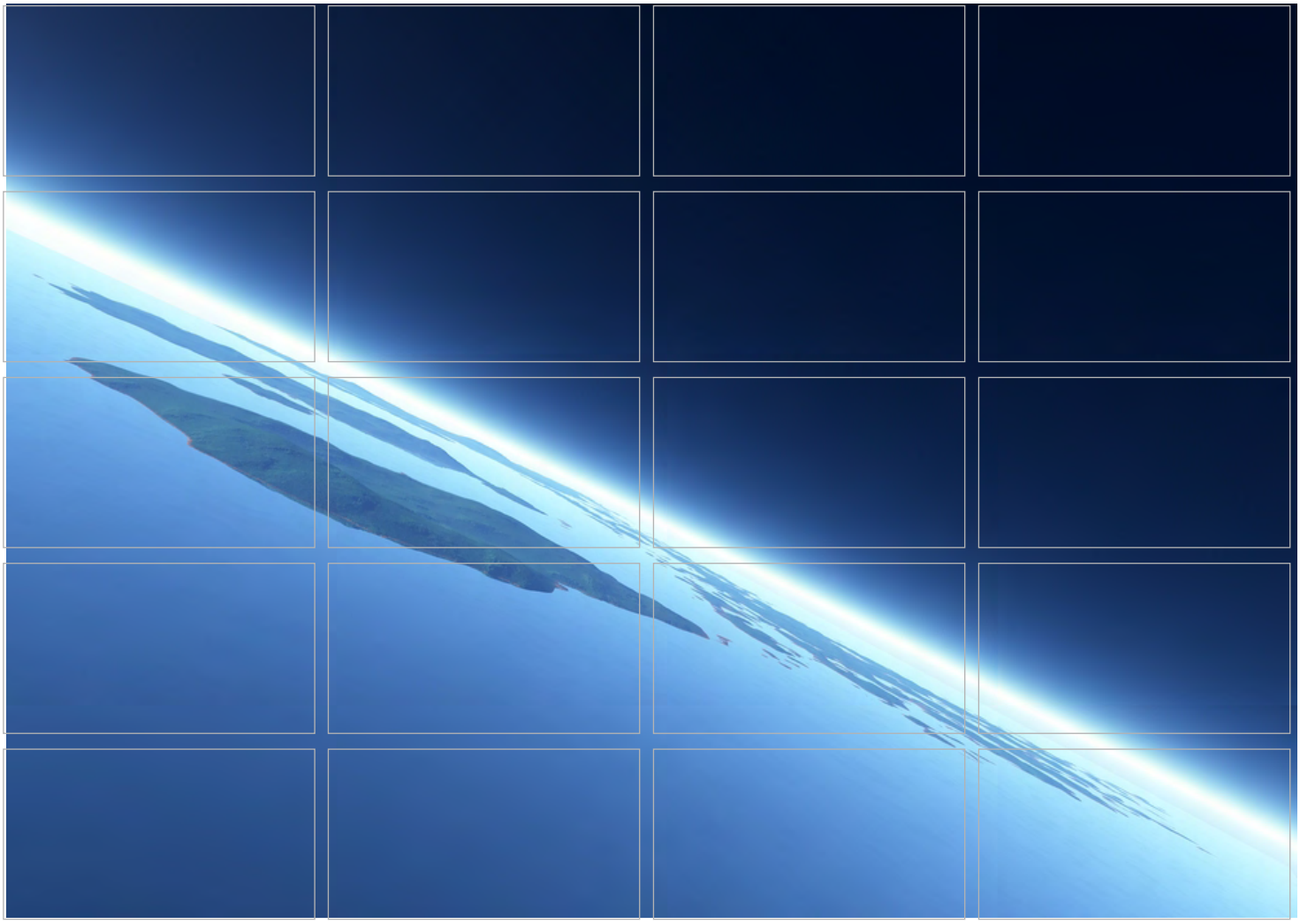

Neil and Mary Cotter and John and Antoinette Coyle

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By Alameda County Environmental Health 3:00 pm, Sep 15, 2017

Data Gap Investigation Report

Former Grove Street Wash Rack Site
Global Identification: T0600102106
3884 Martin Luther King Jr. Way
Oakland, California

13 September 2017

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ERM

The Business of Sustainability

Neil and Mary Cotter
John and Antoinette Coyle
2847 Arguello Drive
Burlingame, CA94010

8 August 2017

Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Re: Data Gap Investigation Report
Fuel leak Case RO0000027 and GeoTracker Global ID Number T0600102106
Grove Street Wash Rack, 3884 Martin Luther King Jr. Way, Oakland, California

Dear Ms. Detterman:

As requested in your 29 June 2017, directive, please find attached for your review a copy of the Data Gap Investigation Report for the Grove Street Wash Rack, 3884 Martin Luther King Jr. Way, Oakland, California. This report has been prepared by ERM West Inc. (ERM).

I certify under penalty of perjury that to the best of my knowledge this report is true, complete and correct.

Sincerely

Mary Cotter: _____ date 8/8/17

Neil Cotter: _____ date 8/8/17

Antoinette Coyle: _____ date 8/8/2017

John Coyle: _____ date 8-8-17

cc: Alexandra Foote, Law Offices of Alexandra Foote
Giorgio Molinario, ERM

Neil and Mary Cotter and John and Antoinette Coyle

Data Gap Investigation Report

Former Grove Street Wash Rack Site
Global Identification: T0600102106
3884 Martin Luther King Jr. Way
Oakland, California

13 September 2017

Project No. 0307273

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ACRONYMS

AMSL	Above mean sea level
bgs	below ground surface
CAM 17	California Assessment Manual methodology for list of 17 metals, Title 22, California Code of Regulations
ERM	ERM-West, Inc.
ESA	Environmental Site Assessment
ESL	Environmental Screening Level (RWQCB San Francisco Bay Region)
FEMA	Federal Emergency Management Agency
HASP	Health and safety plan
mg/kg	milligram per kilogram
PID	Photoionization detector
ppm	parts per million
QA/QC	quality assurance/quality control
RWQCB	Regional Water Quality Control Board, San Francisco Bay Region
TPH	Total petroleum hydrocarbon
TPH-d	Total petroleum hydrocarbon as diesel
GRO	Total petroleum hydrocarbon as gasoline
TPH-mo	Total petroleum hydrocarbon as motor oil
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOC	Volatile organic compound

1.0 INTRODUCTION

On behalf of Neal and Mary Cotter and John and Antoinette Coyle, ERM-West, Inc. (ERM) has prepared this Data Gap Investigation Report (DGIR) for the former Grove Street Wash Rack site located at 3884 Martin Luther King Jr. Way in Oakland, California (site; Figure 1). The scope of work completed included the collection of soil and groundwater samples from five locations and soil vapor samples from five locations throughout the Site. The DGIR was performed by ERM at the request of the Alameda County Department of Environmental Health (ACDEH) to fill data gaps that will assist in the evaluation of Site impacts and the development of a revised remedial or closure strategy.

The following sections describe the Site conditions, summarize the sampling and analysis activities conducted, and present the analytical results for the samples collected. Figures and summary tables are provided as attachments following the main text. Boring logs and laboratory analytical reports are provided in the Appendices.

1.1 REGULATORY FRAMEWORK

The ACDEH Local Oversight Program administers the case (Case No. RO0000027) on behalf of the San Francisco Bay Regional Water Quality Control Board (RWQCB) (Case No. 01-2290). The site is within the State Water Resources Control Board (SWRCB) Underground Storage Tank Claim Fund (USTCF) Program (Claim No. 13712).

The site was investigated under the Department of Toxic Substances Control Brownfields Program in 2004 to assist with the redevelopment of the property; however, the DTSC does not have an open case for the site.

1.2 SITE LOCATION

The site is located at 3884 Martin Luther King Jr. Way in Oakland, Alameda County, California (Figure 1) and is identified by the Alameda County Assessor's Office Assessor's Parcel Number 012-0968-31. The site is currently zoned S-15 – Transit Oriented and is located in a mixed commercial and residential zoned area adjacent to Highway 24. The site occupies approximately 10,250 square feet. The adjoining properties and nearby land use include the following:

- North: 39th Street, followed by a commercial property;
- East: the Highway 24 right-of-way, followed by the Bay Area Rapid Transit MacArthur station;
- South: a multi-story residential and commercial building constructed in 2006; and
- West: Martin Luther King Jr. Way, followed by residential and vacant properties.

The surface water body nearest to the site is the San Francisco Bay, located approximately 1.4 miles west of the site. Groundwater beneath the site is interpreted to generally flow to the west, towards the San Francisco Bay subject to periodic and localized fluctuation.

1.3 SITE HISTORY

The site is the location of the former Grove Street Wash Rack and Lucky's Auto. Historical site use consisted of a gas station, which operated in the 1950s and 1960s, and an auto body shop, which operated on the eastern portion of the site until 2004. Three underground storage tanks (USTs) were removed from the site on 5 January 1995. The locations of the former USTs in relation to the Site are shown on Figure 2.

No operations currently are conducted at the site. The former site buildings were removed and only concrete pads, and paved and unpaved areas remain on the site. An advertising billboard is located on the southwestern corner of the site. The site is surrounded by a chain-link fence.

Additional site history, including previous environmental investigations, can be found in the 2013 Feasibility Study / Corrective Action Plan (FS/CAP) (URS, 2013). In February 2017 ERM performed an additional investigation to refine the boundaries of the benzene plume, evaluate the potential presence of soil hotspots and evaluate soil vapor concentrations. This report includes the results of the February 2017 investigation in addition to the results of the July 2017 investigation.

1.4 PROPOSED SITE DEVELOPMENT

The current Site development plan consists of mixed-use residential/commercial six-story structure encompassing the majority of

the property footprint. The foundation will be constructed as slab on grade with no below-grade floors. The excavation plan includes excavation to 3 feet below ground surface (bgs) within the building footprint, except the area beneath one elevator shaft located on the northern side of the property, which will be excavated to 6 feet bgs. The proposed elevator shaft is located near the footprint of former UST #3.

2.0 SITE SETTING

This section describes the general Subject Property location, the Site topography and hydrology, and the local geology and hydrogeology.

2.1 REGIONAL GEOLOGY AND HYDROGEOLOGY

According to the geologic map, *Areal and Engineering Geology of the Oakland West Quadrangle* (Radbruch, 1957), the mapped surficial geologic unit in the vicinity of the site is the upper Pleistocene-age Temescal Formation. This Formation consists of alluvial fan deposits comprising interfingering lenses of clayey gravel, sandy silty clay, and sand-silt-clay mixtures. The thickness of the Temescal Formation in the vicinity of the site is unknown but is reported to be approximately 5 feet near the San Francisco Bay, thickening to the east to a maximum reported thickness of 60 feet in the Oakland/Berkeley hills. The Temescal Formation reportedly overlies the Pleistocene-age Alameda Formation, which has a maximum reported thickness of 1,050 feet. The upper part of the Alameda Formation is described as sandy, silty clay containing a few pebbles and the lower part consists of continental and marine sand clay and gravel.

Regionally, groundwater flows in a general east to west direction as a function of the west-sloping topography between the Oakland hills (situated east of the site) and the San Francisco Bay (situated west of the site). Groundwater recharge in the hills is derived from precipitation and streamflow, then infiltrates into the ground and flows downgradient to the west. The groundwater system has been documented to produce confined or semi-confined conditions.

2.2 SITE GEOLOGY AND HYDROGEOLOGY

Shallow soil from ground surface to 10 to 15 feet bgs generally consists of stiff clay, with minor interlayered fine sand and silty sand lenses. From 10 to 20 feet bgs (total depth explored), soils consist of interfingered, heterogeneous layers of gravelly clay, sandy clay and silty sand with additional minor lithologic units. Overall, soils beneath approximately 15 feet bgs are predominantly sandy.

Based on a review of historical site boring logs, depth to saturated soil during drilling ranged from 13.5 to 16 feet bgs. Final stabilized depth to groundwater in completed wells ranged from 13.5 to 17 feet bgs. During the February 2017 investigation the depth to saturated soil was between 15

and 16 feet bgs. Depth to groundwater measurements in boreholes during the February 2017 grab groundwater sample collection ranged from 9 to 17 feet bgs.

Groundwater generally flows in a west-southwesterly direction, consistent with the regional groundwater flow patterns, although calculated groundwater flow directions have occasionally ranged from northwest to southwest. Site groundwater elevations appear to vary seasonally between monitoring events, with up to 3 to 4 feet of variation between dry and wet seasons. Depth to groundwater in the eight Site groundwater monitoring wells ranged from 8.6 to 13.94 feet bgs in December 2016 during wet season and 12.93 to 15.98 feet bgs in July 2017 during dry season. The groundwater depths from the beginning of periodic groundwater monitoring in 2013 to present have ranged from 8.60 to 18.24 feet bgs. Prior to the winter 2016 groundwater monitoring event the shallowest groundwater depth had been 10.3 feet bgs.

3.0 SCOPE OF WORK

The scope of the DGIR work was to further evaluate environmental conditions at the Site and address data gaps remaining from past investigations. The Constituents of Potential Concern (COPCs) targeted for this investigation from previous investigations and historical Site uses are: total petroleum hydrocarbons as gasoline range organics (GRO) and benzene, ethylbenzene, xylenes, and toluene (BTEX).

ERM's scope included a detailed review of previous investigation data, obtaining boring permits, subsurface utility location, and preparation of a health and safety plan. The February 2017 fieldwork scope included advancement of soil borings to collect soil and grab groundwater samples and soil vapor sampling. In addition, in order to confirm the findings from the February 2017 investigation that occurred during wet winter conditions, three soil vapor sample locations were re-sampled and groundwater samples were collected from the existing 8 Site monitoring wells in July 2017. ERM prepared this report summarizing the findings of the February and July 2017 investigations.

3.1 PRE-FIELD ACTIVITIES

A project-specific Health and Safety Plan (HASP) was prepared prior to implementing the field investigation. ERM obtained a drilling permit from Alameda County to conduct the field activities. ERM marked proposed boring locations in the field and contacted Underground Services Alert prior to initiating the field work. As a further precaution, ERM also contracted GPRS Inc., a private utility locator, to mark subsurface utilities and structures potentially in conflict with the proposed boring locations.

3.2 SOIL AND GRAB GROUNDWATER INVESTIGATION –FEBRUARY 2017

Penecore, a California-licensed drilling company, advanced borings for soil and groundwater sampling on 23 February 2017 using hand auger and direct-push techniques. All drilling activities were overseen by an ERM field geologist.

ERM advanced five soil borings (SB-1 through SB-5) during the investigation. Soil borings were hand-cleared using a hand auger to a minimum of 5 feet below ground surface (bgs), as required by ERM's

internal subsurface utility clearance protocol. At the completion of hand augering, soil borings were continuously cored to total depths of 20 feet bgs using direct-push drilling techniques. The boring locations are shown on Figure 3.

During drilling activities, an ERM field geologist logged the soils in accordance with the Unified Soil Classification System guidelines. Soil cores were screened in the field for the presence of volatile organic compounds (VOCs) using an organic vapor analyzer with a photoionization detector, and the results were noted on the boring logs. Hydrocarbon-like odor and visual impacts (greenish-gray colored soil commonly associated with hydrocarbon degradation) were observed at SB-1 from 5 to 15 feet bgs. The maximum PID reading observed during the field activities was 1742 ppm at a depth of 10 feet bgs at SB-1. Slight hydrocarbon-like odor and greenish-gray colored soil were also observed at SB-2, SB-4, and SB-5 at depths ranging from 5 to 10 feet bgs. The boring logs are included in Appendix A.

Soil samples were collected using Terracore® sampling kits. Sample depths were designed to characterize soil conditions at 5' bgs, 10 feet bgs, and at the groundwater interface.

Groundwater was encountered in all five borings. A temporary groundwater monitoring point consisting of dedicated polyvinyl chloride (PVC) casing with a slotted-screen was installed, and a grab groundwater sample was collected from each temporary groundwater monitoring point. Temporary PVC casing was placed at the bottom of the borehole with a screened interval from 15 to 20 feet bgs and samples were collected.

Samples were collected using dedicated polyethylene tubing and a peristaltic pump using a low-flow rate. Grab groundwater samples were collected in laboratory-provided sample containers as specified below.

In addition, a field duplicate groundwater sample, an equipment rinsate blank, and a trip blank were collected for QA/QC purposes.

Following sample collection, soil and groundwater sample containers were labeled, placed in zip-top-style plastic bags, packed in an ice-filled cooler, and transported under standard chain-of-custody documentation to TestAmerica Laboratories, Inc. (TestAmerica), a California-certified laboratory in Pleasanton, California. The laboratory analyzed the soil samples for the following analytes based on the sampling rationale presented on Table 1:

- GRO, BTEX, and naphthalene by U.S. Environmental Protection Agency (USEPA) Method 8260B.

Upon completion of soil and grab groundwater sampling, each borehole was backfilled with neat cement grout. For boring locations on concrete or asphalt, boreholes were patched using like material at the surface.

3.3 GROUNDWATER MONITORING - JULY 2017

On 11 July 2017 ERM performed a semiannual groundwater monitoring event concurrently with the soil vapor sampling event. During Site groundwater monitoring activities, 8 groundwater samples were collected from Site monitoring wells and analyzed for the standard semiannual monitoring even analytes: GRO, BTEX, naphthalene, cia-1,2-DCE, and 1,1-DCE. Analytical results from the groundwater monitoring event are discussed in Section 4 below.

3.3 SOIL VAPOR INVESTIGATION – FEBRUARY AND JULY 2017

Five five-foot- deep soil vapor probes were installed in boreholes as temporary soil vapor sampling points in February 2017. In addition, three soil vapor monitoring points (SV-1A, SV-2A, and SV-4A) were re-installed in close proximity to their original locations on 11 July 2017.

The vapor probe installation and sampling procedures were consistent with the California Environmental Protection Agency (Cal-EPA) guidance entitled, *Advisory – Active Soil Gas Investigations* (Cal-EPA, 2015).

Each soil vapor probe location was manually cleared with a hand auger to an approximate depth of 5 feet bgs. Soil was screened for odors, visual staining, and vapors using an organic vapor meter equipped with a photoionization detector (PID) using a 10.7-electron-volt lamp. Soil descriptions and PID measurements are included on the boring logs in Appendix A.

Following advancement to the target depth, a 6-inch-long, 0.375-inch outer diameter, stainless steel soil vapor screen was vertically centered in a 1-foot interval of standard sand pack. Teflon tubing (or equivalent) was connected to the soil vapor screen and capped with a vapor-tight 2-way valve at the surface, eliminating the potential for barometric pressure fluctuations to induce vapor transport between the subsurface and the atmosphere. The 2-way valve was installed in the closed position,

allowing equilibration of soil vapor concentrations to commence immediately after installation.

A 1-foot interval of dry granular bentonite was placed above the sand pack followed by hydrated granular bentonite to approximately 1 foot below ground surface. Dry granular bentonite was used to ensure that the hydrated bentonite does not seal the vapor probe screen and inhibit the collection of soil vapor.

The soil vapor monitoring points were sampled following installation, after a minimum 48-hour stabilization and equilibration period.

The pre-sample vacuum readings were recorded for each SUMMA canister sample. A flow regulator with a built-in vacuum gauge was used to control the soil gas extraction rate from the formation. A leak-detection method consistent with the Cal-EPA guidance was employed to test for leaks in the sample train.

Three purge volumes were removed from each soil vapor probe prior to sample collection. After the appropriate volume was purged, the vapor-tight valve to the 1-liter SUMMA sample canister was opened to collect the sample.

Soil vapor samples from February 2017 were analyzed for VOCs and naphthalene by USEPA Method TO-15. Additional samples collected in July 2017 (SV-1A, SV-2A, and SV-4A) were analyzed for BTEX and naphthalene by USEPA Method TO-15.

SUMMA canisters were shipped to the laboratory under chain-of-custody documentation and within prescribed field holding times. All samples were analyzed by Eurofins of Garden Grove, California, a California Environmental Laboratory Accreditation Program-certified laboratory.

3.4 WASTE DISPOSAL

All investigation-derived waste generated during the field activities was placed in DOT-approved 55-gallon drums pending analysis prior to disposal. One composite sample of the waste was collected and analyzed for waste management purposes and was used in conjunction with investigation data to profile the waste. The IDW was characterized as non-hazardous waste based on the analytical results.

An additional drum was generated during the July 2017 soil vapor investigation and will be appropriately disposed by a licensed transporter after results from a composite sample of the waste are received and evaluated.

4.0 INVESTIGATION RESULTS

The geology and groundwater conditions observed by ERM during this investigation are summarized in Section 4.1.

Soil, grab groundwater, and soil gas results are described in Sections 4.2, 4.3, and 4.4, respectively. Soil analytical results are summarized in Table 2, grab groundwater results are summarized in Table 3, Site groundwater monitoring results are shown in Table 4, and soil vapor results are summarized in Table 5.

The results provided in the tables are compared to the Low Threat Closure Policy (LTCP) criteria are provided in the tables, where applicable (SWRCB Resolution No. 2012-0062.

4.1 NEW BORING GEOLOGY AND HYDROGEOLOGY

During ERM's 2017 investigation, site soils were observed to be similar to previously encountered lithology consisting of interbedded clays, fine sands, silty sands, and clayey sands/sandy clays. Saturated soil was encountered in Site borings between 15 and 16 feet bgs. Depth to groundwater measurements in boreholes during grab groundwater sample collection ranged from 9 to 17 feet bgs, which is also similar to observations from multiple past investigations summarized in ERM's 2016 Draft Corrective Action Plan Amendment (ERM, 2016).

4.2 SOIL RESULTS

4.2.2 Volatile Organic Compound in Site Soils

Benzene was detected in soil from three borings (SB-1, SB-2, and SB-3), at concentrations ranging from 570 µg/kg (SB-1-10 and SB-1-15.5) to 1,700 µg/kg (SB-3-10). Concentrations of benzene in soil were below the LTCP residential and commercial/industrial criteria.

Toluene was detected in soil from boring SB-1 only; however, reporting limits were elevated for several samples due to the presence of other target compounds. No LTCP criteria are available for toluene, but the concentration of toluene in soil were below the residential and commercial/industrial- ESL of 2,900 µg/kg.

Ethylbenzene was detected in soil from four borings (SB-1, SB-2, SB-3, and SB-4), at concentrations from 490 µg/kg (SB-1-15.5) to 3,700 (SB-1-10). Concentrations of ethylbenzene in soil were below the LTCP residential and commercial/industrial criteria.

Xylene was detected in soil from boring SB-1 and SB-2 only; however, reporting limits were elevated for several samples due to the presence of other target compounds. Xylene concentrations were 17,000 µg/kg (SB-1-10) and 2,200 µg/kg (SB-2-10). No LTCP criteria are available for xylene; however, concentrations of xylene for those sampled included one location (SB-1) above the residential and commercial/industrial ESL of 2,300 µg/kg, and one location (SB-2-10) below the ESL.

Naphthalene was detected in soil from boring SB-1 and SB-4 only; however, reporting limits were elevated for several samples due to the presence of other target compounds. Naphthalene concentrations were 1,300 µg/kg (SB-1-10) and 2,400 µg/kg (SB-4-10). Both concentrations were below the LTCP criteria for naphthalene.

4.2.1 Petroleum Hydrocarbons in Site Soils

GRO were detected in soil from four borings (SB-1, SB-3, SB-4, and SB-5), at concentrations ranging from 240 µg/kg (SB-3-5) to 490,000 µg/kg (SB-4-10). No LTCP criteria are available for GRO; however, concentrations were above the residential ESL of 100,000 µg/kg, but are below the commercial/industrial ESL of 500,000 µg/kg. GRO was detected in soil samples generally at the same locations as the BTEX compounds, with the exception of SB-3-5 and SB-5-10.

4.3 GRAB GROUNDWATER RESULTS

4.3.1 Volatile Organic Compound in Site Groundwater

Grab groundwater samples were collected between 15 and 20 feet bgs in each of the soil borings advanced during this investigation. As shown in Table 3 and Figure 4a, BTEX and naphthalene were detected in grab groundwater samples collected from the borings advanced.

Benzene was detected in grab groundwater from all five borings, at concentrations ranging from 0.98 µg/L (SB-5) to 590 µg/L (SB-1). Concentrations of benzene in grab groundwater were below the 3,000 µg/L LTCP criterion for plumes less than 250 feet in length.

Toluene was detected in grab groundwater from borings SB-1 and SB-2 only. The concentrations of toluene in grab groundwater ranged from 15 µg/L (SB-1) to 23 µg/L (SB-2). No LTCP criteria are available for toluene, but the results were below the residential ESL (40 µg/L).

Ethylbenzene was detected in grab groundwater from four borings (SB-1, SB-2, SB-3, and SB-4), at concentrations from 15 µg/L (SB-4) to 250 µg/L (SB-2). No LTCP groundwater criteria are available for ethylbenzene, however, concentrations measured in grab groundwater within the plume (SB-1 to SB-4) were above the residential ESL of 13 µg/L and the concentrations at SB-1 and SB-2 also exceed the commercial/industrial ESL (110 µg/L).

Xylene was detected in grab groundwater from four borings (SB-1, SB-2, SB-3, and SB-4), at concentrations from 3.1 µg/L (SB-3) to 460 µg/L (SB-2). No LTCP groundwater criteria are available for xylene, however concentrations within the plume at locations SB-1, SB-2, and SB-4 were above the residential ESL (20 µg/L), and were below the commercial/industrial ESL (11,000 µg/L) at all locations.

Naphthalene was detected in grab groundwater from four borings (SB-1, SB-2, SB-3, and SB-4), at concentrations from 3.7 µg/L (SB-3) to 42 µg/L (SB-2). All concentrations measured were above the residential ESL (0.17 µg/L), but were below the commercial/industrial ESL (170 µg/L) at all locations.

4.3.2 Petroleum Hydrocarbons in Site Groundwater

GRO was detected in grab groundwater samples from four borings (SB-1, SB-2, SB-3, and SB-4), at concentrations from 130 µg/L (SB-3) to 4,500 µg/L (SB-1). All concentrations measured were above the GRO residential ESL of 100 µg/L. No commercial/industrial ESL or LTCP criteria are established for GRO in groundwater.

4.3 GROUNDWATER RESULTS

4.3.1 Volatile Organic Compound in Site Groundwater

Groundwater samples were collected from the Site groundwater monitoring wells in July 2017. BTEX and naphthalene were detected in groundwater samples collected from the Site monitoring wells.

Benzene was detected in groundwater with concentrations of 1,100 µg/L at well MW-4 and 1,500 µg/L at well MW-2. The concentrations of benzene in grab groundwater were below the 3,000 µg/L LTCP criterion for plumes smaller than 250 feet in length.

Toluene was detected in groundwater from monitoring wells MW-2 and MW-4 at concentrations of 35 µg/L and 88 µg/L, respectively. No LTCP criteria are available for toluene; however the results were above the residential ESL (40 µg/L) and below the commercial/industrial ESL (100,000 µg/L) at all locations.

Ethylbenzene was detected in groundwater from two monitoring wells with concentrations of 52 µg/L (MW-2) and 920 µg/L (MW-4). No LTCP groundwater criteria are available for ethylbenzene, but the ethylbenzene concentrations were above the residential ESL of 13 µg/L and the concentrations at MW-4 also exceeded the commercial/industrial ESL (110 µg/L). Xylene was detected in groundwater at two monitoring wells with concentrations of 42 µg/L (MW-2) and 410 µg/L (MW-4). No LTCP groundwater criteria are available for xylene. Concentrations were above the residential ESL of 20 µg/L at both locations and below the commercial/industrial ESL (11,000 µg/L) at both locations.

Naphthalene was detected in groundwater from three monitoring wells (MW-2, MW-4 and MW-5) with concentrations ranging from 2.7 µg/L (MW-5) to 160 µg/L (MW-4). No LTCP groundwater criteria are available for naphthalene, however groundwater concentrations were above the residential ESL (0.17 µg/L) and below the commercial/industrial ESL (180 µg/L).

4.3.2 Petroleum Hydrocarbons in Site Groundwater

GRO was detected in one monitoring well with a concentration of 5,100 µg/L (MW-4). The concentration measured in MW-4 was above the GRO residential ESL of 100 µg/L. No LTCP criteria or commercial/industrial ESL are established for GRO in groundwater.

The groundwater analytical data is provided in Table 4. Grab groundwater data and Site monitoring results from Third Quarter 2016 are shown in Figure 4a. Second Quarter 2017 groundwater results are presented in Figure 4b.

4.4 SOIL VAPOR RESULTS

4.4.1 Volatile Organic Compound in Site Soil Vapor

BTEX compounds were detected in soil vapor monitoring points SV-1, SV-2, SV-3, SV-4, and SV-5 in February 2017 below their respective LTCP criteria and residential and commercial/industrial ESLs as shown in Table 5. Naphthalene was not detected in any of the soil vapor monitoring points during this sampling event. Soil vapor sampling results from the February 2017 sampling event are shown on Figure 5.

Eighteen additional compounds were detected in soil vapor in February 2017 below their respective applicable residential and commercial/industrial ESLs (Table 5). The VOCs detected included aromatic compounds associated with petroleum fuels and fuel additives, chlorofluorocarbons, and chlorinated compounds.

BTEX compounds were also detected in soil vapor monitoring points SV-1A, SV-2A, and SV-4A that were installed in July 2017 adjacent to the corresponding soil vapor points sampled in February 2017. Concentrations were below their respective residential LTCP criteria, as well as, both residential and commercial/industrial ESLs (Table 5). Naphthalene was not detected in any of the soil vapor monitoring points during this sampling event; however, due to the concentrations of BTEX compounds in the sample the laboratory reporting limit for naphthalene was elevated to 1,000 µg/m^3.

4.5 QUALITY ASSURANCE/QUALITY CONTROL

ERM performed a laboratory data QA/QC review of the analytical results in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, January 2017, and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, January 2017. The data quality review evaluated holding times, preservation methods, method blank sample results, laboratory control sample recoveries, and matrix and surrogate spike recoveries. Based on ERM's data quality review, the quality of the data generated during this investigation is acceptable for the preparation of technically defensible documents. The laboratory data packages are provided in Appendix B.

Field quality assurance/quality control (QA/QC) samples, including trip blanks, equipment rinsate blanks, and field duplicates, were submitted to the analytical laboratory to assess the quality of the monitoring data.

Rinsate and trip blanks were collected and analyzed to check for potential contamination associated with sampling procedures, ambient conditions at the Site, and/or sample packaging and transport. Field duplicate samples were collected to assess the reproducibility of analytical results for individual samples.

All samples were received within temperature limits at the laboratory and were analyzed within the prescribed holding times.

One trip blank sample, supplied by the analytical laboratory, was analyzed for VOCs for each shipment to the laboratory. The trip blank was prepared by the laboratory using reagent (contaminant-free) water. The trip blank was sent to the field in a cooler with new sample containers. After sampling, the sample containers were placed in the cooler with the trip blank and returned to the laboratory. The trip blank was analyzed for VOCs, similar to the associated project samples. Analysis of the trip blank provides information on sample handling procedures in the field and the cleanliness of the cooler and packaging. No analytes were detected in the trip blank sample.

New disposable equipment (tubing) was used to collect soil vapor and groundwater samples. An equipment rinsate blank was prepared and collected during the sampling event by slowly pouring purified water over decontaminated sampling equipment and into appropriate sample containers. The rinsate blanks was analyzed for the same analytes as the associated project samples. No analytes were detected in the rinsate blank sample.

Field duplicate samples were collected at a minimum frequency of one duplicate sample per 10 primary groundwater and soil vapor samples. The duplicate samples were analyzed for the same parameters as the associated primary samples. The groundwater field duplicate sample (SB-1-GW-DUP) was collected sequentially after SB-1-GW. The benzene, ethylbenzene, toluene, xylene, and naphthalene results were within 25 percent of the primary sample results; therefore, no precision issues were identified.

Soil vapor field duplicates were collected from location SV-2 and SV-1A following collection of the primary sample. ERM field staff observed water in the sample tubing at location SV-2 and stopped collection of the duplicate sample prior to reaching the target volume (pressure). The duplicate sample from SV-2 was considered a compromised sample and the results from this sample were rejected. The results from the SV-1A

sample were considered valid and the relative percent differences were below 9 percent for all analytes and no data quality issues were noted.

The laboratory analyzed method blank samples for the target analytes and no analytes were detected. The laboratory created and analyzed Laboratory Control Samples and Laboratory Control Sample Duplicates (LCD/LCSD) for the target analytes. All recoveries and RPDs for these QC samples were within acceptance criteria.

