Tracer 1,1 Difluoroethane (LCC)
		CHHSL	**(µg/L)**	**0.47**	**0.42**	**0.09**	**320**	**1.1**	**800**	**740**	**3.65**	**3.65**	**0.09**	**210**		
1-SV	5	1-SV-5	11/15/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
	5-Rep	1-SV-5-Rep	11/15/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
	10	1-SV-10	11/15/13	ND	ND	**0.03**	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
2-SV-1PV	5	2-SV-5	11/14/13	ND	ND	ND	ND	ND	**0.19**	ND	ND	ND	ND	ND	--	ND
2-SV-3PV				ND	ND	**0.02**	ND	ND	**0.21**	ND	ND	ND	ND	ND	--	ND
2-SV-10PV				ND	**0.04**	**0.02**	ND	ND	**0.27**	ND	ND	ND	ND	ND	--	ND
2SV	15	2-SV-15	11/14/13	ND	ND	**0.08**	**0.25**	ND	**0.26**	ND	**0.10**	ND	**0.20**	ND	--	ND
4-SV	15	4-SV-15	11/15/13	ND	ND	**0.10**	**0.29**	ND	**0.30**	ND	ND	ND	ND	ND	--	ND
	5	4-SV-5	11/15/13	ND	ND	**0.02**	ND	ND	ND	ND	ND	ND	ND	ND	--	**1.1**
5-SV	15	5-SV-15	11/14/13	ND	ND	**0.03**	ND	ND	**0.27**	ND	**0.17**	ND	ND	ND	--	**0.27**
	5	5-SV-5	11/14/13	ND	**0.04**	ND	ND	ND	**0.14**	ND	ND	ND	ND	ND	--	ND
6-SV	15	6-SV-15	11/14/13	ND	ND	**0.02**	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
	15-Rep	6-SV-15-Rep	11/14/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
	3	6-SV-3	11/15/13	ND	ND	**0.02**	ND	ND	**0.18**	ND	ND	ND	ND	ND	--	ND
7-SV	5	7-SV-5	11/15/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
	15	7-SV-15	11/15/13	ND	ND	**0.08**	**0.23**	**0.25**	**1.5**	**0.42**	**0.13**	ND	ND	**0.15**	--	ND
8-SV	3	8-SV-3	11/15/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
	15	8-SV-15	11/15/13	ND	ND	**0.08**	ND	**0.13**	**0.71**	**0.20**	**0.14**	ND	ND	**0.22**	--	ND
9-SV	15	9-SV-15	11/15/13	ND	ND	**0.03**	ND	ND	**0.24**	ND	**0.37**	**0.14**	ND	ND	--	ND
	5	9-SV-5	11/15/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
11-SV	15	11-SV-15	11/15/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
	5	11-SV-5	11/15/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
12-SV-1PV	15	12-SV-15	11/13/13	ND	ND	**0.06**	**0.26**	ND	**0.33**	**0.12**	ND	ND	**0.02**	ND	--	**0.70**
12-SV-3PV				ND	ND	**0.02**	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
12-SV-10PV				ND	ND	**0.02**	ND	ND	**0.13**	ND	ND	ND	ND	ND	--	ND
12-SV	5	12-SV-5	11/14/13	ND	ND	**0.02**	ND	ND	**0.11**	ND	**0.11**	ND	ND	ND	--	**0.89**
13-SV	15	13-SV-15	11/14/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
	5	13-SV-5	11/14/13	ND	**0.02**	**0.06**	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
15-SV	15	15-SV-15	11/15/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
	5	15-SV-5	11/15/13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND

[1] For Chloroform, the soil gas CHHSL of 420 µg/L was provided by Dr. David Siegel of OEHHA.

[2] For 1,2,4-trimethylbenzene, the soil gas screening level was calculated using the EPA indoor air RSL (7.3 µg/m^3) and a default soil gas attenuation factor of 0.002, per the DTSC Vapor Intrusion Guidance (DTSC 2011).

[3] For 1,3,5-trimethylbenzene, the soil gas screening level for 1,2,4-trimethylbenzene was used as a surrogate.

[4] For isopropyltoluene, the soil gas screening level was calculated using the indoor air RSL for cumene (420 µg/m^3) as a surrogate and a default soil gas attenuation factor of 0.002, per the DTSC Vapor Intrusion Guidance (2011).

Notes:

1. Soil gas samples analyzed by mobile laboratory for volatile organic compounds using EPA Method 8260SV (see laboratory sheets for
2. Detections at or above the laboratory reporting limit are shown in **bold**.
3. Purge volume tests were conducted at 2-SV-5 and 12-SV-15. A numeric and "PV" following the probe ID indicate the purge volume applied prior to collecting the soil gas sample. Shallow (3 and 5-foot depth) soil gas samples were collected after 3 purge volume and deeper (10-
4. bgs = below ground surface.
5. -- = Not analyzed.
6. Rep = duplicate sample.

TABLE 4

SUB-SLAB SAMPLE ANALYTICAL RESULTS

Autumnwood Development
Wildomar, California

Concentrations reported in micrograms per cubic meter (µg/m3)

Sample Location	Sample Identification	Sample Date	Tetrachloroethene	Chloroform	Benzene	Toluene	Ethylbenzene	m, p-Xylene	O-Xylene	1,2,4-Trimethylbenzene	1,3,5- Trimethylbenzene	Naphthalene	p-Isopropyltoluene	Methyl tert-butyl ether	Methylene Chloride	Methanol	Tracer 1,1 Difluoroethane (LCC)
3B (bedroom)	3B-SV	11/14/2013	ND	ND	**24**	**60**	**19**	**48**	**20**	**15**	ND	ND	ND	ND	ND	**540**	**7.5**
3G (garage)	3G-SV	11/14/2013	**15**	**11**	**55**	**140**	**26**	**66**	**22**	**14**	ND	ND	ND	ND	**6.2**	**95**	**8.2**
10L (living room)	10L-SV	11/14/2013	**16**	ND	**23**	**76**	**21**	**34**	**10**	**12**	ND	ND	ND	ND	ND	ND	**19**
10B (bedroom)	10B-SV	11/14/2013	ND	ND	**7.6**	**16**	ND	**16**	**5.2**	**14**	ND	ND	ND	ND	**3.7**	**230**	**1000**
10B duplicate	10B-SV Rep	11/14/2013	ND	ND	**5.8**	**11**	ND	**12**	**5.4**	**13**	ND	ND	ND	ND	ND	**190**	**120**
14G (garage)	14G-SV	11/14/2013	ND	ND	**26**	**59**	**11**	**30**	**12**	**17**	ND	ND	ND	ND	ND	**100**	**20**
14B (bedroom)	14B-SV	11/14/2013	**12**	ND	**110**	**160**	**35**	**79**	**29**	**15**	ND	ND	ND	**8.7**	ND	**41**	**12**

Notes:

1. Sub-slab samples analyzed for volatile organic compounds using EPA Method TO-15 (see laboratory sheets for complete list of compounds).
2. Detections at or above the laboratory reporting limit are shown in **bold**.
3. ND = Not detected at or above laboratory reporting limit.
4. Rep = duplicate sample.

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TABLE 5

FORMALDEHYDE SOIL GAS SAMPLE RESULTS

Autumnwood Development
Wildomar, California

Concentrations reported in micrograms per cubic meter (µg/m3)

Sample Location	Sample Depth (feet bgs)	Sample Identification	Sample Date	Formaldehyde
2-SV	5	2-SV-5	11/14/13	ND
6-SV	15	6-SV-15	11/14/13	ND
6-SV Dup	15	60-SV-15	11/14/13	ND
8-SV	3	8-SV-3	11/14/13	ND
12-SV	15	12-SV-15	11/14/13	ND
13-SV	15	13-SV-15	11/14/13	ND
3B-SV	sub-slab	3B-SV	11/14/13	**6.53**
10L-SV	sub-slab	10L-SV	11/14/13	**6.64**
14B-SV	sub-slab	14B-SV	11/14/13	**8.10**
Blank	--	Blank	11/14/13	ND

Notes:
1. Formaldehyde was analyzed using EPA Method TO-11A.
2. ND = Not detected at or above laboratory reporting limit.
3. Dup = duplicate sample.
4. Detections at or above the laboratory reporting limit are shown in **bold**.
5. bgs = below ground surface.
6. -- = not applicable.

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TABLE 6

QUALITY CONTROL SAMPLE RESULTS
Autumnwood Development
Wildomar, California

Soil Samples				
Soil Sample ID		**6-SS-9-11**	**60-SS-9-11**	**RPD**
Analyte	**Reporting Limits (mg/kg)**	**(primary)**	**(duplicate)**	
Title 22 Metals				
Antimony	0.750	<0.750	<0.750	--
Arsenic	0.750	**0.815**	**0.822**	**1**
Barium	0.500	**93.0**	**101**	**8**
Beryllium	0.250	**0.308**	**0.326**	**6**
Cadmium	0.500	<0.500	<0.500	--
Chromium	0.250	**13.5**	**13.7**	**1**
Cobalt	0.250	**13.7**	**14.3**	**4**
Copper	0.500	**13.9**	**15.1**	**8**
Lead	0.500	**1.51**	**1.46**	**3**
Molybdenum	0.250	<0.250	<0.250	--
Nickel	0.250	**6.39**	**6.95**	**8**
Selenium	0.750	<0.750	<0.750	--
Silver	0.250	<0.250	<0.250	--
Thallium	0.750	<0.750	<0.750	--
Vanadium	0.250	**64.3**	**66.4**	**3**
Zinc	1.000	**43.6**	**46.6**	**7**
Mercury	0.0835	<0.0835	<0.0835	--
Pesticides	RL	ND	ND	--
Polychlorinated biphenyls (PCBs)	50	<50	<50	--
Semi-volatile organic compounds (SVOCs)	RL	ND	ND	--

Groundwater Samples				
Groundwater Sample ID		**11-GW-31-36**	**110-GW-31-36**	**RPD**
Analyte	**Reporting Limits (µg/L)**	**(primary)**	**(duplicate)**	
Volatile Organic compounds (VOCs)	RL	ND	ND	--
Groundwater Sample ID		**13-GW-27-32**	**130-GW-27-32**	**RPD**
Analyte	**Reporting Limits (µg/L)**	**(primary)**	**(duplicate)**	
Formaldehyde	30	<30	<30	--

Soil Gas Samples							
Soil Gas Sample ID		**1-SV-5**	**1-SV-5-Rep**	**RPD**	**6-SV-15**	**6-SV-15-Rep**	**RPD**
Analyte	**Reporting Limits**	**(primary)**	**(duplicate)**		**(primary)**	**(duplicate)**	
Volatile Organic Compounds (VOCs)	RL	ND	ND	--	ND	ND	--

Sub-Slab Soil Gas Sample				
Sample ID		**10B-SV**	**10B-SV Rep**	**RPD**
Analyte	**Reporting Limits (ug/m3)**	**(primary)**	**(duplicate)**	
Methanol	27	**230**	**190**	**19**
Methylene chloride (Dichloromethane)	3.5	**3.7**	<3.5	**--**
Benzene	3.2	**7.6**	**5.8**	**27**
Toluene	3.8	**16**	**11**	**37**
m,p-Xylene	8.8	**16**	**12**	**29**
o-Xylene	4.4	**5.2**	**5.4**	**4**
1,2,4-Trimethylbenzene	5.0	**14**	**13**	**7**
Formaldehyde in Soil Vapor				
Sample ID		**6-SV-15**	**60-SV-15**	**RPD**
Analyte	**Reporting Limits (ug/m3)**	**(primary)**	**(duplicate)**	
Formaldehyde	3.75	<3.75	<3.76	--

Notes:
1. RPDs = Relative Percent Different calculated using:

$$RPD = 2 \times \left[\frac{primary - duplicate}{primary + duplicate} \right] \times 100$$

2. RPD was not calculated when either primary or duplicate sample, or both samples were not detected above the reporting limits, or detected concentrations less than five times the reporting limit.
3. Detections at or above the laboratory reporting limit are shown in **bold**.
4. RL= reporting limit
5. ND = Not detected at or above laboratory reporting limit.

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Table 7

SUMMARY of SOIL GAS RISKS and HAZARDS

Autumnwood Development
Wildomar, California

Volatile Organic Compound	Maximum Soil Gas Concentration ($\mu g/m^3$)	Soil Gas Depth (feet)	Maximum Indoor Air Risk	Maximum Indoor Air Hazard
Benzene	100	15	3.5E-07	9.4E-04
Chloroform	40	5	7.3E-08	1.1E-04
Ethylbenzene	250	15	6.6E-08	6.1E-05
p-Isopropyltoluene	220	15	NC	1.2E-04
Naphthalene	200	15	5.7E-07	1.3E-02
Toluene	290	15	NC	2.7E-04
1,2,4-Trimethylbenzene	370	15	NC	1.1E-02
1,3,5-Trimethylbenzene	140	15	NC	4.7E-03
m,p-Xylene	1,500	15	NC	1.2E-03
o-Xylene	420	15	NC	3.8E-03
		Total	**1.E-06**	**0.04**

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Table 8

COMPARISON of PREDICTED INDOOR AIR LEVELS to BACKGROUND INDOOR AIR LEVELS

Autumnwood Development
Wildomar, California

Volatile Organic Compound	Range of Sub-Slab Concentrations ($\mu g/m^3$)	Range of Predicted Maximum Indoor Air Concentrations [1] ($\mu g/m^3$)	Indoor Air Screening Concentration ($\mu g/m^3$)	Range of Median Background Indoor Air[2] ($\mu g/m^3$)	Range of 95th Percentile Background Indoor Air[2] ($\mu g/m^3$)
Benzene	5.8 - 110	0.3 - 5	0.09	<0.8 - 4.7	9.9 - 29
Chloroform	11	0.5	0.46	<1.2 - 2.4	4.1 - 7.5
Ethylbenzene	11 - 35	0.5 - 1.7	0.97	1 - 3.7	12 - 17
Methanol	41 - 540	2 - 27	4000	NA	NA
Methylene chloride	3.7 - 6.2	0.2 - 0.3	96	0.68 - 61	2.9 - 45
Methy tert-butyl ether	8.7	0.4	9.4	0.03 - 3.5	71 - 72
Tetrachloroethene	12 - 16	0.6 - 0.8	0.41	<1.7 - 2.2	4.1 - 9.5
Toluene	11 - 160	0.5 - 8	313	4.8 - 24	79 - 144
1,2,4-Trimethylbenzene	12 - 17	0.6 - 0.8	7.3	NA	NA
m,p-Xylene	12 - 79	0.6 - 4	730	1.5 - 14	21 - 63.5
o-Xylene	5.2 - 29	0.3 - 1.4	730	1.1 - 3.6	13 - 20

[1] Maximum predicted indoor air concentration derived from the sub-slab concentrations using a default attenuation factor of 0.05, per the DTSC Vapor Intrusion Guidance (DTSC 2011).

[2] Background indoor air concentrations measured in homes having no vapor intrusion (EPA 2011)

NA Not available.

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ATTACHMENTS

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Attachment A City Encroachment Permit

DRAFT

City of Wildomar
23873 Clinton Keith Road, Suite 201
Wildomar, CA 92595
Phone: 951-677-7751
Fax: 951-698-1463

For more information, please contact Public Works at (951) 677-7751

EP13-8067
PERMIT NUMBER

ENCROACHMENT PERMIT

USA Ticket No. A 32900114
Phone No. (800) 227-2600

PERMIT INFORMATION
(TO BE COMPLETED BY PERMITTEE • PLEASE PRINT)

Thomas Bros. Map No. 897
Coordinate No. C7

Permit Type: ☐ ANNUAL ☐ MINOR ☒ UTILITY PERMIT

Autumnwood Dev / Palomar, Amaryllis, Pasadena, Protea Ct, & Front — LOCATION OF WORK PROJECT
See attached — ASSESSOR'S PARCEL NUMBER

AMEC Environment & Infrastructure — PERMITTEE / BILLING INFORMATION
Joe Bonds — CONTACT NAME

121 Innovation Dr. #200 — ADDRESS
Irvine — CITY
CA — STATE
92617 — ZIP
949 642 0245 — TELEPHONE NUMBER

Project Cost Estimate: $ 28,000
Permittee Work Order

CONTRACTOR INFORMATION

AMEC Environmental & Infrastructure — CONTRACTOR PERFORMING WORK
Joe Bonds — CONTACT NAME

121 Innovation Dr. #200 — ADDRESS
Irvine — CITY
CA — STATE
92617 — ZIP
949 642 0245 — TELEPHONE NUMBER

697810 — CONTRACTOR'S LICENSE NUMBER
A Haz — CLASS
BUSINESS LICENSE NUMBER

1. *I have read, understand and agree to comply with the permit conditions which are part of this permit. I further agree to comply with the current County of Riverside Road Improvement Standards and Specifications, County Ordinances, and conditional requirements.*
2. *Applicant must check with all utility companies serving the area covered by this permit, for location of existing underground pipes, conduits or cables.*
3. *Indemnify, defend and save the City of Wildomar, its authorized agents, officers, representatives and employees, harmless from and against any and all penalties, liabilities or loss resulting from claims or court action and arising out of any accident, loss or damage to persons or property happening or occurring as a proximate result of any work undertaken under the permit granted pursuant to this application.*
4. *Remove or relocate an encroachment installed or maintained under this permit, upon written notice from the City Engineer.*
5. *Notify the City Engineer in writing at least 48 hours in advance of the time when work will be started, and upon completion of the work, immediately notify the City Engineer in writing of such completion.*
6. *Comply with the General Provisions attached hereto, City Ordinance Chapter 12.08, any amendments thereto, the terms and conditions of the permit, and all applicable rules and regulation of the City of Wildomar and other public agencies having jurisdiction.*
7. *The permittee shall accept full responsibility for complying with Federal, State and County environmental laws receiving any necessary environmental clearances and/or permits, prior to commencing any work as authorized by this permit.*
8. *Costs incurred by the City of Wildomar Public Works Department for processing and inspection shall be billed to Permittee, City Ordinance Chapter 12.08.*

Joseph M Bonds — PERMITTEE SIGNATURE
10/17/13 — DATE

DESCRIPTION OF CONSTRUCTION: Soil, soil gas & groundwater sampling through 4-inch boring cores.

NOTE: Permittee must call Engineering @ (951) 677-7751 for Pre-Construction Meeting and Final!!!

APPROVAL

DEPARTMENT REVIEW	APPROVED	DATE
TRANSPORTATION		
INSPECTION		

*Call Les 951.990.3600 for pre-con and permit activation.

FEES	
PERMIT FEE	$ 129.00
PERMIT DEPOSIT	$ 210.00
TRENCH FEE	$
TOTAL AMOUNT PAID	$ 339.00
DEPOSIT TYPE	

RECEIVED
OCT 17 2013
CITY OF WILDOMAR

PERMIT APPROVED BY: J. Chyr
ISSUED: 10/31/13

INSPECTION

COMMENTS: Active 11-5-13 HAA
Site 7:00 to 3:00 8:00 AM to 4:00 PM Drilling & Clearances

INSPECTOR'S APPROVAL (SIGNATURE)
DATE

WHITE - PERMITTEE YELLOW - INSPECTOR PINK - FILE GOLDENROD - FINANCE

Attachment B Community Work Notice

DRAFT

Department of Toxic Substances Control

October 2013

Work Notice

The mission of DTSC is to protect California's people and environment from harmful effects of toxic substances through the restoration of contaminated resources, enforcement, regulation and pollution prevention.

Sampling Activities Scheduled at Autumnwood Development - Wildomar, CA

The Department of Toxic Substances Control (DTSC) will oversee site assessment field work to evaluate the presence of contaminants in the subsurface at Amaryllis Court and surrounding residential properties in the Autumnwood Development in Wildomar, CA. AMEC Environment and Infrastructure (AMEC), an environmental contractor, will collect soil, soil gas, and groundwater samples at designated locations (see below).

Schedule for Work Activities:

- Thursday, November 7, 2013 and Friday, November 8, 2013 from 8AM to 5PM
- Wednesday, November 13, 2013 through Friday, November 15, 2013 from 8AM to 5PM

Work activities will be limited to a portion of the following streets:

- Front Street
- Protea Court
- Amaryllis Court
- Pasadena Street
- Palomar Street
- Pink Ginger Court

These streets will remain open during the sampling activities. However, in areas where sampling will occur, no parking will be permitted from 8AM to 5PM. "No Parking" signs will be posted prior to the start of sampling work activities. Efforts will be taken to minimize noise and disruptions to the community. Street closures are not anticipated.

DTSC will oversee the work conducted by AMEC and will update the local community of the sampling results by December 2013.

For more information regarding these activities, please contact:

- Dr. Bill Bosan, DTSC Toxicologist, *william.bosan@dtsc.ca.gov*, (714) 484-5399
- Theo Johnson, DTSC Geologist, *theo.johnson@dtsc.ca.gov*, (714) 484-5414
- Marina Perez, Public Participation Specialist, *marina.perez@dtsc.ca.gov*, (818) 717-6569 or toll-free, 1-866-495-5651
- For Media Inquiries, Jim Marxen, *jim.marxen@dtsc.ca.gov*, (916) 324-6544

Cal/EPA

DTSC

State of California

Attachment C Soil Boring Logs

DRAFT

PROJECT: Autumnwood Development Wildomar, California	**Log of Boring No. 1**			
BORING LOCATION: #1 Southern end of South Pasadena Street	ELEVATION AND DATUM:			
DRILLING CONTRACTOR: Interphase	DATE STARTED: 11/7/13		DATE FINISHED: 11/7/13	
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 24.0		MEASURING POINT: ground surface	
DRILLING EQUIPMENT: 6600 GeoProbe	DEPTH TO WATER	FIRST 20	COMPL. 20.77	24 HRS.
SAMPLING METHOD: Dual Tube	LOGGED BY: V. Robino			
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL: J. Bahde			REG. NO. 7058

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	PID READING (ppm)	REMARKS
				0.42 ft asphalt		
1				CLAYEY SAND (SC): dark olive gray (5Y 3/2), moist, ~70% fine to medium sand, predominantly fine sand, ~30% low to medium plasticity fines		PID: MiniRAE 3000 calibrated to 100 ppm Isobutylene standard.
2						Hand Auger to a depth of 5 feet below grade.
3				olive brown (2.5Y 4/3), moist, ~70% fine to medium sand, ~30% medium plasticity fines		PID readings are Headspace in resealable plastic bags.
4						
5				SILTY SAND (SM): dark yellowish brown (10YR 4/6), moist, ~80% fine sand, ~20% low plasticity fines	0.0	
6						
7						Replacement push probe constructed at 10 ft bgs. #3 sand 9.5 - 10.5 ft bgs bentonite granular (dry) 8.5 - 9.5 ft bgs bentonite granular (hydrated) 0 - 8.5 ft bgs
8				~70% sand, ~30% fines		
9						
10					0.0	
11						
12						
13						
14				CLAYEY SAND (SC): see next page		

RMRK3-ROTATE SAMPLE NO

amec

Project No. NB1016075P | Page 1 of 2

PROJECT: Autumnwood Development
Wildomar, California

Log of Boring No. 1 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	PID READING (ppm)	REMARKS
				CLAYEY SAND (SC): dark yellowish brown (10YR 4/6), moist, ~70% fine to medium sand, ~30% medium plasticity fines		
15					0.0	
16				~85% fine to medium sand, ~15% medium plasticity fines		
17						
				SILTY SAND (SM): dark yellowish brown (10YR 4/4), moist, ~65% fine sand, ~35% low plasticity fines		
18						
19				~65% fine sand, ~35% low to medium plasticity fines		
20					0.2	
				POORLY GRADED SAND with SILT (SP-SM): dark yellowish brown (10YR 4/4), wet, ~90% fine sand, ~10% low plasticity fines		
21				SILTY SAND (SM): dark yellowish brown (10YR 4/6), moist, ~80% fine sand, ~20% low plasticity fines		
22						
23				POORLY GRADED SAND (SP): dark yellowish brown (10YR 4/4), wet, ~85% fine to coarse sand, ~10% fine gravel, ~5% fines		Temporary 3/4-inch diameter PVC well set from 19 - 24 ft bgs.
24				Bottom of boring at 24 ft bgs.		
25				**Temp Soil Gas Probes:** 5 ft probe 1.5 - 3.5 = bentonite grout 3.5 - 4.5 = dry granular bentonite 4.5 - 5.5 = #3 sand 5.5 - 6 = dry granular bentonite 6 - 13.5 = bentonite grout 15 ft probe 13.5 - 14.5 = dry granular bentonite 14.5 - 15.5 = #3 sand 15.5 - 16.5 = dry granular bentonite 16.5 - 24 = bentonite grout		DTW = 20.7' bgs Collect groundwater sample 1-GW-19-24 from 19-24 ft bgs using disposable bailer
26						
27						
28						
29						
30						
31						

RMRK3-ROTATE SAMPLE NO

amec

Project No. NB1016075P | Page 2 of 2

PROJECT: Autumnwood Development Wildomar, California	**Log of Boring No. 6**
BORING LOCATION: #6 North side of Protea Court	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Interphase	DATE STARTED: 11/8/13 / DATE FINISHED: 11/8/13
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 16.0 / MEASURING POINT: ground surface
DRILLING EQUIPMENT: 6600 GeoProbe	DEPTH TO WATER: FIRST NA / COMPL. NA / 24 HRS.
SAMPLING METHOD: Dual Tube	LOGGED BY: V. Robino
HAMMER WEIGHT: NA / DROP: NA	RESPONSIBLE PROFESSIONAL: J. Bahde / REG. NO. 7058

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	PID READING (ppm)	REMARKS
				Surface Elevation:		
				0.33 ft asphalt		
1				CLAYEY SAND (SC): mottled dark greenish gray (10Y 4/1) and dark yellowish brown (10YR 4/6), moist, ~70% fine sand, trace medium sand, ~30% medium plasticity fines [POSSIBLE FILL]		PID: MiniRAE 3000 calibrated to 100 ppm Isobutylene standard.
2						Hand Auger to a depth of 5 feet below grade.
3						PID readings are Headspace in resealable plastic bags.
4						
5	6-SS-5-6			mottled brown (10YR 4/3) and dark yellowish brown (10YR 4/6), ~60% fine sand, trace medium sand, ~40% medium plasticity fines [POSSIBLE FILL]		
6					0.8	Replacement push probe constructed at 3 ft bgs. #3 sand 2.5 - 3.5 ft bgs bentonite granular (dry) 2.0 - 2.5 ft bgs bentonite granular (hydrated) 0 -2.0 ft bgs
7						
8				SILTY SAND (SM): dark yellowish brown (10YR 4/4), moist, ~70% fine sand, ~30% low plasticity fines		
9						
10	6-SS-9-11					
11					1.6	
12				CLAYEY SAND (SC): dark grayish brown (10YR 4/2), moist, ~70% fine to medium sand, ~30% medium plasticity fines		
13	6-SS-13.75 - 14.75					
14				~80% fine to medium sand, ~20% medium plasticity fines	1.2	

RMRK3-ROTATE SAMPLE NO

amec

Project No. NB1016075P | Page 1 of 2

PROJECT: Autumnwood Development
Wildomar, California

Log of Boring No. 6 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	PID READING (ppm)	REMARKS
				CLAYEY SAND (SC): continued		
15						
16				Bottom of boring at 16 ft bgs. Groundwater not encountered at time of drilling.		
17				**Temp Soil Gas Probes:**		
				Probe at 5		
				1.5 - 3.5 = bentonite grout		
18				3.5 - 4.5 = dry granular bentonite		
				4.5 - 5.5 = #3 sand		
				5.5 - 6 = dry granular bentonite		
19				6 - 13.5 = bentonite grout		
				Probe at 15		
				13.5 - 14.5 = dry granular bentonite		
				14.5 - 15.5 = #3 sand		
20				15.5 - 16 = dry granular bentonite		
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

RMRK3-ROTATE SAMPLE NO

amec

Project No. NB1016075P | Page 2 of 2

PROJECT: Autumnwood Development Wildomar, California	**Log of Boring No. 7**
BORING LOCATION: #7 E. side of S. Pasadena St., S. of Pink Ginger Court	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Interphase	DATE STARTED: 11/8/13 / DATE FINISHED: 11/8/13
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 28.0 / MEASURING POINT: ground surface
DRILLING EQUIPMENT: 6600 GeoProbe	DEPTH TO WATER: FIRST ~27 / COMPL. 26.55 / 24 HRS.
SAMPLING METHOD: Dual Tube	LOGGED BY: V. Robino
HAMMER WEIGHT: NA / DROP: NA	RESPONSIBLE PROFESSIONAL: J. Bahde / REG. NO. 7058

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	PID READING (ppm)	REMARKS
				0.42 ft asphalt and 0.58 ft base material		PID: MiniRAE 3000 calibrated to 100 ppm Isobutylene standard.
1				SILTY SAND (SM): dark yellowish brown (10YR 4/6), moist, ~70% fine sand, ~30% low plasticity fines, ~trace medium sand		
2						Hand Auger to a depth of 5 feet below grade.
3						PID readings are Headspace in resealable plastic bags.
4						
5				~80% sand, ~20% fines	0.2	
6						
7						
8				~75% sand, ~25% fines		
9						
10				~70% sand, ~30% fines	0.2	
11						
12				CLAYEY SAND (SC): dark yellowish brown (10YR 4/6), moist, ~70% fine sand, ~30% medium plasticity fines		
13						
14						

RMRK3-ROTATE SAMPLE NO

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PROJECT: Autumnwood Development
Wildomar, California

Log of Boring No. 7 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	PID READING (ppm)	REMARKS
				CLAYEY SAND (SC): continued		
15					0.2	
16				~65% fine to medium sand, ~35% medium plasticity fines		
17						
18						
19						
20				~70% sand, ~30% fines, coarsens	0.2	
21				~80% sand, ~20% fines		
22						
23				coarsens, ~70% sand, predominantly medium sand, ~30% fines		
24				~80% sand, ~20% fines		
25					0.2	
26						
27				wet		Temporary 3/4-inch diameter PVC well set from 23 - 28 ft bgs.
				~70% fine to medium sand, ~30% medium plasticity fines		
28				Bottom of boring at 28 ft bgs.		Collect groundwater sample 7-GW-23-28 and split sample using disposable bailer
29				**Temp Soil Gas Probes:** 5 ft probe 1.5 - 3.5 = bentonite grout 3.5 - 4.5 = dry granular bentonite 4.5 - 5.5 = #3 sand 5.5 - 6.0 = dry granular bentonite 6.0 - 13.5 = bentonite grout		
30						
31						

RMRK3-ROTATE SAMPLE NO

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PROJECT: Autumnwood Development
Wildomar, California

Log of Boring No. 7 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.		PID READING (ppm)	REMARKS
				15 ft probe			
				13.5 - 14.5 = dry granular bentonite			
32				14.5 - 15.5 = #3 sand			
				15.5 - 16.4 = dry granular bentonite			
				16.4 - 28 = bentonite grout			
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
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45							
46							
47							
48							

RMRK3-ROTATE SAMPLE NO

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PROJECT: Autumnwood Development Wildomar, California				**Log of Boring No. 8**	
BORING LOCATION: #8 North side of Pink Ginger Court				ELEVATION AND DATUM:	
DRILLING CONTRACTOR: Interphase				DATE STARTED: 11/8/13	DATE FINISHED: 11/8/13
DRILLING METHOD: Direct Push				TOTAL DEPTH (ft.): 16.0	MEASURING POINT: ground surface
DRILLING EQUIPMENT: 6600 GeoProbe				DEPTH TO WATER: FIRST NA	COMPL. NA / 24 HRS.
SAMPLING METHOD: Dual Tube				LOGGED BY: V. Robino	
HAMMER WEIGHT: NA	DROP: NA			RESPONSIBLE PROFESSIONAL: J. Bahde	REG. NO. 7058

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	PID READING (ppm)	REMARKS
				0.35 ft asphalt and 0.17 ft base material		PID: MiniRAE 3000 calibrated to 100 ppm Isobutylene standard.
1				CLAYEY SAND (SC): dark yellowish brown (10YR 4/4), moist, ~60% fine to medium sand, trace coarse sand, ~30% medium plasticity fines, ~10% fine gravel [FILL]		
2				CLAYEY GRAVEL with SAND (GC): dark yellowish brown (10YR 4/4), ~60% fine and coarse gravel, ~25% fine to coarse sand, ~15% medium plasticity fines [FILL]		Hand Auger to a depth of 5 feet below grade.
3						PID readings are Headspace in resealable plastic bags.
4						
5	8-SS-5-6			CLAYEY SAND (SC): mottled dark yellowish brown (10YR 4/4) and olive gray (5Y 4/2), moist, ~75% fine to medium sand, ~25% medium plasticity fines [FILL]		
6					0.8	
7				@7 ft, 1/2" diameter concrete fragment [FILL]		Replacement push probe constructed at 3 ft bgs. #3 sand 2.5 - 3.5 ft bgs bentonite granular (dry) 2.0 - 2.5 ft bgs bentonite granular (hydrated) 0 - 2 ft bgs
8				POORLY GRADED SAND (SP): yellowish brown (10YR 5/4), moist, ~95% fine to medium sand, ~5% fines SILTY SAND (SM): dark yellowish brown (10YR 3/6), moist, ~65% fine sand, ~35% low plasticity fines		
9						
10	8-SS-9.5-10.5					
11						
12					0.6	
13						
14						

RMRK3-ROTATE SAMPLE NO

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PROJECT: Autumnwood Development
Wildomar, California

Log of Boring No. 8 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	PID READING (ppm)	REMARKS
				SILTY SAND (SM): continued	0.9	
15	8-SS-14.25-15.25					
16				Bottom of boring at 16 ft bgs. Groundwater not encountered at time of drilling.		
17				**Temp Soil Gas Probes:**		
				5 ft probe		
				1.5 - 3.5 = bentonite grout		
18				3.5 - 4.5 = dry granular bentonite		
				4.5 - 5.5 = #3 sand		
				5.5 - 6 = dry granular bentonite		
19				6 - 13.5 = bentonite grout		
				15 ft probe		
				13.5 - 14.5 = dry granular bentonite		
20				14.5 - 15.5 = #3 sand		
				15.5 - 16 = dry granular bentonite		
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

RMRK3-ROTATE SAMPLE NO

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PROJECT: Autumnwood Development Wildomar, California	**Log of Boring No. 11**
BORING LOCATION: #11 North end of Penrose Street	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Interphase	DATE STARTED: 11/7/13 / DATE FINISHED: 11/7/13
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 36.0 / MEASURING POINT: ground surface
DRILLING EQUIPMENT: 6600 GeoProbe	DEPTH TO WATER: FIRST 27 / COMPL. 28.05 / 24 HRS.
SAMPLING METHOD: Dual Tube/Temp Well	LOGGED BY: V. Robino
HAMMER WEIGHT: NA / DROP: NA	RESPONSIBLE PROFESSIONAL: J. Bahde / REG. NO. 7058

