WASTE MANAGEMENT

Waste Management of Alameda County, Inc.
172 98th Avenue, Oakland, CA 94603

March 8, 2013

Alameda County Health Care Services
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Attn: Mr. Jerry Wickham
Senior Hazardous Materials Specialist
Local Oversight Program

Transmittal: Additional Investigation Summary Report
Former Waste Management of Alameda County, Inc. Site
6175 Southfront Road, Livermore, California
Case No. RO0003076

Dear Mr. Wickham:

I declare, under penalty of perjury, that the information and recommendations contained in the attached reports are true and correct to the best of my knowledge.

Sincerely,
Waste Management

Barry Skolnick
Area Vice President
WM-California Bay Area

Attachment

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March 15, 2013

Letter Report

Mr. Jerry Wickham
Senior Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502 142782

Subject: Additional Investigation Summary Report at Former Waste Management of Alameda County, Inc. property, 6175 Southfront Road, Livermore, California 94550

Dear Mr. Wickham,

This Additional Investigation Summary Report was prepared by Brown and Caldwell (BC) on behalf of Waste Management of Alameda County, Inc. (WMAC). The work summarized in this letter report was conducted at the former WMAC facility located at 6175 Southfront Road, Livermore, California (Site; Figure 1) in accordance with the Alameda County Department of Environmental Health (ACEH) approved June 12, 2012 Work Plan as amended in a letter dated August 27, 2012 prepared by BC. The Site is designated under the Regional Water Quality Control Boards Spills, Leaks, Investigations, and Cleanups Program (SLIC) as Case RO0003076 and GeoTracker Global ID T10000003066.

The purpose of the additional investigation was to address specific concerns stated by the ACEH in their letter dated March 26, 2012 regarding the presence of vinyl chloride reported in soil gas samples during an investigation conducted by Tetra Tech Geo. An overview of the previous investigations that led to the ACEH concerns is discussed below followed by: a summary of the field methods used and results of the additional investigation; discussion of the results; and, our conclusions and recommendations including a request for "no further action" (NFA) status for the Site.

Site Overview

The Site was formally used by WMAC as a regional operations yard. A fleet of refuse/recycling materials collection trucks operated from the facility and served the cities of Livermore and San Ramon. The collection trucks were stored, serviced and cleaned on the Site.

As discussed in the Work Plan, previous site investigations indicated that one 10,000-gallon diesel underground storage tank (UST) and one 4,000-gallon gasoline/diesel UST formerly existed on the Site (Figure 2). The two USTs were reportedly installed in the early 1980s. Regulatory records indicate that both tanks and/or associated piping leaked and impacted soil and groundwater. The USTs were removed in April 1992. More than 1,000 cubic yards of impacted soil were excavated and disposed of off-site, and 6.2 million gallons of impacted groundwater were ultimately extracted, treated on-site and discharged to the sanitary sewer. The ACEH granted case closure on

August 31, 1998. The closure letter stated that up to 380 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPH-g) and 1.3 ppm benzene remained in the soil beneath the Property, and up to 5.8 parts per billion (ppb) benzene remained in the groundwater beneath the Site.

In addition, a pressure wash area and clarifier were located on the Site. The steam pressure washer used injected soap and/or degreasers to wash equipment, disposal trucks, engines and parts at this location. Waste water from the pressure wash area was discharged to the sanitary sewer via a clarifier (Figure 2).

As part of a property transfer assessment conducted for the Site, several investigations were conducted to evaluate the potential for fuel-related vapor intrusion impacts (associated with the former USTs) to nearby structures and to evaluate the potential for subsurface environmental impacts in the vicinity of the pressure wash area, clarifier and associated sewer lines. In a report prepared by Tetra Tech Geo dated January 2012, it was concluded that:

- No TPH impacts were evident in soil and groundwater.
- No TPH or VOC impacts were present in groundwater below the area of identified vinyl chloride impacts in soil vapor at SV-6.
- Vinyl chloride was detected above ESLs in the area of SV-6 (Figure 3) where vinyl chloride was previously detected.

Based on the results of the Tetra Tech additional investigation, the ACEH issued their letter dated March 26, 2012, requesting additional work to:

- Evaluate the potential for vapor intrusion to the Break Room/Offices adjacent to the reported vinyl chloride impacts in soil gas.
- Identify the source of vinyl chloride.
- Collect groundwater samples of first water to determine the potential for shallow groundwater contamination.

The work conducted as part of the Additional Investigation addresses the concerns of ACEH stated above.

Fieldwork Overview

The ACEH approved Work Plan for the additional investigation included the following items:

- Prepared a Health and Safety Plan for work to be conducted on Site.
- Called Underground Service Alert (USA) to notify and request providers to mark their subsurface utility alignments in the area of drilling. Contracted with a utility locator to clear each boring location.
- Obtained permits to drill borings from the Zone 7 Water Agency (Zone 7) (Attachment A).
- Advanced 6 soil vapor borings (SG-1 through SG-6) northwest of the building (Figure 3) and collected a total of six soil vapor samples.
- Completed 3 sub-slab sampling points (SS-1 through SS-3) through the concrete within the building (Figure 3).
- Advanced 5 groundwater borings to the northwest and south of the building (Figure 3). Collected a total of six groundwater samples.

- Borings were abandoned following state and Zone 7 protocols after collection of samples.
- Collected a total of two ambient air samples (OA-N, and OA-S) and two indoor air samples plus duplicates (Bathroom, Bathroom-Dup, Shop, and Shop-Dup). Samples were collected within the shop building over an 8 hour period during the weekend (Figure 3).

Deviations from Work Plan included changes in soil vapor sample depth, the number of groundwater samples, and sampling indoor/ambient air as discussed in the last item above.

The first boring SG-1 was supposed to have soil vapor samples collected from approximately 5 feet (ft) below ground surface (bgs), 10 ft bgs, and 20 ft bgs. The 20 ft bgs sample was advanced first. When the rod was pulled out of the boring water came in to 11 ft bgs (becoming GW-1). At 10 ft bgs, there was no vapor present due to tight soils (clay), and the rod was pulled up to 7.5 ft bgs to a zone from which vapor could be pulled. At the 5 ft bgs sample, the rod was advanced to 5 ft bgs, however there was no vapor present again due to tight soils, and a sample was not collected.

In addition to a second round of sub-slab soil vapor sampling conducted on February 2, 2013, the indoor/ambient air samples were collected. Based upon the results of GW-1 (discussed below), 4 additional groundwater borings (GW-2 through GW-5) were completed on February 7, 2013. The indoor/ambient air activities were presented in a January 30, 2013 email exchange between BC and ACEH.

Fieldwork Procedures, Sampling and Analytical Activities

The following summarizes the fieldwork procedures, sampling, and analytical activities performed for the subsurface soil vapor, groundwater, and air sampling investigations. Work was conducted following the Work Plan except for deviations discussed above, with the addition of the indoor and ambient air sample protocol which are provided below.

Subsurface Soil Vapor Investigation. The soil vapor investigation was conducted on November 15 and 16, 2012. Brown and Caldwell subcontracted with TEG of Rancho Cordova, California, a California-licensed well-drilling company (C-57 licensed driller #706568) and a California-certified hazardous-materials laboratory to drill and sample the soil vapor borings.

Soil vapor samples were analyzed by TEG's mobile laboratory on Site. If results were below the mobile lab's detection limits, a summa canister was collected from the boring and submitted to Eurofins Air Toxics of Folsom, California, a California-certified hazardous-materials laboratory.

Soil gas sampling followed the April 2012 Cal EPA *Advisory – Active Soil Gas Investigations* guidance documents as discussed in detail in the ACEH approved Work Plan as amended on August 27, 2012. After allowing two hours for the soil vapor to equilibrate and purging three tubing volumes, a soil vapor sample was collected. Prior to retracting the rod after advancement to sample depth, a vacuum was put on the PRT fitting as described in the August 27, 2012 Response to Comments letter. All of the borings were able to hold at least 10 inches of mercury vacuum for one minute. During the sampling conducted by TEG, 1-1 Difluoroethane (DFA) was used as a leak check compound with a shroud around the tubing coming out of the boring. For the Summa Canisters collected as confirmation samples, isopropyl alcohol (2-propanol) was used around the tubing coming out of the boring, and at the connection point between the

tubing from the boring and the summa canister. Prior to using the summa canister, a shut-in test of at least 20 inches of mercury was applied to the fittings, flow controller, and tubing. All the summa canister sampling systems held a vacuum for at least 5 minutes.

The soil vapor samples were analyzed using United States Environmental Protection Agency (USEPA) Method 8260B by TEG and Method TO-15 by Eurofins Air Toxics for volatile organic compounds (VOCs).

Sub-Slab Soil Vapor Investigation. The sub-slab soil vapor investigation was conducted concurrently with the subsurface soil vapor investigation on November 15, 2012 and again on February 2, 2013 concurrently with the ambient/indoor air sampling. TEG drilled three holes through the concrete for placement of sub-slab sampling points as shown on Figure 3. TEG installed semi-permanent sampling points in the concrete as described in detail in the ACEH approved Work Plan as amended on August 27, 2012. The sub-slab sampling points were allowed to equilibrate for two hours prior to collection of a sample.

The samples collected on November 15, 2012 were analyzed by TEG, with a confirmation sample collected in a summa canister for analysis by Eurofins Air Toxics. The samples collected on February 2, 2013 were collected in summa canisters for analysis by Eurofins Air Toxics. During the sampling conducted by TEG, 1-1 DFA was used as a leak check compound with a shroud around the sub-slab sampling point. For the Summa Canisters collected for analysis by Eurofins Air Toxics, isopropyl alcohol (2-propanol) was used around the sub-slab sampling point, and at the connection point between the tubing from the boring and the Summa Canister. Prior to using the summa canisters, a shut-in test of at least 20 inches of mercury was applied to the fittings, flow controller, and tubing. All of the Summa Canister sampling systems held a vacuum for at least 5 minutes.

The sub-slab soil vapor samples were analyzed using USEPA Method 8260B by TEG and Method TO-15 by Eurofins Air Toxics for VOCs.

Groundwater Investigation. Groundwater samples were collected from borings advanced by TEG on November 15, 2012 and February 7, 2013. Two borings adjacent to each other were located at GW-1, with water samples collected from the 20 ft bgs boring (originally a soil vapor boring) and a 15 ft bgs boring on November 15, 2012 during the soil vapor sampling event. The groundwater samples collected from GW-2 through GW-4 were collected on February 7, 2013 by advancing a direct push drill rod to between 9.5 ft bgs and 20 ft bgs (first encountered groundwater). PVC casing and screen was installed in each of the borings for collection of groundwater. Table 1 summarizes the grab groundwater sampling program including, date sampled, static water level measured prior to sampling, and interval screened by temporary well casing.

Samples were collected in 40-milliliter (ml) volatile organic analysis (VOA) containers. Samples collected during the first sampling event were analyzed by TEG in their mobile laboratory. The samples from the second sampling event were shipped under chain of custody protocol to Kiff Analytical of Davis, California, a California-certified hazardous-materials laboratory (ELAP # 2236). Groundwater samples were analyzed by USEPA Method 8260B for VOCs.

Air Sampling. Based upon results of the sub-slab sampling (discussed below), indoor and ambient air samples were collected on February 2, 2013. Indoor air sampling was conducted consistent with the Final Vapor Intrusion Guidance (VIG) from the California

Department of Toxic Substances and Control (DTSC) dated October 2011 following the protocol presented below.

The indoor air sampling consisted of collecting four air samples—two outside the building and two inside the breakroom/offices building (within the bathroom and shop). The bathroom and shop areas were picked for indoor air sampling as the sub-slab samples in these two locations had the highest detections during the sub-slab sampling conducted in November 2012. Samples were collected using 6-liter summa canisters. For quality control purposes, a replicate of each sample from inside of the building was collected, for a total of six samples. The intake for the summa canister was placed in the breathing zone (approximately five feet above ground surface). The summa canisters were individually certified clean by the laboratory for selected ion monitoring (SIM), which provides a lower detection limit. The building is used for commercial purposes; therefore, consistent with DTSC indoor air sampling guidance, each indoor air sample was collected over an 8-hour period using a laboratory-provided flow controller. The indoor air samples were collected in an environment that is more conservative than under normal building use. Heating and air conditioning systems were set to operate normally for the season and time of day. The shop space normally has a roll-up door (able to accommodate a garbage truck) open during business hours. The indoor air samples were collected with the door shut and a truck present within the shop space. The building had been closed for at least 12 hours prior to starting sampling. The two outdoor, or ambient, air samples were collected upwind of the building (on the west side) set at five feet off the ground and approximately 15 feet from the building along the fence-line with Caltrans. Prior to starting collection of the samples, a photoionization detector (PID) was used to determine if there were any sources of VOC present in the shop space, as the shop contains numerous chemicals used for the maintenance of trucks (brake cleaner, carb cleaner, spray paint, WD-40, etc.). There were no readings on the PID prior to starting sampling.

Indoor/ambient air samples were delivered to Eurofins Air Toxics for analysis using USEPA Method TO-15 in SIM mode for maximum sensitivity and to ensure detection limits below California Human Health Screening Level (CHHSL). Target analytes included in the SIM analysis included vinyl chloride, tetrachloroethene (PCE), the PCE impurity 1,1,1-trichlorethane (1,1,1-TCA), and the PCE breakdown products trichloroethene (TCE), cis-1,2-dichloroethene (DCE), trans-1,2-DCE, and 1,1-DCE.

Summary of Findings

Soil Vapor Samples. Detected analytes in soil vapor are summarized in Table 2. Copies of the laboratory analytical reports for soil vapor samples are provided in Attachment B.

Detected analytes for soil vapor were compared to their respective CHHSL. As seen on Figure 4 and in Table 2, all of the samples had detections of at least one compound. Vinyl chloride and benzene were the only compounds present above the commercial CHHSL. Soil gas samples with vinyl chloride above the commercial CHHSL included SG-1 at 7 ft bgs, SG-3 at 3 ft bgs, and SG-5 at 4 ft bgs, with detections ranging from 190 ug/ m^3 in SG-5 at 4 ft bgs to 15,000 ug/ m^3 in SG-1 at 7 ft bgs. Soil vapor point SG-1 is located at the same location where vinyl chloride was reported at elevated levels during previous investigations. Benzene was detected above the commercial CHHSL (122 ug/ m^3) in SG-1 at 7 ft bgs, SG-3 at 3 ft bgs, SG-5 at 4 ft bgs, and SG-6 at 3 ft bgs, with detections ranging from 180 ug/ m^3 in SG-1 at 7 ft bgs to 350 ug/ m^3 in SG-5 at 4 ft

bgs. The leak check compound used by TEG (1-1 DFA) was not detected in any of the samples analyzed by the mobile laboratory. The leak check compound used with the summa canisters (2-propanol) was detected in both of the soil vapor samples submitted to Eurofins Air Toxics, however the detections from SG-4 at 9 ft bgs was less than 10 times the reporting limit (the level considered acceptable in the Active Soil Gas Advisory). The summa canister submitted to Eurofins Air Toxics for SG-2 at 7.5 ft bgs was greater than 10 times the reporting limit, but it was the second summa filled at this location as the first summa canister was inadvertantly allowed to have the vacuum drop to 0 inches of mercury prior to closing the valve. 2-Propanol may have entered the sample tubing while switching summa canisters.

In addition to vinyl chloride, TCE and cis 1,2-DCE, were detected in soil vapor samples but below commercial CHHSL values. The detections of PCE during the first and second sub-slab sampling events were the highest at SS-2. PCE was detected at concentrations higher than vinyl chloride in sample SS-2.

Sub-Slab Soil Vapor Samples. Detected analytes in sub-slab soil vapor are summarized in Table 3. Copies of the laboratory analytical reports for these samples are provided in Attachment B.

Vinyl chloride was detected above the commercial CHHSL (44.8 ug/m^3) in the sub-slab samples SS-1 at 140 ug/m^3 and SS-2 at 83 ug/m^3 collected during the first sub-slab sampling event (11/15/12) as shown on Figure 4. Vinyl Chloride was detected below the commercial CHHSL for all three samples collected during the second sub-slab sampling event with detections ranging from 3.0 ug/m^3 in SS-3 to 3.2 ug/m^3 in SS-1 (all just above the detection limit). In addition to vinyl chloride, benzene, PCE, total xylenes, acetone, ethanol, hexane, cyclohexane, and heptane were detected in the sub-slab samples. The leak check compound 2-propanol (used with the summa canisters) was detected in two of the four samples submitted to Eurofin Air Toxics. Both detections of 2-propanol were less than 10 times the reporting limit (the level considered acceptable in the Active Soil Gas Advisory).

Ambient and Indoor Air Samples. Detected analytes in ambient and indoor air samples are summarized in Table 4. Copies of the laboratory analytical reports for ambient and indoor air samples are provided in Attachment C.

Detected analytes for ambient and indoor air were compared to their respective CHHSL. As seen on Table 4, all of the samples had reported detections of benzene, toluene, ethylbenzene, m,p-xylene, and o-xylene (collectively referred to as BTEX) . All chlorinated VOCs, including vinyl chloride were reported below the analytical detection limit for all of the ambient or indoor air samples. The concentrations of BTEX were slightly higher in the indoor samples than the ambient air. The detections of benzene were above the commercial CHHSL in both the ambient and indoor air samples.

Groundwater Samples. Detected analytes in groundwater are summarized in Table 5. Copies of the laboratory analytical reports for groundwater samples are provided in Attachment D.

Detected analytes for groundwater samples were compared to their respective Bay Region Water Quality Control Board Environmental Screening Level (ESL). As seen on Figure 5 and in Table 5, vinyl chloride was detected in only one water sample (GW-1 at 15 ft bgs) at a concentration of 1.9 ug/L, just above the ESL of 0.5 ug/L. Water did not immediately come in to the 15 ft bgs boring for GW-1. The boring was left overnight

prior to collection of the sample the following morning. Vinyl chloride was not detected in the sample collected from the adjacent boring for GW-1 advanced to 20 ft bgs. This location is the same location with reported elevated vinyl chloride detection within soil gas samples.

Fuel constituents were detected above their respective ESLs in SG-3 at 20 ft bgs, which was advanced next to the ACEH closed former pump island for the gasoline and diesel USTs.

Discussion

This investigation was conducted to address the three items of concern of ACEH as stated in their letter dated March 26, 2012. Specifically, ACEH requested:

- Evaluate the potential for vapor intrusion to the Break Room/Offices adjacent to the reported vinyl chloride impacts in soil gas.
- Identify the source of vinyl chloride
- Collect groundwater samples of first water to determine the potential shallow groundwater contamination.

The data collected during this investigation address those concerns as discussed below.

1. Evaluate potential for vapor intrusion

Both the ESL and CHHSL values for vinyl chloride assume that the soil material beneath a building is coarse, unconsolidated sands. Based on the results of this and previous site investigations, the actual soil material directly below the Site consists of very low permeability tight clay. The soil in the vicinity of the previous vinyl chloride detections is a silty clay from the surface to approximately 7.5 ft bgs as indicated in Tetra Tech's boring log for SB-3. At 7.5 ft bgs there is a 3.5 ft zone of clayey sandy gravel. The soil from 11 ft bgs to 19 ft bgs is a silty clay that overlies a 2 foot thick sand lens from 19 ft bgs to 21 ft bgs. The low permeability of the soil from the surface to 7 ft bgs is demonstrated by the inability to collect a full summa canister sample in the area of the highest vinyl chloride detections at 5 ft bgs. The first sample with enough air flow in the area of highest impacts was from 7 ft bgs.

The site lithology indicates that the vinyl chloride found outside the building prevents intrusion into the building. To determine if the vinyl chloride present outside the building could cause vapor intrusion concerns to the building, sub-slab sampling was conducted. Two of the locations that were sampled during the first sub-slab sampling event had detections of vinyl chloride above the commercial CHHSL. Based upon this data BC proposed conducting indoor air sampling at the same time as the second sub-slab sampling event to determine if there were indoor air impacts. The second round of sub-slab sampling did not have vinyl chloride detections above the CHHSL. Although there are detections of vinyl chloride above the commercial CHHSL in the vicinity of the shop, and in the first round of sub-slab samples, the indoor air samples show that there is not vinyl chloride within the building.

Sampling of indoor air and concurrent ambient air at the subject property showed that only one chemical, benzene, was detected above commercial use CHHSLs (Table 4). However, even though the benzene levels detected indoors were above the commercial use CHHSL, they are identical to ambient levels to one significant figure (i.e. 1 ug/m3). Thus, the slightly elevated benzene levels can be entirely attributed to the ambient

contribution. As stated in the VIG, "volatile compounds such as benzene and PCE should be found in both outdoor and indoor air, regardless of the occurrence of vapor intrusion. If no contaminants are detected in outdoor or indoor samples, the data are suspect and the samples should be reanalyzed". The Site is located just south of highway 580. Highways are known sources of BTEX compounds in ambient air. In short, the indoor and concurrent ambient air data show no evidence of significant vapor intrusion at the subject property.

2. Identify the source of vinyl chloride

Vinyl chloride is a manufactured substance that does not occur naturally. Most of the vinyl chloride produced in the United States is used to make the polymer polyvinyl chloride, which uses a process that did not occur at the Site. At room temperature, vinyl chloride is a colorless gas with a boiling point of -13.37 degrees Celsius. With a Henry's Law constant value of 28.3 (dimensionless), vinyl chloride in water evaporates rapidly if it is near the ground surface. Vinyl chloride in the air also breaks down in a few days.

Based on these physical properties and former operations at the Site, it is highly unlikely to impossible that the source of vinyl chloride at the Site is from a spill of the pure product or waste water from manufacture of the product. Based upon detections of PCE in sub-slab sample SS-2 just south of SG-1 (the location of the highest reported vinyl chloride detection) and TCE reported in both SS-2 and SG-1, the vinyl chloride is most likey the result of reductive dechlorination of PCE and TCE. Cis-1,2-DCE is produced by reductive dechlorination of TCE and PCE, and was also detected in the same boring (SG-1) as the highest detection of vinyl chloride. In addition, cis-1,2-DCE was also detected in the borings to the west and east (SG-3 and SG-4). The fact that the vinyl chloride concentrations are higher than the reported cis-1,2-DCE concentrations suggests that these impacts are the result of an old release of the parent compounds. The fact that the detections of PCE, TCE, and cis-1,2-DCE were all below their respective ESL also suggests that these impacts are the result of an old release of small mass.

3. Determine potential shallow groundwater Impacts

The water sample collected from 20 ft bgs in GW-1 (collocated with SG-1) was below detection limits for all compounds analyzed. The sample collected from 15 ft bgs at GW-1 had a detection of vinyl chloride, however the water in this boring was allowed to come in overnight, indicating that the soils at this depth are tight. The boring was an open boring from the surface to total depth (15 ft bgs) which allowed the water in the boring to interact with the vinyl chloride vapor present in the boring at 7.5 ft bgs. The partitioning of the vinyl chloride may be responsible for the vinyl chloride detected in the groundwater sampled collected at 15 ft bgs. Henry's constant for vinyl chloride ranges from 0.9 to 28.3[1]. Using the 15 ug/l for vapor found in SG-1, vinyl chloride in water resulting from partitioning would range from 16.6 to 0.5 ug/L[2]. Due to the detection of vinyl chloride in boring GW-1, additional borings GW-2 through GW-5 were advanced to

[1] A.R. Fischer, H. Lorbeer, and P. Werner. *Distribution of Vinyl Chloride (VC) in a Laboratory Column Using Aquifer Material From a Contaminated Site*. Kansas State University, Journal for Hazardous Substance Research Volume Six.
[2] Varadhan Ravi and Jeffrey A. Johnson. *VLEACH A One Demensional Finite Difference Vadose Zone Leaching Model Version 2.0*. Dnyamac Corporation,

first water (between 9.5 and 20 ft bgs) around GW-1 as shown on Figure 3. None of the additional borings had detections of vinyl chloride, PCE, or TCE (cis-1,2-DCE was detected below it's ESL in GW-2 to the southwest of GW-1). The groundwater data indicate that vinyl chloride impacts to groundwater on Site are localized around a small area of the GW-1 area, shallow, and minimal.