The laboratory spiked project samples with surrogate compounds for evaluation of recoveries as a measure of accuracy. All recoveries from the February sampling event were within acceptance criteria with one exception: soil vapor sample SV-1 toluene-d8. The toluene-d8 spike recovery was 69 percent, below the 70 percent acceptance criteria; however, the associated method blank surrogate spike compound was in control, therefore, this is considered a sample matrix issue rather than a laboratory issue. The analyte results associated with this surrogate (including BTEX and naphthalene) for sample SV-1 were J-qualified. The laboratory recoveries for the July 2017 samples were within acceptance criteria with one exception: soil vapor sample SV-1A toluene-d8. The toluene-d8 spike recovery was 63 percent, below the 70 percent acceptance criteria; however, the associated method blank surrogate spike compound was in control and the dilution factor for this sample was greater than 10; therefore, no data were qualified from the July sampling event.

Based on a review of quality control samples above all analytical data are considered usable for their intended purpose.

5.0 SUMMARY AND CONCLUSIONS

The scope of the DGIR included sampling at locations targeted where limited data were available for these areas from previous soil and groundwater investigations. The sampling locations were selected based on proximity to features of interest, as summarized in Table 1, and the objective of the assessment was to identify significant environmental impacts from Site or off-Site sources. In addition, in order to confirm the findings from the February 2017 investigation that occurred during wet winter conditions, three soil vapor sample locations were re-sampled and groundwater samples were collected across all 8 Site monitoring wells in July 2017.

Soil and groundwater results were compared to LTCP criteria that are applicable for Site closure.

The results of the investigation are summarized below.

5.1 SUMMARY OF SITE SOIL FINDINGS

The analytical results from the soil samples collected from the five borings advanced are summarized as follows:

- GRO was primarily detected in soil in SB-1, SB-4 and SB-5 at a depth of 10 feet bgs that is considered the groundwater capillary fringe. One exception to this was a result well below screening levels at SB-3 at a depth of 5 feet bgs.
- The GRO concentrations at the 10-foot depth at SB-1 and SB-4 suggest that these locations have GRO impacts at a depth that does not allow a full 10-foot bioattenuation zone below ground level; however, based on the oxygen concentrations greater than 4 percent in soil vapor the LTCP-required 5-foot bioattenuation zone is present.
- Benzene was detected in soil at SB-1, SB-2, and SB-3 at a depth of 10 feet bgs or greater at concentrations below the LTCP criteria.
- Toluene, ethylbenzene, xylenes, and naphthalene were generally detected in soil at SB-1, SB-2, SB-3 and SB-4 at concentrations below their respective screening levels with the exception of SB-1 and SB-4 at the 10-foot depth.

Overall GRO, BTEX, and naphthalene detected in the soil samples analyzed appear to be associated with areas of impacted groundwater and no new soil source areas were identified. The 10-foot depth samples from the SB-1 and SB-4 areas had soil impacts at the capillary fringe, but these concentrations were below the LTCP criteria.

5.2 SUMMARY OF SITE GRAB GROUNDWATER FINDINGS

The analytical results from the grab groundwater samples collected from the five borings advanced are summarized as follows:

- Grab groundwater samples were collected between 15 and 20 feet bgs in each of the soil borings advanced.
- GRO was primarily detected in groundwater SB-1 and SB-2 with lower concentrations at SB-3 and SB-4. The GRO concentrations measured were above the residential ESL at all four locations (no commercial/industrial ESL or LTCP criteria are available for GRO in groundwater).
- Benzene was detected in all soil boring grab groundwater samples below the LTCP criteria. The grab groundwater concentrations were generally similar to concentrations from the monitoring well groundwater concentrations from the December 2016 monitoring event. The benzene concentrations in groundwater were below the LTCP criteria of 3,000 µg/L for plumes smaller than 250 feet in length.
- Toluene, ethylbenzene, xylenes, and naphthalene were generally detected at SB-1, SB-2, SB-3 and SB-4. There are no LTCP groundwater criteria available for these compounds; however, concentrations of these compounds were generally above their respective residential ESL screening levels and generally below their commercial/industrial ESL screening levels as described in Section 4.

Overall GRO, BTEX, and naphthalene in the grab groundwater samples analyzed are consistent with the extent of groundwater impacts inferred from the eight groundwater monitoring wells at the Site. Concentrations from the grab groundwater samples were below the LTCP criteria for analytes with comparison criteria.

5.2 *SUMMARY OF SITE GROUNDWATER FINDINGS*

The analytical results from the groundwater samples collected from the eight groundwater monitoring wells in July 2017 are summarized as follows:

- In contrast to the sampling event in December 2016, GRO was only detected in well MW-4 with a concentration of 5,100 µg/L. No LTCP criteria or commercial/industrial ESL are available for GRO in groundwater. This concentration was an increase from the December 2016 event, but consistent with historical concentrations. GRO was not detected in other wells within or outside the plume.
- Benzene was detected in groundwater from monitoring wells MW-2 and MW-4 at a maximum concentration of 1,500 µg/L below the LTCP criterion of 3,000 µg/L for plumes smaller than 250 feet in length. Benzene was not detected in groundwater from any other monitoring well locations and continued the overall downward trend in concentrations at monitoring wells MW-2 and MW-4 including seasonal variations that appears to be inversely related to groundwater depth.
- Toluene, ethylbenzene, xylenes, and naphthalene were detected at MW-2 and MW-4; and naphthalene was also detected in MW-5. Concentrations of these compounds were below their respective commercial/industrial soil vapor intrusion groundwater ESL, with the exception of ethylbenzene at MW-4.

In general, grab groundwater concentrations were lower during the December 2016 monitoring event and higher during the July 2017 groundwater monitoring event. These GRO and BTEX concentration trends are consistent with historical results where concentrations are inversely related to groundwater depth. No GRO or BTEX were detected off-site during the July 2017 sampling event, indicating that groundwater impacts remain localized within the center of the plume and the property.

5.3 *SUMMARY OF SITE SOIL VAPOR*

The analytical results from the soil vapor samples collected during February and July 2017 from the eight soil vapor monitoring points are summarized as follows:

- The distribution and magnitude of soil vapor concentrations were generally consistent with the impacted groundwater areas. The highest concentrations of BTEX compounds were at SV-1A, SV-2, and SV-3, in the center of the groundwater plume
- BTEX compounds were detected below the residential ESL, and significantly below LTCP criteria in all soil vapor samples. .
- Naphthalene was not detected in soil vapor samples collected; however, the laboratory reporting limit for naphthalene was elevated to 1,000 µg/m^3 in selected samples due to sample dilution. This reporting limit is above the LTCP criterion for naphthalene.
-
- Oxygen in soil vapor at all locations tested was above 4 percent therefore shallow soil bioattenuation is anticipated across the site, supporting the LTCP characteristics that define a bioattenuation zone.

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5.4 SUMMARY OF SITE FINDINGS AND CONCLUSIONS

Overall the distribution of BTEX and naphthalene in soil vapor appear to be consistent with the extent of groundwater impacts. The soil vapor concentrations were below the LTCP and ESL criteria. In addition, a bioattenuation zone is anticipated across the site based on oxygen levels in soil vapor.

Overall, the objectives of the investigation were met and the following data gaps were addressed:

- No new soil source areas were identified near MW-4, MW-2, or the former fueling island.
- Two hotspots of GRO, BTEX, and naphthalene in soil were found at 10 feet bgs or deeper within the capillary fringe and thus appear to be related to past groundwater transport.
- The horizontal extent of GRO and BTEX in groundwater was further delineated and was generally consistent with the anticipated horizontal extent.
- Off-site GRO or BTEX concentrations were not detected in groundwater during the most recent groundwater monitoring event and consistent with historical trends.

- Soil vapor concentrations in February 2017 were below screening levels across the Site including in areas of known groundwater impacts. Specifically, the highest benzene soil vapor concentration was 6.5 times below the residential LTCP criterion for soil vapor and over 21 times below the commercial/industrial LTCP criterion for soil vapor.
- Soil vapor sampling from three soil vapor monitoring points in July 2017 confirmed that BTEX in soil vapor are below ESL criteria and LTCP criteria even with lower seasonal groundwater levels and dry conditions.
- Soil vapor concentrations between the southernmost monitoring wells (MW-2 and MW-3) and the existing residential building to the south were below ESL screening levels. This report presents data gap investigation results in addition to the site conditions presented in numerous investigations from 1996 to present and reported from groundwater monitoring that has occurred consistently from 2013 to present.

Based on the soil, groundwater, and soil vapor data presented in this report the site hydrocarbon impacts from historical site uses meet the criteria for closure under the LTCP. No further monitoring is recommended based on the summary of data presented in this report.

6.0 REFERENCES

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State Water Resources Control Board, 2012. Low-Threat Underground Storage Tank Case Closure Policy. August.

URS Corporation (URS), 2013a. Site Investigation Workplan, Former Grove Street Wash Rack Site, 3884 Martin Luther King Junior Way, Oakland, CA 94609. July.

URS, 2013b. Feasibility Study/Corrective Action Plan, Former Grove Street Wash Rack Site, 3884 Martin Luther King Junior Way. October

7.0 LIMITATIONS

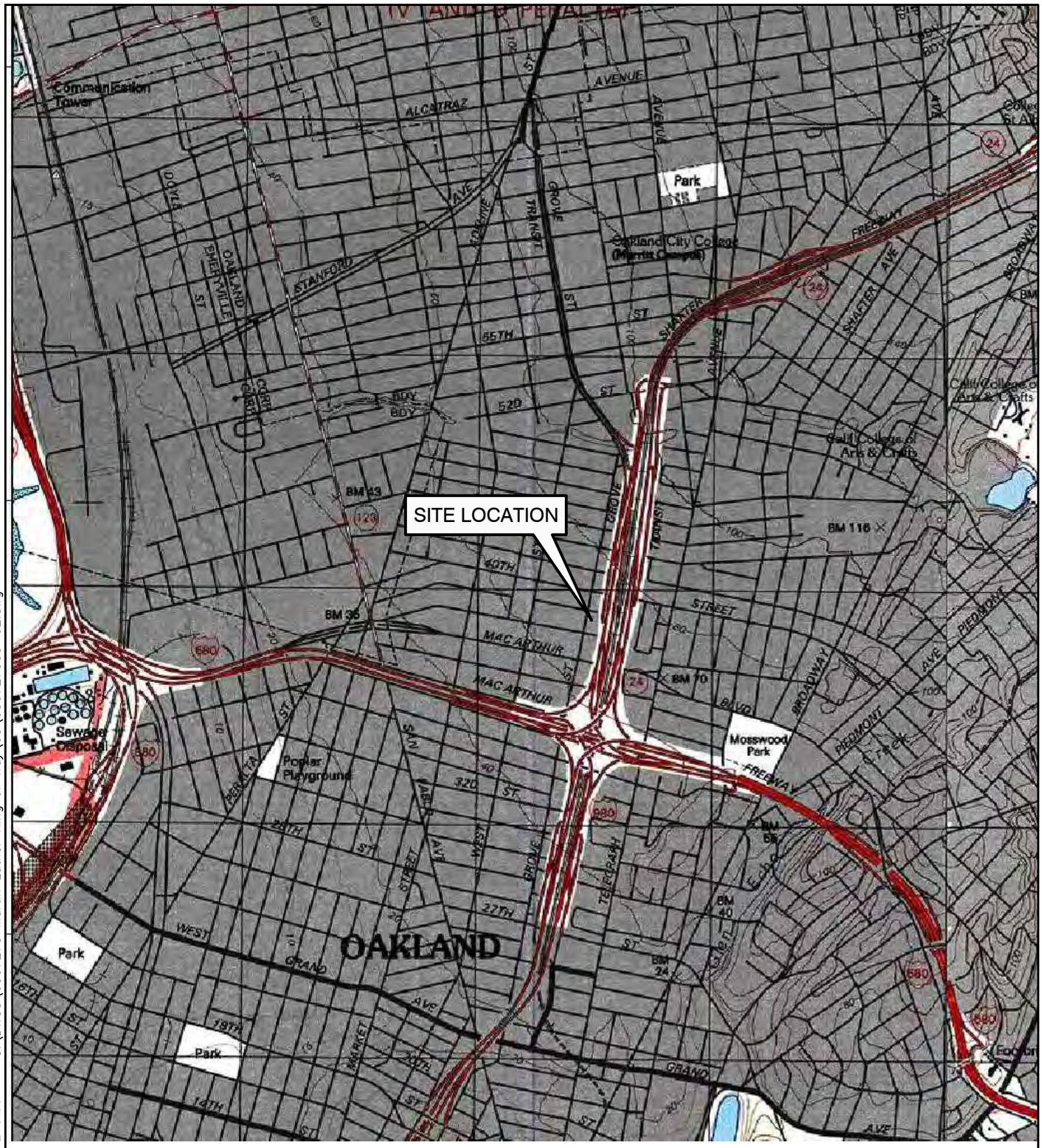
ERM conducted this work in accordance with industry standards. Those standards require the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations and exercise of discretion. Professional judgments were based on the facts available within the limits of the existing data, and data gaps identified, scope of work, budget, and schedule. ERM makes no warranties, expressed or implied, including, without limitation, warranties as to merchantability or fitness for a particular purpose.

All conclusions and recommendations represent the professional opinions of the ERM personnel involved with the project, and ERM's report shall not be considered a legal interpretation of existing environmental regulations.

Deliverables were prepared for the sole and exclusive benefit and use of "client". Notwithstanding delivery of this report by ERM or client to any third party, any copy of this report provided to a third party is provided for informational purposes only without the right to rely. Reliance on ERM's report by any other person(s) or entity(ies) is strictly at their own risk, and ERM makes no warranties to person(s) or entity(ies), other than client who use the information provided in this report. If other person(s) or entity(ies) wish to rely upon this report (i.e., lenders, mortgagers, insurance companies, or other parties to a transaction), ERM will require that such parties sign ERM's standard reliance letter.

In the course of performing its work on behalf of client, ERM may have detected types and concentrations of chemicals in soil, soil vapor, air, and/or groundwater that could trigger reporting and notification requirements, as well as other time-sensitive obligations, imposed by various federal, state, and local laws and regulations. Client and any third-party recipients of this report should be aware that many of these laws and regulations, including reporting and notification requirements, may impose criminal and/or civil liability for noncompliance. However, this report is not intended to be and does not constitute legal advice on reporting obligations or any other matters. Client and any third-party recipients of this report promptly should consult counsel regarding their respective legal obligations, if any, including but not limited to the obligation to report or make notifications, related to chemicals detected in soil, soil vapor, air, and/or groundwater.

Figures



N

0 1000 2000 3000 4000 5000 6000 FEET

0 0.5 1 MILE

Figure 1

Site Location Map
Former Grove Street Wash Rack Site
3884 Martin Luther King Jr. Way
Oakland, California

References:
U.S.G.S. 7.5 Minute Series (Topographic) Quadrangle,
Oakland West, California, 1993

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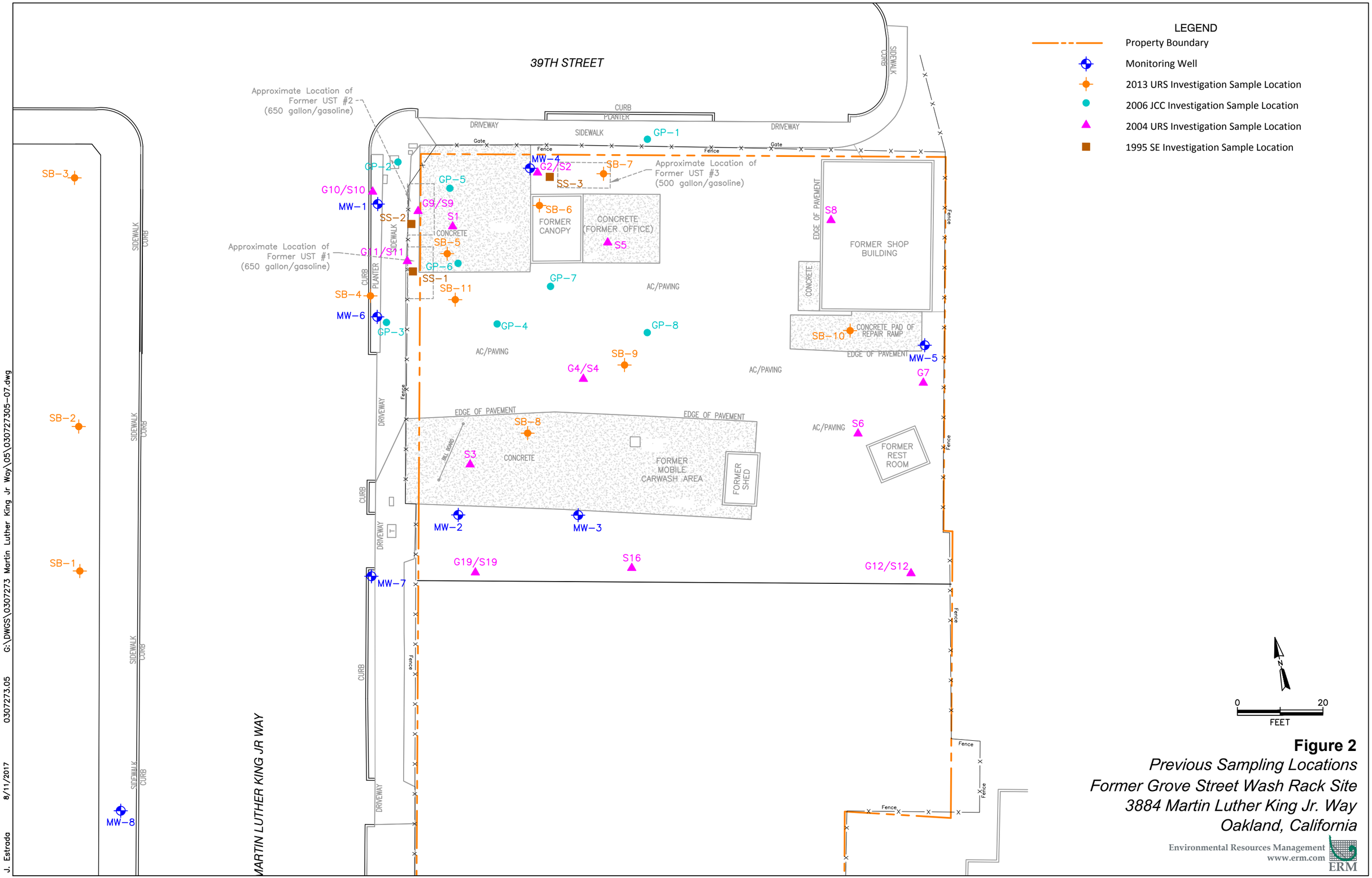

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Figure 2

Previous Sampling Locations
Former Grove Street Wash Rack Site
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39TH STREET

MARTIN LUTHER KING JR WAY

Approximate Location of Former UST #2 (650 gallon/gasoline)

Depth	5'	10'	15.5'
BZ	<4.0	570	570
EB	<4.0	3700	490
TOL	<4.0	890	<380
Total XYL	<8.0	17000	<760
NAP	<8.0	1300	<760
GRO	<200	140000	91000

Approximate Location of Former UST #1 (650 gallon/gasoline)

Depth	5'	10'	17'
BZ	<2.0	610	<4.1
EB	<2.0	1100	<4.1
TOL	<2.0	<400	<4.1
Total XYL	<4.0	<810	<8.1
NAP	<4.0	<810	<8.1
GRO	240	<20000	<200

Depth	5'	10'	15'
BZ	<4.1	<380	<3.7
EB	<4.1	1100	<3.7
TOL	<4.1	<380	<3.7
Total XYL	<8.2	<770	<7.4
NAP	<8.2	2400	<7.8
GRO	<210	490000	<200

Depth	5'	10'	15'
BZ	<3.4	<4.0	<4.4
EB	<3.4	<4.0	<4.4
TOL	<3.4	<4.0	<4.4
Total XYL	<6.8	<8.0	<8.8
NAP	<6.8	<8.0	<8.8
GRO	<170	370	<220

Depth	5'	10'	15'
BZ	<3.7	1700	<3.7
EB	<3.7	740	<3.7
TOL	<3.7	<370	<3.7
Total XYL	<7.5	2200	<7.4
NAP	<7.5	<740	<7.4
GRO	<190	<19000	<180

MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8

SB-1, SB-2, SB-3, SB-4, SB-5

FORMER CANOPY; CONCRETE (FORMER OFFICE); FORMER SHOP BUILDING; CONCRETE PAD OF REPAIR RAMP; FORMER MOBILE CARWASH AREA; FORMER SHED; FORMER REST ROOM

Approximate Location of Former UST #3 (500 gallon/gasoline)

CONCRETE; AC/PAVING; EDGE OF PAVEMENT; CONCRETE PLANTER; CURB; SIDEWALK; DRIVEWAY; Gate; Fence; BILLBOARD

LEGEND

- Property Boundary
- Monitoring Well
- Soil and Grab Groundwater Sample Location
- Sample depth in feet below ground surface
- VOCs in Soil
- Concentrations in $\mu g/Kg$
- Analyte
- Exceeds ESL Screening Levels

Depth	5'	10'	15'
MTBE	<4.2	<3.7	<4.3

BZ = Benzene
EB = Ethylbenzene
TOL = Toluene
Total XYL = Total Xylenes
NAP = Naphthalene
GRO = Gasoline Range Organics-C5-C12

Environmental Screening Levels (ESL) for Residential Land Use	
Analyte	($\mu g/Kg$)
Benzene	44
Ethylbenzene	14
Toluene	2900
Total Xylenes	2300
Naphthalene	33
Gasoline Range Organics-C5-C12	100000

N

0 20
FEET

Figure 3

Soil Sampling Locations and Results
Former Grove Street Wash Rack Site
3884 Martin Luther King Jr. Way
Oakland, California

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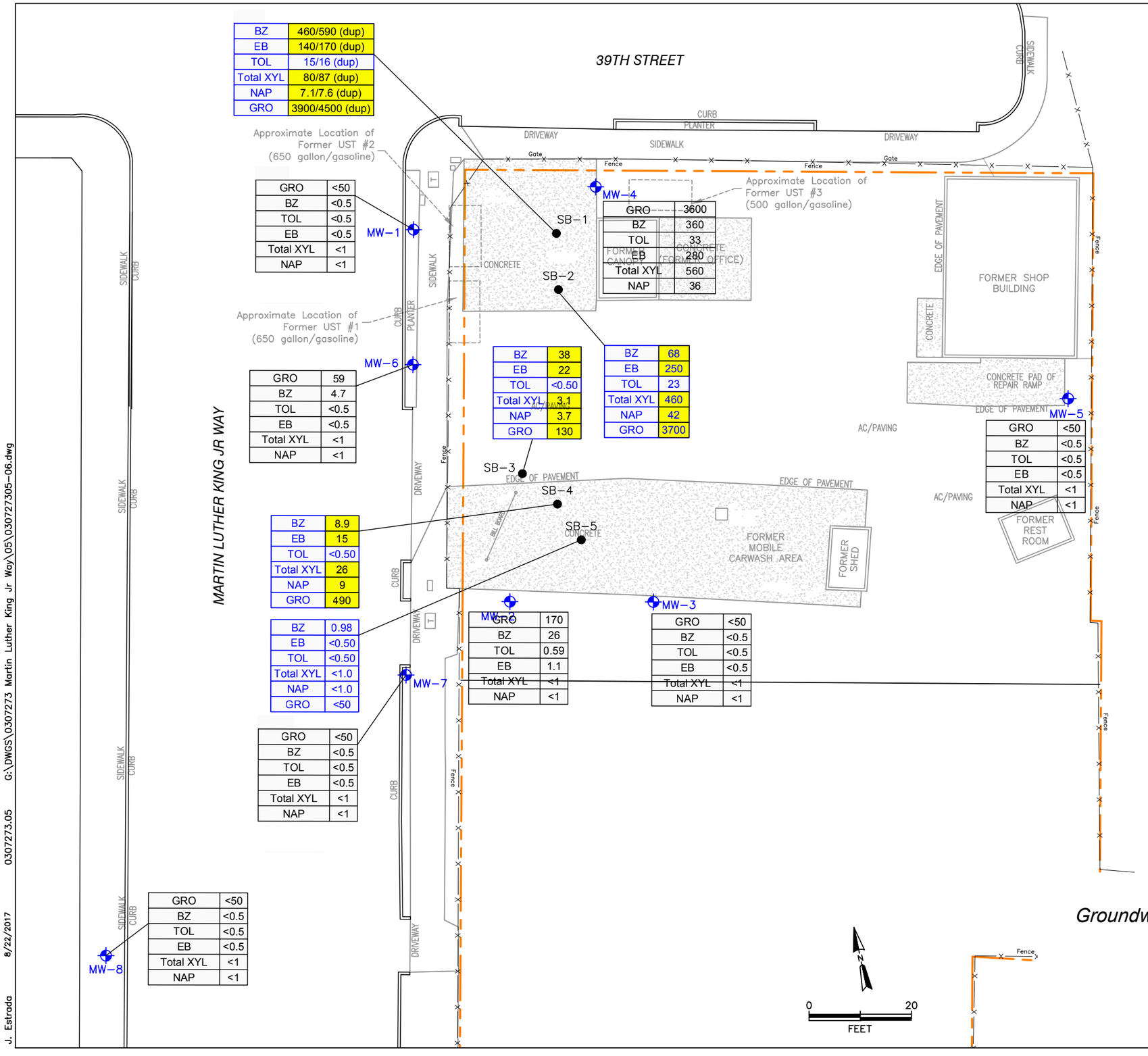

LEGEND

- Property Boundary
- Monitoring Well
- Soil and Grab Groundwater Sample Location (approximate locations, not surveyed)
- BZ 0.98 — VOCs in Grab Groundwater Sample Concentrations in $\mu g/L$ (February 2017) Analyte
- BZ <0.5 — Groundwater Sample (December 2016) Concentrations in $\mu g/L$ Analyte
- Exceeds ESL Screening Levels

BZ = Benzene
EB = Ethylbenzene
TOL = Toluene
Total XYL = Total Xylenes
NAP = Naphthalene
GRO = Gasoline Range Organics-C5-C12
RWQCB = San Francisco Regional Water Quality Control Board
ESL = Environmental Screening Level
μg/l = microgram per liter

Environmental Screening Levels (ESL) for Residential Land Use (μg/L):
Benzene - 1
Ethylbenzene - 13
Toluene - 40
Total Xylenes - 20
Naphthalene - 0.17
Gasoline Range Organics-C5-C12 - 100

Vapor Intrusion ESL for Commercial/Industrial (μg/l):
Benzene - 9.7
Ethylbenzene - 110
Toluene - 3,600
Total Xylenes - 11,000
Naphthalene - 170
Gasoline Range Organics-C5-C12 - 100 - Not established

ESL Residential - Tier 1 Environmental Screening Levels- for Residential Land Use (Tier 1 Table)

ESL Commercial - Tier 2 Environmental Screening Levels- for Commercial Land Use (Tier 2-1 Table assuming non-drinking water resource, sandy soil, and contamination <10 feet)

Note: Values for MW-6 are from the blind duplicate sample MW-60.

Figure 4a

Groundwater Analytical Results, December 2016/February 2017
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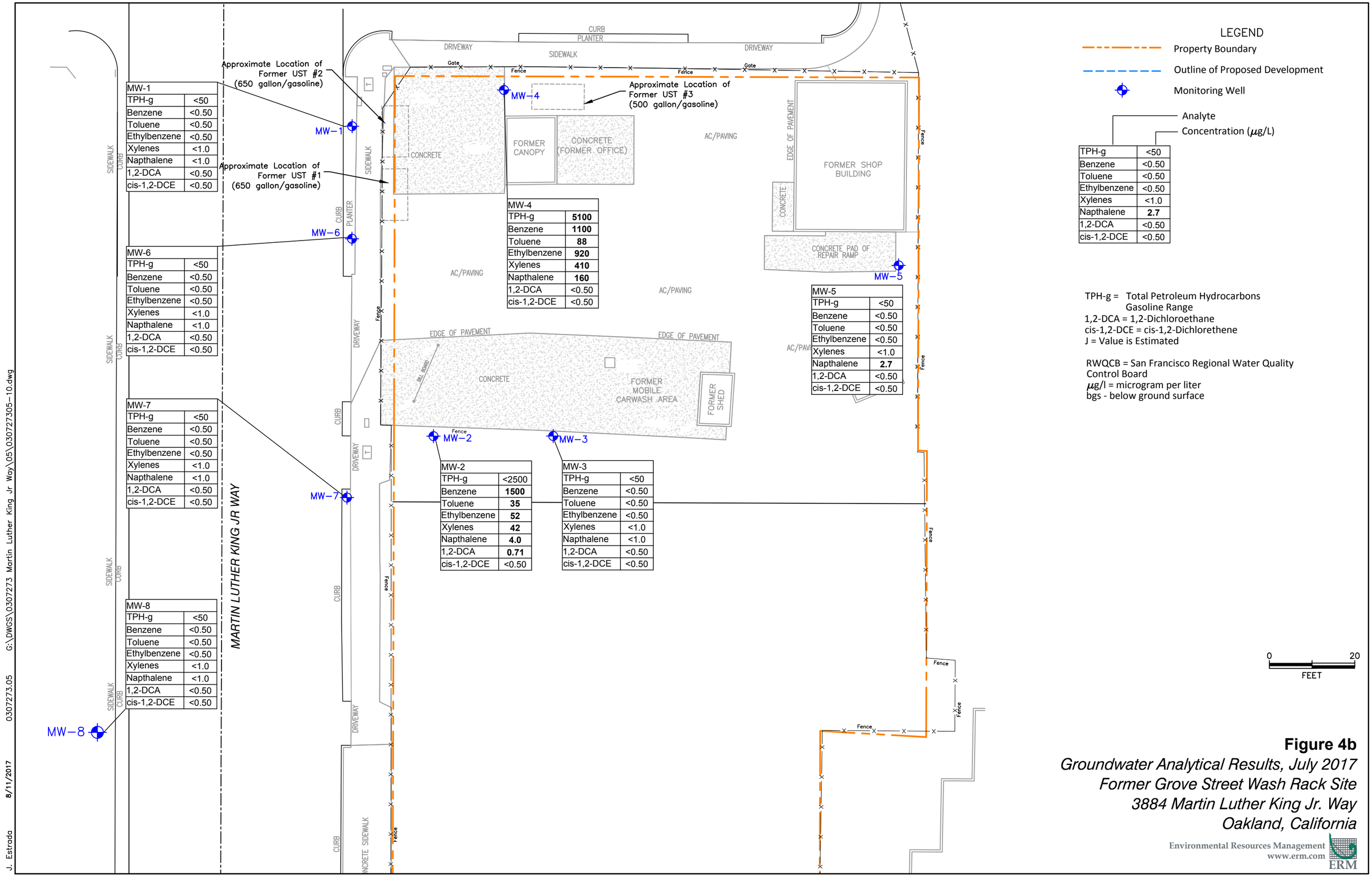