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	PID READING (ppm)	REMARKS
				0.3 ft asphalt and base material		
1				SILTY SAND (SM): dark yellowish brown (10YR 4/6), moist, ~75% fine to medium sand, ~25% low plasticity fines		PID: MiniRAE 3000 calibrated to 100ppm Isobutylene standard.
2						Hand Auger to a depth of 5 feet below grade.
3						
4						
5				~75% fine to coarse sand, predominantly fine to medium sand, ~25% low plasticity fines, trace fine gravel	0.9	
6						
7						
8						
9				POORLY GRADED SAND (SP): dark yellowish brown (10YR 4/6), moist, ~95% fine to medium sand, ~5% fines		
10				CLAYEY SAND (SC): dark yellowish brown (10YR 4/4), moist, ~70% fine to medium sand, ~30% low to medium plasticity fines	0.8	
11				SILTY SAND (SM): dark yellowish brown (10YR 4/6), moist, ~70% fine to trace medium sand, ~30% low plasticity fines		
12						
13						
14						

RMRK3-ROTATE SAMPLE NO

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PROJECT: Autumnwood Development
Wildomar, California

Log of Boring No. 11 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	PID READING (ppm)	REMARKS
				SILTY SAND (SM): continued low to medium plasticity fines		
15					0.7	
16				CLAYEY SAND (SC): dark yellowish brown (10YR 4/4), moist, ~70% fine to medium sand, ~30% medium plasticity fines		
17						
18						
19						
20				~85% fine to trace medium sand, ~15% low to medium plasticity fines	0.9	
21				~70% sand, ~30% fines		
22						
23						
24				SILTY SAND (SM): dark yellowish brown (10YR 4/4), moist, ~70% fine to medium sand, ~30% low plasticity fines		
25				increased moisture	0.8	
26						
27				wet, ~85% fine to coarse sand, ~15% low to medium plasticity fines, trace fine gravel		
28				~70% fine to trace medium sand, ~30% low to medium plasticity fines		
29				CLAYEY SAND (SC): dark yellowish brown (10YR 4/4), moist, ~70% fine to trace medium sand, ~30% medium plasticity fines		
30					0.4	
31				SILTY SAND (SM): see next page		

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PROJECT: Autumnwood Development
Wildomar, California

Log of Boring No. 11 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	PID READING (ppm)	REMARKS
				SILTY SAND (SM): ~70% fine to trace medium sand, ~30% low to medium plasticity fines		
32				CLAYEY SAND (SC): dark yellowish brown (10YR 4/4), wet, ~65% fine sand, trace medium sand, ~35% low to medium plasticity fines		Set temporary 3/4-inch diameter PVC well from 27 - 32 ft bgs; dry
33						
34				POORLY GRADED SAND (SP): mottled olive brown (2.5Y 4/4) and dark yellowish brown (10YR 4/4), wet, ~85% fine to coarse sand, ~10% fine gravel, ~5% fines		
35						
36				Bottom of boring at 36 ft bgs.		Set new temporary 3/4-inch diameter PVC well from 31 - 36 ft bgs
37				**Temp Soil Gas Probes:** 5 ft probe 1.5 - 3.5 = bentonite grout 3.5 - 4.5 = dry granular bentonite 4.5 - 5.5 = #3 sand 5.5 - 6.0 = dry granular bentonite 6.0 - 13.5 = bentonite grout 15 ft probe 13.5 - 14.5 = dry granular bentonite 14.5 - 15.5 = #3 sand 15.5 - 16 = dry granular bentonite 16 - 36 = bentonite grout		DTW = 28.05 ft bgs Collect groundwater sample 11-GW-31-36 using disposable bailer
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39						
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48						

RMRK3-ROTATE SAMPLE NO

amec

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PROJECT: Autumnwood Development Wildomar, California	**Log of Boring No. 12**
BORING LOCATION: End of Amaryllis Court	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Interphase	DATE STARTED: 11/8/13 / DATE FINISHED:
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 16.0 / MEASURING POINT: ground surface
DRILLING EQUIPMENT: 6600 GeoProbe	DEPTH TO WATER: FIRST NA / COMPL. NA / 24 HRS.
SAMPLING METHOD: Dual Tube	LOGGED BY: V. Robino
HAMMER WEIGHT: NA / DROP: NA	RESPONSIBLE PROFESSIONAL: J. Bahde / REG. NO. 7058

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	PID READING (ppm)	REMARKS
				0.3 ft asphalt		
1				SILTY SAND (SM): dark yellowish brown (10YR 4/4), moist, ~80% fine to medium sand, ~20% low plasticity fines		PID: MiniRAE 3000 calibrated to 100 ppm Isobutylene standard.
2						Hand Auger to a depth of 5 feet below grade.
3						PID readings are Headspace in resealable plastic bags.
4						
5	12-SS-5-6			~80% fine to coarse sand, ~20% fines	5.3	
6				trace fine gravel, mottled dark yellowish brown (10YR 4/4) and dark grayish brown (2.5Y 4/2)		
7				CLAYEY SAND (SC): dark grayish brown (2.5Y 4/2), moist, ~60% fine sand, ~40% medium plasticity fines		
				CLAYEY SAND (SC): dark grayish brown (2.5Y 4/2), moist, ~60% fine sand, ~40% medium plasticity fines		
8				CLAYEY SAND (SC): dark greenish gray (10Y 4/1), moist, ~70% fine to medium sand, ~30% medium plasticity fines, trace coarse gravel embedded in sandy lean clay, micaceous		
9				SILTY SAND (SM): dark yellowish brown (10YR 4/6), moist, ~75% fine sand, trace medium sand, ~25% low plasticity fines		
10	12-SS-9.5-10.5			POORLY GRADED SAND (SP): dark yellowish brown (10YR 4/6), moist, ~95% fine sand, ~5% fines	2.1 398	Initial response of 398 reported when probe tip plugged. After recalibrating and ~10 minute wait, response was 2.1.
11						
12						
13				SILTY SAND (SM): dark yellowish brown (10YR 4/6), moist, ~75% fine sand, trace medium sand, ~25% low plasticity fines	1.5	
14						

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PROJECT: Autumnwood Development
Wildomar, California

Log of Boring No. 12 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	PID READING (ppm)	REMARKS
	12-SS-13.25-15.25			SILTY SAND (SM): continued		
15						
16				Bottom of boring at 16 ft bgs.		
17				**Temp Soil Gas Probes:** 5 ft probe 1.5 - 3.5 = bentonite grout 3.5 - 4.5 = dry granular bentonite 4.5 - 5.5 = #3 sand 5.5 - 6 = dry granular bentonite 6 - 13.5 = bentonite grout 15 ft probe 13.5 - 14.5 = dry granular bentonite 14.5 - 15.5 = #3 sand 15.5 - 16 = dry granular bentonite		
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

RMRK3-ROTATE SAMPLE NO

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PROJECT: Autumnwood Development Wildomar, California	**Log of Boring No. 13**
BORING LOCATION: #13 South Pasadena Street, near Amaryllis Court	ELEVATION AND DATUM:
DRILLING CONTRACTOR: Interphase	DATE STARTED: 11/7/13 / DATE FINISHED: 11/7/13
DRILLING METHOD: Direct Push	TOTAL DEPTH (ft.): 32.0 / MEASURING POINT: ground surface
DRILLING EQUIPMENT: 6600 GeoProbe	DEPTH TO WATER: FIRST 27.21 / COMPL. NA / 24 HRS.
SAMPLING METHOD: Dual Tube/Temp Well	LOGGED BY: V. Robino
HAMMER WEIGHT: NA / DROP: NA	RESPONSIBLE PROFESSIONAL: J. Bahde / REG. NO. 7058

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	PID READING (ppm)	REMARKS
				0.3 ft asphalt and 0.9 ft concrete base		PID: MiniRAE 3000 calibrated to 100 ppm Isobutylene standard.
1				CLAYEY SAND (SC): dark grayish brown (2.5Y 4/2), moist, ~65% fine to medium sand, ~35% medium plasticity fines		
2						Hand Auger to a depth of 5 feet below grade.
3						PID readings are Headspace in resealable plastic bags.
4				yellowish brown (10YR 5/6), ~85% fine to medium sand, ~15% low to medium plasticity fines		
5					3.1	
				~75% sand, ~25% medium plasticity fines		
6						
7						
8				dark olive gray (5Y 3/2), ~65% fine to medium sand, trace medium sand, ~35% medium plasticity fines		
9						
10				dark yellowish brown (10YR 4/6), ~70% fine to trace medium sand, ~30% low to medium plasticity fines	2.2	
11						
12				POORLY GRADED SAND (SP): dark yellowish brown (10YR 4/6), moist, ~95% fine to medium sand, trace coarse sand, ~5% fines		
13				SILTY SAND (SM): dark yellowish brown (10YR 4/4), moist, ~65% fine to trace medium sand, ~35% low to medium plasticity fines		
14						

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PROJECT: Autumnwood Development
Wildomar, California

Log of Boring No. 13 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	PID READING (ppm)	REMARKS
				SILTY SAND (SM): continued		
15					2.8	
16				CLAYEY SAND (SC): dark yellowish brown (10YR 4/4), moist, ~80% fine to coarse sand, trace fine gravel, ~20% medium plasticity fines		
17						
18						
				~75% fine to medium sand, ~25% medium plasticity fines		
19						
20				SILTY SAND (SM): dark yellowish brown (10YR 4/4), moist, ~75% fine to medium sand, ~25% low plasticity fines	2.1	
21						
22						
				~70% fine sand, ~30% fines		
23						
24				CLAYEY SAND (SC): dark yellowish brown (10YR 4/6), moist, ~65% fine to coarse sand, ~35% medium plasticity fines, trace fine gravel		
25						
26				mottled yellowish brown (10YR 5/6) and olive gray (5Y 4/2), ~70% fine to medium sand, ~30% low to medium plasticity fines		
27						
28				olive (5Y 4/3), ~65% fine to coarse sand, ~25% medium plasticity fines, ~10% fine gravel		
29						
30				POORLY GRADED SAND (SP): olive (5Y 4/3), wet, ~85% fine to coarse sand, ~10% fine gravel, ~5% fines		
31				CLAYEY SAND (SC): see next page		

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PROJECT: Autumnwood Development
Wildomar, California

Log of Boring No. 13 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 6 inches	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	PID READING (ppm)	REMARKS
				CLAYEY SAND (SC): olive (5Y 4/3), ~65% fine to coarse sand, ~25% medium plasticity fines, ~10% fine gravel		
32				Bottom of boring at 32 ft bgs.		
33				**Temp Soil Gas Probes:** 5 ft probe 1.5 - 3.5 = bentonite grout 3.5 - 4.5 = dry granular bentonite 4.5 - 5.5 = #3 sand 5.5 - 6.0 = dry granular bentonite 15 ft probe 13.5 - 14.5 = dry granular bentonite 14.5 - 15.5 = #3 sand 15.5 - 17.2 = dry granular bentonite 17.2 - 32 = bentonite grout		
34						
35						
36						Temporary 3/4-inch diameter PVC well set from 27 - 32 ft bgs.
37						Collect groundwater sample 13-GW-27-32 from 27-32 ft bgs using disposable bailer
38						
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Attachment D Soil and Groundwater Sample Analytical Data Sheets

DRAFT

Attachment E Soil Gas Sample Analytical Data Sheets

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Attachment F Formaldehyde Soil Gas Sample Analytical Data Sheets

DRAFT

Attachment G Sub-Slab Soil Gas Sample Analytical Data Sheets

DRAFT

Attachment H Screening-Level Johnson and Ettinger Model Outputs

DRAFT

Calscience Environmental Laboratories, Inc.

CALSCIENCE

WORK ORDER NUMBER: 13-11-0697

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: AMEC Environment & Infrastructure

Client Project Name: DTSC - Wildomar Autumnwood Development / NB1016075P

Attention: Joseph Bahde
121 Innovation Drive
Suite 200
Irvine, CA 92617-3094

Approved for release on 11/19/2013 by:
Stephen Nowak
Project Manager

ResultLink

Email your PM

Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

Calscience Environmental Laboratories, Inc.

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Calscience Environmental Laboratories, Inc.

Work Order Narrative

Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 11/08/13. They were assigned to Work Order 13-11-0697.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

New York NELAP air certification does not certify for all reported methods and analytes, reference the accredited items here: http://www.calscience.com/PDF/New_York.pdf

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

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Calscience Environmental Laboratories, Inc.

Sample Summary

Client:	AMEC Environment & Infrastructure 121 Innovation Drive, Suite 200 Irvine, CA 92617-3094	Work Order:	13-11-0697
		Project Name:	DTSC - Wildomar Autumnwood Development / NB1016075P
		PO Number:	C013101741
		Date/Time Received:	11/08/13 18:03
		Number of Containers:	24
Attn:	Joseph Bahde		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
QCTB-11082013	13-11-0697-1	11/08/13 08:00	2	Aqueous
7-GW-23-28	13-11-0697-2	11/08/13 09:15	4	Aqueous
8-SS-5-6	13-11-0697-3	11/08/13 11:20	1	Solid
8-SS-9.5-10.5	13-11-0697-4	11/08/13 11:32	1	Solid
8-SS-14.25-15.25	13-11-0697-5	11/08/13 11:40	1	Solid
12-SS-5-6	13-11-0697-6	11/08/13 13:18	1	Solid
12-SS-9.5-10.5	13-11-0697-7	11/08/13 13:20	1	Solid
12-SS-13.25-15.25	13-11-0697-8	11/08/13 13:27	2	Solid
6-SS-5-6	13-11-0697-9	11/08/13 14:58	1	Solid
6-SS-9-11	13-11-0697-10	11/08/13 15:05	1	Solid
60-SS-9-11	13-11-0697-11	11/08/13 15:06	1	Solid
6-SS-13.75-14.75	13-11-0697-12	11/08/13 15:25	1	Solid
QCEB-11082013	13-11-0697-13	11/08/13 15:40	7	Aqueous

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Detections Summary

Client:	AMEC Environment & Infrastructure 121 Innovation Drive, Suite 200 Irvine, CA 92617-3094	Work Order:	13-11-0697
		Project Name:	DTSC - Wildomar Autumnwood Development / NB1016075P
		Received:	11/08/13
Attn:	Joseph Bahde		

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
8-SS-5-6 (13-11-0697-3)						
Arsenic	1.28		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	66.8		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	9.77		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	9.93		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	10.2		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	1.22		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.12		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	48.6		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	36.4		1.00	mg/kg	EPA 6010B	EPA 3050B
8-SS-9.5-10.5 (13-11-0697-4)						
Barium	68.8		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	9.17		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	9.79		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	9.81		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	0.566		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.99		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	45.9		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	37.0		1.00	mg/kg	EPA 6010B	EPA 3050B
8-SS-14.25-15.25 (13-11-0697-5)						
Barium	94.7		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.297		0.250	mg/kg	EPA 6010B	EPA 3050B
Chromium	12.6		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	12.9		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	13.4		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	1.41		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.61		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	63.0		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	44.1		1.00	mg/kg	EPA 6010B	EPA 3050B

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Calscience Environmental Laboratories, Inc.

Detections Summary

Client:	AMEC Environment & Infrastructure 121 Innovation Drive, Suite 200 Irvine, CA 92617-3094	Work Order:	13-11-0697
		Project Name:	DTSC - Wildomar Autumnwood Development / NB1016075P
		Received:	11/08/13
Attn:	Joseph Bahde		Page 2 of 4

Client SampleID Analyte	Result	Qualifiers	RL	Units	Method	Extraction
12-SS-5-6 (13-11-0697-6)						
Barium	108		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.256		0.250	mg/kg	EPA 6010B	EPA 3050B
Chromium	9.69		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	6.23		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	4.95		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	0.839		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.33		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	29.4		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	34.7		1.00	mg/kg	EPA 6010B	EPA 3050B
Bis(2-Ethylhexyl) Phthalate	2.6		2.5	mg/kg	EPA 8270C	EPA 3545
12-SS-9.5-10.5 (13-11-0697-7)						
Arsenic	0.855		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	60.5		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	9.36		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	8.91		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	8.76		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.51		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	51.1		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	32.4		1.00	mg/kg	EPA 6010B	EPA 3050B
12-SS-13.25-15.25 (13-11-0697-8)						
Barium	102		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.316		0.250	mg/kg	EPA 6010B	EPA 3050B
Chromium	12.0		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	13.4		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	13.4		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	1.48		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.98		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	62.0		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	48.0		1.00	mg/kg	EPA 6010B	EPA 3050B

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Calscience Environmental Laboratories, Inc.

Detections Summary

Client:	AMEC Environment & Infrastructure 121 Innovation Drive, Suite 200 Irvine, CA 92617-3094	Work Order:	13-11-0697
		Project Name:	DTSC - Wildomar Autumnwood Development / NB1016075P
		Received:	11/08/13
Attn:	Joseph Bahde		Page 3 of 4

Client SampleID Analyte	Result	Qualifiers	RL	Units	Method	Extraction
6-SS-5-6 (13-11-0697-9)						
Arsenic	1.67		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	75.4		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	11.5		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	11.2		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	12.7		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	1.05		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.70		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	58.0		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	42.1		1.00	mg/kg	EPA 6010B	EPA 3050B
6-SS-9-11 (13-11-0697-10)						
Arsenic	0.815		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	93.0		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.308		0.250	mg/kg	EPA 6010B	EPA 3050B
Chromium	13.5		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	13.7		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	13.9		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	1.51		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.39		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	64.3		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	43.6		1.00	mg/kg	EPA 6010B	EPA 3050B
60-SS-9-11 (13-11-0697-11)						
Arsenic	0.822		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	101		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.326		0.250	mg/kg	EPA 6010B	EPA 3050B
Chromium	13.7		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	14.3		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	15.1		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	1.46		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.95		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	66.4		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	46.6		1.00	mg/kg	EPA 6010B	EPA 3050B

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Calscience Environmental Laboratories, Inc.

Detections Summary

Client:	AMEC Environment & Infrastructure 121 Innovation Drive, Suite 200 Irvine, CA 92617-3094	Work Order:	13-11-0697
		Project Name:	DTSC - Wildomar Autumnwood Development / NB1016075P
		Received:	11/08/13
Attn:	Joseph Bahde		Page 4 of 4

Client SampleID Analyte	Result	Qualifiers	RL	Units	Method	Extraction
6-SS-13.75-14.75 (13-11-0697-12)						
Barium	34.4		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	5.43		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.61		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	2.62		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	1.51		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	40.6		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	13.1		1.00	mg/kg	EPA 6010B	EPA 3050B

Subcontracted analyses, if any, are not included in this summary.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-5-6	**13-11-0697-3-A**	**11/08/13 11:20**	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 19:22**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	1.28	0.750	1	
Barium	66.8	0.500	1	
Beryllium	ND	0.250	1	
Cadmium	ND	0.500	1	
Chromium	9.77	0.250	1	
Cobalt	9.93	0.250	1	
Copper	10.2	0.500	1	
Lead	1.22	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	5.12	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	48.6	0.250	1	
Zinc	36.4	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 2 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-9.5-10.5	**13-11-0697-4-A**	**11/08/13 11:32**	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 19:23**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	ND	0.750	1	
Barium	68.8	0.500	1	
Beryllium	ND	0.250	1	
Cadmium	ND	0.500	1	
Chromium	9.17	0.250	1	
Cobalt	9.79	0.250	1	
Copper	9.81	0.500	1	
Lead	0.566	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	4.99	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	45.9	0.250	1	
Zinc	37.0	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 3 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-14.25-15.25	**13-11-0697-5-A**	**11/08/13 11:40**	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 19:28**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	ND	0.750	1	
Barium	94.7	0.500	1	
Beryllium	0.297	0.250	1	
Cadmium	ND	0.500	1	
Chromium	12.6	0.250	1	
Cobalt	12.9	0.250	1	
Copper	13.4	0.500	1	
Lead	1.41	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	6.61	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	63.0	0.250	1	
Zinc	44.1	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 4 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
12-SS-5-6	**13-11-0697-6-A**	**11/08/13 13:18**	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 19:29**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	ND	0.750	1	
Barium	108	0.500	1	
Beryllium	0.256	0.250	1	
Cadmium	ND	0.500	1	
Chromium	9.69	0.250	1	
Cobalt	6.23	0.250	1	
Copper	4.95	0.500	1	
Lead	0.839	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	4.33	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	29.4	0.250	1	
Zinc	34.7	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 5 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
12-SS-9.5-10.5	**13-11-0697-7-A**	**11/08/13 13:20**	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 19:30**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	0.855	0.750	1	
Barium	60.5	0.500	1	
Beryllium	ND	0.250	1	
Cadmium	ND	0.500	1	
Chromium	9.36	0.250	1	
Cobalt	8.91	0.250	1	
Copper	8.76	0.500	1	
Lead	ND	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	4.51	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	51.1	0.250	1	
Zinc	32.4	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 6 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
12-SS-13.25-15.25	**13-11-0697-8-A**	**11/08/13 13:27**	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 15:29**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	ND	0.750	1	
Barium	102	0.500	1	
Beryllium	0.316	0.250	1	
Cadmium	ND	0.500	1	
Chromium	12.0	0.250	1	
Cobalt	13.4	0.250	1	
Copper	13.4	0.500	1	
Lead	1.48	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	6.98	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	62.0	0.250	1	
Zinc	48.0	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 7 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
6-SS-5-6	**13-11-0697-9-A**	**11/08/13 14:58**	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 19:31**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	1.67	0.750	1	
Barium	75.4	0.500	1	
Beryllium	ND	0.250	1	
Cadmium	ND	0.500	1	
Chromium	11.5	0.250	1	
Cobalt	11.2	0.250	1	
Copper	12.7	0.500	1	
Lead	1.05	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	5.70	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	58.0	0.250	1	
Zinc	42.1	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 8 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
6-SS-9-11	**13-11-0697-10-A**	**11/08/13 15:05**	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 19:32**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	0.815	0.750	1	
Barium	93.0	0.500	1	
Beryllium	0.308	0.250	1	
Cadmium	ND	0.500	1	
Chromium	13.5	0.250	1	
Cobalt	13.7	0.250	1	
Copper	13.9	0.500	1	
Lead	1.51	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	6.39	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	64.3	0.250	1	
Zinc	43.6	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 9 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
60-SS-9-11	**13-11-0697-11-A**	**11/08/13 15:06**	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 19:34**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	0.822	0.750	1	
Barium	101	0.500	1	
Beryllium	0.326	0.250	1	
Cadmium	ND	0.500	1	
Chromium	13.7	0.250	1	
Cobalt	14.3	0.250	1	
Copper	15.1	0.500	1	
Lead	1.46	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	6.95	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	66.4	0.250	1	
Zinc	46.6	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 10 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
6-SS-13.75-14.75	**13-11-0697-12-A**	**11/08/13 15:25**	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 19:35**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	ND	0.750	1	
Barium	34.4	0.500	1	
Beryllium	ND	0.250	1	
Cadmium	ND	0.500	1	
Chromium	5.43	0.250	1	
Cobalt	4.61	0.250	1	
Copper	2.62	0.500	1	
Lead	ND	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	1.51	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	40.6	0.250	1	
Zinc	13.1	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 11 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-17609**	**N/A**	**Solid**	**ICP 7300**	**11/11/13**	**11/11/13 16:35**	**131111L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.750	1	
Arsenic	ND	0.750	1	
Barium	ND	0.500	1	
Beryllium	ND	0.250	1	
Cadmium	ND	0.500	1	
Chromium	ND	0.250	1	
Cobalt	ND	0.250	1	
Copper	ND	0.500	1	
Lead	ND	0.500	1	
Molybdenum	ND	0.250	1	
Nickel	ND	0.250	1	
Selenium	ND	0.750	1	
Silver	ND	0.250	1	
Thallium	ND	0.750	1	
Vanadium	ND	0.250	1	
Zinc	ND	1.00	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3010A Total
		Method:	EPA 6010B
		Units:	mg/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
QCEB-11082013	**13-11-0697-13-D**	**11/08/13 15:40**	**Aqueous**	**ICP 7300**	**11/11/13**	**11/12/13 16:19**	**131111LA5**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.0150	1	
Arsenic	ND	0.0100	1	
Barium	ND	0.0100	1	
Beryllium	ND	0.0100	1	
Cadmium	ND	0.0100	1	
Chromium	ND	0.0100	1	
Cobalt	ND	0.0100	1	
Copper	ND	0.0100	1	
Lead	ND	0.0100	1	
Molybdenum	ND	0.0100	1	
Nickel	ND	0.0100	1	
Selenium	ND	0.0150	1	
Silver	ND	0.00500	1	
Thallium	ND	0.0150	1	
Vanadium	ND	0.0100	1	
Zinc	ND	0.0100	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3010A Total
		Method:	EPA 6010B
		Units:	mg/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-003-13797**	**N/A**	**Aqueous**	**ICP 7300**	**11/11/13**	**11/12/13 13:27**	**131111LA5**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.0150	1	
Arsenic	ND	0.0100	1	
Barium	ND	0.0100	1	
Beryllium	ND	0.0100	1	
Cadmium	ND	0.0100	1	
Chromium	ND	0.0100	1	
Cobalt	ND	0.0100	1	
Copper	ND	0.0100	1	
Lead	ND	0.0100	1	
Molybdenum	ND	0.0100	1	
Nickel	ND	0.0100	1	
Selenium	ND	0.0150	1	
Silver	ND	0.00500	1	
Thallium	ND	0.0150	1	
Vanadium	ND	0.0100	1	
Zinc	ND	0.0100	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 7470A Total
		Method:	EPA 7470A
		Units:	mg/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
QCEB-11082013	**13-11-0697-13-D**	**11/08/13 15:40**	**Aqueous**	**Mercury**	**11/11/13**	**11/12/13 12:18**	**131111L06**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.000500	1	

Method Blank	**099-04-008-6716**	**N/A**	**Aqueous**	**Mercury**	**11/11/13**	**11/11/13 16:50**	**131111L06**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.000500	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-5-6	**13-11-0697-3-A**	**11/08/13 11:20**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:26**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

8-SS-9.5-10.5	**13-11-0697-4-A**	**11/08/13 11:32**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:28**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

8-SS-14.25-15.25	**13-11-0697-5-A**	**11/08/13 11:40**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:30**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

12-SS-5-6	**13-11-0697-6-A**	**11/08/13 13:18**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:33**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

12-SS-9.5-10.5	**13-11-0697-7-A**	**11/08/13 13:20**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:35**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

12-SS-13.25-15.25	**13-11-0697-8-A**	**11/08/13 13:27**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:37**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

6-SS-5-6	**13-11-0697-9-A**	**11/08/13 14:58**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:48**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

6-SS-9-11	**13-11-0697-10-A**	**11/08/13 15:05**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:50**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
60-SS-9-11	**13-11-0697-11-A**	**11/08/13 15:06**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:53**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

6-SS-13.75-14.75	**13-11-0697-12-A**	**11/08/13 15:25**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:55**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

Method Blank	**099-04-007-9815**	**N/A**	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:21**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0835	1	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-5-6	**13-11-0697-3-A**	**11/08/13 11:20**	**Solid**	**GC 51**	**11/12/13**	**11/14/13 13:43**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	66	50-135	
2,4,5,6-Tetrachloro-m-Xylene	54	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 2 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-9.5-10.5	**13-11-0697-4-A**	**11/08/13 11:32**	**Solid**	**GC 51**	**11/12/13**	**11/14/13 13:58**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	71	50-135	
2,4,5,6-Tetrachloro-m-Xylene	76	50-135	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 3 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-14.25-15.25	**13-11-0697-5-A**	**11/08/13 11:40**	**Solid**	**GC 51**	**11/12/13**	**11/14/13 14:12**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	62	50-135	
2,4,5,6-Tetrachloro-m-Xylene	58	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 4 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
12-SS-5-6	**13-11-0697-6-A**	**11/08/13 13:18**	**Solid**	**GC 51**	**11/12/13**	**11/14/13 14:26**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	69	50-135	
2,4,5,6-Tetrachloro-m-Xylene	68	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 5 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
12-SS-9.5-10.5	**13-11-0697-7-A**	**11/08/13 13:20**	**Solid**	**GC 51**	**11/12/13**	**11/14/13 14:41**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	70	50-135	
2,4,5,6-Tetrachloro-m-Xylene	80	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 6 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
12-SS-13.25-15.25	**13-11-0697-8-A**	**11/08/13 13:27**	**Solid**	**GC 51**	**11/12/13**	**11/13/13 17:03**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	70	50-135	
2,4,5,6-Tetrachloro-m-Xylene	72	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 7 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
6-SS-5-6	**13-11-0697-9-A**	**11/08/13 14:58**	**Solid**	**GC 51**	**11/12/13**	**11/14/13 12:45**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	71	50-135	
2,4,5,6-Tetrachloro-m-Xylene	66	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 8 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
6-SS-9-11	**13-11-0697-10-A**	**11/08/13 15:05**	**Solid**	**GC 51**	**11/12/13**	**11/14/13 13:00**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	62	50-135	
2,4,5,6-Tetrachloro-m-Xylene	63	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 9 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
60-SS-9-11	**13-11-0697-11-A**	**11/08/13 15:06**	**Solid**	**GC 51**	**11/12/13**	**11/14/13 13:14**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	61	50-135	
2,4,5,6-Tetrachloro-m-Xylene	72	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 10 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
6-SS-13.75-14.75	**13-11-0697-12-A**	**11/08/13 15:25**	**Solid**	**GC 51**	**11/12/13**	**11/14/13 13:29**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	74	50-135	
2,4,5,6-Tetrachloro-m-Xylene	87	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 11 of 11

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-537-1532**	**N/A**	**Solid**	**GC 51**	**11/12/13**	**11/13/13 16:48**	**131112L26**

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	85	50-135	
2,4,5,6-Tetrachloro-m-Xylene	96	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8081A
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
QCEB-11082013	**13-11-0697-13-G**	**11/08/13 15:40**	**Aqueous**	**GC 44**	**11/11/13**	**11/15/13 17:23**	**131111L07**

Parameter	Result	RL	DF	Qualifiers
Alpha-BHC	ND	0.10	1	
Gamma-BHC	ND	0.10	1	
Beta-BHC	ND	0.10	1	
Heptachlor	ND	0.10	1	
Delta-BHC	ND	0.10	1	
Aldrin	ND	0.10	1	
Heptachlor Epoxide	ND	0.10	1	
Endosulfan I	ND	0.10	1	
Dieldrin	ND	0.10	1	
4,4'-DDE	ND	0.10	1	
Endrin	ND	0.10	1	
Endrin Aldehyde	ND	0.10	1	
4,4'-DDD	ND	0.10	1	
Endosulfan II	ND	0.10	1	
4,4'-DDT	ND	0.10	1	
Endosulfan Sulfate	ND	0.10	1	
Methoxychlor	ND	0.10	1	
Chlordane	ND	1.0	1	
Toxaphene	ND	2.0	1	
Endrin Ketone	ND	0.10	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	91	50-135	
2,4,5,6-Tetrachloro-m-Xylene	85	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8081A
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-529-661**	**N/A**	**Aqueous**	**GC 44**	**11/11/13**	**11/15/13 16:40**	**131111L07**

Parameter	Result	RL	DF	Qualifiers
Alpha-BHC	ND	0.10	1	
Gamma-BHC	ND	0.10	1	
Beta-BHC	ND	0.10	1	
Heptachlor	ND	0.10	1	
Delta-BHC	ND	0.10	1	
Aldrin	ND	0.10	1	
Heptachlor Epoxide	ND	0.10	1	
Endosulfan I	ND	0.10	1	
Dieldrin	ND	0.10	1	
4,4'-DDE	ND	0.10	1	
Endrin	ND	0.10	1	
Endrin Aldehyde	ND	0.10	1	
4,4'-DDD	ND	0.10	1	
Endosulfan II	ND	0.10	1	
4,4'-DDT	ND	0.10	1	
Endosulfan Sulfate	ND	0.10	1	
Methoxychlor	ND	0.10	1	
Chlordane	ND	1.0	1	
Toxaphene	ND	2.0	1	
Endrin Ketone	ND	0.10	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	96	50-135	
2,4,5,6-Tetrachloro-m-Xylene	94	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8082
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-5-6	**13-11-0697-3-A**	**11/08/13 11:20**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 09:43**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	84	50-130	
2,4,5,6-Tetrachloro-m-Xylene	59	50-130	

8-SS-9.5-10.5	**13-11-0697-4-A**	**11/08/13 11:32**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 16:56**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	96	50-130	
2,4,5,6-Tetrachloro-m-Xylene	78	50-130	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8082
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 2 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-14.25-15.25	**13-11-0697-5-A**	**11/08/13 11:40**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 17:32**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	80	50-130	
2,4,5,6-Tetrachloro-m-Xylene	61	50-130	

12-SS-5-6	**13-11-0697-6-A**	**11/08/13 13:18**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 17:50**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	85	50-130	
2,4,5,6-Tetrachloro-m-Xylene	69	50-130	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8082
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 3 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
12-SS-9.5-10.5	**13-11-0697-7-A**	**11/08/13 13:20**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 18:08**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	88	50-130	
2,4,5,6-Tetrachloro-m-Xylene	75	50-130	

12-SS-13.25-15.25	**13-11-0697-8-A**	**11/08/13 13:27**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 18:26**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	90	50-130	
2,4,5,6-Tetrachloro-m-Xylene	72	50-130	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8082
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 4 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
6-SS-5-6	**13-11-0697-9-A**	**11/08/13 14:58**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 18:44**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	50-130	
2,4,5,6-Tetrachloro-m-Xylene	69	50-130	

6-SS-9-11	**13-11-0697-10-A**	**11/08/13 15:05**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 19:02**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	78	50-130	
2,4,5,6-Tetrachloro-m-Xylene	66	50-130	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8082
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 5 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
60-SS-9-11	**13-11-0697-11-A**	**11/08/13 15:06**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 19:20**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	79	50-130	
2,4,5,6-Tetrachloro-m-Xylene	73	50-130	

6-SS-13.75-14.75	**13-11-0697-12-A**	**11/08/13 15:25**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 19:38**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	94	50-130	
2,4,5,6-Tetrachloro-m-Xylene	89	50-130	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8082
		Units:	ug/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 6 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-535-2367**	**N/A**	**Solid**	**GC 58**	**11/12/13**	**11/14/13 08:49**	**131112L27**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1	
Aroclor-1221	ND	50	1	
Aroclor-1232	ND	50	1	
Aroclor-1242	ND	50	1	
Aroclor-1248	ND	50	1	
Aroclor-1254	ND	50	1	
Aroclor-1260	ND	50	1	
Aroclor-1262	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	109	50-130	
2,4,5,6-Tetrachloro-m-Xylene	97	50-130	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8082
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
QCEB-11082013	**13-11-0697-13-G**	**11/08/13 15:40**	**Aqueous**	**GC 58**	**11/11/13**	**11/15/13 16:41**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	1.0	1	
Aroclor-1221	ND	1.0	1	
Aroclor-1232	ND	1.0	1	
Aroclor-1242	ND	1.0	1	
Aroclor-1248	ND	1.0	1	
Aroclor-1254	ND	1.0	1	
Aroclor-1260	ND	1.0	1	
Aroclor-1262	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	94	50-135	
2,4,5,6-Tetrachloro-m-Xylene	90	50-135	