The groundwater sample collected from GW-3 to the northwest of GW-1 had detections of fuel constituents. However, this sample was collected in the vicinity of the former gasoline and diesel UST and pump-island that was closed in a letter from ACEH dated August 31, 1998. The Site was closed with known residual soil and groundwater impacts, and a restriction on excavation activities in the vicinity of the impacts.

Conclusions

The work conducted during this investigation provided the data requested by ACEH to:

- Evaluate the potential for vapor intrusion to the Break Room/Offices adjacent to the reported vinyl chloride impacts in soil gas.
- Identify the source of vinyl chloride.
- Collect first encountered groundwater samples.

The PCE and TCE present at the site are below the commercial CHHSL. Indoor air samples conducted during this investigation show that vinyl chloride present in the subsurface is not causing intrusion concerns inside the building. The concentrations of vinyl chloride present in the soil vapor at the site likely represent the incomplete breakdown of PCE or TCE. The area of PCE and TCE in soil vapor has been horizontally delineated, and the groundwater beneath the soil vapor impacts has also been vertically and horizontally delineated. Samples were collected from first encountered groundwater from 5 borings at the Site.

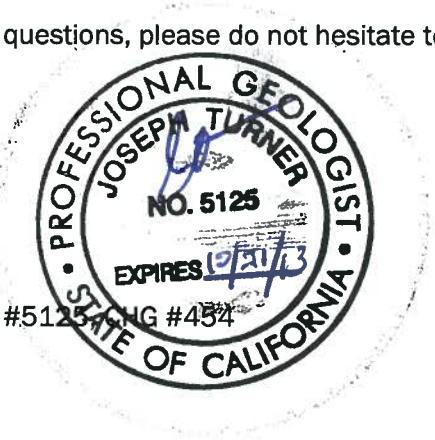
Sampling of indoor air and concurrent ambient air at the subject property shows that only one chemical, benzene, was detected above commercial use CHHSLs (Table 4). However, even though the benzene levels detected indoors were above the commercial use CHHSL, they are identical to ambient levels to one significant figure (i.e. 1 ug/m3). Thus, the slightly elevated benzene levels can be entirely attributed to the ambient contribution. In short, the indoor and concurrent ambient air data show no evidence of significant vapor intrusion at the subject property

Based upon the results of multiple phases of investigations conducted at the facility, Brown and Caldwell requests that a letter providing a "no further action" (NFA) status be provided by ACEH.

Should you have any questions, please do not hesitate to call me at 916-853-5334.

Very truly yours,

Brown and Caldwell



Joseph B. Turner, PG #5125, CHG #454
Chief Hydrogeologist

CEF:ds

Attachments (6)

1. Figures
2. Tables
3. Attachment A: Boring Permits
4. Attachment B: Soil Vapor Analytical Reports
5. Attachment C: Ambient and Indoor Air Analytical Reports
6. Attachment D: Groundwater Analytical Reports

Figures

DATE	PROJECT	SITE	
5-18-12	142782	6175 Southfront Road, Livermore, Callifornia	Figure 1
Brown AND Caldwell		TITLE: Project Site Location	

P:\42000\142782 - WM Livermore Hauling Inv\Work Plan\Graphics

Legend

- Sanitary sewer line (with direction of flow)
- Electrical
- Water

SITE
6175 Southfront Road, Livermore, California

TITLE
Existing Site Features

Brown AND Caldwell

DATE 2-5-2013

PROJECT 142782

Figure 2

NORTH
0 50
Feet

Source: maps.google.com, 2011

Legend

- SV-1 **Historical Soil Vapor Locations**
- SS-1 **Sub-Slab Soil Vapor Locations**
- GW-1 **Temporary Goundwater Sample**
- SG-1 **Sub Surface Soil Vapor Locations**
- OA-N **Ambient/Indoor Air Locations**

SITE
6175 Southfront Road, Livermore, California

TITLE
Soil Vapor and Groundwater Sample Locations

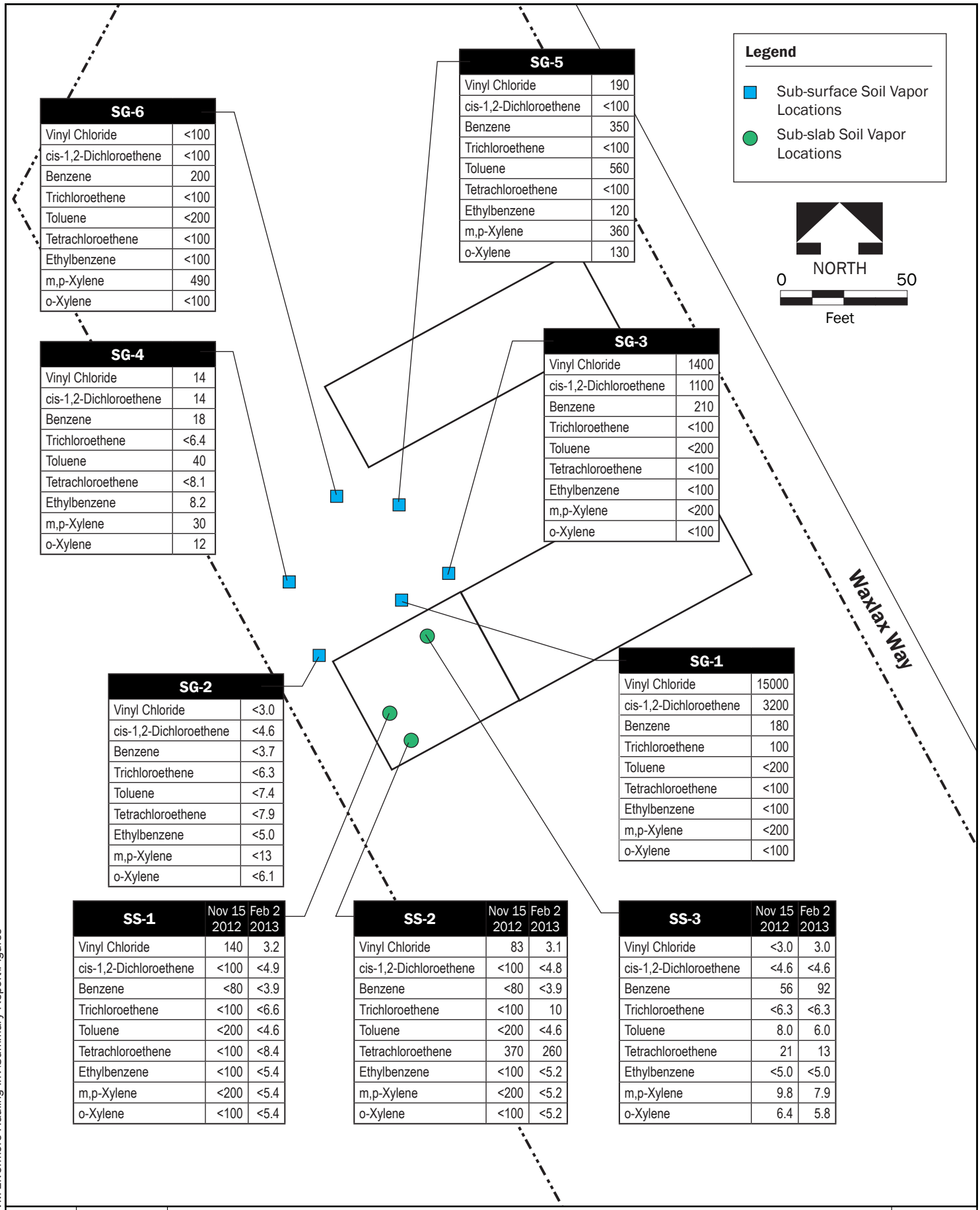
Brown AND Caldwell

DATE 02-05-2013

PROJECT 142782

Figure 3

Source: maps.google.com, 2011



SG-6	
Vinyl Chloride	<100
cis-1,2-Dichloroethene	<100
Benzene	200
Trichloroethene	<100
Toluene	<200
Tetrachloroethene	<100
Ethylbenzene	<100
m,p-Xylene	490
o-Xylene	<100

SG-5	
Vinyl Chloride	190
cis-1,2-Dichloroethene	<100
Benzene	350
Trichloroethene	<100
Toluene	560
Tetrachloroethene	<100
Ethylbenzene	120
m,p-Xylene	360
o-Xylene	130

SG-4	
Vinyl Chloride	14
cis-1,2-Dichloroethene	14
Benzene	18
Trichloroethene	<6.4
Toluene	40
Tetrachloroethene	<8.1
Ethylbenzene	8.2
m,p-Xylene	30
o-Xylene	12

SG-3	
Vinyl Chloride	1400
cis-1,2-Dichloroethene	1100
Benzene	210
Trichloroethene	<100
Toluene	<200
Tetrachloroethene	<100
Ethylbenzene	<100
m,p-Xylene	<200
o-Xylene	<100

SG-2	
Vinyl Chloride	<3.0
cis-1,2-Dichloroethene	<4.6
Benzene	<3.7
Trichloroethene	<6.3
Toluene	<7.4
Tetrachloroethene	<7.9
Ethylbenzene	<5.0
m,p-Xylene	<13
o-Xylene	<6.1

SG-1	
Vinyl Chloride	15000
cis-1,2-Dichloroethene	3200
Benzene	180
Trichloroethene	100
Toluene	<200
Tetrachloroethene	<100
Ethylbenzene	<100
m,p-Xylene	<200
o-Xylene	<100

SS-1	Nov 15 2012	Feb 2 2013
Vinyl Chloride	140	3.2
cis-1,2-Dichloroethene	<100	<4.9
Benzene	<80	<3.9
Trichloroethene	<100	<6.6
Toluene	<200	<4.6
Tetrachloroethene	<100	<8.4
Ethylbenzene	<100	<5.4
m,p-Xylene	<200	<5.4
o-Xylene	<100	<5.4

SS-2	Nov 15 2012	Feb 2 2013
Vinyl Chloride	83	3.1
cis-1,2-Dichloroethene	<100	<4.8
Benzene	<80	<3.9
Trichloroethene	<100	10
Toluene	<200	<4.6
Tetrachloroethene	370	260
Ethylbenzene	<100	<5.2
m,p-Xylene	<200	<5.2
o-Xylene	<100	<5.2

SS-3	Nov 15 2012	Feb 2 2013
Vinyl Chloride	<3.0	3.0
cis-1,2-Dichloroethene	<4.6	<4.6
Benzene	56	92
Trichloroethene	<6.3	<6.3
Toluene	8.0	6.0
Tetrachloroethene	21	13
Ethylbenzene	<5.0	<5.0
m,p-Xylene	9.8	7.9
o-Xylene	6.4	5.8

DATE 02-05-13 | PROJECT 142782

Brown AND Caldwell

SITE

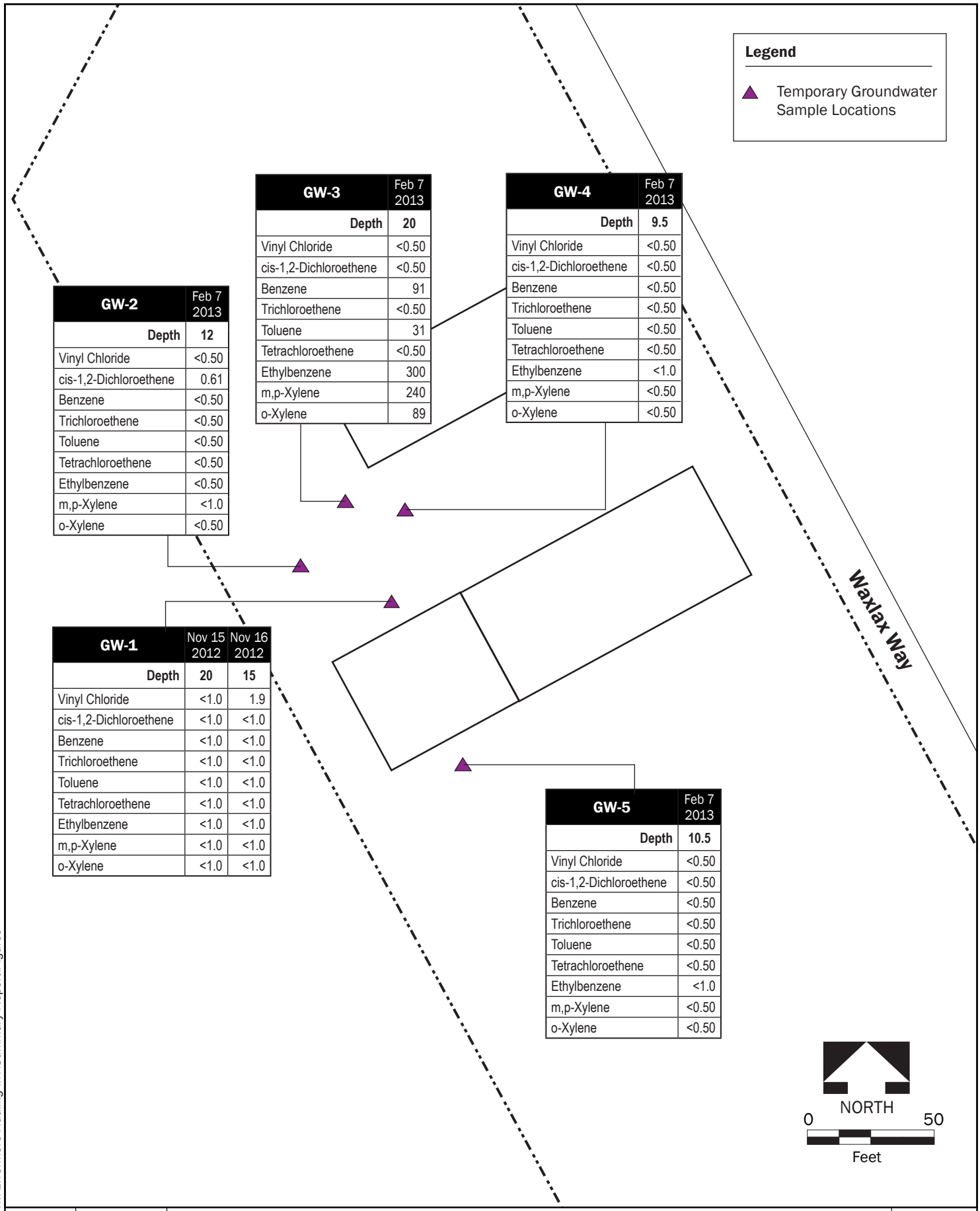
6175 Southfront Road, Livermore, California

TITLE

Soil Vapor Analytical Results

Figure 4

P:\42000\142782 - WM Livermore Hauling Inv\Summary Report\Figures



GW-3	Feb 7 2013
Depth	20
Vinyl Chloride	<0.50
cis-1,2-Dichloroethene	<0.50
Benzene	91
Trichloroethene	<0.50
Toluene	31
Tetrachloroethene	<0.50
Ethylbenzene	300
m,p-Xylene	240
o-Xylene	89

GW-4	Feb 7 2013
Depth	9.5
Vinyl Chloride	<0.50
cis-1,2-Dichloroethene	<0.50
Benzene	<0.50
Trichloroethene	<0.50
Toluene	<0.50
Tetrachloroethene	<0.50
Ethylbenzene	<1.0
m,p-Xylene	<0.50
o-Xylene	<0.50

GW-2	Feb 7 2013
Depth	12
Vinyl Chloride	<0.50
cis-1,2-Dichloroethene	0.61
Benzene	<0.50
Trichloroethene	<0.50
Toluene	<0.50
Tetrachloroethene	<0.50
Ethylbenzene	<0.50
m,p-Xylene	<1.0
o-Xylene	<0.50

GW-1	Nov 15 2012	Nov 16 2012
Depth	20	15
Vinyl Chloride	<1.0	1.9
cis-1,2-Dichloroethene	<1.0	<1.0
Benzene	<1.0	<1.0
Trichloroethene	<1.0	<1.0
Toluene	<1.0	<1.0
Tetrachloroethene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
m,p-Xylene	<1.0	<1.0
o-Xylene	<1.0	<1.0

GW-5	Feb 7 2013
Depth	10.5
Vinyl Chloride	<0.50
cis-1,2-Dichloroethene	<0.50
Benzene	<0.50
Trichloroethene	<0.50
Toluene	<0.50
Tetrachloroethene	<0.50
Ethylbenzene	<1.0
m,p-Xylene	<0.50
o-Xylene	<0.50

DATE 02-05-13 | PROJECT 142782

Brown AND Caldwell

SITE

6175 Southfront Road, Livermore, California

TITLE

Soil Vapor Analytical Results

Figure 5

P:\42000\142782 - WM Livermore Hauling Inv\Summary Report\Figures

Tables

Table 1. Temporary Groundwater Sampling Point Specifications
Additional Investigation Summary Report
Former Waste Management of Alameda County, Inc. property, 6175 Southfront Road, Livermore, California

Location	Date	Static Water Level (ft)	Interval Screened (ft)
GW-1-20	11/15/2012	8.0	15-20
GW-1-15	11/16/2012	11.7	10-15
GW-2-12	2/7/2013	NM	7-12
GW-3-20	2/7/2013	10.9	15-20
GW-4-9.5	2/7/2013	5.5	4.5-9.5
GW-5-10.5	2/7/2013	7	5.5-10.5

Notes:
NM - Not Measured
ft - feet

Table 2. VOC Detections in Soil Vapor
Additional Investigation Summary Report
Former Waste Management of Alameda County, Inc. property, 6175 Southfront Road, Livermore, California

Location		SG1-7	SG1-7	SG1-7	SG-2-7.5	SG-2-7.5	SG-3-3	SG-4-9	SG-4-9	SG-5-4	SG-6-3
Purge volume	Commercial	1	3	10	1	1	1	1	1	1	1
Date	CHHSL	11/15/2012	11/15/2012	11/15/2012	11/16/2012	11/16/2012	11/16/2012	11/16/2012	11/16/2012	11/16/2012	11/16/2012
Vinyl Chloride	44.8	**15000**	**13000**	**13000**	<100	<3.0	**1400**	<100	**14**	**190**	<100
cis-1,2-Dichloroethene	44400	**3200**	**3100**	**2700**	<100	<4.6	**1100**	<100	**14**	<100	<100
Benzene	122	**180**	**180**	**120**	<80	<3.7	**210**	**83**	**18**	**350**	**200**
Trichloroethene	1770	**100**	<100	<100	<100	<6.3	<100	<100	<6.4	<100	<100
Toluene	378000	<200	<200	<200	<200	**7.4**	<200	<200	**40**	**560**	<200
Tetrachloroethene	603	<100	<100	<100	<100	<7.9	<100	<100	<8.1	<100	<100
Ethylbenzene	NE	<100	<100	<100	<100	<5.0	<100	<100	**8.2**	**120**	<100
m,p-Xylene	887000	<200	<200	<200	<200	**13**	<200	<200	**30**	**360**	**490**
o-Xylene	879000	<100	<100	<100	<100	**6.1**	<100	<100	**12**	**130**	<100
2-Propanol	NE	NA	NA	NA	NA	**360**	NA	NA	**43**	NA	NA
1,1-Difluoroethane	NE	<100	<100	<100	<100	NA	<100	<100	NA	<100	<100
Acetone	NE	NA	NA	NA	NA	**48**	NA	NA	<28	NA	NA
Ethanol	NE	NA	NA	NA	NA	**15**	NA	NA	**41**	NA	NA
Hexane	NE	NA	NA	NA	NA	<4.1	NA	NA	**89**	NA	NA
Cyclohexane	NE	NA	NA	NA	NA	<4.0	NA	NA	**44**	NA	NA
Heptane	NE	NA	NA	NA	NA	<4.8	NA	NA	**31**	NA	NA

Notes:
All results are ug/m3
CHHSL - California Human Health Screening Levels
NE - not established
NA - not analyzed
bold - detection
highlighted - exceeds CHHSL

Table 3. VOC Detections in Sub-Slab Soil Vapor
Additional Investigation Summary Report
Former Waste Management of Alameda County, Inc. property, 6175 Southfront Road, Livermore, California

Location		SS-1	SS-1 Dup	SS-1	SS-2	SS-2	SS-3	SS-3	SS-3
Purge volume	Commercial	1	1	1	1	1	1	1	1
Date	CHHSL	11/15/2012	11/15/2012	2/2/2013	11/15/2012	2/2/2013	11/15/2012	11/15/2012	2/2/2013
Vinyl Chloride	44.8	**140**	**110**	**3.2**	**83**	**3.1**	<100	<3.0	**3.0**
cis-1,2-Dichloroethene	44400	<100	<100	<4.9	<100	<4.8	<100	<4.6	<4.6
Benzene	122	<80	<80	<3.9	<80	<3.9	<80	**56**	**92**
Trichloroethene	1770	<100	<100	<6.6	<100	**10**	<100	<6.3	<6.3
Toluene	378000	<200	<200	<4.6	<200	<4.6	<200	**8.0**	**6.0**
Tetrachloroethene	603	<100	<100	<8.4	**370**	**260**	<100	**21**	**13**
Ethylbenzene	NE	<100	<100	<5.4	<100	<5.2	<100	<5.0	<5.0
m,p-Xylene	887000	<200	<200	<5.4	<200	<5.2	<200	**9.8**	**7.9**
o-Xylene	879000	<100	<100	<5.4	<100	<5.2	<100	**6.4**	**5.8**
2-Propanol	NE	NA	NA	**49**	NA	**17**	NA	<11	<11
1,1-Difluoroethane	NE	<100	<100	NA	<100	NA	<100	NA	NA
Acetone	NE	NA	NA	<29	NA	**30**	NA	<28	**36**
Ethanol	NE	NA	NA	<9.3	NA	<9.1	NA	<8.8	**11**
Hexane	NE	NA	NA	<4.4	NA	<4.3	NA	**180**	**11**
Cyclohexane	NE	NA	NA	<4.2	NA	<4.2	NA	**240**	**310**
Heptane	NE	NA	NA	<5.1	NA	<5.0	NA	**46**	**4.8**

Notes:
All results are ug/m3
CHHSL - California Human Health Screening Levels
NE - not established
NA - not analyzed
bold - detection
highlighted - exceeds CHHSL

Table 4. VOC Detections in Ambient/Indoor Air
Additional Investigation Summary Report
Former Waste Management of Alameda County, Inc. property, 6175 Southfront Road, Livermore, California