Figure 4b

Groundwater Analytical Results, July 2017
Former Grove Street Wash Rack Site
3884 Martin Luther King Jr. Way
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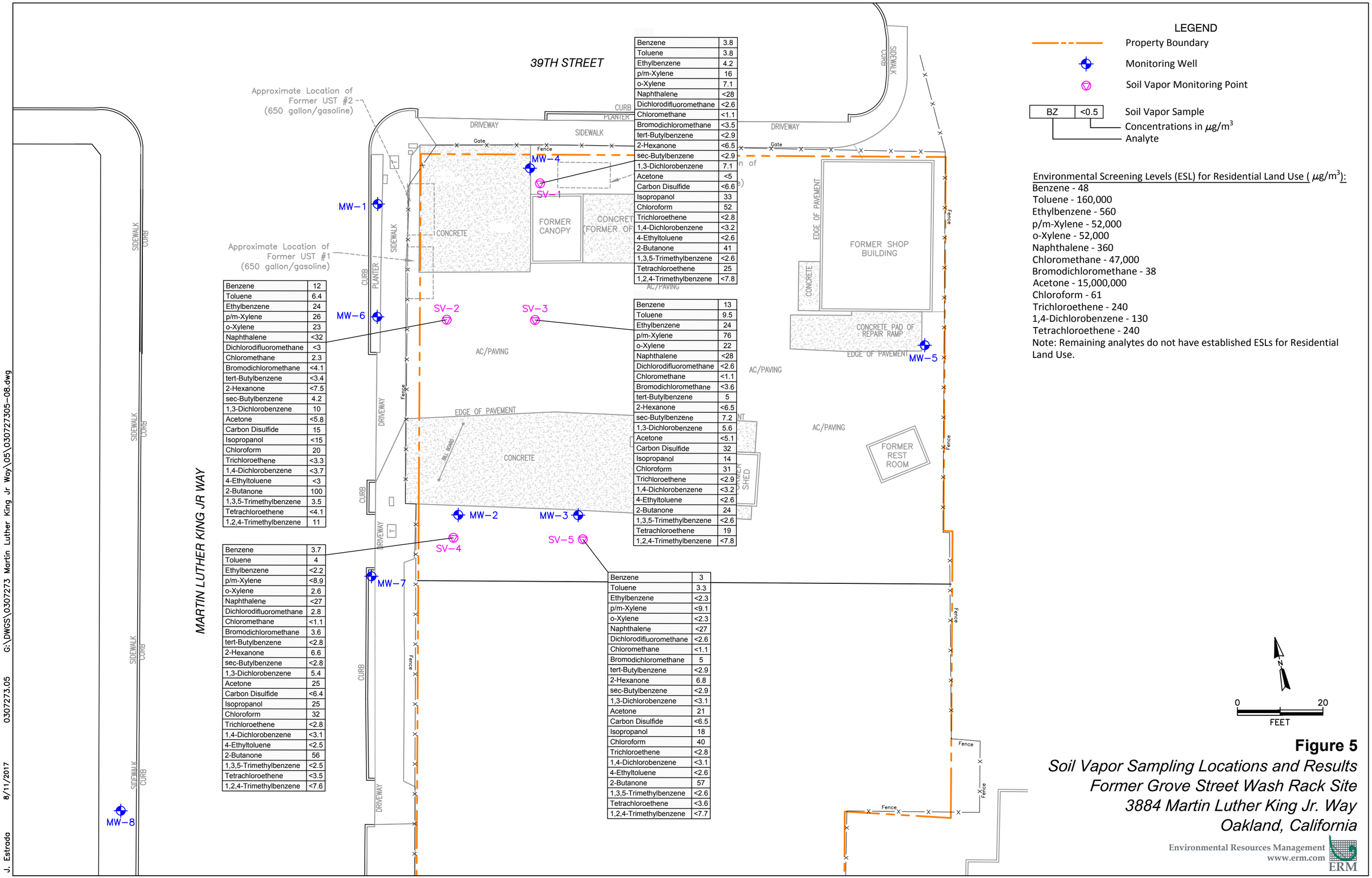

Benzene	3.8
Toluene	3.8
Ethylbenzene	4.2
p/m-Xylene	16
o-Xylene	7.1
Naphthalene	<28
Dichlorodifluoromethane	<2.6
Chloromethane	<1.1
Bromodichloromethane	<3.5
tert-Butylbenzene	<2.9
2-Hexanone	<6.5
sec-Butylbenzene	<2.9
1,3-Dichlorobenzene	7.1
Acetone	<5
Carbon Disulfide	<6.6
Isopropanol	33
Chloroform	52
Trichloroethene	<2.8
1,4-Dichlorobenzene	<3.2
4-Ethyltoluene	<2.6
2-Butanone	41
1,3,5-Trimethylbenzene	<2.6
Tetrachloroethene	25
1,2,4-Trimethylbenzene	<7.8

Benzene	12
Toluene	6.4
Ethylbenzene	24
p/m-Xylene	26
o-Xylene	23
Naphthalene	<32
Dichlorodifluoromethane	<3
Chloromethane	2.3
Bromodichloromethane	<4.1
tert-Butylbenzene	<3.4
2-Hexanone	<7.5
sec-Butylbenzene	4.2
1,3-Dichlorobenzene	10
Acetone	<5.8
Carbon Disulfide	15
Isopropanol	<15
Chloroform	20
Trichloroethene	<3.3
1,4-Dichlorobenzene	<3.7
4-Ethyltoluene	<3
2-Butanone	100
1,3,5-Trimethylbenzene	3.5
Tetrachloroethene	<4.1
1,2,4-Trimethylbenzene	11

Benzene	13
Toluene	9.5
Ethylbenzene	24
p/m-Xylene	76
o-Xylene	22
Naphthalene	<28
Dichlorodifluoromethane	<2.6
Chloromethane	<1.1
Bromodichloromethane	<3.6
tert-Butylbenzene	5
2-Hexanone	<6.5
sec-Butylbenzene	7.2
1,3-Dichlorobenzene	5.6
Acetone	<5.1
Carbon Disulfide	32
Isopropanol	14
Chloroform	31
Trichloroethene	<2.9
1,4-Dichlorobenzene	<3.2
4-Ethyltoluene	<2.6
2-Butanone	24
1,3,5-Trimethylbenzene	<2.6
Tetrachloroethene	19
1,2,4-Trimethylbenzene	<7.8

Benzene	3.7
Toluene	4
Ethylbenzene	<2.2
p/m-Xylene	<8.9
o-Xylene	2.6
Naphthalene	<27
Dichlorodifluoromethane	2.8
Chloromethane	<1.1
Bromodichloromethane	3.6
tert-Butylbenzene	<2.8
2-Hexanone	6.6
sec-Butylbenzene	<2.8
1,3-Dichlorobenzene	5.4
Acetone	25
Carbon Disulfide	<6.4
Isopropanol	25
Chloroform	32
Trichloroethene	<2.8
1,4-Dichlorobenzene	<3.1
4-Ethyltoluene	<2.5
2-Butanone	56
1,3,5-Trimethylbenzene	<2.5
Tetrachloroethene	<3.5
1,2,4-Trimethylbenzene	<7.6

Benzene	3
Toluene	3.3
Ethylbenzene	<2.3
p/m-Xylene	<9.1
o-Xylene	<2.3
Naphthalene	<27
Dichlorodifluoromethane	<2.6
Chloromethane	<1.1
Bromodichloromethane	5
tert-Butylbenzene	<2.9
2-Hexanone	6.8
sec-Butylbenzene	<2.9
1,3-Dichlorobenzene	<3.1
Acetone	21
Carbon Disulfide	<6.5
Isopropanol	18
Chloroform	40
Trichloroethene	<2.8
1,4-Dichlorobenzene	<3.1
4-Ethyltoluene	<2.6
2-Butanone	57
1,3,5-Trimethylbenzene	<2.6
Tetrachloroethene	<3.6
1,2,4-Trimethylbenzene	<7.7

LEGEND

- Property Boundary
- Monitoring Well
- Soil Vapor Monitoring Point
- BZ | <0.5 — Soil Vapor Sample; Concentrations in $\mu g/m^3$; Analyte

Environmental Screening Levels (ESL) for Residential Land Use ($\mu g/m^3$):
Benzene - 48
Toluene - 160,000
Ethylbenzene - 560
p/m-Xylene - 52,000
o-Xylene - 52,000
Naphthalene - 360
Chloromethane - 47,000
Bromodichloromethane - 38
Acetone - 15,000,000
Chloroform - 61
Trichloroethene - 240
1,4-Dichlorobenzene - 130
Tetrachloroethene - 240
Note: Remaining analytes do not have established ESLs for Residential Land Use.

Figure 5

Soil Vapor Sampling Locations and Results
Former Grove Street Wash Rack Site
3884 Martin Luther King Jr. Way
Oakland, California

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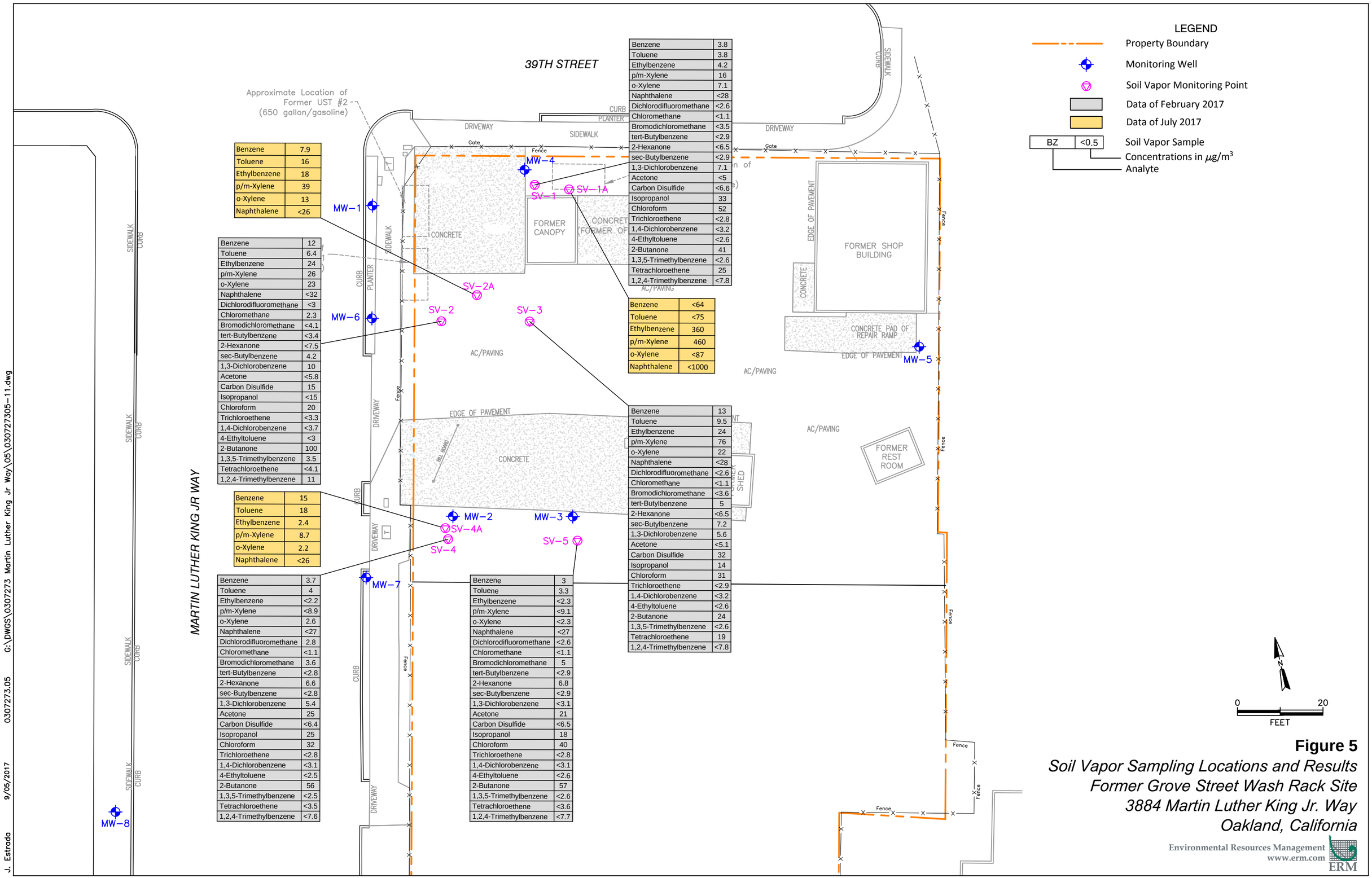

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Figure 5

Soil Vapor Sampling Locations and Results
Former Grove Street Wash Rack Site
3884 Martin Luther King Jr. Way
Oakland, California

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Tables

Table 1
Sampling Locations and Rationale
Grove Street Wash Rack
3884 Martin Luther King Jr Way
Oakland, California

Boring	Rationale	Soil			GW	SG
		5 feet	10 feet	Capillary Fringe	Grab Groundwater	Soil Gas (TO-15)
SB-1	Evaluate soil and groundwater impacts on the northern portion of the former fuel pump island.	X	X	X	X	
SB-2	Evaluate soil and groundwater on the southern portion of the former fuel pump island.	X	X	X	X	
SB-3	Potential soil impacts north of MW-2 and refine groundwater isoconcentrations north of MW-2	X	X	X	X	
SB-4	Potential soil impacts northeast of MW-2 and refine groundwater isoconcentrations northeast of MW-2	X	X	X	X	
SB-5	Potential soil impacts east of MW-2 and refine groundwater isoconcentrations east of MW-2	X	X	X	X	
SV-1	Evaluate soil vapor concentrations near MW-4 where there are known groundwater impacts.					X
SV-2	Evaluate soil vapor concentrations near the anticipated western edge of the groundwater benzene plume.					X
SV-3	Evaluate soil vapor concentrations near the anticipated center of the groundwater benzene plume.					X
SV-4	Evaluate soil vapor concentrations southeast of MW-2 between the MW-2 groundwater impacts and the residential building to the south.					X
SV-5	Evaluate soil vapor concentrations southeast of MW-2 between the MW-2, MW-3, and the residential building to the south.					X
SV-1A	Confirm soil vapor concentrations near MW-4 from February 2017 sampling event.					X
SV-2A	Confirm soil vapor concentrations from westerd edge of benzene plume from February 2017 sampling event.					X
SV-4A	Confirm soil vapor concentrations near MW-2 from February 2017 sampling event.					X

Notes: GW = groundwater
SG = soil gas

Table 2
Soil Analytical Results
Grove Street Wash Rack
3884 Martin Luther King Jr Way
Oakland, California

Analyte	LTCP Residential	LTCP Commercial/ Industrial	SB-1-5	SB-1-10	SB-1-15.5	SB-2-5	SB-2-10	SB-2-15	SB-3-5	SB-3-10	SB-3-17	SB-4-5	SB-4-10	SB-4-15	SB-5-5	SB-5-10	SB-5-15
Depth (feet bgs)			**5**	**10**	**15.5**	**5**	**10**	**15**	**5**	**10**	**17**	**5**	**10**	**15**	**5**	**10**	**15**
Benzene	1,900/2,800	28,000/810,000	<4.0	**570**	**570**	<3.7	**1,700**	<3.7	<2.0	**610**	<4.1	<4.1	<380	<3.7	<3.4	<4.0	<4.4
Ethylbenzene	21,000/32,000	250,000/9,400,000	<4.0	**3,700**	**490**	<3.7	**740**	<3.7	<2.0	**1,100**	<4.1	<4.1	**1,100**	<3.7	<3.4	<4.0	<4.4
Toluene	NE	NE	<4.0	**890**	<380	<3.7	<370	<3.7	<2.0	<400	<4.1	<4.1	<380	<3.7	<3.4	<4.0	<4.4
Xylenes, Total	NE	NE	<8.0	**17,000**	<760	<7.5	**2,200**	<7.4	<4.0	<810	<8.1	<8.2	<770	<7.4	<6.8	<8.0	<8.8
Naphthalene	9,700/9,700	10,0000/160,000,00	<8.0	**1,300**	<760	<7.5	<740	<7.4	<4.0	<810	<8.1	<8.2	**2,400**	<7.8	<6.8	<8.0	<8.8
Gasoline Range Organics (GRO)-C5-C12	NE*	NE*	<200	**140,000**	**91,000**	<190	<19,000	<180	**240**	<20,000	<200	<210	**490,000**	<200	<170	**370**	<220

Notes: All results in ug/Kg
LTCP Residential - Low Threat Closure Policy screening level (Table 1 - Soil 0 to 5' bgs / 5 to 10' bgs)
LTCP Commercial - Low Threat Closure Policy screening level (Table 1 - Soil 0 to 5' bgs / 5 to 10' bgs)
*LTCP criteria for 10-foot bioattenuation zone is 100 mg/kg.
NE = Not Established

Table 3
Grab Groundwater Analytical Results
Grove Street Wash Rack
3884 Martin Luther King Jr Way
Oakland, California

Analyte	LTCP	SB-1-GW	SB-1-GW (DUP)	SB-2-GW	SB-3-GW	SB-4-GW	SB-5-GW
Approximate depth to water (feet bgs)		9	9	9.5	16.5	17	16.5
Screened Interval (feet bgs)		15-20	15-20	15-20	15-20	15-20	15-20
Benzene	1,000	**460 J**	**590 J**	**68 J**	**38 J**	**8.9 J**	**0.98 J**
Ethylbenzene	NE	**140**	**170**	**250**	**22**	**15**	<0.50
Toluene	NE	**15**	**16**	**23**	<0.50	<0.50	<0.50
Xylenes, Total	NE	**80**	**87**	**460**	**3.1**	**26**	<1.0
Naphthalene	NE	**7.1**	**7.6**	**42**	**3.7**	**9.0**	<1.0
Gasoline Range Organics (GRO)-C5-C12	NE	**3,900**	**4,500**	**3,700**	**130**	**490**	<50

Notes:

All results in µg/L
LTCP - Low Threat Closure Policy screening levels
NE = Not Established
Depth to water is an approximate measurement in direct push boreholes.
J = benzene results were qualified as estimated due to field duplicate Relative Percent Difference (RPD) of 25%.

Table 4
Groundwater Analytical Results
Grove Street Wash Rack
3884 Martin Luther King Jr Way
Oakland, California

Analyte	LTCP	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
Approximate depth to water (feet bgs)		14.66	14.5	14.92	14.55	15.98	13.96	12.84	12.53
Screened Interval (feet bgs)		12-19	13-20	13-20	11-18	15-21	11-19	11-19	11-18
Benzene	1,000	<0.5	**1,500**	<0.5	**1,100**	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	NE	<0.5	**52**	<0.5	**920**	<0.5	<0.5	<0.5	<0.5
Toluene	NE	<0.5	**35**	<0.5	**88**	<0.5	<0.5	<0.5	<0.5
Xylenes, Total	NE	<1.0	**42**	<1.0	**410**	<1.0	<1.0	<1.0	<1.0
Naphthalene	NE	<1.0	**4.0**	<1.0	**160**	**2.7**	<1.0	<1.0	<1.0
Gasoline Range Organics (GRO)-C5-C12	NE	<50	<2500	<50	**5,100**	<50	<50	<50	<50

Notes: All results in µg/L
bgs = below ground surface
LTCP - Low Threat Closure Policy screening levels
NE = Not Established
Depth to water Indicates a concentration above the LTCP criteria

Table 5
Soil Gas Analytical Results
Grove Street Wash Rack
3884 Martin Luther King Jr Way
Oakland, California

Analyte	ESL Residential	Residential LTCP	Commercial LTCP	SV-1	SV-1A	Dup 20170714	SV-2	SV-2A	SV-3	SV-4	SV-4A	SV-5
Date				**Feb-17**	**Jul-17**	**Jul-17**	**Feb-17**	**Jul-17**	**Feb-17**	**Feb-17**	**Jul-17**	**Feb-17**
Benzene	*48*	*85*	*280*	**3.8 J**	<64	<64	**12**	**7.9**	**13**	**3.7**	**15**	**3**
Toluene	*160,000*	*NE*	*NE*	**3.8J**	<75	<75	**6.4**	**16**	**9.5**	**4**	**18**	**3.3**
Ethylbenzene	*560*	*1100*	*3600*	**4.2 J**	**360**	**370**	**24**	**18**	**24**	<2.2	**2.4**	<2.3
p/m-Xylene	*52,000*	*NE*	*NE*	**16 J**	**460**	**470**	**26**	**39**	**76**	<8.9	**8.7**	<9.1
o-Xylene	*52,000*	*NE*	*NE*	**7.1 J**	<87	<87	**23**	**13**	**22**	**2.6**	**2.2**	<2.3
Naphthalene	*41*	*93*	*310*	<28 UJ	<1000	<1000	<32	<26	<28	<27	<26	<27
Dichlorodifluoromethane	*NE*	*NE*	*NE*	<2.6	NA	NA	<3	NA	<2.6	**2.8**	NA	<2.6
Chloromethane	*47,000*	*NE*	*NE*	<1.1	NA	NA	**2.3**	NA	<1.1	<1.1	NA	<1.1
Bromodichloromethane	*38*	*NE*	*NE*	<3.5	NA	NA	<4.1	NA	<3.6	**3.6**	NA	**5**
tert-Butylbenzene	*NE*	*NE*	*NE*	<2.9 UJ	NA	NA	<3.4	NA	**5**	<2.8	NA	<2.9
2-Hexanone	*NE*	*NE*	*NE*	<6.5	NA	NA	<7.5	NA	<6.5	**6.6**	NA	**6.8**
sec-Butylbenzene	*NE*	*NE*	*NE*	<2.9	NA	NA	**4.2**	NA	**7.2**	<2.8	NA	<2.9
1,3-Dichlorobenzene	*NE*	*NE*	*NE*	**7.1 J**	NA	NA	**10**	NA	**5.6**	**5.4**	NA	<3.1
Acetone	*15,000,000*	*NE*	*NE*	<5	NA	NA	<5.8	NA	<5.1	**25**	NA	**21**
Carbon Disulfide	*NE*	*NE*	*NE*	<6.6	NA	NA	**15**	NA	**32**	<6.4	NA	<6.5
Isopropanol*	*NE*	*NE*	*NE*	**33**	NA	NA	<15	NA	**14**	**25**	NA	**18**
Chloroform	*61*	*NE*	*NE*	**52**	NA	NA	**20**	NA	**31**	**32**	NA	**40**
Trichloroethene	*240*	*NE*	*NE*	<2.8	NA	NA	<3.3	NA	<2.9	<2.8	NA	<2.8
1,4-Dichlorobenzene	*130*	*NE*	*NE*	<3.2	NA	NA	<3.7	NA	<3.2	<3.1	NA	<3.1
4-Ethyltoluene	*NE*	*NE*	*NE*	<2.6	NA	NA	<3	NA	<2.6	<2.5	NA	<2.6
2-Butanone	*NE*	*NE*	*NE*	**41**	NA	NA	**100**	NA	**24**	**56**	NA	**57**
1,3,5-Trimethylbenzene	*NE*	*NE*	*NE*	<2.6	NA	NA	**3.5**	NA	<2.6	<2.5	NA	<2.6
Tetrachloroethene	*240*	*NE*	*NE*	**25**	NA	NA	<4.1	NA	**19**	<3.5	NA	<3.6
1,2,4-Trimethylbenzene	*NE*	*NE*	*NE*	<7.8	NA	NA	**11**	NA	<7.8	<7.6	NA	<7.7

Notes:

All results in µg/m3
ESL Residential - Tier 1 Environmental Screening Levels- for Residential Land Use (Tier 1 Table)
ESL Commercial - Tier 2 Environmental Screening Levels- for Commercial Land Use (Tier 2-1 Table assuming sandy soil and contamination <10 feet)
LTCP - Low Threat Closure Policy screening levels assuming no bioattenuation zone.
NE = Not Established
NA= Not analyzed

* Isopropanol was used as a leak check compound. Results were within 10X the reporting limit, therefore, sample leakage was not a significant issue.
J = result is estimated (see report narrative)

Table 6
Fixed Gas Analytical Results
Grove Street Wash Rack
3884 Martin Luther King Jr Way
Oakland, California

Analyte	BZL	SV-1A	Dup 20170714	SV-2A	SV-4A
Date		**Jul-17**	**Jul-17**	**Jul-17**	**Jul-17**
Methane	*NE*	**0.533**	**0.573**	<0.5	<0.5
Carbon Dioxide	*NE*	**5.7**	**5.91**	**9.46**	**1.46**
Oxygen	*4*	**5.51**	**5.06**	**11.4**	**19.6**

Notes: All results in Percentage by Volume (%V)
BZL = Bioattenuation Zone Limit from the Low Threat Closure Policy
NE = Not Established

Appendix A
Boring Logs

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LOG OF BOREHOLE: SB-1

Project Number: 0307273
Project Name: Former Grove Street Wash Rack Site
Client Name: Cotter & Coyle
Location: Oakland, California
Contractor: Penecore
Drilling Method: Direct Push
Logged By: S. Martin

Date Started: 2/23/2017
Date Completed: 2/23/2017
Total Depth: 20 feet
Borehole Diameter: 2"
Initial Water Level: 9.2'

Notes: Hand augered to 5' bgs. Installed temporary PVC casing at bottom of borehole screened 15-20' bgs and collected grab groundwater sample.

Depth (ft)	Sample Interval	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
						Concrete slab.
						Gravel fill.
			0.9	CL		CLAY (CL): dark brown with some light brown mottling, trace fine gravel, high plasticity, stiff, moist.
			0.4	ML		SILT (ML): light brown, 10% clay, trace fine sand, cohesive, soft, moist.
						AS ABOVE EXCEPT: 10% clay, 10% fine sand, trace fine gravel.
5			1.3	SM		SILTY SAND (SM): light brown, fine sand, trace clay, loose, moist, slight hydrocarbon-like odor, grades to greenish gray at 5' bgs.
						SB-1-5
			712.4	ML		SILT WITH SAND AND CLAY (ML): greenish gray, 15% fine to coarse sand, 15% clay, trace fine gravel, stiff, moist, hydrocarbon-like odor.
			861			
			156.6			AS ABOVE EXCEPT: 10% fine gravel.
10			1742			SB-1-10
						CLAY WITH GRAVEL (CL): reddish brown, 20% fine gravel, stiff, moist.
			115.1	CL		AS ABOVE EXCEPT: 30% fine gravel, some wet pockets.
						CLAY WITH SAND (CL): reddish brown, 20% fine sand, very soft, moist-increase in moisture from above, slight hydrocarbon-like odor.
15			46.2			SAND WITH SILT (SP-SM): brown with greenish gray mottling, fine sand, 30-40% fines, interbedded sand with silt lenses, medium dense, wet.
			7.8			SB-1-15.5
			15.3	SP-SM		
			4.3			
20			4.5			Total Depth - 20 feet bgs

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LOG OF BOREHOLE: SB-2

Project Number: 0307273
Project Name: Former Grove Street Wash Rack Site
Client Name: Cotter & Coyle
Location: Oakland, California
Contractor: Penecore
Drilling Method: Direct Push
Logged By: S. Martin

Date Started: 2/23/2017
Date Completed: 2/23/2017
Total Depth: 20 feet
Borehole Diameter: 2"
Initial Water Level: 9.45'

Notes: Hand augered to 5' bgs. Installed temporary PVC casing at bottom of borehole screened 15-20' bgs and collected grab groundwater sample.

Depth (ft)	Sample Interval	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
						Fill.
			1.7	CL		CLAY (CL): dark brown, 10-15% fine sand, medium stiff, high plasticity, moist.
			0.4			AS ABOVE EXCEPT: grades to light brown.
				ML		SANDY SILT WITH CLAY (ML): light brown, 15% plastic fines, soft, moist.
5			0.3			SB-2-5
			0.6			CLAY WITH GRAVEL AND SAND (CL): brown with greenish gray, 20% fine gravel, fine sand lenses from 5 to 10' bgs, stiff, dry.
			14.6			
			43			
10			39	CL		AS ABOVE EXCEPT: very stiff.
						SB-2-10
						CLAY (CL): reddish brown, stiff, high plasticity, moist, slight hydrocarbon-like odor.
			3			AS ABOVE EXCEPT: trace fine sand, very soft.
15			0.5			SB-2-15
						AS ABOVE EXCEPT: 10-15% fine sand, 5% fine gravel, increase in moisture.
			0.4	SP-SC		SAND WITH CLAY (SP-SC): reddish brown, fine sand, 30% plastic fines, cohesive, wet, no dor.
			0.3			SILTY SAND (SM): brown with some gray mottling, fine sand, 20-30% fines, slow dilatancy, medium dense, wet.
			0.3	SM		
20						Total Depth - 20 feet bgs

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LOG OF BOREHOLE: SB-3

Project Number: 0307273
Project Name: Former Grove Street Wash Rack Site
Client Name: Cotter & Coyle
Location: Oakland, California
Contractor: Penecore
Drilling Method: Direct Push
Logged By: S. Martin

Date Started: 2/23/2017
Date Completed: 2/23/2017
Total Depth: 20 feet
Borehole Diameter: 2"
Initial Water Level: 16.45'

Notes: Hand augered to 5' bgs. Installed temporary PVC casing at bottom of borehole screened 15-20' bgs and collected grab groundwater sample.

Depth (ft)	Sample Interval	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
						Fill.
			0.5	CL		CLAY (CL): dark brown, very stiff, medium plasticity, moist.
			1.0			AS ABOVE EXCEPT: grades to brown, high plasticity.
						SILTY CLAY (CL-ML): light brown, some fine sand, medium stiff, medium plasticity.
5			0.2	CL-ML		SB-3-5
			0.3			
			44.1	SM		SANDY SILT (SM): greenish gray, 5-10% fine gravel, stiff, low plasticity.
10			2.5			SB-3-10
			10.5	CL		CLAY (CL): brown, high plasticity, stiff, moist.
			5.2			CLAY WITH GRAVEL (CL): brown, 25% fine gravel, medium stiff, medium plasticity, some mottling, moist.
15			1.6	CL		
			0.6	GC		CLAYEY GRAVEL (GC): black, 30% fine gravel, 25% fine sand and silt, stiff, low plasticity, moist. SB-3-17
						No recovery.
20						Total Depth - 20 feet bgs

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LOG OF BOREHOLE: SB-4

Project Number: 0307273
Project Name: Former Grove Street Wash Rack Site
Client Name: Cotter & Coyle
Location: Oakland, California
Contractor: Penecore
Drilling Method: Direct Push
Logged By: S. Martin

Date Started: 2/23/2017
Date Completed: 2/23/2017
Total Depth: 20 feet
Borehole Diameter: 2"
Initial Water Level: 16.95'

Notes: Hand augered to 5' bgs. Installed temporary PVC casing at bottom of borehole screened 15-20' bgs and collected grab groundwater sample.

Depth (ft)	Sample Interval	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
						Fill.
			0.8	CL		CLAY (CL): dark brown, medium stiff, medium plasticity, moist.
			0.1			AS ABOVE EXCEPT: brown, stiff, high plasticity.
				CL-ML		SILTY CLAY (CL-ML): light brown, medium plasticity, medium stiff, moist.
5						SB-4-5
			0.3	CL		CLAY (CL): brown with gray mottling, 5% coarse sand, trace fine gravel, stiff, hard, dry, slight hydrocarbon-like odor.
			0.0			
			7.3	SM		SILTY SAND (SM): greenish gray, fine sand, moist, hydrocarbon-like odor.
10			14.1	CL		SILTY CLAY (CL): brown, 30% silt, trace fine sand, medium stiff, high plasticity, moist. SB-4-10
			19.5			
				CL		CLAY WITH GRAVEL (CL): brown with gray gravel, 20% fine gravel, trace fine sand, stiff, low plasticity, moist.
15						SB-4-15
			0.5	SP		GRAVELLY SAND WITH CLAY (SP): dark brown, coarse sand, 25% angular fine gravel, 15% plastic fines, dense, wet at 15.5 ' bgs.
			0.0			AS ABOVE EXCEPT: grades to reddish brown.
			0.1			
20						Total Depth - 20 feet bgs

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LOG OF BOREHOLE: SB-5

Project Number: 0307273
Project Name: Former Grove Street Wash Rack Site
Client Name: Cotter & Coyle
Location: Oakland, California
Contractor: Penecore
Drilling Method: Direct Push
Logged By: S. Martin

Date Started: 2/23/2017
Date Completed: 2/23/2017
Total Depth: 20 feet
Borehole Diameter: 2"
Initial Water Level: 16.42'

Notes: Hand augered to 5' bgs. Installed temporary PVC casing at bottom of borehole screened 15-20' bgs and collected grab groundwater sample.

Depth (ft)	Sample Interval	Blow Count	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
			0.3	CL		CLAY (CL): dark brown, 30% gray gravel fill material, medium stiff, medium plasticity, moist.
			0.1			AS ABOVE EXCEPT: no fill material, stiff, high plasticity.
						AS ABOVE EXCEPT: brown, very stiff.
				CL-ML		CLAY (CL-ML): light brown low plasticity, soft, moist.
5			0.2			SB-5-5
			0.3	CL		CLAY (CL): brown, stiff, high plasticity, moist.
			0.8	CL		GRAVELLY CLAY (CL): greenish gray, 20-30% fine gravel, 5% fine sand, stiff, moist, hydrocarbon-like odor.
10			0.6			SB-5-10
				CL		CLAY (CL): brown, stiff, high plasticity, moist, no odor.
			0.0			AS ABOVE EXCEPT: trace fine gravel, increase in moisture.
				CL		GRAVELLY CLAY (CL): brown, 30% fine gravel, 5-10% coarse sand, stiff, low plasticity, moist.
15			0.0			SB-5-15
			0.0	SP		GRAVELLY SAND WITH CLAY (SP): brown to reddish brown, coarse sand, 30% angular fine gravel, 20% fines, dense, wet.
			0.0	CL		GRAVELLY CLAY (CL): brown, 30% fine subrounded gravel, stiff, hard, moist.
20						Total Depth - 20 feet bgs

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LOG OF BOREHOLE: SV-1

Project Number: 0307273
Project Name: Former Grove Street Wash Rack Site
Client Name: Cotter & Coyle
Location: Oakland, California
Contractor: Penecore
Drilling Method: Hand Auger
Logged By: K. Almestead

Date Started: 2/23/2017
Date Completed: 2/23/2017
Total Depth: 4 feet
Borehole Diameter: 3.25"
Initial Water Level: No groundwater encountered
Notes: Completed as soil vapor probe. Probe inlet set at 2.5' bgs.