Method Blank	**099-12-533-859**	**N/A**	**Aqueous**	**GC 58**	**11/11/13**	**11/15/13 16:23**	**131111L08**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	1.0	1	
Aroclor-1221	ND	1.0	1	
Aroclor-1232	ND	1.0	1	
Aroclor-1242	ND	1.0	1	
Aroclor-1248	ND	1.0	1	
Aroclor-1254	ND	1.0	1	
Aroclor-1260	ND	1.0	1	
Aroclor-1262	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	95	50-135	
2,4,5,6-Tetrachloro-m-Xylene	91	50-135	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8270C
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
QCEB-11082013	**13-11-0697-13-F**	**11/08/13 15:40**	**Aqueous**	**GC/MS SS**	**11/12/13**	**11/14/13 15:50**	**131112L05**

Parameter	Result	RL	DF	Qualifiers
Acenaphthene	ND	10	1	
Acenaphthylene	ND	10	1	
Aniline	ND	10	1	
Anthracene	ND	10	1	
Azobenzene	ND	10	1	
Benzidine	ND	50	1	
Benzo (a) Anthracene	ND	10	1	
Benzo (a) Pyrene	ND	10	1	
Benzo (b) Fluoranthene	ND	10	1	
Benzo (g,h,i) Perylene	ND	10	1	
Benzo (k) Fluoranthene	ND	10	1	
Benzoic Acid	ND	50	1	
Benzyl Alcohol	ND	10	1	
Bis(2-Chloroethoxy) Methane	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1	
Bis(2-Ethylhexyl) Phthalate	ND	10	1	
4-Bromophenyl-Phenyl Ether	ND	10	1	
Butyl Benzyl Phthalate	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1	
4-Chloroaniline	ND	10	1	
2-Chloronaphthalene	ND	10	1	
2-Chlorophenol	ND	10	1	
4-Chlorophenyl-Phenyl Ether	ND	10	1	
Chrysene	ND	10	1	
Di-n-Butyl Phthalate	ND	10	1	
Di-n-Octyl Phthalate	ND	10	1	
Dibenz (a,h) Anthracene	ND	10	1	
Dibenzofuran	ND	10	1	
1,2-Dichlorobenzene	ND	10	1	
1,3-Dichlorobenzene	ND	10	1	
1,4-Dichlorobenzene	ND	10	1	
3,3'-Dichlorobenzidine	ND	25	1	
2,4-Dichlorophenol	ND	10	1	
Diethyl Phthalate	ND	10	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8270C
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 2 of 6

Parameter	Result	RL	DF	Qualifiers
Dimethyl Phthalate	ND	10	1	
2,4-Dimethylphenol	ND	10	1	
4,6-Dinitro-2-Methylphenol	ND	50	1	
2,4-Dinitrophenol	ND	50	1	
2,4-Dinitrotoluene	ND	10	1	
2,6-Dinitrotoluene	ND	10	1	
Fluoranthene	ND	10	1	
Fluorene	ND	10	1	
Hexachloro-1,3-Butadiene	ND	10	1	
Hexachlorobenzene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1	
Hexachloroethane	ND	10	1	
Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Isophorone	ND	10	1	
2-Methylnaphthalene	ND	10	1	
1-Methylnaphthalene	ND	10	1	
2-Methylphenol	ND	10	1	
3/4-Methylphenol	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1	
N-Nitrosodimethylamine	ND	10	1	
N-Nitrosodiphenylamine	ND	10	1	
Naphthalene	ND	10	1	
4-Nitroaniline	ND	10	1	
3-Nitroaniline	ND	10	1	
2-Nitroaniline	ND	10	1	
Nitrobenzene	ND	25	1	
4-Nitrophenol	ND	10	1	
2-Nitrophenol	ND	10	1	
Pentachlorophenol	ND	10	1	
Phenanthrene	ND	10	1	
Phenol	ND	10	1	
Pyrene	ND	10	1	
Pyridine	ND	10	1	
1,2,4-Trichlorobenzene	ND	10	1	
2,4,6-Trichlorophenol	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8270C
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 3 of 6

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	68	42-138	
2-Fluorophenol	51	7-121	
Nitrobenzene-d5	84	50-146	
p-Terphenyl-d14	86	47-173	
Phenol-d6	37	1-127	
2,4,6-Tribromophenol	77	41-137	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8270C
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 4 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-003-3729**	**N/A**	**Aqueous**	**GC/MS SS**	**11/12/13**	**11/13/13 12:14**	**131112L05**

Parameter	Result	RL	DF	Qualifiers
Acenaphthene	ND	10	1	
Acenaphthylene	ND	10	1	
Aniline	ND	10	1	
Anthracene	ND	10	1	
Azobenzene	ND	10	1	
Benzidine	ND	50	1	
Benzo (a) Anthracene	ND	10	1	
Benzo (a) Pyrene	ND	10	1	
Benzo (b) Fluoranthene	ND	10	1	
Benzo (g,h,i) Perylene	ND	10	1	
Benzo (k) Fluoranthene	ND	10	1	
Benzoic Acid	ND	50	1	
Benzyl Alcohol	ND	10	1	
Bis(2-Chloroethoxy) Methane	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1	
Bis(2-Ethylhexyl) Phthalate	ND	10	1	
4-Bromophenyl-Phenyl Ether	ND	10	1	
Butyl Benzyl Phthalate	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1	
4-Chloroaniline	ND	10	1	
2-Chloronaphthalene	ND	10	1	
2-Chlorophenol	ND	10	1	
4-Chlorophenyl-Phenyl Ether	ND	10	1	
Chrysene	ND	10	1	
Di-n-Butyl Phthalate	ND	10	1	
Di-n-Octyl Phthalate	ND	10	1	
Dibenz (a,h) Anthracene	ND	10	1	
Dibenzofuran	ND	10	1	
1,2-Dichlorobenzene	ND	10	1	
1,3-Dichlorobenzene	ND	10	1	
1,4-Dichlorobenzene	ND	10	1	
3,3'-Dichlorobenzidine	ND	25	1	
2,4-Dichlorophenol	ND	10	1	
Diethyl Phthalate	ND	10	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8270C
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 5 of 6

Parameter	Result	RL	DF	Qualifiers
Dimethyl Phthalate	ND	10	1	
2,4-Dimethylphenol	ND	10	1	
4,6-Dinitro-2-Methylphenol	ND	50	1	
2,4-Dinitrophenol	ND	50	1	
2,4-Dinitrotoluene	ND	10	1	
2,6-Dinitrotoluene	ND	10	1	
Fluoranthene	ND	10	1	
Fluorene	ND	10	1	
Hexachloro-1,3-Butadiene	ND	10	1	
Hexachlorobenzene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1	
Hexachloroethane	ND	10	1	
Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Isophorone	ND	10	1	
2-Methylnaphthalene	ND	10	1	
1-Methylnaphthalene	ND	10	1	
2-Methylphenol	ND	10	1	
3/4-Methylphenol	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1	
N-Nitrosodimethylamine	ND	10	1	
N-Nitrosodiphenylamine	ND	10	1	
Naphthalene	ND	10	1	
4-Nitroaniline	ND	10	1	
3-Nitroaniline	ND	10	1	
2-Nitroaniline	ND	10	1	
Nitrobenzene	ND	25	1	
4-Nitrophenol	ND	10	1	
2-Nitrophenol	ND	10	1	
Pentachlorophenol	ND	10	1	
Phenanthrene	ND	10	1	
Phenol	ND	10	1	
Pyrene	ND	10	1	
Pyridine	ND	10	1	
1,2,4-Trichlorobenzene	ND	10	1	
2,4,6-Trichlorophenol	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8270C
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 6 of 6

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	71	42-138	
2-Fluorophenol	63	7-121	
Nitrobenzene-d5	92	50-146	
p-Terphenyl-d14	90	47-173	
Phenol-d6	47	1-127	
2,4,6-Tribromophenol	86	41-137	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 24

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-5-6	**13-11-0697-3-A**	**11/08/13 11:20**	**Solid**	**GC/MS TT**	**11/11/13**	**11/14/13 04:17**	**131111L05**

Parameter	Result	RL	DF	Qualifiers
Acenaphthene	ND	0.50	1	
Acenaphthylene	ND	0.50	1	
Aniline	ND	0.50	1	
Anthracene	ND	0.50	1	
Azobenzene	ND	0.50	1	
Benzidine	ND	10	1	
Benzo (a) Anthracene	ND	0.50	1	
Benzo (a) Pyrene	ND	0.50	1	
Benzo (b) Fluoranthene	ND	0.50	1	
Benzo (g,h,i) Perylene	ND	0.50	1	
Benzo (k) Fluoranthene	ND	0.50	1	
Benzoic Acid	ND	2.5	1	
Benzyl Alcohol	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Butyl Benzyl Phthalate	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1	
4-Chloroaniline	ND	0.50	1	
2-Chloronaphthalene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1	
4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Chrysene	ND	0.50	1	
Di-n-Butyl Phthalate	ND	0.50	1	
Di-n-Octyl Phthalate	ND	0.50	1	
Dibenz (a,h) Anthracene	ND	0.50	1	
Dibenzofuran	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1	
3,3'-Dichlorobenzidine	ND	10	1	
2,4-Dichlorophenol	ND	0.50	1	
Diethyl Phthalate	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure	Date Received:	11/08/13
121 Innovation Drive, Suite 200	Work Order:	13-11-0697
Irvine, CA 92617-3094	Preparation:	EPA 3545
	Method:	EPA 8270C
	Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P		Page 2 of 24

Parameter	Result	RL	DF	Qualifiers
Dimethyl Phthalate	ND	0.50	1	
2,4-Dimethylphenol	ND	0.50	1	
4,6-Dinitro-2-Methylphenol	ND	2.5	1	
2,4-Dinitrophenol	ND	2.5	1	
2,4-Dinitrotoluene	ND	0.50	1	
2,6-Dinitrotoluene	ND	0.50	1	
Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1	
Hexachlorobenzene	ND	0.50	1	
Hexachlorocyclopentadiene	ND	2.5	1	
Hexachloroethane	ND	0.50	1	
Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Isophorone	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1	
2-Methylphenol	ND	0.50	1	
3/4-Methylphenol	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1	
N-Nitrosodimethylamine	ND	0.50	1	
N-Nitrosodiphenylamine	ND	0.50	1	
Naphthalene	ND	0.50	1	
4-Nitroaniline	ND	0.50	1	
3-Nitroaniline	ND	0.50	1	
2-Nitroaniline	ND	0.50	1	
Nitrobenzene	ND	2.5	1	
4-Nitrophenol	ND	0.50	1	
2-Nitrophenol	ND	0.50	1	
Pentachlorophenol	ND	2.5	1	
Phenanthrene	ND	0.50	1	
Phenol	ND	0.50	1	
Pyrene	ND	0.50	1	
Pyridine	ND	0.50	1	
1,2,4-Trichlorobenzene	ND	0.50	1	
2,4,6-Trichlorophenol	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
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Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 3 of 24

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	55	38-134	
2-Fluorophenol	58	42-120	
Nitrobenzene-d5	59	42-150	
p-Terphenyl-d14	79	35-167	
Phenol-d6	60	46-118	
2,4,6-Tribromophenol	63	36-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 4 of 24

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
8-SS-9.5-10.5	**13-11-0697-4-A**	**11/08/13 11:32**	**Solid**	**GC/MS TT**	**11/11/13**	**11/14/13 18:26**	**131111L05**

Parameter	Result	RL	DF	Qualifiers
Acenaphthene	ND	0.50	1	
Acenaphthylene	ND	0.50	1	
Aniline	ND	0.50	1	
Anthracene	ND	0.50	1	
Azobenzene	ND	0.50	1	
Benzidine	ND	10	1	
Benzo (a) Anthracene	ND	0.50	1	
Benzo (a) Pyrene	ND	0.50	1	
Benzo (b) Fluoranthene	ND	0.50	1	
Benzo (g,h,i) Perylene	ND	0.50	1	
Benzo (k) Fluoranthene	ND	0.50	1	
Benzoic Acid	ND	2.5	1	
Benzyl Alcohol	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Butyl Benzyl Phthalate	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1	
4-Chloroaniline	ND	0.50	1	
2-Chloronaphthalene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1	
4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Chrysene	ND	0.50	1	
Di-n-Butyl Phthalate	ND	0.50	1	
Di-n-Octyl Phthalate	ND	0.50	1	
Dibenz (a,h) Anthracene	ND	0.50	1	
Dibenzofuran	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1	
3,3'-Dichlorobenzidine	ND	10	1	
2,4-Dichlorophenol	ND	0.50	1	
Diethyl Phthalate	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 5 of 24

Parameter	Result	RL	DF	Qualifiers
Dimethyl Phthalate	ND	0.50	1	
2,4-Dimethylphenol	ND	0.50	1	
4,6-Dinitro-2-Methylphenol	ND	2.5	1	
2,4-Dinitrophenol	ND	2.5	1	
2,4-Dinitrotoluene	ND	0.50	1	
2,6-Dinitrotoluene	ND	0.50	1	
Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1	
Hexachlorobenzene	ND	0.50	1	
Hexachlorocyclopentadiene	ND	2.5	1	
Hexachloroethane	ND	0.50	1	
Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Isophorone	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1	
2-Methylphenol	ND	0.50	1	
3/4-Methylphenol	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1	
N-Nitrosodimethylamine	ND	0.50	1	
N-Nitrosodiphenylamine	ND	0.50	1	
Naphthalene	ND	0.50	1	
4-Nitroaniline	ND	0.50	1	
3-Nitroaniline	ND	0.50	1	
2-Nitroaniline	ND	0.50	1	
Nitrobenzene	ND	2.5	1	
4-Nitrophenol	ND	0.50	1	
2-Nitrophenol	ND	0.50	1	
Pentachlorophenol	ND	2.5	1	
Phenanthrene	ND	0.50	1	
Phenol	ND	0.50	1	
Pyrene	ND	0.50	1	
Pyridine	ND	0.50	1	
1,2,4-Trichlorobenzene	ND	0.50	1	
2,4,6-Trichlorophenol	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 6 of 24

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	66	38-134	
2-Fluorophenol	69	42-120	
Nitrobenzene-d5	78	42-150	
p-Terphenyl-d14	84	35-167	
Phenol-d6	76	46-118	
2,4,6-Tribromophenol	80	36-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 7 of 24

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
12-SS-5-6	**13-11-0697-6-A**	**11/08/13 13:18**	**Solid**	**GC/MS TT**	**11/11/13**	**11/15/13 14:07**	**131111L05**

Parameter	Result	RL	DF	Qualifiers
Acenaphthene	ND	2.5	5	
Acenaphthylene	ND	2.5	5	
Aniline	ND	2.5	5	
Anthracene	ND	2.5	5	
Azobenzene	ND	2.5	5	
Benzidine	ND	50	5	
Benzo (a) Anthracene	ND	2.5	5	
Benzo (a) Pyrene	ND	2.5	5	
Benzo (b) Fluoranthene	ND	2.5	5	
Benzo (g,h,i) Perylene	ND	2.5	5	
Benzo (k) Fluoranthene	ND	2.5	5	
Benzoic Acid	ND	12	5	
Benzyl Alcohol	ND	2.5	5	
Bis(2-Chloroethoxy) Methane	ND	2.5	5	
Bis(2-Chloroethyl) Ether	ND	12	5	
Bis(2-Chloroisopropyl) Ether	ND	2.5	5	
Bis(2-Ethylhexyl) Phthalate	2.6	2.5	5	
4-Bromophenyl-Phenyl Ether	ND	2.5	5	
Butyl Benzyl Phthalate	ND	2.5	5	
4-Chloro-3-Methylphenol	ND	2.5	5	
4-Chloroaniline	ND	2.5	5	
2-Chloronaphthalene	ND	2.5	5	
2-Chlorophenol	ND	2.5	5	
4-Chlorophenyl-Phenyl Ether	ND	2.5	5	
Chrysene	ND	2.5	5	
Di-n-Butyl Phthalate	ND	2.5	5	
Di-n-Octyl Phthalate	ND	2.5	5	
Dibenz (a,h) Anthracene	ND	2.5	5	
Dibenzofuran	ND	2.5	5	
1,2-Dichlorobenzene	ND	2.5	5	
1,3-Dichlorobenzene	ND	2.5	5	
1,4-Dichlorobenzene	ND	2.5	5	
3,3'-Dichlorobenzidine	ND	50	5	
2,4-Dichlorophenol	ND	2.5	5	
Diethyl Phthalate	ND	2.5	5	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure	Date Received:	11/08/13
121 Innovation Drive, Suite 200	Work Order:	13-11-0697
Irvine, CA 92617-3094	Preparation:	EPA 3545
	Method:	EPA 8270C
	Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P		Page 8 of 24

Parameter	Result	RL	DF	Qualifiers
Dimethyl Phthalate	ND	2.5	5	
2,4-Dimethylphenol	ND	2.5	5	
4,6-Dinitro-2-Methylphenol	ND	12	5	
2,4-Dinitrophenol	ND	12	5	
2,4-Dinitrotoluene	ND	2.5	5	
2,6-Dinitrotoluene	ND	2.5	5	
Fluoranthene	ND	2.5	5	
Fluorene	ND	2.5	5	
Hexachloro-1,3-Butadiene	ND	2.5	5	
Hexachlorobenzene	ND	2.5	5	
Hexachlorocyclopentadiene	ND	12	5	
Hexachloroethane	ND	2.5	5	
Indeno (1,2,3-c,d) Pyrene	ND	2.5	5	
Isophorone	ND	2.5	5	
2-Methylnaphthalene	ND	2.5	5	
1-Methylnaphthalene	ND	2.5	5	
2-Methylphenol	ND	2.5	5	
3/4-Methylphenol	ND	2.5	5	
N-Nitroso-di-n-propylamine	ND	2.5	5	
N-Nitrosodimethylamine	ND	2.5	5	
N-Nitrosodiphenylamine	ND	2.5	5	
Naphthalene	ND	2.5	5	
4-Nitroaniline	ND	2.5	5	
3-Nitroaniline	ND	2.5	5	
2-Nitroaniline	ND	2.5	5	
Nitrobenzene	ND	12	5	
4-Nitrophenol	ND	2.5	5	
2-Nitrophenol	ND	2.5	5	
Pentachlorophenol	ND	12	5	
Phenanthrene	ND	2.5	5	
Phenol	ND	2.5	5	
Pyrene	ND	2.5	5	
Pyridine	ND	2.5	5	
1,2,4-Trichlorobenzene	ND	2.5	5	
2,4,6-Trichlorophenol	ND	2.5	5	
2,4,5-Trichlorophenol	ND	2.5	5	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 9 of 24

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	67	38-134	
2-Fluorophenol	59	42-120	
Nitrobenzene-d5	68	42-150	
p-Terphenyl-d14	62	35-167	
Phenol-d6	65	46-118	
2,4,6-Tribromophenol	63	36-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 10 of 24

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
12-SS-9.5-10.5	**13-11-0697-7-A**	**11/08/13 13:20**	**Solid**	**GC/MS TT**	**11/11/13**	**11/14/13 16:42**	**131111L05**

Parameter	Result	RL	DF	Qualifiers
Acenaphthene	ND	0.50	1	
Acenaphthylene	ND	0.50	1	
Aniline	ND	0.50	1	
Anthracene	ND	0.50	1	
Azobenzene	ND	0.50	1	
Benzidine	ND	10	1	
Benzo (a) Anthracene	ND	0.50	1	
Benzo (a) Pyrene	ND	0.50	1	
Benzo (b) Fluoranthene	ND	0.50	1	
Benzo (g,h,i) Perylene	ND	0.50	1	
Benzo (k) Fluoranthene	ND	0.50	1	
Benzoic Acid	ND	2.5	1	
Benzyl Alcohol	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Butyl Benzyl Phthalate	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1	
4-Chloroaniline	ND	0.50	1	
2-Chloronaphthalene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1	
4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Chrysene	ND	0.50	1	
Di-n-Butyl Phthalate	ND	0.50	1	
Di-n-Octyl Phthalate	ND	0.50	1	
Dibenz (a,h) Anthracene	ND	0.50	1	
Dibenzofuran	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1	
3,3'-Dichlorobenzidine	ND	10	1	
2,4-Dichlorophenol	ND	0.50	1	
Diethyl Phthalate	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure	Date Received:	11/08/13
121 Innovation Drive, Suite 200	Work Order:	13-11-0697
Irvine, CA 92617-3094	Preparation:	EPA 3545
	Method:	EPA 8270C
	Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P		Page 11 of 24

Parameter	Result	RL	DF	Qualifiers
Dimethyl Phthalate	ND	0.50	1	
2,4-Dimethylphenol	ND	0.50	1	
4,6-Dinitro-2-Methylphenol	ND	2.5	1	
2,4-Dinitrophenol	ND	2.5	1	
2,4-Dinitrotoluene	ND	0.50	1	
2,6-Dinitrotoluene	ND	0.50	1	
Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1	
Hexachlorobenzene	ND	0.50	1	
Hexachlorocyclopentadiene	ND	2.5	1	
Hexachloroethane	ND	0.50	1	
Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Isophorone	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1	
2-Methylphenol	ND	0.50	1	
3/4-Methylphenol	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1	
N-Nitrosodimethylamine	ND	0.50	1	
N-Nitrosodiphenylamine	ND	0.50	1	
Naphthalene	ND	0.50	1	
4-Nitroaniline	ND	0.50	1	
3-Nitroaniline	ND	0.50	1	
2-Nitroaniline	ND	0.50	1	
Nitrobenzene	ND	2.5	1	
4-Nitrophenol	ND	0.50	1	
2-Nitrophenol	ND	0.50	1	
Pentachlorophenol	ND	2.5	1	
Phenanthrene	ND	0.50	1	
Phenol	ND	0.50	1	
Pyrene	ND	0.50	1	
Pyridine	ND	0.50	1	
1,2,4-Trichlorobenzene	ND	0.50	1	
2,4,6-Trichlorophenol	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 12 of 24

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	83	38-134	
2-Fluorophenol	77	42-120	
Nitrobenzene-d5	87	42-150	
p-Terphenyl-d14	94	35-167	
Phenol-d6	90	46-118	
2,4,6-Tribromophenol	85	36-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 13 of 24

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
6-SS-5-6	**13-11-0697-9-A**	**11/08/13 14:58**	**Solid**	**GC/MS TT**	**11/11/13**	**11/14/13 21:29**	**131111L05**

Comment(s): - The reporting limit is elevated resulting from matrix interference.

Parameter	Result	RL	DF	Qualifiers
Acenaphthene	ND	1.0	2	
Acenaphthylene	ND	1.0	2	
Aniline	ND	1.0	2	
Anthracene	ND	1.0	2	
Azobenzene	ND	1.0	2	
Benzidine	ND	20	2	
Benzo (a) Anthracene	ND	1.0	2	
Benzo (a) Pyrene	ND	1.0	2	
Benzo (b) Fluoranthene	ND	1.0	2	
Benzo (g,h,i) Perylene	ND	1.0	2	
Benzo (k) Fluoranthene	ND	1.0	2	
Benzoic Acid	ND	5.0	2	
Benzyl Alcohol	ND	1.0	2	
Bis(2-Chloroethoxy) Methane	ND	1.0	2	
Bis(2-Chloroethyl) Ether	ND	5.0	2	
Bis(2-Chloroisopropyl) Ether	ND	1.0	2	
Bis(2-Ethylhexyl) Phthalate	ND	1.0	2	
4-Bromophenyl-Phenyl Ether	ND	1.0	2	
Butyl Benzyl Phthalate	ND	1.0	2	
4-Chloro-3-Methylphenol	ND	1.0	2	
4-Chloroaniline	ND	1.0	2	
2-Chloronaphthalene	ND	1.0	2	
2-Chlorophenol	ND	1.0	2	
4-Chlorophenyl-Phenyl Ether	ND	1.0	2	
Chrysene	ND	1.0	2	
Di-n-Butyl Phthalate	ND	1.0	2	
Di-n-Octyl Phthalate	ND	1.0	2	
Dibenz (a,h) Anthracene	ND	1.0	2	
Dibenzofuran	ND	1.0	2	
1,2-Dichlorobenzene	ND	1.0	2	
1,3-Dichlorobenzene	ND	1.0	2	
1,4-Dichlorobenzene	ND	1.0	2	
3,3'-Dichlorobenzidine	ND	20	2	
2,4-Dichlorophenol	ND	1.0	2	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure	Date Received:	11/08/13
121 Innovation Drive, Suite 200	Work Order:	13-11-0697
Irvine, CA 92617-3094	Preparation:	EPA 3545
	Method:	EPA 8270C
	Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P		Page 14 of 24

Parameter	Result	RL	DF	Qualifiers
Diethyl Phthalate	ND	1.0	2	
Dimethyl Phthalate	ND	1.0	2	
2,4-Dimethylphenol	ND	1.0	2	
4,6-Dinitro-2-Methylphenol	ND	5.0	2	
2,4-Dinitrophenol	ND	5.0	2	
2,4-Dinitrotoluene	ND	1.0	2	
2,6-Dinitrotoluene	ND	1.0	2	
Fluoranthene	ND	1.0	2	
Fluorene	ND	1.0	2	
Hexachloro-1,3-Butadiene	ND	1.0	2	
Hexachlorobenzene	ND	1.0	2	
Hexachlorocyclopentadiene	ND	5.0	2	
Hexachloroethane	ND	1.0	2	
Indeno (1,2,3-c,d) Pyrene	ND	1.0	2	
Isophorone	ND	1.0	2	
2-Methylnaphthalene	ND	1.0	2	
1-Methylnaphthalene	ND	1.0	2	
2-Methylphenol	ND	1.0	2	
3/4-Methylphenol	ND	1.0	2	
N-Nitroso-di-n-propylamine	ND	1.0	2	
N-Nitrosodimethylamine	ND	1.0	2	
N-Nitrosodiphenylamine	ND	1.0	2	
Naphthalene	ND	1.0	2	
4-Nitroaniline	ND	1.0	2	
3-Nitroaniline	ND	1.0	2	
2-Nitroaniline	ND	1.0	2	
Nitrobenzene	ND	5.0	2	
4-Nitrophenol	ND	1.0	2	
2-Nitrophenol	ND	1.0	2	
Pentachlorophenol	ND	5.0	2	
Phenanthrene	ND	1.0	2	
Phenol	ND	1.0	2	
Pyrene	ND	1.0	2	
Pyridine	ND	1.0	2	
1,2,4-Trichlorobenzene	ND	1.0	2	
2,4,6-Trichlorophenol	ND	1.0	2	
2,4,5-Trichlorophenol	ND	1.0	2	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
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Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 15 of 24

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	85	38-134	
2-Fluorophenol	77	42-120	
Nitrobenzene-d5	93	42-150	
p-Terphenyl-d14	89	35-167	
Phenol-d6	84	46-118	
2,4,6-Tribromophenol	82	36-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 16 of 24

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
6-SS-9-11	**13-11-0697-10-A**	**11/08/13 15:05**	**Solid**	**GC/MS TT**	**11/11/13**	**11/14/13 18:52**	**131111L05**

Parameter	Result	RL	DF	Qualifiers
Acenaphthene	ND	0.50	1	
Acenaphthylene	ND	0.50	1	
Aniline	ND	0.50	1	
Anthracene	ND	0.50	1	
Azobenzene	ND	0.50	1	
Benzidine	ND	10	1	
Benzo (a) Anthracene	ND	0.50	1	
Benzo (a) Pyrene	ND	0.50	1	
Benzo (b) Fluoranthene	ND	0.50	1	
Benzo (g,h,i) Perylene	ND	0.50	1	
Benzo (k) Fluoranthene	ND	0.50	1	
Benzoic Acid	ND	2.5	1	
Benzyl Alcohol	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Butyl Benzyl Phthalate	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1	
4-Chloroaniline	ND	0.50	1	
2-Chloronaphthalene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1	
4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Chrysene	ND	0.50	1	
Di-n-Butyl Phthalate	ND	0.50	1	
Di-n-Octyl Phthalate	ND	0.50	1	
Dibenz (a,h) Anthracene	ND	0.50	1	
Dibenzofuran	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1	
3,3'-Dichlorobenzidine	ND	10	1	
2,4-Dichlorophenol	ND	0.50	1	
Diethyl Phthalate	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure	Date Received:	11/08/13
121 Innovation Drive, Suite 200	Work Order:	13-11-0697
Irvine, CA 92617-3094	Preparation:	EPA 3545
	Method:	EPA 8270C
	Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P		Page 17 of 24

Parameter	Result	RL	DF	Qualifiers
Dimethyl Phthalate	ND	0.50	1	
2,4-Dimethylphenol	ND	0.50	1	
4,6-Dinitro-2-Methylphenol	ND	2.5	1	
2,4-Dinitrophenol	ND	2.5	1	
2,4-Dinitrotoluene	ND	0.50	1	
2,6-Dinitrotoluene	ND	0.50	1	
Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1	
Hexachlorobenzene	ND	0.50	1	
Hexachlorocyclopentadiene	ND	2.5	1	
Hexachloroethane	ND	0.50	1	
Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Isophorone	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1	
2-Methylphenol	ND	0.50	1	
3/4-Methylphenol	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1	
N-Nitrosodimethylamine	ND	0.50	1	
N-Nitrosodiphenylamine	ND	0.50	1	
Naphthalene	ND	0.50	1	
4-Nitroaniline	ND	0.50	1	
3-Nitroaniline	ND	0.50	1	
2-Nitroaniline	ND	0.50	1	
Nitrobenzene	ND	2.5	1	
4-Nitrophenol	ND	0.50	1	
2-Nitrophenol	ND	0.50	1	
Pentachlorophenol	ND	2.5	1	
Phenanthrene	ND	0.50	1	
Phenol	ND	0.50	1	
Pyrene	ND	0.50	1	
Pyridine	ND	0.50	1	
1,2,4-Trichlorobenzene	ND	0.50	1	
2,4,6-Trichlorophenol	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
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Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 18 of 24

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	64	38-134	
2-Fluorophenol	66	42-120	
Nitrobenzene-d5	82	42-150	
p-Terphenyl-d14	85	35-167	
Phenol-d6	78	46-118	
2,4,6-Tribromophenol	70	36-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 19 of 24

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
60-SS-9-11	**13-11-0697-11-A**	**11/08/13 15:06**	**Solid**	**GC/MS TT**	**11/11/13**	**11/14/13 19:18**	**131111L05**

Parameter	Result	RL	DF	Qualifiers
Acenaphthene	ND	0.50	1	
Acenaphthylene	ND	0.50	1	
Aniline	ND	0.50	1	
Anthracene	ND	0.50	1	
Azobenzene	ND	0.50	1	
Benzidine	ND	10	1	
Benzo (a) Anthracene	ND	0.50	1	
Benzo (a) Pyrene	ND	0.50	1	
Benzo (b) Fluoranthene	ND	0.50	1	
Benzo (g,h,i) Perylene	ND	0.50	1	
Benzo (k) Fluoranthene	ND	0.50	1	
Benzoic Acid	ND	2.5	1	
Benzyl Alcohol	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Butyl Benzyl Phthalate	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1	
4-Chloroaniline	ND	0.50	1	
2-Chloronaphthalene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1	
4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Chrysene	ND	0.50	1	
Di-n-Butyl Phthalate	ND	0.50	1	
Di-n-Octyl Phthalate	ND	0.50	1	
Dibenz (a,h) Anthracene	ND	0.50	1	
Dibenzofuran	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1	
3,3'-Dichlorobenzidine	ND	10	1	
2,4-Dichlorophenol	ND	0.50	1	
Diethyl Phthalate	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 20 of 24

Parameter	Result	RL	DF	Qualifiers
Dimethyl Phthalate	ND	0.50	1	
2,4-Dimethylphenol	ND	0.50	1	
4,6-Dinitro-2-Methylphenol	ND	2.5	1	
2,4-Dinitrophenol	ND	2.5	1	
2,4-Dinitrotoluene	ND	0.50	1	
2,6-Dinitrotoluene	ND	0.50	1	
Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1	
Hexachlorobenzene	ND	0.50	1	
Hexachlorocyclopentadiene	ND	2.5	1	
Hexachloroethane	ND	0.50	1	
Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Isophorone	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1	
2-Methylphenol	ND	0.50	1	
3/4-Methylphenol	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1	
N-Nitrosodimethylamine	ND	0.50	1	
N-Nitrosodiphenylamine	ND	0.50	1	
Naphthalene	ND	0.50	1	
4-Nitroaniline	ND	0.50	1	
3-Nitroaniline	ND	0.50	1	
2-Nitroaniline	ND	0.50	1	
Nitrobenzene	ND	2.5	1	
4-Nitrophenol	ND	0.50	1	
2-Nitrophenol	ND	0.50	1	
Pentachlorophenol	ND	2.5	1	
Phenanthrene	ND	0.50	1	
Phenol	ND	0.50	1	
Pyrene	ND	0.50	1	
Pyridine	ND	0.50	1	
1,2,4-Trichlorobenzene	ND	0.50	1	
2,4,6-Trichlorophenol	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 21 of 24

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	58	38-134	
2-Fluorophenol	55	42-120	
Nitrobenzene-d5	71	42-150	
p-Terphenyl-d14	78	35-167	
Phenol-d6	67	46-118	
2,4,6-Tribromophenol	64	36-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 22 of 24

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-549-2702**	**N/A**	**Solid**	**GC/MS TT**	**11/11/13**	**11/14/13 01:36**	**131111L05**

Parameter	Result	RL	DF	Qualifiers
Acenaphthene	ND	0.50	1	
Acenaphthylene	ND	0.50	1	
Aniline	ND	0.50	1	
Anthracene	ND	0.50	1	
Azobenzene	ND	0.50	1	
Benzidine	ND	10	1	
Benzo (a) Anthracene	ND	0.50	1	
Benzo (a) Pyrene	ND	0.50	1	
Benzo (b) Fluoranthene	ND	0.50	1	
Benzo (g,h,i) Perylene	ND	0.50	1	
Benzo (k) Fluoranthene	ND	0.50	1	
Benzoic Acid	ND	2.5	1	
Benzyl Alcohol	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Butyl Benzyl Phthalate	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1	
4-Chloroaniline	ND	0.50	1	
2-Chloronaphthalene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1	
4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Chrysene	ND	0.50	1	
Di-n-Butyl Phthalate	ND	0.50	1	
Di-n-Octyl Phthalate	ND	0.50	1	
Dibenz (a,h) Anthracene	ND	0.50	1	
Dibenzofuran	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1	
3,3'-Dichlorobenzidine	ND	10	1	
2,4-Dichlorophenol	ND	0.50	1	
Diethyl Phthalate	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 23 of 24