Location	Commercial CHHSL	BATHROOM	BATHROOM-DUP	OA-N	OA-S	SHOP	SHOP-DUP
Date	2/2/2013	2/2/2013	2/2/2013	2/2/2013	2/2/2013	2/2/2013	2/2/2013
Benzene	0.141	**1.1**	**1.1**	**0.80**	**0.76**	**0.96**	**1.0**
cis-1,2-Dichloroethene	51.1	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
Ethyl Benzene	NE	**0.71**	**0.77**	**0.32**	**0.32**	**0.59**	**0.57**
m,p-Xylene	1020	**2.3**	**2.4**	**0.87**	**0.98**	**2.0**	**1.9**
o-Xylene	1020	**0.93**	**1.0**	**0.36**	**0.44**	**0.67**	**0.71**
Tetrachloroethene	0.693	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22
Toluene	438	**8.1**	**8.2**	**1.6**	**1.7**	**17**	**17**
trans-1,2-Dichloroethene	102	<0.065	<0.064	<0.065	<0.065	<0.064	<0.064
Trichloroethene	2.04	<0.18	<0.17	<0.18	<0.18	<0.17	<0.17
Vinyl Chloride	0.0524	<0.042	<0.041	<0.042	<0.042	<0.041	<0.041

Notes:
All results in ug/m3
CHHSL - California Human Health Screening Level
NE - not established
bold - detection
highlighted - exceeds CHHSL

Table 5. VOC Detections in Groundwater
Additional Investigation Summary Report
Former Waste Management of Alameda County, Inc. property, 6175 Southfront Road, Livermore, California

Location	ESL	GW-1-20	GW-1-15	GW-2-12	GW-3-20	GW-4-9.5	GW-5-10.5
Date		11/15/2012	11/16/2012	2/7/2013	2/7/2013	2/7/2013	2/7/2013
Vinyl Chloride	0.5	<1.0	**1.9**	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	6.0	<1.0	<1.0	**0.61**	<0.50	<0.50	<0.50
Benzene	1.0	<1.0	<1.0	<0.50	**91**	<0.50	<0.50
Trichloroethene	5.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Toluene	40	<1.0	<1.0	<0.50	**31**	<0.50	<0.50
Tetrachloroethene	5.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	30	<1.0	<1.0	<0.50	**300**	<0.50	<0.50
m,p-Xylene	20	<1.0	<1.0	<1.0	**240**	<1.0	<1.0
o-Xylene	20	<1.0	<1.0	<0.50	**89**	<0.50	<0.50
Isopropyl benzene	NE	NA	NA	<0.50	**27**	<0.50	<0.50
n-Propylbenzene	NE	NA	NA	<0.50	**84**	<0.50	<0.50
1,3,5-Trimethylbenzene	NE	NA	NA	<0.50	**140**	<0.50	<0.50
tert-Butylbenzene	NE	NA	NA	<0.50	**21**	<0.50	<0.50
1,2,4-Trimethylbenzene	NE	NA	NA	<0.50	**560**	<0.50	<0.50
sec-Butylbenzene	NE	NA	NA	<0.50	**5.6**	<0.50	<0.50
p-Isopropyltoluene	NE	NA	NA	<0.50	**3.8**	<0.50	<0.50
n-Butylbenzene	NE	NA	NA	<0.50	**19**	<0.50	<0.50
Napthalene	6.2	NA	NA	<0.50	**73**	<0.50	<0.50

All results are ug/l
ESL - Bay Region Water Quality Control Board Environmental Screening Level
NE - not established
NA - not analyzed
bold - detection
highlighted - exceeds ESL

Attachment A: Boring Permits

ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306
E-MAIL whong@zone7water.com

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 6175 SOUTHFRONT RD
LIVERMORE CALIFORNIA

Coordinates Source GOOGLE EARTH ft. Accuracy ± 25 ft.
LAT: 37.708979 ft. LONG: -121.721798 ft.
APN 099B-5875-017-06

CLIENT
Name WASTE MANAGEMENT OF ALAMEDA COUNTY
Address 172 98TH AVE Phone 925 455 7375
City OAKLAND Zip 94603

APPLICANT
Name BROWN & CALDWELL / CHUCK FREY
Email cfrey@brwncald.com Fax 916 635 8805
Address 10540 WHITE ROCK RD # 180 Phone 916 853 5387
City RANCHO CORDOVA Zip 95670

TYPE OF PROJECT:

Well Construction	—	Geotechnical Investigation	—
Well Destruction	—	Contamination Investigation	X
Cathodic Protection	—	Other	—

PROPOSED WELL USE:

Domestic	—	Irrigation	—
Municipal	—	Remediation	—
Industrial	—	Groundwater Monitoring	X
Dewatering	—	Other SOIL VAPOR	X

DRILLING METHOD:
Mud Rotary — Air Rotary — Hollow Stem Auger —
Cable Tool — Direct Push X Other —

DRILLING COMPANY TEG

DRILLER'S LICENSE NO. 706568

WELL SPECIFICATIONS:
Drill Hole Diameter _____ in. Maximum
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Number _____

SOIL BORINGS:
Number of Borings 10 Maximum
Hole Diameter 1½ in. Depth 70 ft.

ESTIMATED STARTING DATE 11/15/12
ESTIMATED COMPLETION DATE 11/16/12

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE _____ Date 11/7/12

ATTACH SITE PLAN OR SKETCH

FOR OFFICE USE

PERMIT NUMBER 2012130
WELL NUMBER _____
APN 099B-5875-017-06

PERMIT CONDITIONS
(Circled Permit Requirements Apply)

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original **Department of Water Resources Water Well Drillers Report (DWR Form 188), signed by the driller.**
3. Permit is void if project not begun within 90 days of approval date.
4. **Notify Zone 7 at least 24 hours before the start of work.**

B. WATER SUPPLY WELLS
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
3. Grout placed by tremie.
4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
5. A sample port is required on the discharge pipe near the wellhead.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
3. Grout placed by tremie.

(D.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION. See attached.

(G.) SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after completion of permitted work the well installation report **including all soil and water laboratory analysis results.**

Approved Wyman Hong Date 11/13/12
Wyman Hong

Revised: January 4, 2010

PERMIT 2012130

Legend

- Historical Soil Vapor Locations

Proposed Sample Locations

- Sub-Slab Soil Vapor Locations
- Temporary Groundwater Sample
- Sub Surface Soil Vapor Locations

SITE: **6175 Southfront Road, Livermore, California**		
TITLE: **Proposed Soil Vapor and Groundwater Sample Locations**		
Brown AND Caldwell	DATE: 5/18/2012 PROJECT: 142702	**Figure 5**

Source: maps.google.com, 2011

ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306
E-MAIL whong@zone7water.com

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 6175 SUNFRONT RD
LIVERMORE CALIFORNIA

Coordinates Source GOOGLE EARTH ft. Accuracy ± 25 ft.
LAT: 37.705819 ft. LONG: -121.721398 ft.
APN 0998-5875-017-06

CLIENT
Name WASTE MANAGEMENT OF ALAMEDA COUNTY
Address 172 98TH AVE Phone 925 453-7325
City OAKLAND Zip 94603

APPLICANT
Name BROWN AND CALDWELL / CHUCK FREY
Email cfrey@brwncald.com Fax 916 635 8805
Address 10540 WHITE ROCK ROAD 180 Phone 9168535787
City RANCHO CORDOVA Zip 95670

TYPE OF PROJECT:

Well Construction	—	Geotechnical Investigation	—
Well Destruction	—	Contamination Investigation	X
Cathodic Protection	—	Other	—

PROPOSED WELL USE:

Domestic	—	Irrigation	—
Municipal	—	Remediation	—
Industrial	—	Groundwater Monitoring	X
Dewatering	—	Other	—

DRILLING METHOD:

Mud Rotary	—	Air Rotary	—	Hollow Stem Auger	—
Cable Tool	—	Direct Push	X	Other	—

DRILLING COMPANY TEG

DRILLER'S LICENSE NO. 706568

WELL SPECIFICATIONS:
Drill Hole Diameter _____ in. Maximum
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Number _____

SOIL BORINGS:
Number of Borings 4 Maximum
Hole Diameter 4 in. Depth 20 ft.

ESTIMATED STARTING DATE 2/7/13
ESTIMATED COMPLETION DATE 2/7/13

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68

APPLICANT'S SIGNATURE _____ Date 1/31/13

ATTACH SITE PLAN OR SKETCH

FOR OFFICE USE

PERMIT NUMBER 2013014
WELL NUMBER _____
APN 99B-5875-017-06

PERMIT CONDITIONS
(Circled Permit Requirements Apply)

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original **Department of Water Resources Water Well Drillers Report (DWR Form 188), signed by the driller.**
3. Permit is void if project not begun within 90 days of approval date.
4. **Notify Zone 7 at least 24 hours before the start of work.**

B. WATER SUPPLY WELLS
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
3. Grout placed by tremie.
4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
5. A sample port is required on the discharge pipe near the wellhead.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
3. Grout placed by tremie.

(D.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION. See attached.

(G.) SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after completion of permitted work the well installation report **including all soil and water laboratory analysis results.**

Approved Wyman Hong Date 2/6/13
Wyman Hong

Revised: January 4, 2010

P:\42000\142782 - WM Livermore Hauling Inv\Work Plan\Graphics

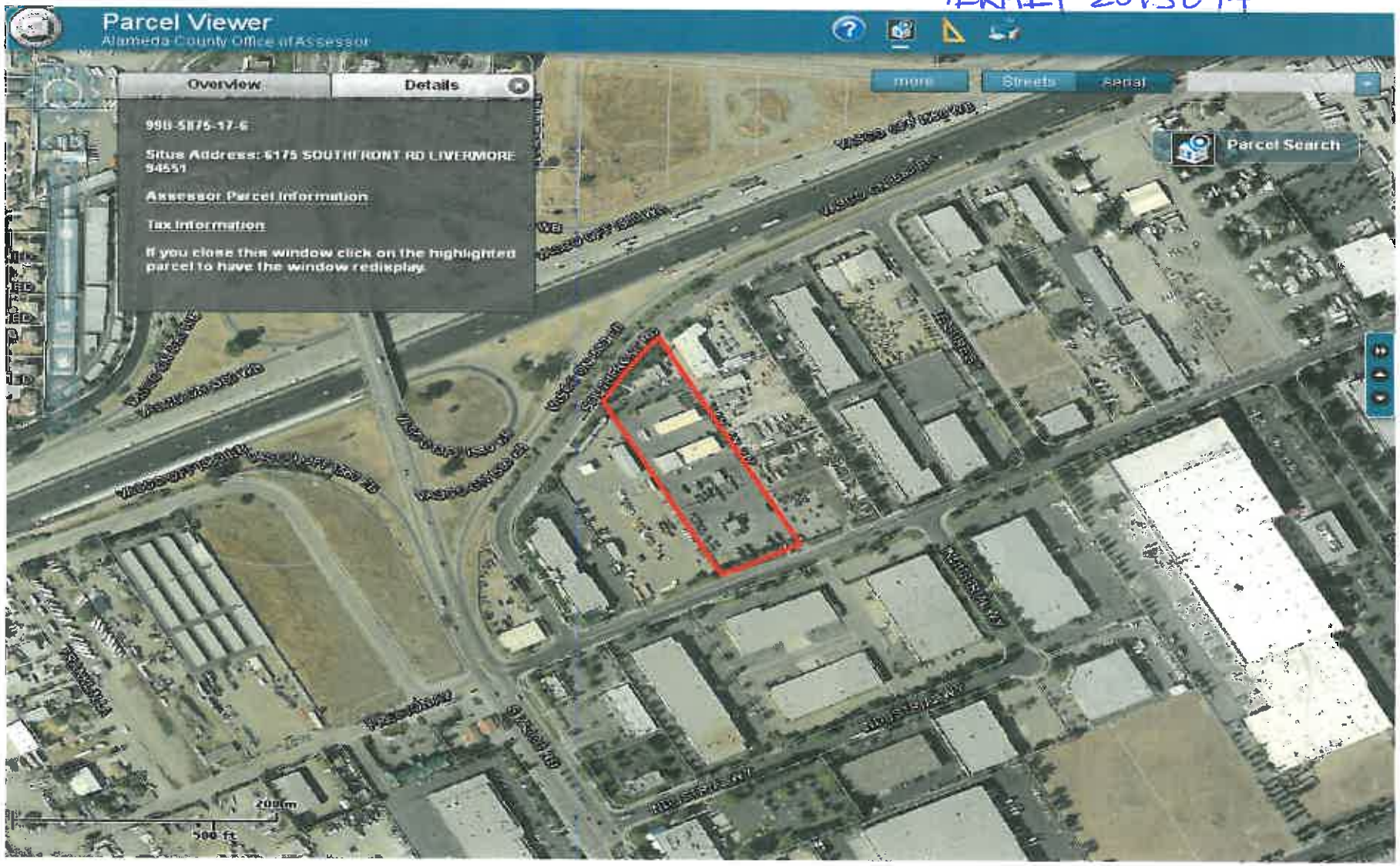
Legend

- SV-1 Historical Soil Vapor Locations
- SS-1 Sub-Slab Soil Vapor Locations
- GW-1 Temporary Goundwater Sample
- SG-1 Sub Surface Soil Vapor Locations

SITE: 6175 Southfront Road, Livermore, California		
TITLE: Soil Vapor and Groundwater Sample Locations		
Brown AND Caldwell	DATE: 12/07/2012 PROJECT: 142782	Figure 5

Source: maps.google.com, 2011

PERMIT 2013014



Attachment B: Soil Vapor Analytical Reports

6 December 2012

Mr. Joe Turner
Brown & Caldwell
10540 White Rock Road, Suite 180
Rancho Cordova, CA 95670

SUBJECT: DATA REPORT - Brown & Caldwell Project # 142782
WM Livermore / 6175 Southfront Road, Livermore, California

TEG Project # 21115F

Mr. Turner:

Please find enclosed a data report for the samples analyzed from the above referenced project for Brown & Caldwell. The samples were analyzed on site in TEG's mobile laboratory. TEG conducted a total of 14 analyses on 12 soil vapor and 2 water samples.

-- 12 analyses on soil vapors for volatile organic hydrocarbons by EPA method 8260B.

-- 2 analyses on waters for volatile organic hydrocarbons by EPA method 8260B.

The results of the analyses are summarized in the enclosed tables. Applicable detection limits and calibration data are included in the tables.

TEG appreciates the opportunity to have provided analytical services to Brown & Caldwell on this project. If you have any further questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Mark Jerpbak
Director, TEG-Northern California

teg

Brown and Caldwell Project # 142782
WM Livermore
6175 Southfront Road, Livermore, California

TEG Project #21115F

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		Probe Blank	Probe Blank	SG-1-7	SG-1-7	SG-1-7	SG-2-7.5	SG-3-3
SAMPLE DEPTH (feet):				7.0	7.0	7.0	7.5	3.0
PURGE VOLUME:				1	3	10	1	1
COLLECTION DATE:		11/15/12	11/16/12	11/15/12	11/15/12	11/15/12	11/16/12	11/16/12
COLLECTION TIME:		09:01	07:09	10:34	10:57	11:24	07:35	08:03
DILUTION FACTOR:		1	1	1	1	1	1	1
	RL							
Dichlorodifluoromethane	100	nd	nd	nd	nd	nd	nd	nd
Vinyl Chloride	80	nd	nd	15000	13000	13000	nd	1400
Chloroethane	100	nd	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	100	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	100	nd	nd	nd	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	3200	3100	2700	nd	1100
Chloroform	100	nd	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	100	nd	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	100	nd	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd	nd	nd	nd
Benzene	80	nd	nd	180	180	120	nd	210
Trichloroethene	100	nd	nd	100	nd	nd	nd	nd
Toluene	200	nd	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd	nd	nd	nd
Tetrachloroethene	100	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	100	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd	nd
m,p-Xylene	200	nd	nd	nd	nd	nd	nd	nd
o-Xylene	100	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd	nd
1,1-Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		78%	83%	86%	85%	82%	83%	81%
Surrogate Recovery (1,2-DCA-d4)		86%	87%	93%	92%	90%	92%	87%
Surrogate Recovery (Toluene-d8)		80%	80%	81%	84%	83%	80%	82%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Leif Jonsson

11350 Monier Park Place, Rancho Cordova, CA 95742 • Phone (916) 853-8010 • Fax (916) 853-8020

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Brown and Caldwell Project # 142782
WM Livermore
6175 Southfront Road, Livermore, California

TEG Project #21115F

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		SG-4-9	SG-5-4	SG-6-3	SS-1	SS-1 dup	SS-2	SS-3
SAMPLE DEPTH (feet):		9.0	4.0	3.0	0.67	0.67	0.67	0.67
PURGE VOLUME:		1	1	1	1	1	1	1
COLLECTION DATE:		11/16/12	11/16/12	11/16/12	11/15/12	11/15/12	11/15/12	11/15/12
COLLECTION TIME:		10:13	10:39	11:07	11:55	11:55	12:48	13:12
DILUTION FACTOR:		1	1	1	1	1	1	1
	RL							
Dichlorodifluoromethane	100	nd	nd	nd	nd	nd	nd	nd
Vinyl Chloride	80	nd	190	nd	140	110	83	nd
Chloroethane	100	nd	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	100	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	100	nd	nd	nd	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd	nd
Chloroform	100	nd	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	100	nd	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	100	nd	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd	nd	nd	nd
Benzene	80	83	350	200	nd	nd	nd	nd
Trichloroethene	100	nd	nd	nd	nd	nd	nd	nd
Toluene	200	nd	560	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd	nd	nd	nd
Tetrachloroethene	100	nd	nd	nd	nd	nd	370	nd
Ethylbenzene	100	nd	120	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd	nd
m,p-Xylene	200	nd	360	490	nd	nd	nd	nd
o-Xylene	100	nd	130	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd	nd
1,1-Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		81%	81%	86%	83%	86%	85%	84%
Surrogate Recovery (1,2-DCA-d4)		85%	89%	94%	92%	95%	91%	93%
Surrogate Recovery (Toluene-d8)		80%	79%	83%	82%	81%	80%	82%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Leif Jonsson

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teg

Brown and Caldwell Project # 142782
WM Livermore
6175 Southfront Road, Livermore, California

TEG Project #21115F

CALIBRATION STANDARDS - Initial Calibration / LCS

Instrument: Agilent 5975B MSD

COMPOUND	INITIAL CALIBRATION RF	INITIAL CALIBRATION %RSD	LCS RF	LCS %DIFF
Dichlorodifluoromethane*	0.514	14.8%	0.572	11.3%
Vinyl Chloride*	0.565	10.8%	0.655	15.9%
Chloroethane*	0.338	17.4%	0.374	10.7%
Trichlorofluoromethane*	0.845	9.0%	0.980	16.0%
1,1-Dichloroethene	0.457	9.9%	0.516	12.9%
1,1,2-Trichloro-trifluoroethane*	0.451	10.1%	0.497	10.2%
Methylene Chloride	0.450	9.4%	0.510	13.3%
trans-1,2-Dichloroethene	0.522	11.2%	0.574	10.0%
1,1-Dichloroethane	0.570	11.3%	0.620	8.8%
cis-1,2-Dichloroethene	0.365	18.3%	0.380	4.1%
Chloroform	0.587	12.9%	0.610	3.9%
1,1,1-Trichloroethane	0.549	16.5%	0.561	2.2%
Carbon Tetrachloride	0.459	24.0%	0.475	3.5%
1,2-Dichloroethane	0.398	12.6%	0.410	3.0%
Benzene	1.323	15.0%	1.383	4.5%
Trichloroethene	0.353	13.1%	0.349	1.1%
Toluene	0.844	16.2%	0.826	2.1%
1,1,2-Trichloroethane	0.162	11.5%	0.173	6.8%
Tetrachloroethene	0.373	15.9%	0.359	3.8%
Ethylbenzene	0.689	14.4%	0.687	0.3%
1,1,1,2-Tetrachloroethane	0.358	19.5%	0.384	7.3%
m,p-Xylene	0.876	15.6%	0.894	2.1%
o-Xylene	0.838	15.5%	0.850	1.4%
1,1,2,2-Tetrachloroethane	0.445	9.0%	0.492	10.6%
Acceptable Limits		30.0%		15.0%

'*' Indicates LCS not to exceed 25%

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12/11/2012
Mr. Chuck Frey
Brown and Caldwell
10540 White Rock Road
Suite 180
Rancho Cordova CA 95670

Project Name: WM Livermore
Project #:
Workorder #: 1211506

Dear Mr. Chuck Frey

The following report includes the data for the above referenced project for sample(s) received on 11/26/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1211506

Work Order Summary

CLIENT:	Mr. Chuck Frey Brown and Caldwell 10540 White Rock Road Suite 180 Rancho Cordova, CA 95670	**BILL TO:**	Accounts Payable - Walnut Creek Brown and Caldwell 201 N. Civic Drive Suite 115 Walnut Creek, CA 94596
PHONE:	916-444-0123 X387	**P.O. #**	142758
FAX:		**PROJECT #**	WM Livermore
DATE RECEIVED:	11/26/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	12/11/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SG-2-7.5	Modified TO-15	4.0 "Hg	15 psi
02A	SG-4-9	Modified TO-15	4.5 "Hg	15 psi
03A	SS-3	Modified TO-15	4.0 "Hg	15 psi
04A	Lab Blank	Modified TO-15	NA	NA
04B	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
05B	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA
06B	LCS	Modified TO-15	NA	NA
06BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 12/11/12

Technical Director

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Brown and Caldwell
Workorder# 1211506

Three 1 Liter Summa Canister samples were received on November 26, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Due to the linear calibration range of the instrument, the reporting limit for 1,2,4-Trichlorobenzene was raised from 2.0ppbv to 5.0ppbv.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG-2-7.5

Lab ID#: 1211506-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.7	8.2	8.8	15
Acetone	12	20	28	48
2-Propanol	4.7	150	11	360
Toluene	1.2	2.0	4.4	7.4
m,p-Xylene	1.2	2.9	5.0	13
o-Xylene	1.2	1.4	5.0	6.1
1,2,4-Trimethylbenzene	1.2	3.4	5.7	17

Client Sample ID: SG-4-9

Lab ID#: 1211506-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	14	3.0	36
Ethanol	4.8	22	9.0	41
2-Propanol	4.8	18	12	43
Hexane	1.2	25	4.2	89
2-Butanone (Methyl Ethyl Ketone)	4.8	6.4	14	19
cis-1,2-Dichloroethene	1.2	3.5	4.7	14
Cyclohexane	1.2	13	4.1	44
2,2,4-Trimethylpentane	1.2	66	5.6	310
Benzene	1.2	5.5	3.8	18
Heptane	1.2	7.6	4.9	31
Toluene	1.2	11	4.5	40
Ethyl Benzene	1.2	1.9	5.2	8.2
m,p-Xylene	1.2	6.9	5.2	30
o-Xylene	1.2	2.7	5.2	12
1,2,4-Trimethylbenzene	1.2	3.2	5.8	16

Client Sample ID: SS-3

Lab ID#: 1211506-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.2	51	4.1	180

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS-3

Lab ID#: 1211506-03A

2-Butanone (Methyl Ethyl Ketone)	4.7	5.0	14	15
Cyclohexane	1.2	70	4.0	240
Benzene	1.2	18	3.7	56
Heptane	1.2	11	4.8	46
Toluene	1.2	2.1	4.4	8.0
Tetrachloroethene	1.2	3.2	7.9	21
m,p-Xylene	1.2	2.3	5.0	9.8
o-Xylene	1.2	1.5	5.0	6.4