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
					Concrete slab.
					Fill.
		0.4	CL		SANDY CLAY (CL): light brown, high plasticity, stiff, moist.
		0.3			AS ABOVE EXCEPT: brown, medium stiff.
		0.0	CL-ML		SILTY CLAY (CL-ML): light brown, 30% fine sand, soft, moist.
					Wet at 4' bgs, possibly perched groundwater, set soil vapor probe inlet above saturated zone at 2.5' bgs.
		0.1			Total Depth - 4 feet bgs
5					
10					

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LOG OF BOREHOLE: SV-2

Project Number: 0307273
Project Name: Former Grove Street Wash Rack Site
Client Name: Cotter & Coyle
Location: Oakland, California
Contractor: Penecore
Drilling Method: Hand Auger
Logged By: S. Martin

Date Started: 2/23/2017
Date Completed: 2/23/2017
Total Depth: 5.5 feet
Borehole Diameter: 3.25"
Initial Water Level: No groundwater encountered
Notes: Completed as soil vapor probe. Probe inlet set at 5' bgs.

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
					Asphalt.
		0.7	CL		CLAY (CL): dark brown, high plasticity, medium stiff, moist.
		0.5			AS ABOVE EXCEPT: 30% silt, grades to light brown.
		0.5	ML		SILT (ML): light brown, 15-20% clay, trace fine sand, soft, moist.
5					
					Total Depth - 5.5 feet bgs
10					

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LOG OF BOREHOLE: SV-3

Project Number: 0307273
Project Name: Former Grove Street Wash Rack Site
Client Name: Cotter & Coyle
Location: Oakland, California
Contractor: Penecore
Drilling Method: Hand Auger
Logged By: S. Martin

Date Started: 2/23/2017
Date Completed: 2/23/2017
Total Depth: 5.5 feet
Borehole Diameter: 3.25"
Initial Water Level: No groundwater encountered
Notes: Completed as soil vapor probe. Probe inlet set at 5' bgs.

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
					Fill.
		0.6	CL		CLAY (CL): dark brown, medium stiff, high plasticity, moist.
		0.1			SANDY CLAY (CL): light brown, 30% fine sand, trace fine gravel, soft, moist.
		0.0	ML		SANDY SILT (ML): light brown, 30% fine sand, trace clay, soft, moist.
		0.1			
5		0.3			AS ABOVE EXCEPT: grades to greenish gray, 10% clay, slight hydrocarbon-like odor.
					Total Depth - 5.5 feet bgs
10					

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LOG OF BOREHOLE: SV-4

Project Number: 0307273
Project Name: Former Grove Street Wash Rack Site
Client Name: Cotter & Coyle
Location: Oakland, California
Contractor: Penecore
Drilling Method: Hand Auger
Logged By: S. Martin

Date Started: 2/23/2017
Date Completed: 2/23/2017
Total Depth: 5.5 feet
Borehole Diameter: 3.25"
Initial Water Level: No groundwater encountered
Notes: Completed as soil vapor probe. Probe inlet set at 5' bgs.

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
			CL		CLAY (CL): dark brown, stiff, high plasticity, moist, contains roots and organic matter.
			SC		CLAYEY SAND (SC): light brown, loose, moist.
		0.0			CLAY (CL): black, stiff, high plasticity, moist.
		0.0			
		0.0	CL		
		0.0			AS ABOVE EXCEPT: dark brown.
5		0.0			
					Total Depth - 5.5 feet bgs
10					

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LOG OF BOREHOLE: SV-5

Project Number: 0307273
Project Name: Former Grove Street Wash Rack Site
Client Name: Cotter & Coyle
Location: Oakland, California
Contractor: Penecore
Drilling Method: Hand Auger
Logged By: S. Martin

Date Started: 2/23/2017
Date Completed: 2/23/2017
Total Depth: 5.5 feet
Borehole Diameter: 3.25"
Initial Water Level: No groundwater encountered
Notes: Completed as soil vapor probe. Probe inlet set at 5' bgs.

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
		0.1			Fill with coarse gravel and sand.
		0.2			
			ML		SILT WITH GRAVEL (ML): light brown, 20% fine gravel, soft, moist.
		0.5	CL		CLAY (CL): brown, high plasticity, medium stiff, moist.
5					AS ABOVE EXCEPT: trace fine sand and gravel.
					Total Depth - 5.5 feet bgs
10					

Appendix B
Laboratory Reports and QA/QC Memo

Appendix B1
Laboratory Reports and QA/QC
Memo – July 2017

Memorandum

Environmental Resources Management

1001 SW 5th Avenue,
Suite 1010
Portland, OR 97204
(503) 488-5282
(503) 488-5124 (fax)

To: Kevin Almestad

From: Rachel James

Date: July 28, 2017

Subject: Revised Data Review of Cotter & Coyle MLK Soil Vapor and Groundwater Data, July 2017

Project Number: 0307273

Data Packages: Test America Data Package 720-80612-1 and Eurofins Calscience Data Package 17-07-0905

The data quality was assessed and any necessary qualifiers were applied following the *USEPA National Functional Guidelines for Organic Superfund Methods Data Review,* January 2017.

REVISION

This memorandum was revised to include the groundwater field duplicate/parent sample pair MW-2/MW-20.

HOLDING TIME AND PRESERVATION EVALUATION

The samples were prepared and analyzed within the method-prescribed time period from the date of collection. The sample shipments were received at the laboratory within the method-prescribed temperature and preservation requirements. None of the data were qualified based on holding time or preservation exceedances.

BLANK EVALUATION

The method blank sample results were nondetected for each of the target analytes. No data were qualified on the basis of the blank evaluation. The blank results indicate that no contaminants were introduced to the samples during processing or analysis in the laboratory.

BLANK SPIKE EVALUATION

The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recoveries and RPDs were within the laboratory's limits of acceptance. The LCS recoveries and RPDs indicate acceptable laboratory accuracy and precision.

MATRIX SPIKE EVALUATION

No matrix spike (MS) recoveries were presented in the laboratory reports.

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within the laboratory's limits of acceptance, with two exceptions noted on Table 1. Data were not qualified as the dilution factors were greater than 10.

FIELD DUPLICATE EVALUATION

Two samples collected and submitted had duplicate samples taken in the field. ERM calculated the relative percent difference (RPD) between the duplicate with detected results. The USEPA has not established control criteria for field duplicate samples; therefore, sample data are not qualified on the basis of field duplicate imprecision. A list of the field duplicate detections and the calculated RPDs is provided in Table 2.

OVERALL ASSESSMENT

No results were qualified or rejected. All of the data can be used for decision-making purposes. The quality of the data generated during this investigation is acceptable for the preparation of technically defensible documents.

Table 1
Surrogate Recovery Results out of Acceptable Limits
Soil Vapor and Groundwater Samples, July 2017
Cotter & Coyle MLK
Oakland, California

Lab Package	Sample ID	Method	Surrogate	Recovery (%)	Limit (%)	Affected Analytes	Note	ERM Qualifier
17-07-0905	SV-1A	TO-15	Toluene-d8	63	70-130	--	DF = 40	--
	DUP-20170714	TO-15		29	70-130	--	DF = 40	--

Lab reports reviewed: 720-80612-1 and 17-07-0905

Key:
DF = Dilution factor

Table 2
Field Duplicate Results and Calculated Relative Percent Differences
Soil Vapor and Groundwater Samples, July 2017
Cotter & Coyle MLK
Oakland, California

Lab Package	Primary/ Duplicate Sample ID	Compound	Concentration		Report Limit		Units	RPD
			Sample	Duplicate	Sample	Duplicate		
720-80612-1	MW-2/MW-20	Benzene	1500	1400	25	25	µg/L	6.9
		1,2-Dichloroethane	0.71	0.65	0.50	0.50	µg/L	8.8
		Ethylbenzene	52	52	0.50	0.50	µg/L	0
		Naphthalene	4.0	4.2	1.0	1.0	µg/L	4.9
		Toluene	35	35	0.50	0.50	µg/L	0
		Xylenes, Total	42	42	1.0	1.0	µg/L	0
17-07-0905	DUP-20170714/ SV-1A	Methane	0.553	0.573	0.500	0.500	%v	3.6
		Carbon Dioxide	5.70	5.91	0.500	0.500	%v	3.6
		Oxygen (+ Argon)	5.51	5.06	0.500	0.500	%v	8.5
		Ethylbenzene	360	370	87	87	$\mu g/m^3$	2.7
		p/m-Xylene	460	470	350	350	$\mu g/m^3$	2.2

Lab reports reviewed: 720-80612-1 and 17-07-0905

Key:
%v = Percent by volume
RPD = Relative percent difference
$\mu g/m^3$ = Micrograms per cubic meter

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WORK ORDER NUMBER: 17-07-0905

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ERM-WEST

Client Project Name: Cotter & Loyle MLK

Attention: Giorgio Molinario
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Approved for release on 07/25/2017 by:
Virendra Patel
Project Manager

ResultLink

Email your PM

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Contents

Client Project Name: Cotter & Loyle MLK
Work Order Number: 17-07-0905

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Work Order Narrative

Work Order: 17-07-0905 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 07/15/17. They were assigned to Work Order 17-07-0905.

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

Holding Times:

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

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

Quality Control:

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

Subcontractor Information:

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

Additional Comments:

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

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

Return to Contents

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Sample Summary

Client:	ERM-WEST	Work Order:	17-07-0905
	114 Sansome Street, Suite 750	Project Name:	Cotter & Loyle MLK
	San Francisco, CA 94104-3805	PO Number:	
		Date/Time Received:	07/15/17 11:30
		Number of Containers:	4
Attn:	Giorgio Molinario		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
SV-1A	17-07-0905-1	07/14/17 12:55	1	Air
SV-2A	17-07-0905-2	07/14/17 13:07	1	Air
SV-4A	17-07-0905-3	07/14/17 11:50	1	Air
DUP-20170714	17-07-0905-4	07/14/17 12:55	1	Air

Return to Contents

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Detections Summary

Client:	ERM-WEST	Work Order:	17-07-0905
	114 Sansome Street, Suite 750	Project Name:	Cotter & Loyle MLK
	San Francisco, CA 94104-3805	Received:	07/15/17
Attn:	Giorgio Molinario		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
SV-1A (17-07-0905-1)						
Methane	0.553		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	5.70		0.500	%v	ASTM D-1946	N/A
Oxygen (+ Argon)	5.51		0.500	%v	ASTM D-1946	N/A
Ethylbenzene	360		87	ug/m3	EPA TO-15	N/A
p/m-Xylene	460		350	ug/m3	EPA TO-15	N/A
SV-2A (17-07-0905-2)						
Carbon Dioxide	9.46		0.500	%v	ASTM D-1946	N/A
Oxygen (+ Argon)	11.4		0.500	%v	ASTM D-1946	N/A
Benzene	7.9		1.6	ug/m3	EPA TO-15	N/A
Ethylbenzene	18		2.2	ug/m3	EPA TO-15	N/A
o-Xylene	13		2.2	ug/m3	EPA TO-15	N/A
p/m-Xylene	39		8.7	ug/m3	EPA TO-15	N/A
Toluene	16		1.9	ug/m3	EPA TO-15	N/A
SV-4A (17-07-0905-3)						
Carbon Dioxide	1.46		0.500	%v	ASTM D-1946	N/A
Oxygen (+ Argon)	19.6		0.500	%v	ASTM D-1946	N/A
Benzene	15		1.6	ug/m3	EPA TO-15	N/A
Ethylbenzene	2.4		2.2	ug/m3	EPA TO-15	N/A
o-Xylene	3.0		2.2	ug/m3	EPA TO-15	N/A
p/m-Xylene	8.7		8.7	ug/m3	EPA TO-15	N/A
Toluene	18		1.9	ug/m3	EPA TO-15	N/A
DUP-20170714 (17-07-0905-4)						
Methane	0.573		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	5.91		0.500	%v	ASTM D-1946	N/A
Oxygen (+ Argon)	5.06		0.500	%v	ASTM D-1946	N/A
Ethylbenzene	370		87	ug/m3	EPA TO-15	N/A
p/m-Xylene	470		350	ug/m3	EPA TO-15	N/A

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

Return to Contents

* MDL is shown

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Analytical Report

ERM-WEST		Date Received:	07/15/17
114 Sansome Street, Suite 750		Work Order:	17-07-0905
San Francisco, CA 94104-3805		Preparation:	N/A
		Method:	ASTM D-1946
		Units:	%v
Project: Cotter & Loyle MLK			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-1A	**17-07-0905-1-A**	**07/14/17 12:55**	**Air**	**GC 65**	**N/A**	**07/17/17 16:45**	**170715L01**

Parameter	Result	RL	DF	Qualifiers
Methane	0.553	0.500	1.00	
Carbon Dioxide	5.70	0.500	1.00	
Oxygen (+ Argon)	5.51	0.500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-2A	**17-07-0905-2-A**	**07/14/17 13:07**	**Air**	**GC 65**	**N/A**	**07/17/17 17:12**	**170717L01**

Parameter	Result	RL	DF	Qualifiers
Methane	ND	0.500	1.00	
Carbon Dioxide	9.46	0.500	1.00	
Oxygen (+ Argon)	11.4	0.500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-4A	**17-07-0905-3-A**	**07/14/17 11:50**	**Air**	**GC 65**	**N/A**	**07/17/17 17:36**	**170717L01**

Parameter	Result	RL	DF	Qualifiers
Methane	ND	0.500	1.00	
Carbon Dioxide	1.46	0.500	1.00	
Oxygen (+ Argon)	19.6	0.500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP-20170714	**17-07-0905-4-A**	**07/14/17 12:55**	**Air**	**GC 65**	**N/A**	**07/17/17 17:57**	**170717L01**

Parameter	Result	RL	DF	Qualifiers
Methane	0.573	0.500	1.00	
Carbon Dioxide	5.91	0.500	1.00	
Oxygen (+ Argon)	5.06	0.500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-444-620**	**N/A**	**Air**	**GC 65**	**N/A**	**07/15/17 11:46**	**170715L01**

Parameter	Result	RL	DF	Qualifiers
Methane	ND	0.500	1.00	
Carbon Dioxide	ND	0.500	1.00	
Oxygen (+ Argon)	ND	0.500	1.00	

Return to Contents

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

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Analytical Report

ERM-WEST		Date Received:	07/15/17
114 Sansome Street, Suite 750		Work Order:	17-07-0905
San Francisco, CA 94104-3805		Preparation:	N/A
		Method:	ASTM D-1946
		Units:	%v
Project: Cotter & Loyle MLK			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-444-617**	**N/A**	**Air**	**GC 65**	**N/A**	**07/17/17 12:35**	**170717L01**

Parameter	Result	RL	DF	Qualifiers
Methane	ND	0.500	1.00	
Carbon Dioxide	ND	0.500	1.00	
Oxygen (+ Argon)	ND	0.500	1.00	

Return to Contents

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

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Project: Cotter & Loyle MLK

Date Received: 07/15/17
Work Order: 17-07-0905
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-1A	**17-07-0905-1-A**	**07/14/17 12:55**	**Air**	**GC/MS AA**	**N/A**	**07/24/17 18:30**	**170724L01**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	64	40.0	
Ethylbenzene	360	87	40.0	
Naphthalene	ND	1000	40.0	
o-Xylene	ND	87	40.0	
p/m-Xylene	460	350	40.0	
Toluene	ND	75	40.0	
Isopropanol	ND	490	40.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	132	68-134	
1,2-Dichloroethane-d4	86	67-133	
Toluene-d8	63	70-130	2,6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-2A	**17-07-0905-2-A**	**07/14/17 13:07**	**Air**	**GC/MS AA**	**N/A**	**07/24/17 17:44**	**170724L01**

Parameter	Result	RL	DF	Qualifiers
Benzene	7.9	1.6	1.00	
Ethylbenzene	18	2.2	1.00	
Naphthalene	ND	26	1.00	
o-Xylene	13	2.2	1.00	
p/m-Xylene	39	8.7	1.00	
Toluene	16	1.9	1.00	
Isopropanol	ND	12	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	133	68-134	
1,2-Dichloroethane-d4	100	67-133	
Toluene-d8	74	70-130	

Return to Contents

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

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Project: Cotter & Loyle MLK

Date Received: 07/15/17
Work Order: 17-07-0905
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-4A	**17-07-0905-3-A**	**07/14/17 11:50**	**Air**	**GC/MS AA**	**N/A**	**07/23/17 08:22**	**170722L01**

Parameter	Result	RL	DF	Qualifiers
Benzene	15	1.6	1.00	
Ethylbenzene	2.4	2.2	1.00	
Naphthalene	ND	26	1.00	
o-Xylene	3.0	2.2	1.00	
p/m-Xylene	8.7	8.7	1.00	
Toluene	18	1.9	1.00	
Isopropanol	ND	12	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	105	68-134	
1,2-Dichloroethane-d4	99	67-133	
Toluene-d8	96	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP-20170714	**17-07-0905-4-A**	**07/14/17 12:55**	**Air**	**GC/MS AA**	**N/A**	**07/24/17 19:16**	**170724L01**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	64	40.0	
Ethylbenzene	370	87	40.0	
Naphthalene	ND	1000	40.0	
o-Xylene	ND	87	40.0	
p/m-Xylene	470	350	40.0	
Toluene	ND	75	40.0	
Isopropanol	ND	490	40.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	130	68-134	
1,2-Dichloroethane-d4	86	67-133	
Toluene-d8	29	70-130	2,6

Return to Contents

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

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Project: Cotter & Loyle MLK

Date Received: 07/15/17
Work Order: 17-07-0905
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-021-18823**	**N/A**	**Air**	**GC/MS AA**	**N/A**	**07/22/17 17:39**	**170722L01**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	1.6	1.00	
Ethylbenzene	ND	2.2	1.00	
Naphthalene	ND	26	1.00	
o-Xylene	ND	2.2	1.00	
p/m-Xylene	ND	8.7	1.00	
Toluene	ND	1.9	1.00	
Isopropanol	ND	12	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	102	68-134	
1,2-Dichloroethane-d4	93	67-133	
Toluene-d8	92	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-021-18832**	**N/A**	**Air**	**GC/MS AA**	**N/A**	**07/24/17 16:08**	**170724L01**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	1.6	1.00	
Ethylbenzene	ND	2.2	1.00	
Naphthalene	ND	26	1.00	
o-Xylene	ND	2.2	1.00	
p/m-Xylene	ND	8.7	1.00	
Toluene	ND	1.9	1.00	
Isopropanol	ND	12	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	86	68-134	
1,2-Dichloroethane-d4	85	67-133	
Toluene-d8	96	70-130	

Return to Contents

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

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Quality Control - LCS/LCSD

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Project: Cotter & Loyle MLK

Date Received: 07/15/17
Work Order: 17-07-0905
Preparation: N/A
Method: ASTM D-1946

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-16-444-620	**LCS**	**Air**	**GC 65**	**N/A**	**07/15/17 10:46**	**170715L01**
099-16-444-620	**LCSD**	**Air**	**GC 65**	**N/A**	**07/15/17 11:06**	**170715L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Methane	4.500	3.790	84	3.749	83	80-120	1	0-30	
Carbon Dioxide	15.00	15.42	103	15.42	103	80-120	0	0-30	
Carbon Monoxide	6.990	7.303	104	7.217	103	80-120	1	0-30	
Oxygen (+ Argon)	4.010	4.113	103	4.239	106	80-120	3	0-30	
Nitrogen	69.50	67.46	97	67.36	97	80-120	0	0-30	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Project: Cotter & Loyle MLK

Date Received: 07/15/17
Work Order: 17-07-0905
Preparation: N/A
Method: ASTM D-1946

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-16-444-617	**LCS**	**Air**	**GC 65**	**N/A**	**07/17/17 11:56**	**170717L01**
099-16-444-617	**LCSD**	**Air**	**GC 65**	**N/A**	**07/17/17 12:15**	**170717L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Methane	4.500	3.776	84	3.758	84	80-120	0	0-30	
Carbon Dioxide	15.00	15.63	104	15.64	104	80-120	0	0-30	
Carbon Monoxide	6.990	7.408	106	7.360	105	80-120	1	0-30	
Oxygen (+ Argon)	4.010	3.916	98	3.956	99	80-120	1	0-30	
Nitrogen	69.50	67.19	97	66.98	96	80-120	0	0-30	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Project: Cotter & Loyle MLK

Date Received: 07/15/17
Work Order: 17-07-0905
Preparation: N/A
Method: EPA TO-15

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-021-18823	**LCS**	**Air**	**GC/MS AA**	**N/A**	**07/22/17 14:29**	**170722L01**
095-01-021-18823	**LCSD**	**Air**	**GC/MS AA**	**N/A**	**07/22/17 15:17**	**170722L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	79.87	75.42	94	71.83	90	70-130	5	0-30	
Ethylbenzene	108.6	99.35	92	106.5	98	70-130	7	0-30	
Naphthalene	131.1	145.3	111	183.5	140	24-144	23	0-30	
o-Xylene	108.6	96.94	89	100.9	93	69-130	4	0-30	
p/m-Xylene	217.1	200.6	92	210.8	97	70-132	5	0-30	
Toluene	94.21	92.63	98	98.34	104	70-130	6	0-30	
Isopropanol	61.45	50.29	82	52.98	86	57-135	5	0-30	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Project: Cotter & Loyle MLK

Date Received: 07/15/17
Work Order: 17-07-0905
Preparation: N/A
Method: EPA TO-15

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-021-18832	**LCS**	**Air**	**GC/MS AA**	**N/A**	**07/24/17 13:26**	**170724L01**
095-01-021-18832	**LCSD**	**Air**	**GC/MS AA**	**N/A**	**07/24/17 14:14**	**170724L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	79.87	75.45	94	78.98	99	70-130	5	0-30	
Ethylbenzene	108.6	97.95	90	108.1	100	70-130	10	0-30	
Naphthalene	131.1	152.9	117	144.4	110	24-144	6	0-30	
o-Xylene	108.6	96.82	89	97.25	90	69-130	0	0-30	
p/m-Xylene	217.1	188.0	87	207.3	95	70-132	10	0-30	
Toluene	94.21	93.13	99	92.68	98	70-130	0	0-30	
Isopropanol	61.45	50.84	83	53.30	87	57-135	5	0-30	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

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Summa Canister Vacuum Summary

Work Order: 17-07-0905 Page 1 of 1

Sample Name	Vacuum Out	Vacuum In	Equipment	Description
SV-1A	-29.50 in Hg	-5.40 in Hg	D641	Summa Canister 6L
SV-2A	-29.50 in Hg	-4.60 in Hg	D360	Summa Canister 6L
SV-4A	-29.50 in Hg	-4.00 in Hg	D194	Summa Canister 6L
DUP-20170714	-29.50 in Hg	-4.00 in Hg	SIM100	Summa Canister 6L

Return to Contents

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Sample Analysis Summary Report

Work Order: 17-07-0905 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
ASTM D-1946	N/A	1078	GC 65	2
EPA TO-15	N/A	953	GC/MS AA	2

Return to Contents

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Glossary of Terms and Qualifiers

Work Order: 17-07-0905 Page 1 of 1

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

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

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

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

Return to Contents

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7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

AIR CHAIN-OF-CUSTODY RECORD

WO NO. / LAB USE ONLY: **17-07-0905**

DATE: 7-14-17
PAGE: 1 OF 1

LABORATORY CLIENT: ERM
ADDRESS: 114 Sansome St
CITY: San Francisco STATE: CA ZIP: 94104
TEL: E-MAIL: giorgio-molinario@erm.com

CLIENT PROJECT NAME / NO.: Cotter & Loyle MLK
P.O. NO.: 0307273
PROJECT CONTACT: Giorgio Molinario
LAB CONTACT OR QUOTE NO.:
PROJECT ADDRESS: 7884 MLK Jr Way
SAMPLER(S): (PRINT) John Omwake, Kevin Almestead
CITY: Oakland STATE: CA ZIP: 94609

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

EDD: ☐ COELT EDF ☐ OTHER
UNITS: ug/m3 TO-15; %, ASTM

SPECIAL INSTRUCTIONS:
* Report only BTEX, naphthalene, and isopropanol
** Permanent gases: oxygen, carbon dioxide, methane
Geotracker EDF

REQUESTED ANALYSES

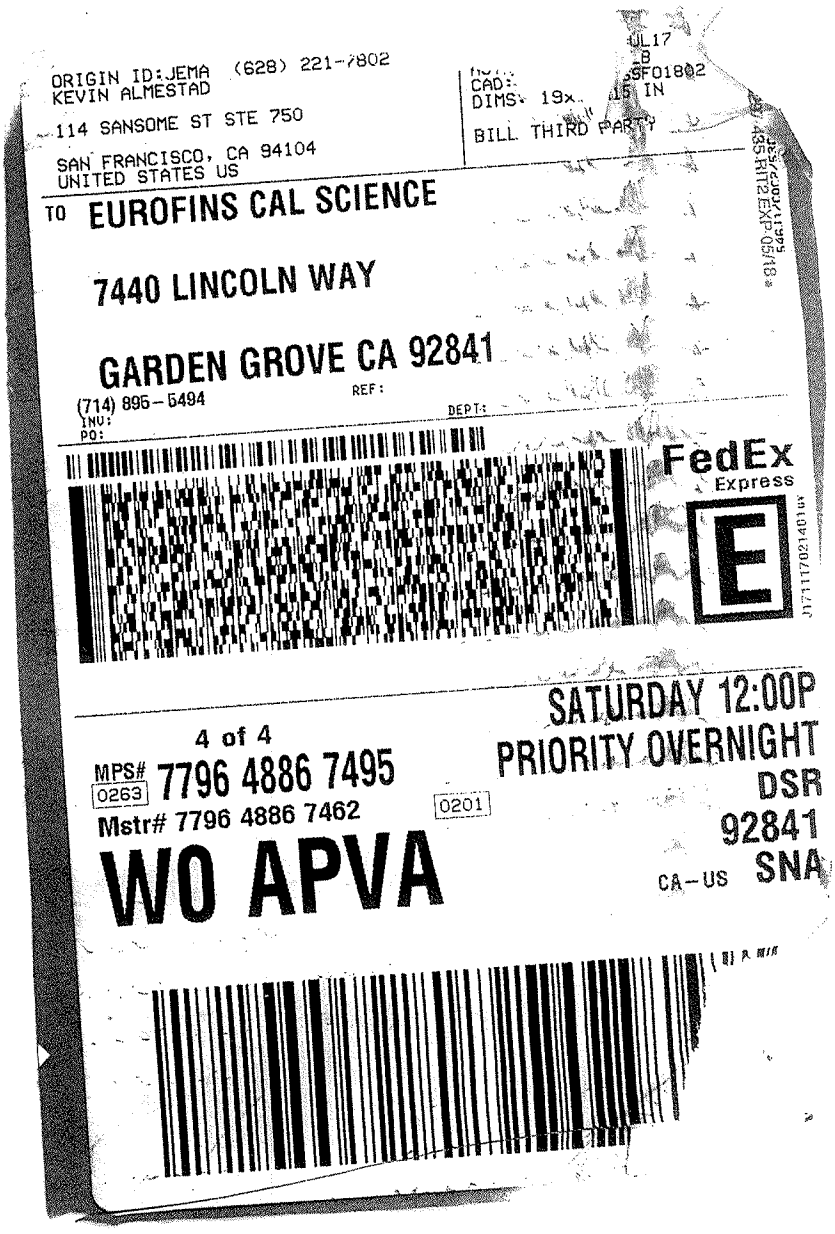
LAB USE ONLY	SAMPLE ID	FIELD ID / POINT OF COLLECTION	MATRIX: Indoor (I) Soil Vap. (SV) Ambient (A)	SAMPLING EQUIPMENT: Media ID	Canister Size 6L or 1L	Flow Controller ID	START SAMPLING INFORMATION: Date	Time (24 hr clock)	Canister Pressure (in Hg)	STOP SAMPLING INFORMATION: Date	Time (24 hr clock)	Canister Pressure (in Hg)	TO-15 Naph, IPA, BTEX, *	ASTM 1946 O2, CO2, CH4 **
1	SV-1A	" "	SV	D541	6L	A140	7-14-17	11:54	-30	7-14-17	1255	-5	X	X
2	SV-2A	" "	"	D360	"	A310	"	12:29	-30	"	1307	-4	X	X
3	SV-4A	" "	"	D194	"	A425	"	11:15	-30	"	11:50	-4	X	X
4	DUP-20170714	see notes	"	SDM100	"	A140	"	11:54	-30	"	1255	-5	X	X

Relinquished by: (Signature)	Received by: (Signature/Affiliation) El Cerrito FEDEX	Date: 7/14/2017	Time: 14:30
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 7/15/17	Time: 1130
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

2014-07-01 Revision

Return to Contents

0905



Return to Contents

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WORK ORDER NUMBER: 17-07- 0905

SAMPLE RECEIPT CHECKLIST

COOLER 0 OF 0

CLIENT: ERM

DATE: 07 / 15 / 2017

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

Thermometer ID: SC6 (CF: +0.2°C); Temperature (w/o CF): _____°C (w/ CF): _____°C; ☐ Blank ☐ Sample

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

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

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☑ Air ☐ Filter Checked by: SR

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present (Box) ☐ N/A Checked by: SR

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1017

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

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

Air: ☐ Tedlar™ ☑ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, Labeled/Checked by: 1017

s = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH Reviewed by: JJ

Return to Contents

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-80612-1
Client Project/Site: Grove St Wash Rack

For:
ERM-West
1277 Treat Blvd., Suite 500
Walnut Creek, California 94597

Attn: Giorgio Molinario

Authorized for release by:
7/24/2017 4:38:00 PM

Afsaneh Salimpour, Senior Project Manager
(925)484-1919
afsaneh.salimpour@testamericainc.com

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-80612-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-80612-1

Comments
No additional comments.

Receipt
The samples were received on 7/12/2017 11:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.5º C.

GC/MS VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-1 — Lab Sample ID: 720-80612-1

No Detections.

Client Sample ID: MW-2 — Lab Sample ID: 720-80612-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1500		25		ug/L	50		8260B/CA_LUFT MS	Total/NA
1,2-Dichloroethane	0.71		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	52		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Naphthalene	4.0		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Toluene	35		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	42		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 720-80612-3

No Detections.

Client Sample ID: MW-4 — Lab Sample ID: 720-80612-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1100		25		ug/L	50		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	920		25		ug/L	50		8260B/CA_LUFT MS	Total/NA
Naphthalene	160		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Toluene	88		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	410		50		ug/L	50		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	5100		2500		ug/L	50		8260B/CA_LUFT MS	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 720-80612-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	2.7		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 720-80612-6

No Detections.

Client Sample ID: MW-7 — Lab Sample ID: 720-80612-7

No Detections.

Client Sample ID: MW-8 — Lab Sample ID: 720-80612-8

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

Detection Summary

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-20 — Lab Sample ID: 720-80612-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1400		25		ug/L	50		8260B/CA_LUFT MS	Total/NA
1,2-Dichloroethane	0.65		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	52		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Naphthalene	4.2		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Toluene	35		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	42		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: TB-1 — Lab Sample ID: 720-80612-10

No Detections.

This Detection Summary does not include radiochemical test results.