Parameter	Result	RL	DF	Qualifiers
Dimethyl Phthalate	ND	0.50	1	
2,4-Dimethylphenol	ND	0.50	1	
4,6-Dinitro-2-Methylphenol	ND	2.5	1	
2,4-Dinitrophenol	ND	2.5	1	
2,4-Dinitrotoluene	ND	0.50	1	
2,6-Dinitrotoluene	ND	0.50	1	
Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1	
Hexachlorobenzene	ND	0.50	1	
Hexachlorocyclopentadiene	ND	2.5	1	
Hexachloroethane	ND	0.50	1	
Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Isophorone	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1	
2-Methylphenol	ND	0.50	1	
3/4-Methylphenol	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1	
N-Nitrosodimethylamine	ND	0.50	1	
N-Nitrosodiphenylamine	ND	0.50	1	
Naphthalene	ND	0.50	1	
4-Nitroaniline	ND	0.50	1	
3-Nitroaniline	ND	0.50	1	
2-Nitroaniline	ND	0.50	1	
Nitrobenzene	ND	2.5	1	
4-Nitrophenol	ND	0.50	1	
2-Nitrophenol	ND	0.50	1	
Pentachlorophenol	ND	2.5	1	
Phenanthrene	ND	0.50	1	
Phenol	ND	0.50	1	
Pyrene	ND	0.50	1	
Pyridine	ND	0.50	1	
1,2,4-Trichlorobenzene	ND	0.50	1	
2,4,6-Trichlorophenol	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
		Units:	mg/kg
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 24 of 24

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	77	38-134	
2-Fluorophenol	76	42-120	
Nitrobenzene-d5	80	42-150	
p-Terphenyl-d14	93	35-167	
Phenol-d6	78	46-118	
2,4,6-Tribromophenol	94	36-132	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
QCTB-11082013	**13-11-0697-1-A**	**11/08/13 08:00**	**Aqueous**	**GC/MS OO**	**11/13/13**	**11/14/13 00:20**	**131113L02**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1	
Benzene	ND	0.50	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	1.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	1.0	1	
Bromomethane	ND	10	1	
2-Butanone	ND	10	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	0.50	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	5.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	10	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	1.0	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 2 of 8

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1	
c-1,3-Dichloropropene	ND	0.50	1	
t-1,3-Dichloropropene	ND	0.50	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	10	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	10	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	1.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	1.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	1.0	1	
1,2,4-Trichlorobenzene	ND	1.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,1,2-Trichloroethane	ND	1.0	1	
Trichloroethene	ND	1.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	5.0	1	
1,2,4-Trimethylbenzene	ND	1.0	1	
1,3,5-Trimethylbenzene	ND	1.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	80-120	
Dibromofluoromethane	98	80-126	
1,2-Dichloroethane-d4	98	80-134	
Toluene-d8	100	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 3 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
7-GW-23-28	**13-11-0697-2-B**	**11/08/13 09:15**	**Aqueous**	**GC/MS OO**	**11/14/13**	**11/14/13 17:39**	**131114L01**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1	
Benzene	ND	0.50	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	1.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	1.0	1	
Bromomethane	ND	10	1	
2-Butanone	ND	10	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	0.50	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	5.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	10	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	1.0	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 4 of 8

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1	
c-1,3-Dichloropropene	ND	0.50	1	
t-1,3-Dichloropropene	ND	0.50	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	10	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	10	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	1.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	1.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	1.0	1	
1,2,4-Trichlorobenzene	ND	1.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,1,2-Trichloroethane	ND	1.0	1	
Trichloroethene	ND	1.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	5.0	1	
1,2,4-Trimethylbenzene	ND	1.0	1	
1,3,5-Trimethylbenzene	ND	1.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	80-120	
Dibromofluoromethane	98	80-126	
1,2-Dichloroethane-d4	97	80-134	
Toluene-d8	100	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 5 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-001-12427**	**N/A**	**Aqueous**	**GC/MS OO**	**11/13/13**	**11/13/13 23:27**	**131113L02**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1	
Benzene	ND	0.50	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	1.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	1.0	1	
Bromomethane	ND	10	1	
2-Butanone	ND	10	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	0.50	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	5.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	10	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	1.0	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 6 of 8

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1	
c-1,3-Dichloropropene	ND	0.50	1	
t-1,3-Dichloropropene	ND	0.50	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	10	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	10	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	1.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	1.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	1.0	1	
1,2,4-Trichlorobenzene	ND	1.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,1,2-Trichloroethane	ND	1.0	1	
Trichloroethene	ND	1.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	5.0	1	
1,2,4-Trimethylbenzene	ND	1.0	1	
1,3,5-Trimethylbenzene	ND	1.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	80-120	
Dibromofluoromethane	100	80-126	
1,2-Dichloroethane-d4	98	80-134	
Toluene-d8	98	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 7 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-001-12429**	**N/A**	**Aqueous**	**GC/MS OO**	**11/14/13**	**11/14/13 11:43**	**131114L01**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1	
Benzene	ND	0.50	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	1.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	1.0	1	
Bromomethane	ND	10	1	
2-Butanone	ND	10	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	0.50	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	5.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	10	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	1.0	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 8 of 8

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1	
c-1,3-Dichloropropene	ND	0.50	1	
t-1,3-Dichloropropene	ND	0.50	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	10	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	10	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	1.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	1.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	1.0	1	
1,2,4-Trichlorobenzene	ND	1.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,1,2-Trichloroethane	ND	1.0	1	
Trichloroethene	ND	1.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	5.0	1	
1,2,4-Trimethylbenzene	ND	1.0	1	
1,3,5-Trimethylbenzene	ND	1.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	100	80-120	
Dibromofluoromethane	96	80-126	
1,2-Dichloroethane-d4	95	80-134	
Toluene-d8	100	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 9

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
12-SS-13.25-15.25	**Solid**	**ICP 7300**	**11/11/13**	**11/12/13 15:30**	**131111S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	2.201	9	4.623	18	50-115	71	0-20	3,4
Arsenic	ND	25.00	25.21	101	25.68	103	75-125	2	0-20	
Barium	101.8	25.00	119.9	4X	129.1	4X	75-125	4X	0-20	Q
Beryllium	0.3162	25.00	26.41	104	26.18	103	75-125	1	0-20	
Cadmium	ND	25.00	25.80	103	25.63	103	75-125	1	0-20	
Chromium	12.01	25.00	37.92	104	39.80	111	75-125	5	0-20	
Cobalt	13.45	25.00	39.33	104	40.60	109	75-125	3	0-20	
Copper	13.38	25.00	41.28	112	42.58	117	75-125	3	0-20	
Lead	1.476	25.00	27.17	103	26.88	102	75-125	1	0-20	
Molybdenum	ND	25.00	20.92	84	20.57	82	75-125	2	0-20	
Nickel	6.976	25.00	33.24	105	34.34	109	75-125	3	0-20	
Selenium	ND	25.00	22.66	91	22.35	89	75-125	1	0-20	
Silver	ND	12.50	13.66	109	13.85	111	75-125	1	0-20	
Thallium	ND	25.00	22.62	90	22.63	91	75-125	0	0-20	
Vanadium	61.98	25.00	82.54	82	87.36	102	75-125	6	0-20	
Zinc	47.96	25.00	71.60	95	75.86	112	75-125	6	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3010A Total
		Method:	EPA 6010B
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 2 of 9

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-11-0708-1	**Aqueous**	**ICP 7300**	**11/11/13**	**11/12/13 13:31**	**131111SA5**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	0.5000	0.5472	109	0.5525	111	72-132	1	0-10	
Arsenic	ND	0.5000	0.5580	112	0.5527	111	80-140	1	0-11	
Barium	0.2222	0.5000	0.7280	101	0.7245	100	87-123	0	0-6	
Beryllium	ND	0.5000	0.5363	107	0.5369	107	89-119	0	0-8	
Cadmium	ND	0.5000	0.5224	104	0.5219	104	82-124	0	0-7	
Chromium	0.1687	0.5000	0.7149	109	0.7187	110	86-122	1	0-8	
Cobalt	ND	0.5000	0.5458	109	0.5435	109	83-125	0	0-7	
Copper	0.01418	0.5000	0.5747	112	0.5702	111	78-126	1	0-7	
Lead	ND	0.5000	0.5227	105	0.5188	104	84-120	1	0-7	
Molybdenum	0.03415	0.5000	0.5521	104	0.5539	104	78-126	0	0-7	
Nickel	0.02710	0.5000	0.5658	108	0.5671	108	84-120	0	0-7	
Selenium	ND	0.5000	0.5513	110	0.5399	108	79-127	2	0-9	
Silver	ND	0.2500	0.2917	117	0.2917	117	86-128	0	0-7	
Thallium	ND	0.5000	0.5521	110	0.5538	111	79-121	0	0-8	
Vanadium	0.01474	0.5000	0.5432	106	0.5458	106	88-118	0	0-7	
Zinc	0.02545	0.5000	0.6010	115	0.6161	118	89-131	2	0-8	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 7470A Total
		Method:	EPA 7470A
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 3 of 9

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-11-0498-3	**Aqueous**	**Mercury**	**11/11/13**	**11/11/13 17:05**	**131111S06**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.01000	0.009451	95	0.009374	94	66-126	1	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 4 of 9

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
12-SS-13.25-15.25	**Solid**	**Mercury**	**11/11/13**	**11/11/13 17:39**	**131111S08**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.8350	0.6857	82	0.6782	81	71-137	1	0-14	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 5 of 9

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
12-SS-13.25-15.25	**Solid**	**GC 51**	**11/12/13**	**11/13/13 17:32**	**131112S26**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aldrin	ND	25.00	16.43	66	16.50	66	50-135	0	0-25	
Alpha-BHC	ND	25.00	17.19	69	18.74	75	50-135	9	0-25	
Beta-BHC	ND	25.00	18.14	73	20.17	81	50-135	11	0-25	
4,4'-DDD	ND	25.00	17.63	71	18.58	74	50-135	5	0-25	
4,4'-DDE	ND	25.00	18.61	74	18.65	75	50-135	0	0-25	
4,4'-DDT	ND	25.00	17.13	69	17.32	69	50-135	1	0-25	
Delta-BHC	ND	25.00	18.30	73	19.25	77	50-135	5	0-25	
Dieldrin	ND	25.00	17.66	71	18.60	74	50-135	5	0-25	
Endosulfan I	ND	25.00	17.36	69	18.22	73	50-135	5	0-25	
Endosulfan II	ND	25.00	17.90	72	19.41	78	50-135	8	0-25	
Endosulfan Sulfate	ND	25.00	16.92	68	18.08	72	50-135	7	0-25	
Endrin	ND	25.00	15.53	62	15.99	64	50-135	3	0-25	
Endrin Aldehyde	ND	25.00	16.94	68	17.43	70	50-135	3	0-25	
Gamma-BHC	ND	25.00	17.76	71	18.96	76	50-135	7	0-25	
Heptachlor	ND	25.00	17.52	70	17.57	70	50-135	0	0-25	
Heptachlor Epoxide	ND	25.00	16.43	66	17.67	71	50-135	7	0-25	
Methoxychlor	ND	25.00	17.81	71	18.66	75	50-135	5	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

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121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8082
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 6 of 9

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
12-SS-13.25-15.25	**Solid**	**GC 58**	**11/12/13**	**11/14/13 09:07**	**131112S27**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	93.64	94	93.92	94	50-135	0	0-20	
Aroclor-1260	ND	100.0	76.70	77	73.62	74	50-135	4	0-25	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 7 of 9

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
8-SS-9.5-10.5	**Solid**	**GC/MS TT**	**11/11/13**	**11/14/13 02:29**	**131111S05**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Acenaphthene	ND	10.00	8.227	82	8.467	85	49-133	3	0-18	
Acenaphthylene	ND	10.00	8.144	81	8.519	85	50-150	4	0-20	
Butyl Benzyl Phthalate	ND	10.00	9.344	93	9.574	96	50-150	2	0-20	
4-Chloro-3-Methylphenol	ND	10.00	8.602	86	8.536	85	50-128	1	0-17	
2-Chlorophenol	ND	10.00	7.612	76	8.213	82	57-111	8	0-17	
1,4-Dichlorobenzene	ND	10.00	6.597	66	7.425	74	49-127	12	0-20	
Dimethyl Phthalate	ND	10.00	8.663	87	8.928	89	50-150	3	0-20	
2,4-Dinitrotoluene	ND	10.00	9.485	95	9.523	95	50-128	0	0-18	
Fluorene	ND	10.00	8.945	89	9.060	91	50-150	1	0-20	
N-Nitroso-di-n-propylamine	ND	10.00	8.858	89	8.873	89	54-144	0	0-17	
Naphthalene	ND	10.00	7.428	74	8.006	80	50-150	7	0-20	
4-Nitrophenol	ND	10.00	7.531	75	7.682	77	30-144	2	0-21	
Pentachlorophenol	ND	10.00	8.730	87	9.478	95	29-113	8	0-22	
Phenol	ND	10.00	7.439	74	7.735	77	57-123	4	0-16	
Pyrene	ND	10.00	8.654	87	9.145	91	47-149	6	0-20	
1,2,4-Trichlorobenzene	ND	10.00	7.351	74	8.001	80	42-132	8	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 8 of 9

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-11-0903-2	**Aqueous**	**GC/MS OO**	**11/13/13**	**11/14/13 01:13**	**131113S02**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	50.00	45.02	90	47.68	95	78-120	6	0-20	
Carbon Tetrachloride	ND	50.00	47.22	94	48.55	97	67-139	3	0-20	
Chlorobenzene	ND	50.00	45.43	91	47.73	95	80-120	5	0-20	
1,2-Dibromoethane	ND	50.00	48.40	97	50.14	100	80-123	4	0-20	
1,2-Dichlorobenzene	ND	50.00	45.07	90	47.28	95	76-120	5	0-20	
1,2-Dichloroethane	ND	50.00	45.01	90	48.00	96	76-130	6	0-20	
1,1-Dichloroethene	ND	50.00	45.09	90	47.63	95	70-130	5	0-27	
Ethylbenzene	ND	50.00	47.03	94	49.72	99	73-127	6	0-20	
Toluene	ND	50.00	46.41	93	49.90	100	72-126	7	0-20	
Trichloroethene	ND	50.00	48.39	97	49.93	100	74-122	3	0-20	
Vinyl Chloride	ND	50.00	46.91	94	48.78	98	65-131	4	0-24	
p/m-Xylene	ND	100.0	86.23	86	90.38	90	70-130	5	0-30	
o-Xylene	ND	50.00	42.46	85	44.76	90	70-130	5	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	50.00	47.22	94	47.29	95	69-123	0	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 9 of 9

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-11-0910-2	**Aqueous**	**GC/MS OO**	**11/14/13**	**11/14/13 13:10**	**131114S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	50.00	47.35	95	47.33	95	78-120	0	0-20	
Carbon Tetrachloride	ND	50.00	49.94	100	49.81	100	67-139	0	0-20	
Chlorobenzene	ND	50.00	47.22	94	47.34	95	80-120	0	0-20	
1,2-Dibromoethane	ND	50.00	51.51	103	49.46	99	80-123	4	0-20	
1,2-Dichlorobenzene	ND	50.00	47.59	95	48.38	97	76-120	2	0-20	
1,2-Dichloroethane	ND	50.00	47.65	95	47.48	95	76-130	0	0-20	
1,1-Dichloroethene	ND	50.00	47.02	94	48.13	96	70-130	2	0-27	
Ethylbenzene	ND	50.00	49.62	99	49.55	99	73-127	0	0-20	
Toluene	ND	50.00	48.92	98	49.30	99	72-126	1	0-20	
Trichloroethene	ND	50.00	50.79	102	51.44	103	74-122	1	0-20	
Vinyl Chloride	ND	50.00	50.32	101	50.87	102	65-131	1	0-24	
p/m-Xylene	ND	100.0	90.23	90	90.50	91	70-130	0	0-30	
o-Xylene	ND	50.00	44.05	88	44.19	88	70-130	0	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	50.00	49.23	98	47.25	94	69-123	4	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 1 of 12

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number
097-01-002-17609	**Solid**	**ICP 7300**	**11/11/13 16:41**	**131111L01**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	27.49	110	80-120	73-127	
Arsenic	25.00	25.34	101	80-120	73-127	
Barium	25.00	25.38	102	80-120	73-127	
Beryllium	25.00	25.15	101	80-120	73-127	
Cadmium	25.00	26.27	105	80-120	73-127	
Chromium	25.00	27.39	110	80-120	73-127	
Cobalt	25.00	27.83	111	80-120	73-127	
Copper	25.00	25.59	102	80-120	73-127	
Lead	25.00	25.94	104	80-120	73-127	
Molybdenum	25.00	25.11	100	80-120	73-127	
Nickel	25.00	27.28	109	80-120	73-127	
Selenium	25.00	24.05	96	80-120	73-127	
Silver	12.50	12.87	103	80-120	73-127	
Thallium	25.00	26.52	106	80-120	73-127	
Vanadium	25.00	24.71	99	80-120	73-127	
Zinc	25.00	27.80	111	80-120	73-127	

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3010A Total
		Method:	EPA 6010B
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 2 of 12

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number
097-01-003-13797	**Aqueous**	**ICP 7300**	**11/12/13 13:28**	**131111LA5**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	0.5000	0.5293	106	80-120	73-127	
Arsenic	0.5000	0.5219	104	80-120	73-127	
Barium	0.5000	0.4982	100	80-120	73-127	
Beryllium	0.5000	0.4941	99	80-120	73-127	
Cadmium	0.5000	0.5135	103	80-120	73-127	
Chromium	0.5000	0.5408	108	80-120	73-127	
Cobalt	0.5000	0.5490	110	80-120	73-127	
Copper	0.5000	0.4945	99	80-120	73-127	
Lead	0.5000	0.5144	103	80-120	73-127	
Molybdenum	0.5000	0.4956	99	80-120	73-127	
Nickel	0.5000	0.5463	109	80-120	73-127	
Selenium	0.5000	0.4826	97	80-120	73-127	
Silver	0.2500	0.2531	101	80-120	73-127	
Thallium	0.5000	0.5333	107	80-120	73-127	
Vanadium	0.5000	0.4854	97	80-120	73-127	
Zinc	0.5000	0.5318	106	80-120	73-127	

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 7470A Total
		Method:	EPA 7470A
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 3 of 12

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number
099-04-008-6716	**Aqueous**	**Mercury**	**11/11/13 16:57**	**131111L06**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.01000	0.009574	96	85-121	

RPD: Relative Percent Difference. CL: Control Limits

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Calscience Environmental Laboratories, Inc.

Quality Control - LCS

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 4 of 12

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number
099-04-007-9815	**Solid**	**Mercury**	**11/11/13 17:24**	**131111L08**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.8462	101	85-121	

RPD: Relative Percent Difference. CL: Control Limits

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Calscience Environmental Laboratories, Inc.

Quality Control - LCS

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8081A
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 5 of 12

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number
099-12-537-1532	**Solid**	**GC 51**	**11/13/13 17:18**	**131112L26**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Aldrin	25.00	20.92	84	50-135	36-149	
Alpha-BHC	25.00	19.94	80	50-135	36-149	
Beta-BHC	25.00	21.71	87	50-135	36-149	
4,4'-DDD	25.00	23.02	92	50-135	36-149	
4,4'-DDE	25.00	24.19	97	50-135	36-149	
4,4'-DDT	25.00	21.57	86	50-135	36-149	
Delta-BHC	25.00	21.28	85	50-135	36-149	
Dieldrin	25.00	22.11	88	50-135	36-149	
Endosulfan I	25.00	20.50	82	50-135	36-149	
Endosulfan II	25.00	22.07	88	50-135	36-149	
Endosulfan Sulfate	25.00	20.59	82	50-135	36-149	
Endrin	25.00	17.28	69	50-135	36-149	
Endrin Aldehyde	25.00	23.40	94	50-135	36-149	
Gamma-BHC	25.00	20.37	81	50-135	36-149	
Heptachlor	25.00	21.69	87	50-135	36-149	
Heptachlor Epoxide	25.00	20.71	83	50-135	36-149	
Methoxychlor	25.00	22.15	89	50-135	36-149	

Total number of LCS compounds: 17
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCSD

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8081A
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 6 of 12

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-529-661	**Aqueous**	**GC 44**	**11/11/13**	**11/15/13 16:55**	**131111L07**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Alpha-BHC	0.5000	0.4668	93	0.5460	109	50-135	36-149	16	0-25	
Gamma-BHC	0.5000	0.4652	93	0.5410	108	50-135	36-149	15	0-25	
Beta-BHC	0.5000	0.4950	99	0.5703	114	50-135	36-149	14	0-25	
Heptachlor	0.5000	0.4676	94	0.5418	108	50-135	36-149	15	0-25	
Delta-BHC	0.5000	0.4735	95	0.5468	109	50-135	36-149	14	0-25	
Aldrin	0.5000	0.4700	94	0.5502	110	50-135	36-149	16	0-25	
Heptachlor Epoxide	0.5000	0.4694	94	0.5445	109	50-135	36-149	15	0-25	
Endosulfan I	0.5000	0.4674	93	0.5425	108	50-135	36-149	15	0-25	
Dieldrin	0.5000	0.4696	94	0.5467	109	50-135	36-149	15	0-25	
4,4'-DDE	0.5000	0.4570	91	0.5310	106	50-135	36-149	15	0-25	
Endrin	0.5000	0.4380	88	0.5077	102	50-135	36-149	15	0-25	
Endrin Aldehyde	0.5000	0.4341	87	0.4988	100	50-135	36-149	14	0-25	
4,4'-DDD	0.5000	0.4697	94	0.5459	109	50-135	36-149	15	0-25	
Endosulfan II	0.5000	0.4797	96	0.5576	112	50-135	36-149	15	0-25	
4,4'-DDT	0.5000	0.4506	90	0.5261	105	50-135	36-149	15	0-25	
Endosulfan Sulfate	0.5000	0.4654	93	0.5383	108	50-135	36-149	15	0-25	
Methoxychlor	0.5000	0.4592	92	0.5296	106	50-135	36-149	14	0-25	

Total number of LCS compounds: 17
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8082
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 7 of 12

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number
099-12-535-2367	**Solid**	**GC 58**	**11/14/13 08:31**	**131112L27**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	108.3	108	50-135	
Aroclor-1260	100.0	96.96	97	50-135	

RPD: Relative Percent Difference. CL: Control Limits

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Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCSD

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8082
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 8 of 12

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-533-859	**Aqueous**	**GC 58**	**11/11/13**	**11/15/13 15:47**	**131111L08**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	2.000	2.071	104	2.059	103	50-135	1	0-25	
Aroclor-1260	2.000	2.008	100	1.932	97	50-135	4	0-25	

RPD: Relative Percent Difference. CL: Control Limits

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Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCSD

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3510C
		Method:	EPA 8270C
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 9 of 12

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-003-3729	**Aqueous**	**GC/MS SS**	**11/12/13**	**11/13/13 12:40**	**131112L05**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Acenaphthene	200.0	160.4	80	159.8	80	55-139	41-153	0	0-17	
Acenaphthylene	200.0	159.7	80	159.1	80	33-145	14-164	0	0-20	
Butyl Benzyl Phthalate	200.0	166.7	83	164.9	82	0-152	0-177	1	0-20	
4-Chloro-3-Methylphenol	200.0	166.7	83	165.5	83	55-121	44-132	1	0-18	
2-Chlorophenol	200.0	152.8	76	150.7	75	53-113	43-123	1	0-17	
1,4-Dichlorobenzene	200.0	81.89	41	81.77	41	50-122	38-134	0	0-19	ME
Dimethyl Phthalate	200.0	151.5	76	151.2	76	0-112	0-131	0	0-20	
2,4-Dinitrotoluene	200.0	167.8	84	169.4	85	41-161	21-181	1	0-22	
Fluorene	200.0	176.1	88	176.3	88	59-121	49-131	0	0-20	
N-Nitroso-di-n-propylamine	200.0	208.6	104	206.6	103	56-146	41-161	1	0-22	
Naphthalene	200.0	127.6	64	127.6	64	21-133	2-152	0	0-20	
4-Nitrophenol	200.0	104.6	52	105.1	53	1-145	0-169	0	0-29	
Pentachlorophenol	200.0	165.4	83	168.2	84	34-130	18-146	2	0-23	
Phenol	200.0	89.44	45	88.68	44	4-142	0-165	1	0-24	
Pyrene	200.0	175.2	88	173.0	87	38-170	16-192	1	0-27	
1,2,4-Trichlorobenzene	200.0	101.1	51	101.2	51	49-121	37-133	0	0-19	

Total number of LCS compounds: 16
Total number of ME compounds: 1
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 3545
		Method:	EPA 8270C
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 10 of 12

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number
099-12-549-2702	**Solid**	**GC/MS TT**	**11/14/13 01:09**	**131111L05**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Acenaphthene	10.00	8.411	84	59-125	48-136	
Acenaphthylene	10.00	8.457	85	33-145	14-164	
Butyl Benzyl Phthalate	10.00	10.75	107	0-152	0-177	
4-Chloro-3-Methylphenol	10.00	9.260	93	61-121	51-131	
2-Chlorophenol	10.00	7.684	77	60-114	51-123	
1,4-Dichlorobenzene	10.00	7.075	71	61-121	51-131	
Dimethyl Phthalate	10.00	9.008	90	0-112	0-131	
2,4-Dinitrotoluene	10.00	10.09	101	51-141	36-156	
Fluorene	10.00	9.040	90	59-121	49-131	
N-Nitroso-di-n-propylamine	10.00	9.373	94	64-136	52-148	
Naphthalene	10.00	7.665	77	21-133	2-152	
4-Nitrophenol	10.00	8.082	81	38-152	19-171	
Pentachlorophenol	10.00	9.106	91	38-116	25-129	
Phenol	10.00	7.645	76	59-125	48-136	
Pyrene	10.00	10.46	105	51-141	36-156	
1,2,4-Trichlorobenzene	10.00	7.639	76	58-118	48-128	

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 11 of 12

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number
099-14-001-12427	**Aqueous**	**GC/MS OO**	**11/13/13 23:01**	**131113L02**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	50.00	48.25	97	80-120	73-127	
Carbon Tetrachloride	50.00	50.01	100	66-138	54-150	
Chlorobenzene	50.00	48.19	96	80-120	73-127	
1,2-Dibromoethane	50.00	52.19	104	80-120	73-127	
1,2-Dichlorobenzene	50.00	48.02	96	80-120	73-127	
1,2-Dichloroethane	50.00	48.80	98	80-129	72-137	
1,1-Dichloroethene	50.00	47.67	95	71-131	61-141	
Ethylbenzene	50.00	50.14	100	80-123	73-130	
Toluene	50.00	49.51	99	79-121	72-128	
Trichloroethene	50.00	50.45	101	80-120	73-127	
Vinyl Chloride	50.00	48.53	97	70-136	59-147	
p/m-Xylene	100.0	91.04	91	75-125	67-133	
o-Xylene	50.00	44.77	90	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	50.00	50.60	101	72-126	63-135	

Total number of LCS compounds: 14
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

AMEC Environment & Infrastructure		Date Received:	11/08/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0697
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: DTSC - Wildomar Autumnwood Development / NB1016075P			Page 12 of 12

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number
099-14-001-12429	**Aqueous**	**GC/MS OO**	**11/14/13 10:41**	**131114L01**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	50.00	46.50	93	80-120	73-127	
Carbon Tetrachloride	50.00	49.22	98	66-138	54-150	
Chlorobenzene	50.00	46.80	94	80-120	73-127	
1,2-Dibromoethane	50.00	50.78	102	80-120	73-127	
1,2-Dichlorobenzene	50.00	47.29	95	80-120	73-127	
1,2-Dichloroethane	50.00	46.07	92	80-129	72-137	
1,1-Dichloroethene	50.00	46.45	93	71-131	61-141	
Ethylbenzene	50.00	49.45	99	80-123	73-130	
Toluene	50.00	48.65	97	79-121	72-128	
Trichloroethene	50.00	49.97	100	80-120	73-127	
Vinyl Chloride	50.00	48.72	97	70-136	59-147	
p/m-Xylene	100.0	89.86	90	75-125	67-133	
o-Xylene	50.00	43.93	88	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	50.00	46.97	94	72-126	63-135	

Total number of LCS compounds: 14
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Sample Analysis Summary Report

Work Order: 13-11-0697

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 6010B	EPA 3010A Total	469	ICP 7300	1
EPA 6010B	EPA 3050B	469	ICP 7300	1
EPA 7470A	EPA 7470A Total	769	Mercury	1
EPA 7471A	EPA 7471A Total	769	Mercury	1
EPA 8081A	EPA 3545	500	GC 51	1
EPA 8081A	EPA 3510C	842	GC 44	1
EPA 8082	EPA 3545	669	GC 58	1
EPA 8082	EPA 3510C	669	GC 58	1
EPA 8260B	EPA 5030C	486	GC/MS OO	2
EPA 8270C	EPA 3545	449	GC/MS TT	1
EPA 8270C	EPA 3545	859	GC/MS TT	1
EPA 8270C	EPA 3510C	449	GC/MS SS	1

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Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order: 13-11-0697

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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CHAIN-OF-CUSTODY RECORD

NB 27369

PROJECT NAME: DTSC - Wildomar Autumnwood Development			DATE: 11/8/13 PAGE 1 OF 1
PROJECT NUMBER: NB10160075P	LABORATORY NAME: Calscience	CLIENT INFORMATION:	REPORTING REQUIREMENTS:
RESULTS TO: Joe Bahde	LABORATORY ADDRESS: 7440 Lincoln Way		13-11-0697
TURNAROUND TIME: Standard 5 - Day TAT	Garden Grove, CA 92841		
SAMPLE SHIPMENT METHOD: Lab drop off	LABORATORY CONTACT: Steve Nowak		GEOTRACKER REQUIRED YES NO
	LABORATORY PHONE NUMBER: 714-895-5494		SITE SPECIFIC GLOBAL ID NO.

SAMPLERS (SIGNATURE):

ANALYSES

	DATE	TIME	SAMPLE NUMBER	VOCs EPA 8260B	Formaldehyde EPA 8315	OCP EPA 8081B	SVOCs EPA 8270D	PCBs EPA 8082A	CAM 6010B EPA	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
1	11/8/13	0800	QCTB-11082013	X						2x40ml VOA	W		HCl	✓		2	
2		0915	7-GW-23-28	X	X					1L amber, 3x40ml VOA	W		HCl	✓		4	
3		1120	8-SS-5-6			X	X	X	X	1x8oz jar	S			✓		1	
4		1132	8-SS-9.5-10.5			X	X	X	X		S			✓		1	
5		1140	8-SS-14.25-15.25			X		X	X		S			✓		1	
6		1318	12-SS-5-6			X	X	X	X		S			✓		1	
7		1320	12-SS-9.5-10.5			X	X	X	X		S			✓		1	
8		1327	12-SS-13.25-15.25			X		X	X		S			✓	✓	2	
—		~~1458~~	DP		V.R												
9		1458	6-SS-5-6			X	X	X	X	1x8oz jar	S			✓		1	
10		1505	6-SS-9-11			X	X	X	X		S			✓		1	
11		1506	6D-SS-9-11			X	X	X	X		S			✓		1	
12		1525	6-SS-13.75-14.75			X		X	X		S			✓		1	
13		1540	QCEB-11082013	X		X	X	X	X	3x1L amber, 3x40cc VOA, 1x250cc HDPE	W		HCl	✓		7	Hold sample for VOCs only

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE:	11/8/13	18:03	SIGNATURE: Dannyle	11/8/13	18:03
PRINTED NAME: Jorge Perez			PRINTED NAME: DANNY CZ		
COMPANY: AMEC			COMPANY: CEL		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS:

SAMPLING COMMENTS: temperature blank included in cooler

121 Innovation Drive, Suite 200
Irvine, California 92617-3094
Tel 949.642.0245 Fax 949.642.4474

amec

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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 13-11-0697

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: AMEC

DATE: 11/08/13

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 3.2 °C - 0.2 °C (CF) = 3.0 °C ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter **Checked by:** 659

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A **Checked by:** 659

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present **Checked by:** 659

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Aqueous samples received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfides ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☑8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Aqueous: ~~☑VOA~~ 3 659 11/8/13 ☑VOA**h** 3 ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☑1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐1PB**na** ☐500PB

☐250PB ☑250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Canister **Other:** ☐_____ **Trip Blank Lot#:** 131031A **Labeled/Checked by:** 659

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope **Reviewed by:** 778

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:** $Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **u:** Ultra-pure **znna:** $ZnAc_2$+NaOH **f:** Filtered **Scanned by:** 778

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Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

Certificate of Analysis

Report Date: 11/15/13 11:55
Received Date: 11/09/13 09:35
Turnaround Time: Normal

Project: 13-11-0697

Phones: (714) 895-5494
Fax: (714) 894-7501

P.O. #:

Attn: Stephen Nowak

Client: Calscience Environmental Laboratories
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Stephen Nowak :

Enclosed are the results of analyses for samples received 11/9/2013 with the Chain of Custody document. The samples were received in good condition, at 2.1 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3K11003-01 **Sample ID: 7-GW-23-28** **Matrix:** Water
Sampled by: Client **Sampled: 11/08/13 09:15**

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Formaldehyde	ND		30	ug/l	1	EPA 8315A	11/11/13	11/14/13 10:27	W3K0448	

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Weck Laboratories, Inc 14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634
www.wecklabs.com

Weck Laboratories, Inc.
Analytical Laboratory Service - Since 1964

Certificate of Analysis

Quality Control Section

Aldehydes by EPA Method 8315A - Quality Control

Batch W3K0448 - EPA 8315A

Blank (W3K0448-BLK1) — **Prepared: 11/11/13** **Analyzed: 11/14/13 10:27**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Formaldehyde		ND		ug/l					

LCS (W3K0448-BS1) — **Prepared: 11/11/13** **Analyzed: 11/14/13 10:27**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Formaldehyde		101		ug/l	100	101	44-173		

Matrix Spike (W3K0448-MS1) — **Source: 3K11003-01** — **Prepared: 11/11/13** **Analyzed: 11/14/13 10:27**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Formaldehyde	ND	78.2		ug/l	100	78	32-164		

Matrix Spike Dup (W3K0448-MSD1) — **Source: 3K11003-01** — **Prepared: 11/11/13** **Analyzed: 11/14/13 10:27**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Formaldehyde	ND	101	Q-12	ug/l	100	101	32-164	25	20

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Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

Q-12	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on the percent recoveries and/or other acceptable QC data.
ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

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Calscience Environmental Laboratories, Inc.
7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1427
TEL: (714) 895-5494 . FAX: (714) 894-7501

TO: **Weck Labs**
City of Industry

3K11003

CHAIN OF CUSTODY RECORD

DATE: 11/09/13
PAGE: 1 OF 1

LABORATORY CLIENT: Calscience Environmental Laboratories, Inc.	CLIENT PROJECT NAME / NUMBER: 13-11-0697
ADDRESS: 7440 Lincoln Way	P.O. NO.:
CITY: Garden Grove, CA 92841	PROJECT CONTACT: Stephen Nowak
	QUOTE NO.:
TEL: 714-895-5494 / E-MAIL: snowak@calscience.com	SAMPLER(S): (PRINT)
	LAB USE ONLY

TURNAROUND TIME
☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 5 DAYS ☒ Standard

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ____/____/____

SPECIAL INSTRUCTIONS

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	Matrix	#Cont	Formaldehyde by EPA 8315
	7-GW-23-28	11/08/13	9:15	W	1	X

Relinquished by: (Signature) (CALSCIENCE)	Received by / Affiliation: (Signature) AIR 2.1°C	Date: 11/9/13	Time: 9:35
Relinquished by: (Signature)	Received by / Affiliation: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by / Affiliation: (Signature)	Date:	Time:

Calscience Environmental Laboratories, Inc.