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Client Sample ID: SG-2-7.5

Lab ID#: 1211506-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113019**	**Date of Collection:**	**11/16/12 9:50:00 AM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**11/30/12 11:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Freon 114	1.2	Not Detected	8.1	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	45	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.5	Not Detected
Ethanol	4.7	8.2	8.8	15
Freon 113	1.2	Not Detected	8.9	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	20	28	48
2-Propanol	4.7	150	11	360
Carbon Disulfide	4.7	Not Detected	14	Not Detected
3-Chloropropene	4.7	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	Not Detected	4.0	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.4	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Heptane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.8	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.8	Not Detected
Toluene	1.2	2.0	4.4	7.4
trans-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	7.9	Not Detected
2-Hexanone	4.7	Not Detected	19	Not Detected

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Client Sample ID: SG-2-7.5

Lab ID#: 1211506-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113019**	**Date of Collection:**	**11/16/12 9:50:00 AM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**11/30/12 11:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	9.9	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	Not Detected	5.4	Not Detected
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	2.9	5.0	13
o-Xylene	1.2	1.4	5.0	6.1
Styrene	1.2	Not Detected	5.0	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.7	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.0	Not Detected
Propylbenzene	1.2	Not Detected	5.7	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.7	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,2,4-Trimethylbenzene	1.2	3.4	5.7	17
1,3-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,2,4-Trichlorobenzene	12	Not Detected	86	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: SG-4-9

Lab ID#: 1211506-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113020**	**Date of Collection:**	**11/16/12 10:55:00 A**
Dil. Factor:	**2.38**	**Date of Analysis:**	**12/1/12 08:56 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.9	Not Detected
Freon 114	1.2	Not Detected	8.3	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	14	3.0	36
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	46	Not Detected
Chloroethane	4.8	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.7	Not Detected
Ethanol	4.8	22	9.0	41
Freon 113	1.2	Not Detected	9.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Acetone	12	Not Detected	28	Not Detected
2-Propanol	4.8	18	12	43
Carbon Disulfide	4.8	Not Detected	15	Not Detected
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.3	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Hexane	1.2	25	4.2	89
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	6.4	14	19
cis-1,2-Dichloroethene	1.2	3.5	4.7	14
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	1.2	Not Detected	5.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Cyclohexane	1.2	13	4.1	44
Carbon Tetrachloride	1.2	Not Detected	7.5	Not Detected
2,2,4-Trimethylpentane	1.2	66	5.6	310
Benzene	1.2	5.5	3.8	18
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Heptane	1.2	7.6	4.9	31
Trichloroethene	1.2	Not Detected	6.4	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.5	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	8.0	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.9	Not Detected
Toluene	1.2	11	4.5	40
trans-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	Not Detected	8.1	Not Detected
2-Hexanone	4.8	Not Detected	19	Not Detected

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Client Sample ID: SG-4-9

Lab ID#: 1211506-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113020**	**Date of Collection:**	**11/16/12 10:55:00 A**
Dil. Factor:	**2.38**	**Date of Analysis:**	**12/1/12 08:56 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.1	Not Detected
Chlorobenzene	1.2	Not Detected	5.5	Not Detected
Ethyl Benzene	1.2	1.9	5.2	8.2
m,p-Xylene	1.2	6.9	5.2	30
o-Xylene	1.2	2.7	5.2	12
Styrene	1.2	Not Detected	5.1	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.8	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.2	Not Detected
Propylbenzene	1.2	Not Detected	5.8	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.8	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,2,4-Trimethylbenzene	1.2	3.2	5.8	16
1,3-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.2	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,2,4-Trichlorobenzene	12	Not Detected	88	Not Detected
Hexachlorobutadiene	4.8	Not Detected	51	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: SS-3

Lab ID#: 1211506-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2120307**	**Date of Collection:**	**11/16/12 2:30:00 PM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**12/3/12 12:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Freon 114	1.2	Not Detected	8.1	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	45	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.5	Not Detected
Ethanol	4.7	Not Detected	8.8	Not Detected
Freon 113	1.2	Not Detected	8.9	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	Not Detected	28	Not Detected
2-Propanol	4.7	Not Detected	11	Not Detected
Carbon Disulfide	4.7	Not Detected	14	Not Detected
3-Chloropropene	4.7	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	51	4.1	180
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	5.0	14	15
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	70	4.0	240
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.4	Not Detected
Benzene	1.2	18	3.7	56
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Heptane	1.2	11	4.8	46
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.8	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.8	Not Detected
Toluene	1.2	2.1	4.4	8.0
trans-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	3.2	7.9	21
2-Hexanone	4.7	Not Detected	19	Not Detected

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Client Sample ID: SS-3

Lab ID#: 1211506-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2120307**	**Date of Collection:**	**11/16/12 2:30:00 PM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**12/3/12 12:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	9.9	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	Not Detected	5.4	Not Detected
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	2.3	5.0	9.8
o-Xylene	1.2	1.5	5.0	6.4
Styrene	1.2	Not Detected	5.0	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.7	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.0	Not Detected
Propylbenzene	1.2	Not Detected	5.7	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.7	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,2,4-Trichlorobenzene	12	Not Detected	86	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1211506-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113009**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/30/12 03:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

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Client Sample ID: Lab Blank

Lab ID#: 1211506-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113009**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/30/12 03:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	5.0	Not Detected	37	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1211506-04B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2120306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/3/12 11:35 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

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Client Sample ID: Lab Blank

Lab ID#: 1211506-04B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2120306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/3/12 11:35 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	5.0	Not Detected	37	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: CCV

Lab ID#: 1211506-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113002**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/30/12 09:54 AM**	

Compound	%Recovery
Freon 12	98
Freon 114	94
Chloromethane	105
Vinyl Chloride	95
1,3-Butadiene	85
Bromomethane	110
Chloroethane	97
Freon 11	91
Ethanol	97
Freon 113	90
1,1-Dichloroethene	84
Acetone	92
2-Propanol	90
Carbon Disulfide	94
3-Chloropropene	93
Methylene Chloride	91
Methyl tert-butyl ether	82
trans-1,2-Dichloroethene	85
Hexane	87
1,1-Dichloroethane	85
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	89
Tetrahydrofuran	87
Chloroform	91
1,1,1-Trichloroethane	93
Cyclohexane	88
Carbon Tetrachloride	100
2,2,4-Trimethylpentane	87
Benzene	85
1,2-Dichloroethane	92
Heptane	89
Trichloroethene	92
1,2-Dichloropropane	89
1,4-Dioxane	94
Bromodichloromethane	98
cis-1,3-Dichloropropene	93
4-Methyl-2-pentanone	91
Toluene	85
trans-1,3-Dichloropropene	103
1,1,2-Trichloroethane	90
Tetrachloroethene	91
2-Hexanone	93

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Client Sample ID: CCV

Lab ID#: 1211506-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113002**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/30/12 09:54 AM**	

Compound	%Recovery
Dibromochloromethane	101
1,2-Dibromoethane (EDB)	94
Chlorobenzene	88
Ethyl Benzene	91
m,p-Xylene	94
o-Xylene	98
Styrene	97
Bromoform	101
Cumene	97
1,1,2,2-Tetrachloroethane	92
Propylbenzene	99
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	120
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	94
Hexachlorobutadiene	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: CCV

Lab ID#: 1211506-05B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2120302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/3/12 08:52 AM**	

Compound	%Recovery
Freon 12	95
Freon 114	95
Chloromethane	102
Vinyl Chloride	93
1,3-Butadiene	87
Bromomethane	108
Chloroethane	94
Freon 11	89
Ethanol	95
Freon 113	87
1,1-Dichloroethene	84
Acetone	96
2-Propanol	90
Carbon Disulfide	91
3-Chloropropene	94
Methylene Chloride	88
Methyl tert-butyl ether	80
trans-1,2-Dichloroethene	83
Hexane	80
1,1-Dichloroethane	83
2-Butanone (Methyl Ethyl Ketone)	89
cis-1,2-Dichloroethene	84
Tetrahydrofuran	86
Chloroform	84
1,1,1-Trichloroethane	90
Cyclohexane	84
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	84
Benzene	82
1,2-Dichloroethane	90
Heptane	87
Trichloroethene	89
1,2-Dichloropropane	87
1,4-Dioxane	92
Bromodichloromethane	94
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	93
Toluene	87
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	87
Tetrachloroethene	87
2-Hexanone	90

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Client Sample ID: CCV

Lab ID#: 1211506-05B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2120302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/3/12 08:52 AM**	

Compound	%Recovery
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	91
Chlorobenzene	86
Ethyl Benzene	85
m,p-Xylene	87
o-Xylene	90
Styrene	90
Bromoform	96
Cumene	89
1,1,2,2-Tetrachloroethane	87
Propylbenzene	95
4-Ethyltoluene	89
1,3,5-Trimethylbenzene	94
1,2,4-Trimethylbenzene	88
1,3-Dichlorobenzene	93
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	114
1,2-Dichlorobenzene	88
1,2,4-Trichlorobenzene	86
Hexachlorobutadiene	93

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1211506-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113005**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/30/12 12:16 PM**	

Compound	%Recovery
Freon 12	97
Freon 114	95
Chloromethane	107
Vinyl Chloride	94
1,3-Butadiene	90
Bromomethane	111
Chloroethane	100
Freon 11	90
Ethanol	110
Freon 113	92
1,1-Dichloroethene	95
Acetone	103
2-Propanol	112
Carbon Disulfide	118
3-Chloropropene	110
Methylene Chloride	94
Methyl tert-butyl ether	87
trans-1,2-Dichloroethene	100
Hexane	85
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	90
Tetrahydrofuran	87
Chloroform	92
1,1,1-Trichloroethane	94
Cyclohexane	89
Carbon Tetrachloride	100
2,2,4-Trimethylpentane	86
Benzene	90
1,2-Dichloroethane	98
Heptane	92
Trichloroethene	96
1,2-Dichloropropane	90
1,4-Dioxane	100
Bromodichloromethane	101
cis-1,3-Dichloropropene	101
4-Methyl-2-pentanone	101
Toluene	90
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	93
Tetrachloroethene	93
2-Hexanone	107

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Client Sample ID: LCS

Lab ID#: 1211506-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113005**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/30/12 12:16 PM**	

Compound	%Recovery
Dibromochloromethane	103
1,2-Dibromoethane (EDB)	97
Chlorobenzene	94
Ethyl Benzene	93
m,p-Xylene	95
o-Xylene	97
Styrene	100
Bromoform	104
Cumene	98
1,1,2,2-Tetrachloroethane	99
Propylbenzene	101
4-Ethyltoluene	89
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	89
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	115
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	92
Hexachlorobutadiene	93

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1211506-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/30/12 01:03 PM**	

Compound	%Recovery
Freon 12	97
Freon 114	95
Chloromethane	108
Vinyl Chloride	95
1,3-Butadiene	89
Bromomethane	110
Chloroethane	102
Freon 11	89
Ethanol	112
Freon 113	92
1,1-Dichloroethene	96
Acetone	103
2-Propanol	116
Carbon Disulfide	119
3-Chloropropene	111
Methylene Chloride	94
Methyl tert-butyl ether	89
trans-1,2-Dichloroethene	101
Hexane	86
1,1-Dichloroethane	89
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	92
Tetrahydrofuran	88
Chloroform	93
1,1,1-Trichloroethane	95
Cyclohexane	90
Carbon Tetrachloride	100
2,2,4-Trimethylpentane	85
Benzene	89
1,2-Dichloroethane	96
Heptane	92
Trichloroethene	95
1,2-Dichloropropane	90
1,4-Dioxane	97
Bromodichloromethane	100
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	100
Toluene	90
trans-1,3-Dichloropropene	108
1,1,2-Trichloroethane	94
Tetrachloroethene	92
2-Hexanone	105

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Client Sample ID: LCSD

Lab ID#: 1211506-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2113006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/30/12 01:03 PM**	

Compound	%Recovery
Dibromochloromethane	103
1,2-Dibromoethane (EDB)	99
Chlorobenzene	93
Ethyl Benzene	92
m,p-Xylene	96
o-Xylene	100
Styrene	102
Bromoform	103
Cumene	99
1,1,2,2-Tetrachloroethane	99
Propylbenzene	105
4-Ethyltoluene	92
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	93
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	99
alpha-Chlorotoluene	117
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	96

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCS

Lab ID#: 1211506-06B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2120303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/3/12 09:30 AM**	

Compound	%Recovery
Freon 12	83
Freon 114	83
Chloromethane	90
Vinyl Chloride	82
1,3-Butadiene	78
Bromomethane	100
Chloroethane	88
Freon 11	82
Ethanol	98
Freon 113	81
1,1-Dichloroethene	84
Acetone	84
2-Propanol	89
Carbon Disulfide	100
3-Chloropropene	96
Methylene Chloride	82
Methyl tert-butyl ether	78
trans-1,2-Dichloroethene	90
Hexane	76
1,1-Dichloroethane	78
2-Butanone (Methyl Ethyl Ketone)	88
cis-1,2-Dichloroethene	82
Tetrahydrofuran	76
Chloroform	82
1,1,1-Trichloroethane	83
Cyclohexane	79
Carbon Tetrachloride	87
2,2,4-Trimethylpentane	77
Benzene	78
1,2-Dichloroethane	83
Heptane	80
Trichloroethene	84
1,2-Dichloropropane	79
1,4-Dioxane	86
Bromodichloromethane	88
cis-1,3-Dichloropropene	88
4-Methyl-2-pentanone	85
Toluene	78
trans-1,3-Dichloropropene	96
1,1,2-Trichloroethane	84
Tetrachloroethene	83
2-Hexanone	93

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Client Sample ID: LCS

Lab ID#: 1211506-06B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2120303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/3/12 09:30 AM**	

Compound	%Recovery
Dibromochloromethane	91
1,2-Dibromoethane (EDB)	88
Chlorobenzene	83
Ethyl Benzene	83
m,p-Xylene	84
o-Xylene	87
Styrene	90
Bromoform	92
Cumene	87
1,1,2,2-Tetrachloroethane	88
Propylbenzene	91
4-Ethyltoluene	81
1,3,5-Trimethylbenzene	90
1,2,4-Trimethylbenzene	81
1,3-Dichlorobenzene	89
1,4-Dichlorobenzene	87
alpha-Chlorotoluene	104
1,2-Dichlorobenzene	84
1,2,4-Trichlorobenzene	81
Hexachlorobutadiene	84

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCSD

Lab ID#: 1211506-06BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2120305**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/3/12 10:49 AM**	

Compound	%Recovery
Freon 12	96
Freon 114	95
Chloromethane	106
Vinyl Chloride	94
1,3-Butadiene	87
Bromomethane	113
Chloroethane	105
Freon 11	88
Ethanol	109
Freon 113	92
1,1-Dichloroethene	100
Acetone	105
2-Propanol	115
Carbon Disulfide	117
3-Chloropropene	111
Methylene Chloride	96
Methyl tert-butyl ether	88
trans-1,2-Dichloroethene	104
Hexane	86
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	92
Tetrahydrofuran	88
Chloroform	94
1,1,1-Trichloroethane	94
Cyclohexane	89
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	85
Benzene	91
1,2-Dichloroethane	95
Heptane	93
Trichloroethene	96
1,2-Dichloropropane	91
1,4-Dioxane	99
Bromodichloromethane	99
cis-1,3-Dichloropropene	101
4-Methyl-2-pentanone	97
Toluene	91
trans-1,3-Dichloropropene	109
1,1,2-Trichloroethane	94
Tetrachloroethene	93
2-Hexanone	101

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Client Sample ID: LCSD

Lab ID#: 1211506-06BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**2120305**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/3/12 10:49 AM**	

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	99
Chlorobenzene	92
Ethyl Benzene	92
m,p-Xylene	94
o-Xylene	98
Styrene	102
Bromoform	103
Cumene	98
1,1,2,2-Tetrachloroethane	99
Propylbenzene	102
4-Ethyltoluene	89
1,3,5-Trimethylbenzene	97
1,2,4-Trimethylbenzene	90
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	116
1,2-Dichlorobenzene	94
1,2,4-Trichlorobenzene	94
Hexachlorobutadiene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	104	70-130

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2/21/2013
Mr. Chuck Frey
Brown and Caldwell
10540 White Rock Road
Suite 180
Rancho Cordova CA 95670

Project Name: WM LIVERMORE
Project #: 142782
Workorder #: 1302040B

Dear Mr. Chuck Frey

The following report includes the data for the above referenced project for sample(s) received on 2/4/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1302040B

Work Order Summary

CLIENT:	Mr. Chuck Frey Brown and Caldwell 10540 White Rock Road Suite 180 Rancho Cordova, CA 95670	**BILL TO:**	Accounts Payable - Walnut Creek Brown and Caldwell 201 N. Civic Drive Suite 115 Walnut Creek, CA 94596
PHONE:	916-444-0123 X387	**P.O. #**	
FAX:		**PROJECT #**	142782 WM LIVERMORE
DATE RECEIVED:	02/04/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/21/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
07A	SS-1	Modified TO-15	5.5 "Hg	15 psi
08A	SS-2	Modified TO-15	5.0 "Hg	15 psi
09A	SS-3	Modified TO-15	4.0 "Hg	15 psi
10A	Lab Blank	Modified TO-15	NA	NA
10B	Lab Blank	Modified TO-15	NA	NA
11A	CCV	Modified TO-15	NA	NA
11B	CCV	Modified TO-15	NA	NA
12A	LCS	Modified TO-15	NA	NA
12AA	LCSD	Modified TO-15	NA	NA
12B	LCS	Modified TO-15	NA	NA
12BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 02/21/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Brown and Caldwell
Workorder# 1302040B

Three 1 Liter Summa Canister samples were received on February 04, 2013. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS-1

Lab ID#: 1302040B-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	4.9	20	12	49

Client Sample ID: SS-2

Lab ID#: 1302040B-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	12	13	29	30
2-Propanol	4.8	6.8	12	17
Trichloroethene	1.2	1.9	6.5	10
Tetrachloroethene	1.2	38	8.2	260

Client Sample ID: SS-3

Lab ID#: 1302040B-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.7	5.7	8.8	11
Acetone	12	15	28	36
Hexane	1.2	3.2	4.1	11
Cyclohexane	1.2	89	4.0	310
Benzene	1.2	29	3.7	92
Heptane	1.2	1.2	4.8	4.8
Toluene	1.2	1.6	4.4	6.0
Tetrachloroethene	1.2	1.9	7.9	13
m,p-Xylene	1.2	1.8	5.0	7.9
o-Xylene	1.2	1.3	5.0	5.8

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Client Sample ID: SS-1

Lab ID#: 1302040B-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021130**	**Date of Collection:**	**2/2/13 4:40:00 PM**
Dil. Factor:	**2.47**	**Date of Analysis:**	**2/12/13 07:54 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.1	Not Detected
Freon 114	1.2	Not Detected	8.6	Not Detected
Chloromethane	12	Not Detected	26	Not Detected
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,3-Butadiene	1.2	Not Detected	2.7	Not Detected
Bromomethane	12	Not Detected	48	Not Detected
Chloroethane	4.9	Not Detected	13	Not Detected
Freon 11	1.2	Not Detected	6.9	Not Detected
Ethanol	4.9	Not Detected	9.3	Not Detected
Freon 113	1.2	Not Detected	9.5	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Acetone	12	Not Detected	29	Not Detected
2-Propanol	4.9	20	12	49
Carbon Disulfide	4.9	Not Detected	15	Not Detected
3-Chloropropene	4.9	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	43	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.4	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Hexane	1.2	Not Detected	4.4	Not Detected
1,1-Dichloroethane	1.2	Not Detected	5.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.9	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.6	Not Detected
Chloroform	1.2	Not Detected	6.0	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
Cyclohexane	1.2	Not Detected	4.2	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.8	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.8	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	Not Detected	5.0	Not Detected
Heptane	1.2	Not Detected	5.1	Not Detected
Trichloroethene	1.2	Not Detected	6.6	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.7	Not Detected
1,4-Dioxane	4.9	Not Detected	18	Not Detected
Bromodichloromethane	1.2	Not Detected	8.3	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.6	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	5.0	Not Detected
Toluene	1.2	Not Detected	4.6	Not Detected
trans-1,3-Dichloropropene	1.2	Not Detected	5.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.7	Not Detected
Tetrachloroethene	1.2	Not Detected	8.4	Not Detected
2-Hexanone	4.9	Not Detected	20	Not Detected

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Client Sample ID: SS-1

Lab ID#: 1302040B-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021130**	**Date of Collection:**	**2/2/13 4:40:00 PM**
Dil. Factor:	**2.47**	**Date of Analysis:**	**2/12/13 07:54 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.5	Not Detected
Chlorobenzene	1.2	Not Detected	5.7	Not Detected
Ethyl Benzene	1.2	Not Detected	5.4	Not Detected
m,p-Xylene	1.2	Not Detected	5.4	Not Detected
o-Xylene	1.2	Not Detected	5.4	Not Detected
Styrene	1.2	Not Detected	5.3	Not Detected
Bromoform	1.2	Not Detected	13	Not Detected
Cumene	1.2	Not Detected	6.1	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.5	Not Detected
Propylbenzene	1.2	Not Detected	6.1	Not Detected
4-Ethyltoluene	1.2	Not Detected	6.1	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	6.1	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	6.1	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.4	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
1,2,4-Trichlorobenzene	4.9	Not Detected	37	Not Detected
Hexachlorobutadiene	4.9	Not Detected	53	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: SS-2

Lab ID#: 1302040B-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021322**	**Date of Collection:**	**2/2/13 4:49:00 PM**
Dil. Factor:	**2.42**	**Date of Analysis:**	**2/13/13 10:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Freon 114	1.2	Not Detected	8.4	Not Detected
Chloromethane	12	Not Detected	25	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,3-Butadiene	1.2	Not Detected	2.7	Not Detected
Bromomethane	12	Not Detected	47	Not Detected
Chloroethane	4.8	Not Detected	13	Not Detected
Freon 11	1.2	Not Detected	6.8	Not Detected
Ethanol	4.8	Not Detected	9.1	Not Detected
Freon 113	1.2	Not Detected	9.3	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	12	13	29	30
2-Propanol	4.8	6.8	12	17
Carbon Disulfide	4.8	Not Detected	15	Not Detected
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.4	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Hexane	1.2	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.6	Not Detected
Chloroform	1.2	Not Detected	5.9	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Cyclohexane	1.2	Not Detected	4.2	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.6	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Heptane	1.2	Not Detected	5.0	Not Detected
Trichloroethene	1.2	1.9	6.5	10
1,2-Dichloropropane	1.2	Not Detected	5.6	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	8.1	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	5.0	Not Detected
Toluene	1.2	Not Detected	4.6	Not Detected
trans-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	38	8.2	260
2-Hexanone	4.8	Not Detected	20	Not Detected

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Client Sample ID: SS-2

Lab ID#: 1302040B-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021322**	**Date of Collection:**	**2/2/13 4:49:00 PM**
Dil. Factor:	**2.42**	**Date of Analysis:**	**2/13/13 10:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.3	Not Detected
Chlorobenzene	1.2	Not Detected	5.6	Not Detected
Ethyl Benzene	1.2	Not Detected	5.2	Not Detected
m,p-Xylene	1.2	Not Detected	5.2	Not Detected
o-Xylene	1.2	Not Detected	5.2	Not Detected
Styrene	1.2	Not Detected	5.2	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.9	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.3	Not Detected
Propylbenzene	1.2	Not Detected	5.9	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.9	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.3	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	36	Not Detected
Hexachlorobutadiene	4.8	Not Detected	52	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	87	70-130