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-1
Date Collected: 07/11/17 10:50
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-1
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/20/17 01:05	1
1,2-Dichloroethane	ND		0.50		ug/L			07/20/17 01:05	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/20/17 01:05	1
Ethylbenzene	ND		0.50		ug/L			07/20/17 01:05	1
Naphthalene	ND		1.0		ug/L			07/20/17 01:05	1
Toluene	ND		0.50		ug/L			07/20/17 01:05	1
Xylenes, Total	ND		1.0		ug/L			07/20/17 01:05	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			07/20/17 01:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*67 - 130*		*07/20/17 01:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*72 - 130*		*07/20/17 01:05*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*07/20/17 01:05*	*1*

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-2
Date Collected: 07/11/17 12:55
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-2
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1500**		25		ug/L			07/22/17 14:52	50
1,2-Dichloroethane	**0.71**		0.50		ug/L			07/20/17 04:24	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/20/17 04:24	1
Ethylbenzene	**52**		0.50		ug/L			07/20/17 04:24	1
Naphthalene	**4.0**		1.0		ug/L			07/20/17 04:24	1
Toluene	**35**		0.50		ug/L			07/20/17 04:24	1
Xylenes, Total	**42**		1.0		ug/L			07/20/17 04:24	1
Gasoline Range Organics (GRO) -C5-C12	ND		2500		ug/L			07/22/17 14:52	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*67 - 130*		*07/20/17 04:24*	*1*
4-Bromofluorobenzene	*89*		*67 - 130*		*07/22/17 14:52*	*50*
1,2-Dichloroethane-d4 (Surr)	*97*		*72 - 130*		*07/20/17 04:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*83*		*72 - 130*		*07/22/17 14:52*	*50*
Toluene-d8 (Surr)	*102*		*70 - 130*		*07/20/17 04:24*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*07/22/17 14:52*	*50*

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-3
Date Collected: 07/11/17 12:25
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-3
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/20/17 01:33	1
1,2-Dichloroethane	ND		0.50		ug/L			07/20/17 01:33	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/20/17 01:33	1
Ethylbenzene	ND		0.50		ug/L			07/20/17 01:33	1
Naphthalene	ND		1.0		ug/L			07/20/17 01:33	1
Toluene	ND		0.50		ug/L			07/20/17 01:33	1
Xylenes, Total	ND		1.0		ug/L			07/20/17 01:33	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			07/20/17 01:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*67 - 130*		*07/20/17 01:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*72 - 130*		*07/20/17 01:33*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*07/20/17 01:33*	*1*

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-4
Date Collected: 07/11/17 13:25
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-4
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1100**		25		ug/L			07/22/17 15:20	50
1,2-Dichloroethane	ND		0.50		ug/L			07/20/17 02:02	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/20/17 02:02	1
Ethylbenzene	**920**		25		ug/L			07/22/17 15:20	50
Naphthalene	**160**		1.0		ug/L			07/20/17 02:02	1
Toluene	**88**		0.50		ug/L			07/20/17 02:02	1
Xylenes, Total	**410**		50		ug/L			07/22/17 15:20	50
Gasoline Range Organics (GRO) -C5-C12	**5100**		2500		ug/L			07/22/17 15:20	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*67 - 130*		*07/20/17 02:02*	*1*
4-Bromofluorobenzene	*100*		*67 - 130*		*07/22/17 15:20*	*50*
1,2-Dichloroethane-d4 (Surr)	*95*		*72 - 130*		*07/20/17 02:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*82*		*72 - 130*		*07/22/17 15:20*	*50*
Toluene-d8 (Surr)	*101*		*70 - 130*		*07/20/17 02:02*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*07/22/17 15:20*	*50*

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-5
Date Collected: 07/11/17 11:25
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-5
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/20/17 02:30	1
1,2-Dichloroethane	ND		0.50		ug/L			07/20/17 02:30	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/20/17 02:30	1
Ethylbenzene	ND		0.50		ug/L			07/22/17 14:23	1
Naphthalene	**2.7**		1.0		ug/L			07/20/17 02:30	1
Toluene	ND		0.50		ug/L			07/20/17 02:30	1
Xylenes, Total	ND		1.0		ug/L			07/20/17 02:30	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			07/20/17 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*67 - 130*		*07/20/17 02:30*	*1*
4-Bromofluorobenzene	*103*		*67 - 130*		*07/22/17 14:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*72 - 130*		*07/20/17 02:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*72 - 130*		*07/22/17 14:23*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*07/20/17 02:30*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*07/22/17 14:23*	*1*

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-6
Date Collected: 07/11/17 10:15
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-6
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/20/17 02:59	1
1,2-Dichloroethane	ND		0.50		ug/L			07/20/17 02:59	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/20/17 02:59	1
Ethylbenzene	ND		0.50		ug/L			07/20/17 02:59	1
Naphthalene	ND		1.0		ug/L			07/20/17 02:59	1
Toluene	ND		0.50		ug/L			07/20/17 02:59	1
Xylenes, Total	ND		1.0		ug/L			07/20/17 02:59	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			07/20/17 02:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*67 - 130*		*07/20/17 02:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*72 - 130*		*07/20/17 02:59*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*07/20/17 02:59*	*1*

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-7
Date Collected: 07/11/17 09:40
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-7
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/20/17 03:27	1
1,2-Dichloroethane	ND		0.50		ug/L			07/20/17 03:27	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/20/17 03:27	1
Ethylbenzene	ND		0.50		ug/L			07/20/17 03:27	1
Naphthalene	ND		1.0		ug/L			07/20/17 03:27	1
Toluene	ND		0.50		ug/L			07/20/17 03:27	1
Xylenes, Total	ND		1.0		ug/L			07/20/17 03:27	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			07/20/17 03:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*67 - 130*		*07/20/17 03:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*72 - 130*		*07/20/17 03:27*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*07/20/17 03:27*	*1*

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-8
Date Collected: 07/11/17 08:30
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-8
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/20/17 03:55	1
1,2-Dichloroethane	ND		0.50		ug/L			07/20/17 03:55	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/20/17 03:55	1
Ethylbenzene	ND		0.50		ug/L			07/20/17 03:55	1
Naphthalene	ND		1.0		ug/L			07/20/17 03:55	1
Toluene	ND		0.50		ug/L			07/20/17 03:55	1
Xylenes, Total	ND		1.0		ug/L			07/20/17 03:55	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			07/20/17 03:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*67 - 130*		*07/20/17 03:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*72 - 130*		*07/20/17 03:55*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*07/20/17 03:55*	*1*

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-20
Date Collected: 07/11/17 13:00
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-9
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1400**		25		ug/L			07/22/17 15:49	50
1,2-Dichloroethane	**0.65**		0.50		ug/L			07/20/17 04:52	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/20/17 04:52	1
Ethylbenzene	**52**		0.50		ug/L			07/20/17 04:52	1
Naphthalene	**4.2**		1.0		ug/L			07/20/17 04:52	1
Toluene	**35**		0.50		ug/L			07/20/17 04:52	1
Xylenes, Total	**42**		1.0		ug/L			07/20/17 04:52	1
Gasoline Range Organics (GRO) -C5-C12	ND		2500		ug/L			07/22/17 15:49	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*67 - 130*		*07/20/17 04:52*	*1*
4-Bromofluorobenzene	*97*		*67 - 130*		*07/22/17 15:49*	*50*
1,2-Dichloroethane-d4 (Surr)	*96*		*72 - 130*		*07/20/17 04:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*88*		*72 - 130*		*07/22/17 15:49*	*50*
Toluene-d8 (Surr)	*101*		*70 - 130*		*07/20/17 04:52*	*1*
Toluene-d8 (Surr)	*86*		*70 - 130*		*07/22/17 15:49*	*50*

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: TB-1
Date Collected: 07/11/17 07:15
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-10
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/19/17 12:35	1
1,2-Dichloroethane	ND		0.50		ug/L			07/19/17 12:35	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/19/17 12:35	1
Ethylbenzene	ND		0.50		ug/L			07/19/17 12:35	1
Naphthalene	ND		1.0		ug/L			07/19/17 12:35	1
Toluene	ND		0.50		ug/L			07/19/17 12:35	1
Xylenes, Total	ND		1.0		ug/L			07/19/17 12:35	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			07/19/17 12:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*67 - 130*		*07/19/17 12:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*72 - 130*		*07/19/17 12:35*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*07/19/17 12:35*	*1*

Surrogate Summary

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	12DCE	TOL
Lab Sample ID	Client Sample ID	(67-130)	(72-130)	(70-130)
720-80612-1	MW-1	94	99	98
720-80612-2	MW-2	103	97	102
720-80612-2	MW-2	89	83	94
720-80612-3	MW-3	93	97	99
720-80612-4	MW-4	104	95	101
720-80612-4	MW-4	100	82	97
720-80612-5	MW-5	98	95	99
720-80612-5	MW-5	103	98	99
720-80612-6	MW-6	98	97	100
720-80612-7	MW-7	95	92	98
720-80612-8	MW-8	96	97	98
720-80612-9	MW-20	102	96	101
720-80612-9	MW-20	97	88	86
720-80612-10	TB-1	97	95	99
LCS 720-226819/5	Lab Control Sample	100	100	101
LCS 720-226819/7	Lab Control Sample	100	98	100
LCS 720-226870/5	Lab Control Sample	97	97	101
LCS 720-226870/7	Lab Control Sample	102	95	101
LCS 720-227034/5	Lab Control Sample	104	92	97
LCS 720-227034/7	Lab Control Sample	99	89	95
LCSD 720-226819/6	Lab Control Sample Dup	103	97	101
LCSD 720-226819/8	Lab Control Sample Dup	101	99	102
LCSD 720-226870/6	Lab Control Sample Dup	103	99	103
LCSD 720-226870/8	Lab Control Sample Dup	100	96	102
LCSD 720-227034/6	Lab Control Sample Dup	96	81	98
LCSD 720-227034/8	Lab Control Sample Dup	97	89	92
MB 720-226819/4	Method Blank	100	99	100
MB 720-226870/4	Method Blank	95	96	100
MB 720-227034/4	Method Blank	94	93	94

Surrogate Legend

BFB = 4-Bromofluorobenzene
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-226819/4
Matrix: Water
Analysis Batch: 226819

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/19/17 10:13	1
1,2-Dichloroethane	ND		0.50		ug/L			07/19/17 10:13	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/19/17 10:13	1
Ethylbenzene	ND		0.50		ug/L			07/19/17 10:13	1
Naphthalene	ND		1.0		ug/L			07/19/17 10:13	1
Toluene	ND		0.50		ug/L			07/19/17 10:13	1
Xylenes, Total	ND		1.0		ug/L			07/19/17 10:13	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			07/19/17 10:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*67 - 130*		*07/19/17 10:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*72 - 130*		*07/19/17 10:13*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*07/19/17 10:13*	*1*

Lab Sample ID: LCS 720-226819/5
Matrix: Water
Analysis Batch: 226819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	27.5		ug/L		110	79 - 130
1,2-Dichloroethane	25.0	26.7		ug/L		107	61 - 132
cis-1,2-Dichloroethene	25.0	26.3		ug/L		105	70 - 130
Ethylbenzene	25.0	27.7		ug/L		111	80 - 120
Naphthalene	25.0	26.9		ug/L		108	50 - 130
Toluene	25.0	27.2		ug/L		109	78 - 120
m-Xylene & p-Xylene	25.0	27.5		ug/L		110	70 - 142
o-Xylene	25.0	27.5		ug/L		110	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCS 720-226819/7
Matrix: Water
Analysis Batch: 226819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	500	480		ug/L		96	71 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*72 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-226819/6
Matrix: Water
Analysis Batch: 226819

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			25.0	26.8		ug/L		107	79 - 130	3	20
1,2-Dichloroethane			25.0	25.5		ug/L		102	61 - 132	5	20
cis-1,2-Dichloroethene			25.0	25.5		ug/L		102	70 - 130	3	20
Ethylbenzene			25.0	27.2		ug/L		109	80 - 120	1	20
Naphthalene			25.0	27.4		ug/L		110	50 - 130	2	20
Toluene			25.0	27.2		ug/L		109	78 - 120	0	20
m-Xylene & p-Xylene			25.0	27.0		ug/L		108	70 - 142	2	20
o-Xylene			25.0	27.2		ug/L		109	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*97*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 720-226819/8
Matrix: Water
Analysis Batch: 226819

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			500	468		ug/L		94	71 - 125	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*72 - 130*
Toluene-d8 (Surr)	*102*		*70 - 130*

Lab Sample ID: MB 720-226870/4
Matrix: Water
Analysis Batch: 226870

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/19/17 19:23	1
1,2-Dichloroethane	ND		0.50		ug/L			07/19/17 19:23	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/19/17 19:23	1
Ethylbenzene	ND		0.50		ug/L			07/19/17 19:23	1
Naphthalene	ND		1.0		ug/L			07/19/17 19:23	1
Toluene	ND		0.50		ug/L			07/19/17 19:23	1
Xylenes, Total	ND		1.0		ug/L			07/19/17 19:23	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			07/19/17 19:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*67 - 130*		*07/19/17 19:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*72 - 130*		*07/19/17 19:23*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*07/19/17 19:23*	*1*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-226870/5
Matrix: Water
Analysis Batch: 226870

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	28.4		ug/L		114	79 - 130
1,2-Dichloroethane	25.0	27.0		ug/L		108	61 - 132
cis-1,2-Dichloroethene	25.0	27.3		ug/L		109	70 - 130
Ethylbenzene	25.0	27.5		ug/L		110	80 - 120
Naphthalene	25.0	27.7		ug/L		111	50 - 130
Toluene	25.0	27.6		ug/L		110	78 - 120
m-Xylene & p-Xylene	25.0	27.4		ug/L		110	70 - 142
o-Xylene	25.0	27.4		ug/L		110	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*97*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCS 720-226870/7
Matrix: Water
Analysis Batch: 226870

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	500	471		ug/L		94	71 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*95*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 720-226870/6
Matrix: Water
Analysis Batch: 226870

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	25.0	28.9		ug/L		116	79 - 130	2	20
1,2-Dichloroethane	25.0	27.7		ug/L		111	61 - 132	3	20
cis-1,2-Dichloroethene	25.0	27.3		ug/L		109	70 - 130	0	20
Ethylbenzene	25.0	28.8		ug/L		115	80 - 120	5	20
Naphthalene	25.0	30.2		ug/L		121	50 - 130	9	20
Toluene	25.0	28.8		ug/L		115	78 - 120	4	20
m-Xylene & p-Xylene	25.0	28.6		ug/L		114	70 - 142	4	20
o-Xylene	25.0	28.6		ug/L		115	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*72 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-226870/8
Matrix: Water
Analysis Batch: 226870

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			500	471		ug/L		94	71 - 125	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*96*		*72 - 130*
Toluene-d8 (Surr)	*102*		*70 - 130*

Lab Sample ID: MB 720-227034/4
Matrix: Water
Analysis Batch: 227034

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			07/22/17 11:32	1
1,2-Dichloroethane	ND		0.50		ug/L			07/22/17 11:32	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			07/22/17 11:32	1
Ethylbenzene	ND		0.50		ug/L			07/22/17 11:32	1
Naphthalene	ND		1.0		ug/L			07/22/17 11:32	1
Toluene	ND		0.50		ug/L			07/22/17 11:32	1
Xylenes, Total	ND		1.0		ug/L			07/22/17 11:32	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			07/22/17 11:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*67 - 130*		*07/22/17 11:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*72 - 130*		*07/22/17 11:32*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*07/22/17 11:32*	*1*

Lab Sample ID: LCS 720-227034/5
Matrix: Water
Analysis Batch: 227034

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene			25.0	27.4		ug/L		110	79 - 130
1,2-Dichloroethane			25.0	24.8		ug/L		99	61 - 132
cis-1,2-Dichloroethene			25.0	25.3		ug/L		101	70 - 130
Ethylbenzene			25.0	28.1		ug/L		112	80 - 120
Naphthalene			25.0	25.7		ug/L		103	50 - 130
Toluene			25.0	27.8		ug/L		111	78 - 120
m-Xylene & p-Xylene			25.0	27.8		ug/L		111	70 - 142
o-Xylene			25.0	28.5		ug/L		114	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*92*		*72 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-227034/7
Matrix: Water
Analysis Batch: 227034

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C5-C12			500	465		ug/L		93	71 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*89*		*72 - 130*
Toluene-d8 (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 720-227034/6
Matrix: Water
Analysis Batch: 227034

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			25.0	24.7		ug/L		99	79 - 130	10	20
1,2-Dichloroethane			25.0	21.7		ug/L		87	61 - 132	13	20
cis-1,2-Dichloroethene			25.0	22.6		ug/L		90	70 - 130	11	20
Ethylbenzene			25.0	27.3		ug/L		109	80 - 120	3	20
Naphthalene			25.0	26.1		ug/L		104	50 - 130	2	20
Toluene			25.0	28.9		ug/L		116	78 - 120	4	20
m-Xylene & p-Xylene			25.0	26.5		ug/L		106	70 - 142	5	20
o-Xylene			25.0	26.3		ug/L		105	70 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*81*		*72 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 720-227034/8
Matrix: Water
Analysis Batch: 227034

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			500	427		ug/L		85	71 - 125	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*89*		*72 - 130*
Toluene-d8 (Surr)	*92*		*70 - 130*

GC/MS VOA

Analysis Batch: 226819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-80612-10	TB-1	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-226819/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-226819/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-226819/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-226819/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-226819/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 226870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-80612-1	MW-1	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-2	MW-2	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-3	MW-3	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-4	MW-4	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-5	MW-5	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-6	MW-6	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-7	MW-7	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-8	MW-8	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-9	MW-20	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-226870/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-226870/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-226870/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-226870/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-226870/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 227034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-80612-2	MW-2	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-4	MW-4	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-5	MW-5	Total/NA	Water	8260B/CA_LUFT MS	
720-80612-9	MW-20	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-227034/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	

GC/MS VOA (Continued)

Analysis Batch: 227034 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-227034/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-227034/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-227034/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-227034/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	

Lab Chronicle

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-1
Date Collected: 07/11/17 10:50
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	226870	07/20/17 01:05	BAJ	TAL PLS

Client Sample ID: MW-2
Date Collected: 07/11/17 12:55
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	226870	07/20/17 04:24	BAJ	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		50	227034	07/22/17 14:52	AP1	TAL PLS

Client Sample ID: MW-3
Date Collected: 07/11/17 12:25
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	226870	07/20/17 01:33	BAJ	TAL PLS

Client Sample ID: MW-4
Date Collected: 07/11/17 13:25
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	226870	07/20/17 02:02	BAJ	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		50	227034	07/22/17 15:20	AP1	TAL PLS

Client Sample ID: MW-5
Date Collected: 07/11/17 11:25
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	226870	07/20/17 02:30	BAJ	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	227034	07/22/17 14:23	AP1	TAL PLS

Client Sample ID: MW-6
Date Collected: 07/11/17 10:15
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	226870	07/20/17 02:59	BAJ	TAL PLS

Lab Chronicle

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Client Sample ID: MW-7
Date Collected: 07/11/17 09:40
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	226870	07/20/17 03:27	BAJ	TAL PLS

Client Sample ID: MW-8
Date Collected: 07/11/17 08:30
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	226870	07/20/17 03:55	BAJ	TAL PLS

Client Sample ID: MW-20
Date Collected: 07/11/17 13:00
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	226870	07/20/17 04:52	BAJ	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		50	227034	07/22/17 15:49	AP1	TAL PLS

Client Sample ID: TB-1
Date Collected: 07/11/17 07:15
Date Received: 07/12/17 11:40

Lab Sample ID: 720-80612-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	226819	07/19/17 12:35	BAJ	TAL PLS

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Accreditation/Certification Summary

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Laboratory: TestAmerica Pleasanton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2496	01-31-18

Method Summary

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: ERM-West
Project/Site: Grove St Wash Rack

TestAmerica Job ID: 720-80612-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-80612-1	MW-1	Water	07/11/17 10:50	07/12/17 11:40
720-80612-2	MW-2	Water	07/11/17 12:55	07/12/17 11:40
720-80612-3	MW-3	Water	07/11/17 12:25	07/12/17 11:40
720-80612-4	MW-4	Water	07/11/17 13:25	07/12/17 11:40
720-80612-5	MW-5	Water	07/11/17 11:25	07/12/17 11:40
720-80612-6	MW-6	Water	07/11/17 10:15	07/12/17 11:40
720-80612-7	MW-7	Water	07/11/17 09:40	07/12/17 11:40
720-80612-8	MW-8	Water	07/11/17 08:30	07/12/17 11:40
720-80612-9	MW-20	Water	07/11/17 13:00	07/12/17 11:40
720-80612-10	TB-1	Water	07/11/17 07:15	07/12/17 11:40

720-80612

Chain of Custody Record

San Francisco
1220 Quarry Lane

Pleasanton CA 94566
phone 925 484 1919 fax 925 600 3002

TestAmerica

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Giorgio Molinario	Site Contact:	Date: 7/11/17	COC No
ERM	Tel/Fax:	Lab Contact:	Carrier:	1 of 1 COCs
114 Sansome Street, Ste 750	Analysis Turnaround Time			Job No
San Francisco, CA 94104	Calendar (C) or Work Days (W)			
628-221-7800 Phone	TAT if different from Below			SDG No
	■ 2 weeks			
Project Name Grove St Wash Rack T060010206	☐ 1 week			
Site 3884 MLK Jr Way, Oakland, CA	☐ 2 days			Sampler: WW, DL
P O # 0307273.05	☐ 1 day			William Wong, Liam Dooly

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs special list (EPA 8260)	TPH-d + TPH-mo (EPA 8105M)	PCBs (EPA 8082)	CAM17 Metals (EPA 6010/7000)	Sample Specific Notes
MW-1	7/11/17	1050		W	3		X				
MW-2		1255			3		X				
MW-3		1225			3		X				
MW-4		1325			3		X				
MW-5		1125			3		X				
MW-6		1015			3		X				
MW-7		0940			3		X				
MW-8		0830			3		X				
MW-20		1300			3		X				
TB-1		0715			2		X				

720-80612 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 1,2

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments: ANALYTE LIST TPH-g, BTEX, Naphthalene, 1,2-DCA and cis-1,2-DCE

3.5°C

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
[signature]	BlaineTech Services	7/11/17 1447	[signature] Sample Custody	BlaineTech Services	7/11/17 1448
[signature] BTS/SC	BTS	7/12/17 1000	[signature]	TA	7/12/17 1000
[signature]	TA	7/12/17 1140	[signature]	TA	7/12/17 1140

Form No. CA-C-WI-002, Rev. 2, dated 03/06/2012

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 720-80612-1

Login Number: 80612

List Source: TestAmerica Pleasanton

List Number: 1

Creator: Arauz, Dennis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix B2
Laboratory Reports and QA/QC
Memo – February 2017

Data Review

PROJECT: Grove Street Wash Rack, 3884 Martin Luther King Jr Way, Oakland, CA

LABORATORY: TestAmerica, Pleasanton, California

SAMPLES: SB-1-5, SB-1-10, SB-1-15.5, SB-2-5, SB-2-10, SB-2-15, SB-3-5, SB-3-10, SB-3-17, SB-4-5, SB-4-10, SB-4-15, SB-5-5, SB-5-10, SB-5-15, Trip Blank, and Rinsate Blank.

MATRIX: SOIL

Analysis	VOCs (Short List*) 8260B
Holding Time	Note 2
Surrogate Recovery	✓
MS/MSD	No site-specific MS/MSD
LCS (Blank Spike)	✓
Method Blanks	✓
Duplicates	No soil duplicates collected.
Trip/Field/Equipment Blanks	✓
Reporting Limits	✓

* TPH-g, benzene, toluene, ethylbenzene, xylenes, and naphthalene

✓ **– QC criteria were met.**

Notes:

1. The samples were received in good condition, properly preserved and, on ice. The temperature of the cooler at receipt was 3.9^{o} C.

2. Reanalysis of gasoline range organics and naphthalene in sample SB-4-15 (720-77861-12) was past the holding time due to carryover in the original run.

3. The surrogate recoveries were within acceptance criteria.

4. The Laboratory Control Sample (LCS) spikes for this method included all target analytes except for TPH-g and were within acceptance criteria.

5. No analytes were detected in the Method Blank, Rinsate Blank, and Trip Blank samples.

6. In order to quantitate target compounds, the following dilutions were required.

Sample	Compound	Dilution Factor
SB-1-10	Xylene	200
SB-1-10	GRO, benzene, ethylbenzene, toluene, naphthalene	100/
SB-1-15.5	GRO, benzene, ethylbenzene	100
SB-2-10	benzene, ethylbenzene, xylenes	100/200
SB-3-10	benzene, ethylbenzene	100/200
SB-4-10	GRO, ethylbenzene, naphthalene	100/200

Reporting limits were increased in proportion to the dilution factor. Generally, reported analyte concentrations exceeded the elevated reporting limits.

Data Review

PROJECT: Grove Street Wash Rack, 3884 Martin Luther King Jr Way, Oakland, CA

LABORATORY: TestAmerica, Pleasanton, California

SAMPLES: SB-1-GW, SB-1-GW (DUP), SB-2-GW, SB-3-GW, SB-4-GW, SB-5-GW, Trip Blank, and Rinsate Blank.

MATRIX: GROUNDWATER

Analysis	VOCs (Short List*) 8260B
Holding Time	✓
Surrogate Recovery	✓
MS/MSD	No site-specific MS/MSD
LCS (Blank Spike)	✓
Method Blanks	✓
Duplicates [SB-1-GW, SB-1-GW (DUP)]	Note 6
Trip/Field/Equipment Blanks	✓
Reporting Limits	✓

* TPH-g, benzene, toluene, ethylbenzene, xylenes, and naphthalene

✓ **– QC criteria were met.**

Notes:

1. The samples were received in good condition, properly preserved and, on ice. The temperature of the cooler at receipt was 3.9^{o} C.
2. The surrogate recoveries were within acceptance criteria.
3. The Laboratory Control Sample (LCS) spikes for this method included all target analytes except for TPH-g and were within acceptance criteria.
4. No analytes were detected in the Method Blank and Trip Blank samples.
5. The results of the parent sample and field duplicate sample were within 20 percent Relative Percent Difference (RPD) with the exception of benzene that was 25%. Since there were no project-specific QAPP criteria

for field duplicates the associated benzene results were J-qualified as estimated.

6. In order to quantitate target compounds, the following dilutions were required.

Sample	Compound	Dilution Factor
SB-1-GW	GRO	10
SB-1-GW (DUP)	GRO, benzene, ethylbenzene	10
SB-2-GW	GRO, ethylbenzene, xylenes	10

Reporting limits were increased in proportion to the dilution factor. Generally, reported analyte concentrations exceeded the elevated reporting limits.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-77861-1
Client Project/Site: MLK Jr. Oakland

For:
ERM-West
1277 Treat Blvd., Suite 500
Walnut Creek, California 94597

Attn: Giorgio Molinario

Authorized for release by:
3/9/2017 4:11:03 PM

Afsaneh Salimpour, Senior Project Manager
(925)484-1919
afsaneh.salimpour@testamericainc.com

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Job ID: 720-77861-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-77861-1

Comments
No additional comments.

Receipt
The samples were received on 2/23/2017 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9º C.

GC/MS VOA
Method(s) 8260B: Reanalysis of the following sample was performed outside of the analytical holding time due to carryover contamination in the original run : SB-4-15 (720-77861-12).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-1-5 — Lab Sample ID: 720-77861-1

No Detections.

Client Sample ID: SB-1-10 — Lab Sample ID: 720-77861-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	570		370		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	140000		18000		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	3700		370		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Toluene	890		370		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	17000		1500		ug/Kg	200		8260B/CA_LUFT MS	Total/NA
Naphthalene	1300		740		ug/Kg	100		8260B/CA_LUFT MS	Total/NA

Client Sample ID: SB-1-15.5 — Lab Sample ID: 720-77861-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	570		380		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	91000		19000		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	490		380		ug/Kg	100		8260B/CA_LUFT MS	Total/NA

Client Sample ID: SB-2-5 — Lab Sample ID: 720-77861-4

No Detections.

Client Sample ID: SB-2-10 — Lab Sample ID: 720-77861-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1700		370		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	740		370		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	2200		740		ug/Kg	100		8260B/CA_LUFT MS	Total/NA

Client Sample ID: SB-2-15 — Lab Sample ID: 720-77861-6

No Detections.

Client Sample ID: SB-3-5 — Lab Sample ID: 720-77861-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C5-C12	240		100		ug/Kg	1		8260B	Total/NA

Client Sample ID: SB-3-10 — Lab Sample ID: 720-77861-8

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB-3-10 (Continued) — Lab Sample ID: 720-77861-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	610		400		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	1100		400		ug/Kg	100		8260B/CA_LUFT MS	Total/NA

Client Sample ID: SB-3-17 — Lab Sample ID: 720-77861-9

No Detections.

Client Sample ID: SB-4-5 — Lab Sample ID: 720-77861-10

No Detections.

Client Sample ID: SB-4-10 — Lab Sample ID: 720-77861-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C5-C12	490000		19000		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	1100		380		ug/Kg	100		8260B/CA_LUFT MS	Total/NA
Naphthalene	2400		770		ug/Kg	100		8260B/CA_LUFT MS	Total/NA

Client Sample ID: SB-4-15 — Lab Sample ID: 720-77861-12

No Detections.

Client Sample ID: SB-5-5 — Lab Sample ID: 720-77861-13

No Detections.

Client Sample ID: SB-5-10 — Lab Sample ID: 720-77861-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C5-C12	370		200		ug/Kg	1		8260B	Total/NA

Client Sample ID: SB-5-15 — Lab Sample ID: 720-77861-15

No Detections.

Client Sample ID: SB-1-GW — Lab Sample ID: 720-77861-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	460		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	140		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Naphthalene	7.1		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Toluene	15		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	80		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-1-GW (Continued) — Lab Sample ID: 720-77861-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C5-C12	3900		500		ug/L	10		8260B/CA_LUFT MS	Total/NA

Client Sample ID: SB-1-GW-DUP — Lab Sample ID: 720-77861-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	590		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	170		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Naphthalene	7.6		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Toluene	16		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	87		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	4500		500		ug/L	10		8260B/CA_LUFT MS	Total/NA

Client Sample ID: SB-2-GW — Lab Sample ID: 720-77861-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	68		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	250		5.0		ug/L	10		8260B/CA_LUFT MS	Total/NA
Naphthalene	42		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Toluene	23		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	460		10		ug/L	10		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	3700		500		ug/L	10		8260B/CA_LUFT MS	Total/NA

Client Sample ID: SB-3-GW — Lab Sample ID: 720-77861-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	38		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	22		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Naphthalene	3.7		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	3.1		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	130		50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: SB-4-GW — Lab Sample ID: 720-77861-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	8.9		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-4-GW (Continued) — Lab Sample ID: 720-77861-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	15		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA
Naphthalene	9.0		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Xylenes, Total	26		1.0		ug/L	1		8260B/CA_LUFT MS	Total/NA
Gasoline Range Organics (GRO) -C5-C12	490		50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: SB-5-GW — Lab Sample ID: 720-77861-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.98		0.50		ug/L	1		8260B/CA_LUFT MS	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 720-77861-22

No Detections.

Client Sample ID: RINSATE BLANK — Lab Sample ID: 720-77861-23

No Detections.

This Detection Summary does not include radiochemical test results.