Subcontractor Analysis Report

Work Order: 13-11-0697

One or more samples in this work order have tests that were subcontracted. The subcontract report(s) follows.

For subcontracted tests, please reference the laboratory information noted below.

1. Weck Laboratories, Inc. - City of Industry,CA NELAP 04229CA
   Formaldehyde

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Calscience Environmental Laboratories, Inc.

CALSCIENCE

WORK ORDER NUMBER: 13-11-0600

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: AMEC Environment & Infrastructure

Client Project Name: DTSC - Wildomar Autumnwood Development / NB10160TSP

Attention: Joseph Bahde
121 Innovation Drive
Suite 200
Irvine, CA 92617-3094

Approved for release on 11/15/2013 by:
Stephen Nowak
Project Manager

ResultLink

Email your PM

Accredited in accordance with nelac

Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

Calscience Environmental Laboratories, Inc.

Contents

Client Project Name: DTSC - Wildomar Autumnwood Development / NB10160TSP
Work Order Number: 13-11-0600

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Calscience Environmental Laboratories, Inc.

Work Order Narrative

Work Order: 13-11-0600

Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 11/07/13. They were assigned to Work Order 13-11-0600.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

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Calscience Environmental Laboratories, Inc.

Sample Summary

Client:	AMEC Environment & Infrastructure 121 Innovation Drive, Suite 200 Irvine, CA 92617-3094	Work Order:	13-11-0600
		Project Name:	DTSC - Wildomar Autumnwood Development / NB10160TSP
		PO Number:	
		Date/Time Received:	11/07/13 18:29
		Number of Containers:	18
Attn:	Joseph Bahde		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
QCTB-11072013	13-11-0600-1	11/07/13 08:00	2	Aqueous
13-GW-27-32	13-11-0600-2	11/07/13 09:55	4	Aqueous
130-GW-27-32	13-11-0600-3	11/07/13 09:58	1	Aqueous
11-GW-31-36	13-11-0600-4	11/07/13 13:25	4	Aqueous
110-GW-31-36	13-11-0600-5	11/07/13 13:28	3	Aqueous
1-GW-19-24	13-11-0600-6	11/07/13 15:46	4	Aqueous

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/07/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0600
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP			Page 1 of 12

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
QCTB-11072013	**13-11-0600-1-A**	**11/07/13 08:00**	**Aqueous**	**GC/MS W**	**11/08/13**	**11/09/13 00:40**	**131108L03**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1	
Benzene	ND	0.50	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	1.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	1.0	1	
Bromomethane	ND	10	1	
2-Butanone	ND	10	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	0.50	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	5.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	10	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	1.0	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure	Date Received:	11/07/13
121 Innovation Drive, Suite 200	Work Order:	13-11-0600
Irvine, CA 92617-3094	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP		Page 2 of 12

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1	
c-1,3-Dichloropropene	ND	0.50	1	
t-1,3-Dichloropropene	ND	0.50	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	10	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	10	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	1.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	1.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	1.0	1	
1,2,4-Trichlorobenzene	ND	1.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,1,2-Trichloroethane	ND	1.0	1	
Trichloroethene	ND	1.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	5.0	1	
1,2,4-Trimethylbenzene	ND	1.0	1	
1,3,5-Trimethylbenzene	ND	1.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	85	80-120	
Dibromofluoromethane	95	80-126	
1,2-Dichloroethane-d4	91	80-134	
Toluene-d8	95	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/07/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0600
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP			Page 3 of 12

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
13-GW-27-32	**13-11-0600-2-A**	**11/07/13 09:55**	**Aqueous**	**GC/MS W**	**11/08/13**	**11/09/13 06:38**	**131108L03**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1	
Benzene	ND	0.50	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	1.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	1.0	1	
Bromomethane	ND	10	1	
2-Butanone	ND	10	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	0.50	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	5.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	10	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	1.0	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure	Date Received:	11/07/13
121 Innovation Drive, Suite 200	Work Order:	13-11-0600
Irvine, CA 92617-3094	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP		Page 4 of 12

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1	
c-1,3-Dichloropropene	ND	0.50	1	
t-1,3-Dichloropropene	ND	0.50	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	10	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	10	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	1.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	1.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	1.0	1	
1,2,4-Trichlorobenzene	ND	1.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,1,2-Trichloroethane	ND	1.0	1	
Trichloroethene	ND	1.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	5.0	1	
1,2,4-Trimethylbenzene	ND	1.0	1	
1,3,5-Trimethylbenzene	ND	1.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	83	80-120	
Dibromofluoromethane	106	80-126	
1,2-Dichloroethane-d4	100	80-134	
Toluene-d8	96	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/07/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0600
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP			Page 5 of 12

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
11-GW-31-36	**13-11-0600-4-A**	**11/07/13 13:25**	**Aqueous**	**GC/MS W**	**11/08/13**	**11/09/13 07:08**	**131108L03**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1	
Benzene	ND	0.50	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	1.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	1.0	1	
Bromomethane	ND	10	1	
2-Butanone	ND	10	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	0.50	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	5.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	10	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	1.0	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure	Date Received:	11/07/13
121 Innovation Drive, Suite 200	Work Order:	13-11-0600
Irvine, CA 92617-3094	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP		Page 6 of 12

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1	
c-1,3-Dichloropropene	ND	0.50	1	
t-1,3-Dichloropropene	ND	0.50	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	10	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	10	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	1.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	1.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	1.0	1	
1,2,4-Trichlorobenzene	ND	1.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,1,2-Trichloroethane	ND	1.0	1	
Trichloroethene	ND	1.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	5.0	1	
1,2,4-Trimethylbenzene	ND	1.0	1	
1,3,5-Trimethylbenzene	ND	1.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	81	80-120	
Dibromofluoromethane	106	80-126	
1,2-Dichloroethane-d4	100	80-134	
Toluene-d8	96	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/07/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0600
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP			Page 7 of 12

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
110-GW-31-36	**13-11-0600-5-A**	**11/07/13 13:28**	**Aqueous**	**GC/MS W**	**11/08/13**	**11/09/13 07:38**	**131108L03**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1	
Benzene	ND	0.50	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	1.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	1.0	1	
Bromomethane	ND	10	1	
2-Butanone	ND	10	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	0.50	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	5.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	10	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	1.0	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure	Date Received:	11/07/13
121 Innovation Drive, Suite 200	Work Order:	13-11-0600
Irvine, CA 92617-3094	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP		Page 8 of 12

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1	
c-1,3-Dichloropropene	ND	0.50	1	
t-1,3-Dichloropropene	ND	0.50	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	10	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	10	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	1.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	1.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	1.0	1	
1,2,4-Trichlorobenzene	ND	1.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,1,2-Trichloroethane	ND	1.0	1	
Trichloroethene	ND	1.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	5.0	1	
1,2,4-Trimethylbenzene	ND	1.0	1	
1,3,5-Trimethylbenzene	ND	1.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	82	80-120	
Dibromofluoromethane	108	80-126	
1,2-Dichloroethane-d4	100	80-134	
Toluene-d8	95	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/07/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0600
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP			Page 9 of 12

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
1-GW-19-24	**13-11-0600-6-A**	**11/07/13 15:46**	**Aqueous**	**GC/MS W**	**11/08/13**	**11/09/13 08:08**	**131108L03**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1	
Benzene	ND	0.50	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	1.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	1.0	1	
Bromomethane	ND	10	1	
2-Butanone	ND	10	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	0.50	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	5.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	10	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	1.0	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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AMEC Environment & Infrastructure		Date Received:	11/07/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0600
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP			Page 10 of 12

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1	
c-1,3-Dichloropropene	ND	0.50	1	
t-1,3-Dichloropropene	ND	0.50	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	10	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	10	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	1.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	1.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	1.0	1	
1,2,4-Trichlorobenzene	ND	1.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,1,2-Trichloroethane	ND	1.0	1	
Trichloroethene	ND	1.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	5.0	1	
1,2,4-Trimethylbenzene	ND	1.0	1	
1,3,5-Trimethylbenzene	ND	1.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	83	80-120	
Dibromofluoromethane	106	80-126	
1,2-Dichloroethane-d4	100	80-134	
Toluene-d8	96	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

AMEC Environment & Infrastructure		Date Received:	11/07/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0600
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP			Page 11 of 12

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-001-12388**	**N/A**	**Aqueous**	**GC/MS W**	**11/08/13**	**11/09/13 00:10**	**131108L03**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1	
Benzene	ND	0.50	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	1.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	1.0	1	
Bromomethane	ND	10	1	
2-Butanone	ND	10	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	0.50	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	5.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	10	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	1.0	1	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Calscience Environmental Laboratories, Inc.

Analytical Report

AMEC Environment & Infrastructure	Date Received:	11/07/13
121 Innovation Drive, Suite 200	Work Order:	13-11-0600
Irvine, CA 92617-3094	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP		Page 12 of 12

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1	
c-1,3-Dichloropropene	ND	0.50	1	
t-1,3-Dichloropropene	ND	0.50	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	10	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	10	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	1.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	1.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	1.0	1	
1,2,4-Trichlorobenzene	ND	1.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,1,2-Trichloroethane	ND	1.0	1	
Trichloroethene	ND	1.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	5.0	1	
1,2,4-Trimethylbenzene	ND	1.0	1	
1,3,5-Trimethylbenzene	ND	1.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	84	80-120	
Dibromofluoromethane	100	80-126	
1,2-Dichloroethane-d4	94	80-134	
Toluene-d8	94	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

AMEC Environment & Infrastructure		Date Received:	11/07/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0600
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP			Page 1 of 1

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-11-0459-4	**Aqueous**	**GC/MS W**	**11/08/13**	**11/09/13 01:40**	**131108S03**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	50.00	46.58	93	46.42	93	78-120	0	0-20	
Carbon Tetrachloride	ND	50.00	50.51	101	50.42	101	67-139	0	0-20	
Chlorobenzene	ND	50.00	46.15	92	47.03	94	80-120	2	0-20	
1,2-Dibromoethane	ND	50.00	50.74	101	49.74	99	80-123	2	0-20	
1,2-Dichlorobenzene	ND	50.00	47.47	95	47.91	96	76-120	1	0-20	
1,2-Dichloroethane	ND	50.00	43.12	86	43.25	86	76-130	0	0-20	
1,1-Dichloroethene	29.04	50.00	62.76	67	63.68	69	70-130	1	0-27	3
Ethylbenzene	ND	50.00	48.04	96	49.36	99	73-127	3	0-20	
Toluene	ND	50.00	47.98	96	47.83	96	72-126	0	0-20	
Trichloroethene	19.06	50.00	62.74	87	62.52	87	74-122	0	0-20	
Vinyl Chloride	ND	50.00	46.89	94	49.34	99	65-131	5	0-24	
p/m-Xylene	ND	100.0	85.47	85	88.98	89	70-130	4	0-30	
o-Xylene	ND	50.00	44.02	88	46.04	92	70-130	4	0-30	
Methyl-t-Butyl Ether (MTBE)	1.078	50.00	42.61	83	44.52	87	69-123	4	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

AMEC Environment & Infrastructure		Date Received:	11/07/13
121 Innovation Drive, Suite 200		Work Order:	13-11-0600
Irvine, CA 92617-3094		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: DTSC - Wildomar Autumnwood Development / NB10160TSP			Page 1 of 1

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number
099-14-001-12388	**Aqueous**	**GC/MS W**	**11/08/13 22:41**	**131108L03**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	50.00	48.09	96	80-120	73-127	
Carbon Tetrachloride	50.00	52.44	105	66-138	54-150	
Chlorobenzene	50.00	49.17	98	80-120	73-127	
1,2-Dibromoethane	50.00	51.57	103	80-120	73-127	
1,2-Dichlorobenzene	50.00	51.60	103	80-120	73-127	
1,2-Dichloroethane	50.00	43.78	88	80-129	72-137	
1,1-Dichloroethene	50.00	43.13	86	71-131	61-141	
Ethylbenzene	50.00	48.81	98	80-123	73-130	
Toluene	50.00	46.67	93	79-121	72-128	
Trichloroethene	50.00	47.13	94	80-120	73-127	
Vinyl Chloride	50.00	46.60	93	70-136	59-147	
p/m-Xylene	100.0	93.52	94	75-125	67-133	
o-Xylene	50.00	49.53	99	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	50.00	42.53	85	72-126	63-135	

Total number of LCS compounds: 14
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Sample Analysis Summary Report

Work Order: 13-11-0600

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 8260B	EPA 5030C	510	GC/MS W	2

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Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order: 13-11-0600

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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CHAIN-OF-CUSTODY RECORD

NB 27368

PROJECT NAME: DTSC-Waldomar Autumnwood Development			DATE: 11/7/13 PAGE 1 OF 1
PROJECT NUMBER: NB101660TSP	LABORATORY NAME: Calscience	CLIENT INFORMATION:	REPORTING REQUIREMENTS:
RESULTS TO: Joe Bahde	LABORATORY ADDRESS: 7440 Lincoln Way Garden Grove, CA 92841		13-11-0600
TURNAROUND TIME: Standard 5-day TAT	LABORATORY CONTACT: Steve Nowak		GEOTRACKER REQUIRED YES NO
SAMPLE SHIPMENT METHOD: lab drop off	LABORATORY PHONE NUMBER: 714-895-5494		SITE SPECIFIC GLOBAL ID NO.

SAMPLERS (SIGNATURE):

ANALYSES

	DATE	TIME	SAMPLE NUMBER	VOCs EPA 8260B	Formaldehyde EPA 8315	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
1	11/7/13	0800	QCTB-11072013	X		40ml VOAs x2	W		HCl	✓		2	
2		0955	13-GW-27-32	X	X	1L Amber, 3x40ml VOA	W		HCl	✓		4	
3		0958	130-GW-27-32		X	1L Amber	W		—	✓		1	
4		1325	11-GW-31-36	X	X	1L Amber, 3x40ml VOA	W		HCl	✓		4	(*)
5		1328	110-GW-31-36	X		3x40 ml VOAs	W		HCl	✓		3	
6		1546	1-GW-19-24	X	X	3x40ml VOAs, 1L Amber	W		HCl	✓		4	

JVC 11/7/13

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE:	11/07/13	1829	SIGNATURE:	11/07/13	1829
PRINTED NAME: Jorge Perez			PRINTED NAME: WEN-SHANG CHANG		
COMPANY: AMEC			COMPANY: CEL		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS: 18

SAMPLING COMMENTS:

temp. blank included in cooler.

(*) Container to analyze for VOCs is noted on sample bottle label

121 Innovation Drive, Suite 200
Irvine, California 92617-3094
Tel 949.642.0245 Fax 949.642.4474

amec

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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 13-11-0600

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: AMEC

DATE: 11/07/13

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 3.6 °C - 0.2 °C (CF) = 3.4 °C ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter **Checked by:** 778

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A **Checked by:** 778

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present **Checked by:** 854

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Aqueous samples received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfides ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑ 854 11/7/13	☑	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Aqueous: ☐VOA ☑VOA**h** ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☑1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐1PB**na** ☐500PB

☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Canister **Other:** ☐_____ **Trip Blank Lot#:** 131031A **Labeled/Checked by:** 854

Container: C: Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope **Reviewed by:** 739

Preservative: h: HCL **n:** HNO_3 **na$_2$:** $Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **u:** Ultra-pure **znna:** $ZnAc_2$+NaOH **f:** Filtered **Scanned by:** 739

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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 13-11-0600

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:

Comments:

- ☐ **Sample(s) NOT RECEIVED but listed on COC**
- ☐ **Sample(s) received but NOT LISTED on COC**
- ☐ **Holding time expired** – list sample ID(s) and test
- ☐ **Insufficient quantities for analysis** – list test
- ☐ **Improper container(s) used** – list test
- ☐ **Improper preservative used** – list test
- ☐ **No preservative noted on COC or label** – list test & notify lab
- ☐ **Sample labels illegible** – note test/container type
- ☐ **Sample label(s) do not match COC** – Note in comments
  - ☐ **Sample ID**
  - ☐ **Date and/or Time Collected**
  - ☐ **Project Information**
  - ☐ **# of Container(s)**
  - ☐ **Analysis**
- ☐ **Sample container(s) compromised** – Note in comments
  - ☐ **Water present in sample container**
  - ☐ **Broken**
- ☐ **Sample container(s) not labeled**
- ☐ **Air sample container(s) compromised** – Note in comments
  - ☐ **Flat**
  - ☐ **Very low in volume**
  - ☐ **Leaking (Not transferred - duplicate bag submitted)**
  - ☐ **Leaking (transferred into Calscience Tedlar® Bag*)**
  - ☐ **Leaking (transferred into Client's Tedlar® Bag*)**
- ☐ **Other:** _____

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis
2	C	3							

Comments: Note- VOA vial "C" that contained headspace, was not used for any analysis.

*Transferred at Client's request.

Initial / Date: 854 11/07/13

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Analytical Laboratory Service - Since 1964

Certificate of Analysis

Report Date: 11/11/13 16:57
Received Date: 11/08/13 10:15
Turnaround Time: Normal

Project: 13-11-~~0460~~ 0600
SN 11/15/13

Phones: (714) 895-5494
Fax: (714) 894-7501

P.O. #:

Attn: Stephen Nowak

Client: Calscience Environmental Laboratories
7440 Lincoln Way
Garden Grove, CA 92841-1432

Dear Stephen Nowak :

Enclosed are the results of analyses for samples received 11/8/2013 with the Chain of Custody document. The samples were received in good condition, at 3.1 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

Lab Sample ID: 3K08030-01 **Sample ID: 13-GW-27-32** **Matrix:** Water
Sampled by: Client **Sampled: 11/07/13 09:55**

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Formaldehyde	ND		30	ug/l	1	EPA 8315A	11/8/13	11/11/13 13:17	W3K0392	

Lab Sample ID: 3K08030-02 **Sample ID: 130-GW-27-32** **Matrix:** Water
Sampled by: Client **Sampled: 11/07/13 09:58**

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Formaldehyde	ND		30	ug/l	1	EPA 8315A	11/8/13	11/11/13 13:17	W3K0392	

Lab Sample ID: 3K08030-03 **Sample ID: 11-GW-31-36** **Matrix:** Water
Sampled by: Client **Sampled: 11/07/13 13:25**

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Formaldehyde	ND		30	ug/l	1	EPA 8315A	11/8/13	11/11/13 13:17	W3K0392	

Lab Sample ID: 3K08030-04 **Sample ID: 1-GW-19-24** **Matrix:** Water
Sampled by: Client **Sampled: 11/07/13 15:46**

Analyte	Result	MDL	MRL	Units	Dil	Method	Prepared	Analyzed	Batch	Qualifier
Formaldehyde	ND		30	ug/l	1	EPA 8315A	11/8/13	11/11/13 13:17	W3K0392	

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Quality Control Section

Aldehydes by EPA Method 8315A - Quality Control

Batch W3K0392 - EPA 8315A

Blank (W3K0392-BLK1) — **Prepared: 11/08/13 Analyzed: 11/11/13 13:17**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Formaldehyde		ND		ug/l					

LCS (W3K0392-BS1) — **Prepared: 11/08/13 Analyzed: 11/11/13 13:17**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Formaldehyde		102		ug/l	100	102	44-173		

Matrix Spike (W3K0392-MS1) — **Source: 3K08030-01** — **Prepared: 11/08/13 Analyzed: 11/11/13 13:17**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Formaldehyde	ND	113		ug/l	100	113	32-164		

Matrix Spike Dup (W3K0392-MSD1) — **Source: 3K08030-01** — **Prepared: 11/08/13 Analyzed: 11/11/13 13:17**

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Formaldehyde	ND	115		ug/l	100	115	32-164	2	20

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Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.

An Absence of Total Coliform meets the drinking water standards as established by the State of California Department of Health Services.
The Reporting Limit (RL) is referenced as laboratory's Practical Quantitation Limit (PQL).
For Potable water analysis, the Reporting Limit (RL) is referenced as Detection Limit for reporting purposes (DLRs) defined by EPA.

If sample collected by Weck Laboratories, sampled in accordance to lab SOP MIS002

Authorized Signature
Contact: Kim G Tu (Project Manager)

ISO 17025

NELAP ACCREDITED TNI LABORATORY

ELAP # 1132
LACSD # 10143
NELAC # 04229CA

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Weck Laboratories certifies that the test results meet all requirements of NELAC unless noted in the Case Narrative. This analytical report must be reproduced in its entirety.

Flags for Data Qualifiers:

ND	NOT DETECTED at or above the Reporting Limit. If J-value reported, then NOT DETECTED at or above the Method Detection Limit (MDL).
Sub	Subcontracted analysis, original report enclosed.
DL	Method Detection Limit
RL	Method Reporting Limit
MDA	Minimum Detectable Activity
NR	Not Reportable

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www.wecklabs.com

Calscience Environmental Laboratories, Inc.
7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1427
TEL: (714) 895-5494 . FAX: (714) 894-7501

TO: Weck Labs
City of Industry

3K08030

CHAIN OF CUSTODY RECORD

DATE: 11/08/13
PAGE: 1 OF 1

LABORATORY CLIENT: Calscience Environmental Laboratories, Inc.
ADDRESS: 7440 Lincoln Way
CITY: Garden Grove, CA 92841
TEL: 714-895-5494
E-MAIL: snowak@calscience.com

CLIENT PROJECT NAME / NUMBER: SN 11/15/13 13-11-~~0460~~-0600
PROJECT CONTACT: Stephen Nowak
SAMPLER(S): (PRINT)
P.O. NO.:
QUOTE NO.:
LAB USE ONLY

TURNAROUND TIME
☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 5 DAYS ☒ Standard

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ____/____/____

SPECIAL INSTRUCTIONS

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	Matrix	#Cont	Formaldehyde by EPA 8315
	13-GW-27-32	11/07/13	9:55	W	1	X
	130-GW-27-32	11/07/13	9:58	W	1	X
	11-GW-31-36	11/07/13	13:25	W	1	X
	1-GW-19-24	11/07/13	15:46	W	1	X

Relinquished by: (Signature)	Received by / Affiliation: (Signature)	Date:	Time:
(CALSCIENCE)	Jamal Ismer 3.1C	11/8/13	10:15
Relinquished by: (Signature)	Received by / Affiliation: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by / Affiliation: (Signature)	Date:	Time:

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Calscience Environmental Laboratories, Inc.

Subcontractor Analysis Report

Work Order: 13-11-0600

One or more samples in this work order have tests that were subcontracted. The subcontract report(s) follows.

For subcontracted tests, please reference the laboratory information noted below.

1. Weck Laboratories, Inc. - City of Industry,CA NELAP 04229CA
   Formaldehyde

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H&P Mobile Geochemistry Inc.

22 November 2013

Mr. Joe Bahde
AMEC Environment & Infrastructure-Irvine
121 Innovation Drive, Suite 200
Irvine, CA 92617

H&P Project: AEE111313-SB1
Client Project: NB1016075P / Palomar St.

Dear Mr. Joe Bahde:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 11/13/2013-11/15/2013which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody

Unless otherwise noted, all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis Villarreal

Janis Villarreal
Laboratory Director

H&P Mobile Geochemistry, Inc. operates under CA Environmental Lab Accreditation Program Numbers 2579, 2740, 2741, 2742, 2743, 2745 and 2754. National Environmental Laboratory Accreditation Conference (NELAC) Standards Lab #11845

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
12-SV-5, 1PV, P1221cc	E311041-01	Vapor	13-Nov-13	13-Nov-13
12-SV-5, 3PV, P3663cc	E311041-02	Vapor	13-Nov-13	13-Nov-13
12-SV-5, 10PV, P12210cc	E311041-03	Vapor	13-Nov-13	13-Nov-13
12-SV-15, 1PV, P835cc	E311041-04	Vapor	13-Nov-13	13-Nov-13
12-SV-15, 3PV, P2505cc	E311041-05	Vapor	13-Nov-13	13-Nov-13
12-SV-15, 10PV, P8350cc	E311041-06	Vapor	13-Nov-13	13-Nov-13
2-SV-5, 1PV, P1221cc	E311047-01	Vapor	14-Nov-13	14-Nov-13
2-SV-5, 3PV, P3663cc	E311047-02	Vapor	14-Nov-13	14-Nov-13
2-SV-5, 10PV, P12210cc	E311047-03	Vapor	14-Nov-13	14-Nov-13
2-SV-15, P835cc	E311047-04	Vapor	14-Nov-13	14-Nov-13
12-SV-5, P900cc	E311047-05	Vapor	14-Nov-13	14-Nov-13
13-SV-15, P902cc	E311047-06	Vapor	14-Nov-13	14-Nov-13
13-SV-5, P1100cc	E311047-07	Vapor	14-Nov-13	14-Nov-13
8-SV-15, P835cc	E311047-08	Vapor	14-Nov-13	14-Nov-13
6-SV-15, P835cc	E311047-09	Vapor	14-Nov-13	14-Nov-13
6-SV-15 Rep, P935cc	E311047-10	Vapor	14-Nov-13	14-Nov-13
5-SV-15, P835cc	E311047-11	Vapor	14-Nov-13	14-Nov-13
5-SV-5, P3663cc	E311047-12	Vapor	14-Nov-13	14-Nov-13
8-SV-3, P122cc	E311055-01	Vapor	15-Nov-13	15-Nov-13
9-SV-15, P835cc	E311055-02	Vapor	15-Nov-13	15-Nov-13
9-SV-5, P3663cc	E311055-03	Vapor	15-Nov-13	15-Nov-13
7-SV-5, P3663cc	E311055-04	Vapor	15-Nov-13	15-Nov-13
7-SV-15, P970cc	E311055-05	Vapor	15-Nov-13	15-Nov-13
6-SV-3, P122cc	E311055-06	Vapor	15-Nov-13	15-Nov-13
1-SV-5, P3663cc	E311055-07	Vapor	15-Nov-13	15-Nov-13
1-SV-5 Rep, P3763cc	E311055-08	Vapor	15-Nov-13	15-Nov-13
4-SV-15, P835cc	E311055-09	Vapor	15-Nov-13	15-Nov-13
4-SV-5, P3663cc	E311055-10	Vapor	15-Nov-13	15-Nov-13

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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
11-SV-15, P835cc	E311055-11	Vapor	15-Nov-13	15-Nov-13
11-SV-5, P3663cc	E311055-12	Vapor	15-Nov-13	15-Nov-13
15-SV-15, P835cc	E311055-13	Vapor	15-Nov-13	15-Nov-13
15-SV-5, P3663cc	E311055-14	Vapor	15-Nov-13	15-Nov-13
1-SV-10, P142cc	E311055-15	Vapor	15-Nov-13	15-Nov-13

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DETECTIONS SUMMARY

Sample ID: **12-SV-5, 1PV, P1221cc** Laboratory ID: **E311041-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	**0.47**	0.10	ug/l	H&P 8260 SV	
Benzene	**0.05**	0.02	ug/l	H&P 8260 SV	
Toluene	**0.24**	0.20	ug/l	H&P 8260 SV	
Ethylbenzene	**0.15**	0.10	ug/l	H&P 8260 SV	
m,p-Xylene	**0.61**	0.10	ug/l	H&P 8260 SV	
o-Xylene	**0.19**	0.10	ug/l	H&P 8260 SV	

Sample ID: **12-SV-5, 3PV, P3663cc** Laboratory ID: **E311041-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	**93**	0.10	ug/l	H&P 8260 SV	
Chloroform	**0.03**	0.02	ug/l	H&P 8260 SV	
Benzene	**0.10**	0.02	ug/l	H&P 8260 SV	
Toluene	**0.59**	0.20	ug/l	H&P 8260 SV	
Tetrachloroethene	**0.03**	0.02	ug/l	H&P 8260 SV	
Ethylbenzene	**0.36**	0.10	ug/l	H&P 8260 SV	
m,p-Xylene	**1.7**	0.10	ug/l	H&P 8260 SV	
o-Xylene	**0.53**	0.10	ug/l	H&P 8260 SV	
1,3,5-Trimethylbenzene	**0.13**	0.10	ug/l	H&P 8260 SV	
1,2,4-Trimethylbenzene	**0.30**	0.10	ug/l	H&P 8260 SV	
p-Isopropyltoluene	**0.32**	0.10	ug/l	H&P 8260 SV	

Sample ID: **12-SV-5, 10PV, P12210cc** Laboratory ID: **E311041-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	**15**	0.10	ug/l	H&P 8260 SV	
Benzene	**0.03**	0.02	ug/l	H&P 8260 SV	
m,p-Xylene	**0.39**	0.10	ug/l	H&P 8260 SV	
o-Xylene	**0.13**	0.10	ug/l	H&P 8260 SV	

Sample ID: **12-SV-15, 1PV, P835cc** Laboratory ID: **E311041-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	**0.70**	0.10	ug/l	H&P 8260 SV	
Benzene	**0.06**	0.02	ug/l	H&P 8260 SV	
Toluene	**0.26**	0.20	ug/l	H&P 8260 SV	
m,p-Xylene	**0.33**	0.10	ug/l	H&P 8260 SV	

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Sample ID: **12-SV-15, 1PV, P835cc** Laboratory ID: **E311041-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
o-Xylene	**0.12**	0.10	ug/l	H&P 8260 SV	
Naphthalene	**0.02**	0.02	ug/l	H&P 8260 SV	C-High

Sample ID: **12-SV-15, 3PV, P2505cc** Laboratory ID: **E311041-05**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.02**	0.02	ug/l	H&P 8260 SV	

Sample ID: **12-SV-15, 10PV, P8350cc** Laboratory ID: **E311041-06**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.02**	0.02	ug/l	H&P 8260 SV	
m,p-Xylene	**0.13**	0.10	ug/l	H&P 8260 SV	

Sample ID: **2-SV-5, 1PV, P1221cc** Laboratory ID: **E311047-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
m,p-Xylene	**0.19**	0.10	ug/l	H&P 8260 SV	

Sample ID: **2-SV-5, 3PV, P3663cc** Laboratory ID: **E311047-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.02**	0.02	ug/l	H&P 8260 SV	
m,p-Xylene	**0.21**	0.10	ug/l	H&P 8260 SV	

Sample ID: **2-SV-5, 10PV, P12210cc** Laboratory ID: **E311047-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
Chloroform	**0.04**	0.02	ug/l	H&P 8260 SV	
Benzene	**0.02**	0.02	ug/l	H&P 8260 SV	
m,p-Xylene	**0.27**	0.10	ug/l	H&P 8260 SV	

Sample ID: **2-SV-15, P835cc** Laboratory ID: **E311047-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.08**	0.02	ug/l	H&P 8260 SV	
Toluene	**0.25**	0.20	ug/l	H&P 8260 SV	
m,p-Xylene	**0.26**	0.10	ug/l	H&P 8260 SV	
1,2,4-Trimethylbenzene	**0.10**	0.10	ug/l	H&P 8260 SV	

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Sample ID: **2-SV-15, P835cc** Laboratory ID: **E311047-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
Naphthalene	**0.20**	0.02	ug/l	H&P 8260 SV	

Sample ID: **12-SV-5, P900cc** Laboratory ID: **E311047-05**

Analyte	Result	Reporting Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	**0.89**	0.10	ug/l	H&P 8260 SV	
Benzene	**0.02**	0.02	ug/l	H&P 8260 SV	
m,p-Xylene	**0.11**	0.10	ug/l	H&P 8260 SV	
1,2,4-Trimethylbenzene	**0.11**	0.10	ug/l	H&P 8260 SV	

Sample ID: **13-SV-15, P902cc** Laboratory ID: **E311047-06**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **13-SV-5, P1100cc** Laboratory ID: **E311047-07**

Analyte	Result	Reporting Limit	Units	Method	Notes
Chloroform	**0.02**	0.02	ug/l	H&P 8260 SV	
Benzene	**0.06**	0.02	ug/l	H&P 8260 SV	

Sample ID: **8-SV-15, P835cc** Laboratory ID: **E311047-08**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.08**	0.02	ug/l	H&P 8260 SV	
Ethylbenzene	**0.13**	0.10	ug/l	H&P 8260 SV	
m,p-Xylene	**0.71**	0.10	ug/l	H&P 8260 SV	
o-Xylene	**0.20**	0.10	ug/l	H&P 8260 SV	
1,2,4-Trimethylbenzene	**0.14**	0.10	ug/l	H&P 8260 SV	
p-Isopropyltoluene	**0.22**	0.10	ug/l	H&P 8260 SV	

Sample ID: **6-SV-15, P835cc** Laboratory ID: **E311047-09**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.02**	0.02	ug/l	H&P 8260 SV	

Sample ID: **6-SV-15 Rep, P935cc** Laboratory ID: **E311047-10**

Analyte	Result	Reporting Limit	Units	Method	Notes

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Sample ID: **6-SV-15 Rep, P935cc** Laboratory ID: **E311047-10**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **5-SV-15, P835cc** Laboratory ID: **E311047-11**

Analyte	Result	Reporting Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	**0.27**	0.10	ug/l	H&P 8260 SV	
Benzene	**0.03**	0.02	ug/l	H&P 8260 SV	
m,p-Xylene	**0.27**	0.10	ug/l	H&P 8260 SV	
1,2,4-Trimethylbenzene	**0.17**	0.10	ug/l	H&P 8260 SV	

Sample ID: **5-SV-5, P3663cc** Laboratory ID: **E311047-12**

Analyte	Result	Reporting Limit	Units	Method	Notes
Chloroform	**0.04**	0.02	ug/l	H&P 8260 SV	
m,p-Xylene	**0.14**	0.10	ug/l	H&P 8260 SV	

Sample ID: **8-SV-3, P122cc** Laboratory ID: **E311055-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **9-SV-15, P835cc** Laboratory ID: **E311055-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.03**	0.02	ug/l	H&P 8260 SV	
m,p-Xylene	**0.24**	0.10	ug/l	H&P 8260 SV	
1,3,5-Trimethylbenzene	**0.14**	0.10	ug/l	H&P 8260 SV	
1,2,4-Trimethylbenzene	**0.37**	0.10	ug/l	H&P 8260 SV	

Sample ID: **9-SV-5, P3663cc** Laboratory ID: **E311055-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **7-SV-5, P3663cc** Laboratory ID: **E311055-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