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Client Sample ID: SS-3

Lab ID#: 1302040B-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021323**	**Date of Collection:**	**2/2/13 4:56:00 PM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**2/13/13 10:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Freon 114	1.2	Not Detected	8.1	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	45	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.5	Not Detected
Ethanol	4.7	5.7	8.8	11
Freon 113	1.2	Not Detected	8.9	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	15	28	36
2-Propanol	4.7	Not Detected	11	Not Detected
Carbon Disulfide	4.7	Not Detected	14	Not Detected
3-Chloropropene	4.7	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	3.2	4.1	11
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	89	4.0	310
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.4	Not Detected
Benzene	1.2	29	3.7	92
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Heptane	1.2	1.2	4.8	4.8
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.8	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.8	Not Detected
Toluene	1.2	1.6	4.4	6.0
trans-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	1.9	7.9	13
2-Hexanone	4.7	Not Detected	19	Not Detected

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Client Sample ID: SS-3

Lab ID#: 1302040B-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021323**	**Date of Collection:**	**2/2/13 4:56:00 PM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**2/13/13 10:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	9.9	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	Not Detected	5.4	Not Detected
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	1.8	5.0	7.9
o-Xylene	1.2	1.3	5.0	5.8
Styrene	1.2	Not Detected	5.0	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.7	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.0	Not Detected
Propylbenzene	1.2	Not Detected	5.7	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.7	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,2,4-Trichlorobenzene	4.7	Not Detected	34	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	111	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1302040B-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021106**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/11/13 11:04 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

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Client Sample ID: Lab Blank

Lab ID#: 1302040B-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021106**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/11/13 11:04 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1302040B-10B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021314**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/13/13 05:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

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Client Sample ID: Lab Blank

Lab ID#: 1302040B-10B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021314**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/13/13 05:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: CCV

Lab ID#: 1302040B-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/11/13 09:04 AM**	

Compound	%Recovery
Freon 12	102
Freon 114	104
Chloromethane	98
Vinyl Chloride	104
1,3-Butadiene	106
Bromomethane	96
Chloroethane	95
Freon 11	98
Ethanol	95
Freon 113	95
1,1-Dichloroethene	98
Acetone	94
2-Propanol	99
Carbon Disulfide	95
3-Chloropropene	100
Methylene Chloride	97
Methyl tert-butyl ether	108
trans-1,2-Dichloroethene	99
Hexane	108
1,1-Dichloroethane	97
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	98
Tetrahydrofuran	113
Chloroform	99
1,1,1-Trichloroethane	99
Cyclohexane	109
Carbon Tetrachloride	100
2,2,4-Trimethylpentane	109
Benzene	104
1,2-Dichloroethane	102
Heptane	116
Trichloroethene	90
1,2-Dichloropropane	102
1,4-Dioxane	102
Bromodichloromethane	103
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	117
Toluene	104
trans-1,3-Dichloropropene	109
1,1,2-Trichloroethane	103
Tetrachloroethene	100
2-Hexanone	127

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Client Sample ID: CCV

Lab ID#: 1302040B-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/11/13 09:04 AM**	

Compound	%Recovery
Dibromochloromethane	108
1,2-Dibromoethane (EDB)	106
Chlorobenzene	97
Ethyl Benzene	111
m,p-Xylene	116
o-Xylene	117
Styrene	122
Bromoform	109
Cumene	121
1,1,2,2-Tetrachloroethane	115
Propylbenzene	114
4-Ethyltoluene	117
1,3,5-Trimethylbenzene	125
1,2,4-Trimethylbenzene	133 Q
1,3-Dichlorobenzene	109
1,4-Dichlorobenzene	111
alpha-Chlorotoluene	120
1,2-Dichlorobenzene	108
1,2,4-Trichlorobenzene	103
Hexachlorobutadiene	101

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: CCV

Lab ID#: 1302040B-11B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/13/13 09:31 AM**	

Compound	%Recovery
Freon 12	96
Freon 114	104
Chloromethane	88
Vinyl Chloride	98
1,3-Butadiene	100
Bromomethane	94
Chloroethane	93
Freon 11	91
Ethanol	93
Freon 113	93
1,1-Dichloroethene	96
Acetone	90
2-Propanol	92
Carbon Disulfide	92
3-Chloropropene	99
Methylene Chloride	89
Methyl tert-butyl ether	102
trans-1,2-Dichloroethene	98
Hexane	103
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	102
Tetrahydrofuran	106
Chloroform	94
1,1,1-Trichloroethane	93
Cyclohexane	109
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	108
Benzene	101
1,2-Dichloroethane	91
Heptane	114
Trichloroethene	87
1,2-Dichloropropane	97
1,4-Dioxane	101
Bromodichloromethane	97
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	112
Toluene	100
trans-1,3-Dichloropropene	106
1,1,2-Trichloroethane	103
Tetrachloroethene	102
2-Hexanone	123

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Client Sample ID: CCV

Lab ID#: 1302040B-11B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/13/13 09:31 AM**	

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	105
Chlorobenzene	95
Ethyl Benzene	110
m,p-Xylene	114
o-Xylene	113
Styrene	119
Bromoform	103
Cumene	117
1,1,2,2-Tetrachloroethane	111
Propylbenzene	110
4-Ethyltoluene	113
1,3,5-Trimethylbenzene	120
1,2,4-Trimethylbenzene	129
1,3-Dichlorobenzene	105
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	112
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	96
Hexachlorobutadiene	93

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: LCS

Lab ID#: 1302040B-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/11/13 09:37 AM**	

Compound	%Recovery
Freon 12	106
Freon 114	110
Chloromethane	104
Vinyl Chloride	110
1,3-Butadiene	112
Bromomethane	102
Chloroethane	102
Freon 11	100
Ethanol	100
Freon 113	100
1,1-Dichloroethene	110
Acetone	101
2-Propanol	104
Carbon Disulfide	120
3-Chloropropene	122
Methylene Chloride	96
Methyl tert-butyl ether	111
trans-1,2-Dichloroethene	115
Hexane	112
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	103
Tetrahydrofuran	112
Chloroform	103
1,1,1-Trichloroethane	104
Cyclohexane	114
Carbon Tetrachloride	104
2,2,4-Trimethylpentane	114
Benzene	108
1,2-Dichloroethane	103
Heptane	116
Trichloroethene	94
1,2-Dichloropropane	105
1,4-Dioxane	108
Bromodichloromethane	106
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	119
Toluene	106
trans-1,3-Dichloropropene	111
1,1,2-Trichloroethane	104
Tetrachloroethene	102
2-Hexanone	126

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Client Sample ID: LCS

Lab ID#: 1302040B-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/11/13 09:37 AM**	

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	108
Chlorobenzene	98
Ethyl Benzene	110
m,p-Xylene	119
o-Xylene	118
Styrene	122
Bromoform	106
Cumene	122
1,1,2,2-Tetrachloroethane	117
Propylbenzene	116
4-Ethyltoluene	113
1,3,5-Trimethylbenzene	124
1,2,4-Trimethylbenzene	132 Q
1,3-Dichlorobenzene	110
1,4-Dichlorobenzene	112
alpha-Chlorotoluene	119
1,2-Dichlorobenzene	111
1,2,4-Trichlorobenzene	110
Hexachlorobutadiene	105

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: LCSD

Lab ID#: 1302040B-12AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/11/13 09:59 AM**	

Compound	%Recovery
Freon 12	104
Freon 114	109
Chloromethane	101
Vinyl Chloride	110
1,3-Butadiene	112
Bromomethane	100
Chloroethane	99
Freon 11	98
Ethanol	101
Freon 113	100
1,1-Dichloroethene	112
Acetone	98
2-Propanol	105
Carbon Disulfide	121
3-Chloropropene	123
Methylene Chloride	95
Methyl tert-butyl ether	112
trans-1,2-Dichloroethene	116
Hexane	113
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	106
Tetrahydrofuran	112
Chloroform	102
1,1,1-Trichloroethane	102
Cyclohexane	116
Carbon Tetrachloride	103
2,2,4-Trimethylpentane	114
Benzene	103
1,2-Dichloroethane	97
Heptane	114
Trichloroethene	91
1,2-Dichloropropane	101
1,4-Dioxane	101
Bromodichloromethane	101
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	114
Toluene	102
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	104
Tetrachloroethene	101
2-Hexanone	127

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Client Sample ID: LCSD

Lab ID#: 1302040B-12AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/11/13 09:59 AM**	

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	108
Chlorobenzene	100
Ethyl Benzene	113
m,p-Xylene	119
o-Xylene	118
Styrene	123
Bromoform	105
Cumene	122
1,1,2,2-Tetrachloroethane	117
Propylbenzene	115
4-Ethyltoluene	114
1,3,5-Trimethylbenzene	124
1,2,4-Trimethylbenzene	132 Q
1,3-Dichlorobenzene	112
1,4-Dichlorobenzene	112
alpha-Chlorotoluene	119
1,2-Dichlorobenzene	112
1,2,4-Trichlorobenzene	114
Hexachlorobutadiene	107

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: LCS

Lab ID#: 1302040B-12B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/13/13 10:01 AM**	

Compound	%Recovery
Freon 12	95
Freon 114	104
Chloromethane	89
Vinyl Chloride	101
1,3-Butadiene	103
Bromomethane	94
Chloroethane	94
Freon 11	89
Ethanol	90
Freon 113	96
1,1-Dichloroethene	105
Acetone	91
2-Propanol	92
Carbon Disulfide	114
3-Chloropropene	116
Methylene Chloride	86
Methyl tert-butyl ether	103
trans-1,2-Dichloroethene	111
Hexane	105
1,1-Dichloroethane	93
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	101
Tetrahydrofuran	102
Chloroform	95
1,1,1-Trichloroethane	94
Cyclohexane	112
Carbon Tetrachloride	95
2,2,4-Trimethylpentane	108
Benzene	104
1,2-Dichloroethane	90
Heptane	114
Trichloroethene	90
1,2-Dichloropropane	101
1,4-Dioxane	106
Bromodichloromethane	98
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	115
Toluene	103
trans-1,3-Dichloropropene	108
1,1,2-Trichloroethane	105
Tetrachloroethene	104
2-Hexanone	125

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Client Sample ID: LCS

Lab ID#: 1302040B-12B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/13/13 10:01 AM**	

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	107
Chlorobenzene	98
Ethyl Benzene	110
m,p-Xylene	117
o-Xylene	117
Styrene	122
Bromoform	104
Cumene	118
1,1,2,2-Tetrachloroethane	114
Propylbenzene	112
4-Ethyltoluene	109
1,3,5-Trimethylbenzene	122
1,2,4-Trimethylbenzene	130
1,3-Dichlorobenzene	107
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	114
1,2-Dichlorobenzene	105
1,2,4-Trichlorobenzene	99
Hexachlorobutadiene	96

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCSD

Lab ID#: 1302040B-12BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/13/13 10:20 AM**	

Compound	%Recovery
Freon 12	93
Freon 114	102
Chloromethane	89
Vinyl Chloride	102
1,3-Butadiene	103
Bromomethane	93
Chloroethane	93
Freon 11	88
Ethanol	88
Freon 113	96
1,1-Dichloroethene	106
Acetone	91
2-Propanol	92
Carbon Disulfide	114
3-Chloropropene	116
Methylene Chloride	85
Methyl tert-butyl ether	102
trans-1,2-Dichloroethene	111
Hexane	105
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	101
cis-1,2-Dichloroethene	102
Tetrahydrofuran	101
Chloroform	94
1,1,1-Trichloroethane	93
Cyclohexane	113
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	109
Benzene	102
1,2-Dichloroethane	89
Heptane	112
Trichloroethene	90
1,2-Dichloropropane	99
1,4-Dioxane	104
Bromodichloromethane	97
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	112
Toluene	100
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	102
Tetrachloroethene	101
2-Hexanone	123

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Client Sample ID: LCSD

Lab ID#: 1302040B-12BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3021304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/13/13 10:20 AM**	

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	106
Chlorobenzene	97
Ethyl Benzene	108
m,p-Xylene	115
o-Xylene	113
Styrene	118
Bromoform	100
Cumene	116
1,1,2,2-Tetrachloroethane	111
Propylbenzene	108
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	117
1,2,4-Trimethylbenzene	127
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	111
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	99
Hexachlorobutadiene	96

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	97	70-130

Attachment C: Ambient and Indoor Air Analytical Reports

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2/13/2013
Mr. Chuck Frey
Brown and Caldwell
10540 White Rock Road
Suite 180
Rancho Cordova CA 95670

Project Name: WM LIVERMORE
Project #: 142782
Workorder #: 1302040A

Dear Mr. Chuck Frey

The following report includes the data for the above referenced project for sample(s) received on 2/4/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 SIM are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

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WORK ORDER #: 1302040A

Work Order Summary

CLIENT:	Mr. Chuck Frey Brown and Caldwell 10540 White Rock Road Suite 180 Rancho Cordova, CA 95670	**BILL TO:**	Accounts Payable - Walnut Creek Brown and Caldwell 201 N. Civic Drive Suite 115 Walnut Creek, CA 94596
PHONE:	916-444-0123 X387	**P.O. #**	
FAX:		**PROJECT #**	142782 WM LIVERMORE
DATE RECEIVED:	02/04/2013	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	02/13/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	OA-N	Modified TO-15 SIM	5.5 "Hg	5 psi
02A	OA-S	Modified TO-15 SIM	5.5 "Hg	5 psi
03A	BATHROOM	Modified TO-15 SIM	5.5 "Hg	5 psi
04A	BATHROOM-DUP	Modified TO-15 SIM	5.0 "Hg	5 psi
05A	SHOP	Modified TO-15 SIM	5.0 "Hg	5 psi
06A	SHOP-DUP	Modified TO-15 SIM	5.0 "Hg	5 psi
07A	Lab Blank	Modified TO-15 SIM	NA	NA
08A	CCV	Modified TO-15 SIM	NA	NA
09A	LCS	Modified TO-15 SIM	NA	NA
09AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 02/13/13

Technical Director

Certfication numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 SIM
Brown and Caldwell
Workorder# 1302040A

Six 6 Liter Summa Canister (SIM Certified) samples were received on February 04, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: OA-N

Lab ID#: 1302040A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.082	0.25	0.26	0.80
Toluene	0.033	0.44	0.12	1.6
Ethyl Benzene	0.033	0.075	0.14	0.32
m,p-Xylene	0.066	0.20	0.28	0.87
o-Xylene	0.033	0.082	0.14	0.36

Client Sample ID: OA-S

Lab ID#: 1302040A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.082	0.24	0.26	0.76
Toluene	0.033	0.46	0.12	1.7
Ethyl Benzene	0.033	0.074	0.14	0.32
m,p-Xylene	0.066	0.22	0.28	0.98
o-Xylene	0.033	0.10	0.14	0.44

Client Sample ID: BATHROOM

Lab ID#: 1302040A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.082	0.34	0.26	1.1
Toluene	0.033	2.1	0.12	8.1
Ethyl Benzene	0.033	0.16	0.14	0.71
m,p-Xylene	0.066	0.53	0.28	2.3
o-Xylene	0.033	0.21	0.14	0.93

Client Sample ID: BATHROOM-DUP

Lab ID#: 1302040A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.080	0.35	0.26	1.1
Toluene	0.032	2.2	0.12	8.2

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: BATHROOM-DUP

Lab ID#: 1302040A-04A

Ethyl Benzene	0.032	0.18	0.14	0.77
m,p-Xylene	0.064	0.55	0.28	2.4
o-Xylene	0.032	0.24	0.14	1.0

Client Sample ID: SHOP

Lab ID#: 1302040A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.080	0.30	0.26	0.96
Toluene	0.032	4.5	0.12	17
Ethyl Benzene	0.032	0.14	0.14	0.59
m,p-Xylene	0.064	0.46	0.28	2.0
o-Xylene	0.032	0.15	0.14	0.67

Client Sample ID: SHOP-DUP

Lab ID#: 1302040A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.080	0.32	0.26	1.0
Toluene	0.032	4.6	0.12	17
Ethyl Benzene	0.032	0.13	0.14	0.57
m,p-Xylene	0.064	0.44	0.28	1.9
o-Xylene	0.032	0.16	0.14	0.71

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Client Sample ID: OA-N

Lab ID#: 1302040A-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a020610sim**	**Date of Collection:**	**2/2/13 4:33:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**2/6/13 04:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Benzene	0.082	0.25	0.26	0.80
1,2-Dichloroethane	0.033	Not Detected	0.13	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Toluene	0.033	0.44	0.12	1.6
1,1,2-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
Ethyl Benzene	0.033	0.075	0.14	0.32
m,p-Xylene	0.066	0.20	0.28	0.87
o-Xylene	0.033	0.082	0.14	0.36
1,1,2,2-Tetrachloroethane	0.033	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: OA-S

Lab ID#: 1302040A-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a020611sim**	**Date of Collection: 2/2/13 4:33:00 PM**	
Dil. Factor:	**1.64**	**Date of Analysis: 2/6/13 05:09 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Benzene	0.082	0.24	0.26	0.76
1,2-Dichloroethane	0.033	Not Detected	0.13	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Toluene	0.033	0.46	0.12	1.7
1,1,2-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
Ethyl Benzene	0.033	0.074	0.14	0.32
m,p-Xylene	0.066	0.22	0.28	0.98
o-Xylene	0.033	0.10	0.14	0.44
1,1,2,2-Tetrachloroethane	0.033	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: BATHROOM

Lab ID#: 1302040A-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a020612sim**	**Date of Collection: 2/2/13 4:33:00 PM**	
Dil. Factor:	**1.64**	**Date of Analysis: 2/6/13 05:50 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.065	Not Detected
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Benzene	0.082	0.34	0.26	1.1
1,2-Dichloroethane	0.033	Not Detected	0.13	Not Detected
Trichloroethene	0.033	Not Detected	0.18	Not Detected
Toluene	0.033	2.1	0.12	8.1
1,1,2-Trichloroethane	0.033	Not Detected	0.18	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
Ethyl Benzene	0.033	0.16	0.14	0.71
m,p-Xylene	0.066	0.53	0.28	2.3
o-Xylene	0.033	0.21	0.14	0.93
1,1,2,2-Tetrachloroethane	0.033	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: BATHROOM-DUP

Lab ID#: 1302040A-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a020613sim**	**Date of Collection: 2/2/13 4:33:00 PM**	
Dil. Factor:	**1.61**	**Date of Analysis: 2/6/13 06:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Benzene	0.080	0.35	0.26	1.1
1,2-Dichloroethane	0.032	Not Detected	0.13	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Toluene	0.032	2.2	0.12	8.2
1,1,2-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected
Ethyl Benzene	0.032	0.18	0.14	0.77
m,p-Xylene	0.064	0.55	0.28	2.4
o-Xylene	0.032	0.24	0.14	1.0
1,1,2,2-Tetrachloroethane	0.032	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	94	70-130

eurofins | Air Toxics

Client Sample ID: SHOP

Lab ID#: 1302040A-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a020614sim**	**Date of Collection: 2/2/13 4:33:00 PM**	
Dil. Factor:	**1.61**	**Date of Analysis: 2/6/13 07:28 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Benzene	0.080	0.30	0.26	0.96
1,2-Dichloroethane	0.032	Not Detected	0.13	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Toluene	0.032	4.5	0.12	17
1,1,2-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected
Ethyl Benzene	0.032	0.14	0.14	0.59
m,p-Xylene	0.064	0.46	0.28	2.0
o-Xylene	0.032	0.15	0.14	0.67
1,1,2,2-Tetrachloroethane	0.032	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: SHOP-DUP

Lab ID#: 1302040A-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a020615sim**	**Date of Collection: 2/2/13 4:33:00 PM**	
Dil. Factor:	**1.61**	**Date of Analysis: 2/6/13 08:40 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Benzene	0.080	0.32	0.26	1.0
1,2-Dichloroethane	0.032	Not Detected	0.13	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Toluene	0.032	4.6	0.12	17
1,1,2-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected
Ethyl Benzene	0.032	0.13	0.14	0.57
m,p-Xylene	0.064	0.44	0.28	1.9
o-Xylene	0.032	0.16	0.14	0.71
1,1,2,2-Tetrachloroethane	0.032	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1302040A-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a020607sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/6/13 12:57 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Toluene	0.020	Not Detected	0.075	Not Detected
1,1,2-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	89	70-130

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Client Sample ID: CCV

Lab ID#: 1302040A-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a020603sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/6/13 09:23 AM**	

Compound	%Recovery
Vinyl Chloride	104
1,1-Dichloroethene	105
1,1-Dichloroethane	105
cis-1,2-Dichloroethene	109
1,1,1-Trichloroethane	108
Benzene	97
1,2-Dichloroethane	108
Trichloroethene	104
Toluene	100
1,1,2-Trichloroethane	108
Tetrachloroethene	109
Ethyl Benzene	110
m,p-Xylene	107
o-Xylene	112
1,1,2,2-Tetrachloroethane	102
trans-1,2-Dichloroethene	103
Methyl tert-butyl ether	109

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCS

Lab ID#: 1302040A-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a020604sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/6/13 10:10 AM**	

Compound	%Recovery
Vinyl Chloride	93
1,1-Dichloroethene	102
1,1-Dichloroethane	97
cis-1,2-Dichloroethene	100
1,1,1-Trichloroethane	100
Benzene	90
1,2-Dichloroethane	102
Trichloroethene	99
Toluene	91
1,1,2-Trichloroethane	105
Tetrachloroethene	103
Ethyl Benzene	104
m,p-Xylene	102
o-Xylene	106
1,1,2,2-Tetrachloroethane	100
trans-1,2-Dichloroethene	106
Methyl tert-butyl ether	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCSD

Lab ID#: 1302040A-09AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**a020605sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/6/13 10:46 AM**	

Compound	%Recovery
Vinyl Chloride	91
1,1-Dichloroethene	101
1,1-Dichloroethane	96
cis-1,2-Dichloroethene	99
1,1,1-Trichloroethane	99
Benzene	89
1,2-Dichloroethane	101
Trichloroethene	98
Toluene	90
1,1,2-Trichloroethane	104
Tetrachloroethene	101
Ethyl Benzene	101
m,p-Xylene	99
o-Xylene	102
1,1,2,2-Tetrachloroethane	100
trans-1,2-Dichloroethene	104
Methyl tert-butyl ether	98

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

Attachment D: Groundwater Analytical Reports

6 December 2012

Mr. Joe Turner
Brown & Caldwell
10540 White Rock Road, Suite 180
Rancho Cordova, CA 95670

SUBJECT: DATA REPORT - Brown & Caldwell Project # 142782
WM Livermore / 6175 Southfront Road, Livermore, California

TEG Project # 21115F

Mr. Turner:

Please find enclosed a data report for the samples analyzed from the above referenced project for Brown & Caldwell. The samples were analyzed on site in TEG's mobile laboratory. TEG conducted a total of 14 analyses on 12 soil vapor and 2 water samples.

-- 12 analyses on soil vapors for volatile organic hydrocarbons by EPA method 8260B.

-- 2 analyses on waters for volatile organic hydrocarbons by EPA method 8260B.

The results of the analyses are summarized in the enclosed tables. Applicable detection limits and calibration data are included in the tables.