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-1-5
Date Collected: 02/23/17 10:15
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-1
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		4.0		ug/Kg		02/23/17 21:00	02/27/17 12:59	1
Ethylbenzene	ND		4.0		ug/Kg		02/23/17 21:00	02/27/17 12:59	1
Toluene	ND		4.0		ug/Kg		02/23/17 21:00	02/27/17 12:59	1
Xylenes, Total	ND		8.0		ug/Kg		02/23/17 21:00	02/27/17 12:59	1
Gasoline Range Organics (GRO) -C5-C12	ND		200		ug/Kg		02/23/17 21:00	02/27/17 12:59	1
Naphthalene	ND		8.0		ug/Kg		02/23/17 21:00	02/27/17 12:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*45 - 131*	*02/23/17 21:00*	*02/27/17 12:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*60 - 140*	*02/23/17 21:00*	*02/27/17 12:59*	*1*
Toluene-d8 (Surr)	*100*		*58 - 140*	*02/23/17 21:00*	*02/27/17 12:59*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-1-10
Date Collected: 02/23/17 10:20
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-2
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**570**		370		ug/Kg		02/23/17 21:00	03/03/17 15:44	100
Gasoline Range Organics (GRO) -C5-C12	**140000**		18000		ug/Kg		02/23/17 21:00	03/03/17 15:44	100
Ethylbenzene	**3700**		370		ug/Kg		02/23/17 21:00	03/03/17 15:44	100
MTBE	ND		370		ug/Kg		02/23/17 21:00	03/03/17 15:44	100
Toluene	**890**		370		ug/Kg		02/23/17 21:00	03/03/17 15:44	100
Xylenes, Total	**17000**		1500		ug/Kg		02/23/17 21:00	03/07/17 21:15	200
Naphthalene	**1300**		740		ug/Kg		02/23/17 21:00	03/03/17 15:44	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*66 - 148*	*02/23/17 21:00*	*03/03/17 15:44*	*100*
4-Bromofluorobenzene	*105*		*66 - 148*	*02/23/17 21:00*	*03/07/17 21:15*	*200*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*	*02/23/17 21:00*	*03/03/17 15:44*	*100*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*	*02/23/17 21:00*	*03/07/17 21:15*	*200*
Toluene-d8 (Surr)	*101*		*65 - 141*	*02/23/17 21:00*	*03/03/17 15:44*	*100*
Toluene-d8 (Surr)	*109*		*65 - 141*	*02/23/17 21:00*	*03/07/17 21:15*	*200*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-1-15.5
Date Collected: 02/23/17 10:25
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-3
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**570**		380		ug/Kg		02/23/17 21:00	03/03/17 16:13	100
Gasoline Range Organics (GRO) -C5-C12	**91000**		19000		ug/Kg		02/23/17 21:00	03/03/17 16:13	100
Ethylbenzene	**490**		380		ug/Kg		02/23/17 21:00	03/03/17 16:13	100
MTBE	ND		380		ug/Kg		02/23/17 21:00	03/03/17 16:13	100
Toluene	ND		380		ug/Kg		02/23/17 21:00	03/03/17 16:13	100
Xylenes, Total	ND		760		ug/Kg		02/23/17 21:00	03/03/17 16:13	100
Naphthalene	ND		760		ug/Kg		02/23/17 21:00	03/03/17 16:13	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*66 - 148*	*02/23/17 21:00*	*03/03/17 16:13*	*100*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*	*02/23/17 21:00*	*03/03/17 16:13*	*100*
Toluene-d8 (Surr)	*100*		*65 - 141*	*02/23/17 21:00*	*03/03/17 16:13*	*100*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-2-5
Date Collected: 02/23/17 10:40
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-4
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.7		ug/Kg		02/23/17 21:00	02/28/17 21:44	1
Ethylbenzene	ND		3.7		ug/Kg		02/23/17 21:00	02/28/17 21:44	1
Toluene	ND		3.7		ug/Kg		02/23/17 21:00	02/28/17 21:44	1
Xylenes, Total	ND		7.5		ug/Kg		02/23/17 21:00	02/28/17 21:44	1
Gasoline Range Organics (GRO) -C5-C12	ND		190		ug/Kg		02/23/17 21:00	02/28/17 21:44	1
Naphthalene	ND		7.5		ug/Kg		02/23/17 21:00	02/28/17 21:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*45 - 131*	*02/23/17 21:00*	*02/28/17 21:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*60 - 140*	*02/23/17 21:00*	*02/28/17 21:44*	*1*
Toluene-d8 (Surr)	*98*		*58 - 140*	*02/23/17 21:00*	*02/28/17 21:44*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-2-10
Date Collected: 02/23/17 10:45
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-5
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1700**		370		ug/Kg		02/23/17 21:00	03/03/17 16:42	100
Gasoline Range Organics (GRO) -C5-C12	ND		19000		ug/Kg		02/23/17 21:00	03/03/17 16:42	100
Ethylbenzene	**740**		370		ug/Kg		02/23/17 21:00	03/03/17 16:42	100
MTBE	ND		370		ug/Kg		02/23/17 21:00	03/03/17 16:42	100
Toluene	ND		370		ug/Kg		02/23/17 21:00	03/03/17 16:42	100
Xylenes, Total	**2200**		740		ug/Kg		02/23/17 21:00	03/03/17 16:42	100
Naphthalene	ND		740		ug/Kg		02/23/17 21:00	03/03/17 16:42	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*66 - 148*	*02/23/17 21:00*	*03/03/17 16:42*	*100*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*	*02/23/17 21:00*	*03/03/17 16:42*	*100*
Toluene-d8 (Surr)	*99*		*65 - 141*	*02/23/17 21:00*	*03/03/17 16:42*	*100*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-2-15
Date Collected: 02/23/17 10:50
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-6
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.7		ug/Kg		02/23/17 21:00	02/27/17 15:22	1
Ethylbenzene	ND		3.7		ug/Kg		02/23/17 21:00	02/27/17 15:22	1
Toluene	ND		3.7		ug/Kg		02/23/17 21:00	02/27/17 15:22	1
Xylenes, Total	ND		7.4		ug/Kg		02/23/17 21:00	02/27/17 15:22	1
Gasoline Range Organics (GRO) -C5-C12	ND		180		ug/Kg		02/23/17 21:00	02/27/17 15:22	1
Naphthalene	ND		7.4		ug/Kg		02/23/17 21:00	02/27/17 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*45 - 131*	*02/23/17 21:00*	*02/27/17 15:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*60 - 140*	*02/23/17 21:00*	*02/27/17 15:22*	*1*
Toluene-d8 (Surr)	*98*		*58 - 140*	*02/23/17 21:00*	*02/27/17 15:22*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-3-5
Date Collected: 02/23/17 11:05
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-7
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/Kg		02/23/17 21:00	02/27/17 15:50	1
Ethylbenzene	ND		2.0		ug/Kg		02/23/17 21:00	02/27/17 15:50	1
Toluene	ND		2.0		ug/Kg		02/23/17 21:00	02/27/17 15:50	1
Xylenes, Total	ND		4.0		ug/Kg		02/23/17 21:00	02/27/17 15:50	1
Gasoline Range Organics (GRO) -C5-C12	**240**		100		ug/Kg		02/23/17 21:00	02/27/17 15:50	1
Naphthalene	ND		4.0		ug/Kg		02/23/17 21:00	02/27/17 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*45 - 131*	*02/23/17 21:00*	*02/27/17 15:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*123*		*60 - 140*	*02/23/17 21:00*	*02/27/17 15:50*	*1*
Toluene-d8 (Surr)	*94*		*58 - 140*	*02/23/17 21:00*	*02/27/17 15:50*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-3-10
Date Collected: 02/23/17 11:10
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-8
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**610**		400		ug/Kg		02/23/17 21:00	03/06/17 23:12	100
Gasoline Range Organics (GRO) -C5-C12	ND		20000		ug/Kg		02/23/17 21:00	03/06/17 23:12	100
Ethylbenzene	**1100**		400		ug/Kg		02/23/17 21:00	03/06/17 23:12	100
MTBE	ND		400		ug/Kg		02/23/17 21:00	03/06/17 23:12	100
Toluene	ND		400		ug/Kg		02/23/17 21:00	03/06/17 23:12	100
Xylenes, Total	ND		810		ug/Kg		02/23/17 21:00	03/06/17 23:12	100
Naphthalene	ND		810		ug/Kg		02/23/17 21:00	03/06/17 23:12	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*66 - 148*	*02/23/17 21:00*	*03/06/17 23:12*	*100*
1,2-Dichloroethane-d4 (Surr)	*89*		*62 - 137*	*02/23/17 21:00*	*03/06/17 23:12*	*100*
Toluene-d8 (Surr)	*108*		*65 - 141*	*02/23/17 21:00*	*03/06/17 23:12*	*100*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-3-17
Date Collected: 02/23/17 11:20
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-9
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		4.1		ug/Kg		02/23/17 21:00	02/27/17 16:47	1
Ethylbenzene	ND		4.1		ug/Kg		02/23/17 21:00	02/27/17 16:47	1
Toluene	ND		4.1		ug/Kg		02/23/17 21:00	02/27/17 16:47	1
Xylenes, Total	ND		8.1		ug/Kg		02/23/17 21:00	02/27/17 16:47	1
Gasoline Range Organics (GRO) -C5-C12	ND		200		ug/Kg		02/23/17 21:00	02/27/17 16:47	1
Naphthalene	ND		8.1		ug/Kg		02/23/17 21:00	02/27/17 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*45 - 131*	*02/23/17 21:00*	*02/27/17 16:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*60 - 140*	*02/23/17 21:00*	*02/27/17 16:47*	*1*
Toluene-d8 (Surr)	*96*		*58 - 140*	*02/23/17 21:00*	*02/27/17 16:47*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-4-5
Date Collected: 02/23/17 11:40
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-10
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		4.1		ug/Kg		02/23/17 21:00	02/27/17 17:15	1
Ethylbenzene	ND		4.1		ug/Kg		02/23/17 21:00	02/27/17 17:15	1
Toluene	ND		4.1		ug/Kg		02/23/17 21:00	02/27/17 17:15	1
Xylenes, Total	ND		8.2		ug/Kg		02/23/17 21:00	02/27/17 17:15	1
Gasoline Range Organics (GRO) -C5-C12	ND		210		ug/Kg		02/23/17 21:00	02/27/17 17:15	1
Naphthalene	ND		8.2		ug/Kg		02/23/17 21:00	02/27/17 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*45 - 131*	*02/23/17 21:00*	*02/27/17 17:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*130*		*60 - 140*	*02/23/17 21:00*	*02/27/17 17:15*	*1*
Toluene-d8 (Surr)	*95*		*58 - 140*	*02/23/17 21:00*	*02/27/17 17:15*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-4-10
Date Collected: 02/23/17 11:45
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-11
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		380		ug/Kg		02/23/17 21:00	03/03/17 17:39	100
Gasoline Range Organics (GRO) -C5-C12	**490000**		19000		ug/Kg		02/23/17 21:00	03/03/17 17:39	100
Ethylbenzene	**1100**		380		ug/Kg		02/23/17 21:00	03/03/17 17:39	100
MTBE	ND		380		ug/Kg		02/23/17 21:00	03/03/17 17:39	100
Toluene	ND		380		ug/Kg		02/23/17 21:00	03/03/17 17:39	100
Xylenes, Total	ND		770		ug/Kg		02/23/17 21:00	03/03/17 17:39	100
Naphthalene	**2400**		770		ug/Kg		02/23/17 21:00	03/03/17 17:39	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*135*		*66 - 148*	*02/23/17 21:00*	*03/03/17 17:39*	*100*
1,2-Dichloroethane-d4 (Surr)	*99*		*62 - 137*	*02/23/17 21:00*	*03/03/17 17:39*	*100*
Toluene-d8 (Surr)	*104*		*65 - 141*	*02/23/17 21:00*	*03/03/17 17:39*	*100*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-4-15
Date Collected: 02/23/17 11:55
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-12
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.7		ug/Kg		02/23/17 21:00	02/28/17 19:16	1
Ethylbenzene	ND		3.7		ug/Kg		02/23/17 21:00	02/28/17 19:16	1
Toluene	ND		3.7		ug/Kg		02/23/17 21:00	02/28/17 19:16	1
Xylenes, Total	ND		7.4		ug/Kg		02/23/17 21:00	02/28/17 19:16	1
Gasoline Range Organics (GRO) -C5-C12	ND	H	200		ug/Kg		03/01/17 16:53	03/01/17 19:49	1
Naphthalene	ND	H	7.8		ug/Kg		03/01/17 16:53	03/01/17 19:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*45 - 131*	*02/23/17 21:00*	*02/28/17 19:16*	*1*
4-Bromofluorobenzene	*101*		*45 - 131*	*03/01/17 16:53*	*03/01/17 19:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 140*	*02/23/17 21:00*	*02/28/17 19:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 140*	*03/01/17 16:53*	*03/01/17 19:49*	*1*
Toluene-d8 (Surr)	*105*		*58 - 140*	*02/23/17 21:00*	*02/28/17 19:16*	*1*
Toluene-d8 (Surr)	*108*		*58 - 140*	*03/01/17 16:53*	*03/01/17 19:49*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-5-5
Date Collected: 02/23/17 12:25
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-13
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.4		ug/Kg		02/23/17 21:00	02/28/17 19:45	1
Ethylbenzene	ND		3.4		ug/Kg		02/23/17 21:00	02/28/17 19:45	1
Toluene	ND		3.4		ug/Kg		02/23/17 21:00	02/28/17 19:45	1
Xylenes, Total	ND		6.8		ug/Kg		02/23/17 21:00	02/28/17 19:45	1
Gasoline Range Organics (GRO) -C5-C12	ND		170		ug/Kg		02/23/17 21:00	02/28/17 19:45	1
Naphthalene	ND		6.8		ug/Kg		02/23/17 21:00	02/28/17 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*45 - 131*	*02/23/17 21:00*	*02/28/17 19:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*	*02/23/17 21:00*	*02/28/17 19:45*	*1*
Toluene-d8 (Surr)	*106*		*58 - 140*	*02/23/17 21:00*	*02/28/17 19:45*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-5-10
Date Collected: 02/23/17 12:30
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-14
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		4.0		ug/Kg		02/23/17 21:00	02/28/17 20:15	1
Ethylbenzene	ND		4.0		ug/Kg		02/23/17 21:00	02/28/17 20:15	1
Toluene	ND		4.0		ug/Kg		02/23/17 21:00	02/28/17 20:15	1
Xylenes, Total	ND		8.0		ug/Kg		02/23/17 21:00	02/28/17 20:15	1
Gasoline Range Organics (GRO) -C5-C12	**370**		200		ug/Kg		02/23/17 21:00	02/28/17 20:15	1
Naphthalene	ND		8.0		ug/Kg		02/23/17 21:00	02/28/17 20:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*45 - 131*	*02/23/17 21:00*	*02/28/17 20:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*60 - 140*	*02/23/17 21:00*	*02/28/17 20:15*	*1*
Toluene-d8 (Surr)	*107*		*58 - 140*	*02/23/17 21:00*	*02/28/17 20:15*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-5-15
Date Collected: 02/23/17 12:40
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-15
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		4.4		ug/Kg		02/23/17 21:00	02/28/17 20:45	1
Ethylbenzene	ND		4.4		ug/Kg		02/23/17 21:00	02/28/17 20:45	1
Toluene	ND		4.4		ug/Kg		02/23/17 21:00	02/28/17 20:45	1
Xylenes, Total	ND		8.8		ug/Kg		02/23/17 21:00	02/28/17 20:45	1
Gasoline Range Organics (GRO) -C5-C12	ND		220		ug/Kg		02/23/17 21:00	02/28/17 20:45	1
Naphthalene	ND		8.8		ug/Kg		02/23/17 21:00	02/28/17 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*45 - 131*	*02/23/17 21:00*	*02/28/17 20:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*	*02/23/17 21:00*	*02/28/17 20:45*	*1*
Toluene-d8 (Surr)	*105*		*58 - 140*	*02/23/17 21:00*	*02/28/17 20:45*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-1-GW
Date Collected: 02/23/17 12:52
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-16
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	460		5.0		ug/L			03/02/17 21:59	10
Ethylbenzene	140		5.0		ug/L			03/02/17 21:59	10
Naphthalene	7.1		1.0		ug/L			03/02/17 04:15	1
Toluene	15		0.50		ug/L			03/02/17 04:15	1
Xylenes, Total	80		1.0		ug/L			03/02/17 04:15	1
Gasoline Range Organics (GRO) -C5-C12	3900		500		ug/L			03/02/17 21:59	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*67 - 130*		*03/02/17 04:15*	*1*
4-Bromofluorobenzene	*94*		*67 - 130*		*03/02/17 21:59*	*10*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*		*03/02/17 04:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*		*03/02/17 21:59*	*10*
Toluene-d8 (Surr)	*106*		*70 - 130*		*03/02/17 04:15*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*03/02/17 21:59*	*10*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-1-GW-DUP
Date Collected: 02/23/17 12:55
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-17
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	590		5.0		ug/L			03/02/17 22:28	10
Ethylbenzene	170		5.0		ug/L			03/02/17 22:28	10
Naphthalene	7.6		1.0		ug/L			03/02/17 04:43	1
Toluene	16		0.50		ug/L			03/02/17 04:43	1
Xylenes, Total	87		1.0		ug/L			03/02/17 04:43	1
Gasoline Range Organics (GRO) -C5-C12	4500		500		ug/L			03/02/17 22:28	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*67 - 130*		*03/02/17 04:43*	*1*
4-Bromofluorobenzene	*95*		*67 - 130*		*03/02/17 22:28*	*10*
1,2-Dichloroethane-d4 (Surr)	*96*		*72 - 130*		*03/02/17 04:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*72 - 130*		*03/02/17 22:28*	*10*
Toluene-d8 (Surr)	*105*		*70 - 130*		*03/02/17 04:43*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*03/02/17 22:28*	*10*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-2-GW
Date Collected: 02/23/17 13:00
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-18
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	68		0.50		ug/L			03/02/17 05:11	1
Ethylbenzene	250		5.0		ug/L			03/02/17 22:56	10
Naphthalene	42		1.0		ug/L			03/02/17 05:11	1
Toluene	23		0.50		ug/L			03/02/17 05:11	1
Xylenes, Total	460		10		ug/L			03/02/17 22:56	10
Gasoline Range Organics (GRO) -C5-C12	3700		500		ug/L			03/02/17 22:56	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*67 - 130*		*03/02/17 05:11*	*1*
4-Bromofluorobenzene	*95*		*67 - 130*		*03/02/17 22:56*	*10*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*		*03/02/17 05:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*72 - 130*		*03/02/17 22:56*	*10*
Toluene-d8 (Surr)	*103*		*70 - 130*		*03/02/17 05:11*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*03/02/17 22:56*	*10*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-3-GW
Date Collected: 02/23/17 13:10
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-19
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**38**		0.50		ug/L			03/02/17 18:08	1
Ethylbenzene	**22**		0.50		ug/L			03/02/17 18:08	1
Naphthalene	**3.7**		1.0		ug/L			03/02/17 18:08	1
Toluene	ND		0.50		ug/L			03/02/17 18:08	1
Xylenes, Total	**3.1**		1.0		ug/L			03/02/17 18:08	1
Gasoline Range Organics (GRO) -C5-C12	**130**		50		ug/L			03/02/17 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*67 - 130*		*03/02/17 18:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*72 - 130*		*03/02/17 18:08*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*03/02/17 18:08*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-4-GW
Date Collected: 02/23/17 13:10
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-20
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**8.9**		0.50		ug/L			03/02/17 18:36	1
Ethylbenzene	**15**		0.50		ug/L			03/02/17 18:36	1
Naphthalene	**9.0**		1.0		ug/L			03/02/17 18:36	1
Toluene	ND		0.50		ug/L			03/02/17 18:36	1
Xylenes, Total	**26**		1.0		ug/L			03/02/17 18:36	1
Gasoline Range Organics (GRO) -C5-C12	**490**		50		ug/L			03/02/17 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*67 - 130*		*03/02/17 18:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*72 - 130*		*03/02/17 18:36*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*03/02/17 18:36*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-5-GW
Date Collected: 02/23/17 13:15
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-21
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.98**		0.50		ug/L			03/02/17 19:04	1
Ethylbenzene	ND		0.50		ug/L			03/02/17 19:04	1
Naphthalene	ND		1.0		ug/L			03/02/17 19:04	1
Toluene	ND		0.50		ug/L			03/02/17 19:04	1
Xylenes, Total	ND		1.0		ug/L			03/02/17 19:04	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			03/02/17 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*67 - 130*		*03/02/17 19:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*72 - 130*		*03/02/17 19:04*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*03/02/17 19:04*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: TRIP BLANK
Date Collected: 02/23/17 10:00
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-22
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/02/17 19:32	1
Ethylbenzene	ND		0.50		ug/L			03/02/17 19:32	1
Naphthalene	ND		1.0		ug/L			03/02/17 19:32	1
Toluene	ND		0.50		ug/L			03/02/17 19:32	1
Xylenes, Total	ND		1.0		ug/L			03/02/17 19:32	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			03/02/17 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*67 - 130*		*03/02/17 19:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*		*03/02/17 19:32*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*03/02/17 19:32*	*1*

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: RINSATE BLANK
Date Collected: 02/23/17 13:30
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-23
Matrix: Water

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/02/17 20:00	1
Ethylbenzene	ND		0.50		ug/L			03/02/17 20:00	1
Naphthalene	ND		1.0		ug/L			03/02/17 20:00	1
Toluene	ND		0.50		ug/L			03/02/17 20:00	1
Xylenes, Total	ND		1.0		ug/L			03/02/17 20:00	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			03/02/17 20:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*67 - 130*		*03/02/17 20:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*72 - 130*		*03/02/17 20:00*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*03/02/17 20:00*	*1*

Surrogate Summary

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	12DCE	TOL
Lab Sample ID	Client Sample ID	(45-131)	(60-140)	(58-140)
720-77861-1	SB-1-5	98	116	100
720-77861-4	SB-2-5	94	108	98
720-77861-6	SB-2-15	97	115	98
720-77861-7	SB-3-5	104	123	94
720-77861-9	SB-3-17	93	119	96
720-77861-10	SB-4-5	97	130	95
720-77861-12	SB-4-15	105	105	105
720-77861-12	SB-4-15	101	100	108
720-77861-13	SB-5-5	102	97	106
720-77861-14	SB-5-10	108	104	107
720-77861-15	SB-5-15	96	95	105
LCS 720-218439/7	Lab Control Sample	93	103	99
LCS 720-218439/9	Lab Control Sample	96	105	101
LCS 720-218523/10	Lab Control Sample	103	97	108
LCS 720-218523/8	Lab Control Sample	103	102	109
LCS 720-218549/5	Lab Control Sample	95	101	98
LCS 720-218549/7	Lab Control Sample	98	105	101
LCS 720-218572/5	Lab Control Sample	101	92	109
LCS 720-218572/7	Lab Control Sample	103	93	108
LCSD 720-218439/10	Lab Control Sample Dup	96	105	100
LCSD 720-218439/8	Lab Control Sample Dup	95	101	99
LCSD 720-218523/11	Lab Control Sample Dup	103	95	109
LCSD 720-218523/9	Lab Control Sample Dup	104	97	110
LCSD 720-218549/6	Lab Control Sample Dup	93	100	98
LCSD 720-218549/8	Lab Control Sample Dup	98	105	100
LCSD 720-218572/16	Lab Control Sample Dup	103	95	109
LCSD 720-218572/8	Lab Control Sample Dup	103	95	108
MB 720-218439/6	Method Blank	94	105	99
MB 720-218523/7	Method Blank	100	96	107
MB 720-218549/9	Method Blank	94	105	99
MB 720-218572/4	Method Blank	99	92	107

Surrogate Legend

BFB = 4-Bromofluorobenzene
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	12DCE	TOL
Lab Sample ID	Client Sample ID	(66-148)	(62-137)	(65-141)
720-77861-2	SB-1-10	97	100	101
720-77861-2	SB-1-10	105	100	109
720-77861-3	SB-1-15.5	94	100	100
720-77861-5	SB-2-10	93	100	99
720-77861-8	SB-3-10	103	89	108
720-77861-11	SB-4-10	135	99	104

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	12DCE	TOL
Lab Sample ID	Client Sample ID	(66-148)	(62-137)	(65-141)
LCS 720-218713/5	Lab Control Sample	94	97	98
LCS 720-218713/7	Lab Control Sample	95	101	100
LCS 720-218836/7	Lab Control Sample	100	89	109
LCS 720-218836/9	Lab Control Sample	102	89	108
LCSD 720-218713/6	Lab Control Sample Dup	96	100	98
LCSD 720-218713/8	Lab Control Sample Dup	96	102	99
LCSD 720-218836/10	Lab Control Sample Dup	102	86	108
LCSD 720-218836/8	Lab Control Sample Dup	99	85	109
MB 720-218713/4	Method Blank	91	102	99
MB 720-218836/5	Method Blank	102	89	108
MB 720-218861/10	Method Blank	101	97	106

Surrogate Legend

BFB = 4-Bromofluorobenzene
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	12DCE	TOL
Lab Sample ID	Client Sample ID	(67-130)	(72-130)	(70-130)
720-77861-16	SB-1-GW	100	100	106
720-77861-16	SB-1-GW	94	100	99
720-77861-17	SB-1-GW-DUP	99	96	105
720-77861-17	SB-1-GW-DUP	95	102	98
720-77861-18	SB-2-GW	99	100	103
720-77861-18	SB-2-GW	95	102	100
720-77861-19	SB-3-GW	103	101	103
720-77861-20	SB-4-GW	103	101	103
720-77861-21	SB-5-GW	101	96	103
720-77861-22	TRIP BLANK	102	100	102
720-77861-23	RINSATE BLANK	101	101	102
LCS 720-218620/5	Lab Control Sample	96	98	103
LCS 720-218620/7	Lab Control Sample	97	96	102
LCS 720-218645/5	Lab Control Sample	98	96	103
LCS 720-218645/7	Lab Control Sample	98	98	102
LCS 720-218689/5	Lab Control Sample	94	96	99
LCS 720-218689/7	Lab Control Sample	95	101	101
LCSD 720-218620/6	Lab Control Sample Dup	96	95	103
LCSD 720-218620/8	Lab Control Sample Dup	97	98	102
LCSD 720-218645/6	Lab Control Sample Dup	99	97	103
LCSD 720-218645/8	Lab Control Sample Dup	99	100	103
LCSD 720-218689/6	Lab Control Sample Dup	93	97	98
LCSD 720-218689/8	Lab Control Sample Dup	94	104	101
MB 720-218620/4	Method Blank	96	100	102
MB 720-218645/4	Method Blank	99	98	102
MB 720-218689/4	Method Blank	91	100	99

Surrogate Summary

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Surrogate Legend

BFB = 4-Bromofluorobenzene
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 720-218439/6
Matrix: Solid
Analysis Batch: 218439

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/Kg			02/27/17 10:35	1
Ethylbenzene	ND		5.0		ug/Kg			02/27/17 10:35	1
Toluene	ND		5.0		ug/Kg			02/27/17 10:35	1
Xylenes, Total	ND		10		ug/Kg			02/27/17 10:35	1
Naphthalene	ND		10		ug/Kg			02/27/17 10:35	1
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			02/27/17 10:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*45 - 131*		*02/27/17 10:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 140*		*02/27/17 10:35*	*1*
Toluene-d8 (Surr)	*99*		*58 - 140*		*02/27/17 10:35*	*1*

Lab Sample ID: LCS 720-218439/7
Matrix: Solid
Analysis Batch: 218439

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.2		ug/Kg		102	70 - 130
Ethylbenzene	50.0	49.0		ug/Kg		98	80 - 137
Toluene	50.0	48.7		ug/Kg		97	75 - 120
m-Xylene & p-Xylene	50.0	49.1		ug/Kg		98	70 - 146
o-Xylene	50.0	50.2		ug/Kg		100	70 - 140
Naphthalene	50.0	50.3		ug/Kg		101	60 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*99*		*58 - 140*

Lab Sample ID: LCS 720-218439/9
Matrix: Solid
Analysis Batch: 218439

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	1000	945		ug/Kg		95	61 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 140*
Toluene-d8 (Surr)	*101*		*58 - 140*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-218439/10
Matrix: Solid
Analysis Batch: 218439

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			1000	955		ug/Kg		95	61 - 128	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 140*
Toluene-d8 (Surr)	*100*		*58 - 140*

Lab Sample ID: LCSD 720-218439/8
Matrix: Solid
Analysis Batch: 218439

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			50.0	51.6		ug/Kg		103	70 - 130	1	20
Ethylbenzene			50.0	49.5		ug/Kg		99	80 - 137	1	20
Toluene			50.0	49.8		ug/Kg		100	75 - 120	2	20
m-Xylene & p-Xylene			50.0	50.0		ug/Kg		100	70 - 146	2	20
o-Xylene			50.0	50.3		ug/Kg		101	70 - 140	0	20
Naphthalene			50.0	49.3		ug/Kg		99	60 - 147	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*95*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 140*
Toluene-d8 (Surr)	*99*		*58 - 140*

Lab Sample ID: MB 720-218523/7
Matrix: Solid
Analysis Batch: 218523

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/Kg			02/28/17 12:17	1
Ethylbenzene	ND		5.0		ug/Kg			02/28/17 12:17	1
Toluene	ND		5.0		ug/Kg			02/28/17 12:17	1
Xylenes, Total	ND		10		ug/Kg			02/28/17 12:17	1
Naphthalene	ND		10		ug/Kg			02/28/17 12:17	1
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			02/28/17 12:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*45 - 131*		*02/28/17 12:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 140*		*02/28/17 12:17*	*1*
Toluene-d8 (Surr)	*107*		*58 - 140*		*02/28/17 12:17*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-218523/10
Matrix: Solid
Analysis Batch: 218523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C5-C12			1000	839		ug/Kg		84	61 - 128		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*
Toluene-d8 (Surr)	*108*		*58 - 140*

Lab Sample ID: LCS 720-218523/8
Matrix: Solid
Analysis Batch: 218523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	47.7		ug/Kg		95	70 - 130		
Ethylbenzene			50.0	44.0		ug/Kg		88	80 - 137		
Toluene			50.0	44.6		ug/Kg		89	75 - 120		
m-Xylene & p-Xylene			50.0	43.8		ug/Kg		88	70 - 146		
o-Xylene			50.0	45.0		ug/Kg		90	70 - 140		
Naphthalene			50.0	54.3		ug/Kg		109	60 - 147		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*102*		*60 - 140*
Toluene-d8 (Surr)	*109*		*58 - 140*

Lab Sample ID: LCSD 720-218523/11
Matrix: Solid
Analysis Batch: 218523

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			1000	883		ug/Kg		88	61 - 128	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
Toluene-d8 (Surr)	*109*		*58 - 140*

Lab Sample ID: LCSD 720-218523/9
Matrix: Solid
Analysis Batch: 218523

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			50.0	51.1		ug/Kg		102	70 - 130	7	20
Ethylbenzene			50.0	48.1		ug/Kg		96	80 - 137	9	20
Toluene			50.0	50.0		ug/Kg		100	75 - 120	11	20
m-Xylene & p-Xylene			50.0	48.9		ug/Kg		98	70 - 146	11	20
o-Xylene			50.0	49.2		ug/Kg		98	70 - 140	9	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-218523/9
Matrix: Solid
Analysis Batch: 218523

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene			50.0	56.3		ug/Kg		113	60 - 147	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 140*
Toluene-d8 (Surr)	*110*		*58 - 140*

Lab Sample ID: MB 720-218549/9
Matrix: Solid
Analysis Batch: 218549

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/Kg			02/28/17 21:16	1
Ethylbenzene	ND		5.0		ug/Kg			02/28/17 21:16	1
Toluene	ND		5.0		ug/Kg			02/28/17 21:16	1
Xylenes, Total	ND		10		ug/Kg			02/28/17 21:16	1
Naphthalene	ND		10		ug/Kg			02/28/17 21:16	1
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			02/28/17 21:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*45 - 131*		*02/28/17 21:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 140*		*02/28/17 21:16*	*1*
Toluene-d8 (Surr)	*99*		*58 - 140*		*02/28/17 21:16*	*1*

Lab Sample ID: LCS 720-218549/5
Matrix: Solid
Analysis Batch: 218549

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene			50.0	53.5		ug/Kg		107	70 - 130
Ethylbenzene			50.0	52.9		ug/Kg		106	80 - 137
Toluene			50.0	51.7		ug/Kg		103	75 - 120
m-Xylene & p-Xylene			50.0	53.4		ug/Kg		107	70 - 146
o-Xylene			50.0	52.9		ug/Kg		106	70 - 140
Naphthalene			50.0	49.3		ug/Kg		99	60 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*95*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 140*
Toluene-d8 (Surr)	*98*		*58 - 140*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-218549/7
Matrix: Solid
Analysis Batch: 218549

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C5-C12			1000	1020		ug/Kg		102	61 - 128		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 140*
Toluene-d8 (Surr)	*101*		*58 - 140*

Lab Sample ID: LCSD 720-218549/6
Matrix: Solid
Analysis Batch: 218549

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			50.0	53.2		ug/Kg		106	70 - 130	1	20
Ethylbenzene			50.0	52.3		ug/Kg		105	80 - 137	1	20
Toluene			50.0	51.7		ug/Kg		103	75 - 120	0	20
m-Xylene & p-Xylene			50.0	53.1		ug/Kg		106	70 - 146	0	20
o-Xylene			50.0	52.1		ug/Kg		104	70 - 140	2	20
Naphthalene			50.0	50.1		ug/Kg		100	60 - 147	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 140*
Toluene-d8 (Surr)	*98*		*58 - 140*

Lab Sample ID: LCSD 720-218549/8
Matrix: Solid
Analysis Batch: 218549

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			1000	1000		ug/Kg		100	61 - 128	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 140*
Toluene-d8 (Surr)	*100*		*58 - 140*

Lab Sample ID: MB 720-218572/4
Matrix: Solid
Analysis Batch: 218572

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/Kg			03/01/17 11:08	1
Ethylbenzene	ND		5.0		ug/Kg			03/01/17 11:08	1
Toluene	ND		5.0		ug/Kg			03/01/17 11:08	1
Xylenes, Total	ND		10		ug/Kg			03/01/17 11:08	1
Naphthalene	ND		10		ug/Kg			03/01/17 11:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 720-218572/4
Matrix: Solid
Analysis Batch: 218572

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			03/01/17 11:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*45 - 131*		*03/01/17 11:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*60 - 140*		*03/01/17 11:08*	*1*
Toluene-d8 (Surr)	*107*		*58 - 140*		*03/01/17 11:08*	*1*