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Sample ID: **7-SV-15, P970cc** Laboratory ID: **E311055-05**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.08**	0.02	ug/l	H&P 8260 SV	
Toluene	**0.23**	0.20	ug/l	H&P 8260 SV	
Ethylbenzene	**0.25**	0.10	ug/l	H&P 8260 SV	
m,p-Xylene	**1.5**	0.10	ug/l	H&P 8260 SV	
o-Xylene	**0.42**	0.10	ug/l	H&P 8260 SV	
1,2,4-Trimethylbenzene	**0.13**	0.10	ug/l	H&P 8260 SV	
p-Isopropyltoluene	**0.15**	0.10	ug/l	H&P 8260 SV	C-High

Sample ID: **6-SV-3, P122cc** Laboratory ID: **E311055-06**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.02**	0.02	ug/l	H&P 8260 SV	
m,p-Xylene	**0.18**	0.10	ug/l	H&P 8260 SV	

Sample ID: **1-SV-5, P3663cc** Laboratory ID: **E311055-07**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **1-SV-5 Rep, P3763cc** Laboratory ID: **E311055-08**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **4-SV-15, P835cc** Laboratory ID: **E311055-09**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.10**	0.02	ug/l	H&P 8260 SV	
Toluene	**0.29**	0.20	ug/l	H&P 8260 SV	
m,p-Xylene	**0.30**	0.10	ug/l	H&P 8260 SV	

Sample ID: **4-SV-5, P3663cc** Laboratory ID: **E311055-10**

Analyte	Result	Reporting Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	**1.1**	0.10	ug/l	H&P 8260 SV	
Benzene	**0.02**	0.02	ug/l	H&P 8260 SV	

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Sample ID: **11-SV-15, P835cc** Laboratory ID: **E311055-11**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **11-SV-5, P3663cc** Laboratory ID: **E311055-12**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **15-SV-15, P835cc** Laboratory ID: **E311055-13**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **15-SV-5, P3663cc** Laboratory ID: **E311055-14**

Analyte	Result	Reporting Limit	Units	Method	Notes
No Detections Reported					

Sample ID: **1-SV-10, P142cc** Laboratory ID: **E311055-15**

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	**0.03**	0.02	ug/l	H&P 8260 SV	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
12-SV-5, 1PV, P1221cc (E311041-01) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
1,1-Difluoroethane (LCC)	**0.47**	0.10	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.05**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	**0.24**	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	**0.15**	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.61**	0.10	"	"	"	"	"	"	
o-Xylene	**0.19**	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
12-SV-5, 1PV, P1221cc (E311041-01) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*103 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.6 %*		*75-125*	"	"	"	"	
12-SV-5, 3PV, P3663cc (E311041-02) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
1,1-Difluoroethane (LCC)	**93**	0.10	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	**0.03**	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.10**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	**0.59**	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
12-SV-5, 3PV, P3663cc (E311041-02) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
Tetrachloroethene	**0.03**	0.02	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
Ethylbenzene	**0.36**	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**1.7**	0.10	"	"	"	"	"	"	
o-Xylene	**0.53**	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.13**	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.30**	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	**0.32**	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*106 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*103 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*		*75-125*	"	"	"	"	
12-SV-5, 10PV, P12210cc (E311041-03) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
1,1-Difluoroethane (LCC)	**15**	0.10	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
12-SV-5, 10PV, P12210cc (E311041-03) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.03**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.39**	0.10	"	"	"	"	"	"	
o-Xylene	**0.13**	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*105 %*		*75-125*		*"*	*"*	*"*	*"*
Surrogate: Toluene-d8		*100 %*		*75-125*		*"*	*"*	*"*	*"*
Surrogate: 4-Bromofluorobenzene		*93.4 %*		*75-125*		*"*	*"*	*"*	*"*

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Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
12-SV-15, 1PV, P835cc (E311041-04) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
1,1-Difluoroethane (LCC)	**0.70**	0.10	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.06**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	**0.26**	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.33**	0.10	"	"	"	"	"	"	
o-Xylene	**0.12**	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
12-SV-15, 1PV, P835cc (E311041-04) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	**0.02**	0.02	"	"	"	"	"	"	C-High
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*94.5 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*98.1 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.7 %*		*75-125*	"	"	"	"	
12-SV-15, 3PV, P2505cc (E311041-05) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.02**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
12-SV-15, 3PV, P2505cc (E311041-05) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
Tetrachloroethene	ND	0.02	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*98.4 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*100 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.6 %*		*75-125*	"	"	"	"	
12-SV-15, 10PV, P8350cc (E311041-06) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
12-SV-15, 10PV, P8350cc (E311041-06) Vapor Sampled: 13-Nov-13 Received: 13-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31301	13-Nov-13	13-Nov-13	H&P 8260 SV	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.02**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.13**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*		*75-125*		*"*	*"*	*"*	
Surrogate: Toluene-d8		*101 %*		*75-125*		*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*91.5 %*		*75-125*		*"*	*"*	*"*	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
2-SV-5, 1PV, P1221cc (E311047-01) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.19**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
2-SV-5, 1PV, P1221cc (E311047-01) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*103 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*99.7 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*107 %*		*75-125*	"	"	"	"	
2-SV-5, 3PV, P3663cc (E311047-02) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.02**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
2-SV-5, 3PV, P3663cc (E311047-02) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
Tetrachloroethene	ND	0.02	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.21**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*91.6 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*98.2 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*75-125*		"	"	"	"	
2-SV-5, 10PV, P12210cc (E311047-03) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
2-SV-5, 10PV, P12210cc (E311047-03) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Chloroform	**0.04**	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.02**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.27**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*95.2 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*96.5 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*75-125*		"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
2-SV-15, P835cc (E311047-04) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.08**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	**0.25**	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.26**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.10**	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
2-SV-15, P835cc (E311047-04) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	**0.20**	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*97.5 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*110 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*109 %*	*75-125*		"	"	"	"	
12-SV-5, P900cc (E311047-05) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	**0.89**	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.02**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
12-SV-5, P900cc (E311047-05) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
Tetrachloroethene	ND	0.02	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.11**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.11**	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*104 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*75-125*	"	"	"	"	
13-SV-15, P902cc (E311047-06) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
13-SV-15, P902cc (E311047-06) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*94.3 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*99.7 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*90.1 %*		*75-125*	"	"	"	"	

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Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
13-SV-5, P1100cc (E311047-07) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	**0.02**	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.06**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
13-SV-5, P1100cc (E311047-07) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*86.2 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*103 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*		*75-125*	"	"	"	"	
8-SV-15, P835cc (E311047-08) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.08**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
8-SV-15, P835cc (E311047-08) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
Tetrachloroethene	ND	0.02	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Ethylbenzene	**0.13**	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.71**	0.10	"	"	"	"	"	"	
o-Xylene	**0.20**	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.14**	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	**0.22**	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*90.2 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.1 %*		*75-125*	"	"	"	"	
6-SV-15, P835cc (E311047-09) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
6-SV-15, P835cc (E311047-09) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.02**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*97.0 %*		*75-125*		"	"	"	
Surrogate: Toluene-d8		*93.3 %*		*75-125*		"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.8 %*		*75-125*		"	"	"	

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Volatile Organic Compounds by 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
6-SV-15 Rep, P935cc (E311047-10) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
6-SV-15 Rep, P935cc (E311047-10) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*95.0 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.6 %*		*75-125*	"	"	"	"	
5-SV-15, P835cc (E311047-11) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	**0.27**	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.03**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
5-SV-15, P835cc (E311047-11) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
Tetrachloroethene	ND	0.02	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.27**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.17**	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*99.7 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.4 %*		*75-125*	"	"	"	"	
5-SV-5, P3663cc (E311047-12) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
5-SV-5, P3663cc (E311047-12) Vapor Sampled: 14-Nov-13 Received: 14-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31402	14-Nov-13	14-Nov-13	H&P 8260 SV	
Chloroform	**0.04**	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.14**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*97.6 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*97.2 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*		*75-125*	"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
8-SV-3, P122cc (E311055-01) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
8-SV-3, P122cc (E311055-01) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*91.8 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.5 %*		*75-125*	"	"	"	"	
9-SV-15, P835cc (E311055-02) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.03**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
9-SV-15, P835cc (E311055-02) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
Tetrachloroethene	ND	0.02	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.24**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.14**	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.37**	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*97.4 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*95.5 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*		*75-125*	"	"	"	"	
9-SV-5, P3663cc (E311055-03) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
9-SV-5, P3663cc (E311055-03) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*104 %*		*75-125*		*"*	*"*	*"*	
Surrogate: Toluene-d8		*106 %*		*75-125*		*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*94.1 %*		*75-125*		*"*	*"*	*"*	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
7-SV-5, P3663cc (E311055-04) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
7-SV-5, P3663cc (E311055-04) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*95.5 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.1 %*		*75-125*	"	"	"	"	
7-SV-15, P970cc (E311055-05) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.08**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	**0.23**	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
7-SV-15, P970cc (E311055-05) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
Tetrachloroethene	ND	0.02	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Ethylbenzene	**0.25**	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**1.5**	0.10	"	"	"	"	"	"	
o-Xylene	**0.42**	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.13**	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	**0.15**	0.10	"	"	"	"	"	"	C-High
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*97.3 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*112 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*		*75-125*	"	"	"	"	
6-SV-3, P122cc (E311055-06) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
6-SV-3, P122cc (E311055-06) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.02**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.18**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*93.2 %*		*75-125*		*"*	*"*	*"*	
Surrogate: Toluene-d8		*102 %*		*75-125*		*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*98.3 %*		*75-125*		*"*	*"*	*"*	

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Volatile Organic Compounds by 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
1-SV-5, P3663cc (E311055-07) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
1-SV-5, P3663cc (E311055-07) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*89.3 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*98.0 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*84.8 %*		*75-125*	"	"	"	"	
1-SV-5 Rep, P3763cc (E311055-08) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
1-SV-5 Rep, P3763cc (E311055-08) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
Tetrachloroethene	ND	0.02	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*103 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*99.4 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.6 %*	*75-125*		"	"	"	"	
4-SV-15, P835cc (E311055-09) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
4-SV-15, P835cc (E311055-09) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.10**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	**0.29**	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	**0.30**	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*106 %*		*75-125*		"	"	"	"
Surrogate: Toluene-d8		*110 %*		*75-125*		"	"	"	"
Surrogate: 4-Bromofluorobenzene		*95.0 %*		*75-125*		"	"	"	"

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Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
4-SV-5, P3663cc (E311055-10) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	**1.1**	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.02**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
4-SV-5, P3663cc (E311055-10) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*103 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.9 %*		*75-125*	"	"	"	"	
11-SV-15, P835cc (E311055-11) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
11-SV-15, P835cc (E311055-11) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
Tetrachloroethene	ND	0.02	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*103 %*		*75-125*		"	"	"	
Surrogate: Toluene-d8		*103 %*		*75-125*		"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.0 %*		*75-125*		"	"	"	
11-SV-5, P3663cc (E311055-12) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project:	AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number:	NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager:	Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
11-SV-5, P3663cc (E311055-12) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*75-125*		*"*	*"*	*"*	
Surrogate: Toluene-d8		*103 %*		*75-125*		*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*92.2 %*		*75-125*		*"*	*"*	*"*	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
15-SV-15, P835cc (E311055-13) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
15-SV-15, P835cc (E311055-13) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
p-Isopropyltoluene	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*108 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*99.6 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.7 %*		*75-125*	"	"	"	"	
15-SV-5, P3663cc (E311055-14) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	ND	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
15-SV-5, P3663cc (E311055-14) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
Tetrachloroethene	ND	0.02	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*114 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*98.9 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.5 %*		*75-125*	"	"	"	"	
1-SV-10, P142cc (E311055-15) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Dichlorodifluoromethane (F12)	ND	0.10	"	"	"	"	"	"	
Vinyl chloride	ND	0.01	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	0.10	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	0.20	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
1-SV-10, P142cc (E311055-15) Vapor Sampled: 15-Nov-13 Received: 15-Nov-13									
cis-1,2-Dichloroethene	ND	0.10	ug/l	0.01	EK31501	15-Nov-13	15-Nov-13	H&P 8260 SV	
Chloroform	ND	0.02	"	"	"	"	"	"	
Bromochloromethane	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.02	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.02	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	0.20	"	"	"	"	"	"	
Benzene	**0.03**	0.02	"	"	"	"	"	"	
Trichloroethene	ND	0.02	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.02	"	"	"	"	"	"	
Ethylbenzene	ND	0.10	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
m,p-Xylene	ND	0.10	"	"	"	"	"	"	
o-Xylene	ND	0.10	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
n-Propylbenzene	ND	0.10	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.10	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.10	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.02	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	1.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*		*75-125*		*"*	*"*	*"*	
Surrogate: Toluene-d8		*100 %*		*75-125*		*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*103 %*		*75-125*		*"*	*"*	*"*	

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Volatile Organic Compounds by 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31301 - EPA 5030										
Blank (EK31301-BLK1)				Prepared & Analyzed: 13-Nov-13						
1,1-Difluoroethane (LCC)	ND	0.10	ug/l							
Dichlorodifluoromethane (F12)	ND	0.10	"							
Vinyl chloride	ND	0.01	"							
Bromomethane	ND	0.10	"							
Chloroethane	ND	0.10	"							
Trichlorofluoromethane (F11)	ND	0.10	"							
1,1-Dichloroethene	ND	0.10	"							
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"							
Methylene chloride (Dichloromethane)	ND	0.10	"							
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"							
trans-1,2-Dichloroethene	ND	0.10	"							
Diisopropyl ether (DIPE)	ND	0.20	"							
1,1-Dichloroethane	ND	0.10	"							
Ethyl tert-butyl ether (ETBE)	ND	0.20	"							
cis-1,2-Dichloroethene	ND	0.10	"							
Chloroform	ND	0.02	"							
Bromochloromethane	ND	0.10	"							
1,1,1-Trichloroethane	ND	0.10	"							
Carbon tetrachloride	ND	0.02	"							
1,2-Dichloroethane (EDC)	ND	0.02	"							
Tertiary-amyl methyl ether (TAME)	ND	0.20	"							
Benzene	ND	0.02	"							
Trichloroethene	ND	0.02	"							
Bromodichloromethane	ND	0.10	"							
Toluene	ND	0.20	"							
1,1,2-Trichloroethane	ND	0.10	"							
Tetrachloroethene	ND	0.02	"							
Ethylbenzene	ND	0.10	"							
1,1,1,2-Tetrachloroethane	ND	0.10	"							
m,p-Xylene	ND	0.10	"							
o-Xylene	ND	0.10	"							
Isopropylbenzene (Cumene)	ND	0.10	"							
1,1,2,2-Tetrachloroethane	ND	0.10	"							
n-Propylbenzene	ND	0.10	"							

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Volatile Organic Compounds by 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31301 - EPA 5030										
Blank (EK31301-BLK1)				Prepared & Analyzed: 13-Nov-13						
1,3,5-Trimethylbenzene	ND	0.10	ug/l							
tert-Butylbenzene	ND	0.10	"							
1,2,4-Trimethylbenzene	ND	0.10	"							
sec-Butylbenzene	ND	0.10	"							
p-Isopropyltoluene	ND	0.10	"							
1,4-Dichlorobenzene	ND	0.10	"							
n-Butylbenzene	ND	0.10	"							
1,2,4-Trichlorobenzene	ND	0.10	"							
Naphthalene	ND	0.02	"							
Tertiary-butyl alcohol (TBA)	ND	1.0	"							
Surrogate: Dibromofluoromethane	*2.69*		*"*	*2.50*		*108*	*75-125*			
Surrogate: Toluene-d8	*2.46*		*"*	*2.50*		*98.5*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2.68*		*"*	*2.50*		*107*	*75-125*			
LCS (EK31301-BS1)				Prepared & Analyzed: 13-Nov-13						
Dichlorodifluoromethane (F12)	5.53	0.50	ug/l	5.00		111	70-130			
Vinyl chloride	5.50	0.05	"	5.00		110	70-130			
Chloroethane	5.24	0.50	"	5.00		105	70-130			
Trichlorofluoromethane (F11)	5.86	0.50	"	5.00		117	70-130			
1,1-Dichloroethene	5.67	0.50	"	5.00		113	70-130			
1,1,2 Trichlorotrifluoroethane (F113)	5.29	0.50	"	5.00		106	70-130			
Methylene chloride (Dichloromethane)	5.35	0.50	"	5.00		107	70-130			
trans-1,2-Dichloroethene	5.81	0.50	"	5.00		116	70-130			
1,1-Dichloroethane	5.53	0.50	"	5.00		111	70-130			
cis-1,2-Dichloroethene	5.86	0.50	"	5.00		117	70-130			
Chloroform	5.86	0.10	"	5.00		117	70-130			
1,1,1-Trichloroethane	5.92	0.50	"	5.00		118	70-130			
Carbon tetrachloride	5.39	0.10	"	5.00		108	70-130			
1,2-Dichloroethane (EDC)	6.50	0.10	"	5.00		130	70-130			
Benzene	5.55	0.10	"	5.00		111	70-130			
Trichloroethene	5.70	0.10	"	5.00		114	70-130			
Toluene	5.35	1.0	"	5.00		107	70-130			
1,1,2-Trichloroethane	5.86	0.50	"	5.00		117	70-130			

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AMEC Environment & Infrastructure-Irvine	Project: AEE111313-SB1	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31301 - EPA 5030										
LCS (EK31301-BS1)				Prepared & Analyzed: 13-Nov-13						
Tetrachloroethene	5.23	0.10	ug/l	5.00		105	70-130			
Ethylbenzene	5.69	0.50	"	5.00		114	70-130			
1,1,1,2-Tetrachloroethane	5.09	0.50	"	5.00		102	70-130			
m,p-Xylene	11.7	0.50	"	10.0		117	70-130			
o-Xylene	6.01	0.50	"	5.00		120	70-130			
1,1,2,2-Tetrachloroethane	5.50	0.50	"	5.00		110	70-130			
Surrogate: Dibromofluoromethane	*2.55*		*"*	*2.50*		*102*	*75-125*			
Surrogate: Toluene-d8	*2.07*		*"*	*2.50*		*82.7*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2.51*		*"*	*2.50*		*100*	*75-125*			
Batch EK31402 - EPA 5030										
Blank (EK31402-BLK1)				Prepared & Analyzed: 14-Nov-13						
1,1-Difluoroethane (LCC)	ND	0.10	ug/l							
Dichlorodifluoromethane (F12)	ND	0.10	"							
Vinyl chloride	ND	0.01	"							
Bromomethane	ND	0.10	"							
Chloroethane	ND	0.10	"							
Trichlorofluoromethane (F11)	ND	0.10	"							
1,1-Dichloroethene	ND	0.10	"							
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"							
Methylene chloride (Dichloromethane)	ND	0.10	"							
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"							
trans-1,2-Dichloroethene	ND	0.10	"							
Diisopropyl ether (DIPE)	ND	0.20	"							
1,1-Dichloroethane	ND	0.10	"							
Ethyl tert-butyl ether (ETBE)	ND	0.20	"							
cis-1,2-Dichloroethene	ND	0.10	"							
Chloroform	ND	0.02	"							
Bromochloromethane	ND	0.10	"							
1,1,1-Trichloroethane	ND	0.10	"							
Carbon tetrachloride	ND	0.02	"							
1,2-Dichloroethane (EDC)	ND	0.02	"							

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar St.	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31402 - EPA 5030										
Blank (EK31402-BLK1)				Prepared & Analyzed: 14-Nov-13						
Tertiary-amyl methyl ether (TAME)	ND	0.20	ug/l							
Benzene	ND	0.02	"							
Trichloroethene	ND	0.02	"							
Bromodichloromethane	ND	0.10	"							
Toluene	ND	0.20	"							
1,1,2-Trichloroethane	ND	0.10	"							
Tetrachloroethene	ND	0.02	"							
Ethylbenzene	ND	0.10	"							
1,1,1,2-Tetrachloroethane	ND	0.10	"							
m,p-Xylene	ND	0.10	"							
o-Xylene	ND	0.10	"							
Isopropylbenzene (Cumene)	ND	0.10	"							
1,1,2,2-Tetrachloroethane	ND	0.10	"							
n-Propylbenzene	ND	0.10	"							
1,3,5-Trimethylbenzene	ND	0.10	"							
tert-Butylbenzene	ND	0.10	"							
1,2,4-Trimethylbenzene	ND	0.10	"							
sec-Butylbenzene	ND	0.10	"							
p-Isopropyltoluene	ND	0.10	"							
1,4-Dichlorobenzene	ND	0.10	"							
n-Butylbenzene	ND	0.10	"							
1,2,4-Trichlorobenzene	ND	0.10	"							
Naphthalene	ND	0.02	"							
Tertiary-butyl alcohol (TBA)	ND	1.0	"							
Surrogate: Dibromofluoromethane	*2.53*		*"*	*2.50*		*101*	*75-125*			
Surrogate: Toluene-d8	*2.41*		*"*	*2.50*		*96.3*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2.46*		*"*	*2.50*		*98.5*	*75-125*			

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Volatile Organic Compounds by 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31402 - EPA 5030										
LCS (EK31402-BS1)				Prepared & Analyzed: 14-Nov-13						
Dichlorodifluoromethane (F12)	4.49	0.50	ug/l	5.00		89.8	70-130			
Vinyl chloride	5.09	0.05	"	5.00		102	70-130			
Chloroethane	4.98	0.50	"	5.00		99.7	70-130			
Trichlorofluoromethane (F11)	5.84	0.50	"	5.00		117	70-130			
1,1-Dichloroethene	5.81	0.50	"	5.00		116	70-130			
1,1,2 Trichlorotrifluoroethane (F113)	5.68	0.50	"	5.00		114	70-130			
Methylene chloride (Dichloromethane)	5.07	0.50	"	5.00		101	70-130			
trans-1,2-Dichloroethene	5.58	0.50	"	5.00		112	70-130			
1,1-Dichloroethane	5.36	0.50	"	5.00		107	70-130			
cis-1,2-Dichloroethene	5.67	0.50	"	5.00		113	70-130			
Chloroform	5.77	0.10	"	5.00		115	70-130			
1,1,1-Trichloroethane	5.96	0.50	"	5.00		119	70-130			
Carbon tetrachloride	5.42	0.10	"	5.00		108	70-130			
1,2-Dichloroethane (EDC)	6.88	0.10	"	5.00		138	70-130			QL-1H
Benzene	5.42	0.10	"	5.00		108	70-130			
Trichloroethene	5.53	0.10	"	5.00		111	70-130			
Toluene	5.25	1.0	"	5.00		105	70-130			
1,1,2-Trichloroethane	5.63	0.50	"	5.00		113	70-130			
Tetrachloroethene	4.59	0.10	"	5.00		91.9	70-130			
Ethylbenzene	5.60	0.50	"	5.00		112	70-130			
1,1,1,2-Tetrachloroethane	4.88	0.50	"	5.00		97.5	70-130			
m,p-Xylene	10.9	0.50	"	10.0		109	70-130			
o-Xylene	5.44	0.50	"	5.00		109	70-130			
1,1,2,2-Tetrachloroethane	4.89	0.50	"	5.00		97.7	70-130			
Surrogate: Dibromofluoromethane	*2.59*		*"*	*2.50*		*104*	*75-125*			
Surrogate: Toluene-d8	*2.61*		*"*	*2.50*		*105*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2.28*		*"*	*2.50*		*91.0*	*75-125*			

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Volatile Organic Compounds by 8260SV - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31501 - EPA 5030										
Blank (EK31501-BLK1)				Prepared & Analyzed: 15-Nov-13						
1,1-Difluoroethane (LCC)	ND	0.10	ug/l							
Dichlorodifluoromethane (F12)	ND	0.10	"							
Vinyl chloride	ND	0.01	"							
Bromomethane	ND	0.10	"							
Chloroethane	ND	0.10	"							
Trichlorofluoromethane (F11)	ND	0.10	"							
1,1-Dichloroethene	ND	0.10	"							
1,1,2 Trichlorotrifluoroethane (F113)	ND	0.10	"							
Methylene chloride (Dichloromethane)	ND	0.10	"							
Methyl tertiary-butyl ether (MTBE)	ND	0.10	"							
trans-1,2-Dichloroethene	ND	0.10	"							
Diisopropyl ether (DIPE)	ND	0.20	"							
1,1-Dichloroethane	ND	0.10	"							
Ethyl tert-butyl ether (ETBE)	ND	0.20	"							
cis-1,2-Dichloroethene	ND	0.10	"							
Chloroform	ND	0.02	"							
Bromochloromethane	ND	0.10	"							
1,1,1-Trichloroethane	ND	0.10	"							
Carbon tetrachloride	ND	0.02	"							
1,2-Dichloroethane (EDC)	ND	0.02	"							
Tertiary-amyl methyl ether (TAME)	ND	0.20	"							
Benzene	ND	0.02	"							
Trichloroethene	ND	0.02	"							
Bromodichloromethane	ND	0.10	"							
Toluene	ND	0.20	"							
1,1,2-Trichloroethane	ND	0.10	"							
Tetrachloroethene	ND	0.02	"							
Ethylbenzene	ND	0.10	"							
1,1,1,2-Tetrachloroethane	ND	0.10	"							
m,p-Xylene	ND	0.10	"							
o-Xylene	ND	0.10	"							
Isopropylbenzene (Cumene)	ND	0.10	"							
1,1,2,2-Tetrachloroethane	ND	0.10	"							
n-Propylbenzene	ND	0.10	"							

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Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:16

Volatile Organic Compounds by 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31501 - EPA 5030										
Blank (EK31501-BLK1)				Prepared & Analyzed: 15-Nov-13						
1,3,5-Trimethylbenzene	ND	0.10	ug/l							
tert-Butylbenzene	ND	0.10	"							
1,2,4-Trimethylbenzene	ND	0.10	"							
sec-Butylbenzene	ND	0.10	"							
p-Isopropyltoluene	ND	0.10	"							
1,4-Dichlorobenzene	ND	0.10	"							
n-Butylbenzene	ND	0.10	"							
1,2,4-Trichlorobenzene	ND	0.10	"							
Naphthalene	ND	0.02	"							
Tertiary-butyl alcohol (TBA)	ND	1.0	"							
Surrogate: Dibromofluoromethane	*2.51*		*"*	*2.50*		*100*	*75-125*			
Surrogate: Toluene-d8	*2.48*		*"*	*2.50*		*99.2*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2.58*		*"*	*2.50*		*103*	*75-125*			
LCS (EK31501-BS1)				Prepared & Analyzed: 15-Nov-13						
Dichlorodifluoromethane (F12)	4.11	0.50	ug/l	5.00		82.2	70-130			
Vinyl chloride	4.47	0.05	"	5.00		89.4	70-130			
Chloroethane	4.34	0.50	"	5.00		86.8	70-130			
Trichlorofluoromethane (F11)	5.59	0.50	"	5.00		112	70-130			
1,1-Dichloroethene	4.77	0.50	"	5.00		95.5	70-130			
1,1,2 Trichlorotrifluoroethane (F113)	5.13	0.50	"	5.00		103	70-130			
Methylene chloride (Dichloromethane)	4.77	0.50	"	5.00		95.3	70-130			
trans-1,2-Dichloroethene	5.34	0.50	"	5.00		107	70-130			
1,1-Dichloroethane	4.84	0.50	"	5.00		96.9	70-130			
cis-1,2-Dichloroethene	4.84	0.50	"	5.00		96.9	70-130			
Chloroform	5.35	0.10	"	5.00		107	70-130			
1,1,1-Trichloroethane	5.69	0.50	"	5.00		114	70-130			
Carbon tetrachloride	5.10	0.10	"	5.00		102	70-130			
1,2-Dichloroethane (EDC)	6.28	0.10	"	5.00		126	70-130			
Benzene	4.71	0.10	"	5.00		94.1	70-130			
Trichloroethene	4.92	0.10	"	5.00		98.3	70-130			
Toluene	4.68	1.0	"	5.00		93.6	70-130			
1,1,2-Trichloroethane	4.77	0.50	"	5.00		95.5	70-130			

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Volatile Organic Compounds by 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31501 - EPA 5030										
LCS (EK31501-BS1)				Prepared & Analyzed: 15-Nov-13						
Tetrachloroethene	4.49	0.10	ug/l	5.00		89.8	70-130			
Ethylbenzene	5.17	0.50	"	5.00		103	70-130			
1,1,1,2-Tetrachloroethane	4.72	0.50	"	5.00		94.4	70-130			
m,p-Xylene	10.3	0.50	"	10.0		103	70-130			
o-Xylene	5.20	0.50	"	5.00		104	70-130			
1,1,2,2-Tetrachloroethane	4.42	0.50	"	5.00		88.4	70-130			
Surrogate: Dibromofluoromethane	*2.52*		*"*	*2.50*		*101*	*75-125*			
Surrogate: Toluene-d8	*2.67*		*"*	*2.50*		*107*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2.47*		*"*	*2.50*		*98.7*	*75-125*			

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Notes and Definitions

QL-1H	The LCS and/or LCSD recoveries fell above the established control specifications for this analyte. Any result for this compound is qualified and should be considered biased high.
C-High	The percent recovery for this analyte fell above the method criteria in the continuing calibration verification (CCV). Results may be biased high.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory (Certification # L11-175) in accordance with the DoD-ELAP program. H&P is approved by the State of Arizona under Certification Numbers AZM758 and AZ0779. H&P is approved as an Environmental Laboratory in conformance with the Environmental Laboratory Accreditation Program (CA) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste for the following methods:

Certificate# 2741, 2743, 2579, 2754 & 2740 approved for EPA 8260 and LUFT GC/MS
Certificate# 2742, 2745, & 2741 approved for LUFT
Certificate# 2745 & 2742 approved for EPA 418.1

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the National Environmental Accreditation Conference Standards for the category Environmental Analysis Air and Emissions for the following analytes and methods:

Hexachlorobutadiene by EPA TO-15 & TO-14A
1,2,4-Trichlorobenzene by EPA TO-15 & TO-14A
1,2-Dichlorobenzene by EPA TO-15 & TO-14A
Dichlorotetrafluoroethane by EPA TO-14A
1,4-Dichlorobenzene by EPA TO-15 & TO-14A
Benzene by EPA TO-15 & TO-14A
Chlorobenzene by EPA TO-15 & TO-14A
Ethyl benzene by EPA TO-15 & TO-14A
Styrene by EPA TO-15 & TO-14A
Toluene by EPA TO-15 & TO-14A
Total Xylenes by EPA TO-15
1,1,1-Trichloroethane by EPA TO-15 & TO-14A
1,1,2,2-Tetrachloroethane by EPA TO-15 & TO-14A
1,1,2-Trichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethene by EPA TO-15 & TO-14A
1,2-Dichloroethane by EPA TO-15 & TO-14A
1,2-Dichloropropane by EPA TO-15 & TO-14A
Benzyl Chloride by EPA TO-15 & TO-14A
Bromoform by EPA TO-15
Bromomethane by EPA TO-15 & TO-14A
Carbon tetrachloride by EPA TO-15 & TO-14A
Chloroethane by EPA TO-15 & TO-14A
Chloroform by EPA TO-15 & TO-14A
Chloromethane by EPA TO-15 & TO-14A
cis-1,2-Dichloroethene by EPA TO-15 & TO-14A
cis-1,3-Dichloropropene by EPA TO-15 & TO-14A
Methylene chloride by EPA TO -15 & TO-14A
Tetrachloroethane by EPA TO-15 & TO-14A
trans-1,2-Dichloroethene by EPA TO-15
trans-1,3-Dichloropropene by EPA TO-15 & TO-14A
Trichloroethene by EPA TO-15 & TO-14A
Vinyl chloride by EPA TO -15
2-Butanone by EPA TO-15
4-Methyl-2-Pentanone by EPA TO-15
Hexane by EPA TO-15
Methyl tert-butyl ether by EPA TO-15
Vinyl acetate by EPA TO-15
1,3-Dichlorobenzene by EPA TO-15 & TO-14A
Trichlorofluoromethane by EPA TO-14A
Naphthalene by H&P SOP TO-15/GC-MS
1,2-Dibromoethane (EDB) by EPA TO-15 & TO-14A
1,2-Dibromo-3-chloropropane by EPA TO-15
1,3-Butadiene by EPA TO-15
1,1,2-Trichlorotrifluoroethane by EPA TO-14A
Carbon disulfide by EPA TO-15
1,4-Dioxane by EPA TO-15

This certification applies to samples analyzed in summa canisters.

Chain of Custody Record

H&P Mobile Geochemistry, Inc.

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☒ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date: 11-13-13
H&P Project # AEE 111313-SB2 CB
Outside Lab:

Client: AMEC
Address: 121 Innovation, Suite 200
Irvine, CA. 92617
Email: joseph.bahde@amec.com

Collector: T. Taylor
Client Project # NB10160075P
Location: Palomar Street, Riverside
Phone: 952-656-6003 Fax:

Page: 1 of 1
Project Contact: Joe Bahde
Turn around time: Field

Geotracker EDF: Yes ☒ No ☐
Global ID:
Excel EDD: Yes ☐ No ☒

Sample Receipt
Intact: ☐ Yes ☒ No
Seal Intact: ☐ Yes ☐ No ☒ N/A
Cold: ☐ Yes ☐ No ☒ N/A
Temperature: N/A

Special Instructions:

Lab Work Order # E311041 / EK31301

	Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	8260B Full List	8260B ☐ BTEX/OXY ☐ TPH gas	LUFT/8015M TPH ☐ g ☐ d ☐ ext	418.1 TRPH	VOC's: Full List ☒ 8260B ☐ TO-15	VOC's: Short List/DTSC ☐ 8260B ☐ TO-15	VOC's: SAM, 8260B ☐ SAM A ☐ SAM B	Naphthalene ☐ 8260B ☐ TO-15	Oxygenates ☒ 8260B ☐ TO-15	TPHv gas ☐ 8260B ☐ TO-15	Ketones ☐ 8260B ☐ TO-15	Other ☐ 8260B ☐ TO-15	Leak Check Compound ☒ 1,1 DFA ☐ OTHER	Methane	Fixed Gases ☐ CO_2 ☐ O_2 ☐ N_2
									SOIL/GW				SOIL VAPOR/AIR ANALYSIS										
4	12-SV-15, 1PV	Resampled @ 15	10 835	0853	11-13-13	Vapor	Glass syringe	1					X				X				X		
5	12-SV-15, 3PV	Resampled @ 15	24 255	0910	↓	↓	↓	1					↓				↓				↓		
6	12-SV-15, 10PV	(P8350cc)	P8350cc	1603	↓	↓	↓	1					↓				↓				↓		
1	12-SV-5, 1PV		P1221cc	1323	↓	↓	↓	1					↓				↓				↓		
2	12-SV-5, 3PV		P3663cc	1342	↓	↓	↓	1					↓				↓				↓		
3	12-SV-5, 10PV		P12210	1447	↓	↓	↓	1					↓				↓				↓		

Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date	Time
[signature]	AMEC	[signature]	H+P Mobile	11-13-13	17:30
Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

Chain of Custody Record

H&P Mobile Geochemistry, Inc.