TEG appreciates the opportunity to have provided analytical services to Brown & Caldwell on this project. If you have any further questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Mark Jerpbak
Director, TEG-Northern California

Brown and Caldwell Project # 142782
WM Livermore
6175 Southfront Road, Livermore, California

TEG Project #21115F

EPA Method 8260B Analyses of WATER in ug/L

SAMPLE NUMBER:		Blank	Blank	GW-1-15	GW-1-20
SAMPLE DEPTH (feet):				20.0	20.0
COLLECTION DATE:		11/15/12	11/16/12	11/16/12	11/15/12
ANALYSIS DATE:		11/15/12	11/16/12	11/16/12	11/15/12
DILUTION FACTOR:		1	1	1	1
	RL				
Dichlorodifluoromethane	1.0	nd	nd	nd	nd
Vinyl Chloride	1.0	nd	nd	1.9	nd
Chloroethane	1.0	nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	1.0	nd	nd	nd	nd
Methylene Chloride	1.0	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd	nd	nd	nd
Chloroform	1.0	nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd	nd	nd	nd
Carbon Tetrachloride	1.0	nd	nd	nd	nd
1,2-Dichloroethane	1.0	nd	nd	nd	nd
Benzene	1.0	nd	nd	nd	nd
Trichloroethene	1.0	nd	nd	nd	nd
Toluene	1.0	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd	nd	nd	nd
Tetrachloroethene	1.0	nd	nd	nd	nd
Ethylbenzene	1.0	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd	nd	nd	nd
m,p-Xylene	1.0	nd	nd	nd	nd
o-Xylene	1.0	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd	nd	nd
Surrogate Recovery (DBFM)		77%	80%	83%	80%
Surrogate Recovery (1,2-DCA-d4)		86%	84%	81%	82%
Surrogate Recovery (Toluene-d8)		76%	79%	80%	80%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Leif Jonsson

teg

Brown and Caldwell Project # 142782
WM Livermore
6175 Southfront Road, Livermore, California

TEG Project #21115F

QA/QC Data - Matrix Spike Analyses - WATER

SAMPLE NUMBER	DATE ANALYZED	1,1 DCE ug/l	Benzene ug/l	Trichloroethene ug/l	Toluene ug/l	Chlorobenzene ug/l
GW-1-20						
Spiked Conc.	11/15/12	25.0	25.0	25.0	25.0	25.0
Measured Conc.		26.9	22.2	20.7	21.1	23.0
% Recovery		108%	89%	83%	84%	92%
Spiked Conc.	11/15/12	25.0	25.0	25.0	25.0	25.0
Measured Conc.		27.0	22.4	21.3	21.7	23.8
% Recovery		108%	90%	85%	87%	95%
RPD		0.4%	0.9%	2.9%	2.8%	3.4%

Acceptable RPD Limit = 25%

TEG Northern California, Inc.

11350 Monier Park Place
Rancho Cordova, CA 95742
Ph: 916.853.8010
Fax: 916.853.8020

Chain of Custody Record

Page: 1 of

Client: Brown & Caldwell
Address: 10540 White Rock Rd Ste 180
Rancho Cordova, CA 95670
Phone: Fax:

Project Manager: Joe Turner E-Mail:
TEG Project #: 2115F Client Project #: 142782
Location: 6175 Southfront Rd Livermore, CA
Collector: Chuck Frey Date of Collection: 11-15-12 & 11-16-12

Sample Designation	Depth	Date / Time	Sample Matrix	Container Type	EPA 8260B (Full List)	EPA 8260B (DTSC List)	EPA 8260B (BTEX & MTBE)	5 Oxygenates (8260B)	5 Oxygenates, BTEX (8260B)	TPH gasoline (8260)	TPH 8015mod (diesel)	TPH 8015mod (motor oil)	Field Notes	# of containers
GW-1-20	20	11-15-12 930	Water	VOA	X									2
GW-1-15	15	11-16-12 840	↓	↓	X									2
END														

Relinquished by:	Date / Time	Received by	Date / Time
[signature]	11/16/12 1144	[signature]	11/16/12 1144
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Remarks:

Distribution: White - Lab, Yellow - File, Pink - Originator

Sample disposal instructions: ___ *Return to client* ___ *Pickup*

KIFF Analytical LLC

Report Number : 83975
Date : 02/13/2013

Laboratory Results

Chuck Frey
Brown and Caldwell
10540 White Rock Road, Suite 180
Rancho Cordova, CA 95670

Subject : 4 Water Samples
Project Name : WM 6175 Southfront Rd Livermore CA
Project Number : 142782

Dear Mr. Frey,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC and TNI 2009 standards. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the National Environmental Laboratory Accreditation Program (NELAP), lab # 08263CA. If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Troy G. Turpen

Troy Turpen

KIFF Analytical LLC

Report Number : 83975

Date : 02/13/2013

Sample : **GW-5**

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782** Lab Number : 83975-01

Matrix : Water Sample Date :02/07/2013 Analysis Method: EPA 8260B

Parameter	Measured Value	Method Reporting Limit	Units	Date/Time Analyzed
Dichlorodifluoromethane	< 0.50	0.50	ug/L	02/12/13 14:06
Chloromethane	< 0.50	0.50	ug/L	02/12/13 14:06
Vinyl Chloride	< 0.50	0.50	ug/L	02/12/13 14:06
Bromomethane	< 20	20	ug/L	02/12/13 14:06
Chloroethane	< 0.50	0.50	ug/L	02/12/13 14:06
Trichlorofluoromethane	< 0.50	0.50	ug/L	02/12/13 14:06
1,1-Dichloroethene	< 0.50	0.50	ug/L	02/12/13 14:06
Methylene Chloride	< 5.0	5.0	ug/L	02/12/13 14:06
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L	02/12/13 14:06
1,1-Dichloroethane	< 0.50	0.50	ug/L	02/12/13 14:06
2,2-Dichloropropane	< 0.50	0.50	ug/L	02/12/13 14:06
cis-1,2-Dichloroethene	< 0.50	0.50	ug/L	02/12/13 14:06
Chloroform	< 0.50	0.50	ug/L	02/12/13 14:06
Bromochloromethane	< 0.50	0.50	ug/L	02/12/13 14:06
1,1,1-Trichloroethane	< 0.50	0.50	ug/L	02/12/13 14:06
1,1-Dichloropropene	< 0.50	0.50	ug/L	02/12/13 14:06
1,2-Dichloroethane	< 0.50	0.50	ug/L	02/12/13 14:06
Carbon Tetrachloride	< 0.50	0.50	ug/L	02/12/13 14:06
Benzene	< 0.50	0.50	ug/L	02/12/13 14:06
Trichloroethene	< 0.50	0.50	ug/L	02/12/13 14:06
1,2-Dichloropropane	< 0.50	0.50	ug/L	02/12/13 14:06
Bromodichloromethane	< 0.50	0.50	ug/L	02/12/13 14:06
Dibromomethane	< 0.50	0.50	ug/L	02/12/13 14:06
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L	02/12/13 14:06
Toluene	< 0.50	0.50	ug/L	02/12/13 14:06
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L	02/12/13 14:06
1,1,2-Trichloroethane	< 0.50	0.50	ug/L	02/12/13 14:06
1,3-Dichloropropane	< 0.50	0.50	ug/L	02/12/13 14:06
Tetrachloroethene	< 0.50	0.50	ug/L	02/12/13 14:06
Dibromochloromethane	< 0.50	0.50	ug/L	02/12/13 14:06
1,2-Dibromoethane	< 0.50	0.50	ug/L	02/12/13 14:06
Chlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:06
1,1,1,2-Tetrachloroethane	< 0.50	0.50	ug/L	02/12/13 14:06
Ethylbenzene	< 0.50	0.50	ug/L	02/12/13 14:06

KIFF Analytical LLC

Report Number : 83975

Date : 02/13/2013

Sample : **GW-5**

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782** Lab Number : 83975-01

Matrix : Water Sample Date :02/07/2013 Analysis Method: EPA 8260B

Parameter	Measured Value	Method Reporting Limit	Units	Date/Time Analyzed
P,M-Xylene	< 1.0	1.0	ug/L	02/12/13 14:06
O-Xylene	< 0.50	0.50	ug/L	02/12/13 14:06
Styrene	< 0.50	0.50	ug/L	02/12/13 14:06
Isopropyl benzene	< 0.50	0.50	ug/L	02/12/13 14:06
Bromoform	< 0.50	0.50	ug/L	02/12/13 14:06
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L	02/12/13 14:06
1,2,3-Trichloropropane	< 0.50	0.50	ug/L	02/12/13 14:06
n-Propylbenzene	< 0.50	0.50	ug/L	02/12/13 14:06
Bromobenzene	< 0.50	0.50	ug/L	02/12/13 14:06
1,3,5-Trimethylbenzene	< 0.50	0.50	ug/L	02/12/13 14:06
2+4-Chlorotoluene	< 1.0	1.0	ug/L	02/12/13 14:06
tert-Butylbenzene	< 0.50	0.50	ug/L	02/12/13 14:06
1,2,4-Trimethylbenzene	< 0.50	0.50	ug/L	02/12/13 14:06
sec-Butylbenzene	< 0.50	0.50	ug/L	02/12/13 14:06
p-Isopropyltoluene	< 0.50	0.50	ug/L	02/12/13 14:06
1,3-Dichlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:06
1,4-Dichlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:06
n-Butylbenzene	< 0.50	0.50	ug/L	02/12/13 14:06
1,2-Dichlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:06
1,2-Dibromo-3-chloropropane	< 0.50	0.50	ug/L	02/12/13 14:06
1,2,4-Trichlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:06
Hexachlorobutadiene	< 0.50	0.50	ug/L	02/12/13 14:06
Naphthalene	< 0.50	0.50	ug/L	02/12/13 14:06
1,2,3-Trichlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:06
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	02/12/13 14:06
4-Bromofluorobenzene (Surr)	99.6		% Recovery	02/12/13 14:06
Toluene - d8 (Surr)	99.8		% Recovery	02/12/13 14:06

KIFF Analytical LLC

Report Number : 83975
Date : 02/13/2013

Sample : **GW-4**
Project Name : **WM 6175 Southfront Rd Livermore CA**
Project Number : **142782** Lab Number : 83975-02
Matrix : Water Sample Date :02/07/2013 Analysis Method: EPA 8260B

Parameter	Measured Value	Method Reporting Limit	Units	Date/Time Analyzed
Dichlorodifluoromethane	< 0.50	0.50	ug/L	02/12/13 14:39
Chloromethane	< 0.50	0.50	ug/L	02/12/13 14:39
Vinyl Chloride	< 0.50	0.50	ug/L	02/12/13 14:39
Bromomethane	< 20	20	ug/L	02/12/13 14:39
Chloroethane	< 0.50	0.50	ug/L	02/12/13 14:39
Trichlorofluoromethane	< 0.50	0.50	ug/L	02/12/13 14:39
1,1-Dichloroethene	< 0.50	0.50	ug/L	02/12/13 14:39
Methylene Chloride	< 5.0	5.0	ug/L	02/12/13 14:39
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L	02/12/13 14:39
1,1-Dichloroethane	< 0.50	0.50	ug/L	02/12/13 14:39
2,2-Dichloropropane	< 0.50	0.50	ug/L	02/12/13 14:39
cis-1,2-Dichloroethene	< 0.50	0.50	ug/L	02/12/13 14:39
Chloroform	< 0.50	0.50	ug/L	02/12/13 14:39
Bromochloromethane	< 0.50	0.50	ug/L	02/12/13 14:39
1,1,1-Trichloroethane	< 0.50	0.50	ug/L	02/12/13 14:39
1,1-Dichloropropene	< 0.50	0.50	ug/L	02/12/13 14:39
1,2-Dichloroethane	< 0.50	0.50	ug/L	02/12/13 14:39
Carbon Tetrachloride	< 0.50	0.50	ug/L	02/12/13 14:39
Benzene	< 0.50	0.50	ug/L	02/12/13 14:39
Trichloroethene	< 0.50	0.50	ug/L	02/12/13 14:39
1,2-Dichloropropane	< 0.50	0.50	ug/L	02/12/13 14:39
Bromodichloromethane	< 0.50	0.50	ug/L	02/12/13 14:39
Dibromomethane	< 0.50	0.50	ug/L	02/12/13 14:39
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L	02/12/13 14:39
Toluene	< 0.50	0.50	ug/L	02/12/13 14:39
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L	02/12/13 14:39
1,1,2-Trichloroethane	< 0.50	0.50	ug/L	02/12/13 14:39
1,3-Dichloropropane	< 0.50	0.50	ug/L	02/12/13 14:39
Tetrachloroethene	< 0.50	0.50	ug/L	02/12/13 14:39
Dibromochloromethane	< 0.50	0.50	ug/L	02/12/13 14:39
1,2-Dibromoethane	< 0.50	0.50	ug/L	02/12/13 14:39
Chlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:39
1,1,1,2-Tetrachloroethane	< 0.50	0.50	ug/L	02/12/13 14:39
Ethylbenzene	< 0.50	0.50	ug/L	02/12/13 14:39

KIFF Analytical LLC

Report Number : 83975

Date : 02/13/2013

Sample : **GW-4**

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782** Lab Number : 83975-02

Matrix : Water Sample Date :02/07/2013 Analysis Method: EPA 8260B

Parameter	Measured Value	Method Reporting Limit	Units	Date/Time Analyzed
P,M-Xylene	< 1.0	1.0	ug/L	02/12/13 14:39
O-Xylene	< 0.50	0.50	ug/L	02/12/13 14:39
Styrene	< 0.50	0.50	ug/L	02/12/13 14:39
Isopropyl benzene	< 0.50	0.50	ug/L	02/12/13 14:39
Bromoform	< 0.50	0.50	ug/L	02/12/13 14:39
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L	02/12/13 14:39
1,2,3-Trichloropropane	< 0.50	0.50	ug/L	02/12/13 14:39
n-Propylbenzene	< 0.50	0.50	ug/L	02/12/13 14:39
Bromobenzene	< 0.50	0.50	ug/L	02/12/13 14:39
1,3,5-Trimethylbenzene	< 0.50	0.50	ug/L	02/12/13 14:39
2+4-Chlorotoluene	< 1.0	1.0	ug/L	02/12/13 14:39
tert-Butylbenzene	< 0.50	0.50	ug/L	02/12/13 14:39
1,2,4-Trimethylbenzene	< 0.50	0.50	ug/L	02/12/13 14:39
sec-Butylbenzene	< 0.50	0.50	ug/L	02/12/13 14:39
p-Isopropyltoluene	< 0.50	0.50	ug/L	02/12/13 14:39
1,3-Dichlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:39
1,4-Dichlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:39
n-Butylbenzene	< 0.50	0.50	ug/L	02/12/13 14:39
1,2-Dichlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:39
1,2-Dibromo-3-chloropropane	< 0.50	0.50	ug/L	02/12/13 14:39
1,2,4-Trichlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:39
Hexachlorobutadiene	< 0.50	0.50	ug/L	02/12/13 14:39
Naphthalene	< 0.50	0.50	ug/L	02/12/13 14:39
1,2,3-Trichlorobenzene	< 0.50	0.50	ug/L	02/12/13 14:39
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	02/12/13 14:39
4-Bromofluorobenzene (Surr)	102		% Recovery	02/12/13 14:39
Toluene - d8 (Surr)	100		% Recovery	02/12/13 14:39

KIFF Analytical LLC

Report Number : 83975

Date : 02/13/2013

Sample : **GW-2**

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782** Lab Number : 83975-03

Matrix : Water Sample Date :02/07/2013 Analysis Method: EPA 8260B

Parameter	Measured Value	Method Reporting Limit	Units	Date/Time Analyzed
Dichlorodifluoromethane	< 0.50	0.50	ug/L	02/12/13 15:11
Chloromethane	< 0.50	0.50	ug/L	02/12/13 15:11
Vinyl Chloride	< 0.50	0.50	ug/L	02/12/13 15:11
Bromomethane	< 20	20	ug/L	02/12/13 15:11
Chloroethane	< 0.50	0.50	ug/L	02/12/13 15:11
Trichlorofluoromethane	< 0.50	0.50	ug/L	02/12/13 15:11
1,1-Dichloroethene	< 0.50	0.50	ug/L	02/12/13 15:11
Methylene Chloride	< 5.0	5.0	ug/L	02/12/13 15:11
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L	02/12/13 15:11
1,1-Dichloroethane	< 0.50	0.50	ug/L	02/12/13 15:11
2,2-Dichloropropane	< 0.50	0.50	ug/L	02/12/13 15:11
cis-1,2-Dichloroethene	**0.61**	0.50	ug/L	02/12/13 15:11
Chloroform	< 0.50	0.50	ug/L	02/12/13 15:11
Bromochloromethane	< 0.50	0.50	ug/L	02/12/13 15:11
1,1,1-Trichloroethane	< 0.50	0.50	ug/L	02/12/13 15:11
1,1-Dichloropropene	< 0.50	0.50	ug/L	02/12/13 15:11
1,2-Dichloroethane	< 0.50	0.50	ug/L	02/12/13 15:11
Carbon Tetrachloride	< 0.50	0.50	ug/L	02/12/13 15:11
Benzene	< 0.50	0.50	ug/L	02/12/13 15:11
Trichloroethene	< 0.50	0.50	ug/L	02/12/13 15:11
1,2-Dichloropropane	< 0.50	0.50	ug/L	02/12/13 15:11
Bromodichloromethane	< 0.50	0.50	ug/L	02/12/13 15:11
Dibromomethane	< 0.50	0.50	ug/L	02/12/13 15:11
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L	02/12/13 15:11
Toluene	< 0.50	0.50	ug/L	02/12/13 15:11
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L	02/12/13 15:11
1,1,2-Trichloroethane	< 0.50	0.50	ug/L	02/12/13 15:11
1,3-Dichloropropane	< 0.50	0.50	ug/L	02/12/13 15:11
Tetrachloroethene	< 0.50	0.50	ug/L	02/12/13 15:11
Dibromochloromethane	< 0.50	0.50	ug/L	02/12/13 15:11
1,2-Dibromoethane	< 0.50	0.50	ug/L	02/12/13 15:11
Chlorobenzene	< 0.50	0.50	ug/L	02/12/13 15:11
1,1,1,2-Tetrachloroethane	< 0.50	0.50	ug/L	02/12/13 15:11
Ethylbenzene	< 0.50	0.50	ug/L	02/12/13 15:11

KIFF Analytical LLC

Report Number : 83975
Date : 02/13/2013

Sample : **GW-2**
Project Name : **WM 6175 Southfront Rd Livermore CA**
Project Number : **142782** Lab Number : 83975-03
Matrix : Water Sample Date :02/07/2013 Analysis Method: EPA 8260B

Parameter	Measured Value	Method Reporting Limit	Units	Date/Time Analyzed
P,M-Xylene	< 1.0	1.0	ug/L	02/12/13 15:11
O-Xylene	< 0.50	0.50	ug/L	02/12/13 15:11
Styrene	< 0.50	0.50	ug/L	02/12/13 15:11
Isopropyl benzene	< 0.50	0.50	ug/L	02/12/13 15:11
Bromoform	< 0.50	0.50	ug/L	02/12/13 15:11
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L	02/12/13 15:11
1,2,3-Trichloropropane	< 0.50	0.50	ug/L	02/12/13 15:11
n-Propylbenzene	< 0.50	0.50	ug/L	02/12/13 15:11
Bromobenzene	< 0.50	0.50	ug/L	02/12/13 15:11
1,3,5-Trimethylbenzene	< 0.50	0.50	ug/L	02/12/13 15:11
2+4-Chlorotoluene	< 1.0	1.0	ug/L	02/12/13 15:11
tert-Butylbenzene	**0.91**	0.50	ug/L	02/12/13 15:11
1,2,4-Trimethylbenzene	< 0.50	0.50	ug/L	02/12/13 15:11
sec-Butylbenzene	< 0.50	0.50	ug/L	02/12/13 15:11
p-Isopropyltoluene	< 0.50	0.50	ug/L	02/12/13 15:11
1,3-Dichlorobenzene	< 0.50	0.50	ug/L	02/12/13 15:11
1,4-Dichlorobenzene	< 0.50	0.50	ug/L	02/12/13 15:11
n-Butylbenzene	< 0.50	0.50	ug/L	02/12/13 15:11
1,2-Dichlorobenzene	< 0.50	0.50	ug/L	02/12/13 15:11
1,2-Dibromo-3-chloropropane	< 0.50	0.50	ug/L	02/12/13 15:11
1,2,4-Trichlorobenzene	< 0.50	0.50	ug/L	02/12/13 15:11
Hexachlorobutadiene	< 0.50	0.50	ug/L	02/12/13 15:11
Naphthalene	< 0.50	0.50	ug/L	02/12/13 15:11
1,2,3-Trichlorobenzene	< 0.50	0.50	ug/L	02/12/13 15:11
1,2-Dichloroethane-d4 (Surr)	103		% Recovery	02/12/13 15:11
4-Bromofluorobenzene (Surr)	102		% Recovery	02/12/13 15:11
Toluene - d8 (Surr)	101		% Recovery	02/12/13 15:11

KIFF Analytical LLC

Report Number : 83975
Date : 02/13/2013

Sample : **GW-3**
Project Name : **WM 6175 Southfront Rd Livermore CA**
Project Number : **142782** Lab Number : 83975-04
Matrix : Water Sample Date :02/07/2013 Analysis Method: EPA 8260B

Parameter	Measured Value	Method Reporting Limit	Units	Date/Time Analyzed
Dichlorodifluoromethane	< 2.5	2.5	ug/L	02/11/13 21:53
Chloromethane	< 2.5	2.5	ug/L	02/11/13 21:53
Vinyl Chloride	< 2.5	2.5	ug/L	02/11/13 21:53
Bromomethane	< 50	50	ug/L	02/11/13 21:53
Chloroethane	< 2.5	2.5	ug/L	02/11/13 21:53
Trichlorofluoromethane	< 2.5	2.5	ug/L	02/11/13 21:53
1,1-Dichloroethene	< 2.5	2.5	ug/L	02/11/13 21:53
Methylene Chloride	< 5.0	5.0	ug/L	02/11/13 21:53
trans-1,2-Dichloroethene	< 2.5	2.5	ug/L	02/11/13 21:53
1,1-Dichloroethane	< 2.5	2.5	ug/L	02/11/13 21:53
2,2-Dichloropropane	< 2.5	2.5	ug/L	02/11/13 21:53
cis-1,2-Dichloroethene	< 2.5	2.5	ug/L	02/11/13 21:53
Chloroform	< 2.5	2.5	ug/L	02/11/13 21:53
Bromochloromethane	< 2.5	2.5	ug/L	02/11/13 21:53
1,1,1-Trichloroethane	< 2.5	2.5	ug/L	02/11/13 21:53
1,1-Dichloropropene	< 2.5	2.5	ug/L	02/11/13 21:53
1,2-Dichloroethane	< 2.5	2.5	ug/L	02/11/13 21:53
Carbon Tetrachloride	< 2.5	2.5	ug/L	02/11/13 21:53
Benzene	**91**	2.5	ug/L	02/11/13 21:53
Trichloroethene	< 2.5	2.5	ug/L	02/11/13 21:53
1,2-Dichloropropane	< 2.5	2.5	ug/L	02/11/13 21:53
Bromodichloromethane	< 2.5	2.5	ug/L	02/11/13 21:53
Dibromomethane	< 2.5	2.5	ug/L	02/11/13 21:53
cis-1,3-Dichloropropene	< 2.5	2.5	ug/L	02/11/13 21:53
Toluene	**31**	2.5	ug/L	02/11/13 21:53
trans-1,3-Dichloropropene	< 2.5	2.5	ug/L	02/11/13 21:53
1,1,2-Trichloroethane	< 2.5	2.5	ug/L	02/11/13 21:53
1,3-Dichloropropane	< 2.5	2.5	ug/L	02/11/13 21:53
Tetrachloroethene	< 2.5	2.5	ug/L	02/11/13 21:53
Dibromochloromethane	< 2.5	2.5	ug/L	02/11/13 21:53
1,2-Dibromoethane	< 2.5	2.5	ug/L	02/11/13 21:53
Chlorobenzene	< 2.5	2.5	ug/L	02/11/13 21:53
1,1,1,2-Tetrachloroethane	< 2.5	2.5	ug/L	02/11/13 21:53
Ethylbenzene	**300**	2.5	ug/L	02/11/13 21:53