Lab Sample ID: LCS 720-218572/5
Matrix: Solid
Analysis Batch: 218572

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	48.4		ug/Kg		97	70 - 130
Ethylbenzene	50.0	45.4		ug/Kg		91	80 - 137
Toluene	50.0	47.1		ug/Kg		94	75 - 120
m-Xylene & p-Xylene	50.0	46.1		ug/Kg		92	70 - 146
o-Xylene	50.0	45.9		ug/Kg		92	70 - 140
Naphthalene	50.0	56.9		ug/Kg		114	60 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*92*		*60 - 140*
Toluene-d8 (Surr)	*109*		*58 - 140*

Lab Sample ID: LCS 720-218572/7
Matrix: Solid
Analysis Batch: 218572

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	1000	873		ug/Kg		87	61 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*93*		*60 - 140*
Toluene-d8 (Surr)	*108*		*58 - 140*

Lab Sample ID: LCSD 720-218572/16
Matrix: Solid
Analysis Batch: 218572

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	49.4		ug/Kg		99	70 - 130	2	20
Ethylbenzene	50.0	47.0		ug/Kg		94	80 - 137	4	20
Toluene	50.0	47.7		ug/Kg		95	75 - 120	1	20
m-Xylene & p-Xylene	50.0	47.5		ug/Kg		95	70 - 146	3	20
o-Xylene	50.0	47.6		ug/Kg		95	70 - 140	4	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-218572/16
Matrix: Solid
Analysis Batch: 218572

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene			50.0	54.8		ug/Kg		110	60 - 147	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
Toluene-d8 (Surr)	*109*		*58 - 140*

Lab Sample ID: LCSD 720-218572/8
Matrix: Solid
Analysis Batch: 218572

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			1000	857		ug/Kg		86	61 - 128	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 140*
Toluene-d8 (Surr)	*108*		*58 - 140*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-218620/4
Matrix: Water
Analysis Batch: 218620

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/01/17 18:52	1
Ethylbenzene	ND		0.50		ug/L			03/01/17 18:52	1
Toluene	ND		0.50		ug/L			03/01/17 18:52	1
Xylenes, Total	ND		1.0		ug/L			03/01/17 18:52	1
Naphthalene	ND		1.0		ug/L			03/01/17 18:52	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			03/01/17 18:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*67 - 130*		*03/01/17 18:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*		*03/01/17 18:52*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*03/01/17 18:52*	*1*

Lab Sample ID: LCS 720-218620/5
Matrix: Water
Analysis Batch: 218620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene			25.0	23.6		ug/L		95	79 - 130
Ethylbenzene			25.0	23.1		ug/L		92	80 - 120
Toluene			25.0	23.5		ug/L		94	78 - 120

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-218620/5
Matrix: Water
Analysis Batch: 218620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
m-Xylene & p-Xylene			25.0	23.7		ug/L		95	70 - 142		
o-Xylene			25.0	23.7		ug/L		95	70 - 130		
Naphthalene			25.0	24.8		ug/L		99	50 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*72 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Lab Sample ID: LCS 720-218620/7
Matrix: Water
Analysis Batch: 218620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C5-C12			500	431		ug/L		86	71 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*96*		*72 - 130*
Toluene-d8 (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 720-218620/6
Matrix: Water
Analysis Batch: 218620

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			25.0	23.5		ug/L		94	79 - 130	1	20
Ethylbenzene			25.0	23.0		ug/L		92	80 - 120	0	20
Toluene			25.0	23.4		ug/L		93	78 - 120	1	20
m-Xylene & p-Xylene			25.0	23.6		ug/L		94	70 - 142	0	20
o-Xylene			25.0	23.5		ug/L		94	70 - 130	1	20
Naphthalene			25.0	25.2		ug/L		101	50 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*95*		*72 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 720-218620/8
Matrix: Water
Analysis Batch: 218620

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			500	433		ug/L		87	71 - 125	0	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-218620/8
Matrix: Water
Analysis Batch: 218620

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	97		67 - 130
1,2-Dichloroethane-d4 (Surr)	98		72 - 130
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: MB 720-218645/4
Matrix: Water
Analysis Batch: 218645

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/02/17 11:07	1
Ethylbenzene	ND		0.50		ug/L			03/02/17 11:07	1
Toluene	ND		0.50		ug/L			03/02/17 11:07	1
Xylenes, Total	ND		1.0		ug/L			03/02/17 11:07	1
Naphthalene	ND		1.0		ug/L			03/02/17 11:07	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			03/02/17 11:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		67 - 130		03/02/17 11:07	1
1,2-Dichloroethane-d4 (Surr)	98		72 - 130		03/02/17 11:07	1
Toluene-d8 (Surr)	102		70 - 130		03/02/17 11:07	1

Lab Sample ID: LCS 720-218645/5
Matrix: Water
Analysis Batch: 218645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	23.9		ug/L		96	79 - 130
Ethylbenzene	25.0	23.4		ug/L		94	80 - 120
Toluene	25.0	23.9		ug/L		96	78 - 120
m-Xylene & p-Xylene	25.0	24.0		ug/L		96	70 - 142
o-Xylene	25.0	24.1		ug/L		96	70 - 130
Naphthalene	25.0	26.8		ug/L		107	50 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	98		67 - 130
1,2-Dichloroethane-d4 (Surr)	96		72 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCS 720-218645/7
Matrix: Water
Analysis Batch: 218645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	500	454		ug/L		91	71 - 125

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-218645/7
Matrix: Water
Analysis Batch: 218645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	*98*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*72 - 130*
Toluene-d8 (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 720-218645/6
Matrix: Water
Analysis Batch: 218645

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			25.0	24.3		ug/L		97	79 - 130	2	20
Ethylbenzene			25.0	24.0		ug/L		96	80 - 120	2	20
Toluene			25.0	24.5		ug/L		98	78 - 120	3	20
m-Xylene & p-Xylene			25.0	24.5		ug/L		98	70 - 142	2	20
o-Xylene			25.0	24.6		ug/L		98	70 - 130	2	20
Naphthalene			25.0	28.2		ug/L		113	50 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	*99*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*97*		*72 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 720-218645/8
Matrix: Water
Analysis Batch: 218645

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			500	452		ug/L		90	71 - 125	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	*99*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*72 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Lab Sample ID: MB 720-218689/4
Matrix: Water
Analysis Batch: 218689

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/02/17 19:36	1
Ethylbenzene	ND		0.50		ug/L			03/02/17 19:36	1
Toluene	ND		0.50		ug/L			03/02/17 19:36	1
Xylenes, Total	ND		1.0		ug/L			03/02/17 19:36	1
Naphthalene	ND		1.0		ug/L			03/02/17 19:36	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			03/02/17 19:36	1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-218689/4
Matrix: Water
Analysis Batch: 218689

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	91		67 - 130		03/02/17 19:36	1
1,2-Dichloroethane-d4 (Surr)	100		72 - 130		03/02/17 19:36	1
Toluene-d8 (Surr)	99		70 - 130		03/02/17 19:36	1

Lab Sample ID: LCS 720-218689/5
Matrix: Water
Analysis Batch: 218689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	26.3		ug/L		105	79 - 130
Ethylbenzene	25.0	26.0		ug/L		104	80 - 120
Toluene	25.0	25.6		ug/L		102	78 - 120
m-Xylene & p-Xylene	25.0	26.2		ug/L		105	70 - 142
o-Xylene	25.0	26.0		ug/L		104	70 - 130
Naphthalene	25.0	23.3		ug/L		93	50 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	94		67 - 130
1,2-Dichloroethane-d4 (Surr)	96		72 - 130
Toluene-d8 (Surr)	99		70 - 130

Lab Sample ID: LCS 720-218689/7
Matrix: Water
Analysis Batch: 218689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	500	470		ug/L		94	71 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	95		67 - 130
1,2-Dichloroethane-d4 (Surr)	101		72 - 130
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: LCSD 720-218689/6
Matrix: Water
Analysis Batch: 218689

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	25.0	26.1		ug/L		104	79 - 130	1	20
Ethylbenzene	25.0	25.8		ug/L		103	80 - 120	1	20
Toluene	25.0	25.3		ug/L		101	78 - 120	1	20
m-Xylene & p-Xylene	25.0	26.0		ug/L		104	70 - 142	1	20
o-Xylene	25.0	25.8		ug/L		103	70 - 130	1	20
Naphthalene	25.0	24.2		ug/L		97	50 - 130	4	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-218689/6
Matrix: Water
Analysis Batch: 218689

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*97*		*72 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 720-218689/8
Matrix: Water
Analysis Batch: 218689

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			500	469		ug/L		94	71 - 125	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*67 - 130*
1,2-Dichloroethane-d4 (Surr)	*104*		*72 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 720-218713/4
Matrix: Solid
Analysis Batch: 218713

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		500		ug/Kg			03/03/17 09:32	100
Ethylbenzene	ND		500		ug/Kg			03/03/17 09:32	100
MTBE	ND		500		ug/Kg			03/03/17 09:32	100
Toluene	ND		500		ug/Kg			03/03/17 09:32	100
Xylenes, Total	ND		1000		ug/Kg			03/03/17 09:32	100
Naphthalene	ND		1000		ug/Kg			03/03/17 09:32	100
Gasoline Range Organics (GRO) -C5-C12	ND		25000		ug/Kg			03/03/17 09:32	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*91*		*66 - 148*		*03/03/17 09:32*	*100*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*		*03/03/17 09:32*	*100*
Toluene-d8 (Surr)	*99*		*65 - 141*		*03/03/17 09:32*	*100*

Lab Sample ID: LCS 720-218713/5
Matrix: Solid
Analysis Batch: 218713

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			5000	5180		ug/Kg		104	76 - 122		
Ethylbenzene			5000	5110		ug/Kg		102	76 - 137		
MTBE			5000	5590		ug/Kg		112	71 - 146		
Toluene			5000	5000		ug/Kg		100	77 - 120		
m-Xylene & p-Xylene			5000	5150		ug/Kg		103	71 - 142		
o-Xylene			5000	5100		ug/Kg		102	71 - 142		
Naphthalene			5000	4760		ug/Kg		95	62 - 151		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	*94*		*66 - 148*
1,2-Dichloroethane-d4 (Surr)	*97*		*62 - 137*
Toluene-d8 (Surr)	*98*		*65 - 141*

Lab Sample ID: LCS 720-218713/7
Matrix: Solid
Analysis Batch: 218713

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C5-C12			100000	92100		ug/Kg		92	71 - 134		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	*95*		*66 - 148*
1,2-Dichloroethane-d4 (Surr)	*101*		*62 - 137*
Toluene-d8 (Surr)	*100*		*65 - 141*

Lab Sample ID: LCSD 720-218713/6
Matrix: Solid
Analysis Batch: 218713

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			5000	5220		ug/Kg		104	76 - 122	1	20
Ethylbenzene			5000	5140		ug/Kg		103	76 - 137	1	20
MTBE			5000	5790		ug/Kg		116	71 - 146	3	20
Toluene			5000	5030		ug/Kg		101	77 - 120	0	20
m-Xylene & p-Xylene			5000	5190		ug/Kg		104	71 - 142	1	20
o-Xylene			5000	5130		ug/Kg		103	71 - 142	1	20
Naphthalene			5000	4840		ug/Kg		97	62 - 151	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	*96*		*66 - 148*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*
Toluene-d8 (Surr)	*98*		*65 - 141*

Lab Sample ID: LCSD 720-218713/8
Matrix: Solid
Analysis Batch: 218713

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			100000	92400		ug/Kg		92	71 - 134	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	*96*		*66 - 148*
1,2-Dichloroethane-d4 (Surr)	*102*		*62 - 137*
Toluene-d8 (Surr)	*99*		*65 - 141*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-218836/5
Matrix: Solid
Analysis Batch: 218836

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		500		ug/Kg			03/06/17 19:42	100
Ethylbenzene	ND		500		ug/Kg			03/06/17 19:42	100
MTBE	ND		500		ug/Kg			03/06/17 19:42	100
Toluene	ND		500		ug/Kg			03/06/17 19:42	100
Xylenes, Total	ND		1000		ug/Kg			03/06/17 19:42	100
Naphthalene	ND		1000		ug/Kg			03/06/17 19:42	100
Gasoline Range Organics (GRO) -C5-C12	ND		25000		ug/Kg			03/06/17 19:42	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*66 - 148*		*03/06/17 19:42*	*100*
1,2-Dichloroethane-d4 (Surr)	*89*		*62 - 137*		*03/06/17 19:42*	*100*
Toluene-d8 (Surr)	*108*		*65 - 141*		*03/06/17 19:42*	*100*

Lab Sample ID: LCS 720-218836/7
Matrix: Solid
Analysis Batch: 218836

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	5000	5120		ug/Kg		102	76 - 122
Ethylbenzene	5000	4710		ug/Kg		94	76 - 137
MTBE	5000	4090		ug/Kg		82	71 - 146
Toluene	5000	4900		ug/Kg		98	77 - 120
m-Xylene & p-Xylene	5000	4770		ug/Kg		95	71 - 142
o-Xylene	5000	4730		ug/Kg		95	71 - 142
Naphthalene	5000	5300		ug/Kg		106	62 - 151

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*66 - 148*
1,2-Dichloroethane-d4 (Surr)	*89*		*62 - 137*
Toluene-d8 (Surr)	*109*		*65 - 141*

Lab Sample ID: LCS 720-218836/9
Matrix: Solid
Analysis Batch: 218836

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	100000	91000		ug/Kg		91	71 - 134

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*66 - 148*
1,2-Dichloroethane-d4 (Surr)	*89*		*62 - 137*
Toluene-d8 (Surr)	*108*		*65 - 141*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-218836/10
Matrix: Solid
Analysis Batch: 218836

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			100000	91500		ug/Kg		92	71 - 134	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*66 - 148*
1,2-Dichloroethane-d4 (Surr)	*86*		*62 - 137*
Toluene-d8 (Surr)	*108*		*65 - 141*

Lab Sample ID: LCSD 720-218836/8
Matrix: Solid
Analysis Batch: 218836

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			5000	5060		ug/Kg		101	76 - 122	1	20
Ethylbenzene			5000	4800		ug/Kg		96	76 - 137	2	20
MTBE			5000	3840		ug/Kg		77	71 - 146	6	20
Toluene			5000	5010		ug/Kg		100	77 - 120	2	20
m-Xylene & p-Xylene			5000	4860		ug/Kg		97	71 - 142	2	20
o-Xylene			5000	4800		ug/Kg		96	71 - 142	2	20
Naphthalene			5000	5320		ug/Kg		106	62 - 151	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*66 - 148*
1,2-Dichloroethane-d4 (Surr)	*85*		*62 - 137*
Toluene-d8 (Surr)	*109*		*65 - 141*

Lab Sample ID: MB 720-218861/10
Matrix: Solid
Analysis Batch: 218861

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		500		ug/Kg			03/07/17 20:45	100
Ethylbenzene	ND		500		ug/Kg			03/07/17 20:45	100
MTBE	ND		500		ug/Kg			03/07/17 20:45	100
Toluene	ND		500		ug/Kg			03/07/17 20:45	100
Xylenes, Total	ND		1000		ug/Kg			03/07/17 20:45	100
Naphthalene	ND		1000		ug/Kg			03/07/17 20:45	100
Gasoline Range Organics (GRO) -C5-C12	ND		25000		ug/Kg			03/07/17 20:45	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*66 - 148*		*03/07/17 20:45*	*100*
1,2-Dichloroethane-d4 (Surr)	*97*		*62 - 137*		*03/07/17 20:45*	*100*
Toluene-d8 (Surr)	*106*		*65 - 141*		*03/07/17 20:45*	*100*

GC/MS VOA

Analysis Batch: 218439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-1	SB-1-5	Total/NA	Solid	8260B	218460
720-77861-6	SB-2-15	Total/NA	Solid	8260B	218460
720-77861-7	SB-3-5	Total/NA	Solid	8260B	218460
720-77861-9	SB-3-17	Total/NA	Solid	8260B	218460
720-77861-10	SB-4-5	Total/NA	Solid	8260B	218460
MB 720-218439/6	Method Blank	Total/NA	Solid	8260B	
LCS 720-218439/7	Lab Control Sample	Total/NA	Solid	8260B	
LCS 720-218439/9	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 720-218439/10	Lab Control Sample Dup	Total/NA	Solid	8260B	
LCSD 720-218439/8	Lab Control Sample Dup	Total/NA	Solid	8260B	

Prep Batch: 218460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-1	SB-1-5	Total/NA	Solid	5035	
720-77861-6	SB-2-15	Total/NA	Solid	5035	
720-77861-7	SB-3-5	Total/NA	Solid	5035	
720-77861-9	SB-3-17	Total/NA	Solid	5035	
720-77861-10	SB-4-5	Total/NA	Solid	5035	

Analysis Batch: 218523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-12	SB-4-15	Total/NA	Solid	8260B	218544
720-77861-13	SB-5-5	Total/NA	Solid	8260B	218544
720-77861-14	SB-5-10	Total/NA	Solid	8260B	218544
720-77861-15	SB-5-15	Total/NA	Solid	8260B	218544
MB 720-218523/7	Method Blank	Total/NA	Solid	8260B	
LCS 720-218523/10	Lab Control Sample	Total/NA	Solid	8260B	
LCS 720-218523/8	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 720-218523/11	Lab Control Sample Dup	Total/NA	Solid	8260B	
LCSD 720-218523/9	Lab Control Sample Dup	Total/NA	Solid	8260B	

Prep Batch: 218544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-12	SB-4-15	Total/NA	Solid	5035	
720-77861-13	SB-5-5	Total/NA	Solid	5035	
720-77861-14	SB-5-10	Total/NA	Solid	5035	
720-77861-15	SB-5-15	Total/NA	Solid	5035	

Analysis Batch: 218549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-4	SB-2-5	Total/NA	Solid	8260B	218557
MB 720-218549/9	Method Blank	Total/NA	Solid	8260B	
LCS 720-218549/5	Lab Control Sample	Total/NA	Solid	8260B	
LCS 720-218549/7	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 720-218549/6	Lab Control Sample Dup	Total/NA	Solid	8260B	
LCSD 720-218549/8	Lab Control Sample Dup	Total/NA	Solid	8260B	

Prep Batch: 218557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-4	SB-2-5	Total/NA	Solid	5035	

GC/MS VOA (Continued)

Analysis Batch: 218572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-12	SB-4-15	Total/NA	Solid	8260B	218579
MB 720-218572/4	Method Blank	Total/NA	Solid	8260B	
LCS 720-218572/5	Lab Control Sample	Total/NA	Solid	8260B	
LCS 720-218572/7	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 720-218572/16	Lab Control Sample Dup	Total/NA	Solid	8260B	
LCSD 720-218572/8	Lab Control Sample Dup	Total/NA	Solid	8260B	

Prep Batch: 218579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-12	SB-4-15	Total/NA	Solid	5035	

Analysis Batch: 218620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-16	SB-1-GW	Total/NA	Water	8260B/CA_LUFT MS	
720-77861-17	SB-1-GW-DUP	Total/NA	Water	8260B/CA_LUFT MS	
720-77861-18	SB-2-GW	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-218620/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-218620/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-218620/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-218620/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-218620/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 218645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-19	SB-3-GW	Total/NA	Water	8260B/CA_LUFT MS	
720-77861-20	SB-4-GW	Total/NA	Water	8260B/CA_LUFT MS	
720-77861-21	SB-5-GW	Total/NA	Water	8260B/CA_LUFT MS	
720-77861-22	TRIP BLANK	Total/NA	Water	8260B/CA_LUFT MS	
720-77861-23	RINSATE BLANK	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-218645/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-218645/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-218645/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-218645/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-218645/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	

GC/MS VOA (Continued)

Analysis Batch: 218689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-16	SB-1-GW	Total/NA	Water	8260B/CA_LUFT MS	
720-77861-17	SB-1-GW-DUP	Total/NA	Water	8260B/CA_LUFT MS	
720-77861-18	SB-2-GW	Total/NA	Water	8260B/CA_LUFT MS	
MB 720-218689/4	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-218689/5	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCS 720-218689/7	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-218689/6	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	
LCSD 720-218689/8	Lab Control Sample Dup	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 218713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-2	SB-1-10	Total/NA	Solid	8260B/CA_LUFT MS	218732
720-77861-3	SB-1-15.5	Total/NA	Solid	8260B/CA_LUFT MS	218732
720-77861-5	SB-2-10	Total/NA	Solid	8260B/CA_LUFT MS	218732
720-77861-11	SB-4-10	Total/NA	Solid	8260B/CA_LUFT MS	218732
MB 720-218713/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-218713/5	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-218713/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-218713/6	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-218713/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	

Prep Batch: 218732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-2	SB-1-10	Total/NA	Solid	5035	
720-77861-3	SB-1-15.5	Total/NA	Solid	5035	
720-77861-5	SB-2-10	Total/NA	Solid	5035	
720-77861-11	SB-4-10	Total/NA	Solid	5035	

Analysis Batch: 218836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-8	SB-3-10	Total/NA	Solid	8260B/CA_LUFT MS	218843
MB 720-218836/5	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-218836/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-218836/9	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	

GC/MS VOA (Continued)

Analysis Batch: 218836 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 720-218836/10	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-218836/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	

Prep Batch: 218843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-8	SB-3-10	Total/NA	Solid	5035	

Analysis Batch: 218861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-77861-2	SB-1-10	Total/NA	Solid	8260B/CA_LUFT MS	218732
MB 720-218861/10	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	

Lab Chronicle

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-1-5
Date Collected: 02/23/17 10:15
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218460	02/23/17 21:00	JRM	TAL PLS
Total/NA	Analysis	8260B		1	218439	02/27/17 12:59	JRM	TAL PLS

Client Sample ID: SB-1-10
Date Collected: 02/23/17 10:20
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218732	02/23/17 21:00	JRM	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		100	218713	03/03/17 15:44	JRM	TAL PLS
Total/NA	Prep	5035			218732	02/23/17 21:00	JRM	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		200	218861	03/07/17 21:15	MJK	TAL PLS

Client Sample ID: SB-1-15.5
Date Collected: 02/23/17 10:25
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218732	02/23/17 21:00	JRM	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		100	218713	03/03/17 16:13	JRM	TAL PLS

Client Sample ID: SB-2-5
Date Collected: 02/23/17 10:40
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218557	02/23/17 21:00	MJK	TAL PLS
Total/NA	Analysis	8260B		1	218549	02/28/17 21:44	JRM	TAL PLS

Client Sample ID: SB-2-10
Date Collected: 02/23/17 10:45
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218732	02/23/17 21:00	JRM	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		100	218713	03/03/17 16:42	JRM	TAL PLS

Lab Chronicle

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: SB-2-15
Date Collected: 02/23/17 10:50
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218460	02/23/17 21:00	JRM	TAL PLS
Total/NA	Analysis	8260B		1	218439	02/27/17 15:22	JRM	TAL PLS

Client Sample ID: SB-3-5
Date Collected: 02/23/17 11:05
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218460	02/23/17 21:00	JRM	TAL PLS
Total/NA	Analysis	8260B		1	218439	02/27/17 15:50	JRM	TAL PLS

Client Sample ID: SB-3-10
Date Collected: 02/23/17 11:10
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218843	02/23/17 21:00	MJK	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		100	218836	03/06/17 23:12	JRM	TAL PLS

Client Sample ID: SB-3-17
Date Collected: 02/23/17 11:20
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218460	02/23/17 21:00	JRM	TAL PLS
Total/NA	Analysis	8260B		1	218439	02/27/17 16:47	JRM	TAL PLS

Client Sample ID: SB-4-5
Date Collected: 02/23/17 11:40
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218460	02/23/17 21:00	JRM	TAL PLS
Total/NA	Analysis	8260B		1	218439	02/27/17 17:15	JRM	TAL PLS

Client Sample ID: SB-4-10
Date Collected: 02/23/17 11:45
Date Received: 02/23/17 17:00

Lab Sample ID: 720-77861-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218732	02/23/17 21:00	JRM	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		100	218713	03/03/17 17:39	JRM	TAL PLS

Client Sample ID: SB-4-15

Lab Sample ID: 720-77861-12

Date Collected: 02/23/17 11:55

Matrix: Solid

Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218544	02/23/17 21:00	CAM	TAL PLS
Total/NA	Analysis	8260B		1	218523	02/28/17 19:16	JRM	TAL PLS
Total/NA	Prep	5035			218579	03/01/17 16:53	JRM	TAL PLS
Total/NA	Analysis	8260B		1	218572	03/01/17 19:49	CAM	TAL PLS

Client Sample ID: SB-5-5

Lab Sample ID: 720-77861-13

Date Collected: 02/23/17 12:25

Matrix: Solid

Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218544	02/23/17 21:00	CAM	TAL PLS
Total/NA	Analysis	8260B		1	218523	02/28/17 19:45	JRM	TAL PLS

Client Sample ID: SB-5-10

Lab Sample ID: 720-77861-14

Date Collected: 02/23/17 12:30

Matrix: Solid

Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218544	02/23/17 21:00	CAM	TAL PLS
Total/NA	Analysis	8260B		1	218523	02/28/17 20:15	JRM	TAL PLS

Client Sample ID: SB-5-15

Lab Sample ID: 720-77861-15

Date Collected: 02/23/17 12:40

Matrix: Solid

Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			218544	02/23/17 21:00	CAM	TAL PLS
Total/NA	Analysis	8260B		1	218523	02/28/17 20:45	JRM	TAL PLS

Client Sample ID: SB-1-GW

Lab Sample ID: 720-77861-16

Date Collected: 02/23/17 12:52

Matrix: Water

Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		10	218689	03/02/17 21:59	MJK	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	218620	03/02/17 04:15	MJK	TAL PLS

Client Sample ID: SB-1-GW-DUP
Lab Sample ID: 720-77861-17
Date Collected: 02/23/17 12:55
Matrix: Water
Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		10	218689	03/02/17 22:28	MJK	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	218620	03/02/17 04:43	MJK	TAL PLS

Client Sample ID: SB-2-GW
Lab Sample ID: 720-77861-18
Date Collected: 02/23/17 13:00
Matrix: Water
Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		10	218689	03/02/17 22:56	MJK	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	218620	03/02/17 05:11	MJK	TAL PLS

Client Sample ID: SB-3-GW
Lab Sample ID: 720-77861-19
Date Collected: 02/23/17 13:10
Matrix: Water
Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	218645	03/02/17 18:08	MJK	TAL PLS

Client Sample ID: SB-4-GW
Lab Sample ID: 720-77861-20
Date Collected: 02/23/17 13:10
Matrix: Water
Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	218645	03/02/17 18:36	MJK	TAL PLS

Client Sample ID: SB-5-GW
Lab Sample ID: 720-77861-21
Date Collected: 02/23/17 13:15
Matrix: Water
Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	218645	03/02/17 19:04	MJK	TAL PLS

Client Sample ID: TRIP BLANK
Lab Sample ID: 720-77861-22
Date Collected: 02/23/17 10:00
Matrix: Water
Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	218645	03/02/17 19:32	MJK	TAL PLS

Lab Chronicle

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Client Sample ID: RINSATE BLANK

Lab Sample ID: 720-77861-23

Date Collected: 02/23/17 13:30

Matrix: Water

Date Received: 02/23/17 17:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUFTMS		1	218645	03/02/17 20:00	MJK	TAL PLS

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Laboratory: TestAmerica Pleasanton

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-18

Analysis Method	Prep Method	Matrix	Analyte

Method Summary

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PLS
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: ERM-West
Project/Site: MLK Jr. Oakland

TestAmerica Job ID: 720-77861-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-77861-1	SB-1-5	Solid	02/23/17 10:15	02/23/17 17:00
720-77861-2	SB-1-10	Solid	02/23/17 10:20	02/23/17 17:00
720-77861-3	SB-1-15.5	Solid	02/23/17 10:25	02/23/17 17:00
720-77861-4	SB-2-5	Solid	02/23/17 10:40	02/23/17 17:00
720-77861-5	SB-2-10	Solid	02/23/17 10:45	02/23/17 17:00
720-77861-6	SB-2-15	Solid	02/23/17 10:50	02/23/17 17:00
720-77861-7	SB-3-5	Solid	02/23/17 11:05	02/23/17 17:00
720-77861-8	SB-3-10	Solid	02/23/17 11:10	02/23/17 17:00
720-77861-9	SB-3-17	Solid	02/23/17 11:20	02/23/17 17:00
720-77861-10	SB-4-5	Solid	02/23/17 11:40	02/23/17 17:00
720-77861-11	SB-4-10	Solid	02/23/17 11:45	02/23/17 17:00
720-77861-12	SB-4-15	Solid	02/23/17 11:55	02/23/17 17:00
720-77861-13	SB-5-5	Solid	02/23/17 12:25	02/23/17 17:00
720-77861-14	SB-5-10	Solid	02/23/17 12:30	02/23/17 17:00
720-77861-15	SB-5-15	Solid	02/23/17 12:40	02/23/17 17:00
720-77861-16	SB-1-GW	Water	02/23/17 12:52	02/23/17 17:00
720-77861-17	SB-1-GW-DUP	Water	02/23/17 12:55	02/23/17 17:00
720-77861-18	SB-2-GW	Water	02/23/17 13:00	02/23/17 17:00
720-77861-19	SB-3-GW	Water	02/23/17 13:10	02/23/17 17:00
720-77861-20	SB-4-GW	Water	02/23/17 13:10	02/23/17 17:00
720-77861-21	SB-5-GW	Water	02/23/17 13:15	02/23/17 17:00
720-77861-22	TRIP BLANK	Water	02/23/17 10:00	02/23/17 17:00
720-77861-23	RINSATE BLANK	Water	02/23/17 13:30	02/23/17 17:00

Environmental Resources Management

720-77861

CHAIN OF CUSTODY RECORD

174288

NO: 08146

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA • 94597 • (925) 946-0455 • FAX (925) 946-9968

3/9/2017

PROJECT #	PROJECT NAME
0307273	MLK Oakland

SAMPLER (PRINT NAME)	(SIGNATURE)
S. Martin	

RECEIVING LABORATORY: Test America

SAMPLE I.D.	DATE	TIME	COMP	GRAB	SAMPLING METHOD	PRESERVATIVE	ICE (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	MATRIX: SOIL	MATRIX: WATER	MATRIX: GAS	REQUESTED PARAMETERS: TPH-g, BTEX, MTBE 8260
SB-1-5	2/23/17	1015		X	Direct Push	Methanol	Y	Terra Core	3	X			X
SB-1-10	↓	1020		↓	↓	↓	↓	↓	↓	↓			X
SB-1-15.5		1025											X
SB-2-5		1040											X
SB-2-10		1045											X
SB-2-15		1050											X
SB-3-5		1105											X
SB-3-10		1110											X
SB-3-17		1120											X
SB-4-5	↓	1140		↓	↓	↓	↓	↓	↓	↓			X

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
	2/23/17	1448		2/23/17	1448
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
	2/23/17	900		2/23/17	170
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME

FIELD REMARKS: Standard TAT

3 °C

REMARKS ON SAMPLE RECEIPT

☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED
☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS

SEND REPORT TO: giorgio.molinari@erm.com

720-77861 Chain of Custody

Page 62 of 65

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

Environmental Resources Management

CHAIN OF CUSTODY RECORD

NO: 08149

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA • 94597 • (925) 946-0455 • FAX (925) 946-9968

3/9/2017

PROJECT #	PROJECT NAME
0307273	MLK Oakland

SAMPLER (PRINT NAME)	(SIGNATURE)
S. Martin	

RECEIVING LABORATORY: Test America

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	SAMPLING METHOD	PRESERVATIVE	CL2 (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	MATRIX: SOIL	MATRIX: WATER	MATRIX: GAS	REQUESTED PARAMETERS: TPH-g, BTEX, naphthalene 8260										
SB-4-10	2/23/17	1145		X	Direct push	Various		Plastic Core	3	X			X										
SB-4-15		1155											X										
SB-5-5		1225											X										
SB-5-10		1230											X										
SB-5-15		1240											X										
SB-1-GW		1252			Peri						X		X										
SB-1-GW-DUP		1255									X		X										
SB-2-GW		~~1300~~ 1040									X		X										
SB-3-GW		1310									X		X										
SB-4-GW		1310									X		X										

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
	2/23/17	1448		2/23	1448
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
	2/23/17	1700		2/23/17	1700
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME

FIELD REMARKS: see page 1

REMARKS ON SAMPLE RECEIPT

☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED
☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS:

SEND REPORT TO: see page 1

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

Environmental Resources Management

CHAIN OF CUSTODY RECORD

NO: 5035

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA • 94597 • (925) 946-0455 • FAX (925) 946-9968

Page 3 of 3

3/9/2017

PROJECT #	PROJECT NAME
0307273	MLK Oakland

SAMPLER (PRINT NAME)	(SIGNATURE)
S. Martin	

RECEIVING LABORATORY: Test America

SAMPLER ID	DATE	TIME	COMP	GRAB	SAMPLING METHOD	PRESERVATIVE	COC (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	MATRIX: SOIL	MATRIX: WATER	MATRIX: GAS	REQUESTED PARAMETERS: TPH-g, BTEX, Naphthalene 8260
SB-5-GW	2/23/17	1315		X	Peri	HCl	Y	8 40mL VOAs	3		X		X
~~SB~~ Trip Blank		1000		X	—	↓	↓	↓	3		X		X
Rinsate Blank ↓		1330		X	—	↓	↓	↓	3		X		X

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
	2/23/17	1448		2/23/17	1448
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
	2/23/17	1700		2/23/17	1700
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME

FIELD REMARKS: See page 1

REMARKS ON SAMPLE RECEIPT

☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED
☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS

SEND REPORT TO: See page 1

WHITE - LABORATORY COPY CANARY - FIELD COPY PINK - DATABASE GOLD - PROJECT FILE

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 720-77861-1

Login Number: 77861
List Number: 1
Creator: Arauz, Dennis

List Source: TestAmerica Pleasanton

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Data Review

PROJECT: Grove Street Wash Rack, 3884 Martin Luther King Jr Way, Oakland, CA

LABORATORY: Eurofins Calscience, Garden Grove, California

SAMPLES: SV-1, SV-2, SV-3, SV-4, SV-5, and DUP-001.