☐ 2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159
☒ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date: 11-14-13
H&P Project # AEE111313-SB1
Outside Lab:

Client: AMEC
Address: 121 Innovation, Suite 200
Irvine, CA. 92617
Email: joseph.bahde@amec.com

Collector: T. Taylor, D. Do.
Client Project # NB10160075P
Location: Palomar Street, Wildomar
Phone: 952-656-6003
Fax:

Page: 1 of 2
Project Contact: Joe Bahde
Turn around time: Field

Geotracker EDF: Yes ☒ No ☐
Global ID:
Excel EDD: Yes ☐ No ☒

Sample Receipt
Intact: ☐ Yes ☑ No
Seal Intact: ☐ Yes ☐ No ☑ N/A
Cold: ☐ Yes ☐ No ☑ N/A
Temperature: N/A

Special Instructions:

Lab Work Order # E311047/EK31402

	Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	8260B Full List	8260B ☐ BTEX/OXY ☐ TPH gas	LUFT/8015M TPH ☐ g ☐ d ☐ ext	418.1 TRPH	VOC's: Full List ☒ 8260B ☐ TO-15	VOC's: Short List/DTSC ☐ 8260B ☐ TO-15	VOC's: SAM, 8260B ☐ SAM A ☐ SAM B	Naphthalene ☐ 8260B ☐ TO-15	Oxygenates ☒ 8260B ☐ TO-15	TPHv gas ☐ 8260B ☐ TO-15	Ketones ☐ 8260B ☐ TO-15	Other ____ ☐ 8260B ☐ TO-15	Leak Check Compound ☒ 1,1 DFA ☐ OTHER	Methane	Fixed Gases ☐ CO_2 ☐ O_2 ☐ N_2
									SOIL/GW				SOIL VAPOR/AIR ANALYSIS										
1	2-SV-5, 1PV		P1221cc	805	11-14-13	Vapor	Glass Syringe	1					X				X				X		
2	2-SV-5, 3PV		P3663cc	821	↓	↓	↓	1					↓				↓				↓		
3	2-SV-5, 10PV		P12210cc	0906				1															
4	2-SV-15		P835cc	0933				1															
5	12-SV-5		~P900cc	1156				1															
6	18-SV-15		P902cc	1237				1															
7	13-SV-5		~P1100cc	1335				1															
8	8-SV-15		P835cc	1414				1															
9	6-SV-15		P835cc	1508				1															
10	6-SV-15 Rep		P935cc	1508				1															

Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
[signature]	AMEC	[signature]	H&P Mobile	11-14-13	1700
Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

Chain of Custody Record

H&P Mobile Geochemistry, Inc.
☐ 2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159
☒ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date: 11-14-13
H&P Project # AEE11 1313-SB1
Outside Lab:

Client: AMEC
Address: 121 Innovation, Suite 200
Irvine, CA. 92617
Email: joseph.bahde@amec.com

Collector: D. Do, T. Taylor
Client Project # N13 10160075P
Location: Palomar Street, Wildomar
Phone: 952-656-6003
Fax:

Page: 2 of 2
Project Contact: Joe Bahde
Turn around time: Field

Geotracker EDF: Yes ☒ No ☐
Global ID:
Excel EDD: Yes ☐ No ☒

Sample Receipt
Intact: ☐ Yes ☑ No
Seal Intact: ☐ Yes ☐ No ☑ N/A
Cold: ☐ Yes ☐ No ☑ N/A
Temperature: N/A

Special Instructions:

Lab Work Order # E311047/EK31402

	Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	8260B Full List	8260B ☐ BTEX/OXY ☐ TPH gas	LUFT/8015M TPH ☐ g ☐ d ☐ ext	418.1 TRPH	VOC's: Full List ☒ 8260B ☐ TO-15	VOC's: Short List/DTSC ☐ 8260B ☐ TO-15	VOC's: SAM, 8260B ☐ SAM A ☐ SAM B	Naphthalene ☐ 8260B ☐ TO-15	Oxygenates ☒ 8260B ☐ TO-15	TPHv gas ☐ 8260B ☐ TO-15	Ketones ☐ 8260B ☐ TO-15	Other ____ ☐ 8260B ☐ TO-15	Leak Check Compound ☒ 1,1 DFA ☐ OTHER	Methane	Fixed Gases ☐ CO_2 ☐ O_2 ☐ N_2
									SOIL/GW				SOIL VAPOR/AIR ANALYSIS										
11	5-SV-15		P835cc	1557	11-14-13	Vapor	Glass syringe	1					X				X				X		
12	5-SV-5		P3663cc	1620	↓	↓	↓	1					↓				↓				↓		

Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
	AMEC		H&P Mobile	11-14-13	1700
Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

Chain of Custody Record

H&P Mobile Geochemistry, Inc.

☐ 2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159
☒ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date: 11-15-16
H&P Project # AEE11313B-SB1
Outside Lab:

Client: AMEC
Address: 121 Innovation Suite 200, Irvine, CA. 92617
Email: joseph.bahde@amec.com
Collector: T. Taylor, D. Do.
Client Project # NB101607 5P
Location: Palomar Street, Wildomar
Phone: 952-656-6006
Fax:
Page: 1 of 2
Project Contact: Joe Bahde
Turn around time: Field

Geotracker EDF: Yes ☒ No ☐
Global ID:
Excel EDD: Yes ☐ No ☒

Sample Receipt
Intact: ☐ Yes ☑ No
Seal Intact: ☐ Yes ☐ No ☑ N/A
Cold: ☐ Yes ☐ No ☑ N/A
Temperature: N/A

Special Instructions:

Lab Work Order # E311055/EK31501

	Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	8260B Full List	8260B ☐ BTEX/OXY ☐ TPH gas	LUFT/8015M TPH ☐ g ☐ d ☐ ext	418.1 TRPH	VOC's: Full List ☒ 8260B ☐ TO-15	VOC's: Short List/DTSC ☐ 8260B ☐ TO-15	VOC's: SAM, 8260B ☐ SAM A ☐ SAM B	Naphthalene ☐ 8260B ☐ TO-15	Oxygenates ☒ 8260B ☐ TO-15	TPHv gas ☐ 8260B ☐ TO-15	Ketones ☐ 8260B ☐ TO-15	Other ____ ☐ 8260B ☐ TO-15	Leak Check Compound ☒ 1,1 DFA ☐ OTHER	Methane	Fixed Gases ☐ CO_2 ☐ O_2 ☐ N_2
									SOIL/GW				SOIL VAPOR/AIR ANALYSIS										
1	8-SV-3		P122cc	0849	11-15-16	Vapor	Glass Syringe	1					X				X				X		
2	9-SV-15		P835cc	0905	↓	↓	↓	1					↓				↓				↓		
3	9-SV-5		P3663cc	0928	↓	↓	↓	1					↓				↓				↓		
4	7-SV-5		P3663cc	1010	↓	↓	↓	1					↓				↓				↓		
5	7-SV-15		P970cc	1013	↓	↓	↓	1					↓				↓				↓		
6	6-SV-3		P122cc	1047	↓	↓	↓	1					↓				↓				↓		
7	1-SV-5		P3663cc	1143	↓	↓	↓	1					↓				↓				↓		
8	1-SV-5 Rep		P3763cc	1143	↓	↓	↓	1					↓				↓				↓		
9	4-SV-15		P835cc	1222	↓	↓	↓	1					↓				↓				↓		
10	4-SV-5		P3663cc	1323	↓	↓	↓	1					↓				↓				↓		

Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
[signature]	AMEC	[signature]	H&P Mobile	11-15-16	1647
Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

Chain of Custody Record

H&P Mobile Geochemistry, Inc.

☐ 2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159
☒ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date: 11-15-13
H&P Project # AEE111313-SB1
Outside Lab:

Client: AMEC
Address: 121 Innovation, Suite 200
Irvine, CA. 92617
Email: joseph.bahde@amec.com

Collector: D. Do, T. Taylor
Client Project # NB101607 5P
Location: Palomar Street, Wildomar
Phone: 952-656-6003
Fax:

Page: 2 of 2
Project Contact: Joe Bahde
Turn around time: Field

Geotracker EDF: Yes ☒ No ☐
Global ID:
Excel EDD: Yes ☐ No ☒

Sample Receipt
Intact: ☐ Yes ☒ No
Seal Intact: ☐ Yes ☐ No ☒ N/A
Cold: ☐ Yes ☐ No ☒ N/A
Temperature: N/A

Special Instructions:

Lab Work Order # E311055/EK31501

	Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	8260B Full List	8260B	LUFT/8015M	418.1 TRPH	VOC's: Full List ☒ 8260B ☐ TO-15	VOC's: Short List/DTSC ☐ 8260B ☐ TO-15	VOC's: SAM, 8260B ☐ SAM A ☐ SAM B	Naphthalene ☐ 8260B ☐ TO-15	Oxygenates ☒ 8260B ☐ TO-15	TPHv gas ☐ 8260B ☐ TO-15	Ketones ☐ 8260B ☐ TO-15	Other ____ ☐ 8260B ☐ TO-15	Leak Check Compound ☒ 1,1 DFA ☐ OTHER	Methane	Fixed Gases ☐ CO_2 ☐ O_2 ☐ N_2
									SOIL/GW				SOIL VAPOR/AIR ANALYSIS										
11	11-SV-15		P835cc	1359	11-15-13	Vapor	Glass Syringe	1					X				X				X		
12	11-SV-5		P3663cc	1412	↓	↓	↓	1					↓				↓				↓		
13	15-SV-15		P835cc	1450				1															
14	15 SV-5		P3663cc	1501				1															
15	1-SV-10		P142cc	1622				1															

Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
	AMEC		H&P Mobile	11-15-13	1647
Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Approved/Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

Vapor Sampling with Mobile Lab (Syringe*)

H&P Mobile Geochemistry Inc.

H&P Project #: **AEE111313-SB1**
Site Address: **Palomar Street, Wildomar**
Consultant: **AMEC**
Field Rep(s): V. Robino
H&P Rep(s): C. Smith, T. Taylor, D. Do

Date: 11/13/2013
Arrival Time: 0700
Departure Time: 530pm
Overtime: 2.5 hrs
Approved By: Louise & Vinnie

Office Use Only:
Reviewed: DB
Scanned:

	Sampling Information				Probe Specs							Collection Data				
	Point ID	Syringe ID	Date	Sample Time	Probe Depth (ft)	Tubing Length (ft)	Tubing Dia (in.)	Sand Pack Dia (in.)	Sand Pack Ht (in.)	Dry Bent. Dia (in.)	Dry Bent. Ht (in.)	Purge Vol. (cc)	Shut-in Test (✓=Pass)	Flow Rate (mL/min)	Probe Pressure	Field Notes:
1	12-SV-5 PVT1	55	11/13	1323	5	6	1/4	2.5/3.5	12	3.5/2.5	18	1221	✓	7200	50	Pump: 6.1 mins
2	12-SV-5 PVT3	71	↓	1342	5	6	1/4	2.5/3.5	12	3.5/2.5	18	~~3663~~	✓	7200	50	Pump: 12.2 mins
3	12-SV-5 PVT10	134		1447	5	6	1/4	2.5/3.5	12	3.5/2.5	18	12,210	✓	7200	50	Pump: 48.83 mins
4	12-SV-15 PVT1	79		1510	15	16	1/4	2.5	12	2.5	18	835	✓	7200	20	Pump: 4.2 mins
5	12-SV-15 PVT3	134		1524	15	16	1/4	2.5	12	2.5	18	2505	✓	7200	20	Pump: 8.3 mins
6	12-SV-15 PVT10	55		1603	15	16	1/4	2.5	12	2.5	18	8350	✓	7200	20	Pump: 33.45 mins
7	8-SV-5 PVT1	134	↓		5	6	1/4	2.5/3.5	12	3.5/2.5	18	1221	✓			6.1 mins ~~xxx~~
8	8-SV-5 PVT3															xxx
9	8-SV-5 PVT10															xxx
10	6-SV-5 PVT1												✓			6.1 mins ~~xxxx~~
11																
12																

Purge Volume Calculation

Probe ID for PVT, if applicable:	12-SV-15				
Tubing:	Length: 16	Diameter: 1/4	1 Volume: 86		
Sand Pack (if included in purge volume calculation):	Height: 12	Diameter: 2.5	1 Volume: 241		
Dry Bentonite (if included in purge volume calculation):	Height: 18	Diameter: 2.5	1 Volume: 507		
PVT Increments:	1PV = 835	3PV = ~~3663~~ 2505	10PV = 8350		
PV Amount Selected:	1PV		Selected by: Theo		

Leak Check Information

Leak Check Compound: ☒ 1,1-DFA ☐ 1,1,1,2-TFA ☐ IPA ☐ Other

Procedure Cloth saturated with LCC is placed around probe tubing at groundlevel.

Other Notes: * 50cc vapor collected unless otherwise specified.
- Sand pack: 12" height (6" in 3.5" dia. & 6" in 2.5" dia)
- dry bent pack: height 18" (12 in 3.5" dia & 6" in 2.5" dia)
- Per Theo (DTSC) porosity being used to calculate dry bent is 35% and sand pack is 25% notes on back →

Vapor Sampling with Mobile Lab (Syringe*)

H&P Mobile Geochemistry Inc.

H&P Project #: **AEE111313-SB1**
Site Address: **Palomar Street, Wildomar**
Consultant: **AMEC**
Field Rep(s): V. Robino
H&P Rep(s): C. Smith, T. Taylor, D. Do

Date: 11/14/2013
Arrival Time: 0700
Departure Time: 515pm
Overtime: 2hrs. 15mins
Approved By: Louise + Thet

Office Use Only:
Reviewed: DB
Scanned:

	Sampling Information				Probe Specs							Collection Data				
	Point ID	Syringe ID	Date	Sample Time	Probe Depth (ft)	Tubing Length (ft)	Tubing Dia (in.)	Sand Pack Dia (in.)	Sand Pack Ht (in.)	Dry Bent. Dia (in.)	Dry Bent. Ht (in.)	Purge Vol. (cc)	Shut-in Test (✓=Pass)	Flow Rate (mL/min)	Probe Pressure ("H2O)	Field Notes:
1	2-SV-5 PVT1	79 (DD)	11/14	0805	5	6	1/4	12	3.5/2.5	3.5/2.5	18	1221	✓	~~200~~	0	Pump: 6.1 mins
2	2-SV-5 PVT3	134		0821	↓	↓	↓	↓	↓	↓	↓	3663	✓	<200	0	Pump: 12.2 mins
3	2-SV-5 PVT10	55		0906	↓	↓	↓	↓	↓	↓	↓	12210	✓	<200	0	Pump 42.0 min
4	2-SV-15	79		0933	15	16	1/4	2.5	12 (DD)	2.5	18	835	✓	<200	0	Pump: 4.2 min
5	12-SV-5	79		1156	5	6	1/4	3.5/2.5	12	3.5/2.5	18	3663	✓	* 200/100	95+*	Pump 18.3 min
6	13-SV-5	55		1335	5	6	1/4	3.5/2.5	12	3.5/2.5	18	~~3663~~ 1100 (DD)	✓	<200	95+*	Pump 5.5 min
7	13-SV-15	134		1237	15	16	1/4	2.5	12	2.5	204	902	✓	<200	0	Pump 4.5 min.
8	8-SV-15	79		1414	15	16	1/4	2.5	12	2.5	18	835	✓	<200	0	Pump ~~4.2~~ 4.2 mins (DD)
9	6-SV-15	55		1508	15	16	1/4	2.5	12	2.5	18	835	✓	<200	0	Pump 4.2 min
10	6-SV-15 REP	134		1508	15	16	1/4	2.5	12	2.5	18	835	✓	<200	0	Pump 4.2 min
11	5-SV-15	55		1557	15	16	1/4	2.5	12	2.5	18	835	✓	<200	0	Pump 4.2 mins
12	5-SV-5	79		1620	5	6	1/4	3.5/2.5	12	3.5/2.5	18	3663	✓	<200	0	Pump 18.3 mins

Purge Volume Calculation

Probe ID for PVT, if applicable:	2-SV-5				
Tubing:	Length: 6	Diameter: 1/4	1 Volume: 6.8		
Sand Pack (if included in purge volume calculation):	Height: 12	Diameter: 3.5/2.5	1 Volume:		
Dry Bentonite (if included in purge volume calculation):	Height: 18	Diameter: 3.5/2.5	1 Volume:		
PVT Increments:	1PV = 1,221	3PV = 3663	10PV = 12210		
PV Amount Selected:	3 PV	*Selected by:* ~~Bill~~ Theo			

Leak Check Information

Leak Check Compound: ☒1,1-DFA ☐1,1,1,2-TFA ☐IPA ☐Other

Procedure: Cloth saturated with LCC is placed around probe tubing at groundlevel.

Other Notes: * 50cc vapor collected unless otherwise specified.

* 12-SV-5: Probe vacuum increased to 90" H_2O @ 200 mL/min. Slowed to 100 mL/min, still increasing to 100" H_2O. Shut pump off to allow to equilibrate. DTSC advised to let equilibrate then pull sample. 13-SV-5 got the same as 12-SV-5 situation.

Vapor Sampling with Mobile Lab (Syringe*)

H&P Mobile Geochemistry Inc.

H&P Project #: **AEE111313-SB1**
Site Address: **Palomar Street, Wildomar**
Consultant: **AMEC**
Field Rep(s): V. Robino
H&P Rep(s): C. Smith, T. Taylor, D. Do

Date: 11/15/2013
Arrival Time: 6:30
Departure Time: 1715
Overtime: 2hrs
Approved By: George

Office Use Only:
Reviewed: DB
Scanned:

	Sampling Information				Probe Specs							Collection Data				
	Point ID	Syringe ID	Date	Sample Time	Probe Depth (ft)	Tubing Length (ft)	Tubing Dia (in.)	Sand Pack Dia (in.)	Sand Pack Ht (in.)	Dry Bent. Dia (in.)	Dry Bent. Ht (in.)	Purge Vol. (cc)	Shut-in Test (✓=Pass)	Flow Rate (mL/min)	Probe Pressure ("Hg)	Field Notes:
1	8-SV-3	134	11/15	0849	3	4	1/8	3/4	12	3/4	6	122✓	✓	<200	0	Pump 37 second
2	9-SV-15	55		0905	15	16	1/4	3.5/2.5	12	2.5	18	835	✓	<200	0	Pump 4.2 min
3	9-SV-5	79		0928	5	6	1/4	3.5/2.5	12	3.5/2.5	18	3663	✓	<200	0	Pump 18.3 min
4	7-SV-5	~~134~~ 55		1010	5	6	1/4	3.5/2.5	12	3.5/2.5	18	3663	✓	<200	0	Pump 18.3 min
5	7-SV-15	134		1013	15	16	1/4	2.5	12	2.5	21	970	✓	<200	*75	Pump 4.8 min
6	6-SV-3	79		1047	3	4	1/8	3/4	12	3/4	6	122✓	✓	<200	*80	Pump 37 second.
7	1-SV-5	55		1143	5	6	1/4	3.5/2.5	12	3.5/2.5	18	3663	✓	<200	0	Pump 18.3 min
8	~~1-SV-15~~	~~134~~			~~15~~	~~16~~	~~1/4~~	~~2.5~~	~~12~~	~~2.5~~	~~24~~	~~1603~~	~~✓~~	~~<200~~	~~>100~~	~~Pump Stopped.~~
9	1-SV-5 Rep	79		1143	5	6	1/4	3.5/2.5	12	3.5/2.5	18	3763	✓	<200	0	Pump 18.3 min
10	4-SV-5	134		1323	5	6	1/4	3.5/2.5	12	3.5/2.5	18	3663	✓	<200	0	Pump 18.3 min
11	4-SV-15	55		1222	15	16	1/4	2.5	12	2.5	18	835	✓	<200	0	Pump 4.2 min
12	11-SV-5	79	↓	1412	5	6	1/4	3.5/2.5	12	3.5/2.5	18	3663	✓	<200	0	Pump 18.3 min

Purge Volume Calculation

Probe ID for PVT, if applicable:	N/A		
Tubing:	Length:	Diameter:	1 Volume:
Sand Pack (if included in purge volume calculation):	Height:	Diameter:	1 Volume:
Dry Bentonite (if included in purge volume calculation):	Height:	Diameter:	1 Volume:
PVT Increments:	1PV =	3PV =	10PV =
PV Amount Selected:		*Selected by:*	

Leak Check Information

Leak Check Compound: ☒1,1-DFA ☐1,1,1,2-TFA ☐IPA ☐Other

Procedure: Cloth saturated with LCC is placed around probe tubing at groundlevel.

Other Notes: * 50cc vapor collected unless otherwise specified.

* 7-SV-15: Vaccum up to 75 psi. Stopped at 4.8 mins waited for vaccum drop. collected sample at 0 psi / water
* 6-SV-3 vaccum up to 80 Stopped pump at 37 second waited for vaccum drop to 0 then collected sample.
* 1-SV-15 vaccum >100 2:37 min Stop and wait for pressure to then continue purge (See next page.)

Vapor Sampling with Mobile Lab (Syringe*)

H&P Mobile Geochemistry Inc.

H&P Project #: **AEE111313-SB1**
Site Address: **Palomar Street, Wildomar**
Consultant: **AMEC**
Field Rep(s): Vinnie Robino
H&P Rep(s): C. Smith, T. Taylor, D. Do

Date: 11/15/2013
Arrival Time: 6:30
Departure Time: 17:15
Overtime: 2hrs
Approved By: George

	Sampling Information				Probe Specs							Collection I			
	Point ID	Syringe ID	Date	Sample Time	Probe Depth (ft)	Tubing Length (ft)	Tubing Dia (in.)	Sand Pack Dia (in.)	Sand Pack Ht (in.)	Dry Bent. Dia (in.)	Dry Bent. Ht (in.)	Purge Vol. (cc)	Shut-in Test (✓=Pass)	Flow Rate (mL/min)	Probe Pressur ("Hg)
13	1F SV-15	55	11/15	1359	15	16	1/4	2.5	12	2.5	18	835	✓	<200	0
14	15-SV-5	55	↓	1501	5	6	1/4	3.5/2.5	12	3.5/2.5	18	3663	✓	<200	0
15	15-SV-15	134	↓	1450	15	16	1/4	2.5	12	2.5	18	835	✓	<200	0
16	1-SV-10	55	↓	1622	10	11	1/8	3/4	12	3/4	6	142*	✓	<200	0
17															
18															
19															
20															
21															
22															
23															
24															

Purge Volume Calculation

Probe ID for PVT, if applicable:	N/A		
Tubing:	Length:	Diameter:	1 Volume:
Sand Pack (if included in purge volume calculation):	Height:	Diameter:	1 Volume:
Dry Bentonite (if included in purge volume calculation):	Height:	Diameter:	1 Volume:
PVT Increments:	1PV =	3PV =	10PV =
PV Amount Selected:		*Selected by:*	

Leak Check Information

Leak Check Compound: ☐1,1-DFA ☐1,1,1,2-TFA

Procedure: Cloth saturated with LCC is placed around probe

Other Notes: * 50cc vapor collected unless other
*1-SV-15: High vacuum: not drop
Install new probe by H+P.a

ENVIRONMENTAL
Analytical Service, Inc.

November 25, 2013
Sample Delivery Groups (SDG): 213619

Joe Bahde
AMEC
121 Innovative Drive, Suite 200
Irvine, CA 92617

Dear Joe,

Enclosed is the project report for the samples received and analyzed by Environmental Analytical Service, Inc. for the following project:

Project Name:	Windomar Autumnwood
Project Number #:	NB1016075P
Date Sampled:	11/14/13 and 11/15/13

If you have any questions on the report or the analytical data please contact me at (805) 781-3585.

Sincerely,

Steven D. Hoyt PhD.
Laboratory Director

SDH/lims

173 Cross Street
San Luis Obispo
CA
93401-7597
805.781.3585
Fax 805.541.4550

ENVIRONMENTAL
Analytical Service, Inc.

Laboratory Report

Project Name:

Wildomar Autumnwood Development

EAS SDG Number: **213619**

Client Project Manager: Joe Bahde

Prepared For:
AMEC
121 Innovative Drive, Suite 200
Irvine CA 92617

Project Number: 16657
Sample Event Date: 11/14/2013
Received Date: 11/19/2013
Report Sent: 11/25/2013

Project Number: NB1016075P
PO Number: C013101781

This is the Laboratory Report for the samples in the indicated Sample Delivery Group (SDG). Each sample received in the group is assigned a Laboratory ID number. The combination of the SDG number and the Lab ID number is an unique identifier for the sample.

This Report Contains:

- Laboratory Work Order
- Project Sample Media
- Laboratory Case Narrative and Chain of Custody
- Method Description (when applicable)
- Quality Control Reports
- Analytical Reports

Laboratory Work Order

SDG Number: 213619
Project Manager: Joe Bahde
Client: AMEC

Project Number: 16657
Received: 11/19/2013

Report: HC and PDF
Electronic Data Deliverable: None

SAMPLE DESCRIPTION AND ANALYSIS REQUESTED

Client Sample No.	EAS Lab No.	Analysis Requested	Date Sampled
13-SV-15	213619 1	EPA TO-11 Formaldehyde	11/14/2013
14B-SV	213619 2	EPA TO-11 Formaldehyde	11/14/2013
12-SV-15	213619 3	EPA TO-11 Formaldehyde	11/14/2013
2-SV-5	213619 4	EPA TO-11 Formaldehyde	11/14/2013
3B-SV	213619 5	EPA TO-11 Formaldehyde	11/14/2013
10L-SV	213619 6	EPA TO-11 Formaldehyde	11/14/2013
8-SV-3	213619 7	EPA TO-11 Formaldehyde	11/15/2013
6-SV-15	213619 8	EPA TO-11 Formaldehyde	11/14/2013
60-SV-15	213619 9	EPA TO-11 Formaldehyde	11/14/2013
Blank	213619 10	EPA TO-11 Formaldehyde	11/14/2013

Project Sample Media

SDG Number: 213619

The following sample media was used for this Sample Delivery Group (SDG). The Sample Media column identifies the type of media. For canisters, the Sample Media Batch gives the canister number followed by the cleaning batch number, which is a unique identification. Canisters that are received with sub-ambient pressures are pressurized to about 5 psig. The initial pressure of the canister when it is received is recorded along with the final pressure after pressurization. The canister dilution factor is the ratio of the final to initial pressure. The results are adjusted for the can

SDG	Lab ID	Client Sample No.	Sample Media	Batch	Pressure, torr Initial	Pressure, torr Final	Can Factor
213619	1	13-SV-15	DNPH				
213619	2	14B-SV	DNPH				
213619	3	12-SV-15	DNPH				
213619	4	2-SV-5	DNPH				
213619	5	3B-SV	DNPH				
213619	6	10L-SV	DNPH				
213619	7	8-SV-3	DNPH				
213619	8	6-SV-15	DNPH				
213619	9	60-SV-15	DNPH				
213619	10	Blank	DNPH				

Laboratory Case Narrative

EAS SDG Number: 213619 **Project Number:** 16657

Client: AMEC

The Laboratory Case Narrative for the SDG is below. Any problems with the sample receiving or analysis are recorded in this section. The Chain of Custody forms follow the Case Narrative.

Sample Control Narrative

The samples were all received in good condition and with proper preservation.

Test Methods

The methods used for sample analysis are listed on the Analytical Report header. Most methods are a modification of the agency method, and the modifications are described in the EAS Quality Manual along with the QC criteria used for the method. Project specific modifications to the methods or project specific QC may overide the EAS modification

QC Narrative

All analyses met EAS method criteria as defined in the Quality Manual, except as noted in the report or QC reports with data qualifiers.

Subcontract Narrative

No sample analysis was subcontracted for this project

Laboratory Certification

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness other than the condition noted above. The Laboratory Report is property of EAS and its client. The entire report has been reviewed and approved.

Date Approved: 11/25/2013

Steven D. Hoyt, Ph.D.
Environmental Analytical Service
Laboratory Director

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

CHAIN OF CUSTODY RECORD

Project Number: NB1016075P
Project Name: DTSC-Wildomar
Quote Number:

REPORT TO: Joe Bahde

Company: AMEC
Address: 121 Innovation dr #200
City/State/Zip: Irvine, CA, 92617
Phone: (949) 642-0245 (FAX)
ATTENTION:

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	Formaldehyde TO-11						Fridge REMARKS
13-SV-15	11/14/13	1349										23619-01	X						32min @ 1L/min
14B-SV	11/14/13	1220										-02	X						
12-SV-15	11/14/13	1157										-03	X						
2-SV-5	11/14/13	1018										-04	X						
3B-SV	11/14/13	1435										-05	X						
10L-SV	11/14/13	1555										-06	X						
8-SV-3	11/15/13	1118										-07	X						
6-SV-15	11/14/13	1656										-08	X						

COMMENTS

BILLING INFORMATION

Company: AMEC
Address: 121 Innovation dr #200
City/State/Zip: Irvine, CA, 92617
ATTENTION:
Purchase Order/Billing Reference:

		Date	Time		Date	Time
SAMPLED BY:	[signature]	11/15/13	1400	Received by:		
Relinquished By:	[signature]	11/18/13	1630	Received by:		
Relinquished By:				Received by:		
Relinquished By:				Received for lab by:	11/19/13	10:00am

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

CHAIN OF CUSTODY RECORD

Project Number: NB10166675P
Project Name: DTSC-Wildomar
Quote Number:

REPORT TO: Joe Bahde

Company: AMEC
Address: 121 Innovation dr #200
City/State/Zip: Irvine CA 92617
Phone: (949) 642-0245 (FAX)
ATTENTION:

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	Formaldehyde TO-11						Fridge REMARKS
												213619							
60-SV-15	11/14/13	1654										~~21619~~-09	X						32min @ 1 L/min
Blank												-10	X						

COMMENTS

BILLING INFORMATION

Company: AMEC
Address: See Above
City/State/Zip:
ATTENTION:
Purchase Order/Billing Reference:

		Date	Time		Date	Time
SAMPLED BY:	[signature]	11/15/13	1400	Received by:		
Relinquished By:	[signature]	11/18/13	1630	Received by:		
Relinquished By:				Received by:		
Relinquished By:				Received for lab by:		

Quality Control Report

EAS SDG Number 213619

Project Number: 16657

QC Narrative

Unless previously specified, the samples in each QC batch were run with the standard laboratory QC specified in the EAS Quality Manual. Any deviations from the QC are flagged in the Laboratory Control Reports or in the sample Analytical Reports.

Standard Laboratory QC Report

Unless project specific QC was requested, this Section containing the standard laboratory QC (Level 2) supplied with the Analytical Reports. Each sample is analyzed in a Daily Analytical Batch (DAB) which includes the method blank, a laboratory control spike (LCS) and a laboratory control duplicate (LCD). A Daily Analytical Batch QC report is supplied for each method requested.

Method Blank

A method blank is a laboratory generated sample which assesses the degree to which laboratory operations and procedures cause a false positive. In the method blank, compounds should be present below the reporting limit (RL). Compounds present above the RL are flagged with a "B" in the Analytical Reports in that batch.

Laboratory Control Spike

A laboratory control spike is a well characterized matrix similar to the sample which is spiked and run in duplicate with each Daily Analytical Batch. The laboratory control spike results are reported as a percent recovery. The QC Criteria for the control spike is listed in the Laboratory Control Report. Any results outside the control limits are flagged with a "Q" on the Laboratory Control Report. The control spike contains an abbreviated list of compounds in the method, and may contain compounds not on the target list for the specified report.

Laboratory Control Duplicate

The laboratory control duplicate is a duplicate analysis of the laboratory control spike, a standard, or a sample depending on the method. The results are reported as a relative percent difference (RPD). The criteria for the duplicate is in the Laboratory Control Report for the Daily Analytical Batch. Any results outside the control limits are flagged with a "Q" on the Laboratory Control Report.

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: **TO-11A**

SDG: LABQC
Laboratory ID: B11203

Description: METHOD BLANK
Can/Tube#: B02273A
QC_Batch: 112013-HPT
Air Volume: 32 Liters

Date Sampled: **Time:**
Date Received: **Time:**
Date Analyzed: 11/20/13 **Time:** 18:05
Dilution Factor: 1.00

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

Laboratory Control Spike and Laboratory Control Duplicate
EPA Method TO-11A Modified HPLC
Analytical Method: TO-11A

LCS QC11203A
LCD QC11203B
Date 11/20/13
QC Batch 112013-HPT

CAS#	Compound	LCS %	Flag	LCD %	Flag	UCL %	UCL %	RPD %	Limit %	Flag %
50-00-0	Formaldehyde	87		87		70	130	1	30	
75-07-0	Acetaldehyde	86		87		70	130	1	30	
67-64-1	Acetone	94		99		70	130	5	30	
123-38-6	Propionaldehyde	84		85		70	130	1	30	
4170-30-3	Crotonaldehyde	89		89		70	130	0	30	
123-72-8	Butyraldehyde	85		84		70	130	1	30	
100-52-7	Benzaldehyde	92		87		70	130	5	30	
590-86-3	Isovaleraldehyde	90		89		70	130	0	30	
110-62-3	Valeraldehyde	82		82		70	130	0	30	
529-20-4	o-Tolualdehyde	93		94		70	130	1	30	
620-23-5	m-Tolualdehyde	83		84		70	130	1	30	
104-87-0	p-Tolualdehyde	91		97		70	130	6	30	
66-25-1	Hexaldehyde	79		75		70	130	3	30	

Sample Analytical Reports

EAS SDG Number 213619

Project Number: 16657

The following pages contain the certified Analytical Reports for the samples submitted in the Sample Delivery Group (SDG) and are in order of EAS Lab ID number. The laboratory Work Order serves as a reference, showing the client sample description, the Lab ID number, and the date sampled. The QC batch field identifies the Daily Analytical Batch and links the sample to the corresponding QC

The Analytical Report has columns for the method detection limit (MDL), the reporting limit (RL), and the Amount. The Amount is the concentration of the compound in the sample. The report usually has two Amount columns, for the commonly used reporting units. The MDL, RL, and Amount are adjusted for the canister dilution factor and any dilution caused by sample matrix effects.

DETECTION LIMITS

MDL: The MDL is initially determined from the standard deviation of seven replicate measurements, but the value in the report is set from a MDL verification sample run at a level near the calculated MDL.

RL: The reporting limit (RL) is the lowest concentration standard on the calibration curve, and represents the lowest concentration that can be measured that will meet all of the QC Criteria for the method.

DATA FLAGS

In the standard report, if a compound is not detected above the method detection limit, a "ND" is in the Amount column. The flag column is used for both the not detect flag and for any data flags. The not detect flag is either a "ND" or a "U". If the "U" flag is selected, the MDL for the compound is reported in the Amount column instead of "ND". Other flags are listed below:

B - This compound was detected in the batch method blank above the reporting limit.