KIFF Analytical LLC

Report Number : 83975

Date : 02/13/2013

Sample : **GW-3**

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782** Lab Number : 83975-04

Matrix : Water Sample Date :02/07/2013 Analysis Method: EPA 8260B

Parameter	Measured Value	Method Reporting Limit	Units	Date/Time Analyzed
P,M-Xylene	**240**	2.5	ug/L	02/11/13 21:53
O-Xylene	**89**	2.5	ug/L	02/11/13 21:53
Styrene	< 2.5	2.5	ug/L	02/11/13 21:53
Isopropyl benzene	**27**	2.5	ug/L	02/11/13 21:53
Bromoform	< 2.5	2.5	ug/L	02/11/13 21:53
1,1,2,2-Tetrachloroethane	< 2.5	2.5	ug/L	02/11/13 21:53
1,2,3-Trichloropropane	< 2.5	2.5	ug/L	02/11/13 21:53
n-Propylbenzene	**84**	2.5	ug/L	02/11/13 21:53
Bromobenzene	< 2.5	2.5	ug/L	02/11/13 21:53
1,3,5-Trimethylbenzene	**140**	2.5	ug/L	02/11/13 21:53
2+4-Chlorotoluene	< 5.0	5.0	ug/L	02/11/13 21:53
tert-Butylbenzene	**21**	2.5	ug/L	02/11/13 21:53
1,2,4-Trimethylbenzene	**560**	2.5	ug/L	02/11/13 21:53
sec-Butylbenzene	**5.6**	2.5	ug/L	02/11/13 21:53
p-Isopropyltoluene	**3.8**	2.5	ug/L	02/11/13 21:53
1,3-Dichlorobenzene	< 2.5	2.5	ug/L	02/11/13 21:53
1,4-Dichlorobenzene	< 2.5	2.5	ug/L	02/11/13 21:53
n-Butylbenzene	**19**	2.5	ug/L	02/11/13 21:53
1,2-Dichlorobenzene	< 2.5	2.5	ug/L	02/11/13 21:53
1,2-Dibromo-3-chloropropane	< 2.5	2.5	ug/L	02/11/13 21:53
1,2,4-Trichlorobenzene	< 2.5	2.5	ug/L	02/13/13 00:25
Hexachlorobutadiene	< 2.5	2.5	ug/L	02/11/13 21:53
Naphthalene	**73**	2.5	ug/L	02/13/13 00:25
1,2,3-Trichlorobenzene	< 2.5	2.5	ug/L	02/13/13 00:25
1,2-Dichloroethane-d4 (Surr)	94.3		% Recovery	02/11/13 21:53
4-Bromofluorobenzene (Surr)	96.6		% Recovery	02/11/13 21:53
Toluene - d8 (Surr)	95.6		% Recovery	02/11/13 21:53

Report Number : 83975

Date : 02/13/2013

QC Report : Method Blank Data

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Dichlorodifluoromethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Chloromethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Vinyl Chloride	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Bromomethane	< 20	20	ug/L	EPA 8260B	02/11/2013
Chloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Trichlorofluoromethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,1-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Methylene Chloride	< 5.0	5.0	ug/L	EPA 8260B	02/11/2013
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,1-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
2,2-Dichloropropane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
cis-1,2-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Chloroform	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Bromochloromethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,1,1-Trichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,1-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Carbon Tetrachloride	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Benzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Trichloroethene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,2-Dichloropropane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Bromodichloromethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Dibromomethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Toluene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,1,2-Trichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,3-Dichloropropane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Tetrachloroethene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Dibromochloromethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Chlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,1,1,2-Tetrachloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
P,M-Xylene	< 1.0	1.0	ug/L	EPA 8260B	02/11/2013
O-Xylene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Styrene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Isopropyl benzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Bromoform	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,2,3-Trichloropropane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
n-Propylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Bromobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,3,5-Trimethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
2+4-Chlorotoluene	< 1.0	1.0	ug/L	EPA 8260B	02/11/2013
tert-Butylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,2,4-Trimethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
sec-Butylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
p-Isopropyltoluene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,3-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,4-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
n-Butylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,2-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,2-Dibromo-3-chloropropane	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
Hexachlorobutadiene	< 0.50	0.50	ug/L	EPA 8260B	02/11/2013
1,2-Dichloroethane-d4 (Surr)	102		%	EPA 8260B	02/11/2013
4-Bromofluorobenzene (Surr)	98.9		%	EPA 8260B	02/11/2013
Toluene - d8 (Surr)	102		%	EPA 8260B	02/11/2013

Report Number : 83975

Date : 02/13/2013

QC Report : Method Blank Data

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
1,2,4-Trichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2,3-Trichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Dichlorodifluoromethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Chloromethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Vinyl Chloride	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Bromomethane	< 20	20	ug/L	EPA 8260B	02/12/2013
Chloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Trichlorofluoromethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,1-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Methylene Chloride	< 5.0	5.0	ug/L	EPA 8260B	02/12/2013
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,1-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
2,2-Dichloropropane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
cis-1,2-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Chloroform	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Bromochloromethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,1,1-Trichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,1-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Carbon Tetrachloride	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Benzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Trichloroethene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2-Dichloropropane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Bromodichloromethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Dibromomethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Toluene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,1,2-Trichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,3-Dichloropropane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Tetrachloroethene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Dibromochloromethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Chlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,1,1,2-Tetrachloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
P,M-Xylene	< 1.0	1.0	ug/L	EPA 8260B	02/12/2013
O-Xylene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Styrene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Isopropyl benzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Bromoform	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2,3-Trichloropropane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
n-Propylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Bromobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,3,5-Trimethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
2+4-Chlorotoluene	< 1.0	1.0	ug/L	EPA 8260B	02/12/2013
tert-Butylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2,4-Trimethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
sec-Butylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
p-Isopropyltoluene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,3-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,4-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
n-Butylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2-Dibromo-3-chloropropane	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2,4-Trichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Hexachlorobutadiene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2,3-Trichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	02/12/2013
1,2-Dichloroethane-d4 (Surr)	102		%	EPA 8260B	02/12/2013
4-Bromofluorobenzene (Surr)	102		%	EPA 8260B	02/12/2013
Toluene - d8 (Surr)	100		%	EPA 8260B	02/12/2013

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
1,1,1,2-Tetrachloroethane														
	83989-03	<0.50	39.9	39.9	42.3	42.4	ug/L	EPA 8260B	2/11/13	106	106	0.117	70.0-130	25
1,1,1-Trichloroethane														
	83989-03	<0.50	39.9	39.9	43.2	43.3	ug/L	EPA 8260B	2/11/13	108	108	0.308	70.0-130	25
1,1,2,2-Tetrachloroethane														
	83989-03	<0.50	39.9	39.9	39.0	38.0	ug/L	EPA 8260B	2/11/13	97.8	95.3	2.58	80-121	25
1,1,2-Trichloroethane														
	83989-03	<0.50	39.9	39.9	38.9	38.4	ug/L	EPA 8260B	2/11/13	97.5	96.2	1.34	70.0-130	25
1,1-Dichloroethane														
	83989-03	<0.50	39.9	39.9	39.4	39.5	ug/L	EPA 8260B	2/11/13	98.7	99.0	0.370	76.5-120	25
1,1-Dichloroethene														
	83989-03	<0.50	39.9	39.9	37.9	38.2	ug/L	EPA 8260B	2/11/13	95.0	95.8	0.811	69.6-124	25
1,1-Dichloropropene														
	83989-03	<0.50	39.9	39.9	39.7	40.1	ug/L	EPA 8260B	2/11/13	99.6	100	0.857	70.0-130	25
1,2,3-Trichloropropane														
	83989-03	<0.50	39.9	39.9	38.2	36.7	ug/L	EPA 8260B	2/11/13	95.6	91.8	3.99	70.0-130	25
1,2,4-Trimethylbenzene														
	83989-03	0.63	39.9	39.9	37.1	37.9	ug/L	EPA 8260B	2/11/13	91.5	93.4	2.09	70.0-130	25
1,2-Dibromoethane														
	83989-03	<0.50	39.9	39.9	40.0	39.7	ug/L	EPA 8260B	2/11/13	100	99.4	0.687	80-120	25

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
1,2-Dichlorobenzene														
	83989-03	<0.50	39.9	39.9	36.6	36.9	ug/L	EPA 8260B	2/11/13	91.6	92.6	0.995	80-120	25
1,2-Dichloroethane														
	83989-03	<0.50	39.9	39.9	43.8	43.4	ug/L	EPA 8260B	2/11/13	110	109	0.875	75.7-122	25
1,2-Dichloropropane														
	83989-03	<0.50	39.9	39.9	38.8	39.0	ug/L	EPA 8260B	2/11/13	97.1	97.7	0.636	80-120	25
1,2-dibromo-3-chloropropane														
	83989-03	<0.50	39.9	39.9	30.1	29.3	ug/L	EPA 8260B	2/11/13	75.4	73.3	2.88	70.0-130	25
1,3,5-Trimethylbenzene														
	83989-03	<0.50	39.9	39.9	36.7	37.3	ug/L	EPA 8260B	2/11/13	92.0	93.5	1.57	70.0-130	25
1,3-Dichlorobenzene														
	83989-03	<0.50	39.9	39.9	34.5	35.1	ug/L	EPA 8260B	2/11/13	86.5	87.8	1.59	79.3-120	25
1,3-Dichloropropane														
	83989-03	<0.50	39.9	39.9	39.3	39.2	ug/L	EPA 8260B	2/11/13	98.6	98.2	0.327	70.0-130	25
1,4-Dichlorobenzene														
	83989-03	<0.50	39.9	39.9	37.9	38.0	ug/L	EPA 8260B	2/11/13	94.8	95.3	0.454	80-120	25
2+4-Chlorotoluene														
	83989-03	<1.0	79.8	79.8	70.9	72.0	ug/L	EPA 8260B	2/11/13	88.8	90.2	1.54	70.0-130	25
2,2-Dichloropropane														
	83989-03	<0.50	39.9	39.9	39.8	42.3	ug/L	EPA 8260B	2/11/13	99.7	106	6.10	65.6-145	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene														
	83989-03	<0.50	39.9	39.9	38.1	38.5	ug/L	EPA 8260B	2/11/13	95.5	96.4	0.882	80-120	25
Bromobenzene														
	83989-03	<0.50	39.9	39.9	36.4	36.9	ug/L	EPA 8260B	2/11/13	91.1	92.4	1.37	70.0-130	25
Bromochloromethane														
	83989-03	<0.50	39.9	39.9	39.4	39.1	ug/L	EPA 8260B	2/11/13	98.6	98.0	0.617	70.0-130	25
Bromodichloromethane														
	83989-03	<0.50	39.9	39.9	43.7	43.8	ug/L	EPA 8260B	2/11/13	110	110	0.232	70.0-130	25
Bromoform														
	83989-03	<0.50	39.9	39.9	42.5	41.3	ug/L	EPA 8260B	2/11/13	106	103	2.86	73.0-142	25
Bromomethane														
	83989-03	<20	200	200	185	189	ug/L	EPA 8260B	2/11/13	92.7	94.6	1.96	33.5-140	25
Carbon Tetrachloride														
	83989-03	<0.50	39.9	39.9	46.8	46.9	ug/L	EPA 8260B	2/11/13	117	117	0.134	70.0-130	25
Chlorobenzene														
	83989-03	<0.50	39.9	39.9	37.0	37.5	ug/L	EPA 8260B	2/11/13	92.7	94.0	1.31	80-120	25
Chloroethane														
	83989-03	<0.50	39.9	39.9	36.5	36.5	ug/L	EPA 8260B	2/11/13	91.4	91.4	0.00799	70.0-130	25
Chloroform														
	83989-03	<0.50	39.9	39.9	40.3	40.4	ug/L	EPA 8260B	2/11/13	101	101	0.375	80.0-120	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Chloromethane														
	83989-03	<0.50	39.9	39.9	39.0	40.4	ug/L	EPA 8260B	2/11/13	97.8	101	3.44	45.9-142	25
Dibromochloromethane														
	83989-03	<0.50	39.9	39.9	45.1	45.3	ug/L	EPA 8260B	2/11/13	113	113	0.478	70.0-130	25
Dibromomethane														
	83989-03	<0.50	39.9	39.9	41.2	40.8	ug/L	EPA 8260B	2/11/13	103	102	1.09	70.0-130	25
Dichlorodifluoromethane														
	83989-03	<0.50	39.9	39.9	36.6	36.7	ug/L	EPA 8260B	2/11/13	91.7	92.0	0.259	47.4-151	25
Ethylbenzene														
	83989-03	<0.50	39.9	39.9	38.5	39.0	ug/L	EPA 8260B	2/11/13	96.4	97.7	1.31	80-120	25
Hexachlorobutadiene														
	83989-03	<0.50	39.9	39.9	30.2	32.7	ug/L	EPA 8260B	2/11/13	75.7	81.8	7.80	70.0-130	25
Isopropyl benzene														
	83989-03	<0.50	39.9	39.9	36.8	37.1	ug/L	EPA 8260B	2/11/13	92.2	92.9	0.697	70.0-130	25
Methylene Chloride														
	83989-03	<5.0	39.9	39.9	37.0	37.4	ug/L	EPA 8260B	2/11/13	92.7	93.7	1.09	70.0-130	25
O-Xylene														
	83989-03	<0.50	39.9	39.9	38.3	38.6	ug/L	EPA 8260B	2/11/13	95.9	96.8	0.948	79.7-120	25
P + M Xylene														
	83989-03	<1.0	39.9	39.9	38.8	38.8	ug/L	EPA 8260B	2/11/13	97.2	97.2	0.0415	76.8-120	25

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Styrene														
	83989-03	<0.50	39.9	39.9	36.7	37.4	ug/L	EPA 8260B	2/11/13	91.9	93.7	1.95	70.0-130	25
Tetrachloroethene														
	83989-03	<0.50	39.9	39.9	39.0	39.2	ug/L	EPA 8260B	2/11/13	97.6	98.2	0.548	77.0-120	25
Toluene														
	83989-03	<0.50	39.9	39.9	38.6	38.8	ug/L	EPA 8260B	2/11/13	96.6	97.2	0.649	80-120	25
Trichloroethene														
	83989-03	<0.50	39.9	39.9	36.5	36.7	ug/L	EPA 8260B	2/11/13	91.4	92.0	0.677	80-120	25
Trichlorofluoromethane														
	83989-03	<0.50	39.9	39.9	40.0	40.5	ug/L	EPA 8260B	2/11/13	100	102	1.40	70.0-130	25
Vinyl Chloride														
	83989-03	<0.50	39.9	39.9	36.9	37.0	ug/L	EPA 8260B	2/11/13	92.5	92.7	0.186	42.1-138	25
c-1,3-Dichloropropene														
	83989-03	<5.0	39.9	39.9	40.8	41.0	ug/L	EPA 8260B	2/11/13	102	102	0.492	70.0-130	25
cis-1,2-Dichloroethene														
	83989-03	<0.50	39.9	39.9	38.0	38.0	ug/L	EPA 8260B	2/11/13	95.2	95.3	0.0619	70.0-130	25
n-butylbenzene														
	83989-03	<0.50	39.9	39.9	39.2	39.2	ug/L	EPA 8260B	2/11/13	98.1	98.3	0.170	70.0-130	25
n-propylbenzene														
	83989-03	<0.50	39.9	39.9	36.1	36.4	ug/L	EPA 8260B	2/11/13	90.4	91.3	1.03	70.0-130	25

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
p-isopropyltoluene														
	83989-03	<0.50	39.9	39.9	36.1	37.0	ug/L	EPA 8260B	2/11/13	90.4	92.6	2.39	70.0-130	25
sec-butylbenzene														
	83989-03	<0.50	39.9	39.9	36.1	36.6	ug/L	EPA 8260B	2/11/13	90.4	91.8	1.52	70.0-130	25
t-1,2-Dichloroethene														
	83989-03	<5.0	39.9	39.9	37.6	37.8	ug/L	EPA 8260B	2/11/13	94.1	94.6	0.570	70.0-130	25
t-1,3-Dichloropropene														
	83989-03	<5.0	39.9	39.9	41.4	41.7	ug/L	EPA 8260B	2/11/13	104	104	0.644	70.0-130	25
tert-butylbenzene														
	83989-03	<0.50	39.9	39.9	35.5	36.4	ug/L	EPA 8260B	2/11/13	89.0	91.1	2.35	70.0-130	25
1,2,3-Trichlorobenzene														
	83989-05	<0.50	40.0	40.0	39.0	38.2	ug/L	EPA 8260B	2/12/13	97.5	95.5	1.99	70.0-130	25
1,2,4-Trichlorobenzene														
	83989-05	<0.50	40.0	40.0	39.4	39.1	ug/L	EPA 8260B	2/12/13	98.5	97.7	0.804	70.0-130	25
Naphthalene														
	83989-05	<0.50	40.0	40.0	41.3	41.0	ug/L	EPA 8260B	2/12/13	103	102	0.763	70.0-130	25
1,1,1,2-Tetrachloroethane														
	83974-04	<0.50	40.0	40.0	42.6	42.2	ug/L	EPA 8260B	2/12/13	106	105	0.938	70.0-130	25

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
1,1,1-Trichloroethane														
	83974-04	<0.50	40.0	40.0	39.4	38.5	ug/L	EPA 8260B	2/12/13	98.5	96.2	2.37	70.0-130	25
1,1,2,2-Tetrachloroethane														
	83974-04	<0.50	40.0	40.0	39.6	39.7	ug/L	EPA 8260B	2/12/13	99.1	99.2	0.0898	80-121	25
1,1,2-Trichloroethane														
	83974-04	<0.50	40.0	40.0	38.2	37.4	ug/L	EPA 8260B	2/12/13	95.4	93.5	2.08	70.0-130	25
1,1-Dichloroethane														
	83974-04	<0.50	40.0	40.0	38.0	37.4	ug/L	EPA 8260B	2/12/13	94.9	93.6	1.42	76.5-120	25
1,1-Dichloroethene														
	83974-04	<0.50	40.0	40.0	36.6	35.0	ug/L	EPA 8260B	2/12/13	91.4	87.4	4.42	69.6-124	25
1,1-Dichloropropene														
	83974-04	<0.50	40.0	40.0	36.7	35.2	ug/L	EPA 8260B	2/12/13	91.8	88.0	4.23	70.0-130	25
1,2,3-Trichlorobenzene														
	83974-04	<0.50	40.0	40.0	38.2	37.2	ug/L	EPA 8260B	2/12/13	95.6	93.0	2.76	70.0-130	25
1,2,3-Trichloropropane														
	83974-04	<0.50	40.0	40.0	41.1	41.3	ug/L	EPA 8260B	2/12/13	103	103	0.367	70.0-130	25
1,2,4-Trichlorobenzene														
	83974-04	<0.50	40.0	40.0	38.8	37.8	ug/L	EPA 8260B	2/12/13	96.9	94.5	2.51	70.0-130	25
1,2,4-Trimethylbenzene														
	83974-04	<0.50	40.0	40.0	39.9	39.2	ug/L	EPA 8260B	2/12/13	99.7	98.0	1.71	70.0-130	25

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
1,2-Dibromoethane														
	83974-04	<0.50	40.0	40.0	40.8	40.9	ug/L	EPA 8260B	2/12/13	102	102	0.137	80-120	25
1,2-Dichlorobenzene														
	83974-04	<0.50	40.0	40.0	38.0	37.6	ug/L	EPA 8260B	2/12/13	95.0	94.0	1.04	80-120	25
1,2-Dichloroethane														
	83974-04	<0.50	40.0	40.0	41.1	41.0	ug/L	EPA 8260B	2/12/13	103	102	0.279	75.7-122	25
1,2-Dichloropropane														
	83974-04	<0.50	40.0	40.0	36.8	36.5	ug/L	EPA 8260B	2/12/13	92.0	91.2	0.851	80-120	25
1,2-dibromo-3-chloropropane														
	83974-04	<0.50	40.0	40.0	39.9	39.1	ug/L	EPA 8260B	2/12/13	99.9	97.8	2.09	70.0-130	25
1,3,5-Trimethylbenzene														
	83974-04	<0.50	40.0	40.0	39.8	38.8	ug/L	EPA 8260B	2/12/13	99.6	97.0	2.64	70.0-130	25
1,3-Dichlorobenzene														
	83974-04	<0.50	40.0	40.0	39.9	39.4	ug/L	EPA 8260B	2/12/13	99.8	98.6	1.16	79.3-120	25
1,3-Dichloropropane														
	83974-04	<0.50	40.0	40.0	37.7	38.3	ug/L	EPA 8260B	2/12/13	94.2	95.7	1.53	70.0-130	25
1,4-Dichlorobenzene														
	83974-04	<0.50	40.0	40.0	38.4	37.5	ug/L	EPA 8260B	2/12/13	96.1	93.7	2.50	80-120	25
2+4-Chlorotoluene														
	83974-04	<1.0	80.0	80.0	79.1	77.6	ug/L	EPA 8260B	2/12/13	98.9	97.1	1.86	70.0-130	25

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
2,2-Dichloropropane														
	83974-04	<0.50	40.0	40.0	38.9	36.0	ug/L	EPA 8260B	2/12/13	97.3	90.0	7.78	65.6-145	25
Benzene														
	83974-04	<0.50	40.0	40.0	37.0	36.7	ug/L	EPA 8260B	2/12/13	92.6	91.9	0.831	80-120	25
Bromobenzene														
	83974-04	<0.50	40.0	40.0	40.3	40.1	ug/L	EPA 8260B	2/12/13	101	100	0.411	70.0-130	25
Bromochloromethane														
	83974-04	<0.50	40.0	40.0	40.6	40.6	ug/L	EPA 8260B	2/12/13	101	102	0.115	70.0-130	25
Bromodichloromethane														
	83974-04	<0.50	40.0	40.0	40.7	40.1	ug/L	EPA 8260B	2/12/13	102	100	1.53	70.0-130	25
Bromoform														
	83974-04	<0.50	40.0	40.0	45.1	45.2	ug/L	EPA 8260B	2/12/13	113	113	0.384	73.0-142	25
Bromomethane														
	83974-04	<20	200	200	197	203	ug/L	EPA 8260B	2/12/13	98.4	101	2.89	33.5-140	25
Carbon Tetrachloride														
	83974-04	<0.50	40.0	40.0	40.3	38.7	ug/L	EPA 8260B	2/12/13	101	96.7	4.01	70.0-130	25
Chlorobenzene														
	83974-04	<0.50	40.0	40.0	39.0	38.5	ug/L	EPA 8260B	2/12/13	97.6	96.3	1.31	80-120	25
Chloroethane														
	83974-04	<0.50	40.0	40.0	37.5	37.0	ug/L	EPA 8260B	2/12/13	93.8	92.6	1.39	70.0-130	25