E - This compound exceeds the calibration range for this sample volume.

J - The amount reported is estimated because it was below the RL and above the MDL

F - Higher detection limits because of matrix interference

UNITS

PPBV or PPMV: Parts-per-billion (million) by volume is a mole (volume) ratio of the moles of analyte divided by the moles of air (gas). This is the primary unit used to report air or gas concentrations and is independent of temperature or pressure. It is different from the ppb unit used to report water or soil data, which is a mass ratio.

UG/M3 OR MG/M3: Micrograms (milligrams) per cubic meter is a mass/volume ratio and is dependent on temperature and pressure. The reported result was calculated based on 1 atm pressure and a temperature of 25C. The conversion from PPBV is: UG/M3 = PPBV x MW/24.46 where 24.26 is the gas constant and MW is the Compound Molecular Weight.

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: **TO-11A**

SDG: 213619
Laboratory ID: 01

Description:	13-SV-15	**Date Sampled:**	11/14/13	**Time:**	13:49
Can/Tube#:	CART	**Date Received:**	11/19/13	**Time:**	10:00
QC_Batch:	112013-HPT	**Date Analyzed:**	11/20/13	**Time:**	18:25
Air Volume:	32 Liters	**Dilution Factor:**	1.00		

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: **TO-11A**

SDG: 213619
Laboratory ID: 02

Description:	14B-SV	**Date Sampled:**	11/14/13	**Time:**	12:20
Can/Tube#:	CART	**Date Received:**	11/19/13	**Time:**	10:00
QC_Batch:	112013-HPT	**Date Analyzed:**	11/20/13	**Time:**	19:13
Air Volume:	32 Liters	**Dilution Factor:**	1.00		

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	0.26	1.56	3.75	8.10	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: **TO-11A**

SDG: 213619
Laboratory ID: 03

Description:	12-SV-15	**Date Sampled:**	11/14/13	**Time:**	11:57
Can/Tube#:	CART	**Date Received:**	11/19/13	**Time:**	10:00
QC_Batch:	112013-HPT	**Date Analyzed:**	11/20/13	**Time:**	19:38
Air Volume:	32 Liters	**Dilution Factor:**	1.00		

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: **TO-11A**

SDG: 213619
Laboratory ID: 04

Description:	2-SV-5	**Date Sampled:**	11/14/13	**Time:**	10:18
Can/Tube#:	CART	**Date Received:**	11/19/13	**Time:**	10:00
QC_Batch:	112013-HPT	**Date Analyzed:**	11/20/13	**Time:**	19:59
Air Volume:	32 Liters	**Dilution Factor:**	1.00		

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: **TO-11A**

SDG: 213619
Laboratory ID: 05

Description:	3B-SV	**Date Sampled:**	11/14/13	**Time:**	14:35
Can/Tube#:	CART	**Date Received:**	11/19/13	**Time:**	10:00
QC_Batch:	112013-HPT	**Date Analyzed:**	11/20/13	**Time:**	20:21
Air Volume:	32 Liters	**Dilution Factor:**	1.00		

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	0.21	1.56	3.75	6.53	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC **SDG: 213619**
Analytical Method: TO-11A **Laboratory ID: 06**

Description:	10L-SV	**Date Sampled:**	11/14/13	**Time:**	15:55
Can/Tube#:	CART	**Date Received:**	11/19/13	**Time:**	10:00
QC_Batch:	112013-HPT	**Date Analyzed:**	11/20/13	**Time:**	20:43
Air Volume:	32 Liters	**Dilution Factor:**	1.00		

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	0.21	1.56	3.75	6.64	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: **TO-11A**

SDG: 213619
Laboratory ID: 07

Description:	8-SV-3	**Date Sampled:**	11/15/13	**Time:**	11:18
Can/Tube#:	CART	**Date Received:**	11/19/13	**Time:**	10:00
QC_Batch:	112013-HPT	**Date Analyzed:**	11/20/13	**Time:**	21:04
Air Volume:	32 Liters	**Dilution Factor:**	1.00		

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC **SDG: 213619**
Analytical Method: TO-11A **Laboratory ID: 08**

Description:	6-SV-15	**Date Sampled:**	11/14/13	**Time:**	16:56
Can/Tube#:	CART	**Date Received:**	11/19/13	**Time:**	10:00
QC_Batch:	112013-HPT	**Date Analyzed:**	11/20/13	**Time:**	21:26
Air Volume:	32 Liters	**Dilution Factor:**	1.00		

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC | **SDG: 213619**
Analytical Method: TO-11A | **Laboratory ID: 09**

Description:	60-SV-15	**Date Sampled:**	11/14/13	**Time:**	16:54
Can/Tube#:	CART	**Date Received:**	11/19/13	**Time:**	10:00
QC_Batch:	112013-HPT	**Date Analyzed:**	11/20/13	**Time:**	21:48
Air Volume:	32 Liters	**Dilution Factor:**	1.00		

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: **TO-11A**

SDG: 213619
Laboratory ID: 10

Description:	BLANK	**Date Sampled:**		**Time:**	
Can/Tube#:	CART	**Date Received:**	11/19/13	**Time:**	10:00
QC_Batch:	112013-HPT	**Date Analyzed:**	11/20/13	**Time:**	22:10
Air Volume:	32 Liters	**Dilution Factor:**	1.00		

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

H&P Mobile Geochemistry Inc.

22 November 2013

Mr. Joe Bahde
AMEC Environment & Infrastructure-Irvine
121 Innovation Drive, Suite 200
Irvine, CA 92617

H&P Project: AEE111513-11
Client Project: NB1016075P / Palomar Street

Dear Mr. Joe Bahde:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 15-Nov-13 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody

Unless otherwise noted, all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis Villarreal

Janis Villarreal
Laboratory Director

H&P Mobile Geochemistry, Inc. operates under CA Environmental Lab Accreditation Program Numbers 2579, 2740, 2741, 2742, 2743, 2745 and 2754. National Environmental Laboratory Accreditation Conference (NELAC) Standards Lab #11845

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AMEC Environment & Infrastructure-Irvine	Project: AEE111513-11	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar Street	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
14G-SV	E311062-01	Vapor	14-Nov-13	15-Nov-13
14B-SV	E311062-02	Vapor	14-Nov-13	15-Nov-13
3B-SV	E311062-03	Vapor	14-Nov-13	15-Nov-13
3G-SV	E311062-04	Vapor	14-Nov-13	15-Nov-13
10L-SV	E311062-05	Vapor	14-Nov-13	15-Nov-13
10B-SV	E311062-06	Vapor	14-Nov-13	15-Nov-13
10B-SV REP	E311062-07	Vapor	14-Nov-13	15-Nov-13

A one point calibration was used for Methanol. A low level standard containing 27 ug/m3 of Methanol was analyzed to determine the reporting limit.

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DETECTIONS SUMMARY

Sample ID: **14G-SV** Laboratory ID: **E311062-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
Methanol	**100**	27	ug/m3	EPA TO-15	
1,1-Difluoroethane (LCC)	**20**	5.5	ug/m3	EPA TO-15	
Benzene	**26**	3.2	ug/m3	EPA TO-15	
Toluene	**59**	3.8	ug/m3	EPA TO-15	
Ethylbenzene	**11**	4.4	ug/m3	EPA TO-15	
m,p-Xylene	**30**	8.8	ug/m3	EPA TO-15	
o-Xylene	**12**	4.4	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**17**	5.0	ug/m3	EPA TO-15	

Sample ID: **14B-SV** Laboratory ID: **E311062-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
Methanol	**41**	27	ug/m3	EPA TO-15	
1,1-Difluoroethane (LCC)	**12**	5.5	ug/m3	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	**8.7**	3.6	ug/m3	EPA TO-15	
Benzene	**110**	3.2	ug/m3	EPA TO-15	
Toluene	**160**	3.8	ug/m3	EPA TO-15	
Tetrachloroethene	**12**	6.9	ug/m3	EPA TO-15	
Ethylbenzene	**35**	4.4	ug/m3	EPA TO-15	
m,p-Xylene	**79**	8.8	ug/m3	EPA TO-15	
o-Xylene	**29**	4.4	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**15**	5.0	ug/m3	EPA TO-15	

Sample ID: **3B-SV** Laboratory ID: **E311062-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
Methanol	**540**	27	ug/m3	EPA TO-15	
1,1-Difluoroethane (LCC)	**7.5**	5.5	ug/m3	EPA TO-15	
Benzene	**24**	3.2	ug/m3	EPA TO-15	
Toluene	**60**	3.8	ug/m3	EPA TO-15	
Ethylbenzene	**19**	4.4	ug/m3	EPA TO-15	
m,p-Xylene	**48**	8.8	ug/m3	EPA TO-15	
o-Xylene	**20**	4.4	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**15**	5.0	ug/m3	EPA TO-15	

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Sample ID: **3G-SV** Laboratory ID: **E311062-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
Methanol	**95**	27	ug/m3	EPA TO-15	
1,1-Difluoroethane (LCC)	**8.2**	5.5	ug/m3	EPA TO-15	
Methylene chloride (Dichloromethane)	**6.2**	3.5	ug/m3	EPA TO-15	
Chloroform	**11**	4.9	ug/m3	EPA TO-15	
Benzene	**55**	3.2	ug/m3	EPA TO-15	
Toluene	**140**	3.8	ug/m3	EPA TO-15	
Tetrachloroethene	**15**	6.9	ug/m3	EPA TO-15	
Ethylbenzene	**26**	4.4	ug/m3	EPA TO-15	
m,p-Xylene	**66**	8.8	ug/m3	EPA TO-15	
o-Xylene	**22**	4.4	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**14**	5.0	ug/m3	EPA TO-15	

Sample ID: **10L-SV** Laboratory ID: **E311062-05**

Analyte	Result	Reporting Limit	Units	Method	Notes
1,1-Difluoroethane (LCC)	**19**	5.5	ug/m3	EPA TO-15	
Benzene	**23**	3.2	ug/m3	EPA TO-15	
Toluene	**76**	3.8	ug/m3	EPA TO-15	
Tetrachloroethene	**16**	6.9	ug/m3	EPA TO-15	
Ethylbenzene	**21**	4.4	ug/m3	EPA TO-15	
m,p-Xylene	**34**	8.8	ug/m3	EPA TO-15	
o-Xylene	**10**	4.4	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**12**	5.0	ug/m3	EPA TO-15	

Sample ID: **10B-SV** Laboratory ID: **E311062-06**

Analyte	Result	Reporting Limit	Units	Method	Notes
Methanol	**230**	27	ug/m3	EPA TO-15	
1,1-Difluoroethane (LCC)	**1000**	5.5	ug/m3	EPA TO-15	
Methylene chloride (Dichloromethane)	**3.7**	3.5	ug/m3	EPA TO-15	
Benzene	**7.6**	3.2	ug/m3	EPA TO-15	
Toluene	**16**	3.8	ug/m3	EPA TO-15	
m,p-Xylene	**16**	8.8	ug/m3	EPA TO-15	
o-Xylene	**5.2**	4.4	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**14**	5.0	ug/m3	EPA TO-15	

Sample ID: **10B-SV REP** Laboratory ID: **E311062-07**

Analyte	Result	Reporting Limit	Units	Method	Notes

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Sample ID: **10B-SV REP** Laboratory ID: **E311062-07**

Analyte	Result	Reporting Limit	Units	Method	Notes
Methanol	**190**	27	ug/m3	EPA TO-15	
1,1-Difluoroethane (LCC)	**120**	5.5	ug/m3	EPA TO-15	
Benzene	**5.8**	3.2	ug/m3	EPA TO-15	
Toluene	**11**	3.8	ug/m3	EPA TO-15	
m,p-Xylene	**12**	8.8	ug/m3	EPA TO-15	
o-Xylene	**5.4**	4.4	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**13**	5.0	ug/m3	EPA TO-15	

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Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
14G-SV (E311062-01) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	**20**	5.5	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Methanol	**100**	27	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	**26**	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
Toluene	**59**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Ethylbenzene	**11**	4.4	"	"	"	"	"	"	
m,p-Xylene	**30**	8.8	"	"	"	"	"	"	
o-Xylene	**12**	4.4	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**17**	5.0	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
14G-SV (E311062-01) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,4-Dichlorobenzene	ND	12	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
sec-Butylbenzene	ND	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.6	"	"	"	"	"	"	
n-Butylbenzene	ND	5.6	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*108 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*105 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.3 %*		*77-127*	"	"	"	"	
14B-SV (E311062-02) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	**12**	5.5	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Methanol	**41**	27	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	**8.7**	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	**110**	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
Toluene	**160**	3.8	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
14B-SV (E311062-02) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,1,2-Trichloroethane	ND	5.5	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Tetrachloroethene	**12**	6.9	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Ethylbenzene	**35**	4.4	"	"	"	"	"	"	
m,p-Xylene	**79**	8.8	"	"	"	"	"	"	
o-Xylene	**29**	4.4	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**15**	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.6	"	"	"	"	"	"	
n-Butylbenzene	ND	5.6	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*	*76-134*		"	"	"	"	
Surrogate: Toluene-d8		*106 %*	*78-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.0 %*	*77-127*		"	"	"	"	
3B-SV (E311062-03) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	**7.5**	5.5	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Methanol	**540**	27	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
3B-SV (E311062-03) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
cis-1,2-Dichloroethene	ND	4.0	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	**24**	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
Toluene	**60**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Ethylbenzene	**19**	4.4	"	"	"	"	"	"	
m,p-Xylene	**48**	8.8	"	"	"	"	"	"	
o-Xylene	**20**	4.4	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**15**	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.6	"	"	"	"	"	"	
n-Butylbenzene	ND	5.6	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*105 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.6 %*		*77-127*	"	"	"	"	

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AMEC Environment & Infrastructure-Irvine	Project: AEE111513-11	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar Street	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:24

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
3G-SV (E311062-04) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	**8.2**	5.5	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Methanol	**95**	27	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**6.2**	3.5	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	**11**	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	**55**	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
Toluene	**140**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	**15**	6.9	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Ethylbenzene	**26**	4.4	"	"	"	"	"	"	
m,p-Xylene	**66**	8.8	"	"	"	"	"	"	
o-Xylene	**22**	4.4	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**14**	5.0	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar Street	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:24

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
3G-SV (E311062-04) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,4-Dichlorobenzene	ND	12	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
sec-Butylbenzene	ND	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.6	"	"	"	"	"	"	
n-Butylbenzene	ND	5.6	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*105 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.9 %*		*77-127*	"	"	"	"	
10L-SV (E311062-05) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	**19**	5.5	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Methanol	ND	27	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	**23**	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
Toluene	**76**	3.8	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar Street	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:24

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
10L-SV (E311062-05) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,1,2-Trichloroethane	ND	5.5	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Tetrachloroethene	**16**	6.9	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Ethylbenzene	**21**	4.4	"	"	"	"	"	"	
m,p-Xylene	**34**	8.8	"	"	"	"	"	"	
o-Xylene	**10**	4.4	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**12**	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.6	"	"	"	"	"	"	
n-Butylbenzene	ND	5.6	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*105 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*97.4 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.9 %*		*77-127*	"	"	"	"	
10B-SV (E311062-06) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	**1000**	5.5	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Methanol	**230**	27	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	**3.7**	3.5	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	

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121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar Street	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:24

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
10B-SV (E311062-06) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
cis-1,2-Dichloroethene	ND	4.0	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	**7.6**	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
Toluene	**16**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Ethylbenzene	ND	4.4	"	"	"	"	"	"	
m,p-Xylene	**16**	8.8	"	"	"	"	"	"	
o-Xylene	**5.2**	4.4	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**14**	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.6	"	"	"	"	"	"	
n-Butylbenzene	ND	5.6	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*118 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*104 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.1 %*		*77-127*	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
10B-SV REP (E311062-07) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,1-Difluoroethane (LCC)	**120**	5.5	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
Methanol	**190**	27	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	**5.8**	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
Toluene	**11**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Ethylbenzene	ND	4.4	"	"	"	"	"	"	
m,p-Xylene	**12**	8.8	"	"	"	"	"	"	
o-Xylene	**5.4**	4.4	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Isopropylbenzene (Cumene)	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.6	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**13**	5.0	"	"	"	"	"	"	

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Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:24

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
10B-SV REP (E311062-07) Vapor Sampled: 14-Nov-13 Received: 15-Nov-13									
1,4-Dichlorobenzene	ND	12	ug/m3	1	EK31912	19-Nov-13	20-Nov-13	EPA TO-15	
sec-Butylbenzene	ND	5.6	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.6	"	"	"	"	"	"	
n-Butylbenzene	ND	5.6	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*105 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*106 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.8 %*		*77-127*	"	"	"	"	

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Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:24

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31912 - TO-15										
Blank (EK31912-BLK1)				Prepared & Analyzed: 19-Nov-13						
Methanol	ND	27	ug/m3							
1,1-Difluoroethane (LCC)	ND	5.5	"							
Dichlorodifluoromethane (F12)	ND	5.0	"							
Vinyl chloride	ND	2.6	"							
Bromomethane	ND	16	"							
Chloroethane	ND	8.0	"							
Trichlorofluoromethane (F11)	ND	5.6	"							
1,1-Dichloroethene	ND	4.0	"							
Tertiary-butyl alcohol (TBA)	ND	6.1	"							
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"							
Methylene chloride (Dichloromethane)	ND	3.5	"							
trans-1,2-Dichloroethene	ND	8.0	"							
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"							
1,1-Dichloroethane	ND	4.1	"							
cis-1,2-Dichloroethene	ND	4.0	"							
Diisopropyl ether (DIPE)	ND	4.2	"							
Chloroform	ND	4.9	"							
Ethyl tert-butyl ether (ETBE)	ND	4.2	"							
1,1,1-Trichloroethane	ND	5.5	"							
1,2-Dichloroethane (EDC)	ND	4.1	"							
Benzene	ND	3.2	"							
Carbon tetrachloride	ND	6.4	"							
Tertiary-amyl methyl ether (TAME)	ND	4.2	"							
Trichloroethene	ND	5.5	"							
Bromodichloromethane	ND	6.8	"							
Toluene	ND	3.8	"							
1,1,2-Trichloroethane	ND	5.5	"							
Tetrachloroethene	ND	6.9	"							
1,1,1,2-Tetrachloroethane	ND	7.0	"							
Ethylbenzene	ND	4.4	"							
m,p-Xylene	ND	8.8	"							
o-Xylene	ND	4.4	"							
1,1,2,2-Tetrachloroethane	ND	7.0	"							
Isopropylbenzene (Cumene)	ND	5.0	"							

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

AMEC Environment & Infrastructure-Irvine	Project: AEE111513-11	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar Street	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:24

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31912 - TO-15										
Blank (EK31912-BLK1)				Prepared & Analyzed: 19-Nov-13						
n-Propylbenzene	ND	5.0	ug/m3							
1,3,5-Trimethylbenzene	ND	5.0	"							
tert-Butylbenzene	ND	5.6	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,4-Dichlorobenzene	ND	12	"							
sec-Butylbenzene	ND	5.6	"							
p-Isopropyltoluene	ND	5.6	"							
n-Butylbenzene	ND	5.6	"							
Naphthalene	ND	5.3	"							
1,2,4-Trichlorobenzene	ND	38	"							
Surrogate: 1,2-Dichloroethane-d4	*240*		*"*	*214*		*112*	*76-134*			
Surrogate: Toluene-d8	*206*		*"*	*207*		*99.7*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*385*		*"*	*364*		*106*	*77-127*			
LCS (EK31912-BS1)				Prepared & Analyzed: 19-Nov-13						
Dichlorodifluoromethane (F12)	58	5.0	ug/m3	50.4		116	70-130			
Vinyl chloride	21	2.6	"	26.0		80.4	70-130			
Chloroethane	24	8.0	"	26.8		90.7	70-130			
Trichlorofluoromethane (F11)	56	5.6	"	56.6		98.9	70-130			
1,1-Dichloroethene	34	4.0	"	40.4		85.1	70-130			
1,1,2-Trichlorotrifluoroethane (F113)	68	7.7	"	77.6		87.4	70-130			
Methylene chloride (Dichloromethane)	34	3.5	"	35.4		96.1	70-130			
trans-1,2-Dichloroethene	34	8.0	"	40.4		84.0	70-130			
1,1-Dichloroethane	36	4.1	"	41.2		88.4	70-130			
cis-1,2-Dichloroethene	32	4.0	"	40.0		80.5	70-130			
Chloroform	49	4.9	"	49.6		99.2	70-130			
1,1,1-Trichloroethane	55	5.5	"	55.6		99.8	70-130			
1,2-Dichloroethane (EDC)	41	4.1	"	41.2		98.7	70-130			
Benzene	29	3.2	"	32.4		91.0	70-130			
Carbon tetrachloride	66	6.4	"	64.0		104	70-130			
Trichloroethene	46	5.5	"	54.8		84.8	70-130			
Toluene	30	3.8	"	38.4		78.0	70-130			
1,1,2-Trichloroethane	45	5.5	"	55.6		80.1	70-130			

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AMEC Environment & Infrastructure-Irvine	Project: AEE111513-11	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar Street	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:24

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK31912 - TO-15										
LCS (EK31912-BS1)				Prepared & Analyzed: 19-Nov-13						
Tetrachloroethene	50	6.9	ug/m3	69.2		72.5	70-130			
1,1,1,2-Tetrachloroethane	55	7.0	"	70.0		79.2	70-130			
Ethylbenzene	36	4.4	"	44.2		82.5	70-130			
m,p-Xylene	77	8.8	"	88.4		87.4	70-130			
o-Xylene	38	4.4	"	44.2		86.7	70-130			
1,1,2,2-Tetrachloroethane	55	7.0	"	70.0		77.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	*254*		*"*	*214*		*118*	*76-134*			
Surrogate: Toluene-d8	*210*		*"*	*207*		*102*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*393*		*"*	*364*		*108*	*77-127*			

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AMEC Environment & Infrastructure-Irvine	Project: AEE111513-11	
121 Innovation Drive, Suite 200	Project Number: NB1016075P / Palomar Street	Reported:
Irvine, CA 92617	Project Manager: Mr. Joe Bahde	22-Nov-13 09:24

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory (Certification # L11-175) in accordance with the DoD-ELAP program. H&P is approved by the State of Arizona under Certification Numbers AZM758 and AZ0779. H&P is approved as an Environmental Laboratory in conformance with the Environmental Laboratory Accreditation Program (CA) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste for the following methods:

Certificate# 2741, 2743, 2579, 2754 & 2740 approved for EPA 8260 and LUFT GC/MS
Certificate# 2742, 2745, & 2741 approved for LUFT
Certificate# 2745 & 2742 approved for EPA 418.1

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the National Environmental Accreditation Conference Standards for the category Environmental Analysis Air and Emissions for the following analytes and methods:

Hexachlorobutadiene by EPA TO-15 & TO-14A
1,2,4-Trichlorobenzene by EPA TO-15 & TO-14A
1,2-Dichlorobenzene by EPA TO-15 & TO-14A
Dichlorotetrafluoroethane by EPA TO-14A
1,4-Dichlorobenzene by EPA TO-15 & TO-14A
Benzene by EPA TO-15 & TO-14A
Chlorobenzene by EPA TO-15 & TO-14A
Ethyl benzene by EPA TO-15 & TO-14A
Styrene by EPA TO-15 & TO-14A
Toluene by EPA TO-15 & TO-14A
Total Xylenes by EPA TO-15
1,1,1-Trichloroethane by EPA TO-15 & TO-14A
1,1,2,2-Tetrachloroethane by EPA TO-15 & TO-14A
1,1,2-Trichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethene by EPA TO-15 & TO-14A
1,2-Dichloroethane by EPA TO-15 & TO-14A
1,2-Dichloropropane by EPA TO-15 & TO-14A
Benzyl Chloride by EPA TO-15 & TO-14A
Bromoform by EPA TO-15
Bromomethane by EPA TO-15 & TO-14A
Carbon tetrachloride by EPA TO-15 & TO-14A
Chloroethane by EPA TO-15 & TO-14A
Chloroform by EPA TO-15 & TO-14A
Chloromethane by EPA TO-15 & TO-14A
cis-1,2-Dichloroethene by EPA TO-15 & TO-14A
cis-1,3-Dichloropropene by EPA TO-15 & TO-14A
Methylene chloride by EPA TO -15 & TO-14A
Tetrachloroethane by EPA TO-15 & TO-14A
trans-1,2-Dichloroethene by EPA TO-15
trans-1,3-Dichloropropene by EPA TO-15 & TO-14A
Trichloroethene by EPA TO-15 & TO-14A
Vinyl chloride by EPA TO -15
2-Butanone by EPA TO-15
4-Methyl-2-Pentanone by EPA TO-15
Hexane by EPA TO-15
Methyl tert-butyl ether by EPA TO-15
Vinyl acetate by EPA TO-15

1,3-Dichlorobenzene by EPA TO-15 & TO-14A
Trichlorofluoromethane by EPA TO-14A
Naphthalene by H&P SOP TO-15/GC-MS
1,2-Dibromoethane (EDB) by EPA TO-15 & TO-14A
1,2-Dibromo-3-chloropropane by EPA TO-15
1,3-Butadiene by EPA TO-15
1,1,2-Trichlorotrifluoroethane by EPA TO-14A
Carbon disulfide by EPA TO-15
1,4-Dioxane by EPA TO-15

This certification applies to samples analyzed in summa canisters.

Chain of Custody Record

H&P Mobile Geochemistry Inc.

☒ 2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159
☐ 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

Date: 11/14/13
H&P Project # AEE111513-11
Outside Lab:

Client: AMEC
Address: ~~Joe Bahbe~~ 121 Innovation Ste 200, Irvine, CA 92617
Email: joseph.bahbe@amec.com
Collector: T. Taylor
Client Project # NB1016075P
Location: Palomar St Wildomar, CA
Phone: 952-656-6003
Fax:
Page: 1 of 1
Project Contact: Joe Bahbe
Turn around time: Stnd

Geotracker EDF: Yes ☒ No ☐
Global ID:
Excel EDD: Yes ☒ No ☐

Sample Receipt
Intact: ☑ Yes ☐ No
Seal Intact: ☐ Yes ☐ No ☑ N/A
Cold: ☐ Yes ☐ No ☑ N/A
Temperature: RT

Special Instructions: Report VOC list attached

Lab Work Order # E311062

Sample Name	Can # ~~Field Point Name~~	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers	8260B Full List	8260B ☐ BTEX/OXY ☐ TPH gas	8015M TPH ☐ g ☐ d ☐ ext	418.1 TRPH	VOC's: Full List ☒ ~~8260B~~ ☒ TO-15	VOC's: Short List/DTSC ☐ 8260B ☐ TO-15	VOC's: SAM, 8260B ☐ SAM A ☐ SAM B	Naphthalene ☐ 8260B ☐ TO-15	Oxygenates ☐ 8260B ☐ TO-15	TPHv gas ☐ 8260B ☐ TO-15	Ketones ☐ 8260B ☐ TO-15	Other Methanol ☐ 8260B ☒ TO-15	Leak Check Compound ☒ 1,1 DFA ☐ OTHER	Methane	Fixed Gases ☐ CO2 ☐ O2 ☐ N2	VAC# Gauge # 11167
								SOIL/GW				SOIL VAPOR/AIR ANALYSIS											
14G-SV	268	71	1127	11/14	vapor	vacuum summa	1					X							X	X			-3.6
14B-SV	030	↓	1139	↓	↓	↓	↓					X							↓	X			-2.8
3B-SV	460		1357									X								X			-2.9
3G-SV ~~3G-SV~~	021		1410									X								X			-4.9
10L-SV	244		1518									X								X			-1.5
10B-SV	066		1530									X								X			-1.8
10B-SV REP	272	471	1534	↓	↓	↓	↓					X							—	X			-2.5

Relinquished by: (Signature)	(company)	Received by (Signature)	(company)	Date	Time
[signature]	AMEC	[signature]	H&P	11/14/13	1729
[signature]	H&P	[signature]	H&P	11/15/13	0931

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal ☐ Return to client ☐ Pickup

H&P Mobile Geochemistry, Inc.
2470 Impala Drive, Carlsbad, CA 92010
Field Office in Signal Hill, CA (Los Angeles)
Ph: 800-834-9888 www.handpmg.com

EPA Method TO-15
Soil Vapor VOC List per DTSC

Compound - Halogenated 2012 ASGI	*CAS #*	*400mL RL Vapor (µg/m³)*	*400mL RL Vapor (ppbv)*
Dichlorodifluoromethane (F12)	75-71-8	5.0	1.0
Vinyl chloride	75-01-4	2.6	1.0
Bromomethane	74-83-9	15.8	4.0
Chloroethane	75-00-3	8.0	3.0
Trichlorofluoromethane (F11)	75-69-4	5.6	1.0
1,1-Dichloroethene	75-35-4	4.0	1.0
Methylene chloride (Dichloromethane)	75-09-2	3.5	1.0
1,1,2-Trichlorotrifluoroethane (F113)	76-13-1	7.7	1.0
trans-1,2-Dichloroethene	156-60-5	8.0	2.0
1,1-Dichloroethane	75-34-3	4.1	1.0
cis-1,2-Dichloroethene	156-59-2	4.0	1.0
Chloroform	67-66-3	4.9	1.0
1,2-Dichloroethane (EDC)	107-06-2	4.1	1.0
1,1,1-Trichloroethane	71-55-6	5.5	1.0
Carbon tetrachloride	56-23-5	6.4	1.0
Bromodichloromethane	75-27-4	6.8	1.0
Trichloroethene	79-01-6	5.5	1.0
1,1,2-Trichloroethane	79-00-5	5.5	1.0
Tetrachloroethene	127-18-4	6.9	1.0
1,1,1,2-Tetrachloroethane	630-20-6	7.0	1.0
1,1,2,2-Tetrachloroethane	79-34-5	7.0	1.0
Bromochloromethane - not available			
Compound - Aromatics 2012 ASGI	*CAS #*	*Vapor (µg/m³)*	*Vapor (ppbv)*
Benzene	71-43-2	3.2	1.0
Toluene	108-88-3	3.8	1.0
Ethylbenzene	100-41-4	4.4	1.0
m,p-Xylene	179601-23-1	8.8	2.0
o-Xylene	95-47-6	4.4	1.0
Isopropylbenzene (Cumene)	98-82-8	5.0	1.0
n-Propylbenzene	103-65-1	5.0	1.0
1,3,5-Trimethylbenzene	108-67-8	5.0	1.0
1,2,4-Trimethylbenzene	95-63-6	5.0	1.0
tert-Butylbenzene	98-06-6	5.6	1.0
1,4-Dichlorobenzene	106-46-7	12.2	2.0
sec-Butylbenzene	135-98-8	5.6	1.0
p-Isopropyltoluene	99-87-6	5.6	1.0
n-Butylbenzene	104-51-8	5.6	1.0
1,2,4-Trichlorobenzene	120-82-1	7.5	1.0
Naphthalene	91-20-3	5.3	1
Oxygenates 2012 ASGI			
Tertiary-butyl alcohol (TBA)	75-65-0	6.1	2.0
Methyl tertiary-butyl ether (MTBE)	1634-04-4	3.7	1.0
Diisopropyl ether (DIPE)	108-20-3	4.2	1.0
Ethyl tertiary-butyl ether (ETBE)	637-92-3	4.2	1.0
Tertiary-amyl methyl ether (TAME)	994-05-8	4.2	1.0
Leak Check Compound			
1,1-Difluoroethane (LCC)	75-37-6	5.4	2.0

Summa Canister Soil Vapor Sampling

H&P Mobile Geochemistry Inc.

H&P Project #: AFE 111313-TECH/SBI
Site Address: Palomar St Wildomar, CA
Consultant: AMEC
Field Rep(s): Vinnie Robino
H&P Rep(s): C. Smith, T. Taylor, D. DO

Date: 11/14/13
Arrival Time: 0700
Departure Time: 1745
Overtime:
Approved By:

Office Use Only:
Reviewed: DD
Scanned:

Page 1 of 1

		Summa Info						Probe Specs							Collection Information				
	Point ID	Can #	Kit ID #	Start Time	Initial (" Hg)	End / Sample Time	End (" Hg) *	Probe Depth (ft)	Tube Length (ft)	Tube Dia (in.)	Sand Dia (in.)	Sand Ht (in.)	Dry Bent. Dia (in.)	Dry Bent. Ht (in.)	Purge Vol (mL)	Shut-in Test ✓=Pass	Flow Rate (mL/min)	Probe Vac ("Hg)	Field Notes
1	14G-SV	268	185	1125	-27	1127	-3	8"	2	1/8	1	3	1	1	71	✓	7200	0	*
2	14B-SV	030	014	1136	-27	1139	-3	6"	2	1/8	1	3	1	1	71	✓	7200	0	
3	3B-SV	460	174	1350	-28	1357	-3	8"	2	1/8	1	3	1	1	71	✓	7200	1	
4	3G-SV	021	169	1408	-26	1410	-3	8	2	1/8	1	3	1	1	71	✓	7200	0	
5	10L-SV	244	193	1513	-28	1518	-3	6"	2	1/8	1	3	1	1	71	✓	7200	0	
6	10B-SV	066	164	1528	-27	1530	-3	9"	2	1/8	1	3	1	1	71	✓	7200	0	
7	10B-SV REP	272	164	1531	-28	1534	-3	9"	2	1/8	1	3	1	1	471	✓	7200	0	
8																			
9																			
10																			
11																			
12																			

Purge Volume Calculation

PVT Probe ID, if applicable:			
Tubing:	Length: 2	Diameter: 1/8	1 Volume: 2
Sand Pack (if included in purge volume calculation):	Height: 3	Diameter: 1	1 Volume: 15
Dry Bentonite (if included in purge volume calculation):	Height: 1	Diameter: 1	1 Volume: 6
PVT Increments:	1 PV = 24	3 PV = 71	10 PV = 238
PV Amount Selected:	3PV = 71	Selected by: AMEC	

Leak Check Information

Leak Check Compound & Procedure:
1:1 DFA

Other Notes:
*shutting summa valve w/ -3" Hg per Theo (DTSC)
~~AMEC summa sampling 10B & 10L on their own~~

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	1.1E-02

MESSAGE SUMMARY BELOW:

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	4.7E-03

MESSAGE SUMMARY BELOW:

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
3.5E-07	9.4E-04

MESSAGE SUMMARY BELOW:

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
7.3E-08	1.1E-04

MESSAGE SUMMARY BELOW:

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
6.6E-08	6.1E-05

MESSAGE SUMMARY BELOW:

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	1.2E-04

MESSAGE SUMMARY BELOW:

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
5.7E-07	1.3E-02

MESSAGE SUMMARY BELOW:

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	1.2E-03

MESSAGE SUMMARY BELOW:

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	3.8E-03

MESSAGE SUMMARY BELOW:

END

RESULTS SHEET

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	2.7E-04

MESSAGE SUMMARY BELOW:

END