Report Number : 83975

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Chloroform														
	83974-04	<0.50	40.0	40.0	39.0	38.5	ug/L	EPA 8260B	2/12/13	97.6	96.2	1.46	80.0-120	25
Chloromethane														
	83974-04	<0.50	40.0	40.0	43.5	42.4	ug/L	EPA 8260B	2/12/13	109	106	2.55	45.9-142	25
Dibromochloromethane														
	83974-04	<0.50	40.0	40.0	43.3	43.2	ug/L	EPA 8260B	2/12/13	108	108	0.159	70.0-130	25
Dibromomethane														
	83974-04	<0.50	40.0	40.0	41.4	41.6	ug/L	EPA 8260B	2/12/13	103	104	0.696	70.0-130	25
Dichlorodifluoromethane														
	83974-04	<0.50	40.0	40.0	36.1	33.9	ug/L	EPA 8260B	2/12/13	90.3	84.7	6.40	47.4-151	25
Ethylbenzene														
	83974-04	<0.50	40.0	40.0	39.2	38.6	ug/L	EPA 8260B	2/12/13	98.0	96.5	1.62	80-120	25
Hexachlorobutadiene														
	83974-04	<0.50	40.0	40.0	35.8	35.5	ug/L	EPA 8260B	2/12/13	89.5	88.7	0.872	70.0-130	25
Isopropyl benzene														
	83974-04	<0.50	40.0	40.0	38.8	37.8	ug/L	EPA 8260B	2/12/13	97.1	94.5	2.74	70.0-130	25
Methylene Chloride														
	83974-04	<5.0	40.0	40.0	38.6	38.3	ug/L	EPA 8260B	2/12/13	96.5	95.7	0.847	70.0-130	25
Naphthalene														
	83974-04	<0.50	40.0	40.0	39.1	38.3	ug/L	EPA 8260B	2/12/13	97.7	95.6	2.13	70.0-130	25

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
O-Xylene														
	83974-04	<0.50	40.0	40.0	39.3	38.6	ug/L	EPA 8260B	2/12/13	98.3	96.6	1.80	79.7-120	25
P + M Xylene														
	83974-04	<1.0	40.0	40.0	38.7	37.9	ug/L	EPA 8260B	2/12/13	96.8	94.8	2.11	76.8-120	25
Styrene														
	83974-04	<0.50	40.0	40.0	41.0	40.3	ug/L	EPA 8260B	2/12/13	102	101	1.79	70.0-130	25
Tetrachloroethene														
	83974-04	<0.50	40.0	40.0	38.6	37.3	ug/L	EPA 8260B	2/12/13	96.5	93.2	3.50	77.0-120	25
Toluene														
	83974-04	<0.50	40.0	40.0	38.0	37.1	ug/L	EPA 8260B	2/12/13	95.0	92.9	2.29	80-120	25
Trichloroethene														
	83974-04	<0.50	40.0	40.0	38.6	37.6	ug/L	EPA 8260B	2/12/13	96.4	94.1	2.42	80-120	25
Trichlorofluoromethane														
	83974-04	<0.50	40.0	40.0	38.2	36.1	ug/L	EPA 8260B	2/12/13	95.4	90.2	5.68	70.0-130	25
Vinyl Chloride														
	83974-04	<0.50	40.0	40.0	37.0	34.8	ug/L	EPA 8260B	2/12/13	92.6	87.1	6.04	42.1-138	25
c-1,3-Dichloropropene														
	83974-04	<5.0	40.0	40.0	38.5	38.2	ug/L	EPA 8260B	2/12/13	96.4	95.6	0.808	70.0-130	25
cis-1,2-Dichloroethene														
	83974-04	<0.50	40.0	40.0	38.5	38.4	ug/L	EPA 8260B	2/12/13	96.3	96.0	0.334	70.0-130	25

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 02/13/2013

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
n-butylbenzene														
	83974-04	<0.50	40.0	40.0	35.1	34.2	ug/L	EPA 8260B	2/12/13	87.7	85.5	2.52	70.0-130	25
n-propylbenzene														
	83974-04	<0.50	40.0	40.0	39.2	37.9	ug/L	EPA 8260B	2/12/13	98.0	94.7	3.39	70.0-130	25
p-isopropyltoluene														
	83974-04	<0.50	40.0	40.0	39.4	38.6	ug/L	EPA 8260B	2/12/13	98.6	96.4	2.23	70.0-130	25
sec-butylbenzene														
	83974-04	<0.50	40.0	40.0	37.9	36.8	ug/L	EPA 8260B	2/12/13	94.7	91.9	3.03	70.0-130	25
t-1,2-Dichloroethene														
	83974-04	<5.0	40.0	40.0	37.9	37.1	ug/L	EPA 8260B	2/12/13	94.8	92.8	2.22	70.0-130	25
t-1,3-Dichloropropene														
	83974-04	<5.0	40.0	40.0	39.5	39.4	ug/L	EPA 8260B	2/12/13	98.8	98.5	0.269	70.0-130	25
tert-butylbenzene														
	83974-04	<0.50	40.0	40.0	38.3	37.5	ug/L	EPA 8260B	2/12/13	95.8	93.7	2.18	70.0-130	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Laboratory Control Sample (LCS)

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
1,1,1,2-Tetrachloroethane	40.0	ug/L	EPA 8260B	2/11/13	106	70.0-130
1,1,1-Trichloroethane	40.0	ug/L	EPA 8260B	2/11/13	109	70.0-130
1,1,2,2-Tetrachloroethane	40.0	ug/L	EPA 8260B	2/11/13	81.6	80-121
1,1,2-Trichloroethane	40.0	ug/L	EPA 8260B	2/11/13	95.5	70.0-130
1,1-Dichloroethane	40.0	ug/L	EPA 8260B	2/11/13	98.0	76.5-120
1,1-Dichloroethene	40.0	ug/L	EPA 8260B	2/11/13	94.8	69.6-124
1,1-Dichloropropene	40.0	ug/L	EPA 8260B	2/11/13	100	70.0-130
1,2,3-Trichloropropane	40.0	ug/L	EPA 8260B	2/11/13	91.8	70.0-130
1,2,4-Trimethylbenzene	40.0	ug/L	EPA 8260B	2/11/13	93.8	70.0-130
1,2-Dibromoethane	40.0	ug/L	EPA 8260B	2/11/13	98.2	80-120
1,2-Dichlorobenzene	40.0	ug/L	EPA 8260B	2/11/13	92.2	80-120
1,2-Dichloroethane	40.0	ug/L	EPA 8260B	2/11/13	110	75.7-122
1,2-Dichloropropane	40.0	ug/L	EPA 8260B	2/11/13	97.5	80-120
1,2-dibromo-3-chloropropane	40.0	ug/L	EPA 8260B	2/11/13	70.5	70.0-130
1,3,5-Trimethylbenzene	40.0	ug/L	EPA 8260B	2/11/13	92.6	70.0-130
1,3-Dichlorobenzene	40.0	ug/L	EPA 8260B	2/11/13	87.7	79.3-120
1,3-Dichloropropane	40.0	ug/L	EPA 8260B	2/11/13	98.8	70.0-130
1,4-Dichlorobenzene	40.0	ug/L	EPA 8260B	2/11/13	96.0	80-120
2+4-Chlorotoluene	80.0	ug/L	EPA 8260B	2/11/13	90.8	70.0-130
2,2-Dichloropropane	40.0	ug/L	EPA 8260B	2/11/13	109	65.6-145
Benzene	40.0	ug/L	EPA 8260B	2/11/13	95.4	80-120
Bromobenzene	40.0	ug/L	EPA 8260B	2/11/13	92.6	70.0-130
Bromochloromethane	40.0	ug/L	EPA 8260B	2/11/13	98.5	70.0-130

QC Report : Laboratory Control Sample (LCS)

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Bromodichloromethane	40.0	ug/L	EPA 8260B	2/11/13	109	70.0-130
Bromoform	40.0	ug/L	EPA 8260B	2/11/13	105	73.0-142
Bromomethane	200	ug/L	EPA 8260B	2/11/13	91.1	33.5-140
Carbon Tetrachloride	40.0	ug/L	EPA 8260B	2/11/13	118	70.0-130
Chlorobenzene	40.0	ug/L	EPA 8260B	2/11/13	94.2	80-120
Chloroethane	40.0	ug/L	EPA 8260B	2/11/13	90.1	70.0-130
Chloroform	40.0	ug/L	EPA 8260B	2/11/13	102	80.0-120
Chloromethane	40.0	ug/L	EPA 8260B	2/11/13	82.0	45.9-142
Dibromochloromethane	40.0	ug/L	EPA 8260B	2/11/13	113	70.0-130
Dibromomethane	40.0	ug/L	EPA 8260B	2/11/13	102	70.0-130
Dichlorodifluoromethane	40.0	ug/L	EPA 8260B	2/11/13	93.5	47.4-151
Ethylbenzene	40.0	ug/L	EPA 8260B	2/11/13	97.5	80-120
Hexachlorobutadiene	40.0	ug/L	EPA 8260B	2/11/13	77.7	70.0-130
Isopropyl benzene	40.0	ug/L	EPA 8260B	2/11/13	93.2	70.0-130
Methylene Chloride	40.0	ug/L	EPA 8260B	2/11/13	93.0	70.0-130
O-Xylene	40.0	ug/L	EPA 8260B	2/11/13	96.6	79.7-120
P + M Xylene	40.0	ug/L	EPA 8260B	2/11/13	96.1	76.8-120
Styrene	40.0	ug/L	EPA 8260B	2/11/13	93.9	70.0-130
Tetrachloroethene	40.0	ug/L	EPA 8260B	2/11/13	99.4	77.0-120
Toluene	40.0	ug/L	EPA 8260B	2/11/13	96.4	80-120
Trichloroethene	40.0	ug/L	EPA 8260B	2/11/13	104	80-120
Trichlorofluoromethane	40.0	ug/L	EPA 8260B	2/11/13	102	70.0-130
Vinyl Chloride	40.0	ug/L	EPA 8260B	2/11/13	91.0	42.1-138

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Laboratory Control Sample (LCS)

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
c-1,3-Dichloropropene	40.0	ug/L	EPA 8260B	2/11/13	103	70.0-130
cis-1,2-Dichloroethene	40.0	ug/L	EPA 8260B	2/11/13	94.3	70.0-130
n-butylbenzene	40.0	ug/L	EPA 8260B	2/11/13	100	70.0-130
n-propylbenzene	40.0	ug/L	EPA 8260B	2/11/13	92.6	70.0-130
p-isopropyltoluene	40.0	ug/L	EPA 8260B	2/11/13	92.4	70.0-130
sec-butylbenzene	40.0	ug/L	EPA 8260B	2/11/13	92.4	70.0-130
t-1,2-Dichloroethene	40.0	ug/L	EPA 8260B	2/11/13	95.3	70.0-130
t-1,3-Dichloropropene	40.0	ug/L	EPA 8260B	2/11/13	106	70.0-130
tert-butylbenzene	40.0	ug/L	EPA 8260B	2/11/13	90.6	70.0-130
1,2,3-Trichlorobenzene	40.0	ug/L	EPA 8260B	2/12/13	91.7	70.0-130
1,2,4-Trichlorobenzene	40.0	ug/L	EPA 8260B	2/12/13	90.8	70.0-130
Naphthalene	40.0	ug/L	EPA 8260B	2/12/13	95.6	70.0-130
1,1,1,2-Tetrachloroethane	40.1	ug/L	EPA 8260B	2/12/13	103	70.0-130
1,1,1-Trichloroethane	40.1	ug/L	EPA 8260B	2/12/13	99.3	70.0-130
1,1,2,2-Tetrachloroethane	40.1	ug/L	EPA 8260B	2/12/13	96.3	80-121
1,1,2-Trichloroethane	40.1	ug/L	EPA 8260B	2/12/13	91.6	70.0-130
1,1-Dichloroethane	40.1	ug/L	EPA 8260B	2/12/13	93.1	76.5-120
1,1-Dichloroethene	40.1	ug/L	EPA 8260B	2/12/13	93.0	69.6-124
1,1-Dichloropropene	40.1	ug/L	EPA 8260B	2/12/13	92.7	70.0-130
1,2,3-Trichlorobenzene	40.1	ug/L	EPA 8260B	2/12/13	92.1	70.0-130
1,2,3-Trichloropropane	40.1	ug/L	EPA 8260B	2/12/13	100	70.0-130

QC Report : Laboratory Control Sample (LCS)

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
1,2,4-Trichlorobenzene	40.1	ug/L	EPA 8260B	2/12/13	94.0	70.0-130
1,2,4-Trimethylbenzene	40.1	ug/L	EPA 8260B	2/12/13	98.0	70.0-130
1,2-Dibromoethane	40.1	ug/L	EPA 8260B	2/12/13	99.1	80-120
1,2-Dichlorobenzene	40.1	ug/L	EPA 8260B	2/12/13	92.8	80-120
1,2-Dichloroethane	40.1	ug/L	EPA 8260B	2/12/13	99.6	75.7-122
1,2-Dichloropropane	40.1	ug/L	EPA 8260B	2/12/13	89.3	80-120
1,2-dibromo-3-chloropropane	40.1	ug/L	EPA 8260B	2/12/13	98.2	70.0-130
1,3,5-Trimethylbenzene	40.1	ug/L	EPA 8260B	2/12/13	98.5	70.0-130
1,3-Dichlorobenzene	40.1	ug/L	EPA 8260B	2/12/13	97.2	79.3-120
1,3-Dichloropropane	40.1	ug/L	EPA 8260B	2/12/13	91.2	70.0-130
1,4-Dichlorobenzene	40.1	ug/L	EPA 8260B	2/12/13	94.0	80-120
2+4-Chlorotoluene	80.2	ug/L	EPA 8260B	2/12/13	97.0	70.0-130
2,2-Dichloropropane	40.1	ug/L	EPA 8260B	2/12/13	96.6	65.6-145
Benzene	40.1	ug/L	EPA 8260B	2/12/13	91.5	80-120
Bromobenzene	40.1	ug/L	EPA 8260B	2/12/13	98.1	70.0-130
Bromochloromethane	40.1	ug/L	EPA 8260B	2/12/13	98.2	70.0-130
Bromodichloromethane	40.1	ug/L	EPA 8260B	2/12/13	98.7	70.0-130
Bromoform	40.1	ug/L	EPA 8260B	2/12/13	108	73.0-142
Bromomethane	200	ug/L	EPA 8260B	2/12/13	92.4	33.5-140
Carbon Tetrachloride	40.1	ug/L	EPA 8260B	2/12/13	102	70.0-130
Chlorobenzene	40.1	ug/L	EPA 8260B	2/12/13	95.3	80-120
Chloroethane	40.1	ug/L	EPA 8260B	2/12/13	94.4	70.0-130
Chloroform	40.1	ug/L	EPA 8260B	2/12/13	94.5	80.0-120

QC Report : Laboratory Control Sample (LCS)

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Chloromethane	40.1	ug/L	EPA 8260B	2/12/13	108	45.9-142
Dibromochloromethane	40.1	ug/L	EPA 8260B	2/12/13	104	70.0-130
Dibromomethane	40.1	ug/L	EPA 8260B	2/12/13	101	70.0-130
Dichlorodifluoromethane	40.1	ug/L	EPA 8260B	2/12/13	94.5	47.4-151
Ethylbenzene	40.1	ug/L	EPA 8260B	2/12/13	97.4	80-120
Hexachlorobutadiene	40.1	ug/L	EPA 8260B	2/12/13	87.0	70.0-130
Isopropyl benzene	40.1	ug/L	EPA 8260B	2/12/13	97.6	70.0-130
Methylene Chloride	40.1	ug/L	EPA 8260B	2/12/13	93.9	70.0-130
Naphthalene	40.1	ug/L	EPA 8260B	2/12/13	94.6	70.0-130
O-Xylene	40.1	ug/L	EPA 8260B	2/12/13	96.4	79.7-120
P + M Xylene	40.1	ug/L	EPA 8260B	2/12/13	95.4	76.8-120
Styrene	40.1	ug/L	EPA 8260B	2/12/13	101	70.0-130
Tetrachloroethene	40.1	ug/L	EPA 8260B	2/12/13	96.3	77.0-120
Toluene	40.1	ug/L	EPA 8260B	2/12/13	93.8	80-120
Trichloroethene	40.1	ug/L	EPA 8260B	2/12/13	96.0	80-120
Trichlorofluoromethane	40.1	ug/L	EPA 8260B	2/12/13	98.9	70.0-130
Vinyl Chloride	40.1	ug/L	EPA 8260B	2/12/13	93.8	42.1-138
c-1,3-Dichloropropene	40.1	ug/L	EPA 8260B	2/12/13	93.1	70.0-130
cis-1,2-Dichloroethene	40.1	ug/L	EPA 8260B	2/12/13	94.7	70.0-130
n-butylbenzene	40.1	ug/L	EPA 8260B	2/12/13	88.6	70.0-130
n-propylbenzene	40.1	ug/L	EPA 8260B	2/12/13	98.0	70.0-130
p-isopropyltoluene	40.1	ug/L	EPA 8260B	2/12/13	98.6	70.0-130
sec-butylbenzene	40.1	ug/L	EPA 8260B	2/12/13	95.1	70.0-130

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Laboratory Control Sample (LCS)

Project Name : **WM 6175 Southfront Rd Livermore CA**

Project Number : **142782**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
t-1,2-Dichloroethene	40.1	ug/L	EPA 8260B	2/12/13	94.2	70.0-130
t-1,3-Dichloropropene	40.1	ug/L	EPA 8260B	2/12/13	96.4	70.0-130
tert-butylbenzene	40.1	ug/L	EPA 8260B	2/12/13	96.9	70.0-130

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

BROWN AND CALDWELL

CHAIN OF CUSTODY RECORD 83975 COC No. 3124

☒ 10540 White Rock Rd. Suite 180
Rancho Cordova, CA 95670
916-444-0123 / FAX 916-635-8805

☐ 9665 Chesapeake Dr. Suite 201
San Diego, CA 92123
858-514-8822 / FAX 858-514-8833

☐ 201 N. Civic Dr. Suite 115
Walnut Creek, CA 94596
925-937-9010 / FAX 925-937-9026

☐ 18200 Von Karman Ave. Suite 400
Irvine, CA 92602
714-689-4800 / FAX 714-734-0940

PROJECT NAME: WM 6175 Southfront Rd Livermore, CA
PROJECT NUMBER: 142752 (916) 214 7238 (LRE)

LABORATORY NAME & ADDRESS: Kiff Analytical
2795 2nd Street, Ste 300
Davis, CA 95618

LINE NO.	SAMPLE - I.D.	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESERVATIVE	MATRIX CODE	ANALYSES REQUESTED	FIELD FILTERED	QC - REQ	TAT	SAMPLING METHOD	DEPTH (FT.) BEGIN --- END	PID READING (PPM)	
01	GW-5	2/7/13	1045	LRE	3	40mL VOA	HCl	W	VOCs (8260)	N		STD		---		01
02	GW-4	"	1155	LRE	3	"	"	"	VOCs (8260)	N		STD		---		02
03	GW-2	"	1435	LRE	3	"	"	"	VOCs (8260)	N		STD		---		03
04	GW-3	"	1505	LRE	3	"	"	"	VOCs (8260)	N		STD		---		04
05														---		
06														---		
07														---		
08														---		
09														---		
10														---		

COLLECTED & RELEASED BY: L. Rhianne Eads	DATE 2/7/13	TIME 17:51	COOLER I.D.:			COMMENTS (see note on back)
RECEIVED BY: Kiff Analytical	DATE 02/8/13	TIME 17:51	RELINQUISHED BY:	DATE / /	TIME :	
	DATE / /	TIME :				
RECORD RETURNED BY:	DATE / /	TIME :				
COURIER:	DATE / /	TIME :	SHIPPING NUMBER:			

DISTRIBUTION: WHITE-LAB RECEIPT • CANARY-PROJECT FILE • PINK-DATA MANAGEMENT • GOLDENROD-FIELD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON BACK

KIFF Analytical LLC

SAMPLE RECEIPT CHECKLIST

RECEIVER Initials: Eqy

SRG#: 83975 Southforty Date: 020713

Project ID: WM 6175 Southforty Rd Livermore, CA 020713

Method of Receipt: ☐ Courier ☒ Over-the-counter ☐ Shipper

Shipping Only: ☐ FedEx * ☐ OnTrac * ☐ Greyhound ☐ Other *Service level if not Priority or Sunrise (M-F): _____

COC Inspection

Is COC present?	☒ Yes	☐ No		
Custody seals on shipping container?	☐ Intact	☐ Broken	☐ Not present	☒ N/A
Is COC Signed by Relinquisher? ☒ Yes ☐ No Dated?	☒ Yes	☐ No		
Is sampler name legibly indicated on COC?	☐ Yes	☒ No		
Is analysis or hold requested for all samples?	☒ Yes	☐ No		
Is the turnaround time indicated on COC?	☒ Yes	☐ No		
Is COC free of whiteout and uninitialed cross-outs?	☒ Yes	☐ No, Whiteout	☐ No, Cross-outs	

Sample Inspection

Coolant Present: ☒ Yes ☐ No (includes water)

Temperature °C 3.0 Therm. ID# TR-1 Initial Eqy Date/Time 020713 1754 ☐ N/A

Are there custody seals on sample containers?	☐ Intact	☐ Broken	☒ Not present	
Do containers match COC? ☒ Yes ☐ No	☐ No, COC lists absent sample(s)	☐ No, Extra sample(s) present		
Are there samples matrices other than soil, water, air or carbon?	☐ Yes	☒ No		
Are any sample containers broken, leaking or damaged?	☐ Yes	☒ No		
Are preservatives indicated? ☐ Yes, on sample containers	☒ Yes, on COC	☐ Not indicated	☐ N/A	
Are preservatives correct for analyses requested?	☒ Yes	☐ No	☐ N/A	
Are samples within holding time for analyses requested?	☒ Yes	☐ No		
Are the correct sample containers used for the analyses requested?	☒ Yes	☐ No		
Is there sufficient sample to perform testing?	☒ Yes	☐ No		

Does any sample contain product, have strong odor or are otherwise suspected to be hot? ☐ Yes ☒ No

Receipt Details

Matrix WA	Container type Voa	# of containers received 12
Matrix _____	Container type _____	# of containers received _____
Matrix _____	Container type _____	# of containers received _____

Date and Time Sample Put into Temp Storage Date: 020713 Time: 1751

Quicklog

Are the Sample ID's indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated	
If Sample ID's are listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A		
Is the Project ID indicated:	☒ On COC	☐ On sample container(s)	☐ On Both	☐ Not indicated	
If project ID is listed on both COC and containers, do they all match?	☐ Yes	☐ No	☒ N/A		
Are the sample collection dates indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated	
If collection dates are listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A		
Are the sample collection times indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated	
If collection times are listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A		

COMMENTS: Sediment in all samples. Bubbles in some samples.
Eqy 020713 1751

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