MATRIX: SOIL VAPOR

Analysis	VOCs (Standard List*) TO-15
Holding Time	✓
Surrogate Recovery	Note 2
MS/MSD	No site-specific MS/MSD
LCS (Blank Spike)	✓
Method Blanks	✓
Duplicates [SB-1-GW, SB-1-GW (DUP)]	Note 6
Trip/Field/Equipment Blanks	✓
Reporting Limits	✓

* Standard TO-15 list plus naphthalene

✓ **– QC criteria were met.**

Notes:

1. The samples were received in good condition at the laboratory minus sample DUP-001 that had a container residual pressure of 17.60 inches of mercury indicating a partial sample.

2. The surrogate recoveries were within acceptance criteria with the exception of toluene-d8 for sample SV-2 that was 69% vs the 70% acceptance criteria. The benzene, toluene, ethylbenzene, xylenes, and 1,3-dichlorobenzene results for this sample were J-flagged as estimated. The naphthalene and tert-butylbenzene results were flagged UJ because these analytes were not detected.

3. The Laboratory Control Sample (LCS) spikes for this method included all target analytes and were within acceptance criteria.

4. No analytes were detected in the Method Blank samples.

5. The field duplicate sample was observed to have included entrained water during sample collection via clear tubing; therefore, collection of this sample was stopped. As shown in Note 1 this sample was only partially collected based on the sample volume. The laboratory was asked to analyze the sample in the event that the results could be used. Based on the high RPDs between the parent sample and the field duplicate it is evident that the field duplicate sample was compromised by the entrained water and the field duplicate results are considered rejected.

6. In order to quantitate target compounds, the following dilutions were required.

Sample	Compound	Dilution Factor
SV-1	All analytes	1.05
SV-2	All analytes	1.22
SV-3	All analytes	1.06
SV-4	All analytes	1.03
SV-5	All analytes	1.05

Reporting limits were increased in proportion to the dilution factor. Generally, reported analyte concentrations exceeded the elevated reporting limits.

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Supplemental Report 1

Additional requested analyses are reported as a stand-alone report.

WORK ORDER NUMBER: 17-03-0359

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ERM-WEST

Client Project Name: Grove Street Wash Rack / 0307273

Attention: Giorgio Molinario
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Approved for release on 03/20/2017 by:
Virendra Patel
Project Manager

ResultLink ▸

Email your PM ▸

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Contents

Client Project Name: Grove Street Wash Rack / 0307273
Work Order Number: 17-03-0359

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Work Order Narrative

Work Order: 17-03-0359 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 03/04/17. They were assigned to Work Order 17-03-0359.

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

Holding Times:

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

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

Quality Control:

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

Subcontractor Information:

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

Additional Comments:

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

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

Return to Contents

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Sample Summary

Client:	ERM-WEST	Work Order:	17-03-0359
	114 Sansome Street, Suite 750	Project Name:	Grove Street Wash Rack / 0307273
	San Francisco, CA 94104-3805	PO Number:	0307273
		Date/Time Received:	03/04/17 11:40
		Number of Containers:	6
Attn:	Giorgio Molinario		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
SV-1	17-03-0359-1	03/03/17 10:11	1	Air
SV-2	17-03-0359-2	03/03/17 11:46	1	Air
SV-3	17-03-0359-3	03/03/17 10:43	1	Air
SV-4	17-03-0359-4	03/03/17 10:56	1	Air
SV-5	17-03-0359-5	03/03/17 11:10	1	Air
DUP-001	17-03-0359-6	03/03/17 11:46	1	Air

Return to Contents

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Project: Grove Street Wash Rack / 0307273

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-1	**17-03-0359-1-A**	**03/03/17 10:11**	**Air**	**GC/MS II**	**N/A**	**03/06/17 15:04**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	28	1.05	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	103	68-134	
1,2-Dichloroethane-d4	102	67-133	
Toluene-d8	69	70-130	2,6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-2	**17-03-0359-2-A**	**03/03/17 11:46**	**Air**	**GC/MS II**	**N/A**	**03/06/17 15:59**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	32	1.22	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	118	68-134	
1,2-Dichloroethane-d4	93	67-133	
Toluene-d8	71	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-3	**17-03-0359-3-A**	**03/03/17 10:43**	**Air**	**GC/MS II**	**N/A**	**03/06/17 16:57**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	28	1.06	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	111	68-134	
1,2-Dichloroethane-d4	96	67-133	
Toluene-d8	76	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-4	**17-03-0359-4-A**	**03/03/17 10:56**	**Air**	**GC/MS II**	**N/A**	**03/06/17 17:53**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	27	1.03	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	102	68-134	
1,2-Dichloroethane-d4	95	67-133	
Toluene-d8	97	70-130	

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

Return to Contents

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-5	**17-03-0359-5-A**	**03/03/17 11:10**	**Air**	**GC/MS II**	**N/A**	**03/06/17 18:49**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	27	1.05	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	104	68-134	
1,2-Dichloroethane-d4	94	67-133	
Toluene-d8	98	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP-001	**17-03-0359-6-A**	**03/03/17 11:46**	**Air**	**GC/MS II**	**N/A**	**03/06/17 19:39**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	88	3.34	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	111	68-134	
1,2-Dichloroethane-d4	94	67-133	
Toluene-d8	80	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-021-18210**	**N/A**	**Air**	**GC/MS II**	**N/A**	**03/06/17 14:10**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	26	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	68-134	
1,2-Dichloroethane-d4	97	67-133	
Toluene-d8	98	70-130	

Return to Contents

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

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Quality Control - LCS/LCSD

ERM-WEST		Date Received:	03/04/17
114 Sansome Street, Suite 750		Work Order:	17-03-0359
San Francisco, CA 94104-3805		Preparation:	N/A
		Method:	EPA TO-15
Project: Grove Street Wash Rack / 0307273			Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-021-18210	**LCS**	**Air**	**GC/MS II**	**N/A**	**03/06/17 11:31**	**170306L01**
095-01-021-18210	**LCSD**	**Air**	**GC/MS II**	**N/A**	**03/06/17 12:22**	**170306L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Naphthalene	131.1	119.2	91	118.8	91	24-144	0	0-30	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

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Summa Canister Vacuum Summary

Work Order: 17-03-0359 Page 1 of 1

Sample Name	Vacuum Out	Vacuum In	Equipment	Description
SV-1	-29.50 in Hg	-3.00 in Hg	LC994	Summa Canister 1L
SV-2	-29.50 in Hg	-4.80 in Hg	LC903	Summa Canister 1L
SV-3	-29.50 in Hg	-1.80 in Hg	LC944	Summa Canister 1L
SV-4	-29.50 in Hg	-2.00 in Hg	LC188	Summa Canister 1L
SV-5	-29.50 in Hg	-2.00 in Hg	LC613	Summa Canister 1L
DUP-001	-29.50 in Hg	-17.60 in Hg	SLC113	Summa Canister 1L

Return to Contents

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Glossary of Terms and Qualifiers

Work Order: 17-03-0359 Page 1 of 1

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

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

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

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

Return to Contents

Virendra Patel

From: Giorgio Molinario <Giorgio.Molinario@erm.com>
Sent: Thursday, March 16, 2017 7:08 PM
To: Virendra Patel
Cc: Erick Ovalle
Subject: RE: Grove Street Wash Rack / 0307273 / CEL 17-03-0359 - Final PDF and EDD Files.

Yes please

Thanks,

-Giorgio

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Thursday, March 16, 2017 5:14 PM
To: Giorgio Molinario
Cc: Erick Ovalle
Subject: RE: Grove Street Wash Rack / 0307273 / CEL 17-03-0359 - Final PDF and EDD Files.

Giorgio,

Hi. No, it is not part of the standard TO-15 screen. If this is a target analyte of interest, we need to know up front and also called out on the COC. We can check to see if we can take the existing data and re-load to report Naphthalene, however, this would require passing QC data in order to do so.

Would you like the data for ECI 17-03-0359 – reloaded for Naphthalene? Please advise. Thanks!

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
USA
P: +1 714 895 5494
F: +1 714 894 7501

Email: virendrapatel@eurofinsUS.com
Website: www.eurofinsUS.com/Calscience

From: Giorgio Molinario [mailto:Giorgio.Molinario@erm.com]
Sent: Thursday, March 16, 2017 5:06 PM

Return to Contents

To: Virendra Patel
Subject: RE: Grove Street Wash Rack / 0307273 / CEL 17-03-0359 - Final PDF and EDD Files.

Virendra:

I don't see naphthalene results – is that not one of your target TO15 compounds?

Thanks,

-Giorgio

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Friday, March 10, 2017 4:36 PM
Cc: Erick Ovalle; Giorgio Molinario; Kevin Almestad
Subject: Grove Street Wash Rack / 0307273 / CEL 17-03-0359 - Final PDF and EDD Files.

The file(s) were saved to
C:\Users\giorgio.molinario\Documents\OLAttachments\17030359.xls
C:\Users\giorgio.molinario\Documents\OLAttachments\17030359_EDF.zip
C:\Users\giorgio.molinario\Documents\OLAttachments\17-03-0359.pdf
C:\Users\giorgio.molinario\Documents\OLAttachments\Picture (Device Independent Bitmap) 2.jpg
C:\Users\giorgio.molinario\Documents\OLAttachments\Picture (Device Independent Bitmap) 1.jpg

Final PDF and EDD files attached for the subject project samples collected on 03/03/17. **Note, final hard copies of the report will not be mailed to your attention, therefore, we ask that you print the attached files and accept them as final.**

Please note the DUP-001 sample results are not very close to the primary sample. This sample had a higher pressure reading (-19") compared to the other samples (all around -6") – this could be the reason why there is a disparity in the results.

Please call with any questions or concerns.

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
USA
P: +1 714 895 5494
F: +1 714 894 7501

Email: virendrapatel@eurofinsUS.com
Website: www.eurofinsUS.com/Calscience

Return to Contents

free from viruses. You need, however, to verify that this email and any attachments are free of viruses, as we can take no responsibility for any computer viruses, which might be transferred by way of this email. We may monitor all email communication through our networks. If you contact us by email, we may store your name and address to facilitate communication.

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Please visit ERM's web site: http://www.erm.com

Return to Contents

Virendra Patel

From: Kevin Almestad <Kevin.Almestad@erm.com>
Sent: Wednesday, March 08, 2017 3:21 PM
To: Virendra Patel; Giorgio Molinario
Cc: Erick Ovalle
Subject: RE: Sampling Equipment Order for Oakland Site

Virendra,

That makes sense. The field point ID will be SV-2 for the duplicate (Dup-001).

We haven't uploaded the field ID points yet (that will be done in the next day or so), but they will follow that nomenclature.

All the best,

Kevin Almestad
Staff Scientist

ERM
114 Sansome Street, Suite 750 | San Francisco | CA 94104
T +1 628 221 7802 | **M** +1 925 330 9267
E Kevin.Almestad@erm.com | **W** www.erm.com

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Wednesday, March 08, 2017 3:13 PM
To: Kevin Almestad; Giorgio Molinario
Cc: Erick Ovalle
Subject: RE: Sampling Equipment Order for Oakland Site

Kevin,

Thanks, however, no attachment? We have the sample ID as Dup-001 (as listed on the COC), we can either use the same ID for the field point if that is what you have on GeoTracker or use the same field point as the primary sample.

You will have to let us know what you have entered for the field point name on GeoTracker. The field point for the duplicate should match what GeoTracker is expecting. Hope that makes sense?

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience, Inc.

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AIR CHAIN-OF-CUSTODY RECORD

WO NO. / LAB USE ONLY: **17-03-0359**

KA

DATE: 3/3/17

PAGE: 1 OF 1

LABORATORY CLIENT: ERM

ADDRESS: 114 Sansome St.

CITY: San Francisco STATE: CA ZIP: 94104

TEL: [redacted] 628-221-7502 E-MAIL: [redacted] Kevin.Almestad@erm.com

Giorgio.Molinario@erm.com

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD")

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

EDD: ☐ COELT EDF ☐ OTHER

UNITS:

CLIENT PROJECT NAME / NO.: ~~Lo Hec & Coyle MLK~~ Grove Street Wash Rack

P.O. NO.: 0307273

PROJECT CONTACT: Giorgio Molinario

LAB CONTACT OR QUOTE NO.:

PROJECT ADDRESS: [redacted]54 MLK Jr. Way

SAMPLER(S): (PRINT) Kevin Almestad Tyler Callahan

CITY: Oakland STATE: CA ZIP: 94609

SPECIAL INSTRUCTIONS:

Provide EDF files:

Global ID: T0600102106

Log Code: ERMW

KA

• Field point IDs will be the same as Sample IDs

Revised COC received from Kevin Almestad (ERM) on 03/08/17 15:13pm.
-Virendra (ECI)

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD ID / POINT OF COLLECTION	MATRIX: Indoor (I) Soil Vap. (SV) Ambient (A)	SAMPLING EQUIPMENT: Media ID	Canister Size 6L or 1L	Flow Controller ID	START SAMPLING INFORMATION: Date	Time (24 hr clock)	Canister Pressure (in Hg)	STOP SAMPLING INFORMATION: Date	Time (24 hr clock)	Canister Pressure (in Hg)	VOCs TO-15	2-Propanol KA
1	SV-1		SV	LC994	1L	SGM236	3/3/17	1006	>30	3/3/17	1011	4	X	X
2	SV-2		SV	LC903	1L	SGM111	3/3/17	1117	>30	3/3/17	1146	6	↓	↓
3	SV-3		SV	LC944	1L	SGM382	3/3/17	1036	>30	3/3/17	1043	4		
4	SV-4		SV	LC188	1L	SGM174	3/3/17	1050	>30	3/3/17	1056	4		
5	SV-5		SV	LC613	1L	SGM250	3/3/17	1104	>30	3/3/17	1110	4		
6	DUP-001		SV	1360	1L	SGM111	3/3/17	1117	>30	3/3/17	1146	19		

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 3/4/17	Time: 1140
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

2014-07-01 Revision

Return to Contents

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AIR CHAIN-OF-CUSTODY RECORD

WO NO. / LAB USE ONLY: **17-03-0359**

DATE: 3/3/17

PAGE: 1 OF 1

LABORATORY CLIENT: ERM

ADDRESS: 114 Sansome St.

CITY: San Francisco STATE: CA ZIP: 94104

TEL: [redacted]628-221-7602 E-MAIL: [redacted]Kevin.Almestad@erm.com

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD") Giorgio.Molinario@erm.com

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

EDD: ☐ COELT EDF ☐ OTHER

UNITS:

SPECIAL INSTRUCTIONS:

Provide EDF files

CLIENT PROJECT NAME / NO.: Co Her & Coyle MLK

PROJECT CONTACT: Giorgio Molinario

PROJECT ADDRESS: [redacted]54 MLK Jr. Way

CITY: Oakland STATE: CA ZIP: 94609

P.O. NO.: 0307273

LAB CONTACT OR QUOTE NO.:

SAMPLER(S): (PRINT) Kevin Almestad, Tyler Callahan

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD ID / POINT OF COLLECTION	MATRIX: Indoor (I) Soil Vap. (SV) Ambient (A)	SAMPLING EQUIPMENT: Media ID	Canister Size 6L or 1L	Flow Controller ID	START SAMPLING INFORMATION: Date	Time (24 hr clock)	Canister Pressure (in Hg)	STOP SAMPLING INFORMATION: Date	Time (24 hr clock)	Canister Pressure (in Hg)	VOCs TO-15	2-Propanol			
1	SV-1		SV	LC994	1L	SGM236	3/3/17	1006	>30	3/3/17	1011	4					
2	SV-2		SV	LC903	1L	SGM111	3/3/17	1117	>30	3/3/17	1146	6					
3	SV-3		SV	LC944	1L	SGM382	3/3/17	1036	>30	3/3/17	1043	4					
4	SV-4		SV	LC188	1L	SGM174	3/3/17	1050	>30	3/3/17	1056	4					
5	SV-5		SV	LC613	1L	SGM250	3/3/17	1104	>30	3/3/17	1110	4					
6	DUP-001		SV	1360	1L	SGM111	3/3/17	1117	>30	3/3/17	1146	19					

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 3/4/17	Time: 1140
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

2014-07-01 Revision

Return to Contents

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WORK ORDER NUMBER: 17-03- 0359

SAMPLE RECEIPT CHECKLIST

COOLER 0 OF 0

CLIENT: ERM

DATE: 03 / 04 / 2017

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

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): _____°C (w/ CF): _____°C; ☐ Blank ☐ Sample

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

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

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☑ Air ☐ Filter Checked by: SR

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present (Box) ☐ N/A Checked by: SR

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A Checked by: TR

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☐	☑	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☑ No analysis requested ☐ Not relinquished ☑ No relinquished date ☑ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☑ 03-04-17	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

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

Air: ☐ Tedlar™ ☑ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: TR

Reviewed by: SR

Return to Contents

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WORK ORDER NUMBER: 17-03-0359

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ERM-WEST

Client Project Name: Grove Street Wash Rack / 0307273

Attention: Giorgio Molinario
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Approved for release on 03/10/2017 by:
Virendra Patel
Project Manager

ResultLink ▸

Email your PM ▸

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Contents

Client Project Name: Grove Street Wash Rack / 0307273
Work Order Number: 17-03-0359

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Work Order Narrative

Work Order: 17-03-0359 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 03/04/17. They were assigned to Work Order 17-03-0359.

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

Holding Times:

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

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

Quality Control:

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

Subcontractor Information:

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

Additional Comments:

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

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

Return to Contents

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Sample Summary

Client:	ERM-WEST	Work Order:	17-03-0359
	114 Sansome Street, Suite 750	Project Name:	Grove Street Wash Rack / 0307273
	San Francisco, CA 94104-3805	PO Number:	0307273
		Date/Time Received:	03/04/17 11:40
		Number of Containers:	6
Attn:	Giorgio Molinario		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
SV-1	17-03-0359-1	03/03/17 10:11	1	Air
SV-2	17-03-0359-2	03/03/17 11:46	1	Air
SV-3	17-03-0359-3	03/03/17 10:43	1	Air
SV-4	17-03-0359-4	03/03/17 10:56	1	Air
SV-5	17-03-0359-5	03/03/17 11:10	1	Air
DUP-001	17-03-0359-6	03/03/17 11:46	1	Air

Return to Contents

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Detections Summary

Client:	ERM-WEST	Work Order:	17-03-0359
	114 Sansome Street, Suite 750	Project Name:	Grove Street Wash Rack / 0307273
	San Francisco, CA 94104-3805	Received:	03/04/17
Attn:	Giorgio Molinario		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
SV-1 (17-03-0359-1)						
Benzene	3.8		1.7	ug/m3	EPA TO-15	N/A
2-Butanone	41		4.7	ug/m3	EPA TO-15	N/A
Chloroform	52		2.6	ug/m3	EPA TO-15	N/A
1,3-Dichlorobenzene	7.1		3.2	ug/m3	EPA TO-15	N/A
Ethylbenzene	4.2		2.3	ug/m3	EPA TO-15	N/A
Isopropanol	33		13	ug/m3	EPA TO-15	N/A
Tetrachloroethene	25		3.6	ug/m3	EPA TO-15	N/A
Toluene	3.8		2.0	ug/m3	EPA TO-15	N/A
o-Xylene	7.1		2.3	ug/m3	EPA TO-15	N/A
p/m-Xylene	16		9.1	ug/m3	EPA TO-15	N/A
SV-2 (17-03-0359-2)						
Benzene	12		2.0	ug/m3	EPA TO-15	N/A
2-Butanone	100		5.4	ug/m3	EPA TO-15	N/A
sec-Butylbenzene	4.2		3.4	ug/m3	EPA TO-15	N/A
Carbon Disulfide	15		7.6	ug/m3	EPA TO-15	N/A
Chloroform	20		3.0	ug/m3	EPA TO-15	N/A
Chloromethane	2.3		1.3	ug/m3	EPA TO-15	N/A
1,3-Dichlorobenzene	10		3.7	ug/m3	EPA TO-15	N/A
Ethylbenzene	24		2.7	ug/m3	EPA TO-15	N/A
Toluene	6.4		2.3	ug/m3	EPA TO-15	N/A
1,2,4-Trimethylbenzene	11		9.0	ug/m3	EPA TO-15	N/A
1,3,5-Trimethylbenzene	3.5		3.0	ug/m3	EPA TO-15	N/A
o-Xylene	23		2.7	ug/m3	EPA TO-15	N/A
p/m-Xylene	26		11	ug/m3	EPA TO-15	N/A
SV-3 (17-03-0359-3)						
Benzene	13		1.7	ug/m3	EPA TO-15	N/A
2-Butanone	24		4.7	ug/m3	EPA TO-15	N/A
sec-Butylbenzene	7.2		2.9	ug/m3	EPA TO-15	N/A
tert-Butylbenzene	5.0		2.9	ug/m3	EPA TO-15	N/A
Carbon Disulfide	32		6.6	ug/m3	EPA TO-15	N/A
Chloroform	31		2.6	ug/m3	EPA TO-15	N/A
1,3-Dichlorobenzene	5.6		3.2	ug/m3	EPA TO-15	N/A
Ethylbenzene	24		2.3	ug/m3	EPA TO-15	N/A
Isopropanol	14		13	ug/m3	EPA TO-15	N/A
Tetrachloroethene	19		3.6	ug/m3	EPA TO-15	N/A
Toluene	9.5		2.0	ug/m3	EPA TO-15	N/A
o-Xylene	22		2.3	ug/m3	EPA TO-15	N/A
p/m-Xylene	76		9.2	ug/m3	EPA TO-15	N/A

Return to Contents

* MDL is shown

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Detections Summary

Client:	ERM-WEST	Work Order:	17-03-0359
	114 Sansome Street, Suite 750	Project Name:	Grove Street Wash Rack / 0307273
	San Francisco, CA 94104-3805	Received:	03/04/17
Attn:	Giorgio Molinario		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
SV-4 (17-03-0359-4)						
Acetone	25		4.9	ug/m3	EPA TO-15	N/A
Benzene	3.7		1.6	ug/m3	EPA TO-15	N/A
Bromodichloromethane	3.6		3.4	ug/m3	EPA TO-15	N/A
2-Butanone	56		4.5	ug/m3	EPA TO-15	N/A
Chloroform	32		2.5	ug/m3	EPA TO-15	N/A
1,3-Dichlorobenzene	5.4		3.1	ug/m3	EPA TO-15	N/A
Dichlorodifluoromethane	2.8		2.5	ug/m3	EPA TO-15	N/A
2-Hexanone	6.6		6.3	ug/m3	EPA TO-15	N/A
Isopropanol	25		13	ug/m3	EPA TO-15	N/A
Toluene	4.0		1.9	ug/m3	EPA TO-15	N/A
o-Xylene	2.6		2.2	ug/m3	EPA TO-15	N/A
SV-5 (17-03-0359-5)						
Acetone	21		5.0	ug/m3	EPA TO-15	N/A
Benzene	3.0		1.7	ug/m3	EPA TO-15	N/A
Bromodichloromethane	5.0		3.5	ug/m3	EPA TO-15	N/A
2-Butanone	57		4.6	ug/m3	EPA TO-15	N/A
Chloroform	40		2.6	ug/m3	EPA TO-15	N/A
2-Hexanone	6.8		6.4	ug/m3	EPA TO-15	N/A
Isopropanol	18		13	ug/m3	EPA TO-15	N/A
Toluene	3.3		2.0	ug/m3	EPA TO-15	N/A
DUP-001 (17-03-0359-6)						
Benzene	13		5.3	ug/m3	EPA TO-15	N/A
2-Butanone	320		15	ug/m3	EPA TO-15	N/A
Chloroform	23		8.2	ug/m3	EPA TO-15	N/A
Chloromethane	3.5		3.4	ug/m3	EPA TO-15	N/A
1,3-Dichlorobenzene	24		10	ug/m3	EPA TO-15	N/A
1,4-Dichlorobenzene	74		10	ug/m3	EPA TO-15	N/A
Ethylbenzene	34		7.3	ug/m3	EPA TO-15	N/A
4-Ethyltoluene	220		8.2	ug/m3	EPA TO-15	N/A
Tetrachloroethene	850		11	ug/m3	EPA TO-15	N/A
Toluene	26		6.3	ug/m3	EPA TO-15	N/A
Trichloroethene	58		9.0	ug/m3	EPA TO-15	N/A
1,2,4-Trimethylbenzene	1100		25	ug/m3	EPA TO-15	N/A
1,3,5-Trimethylbenzene	340		8.2	ug/m3	EPA TO-15	N/A
o-Xylene	72		7.3	ug/m3	EPA TO-15	N/A
p/m-Xylene	52		29	ug/m3	EPA TO-15	N/A

Return to Contents

* MDL is shown

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Detections Summary

Client:	ERM-WEST	Work Order:	17-03-0359
	114 Sansome Street, Suite 750	Project Name:	Grove Street Wash Rack / 0307273
	San Francisco, CA 94104-3805	Received:	03/04/17
Attn:	Giorgio Molinario		Page 3 of 3

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction

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

Return to Contents

* MDL is shown

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-1	**17-03-0359-1-A**	**03/03/17 10:11**	**Air**	**GC/MS II**	**N/A**	**03/06/17 15:04**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	16	1.05	
Acetone	ND	5.0	1.05	
Benzene	3.8	1.7	1.05	
Benzyl Chloride	ND	8.2	1.05	
Bromodichloromethane	ND	3.5	1.05	
Bromoform	ND	5.4	1.05	
Bromomethane	ND	2.0	1.05	
2-Butanone	41	4.7	1.05	
n-Butylbenzene	ND	2.9	1.05	
sec-Butylbenzene	ND	2.9	1.05	
tert-Butylbenzene	ND	2.9	1.05	
Carbon Disulfide	ND	6.6	1.05	
Carbon Tetrachloride	ND	3.3	1.05	
Chlorobenzene	ND	2.4	1.05	
Chloroethane	ND	1.4	1.05	
Chloroform	52	2.6	1.05	
Chloromethane	ND	1.1	1.05	
Dibromochloromethane	ND	4.5	1.05	
1,2-Dibromoethane	ND	4.0	1.05	
1,2-Dichlorobenzene	ND	3.2	1.05	
1,3-Dichlorobenzene	7.1	3.2	1.05	
1,4-Dichlorobenzene	ND	3.2	1.05	
Dichlorodifluoromethane	ND	2.6	1.05	
1,1-Dichloroethane	ND	2.1	1.05	
1,2-Dichloroethane	ND	2.1	1.05	
1,1-Dichloroethene	ND	2.1	1.05	
c-1,2-Dichloroethene	ND	2.1	1.05	
t-1,2-Dichloroethene	ND	2.1	1.05	
1,2-Dichloropropane	ND	2.4	1.05	
c-1,3-Dichloropropene	ND	2.4	1.05	
t-1,3-Dichloropropene	ND	4.8	1.05	
Dichlorotetrafluoroethane	ND	15	1.05	
1,1-Difluoroethane	ND	5.7	1.05	
Ethylbenzene	4.2	2.3	1.05	
4-Ethyltoluene	ND	2.6	1.05	

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

Return to Contents

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Analytical Report

ERM-WEST	Date Received:	03/04/17
114 Sansome Street, Suite 750	Work Order:	17-03-0359
San Francisco, CA 94104-3805	Preparation:	N/A
	Method:	EPA TO-15
	Units:	ug/m3
Project: Grove Street Wash Rack / 0307273		Page 2 of 14

Parameter	Result	RL	DF	Qualifiers
Hexachloro-1,3-Butadiene	ND	17	1.05	
2-Hexanone	ND	6.5	1.05	
Isopropanol	33	13	1.05	
Methyl-t-Butyl Ether (MTBE)	ND	7.6	1.05	
Methylene Chloride	ND	18	1.05	
4-Methyl-2-Pentanone	ND	6.5	1.05	
Styrene	ND	6.7	1.05	
1,1,2,2-Tetrachloroethane	ND	7.2	1.05	
Tetrachloroethene	25	3.6	1.05	
Toluene	3.8	2.0	1.05	
1,1,1-Trichloroethane	ND	2.9	1.05	
1,1,2-Trichloroethane	ND	2.9	1.05	
Trichloroethene	ND	2.8	1.05	
Trichlorofluoromethane	ND	5.9	1.05	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	12	1.05	
1,2,4-Trimethylbenzene	ND	7.8	1.05	
1,3,5-Trimethylbenzene	ND	2.6	1.05	
Vinyl Acetate	ND	7.4	1.05	
Vinyl Chloride	ND	1.3	1.05	
o-Xylene	7.1	2.3	1.05	
p/m-Xylene	16	9.1	1.05	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	103	68-134	
1,2-Dichloroethane-d4	102	67-133	
Toluene-d8	69	70-130	2,6

Return to Contents

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

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-2	**17-03-0359-2-A**	**03/03/17 11:46**	**Air**	**GC/MS II**	**N/A**	**03/06/17 15:59**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	18	1.22	
Acetone	ND	5.8	1.22	
Benzene	12	2.0	1.22	
Benzyl Chloride	ND	9.5	1.22	
Bromodichloromethane	ND	4.1	1.22	
Bromoform	ND	6.3	1.22	
Bromomethane	ND	2.4	1.22	
2-Butanone	100	5.4	1.22	
n-Butylbenzene	ND	3.4	1.22	
sec-Butylbenzene	4.2	3.4	1.22	
tert-Butylbenzene	ND	3.4	1.22	
Carbon Disulfide	15	7.6	1.22	
Carbon Tetrachloride	ND	3.8	1.22	
Chlorobenzene	ND	2.8	1.22	
Chloroethane	ND	1.6	1.22	
Chloroform	20	3.0	1.22	
Chloromethane	2.3	1.3	1.22	
Dibromochloromethane	ND	5.2	1.22	
1,2-Dibromoethane	ND	4.7	1.22	
1,2-Dichlorobenzene	ND	3.7	1.22	
1,3-Dichlorobenzene	10	3.7	1.22	
1,4-Dichlorobenzene	ND	3.7	1.22	
Dichlorodifluoromethane	ND	3.0	1.22	
1,1-Dichloroethane	ND	2.5	1.22	
1,2-Dichloroethane	ND	2.5	1.22	
1,1-Dichloroethene	ND	2.4	1.22	
c-1,2-Dichloroethene	ND	2.4	1.22	
t-1,2-Dichloroethene	ND	2.4	1.22	
1,2-Dichloropropane	ND	2.8	1.22	
c-1,3-Dichloropropene	ND	2.8	1.22	
t-1,3-Dichloropropene	ND	5.6	1.22	
Dichlorotetrafluoroethane	ND	17	1.22	
1,1-Difluoroethane	ND	6.6	1.22	
Ethylbenzene	24	2.7	1.22	
4-Ethyltoluene	ND	3.0	1.22	

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

Return to Contents

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Parameter	Result	RL	DF	Qualifiers
Hexachloro-1,3-Butadiene	ND	20	1.22	
2-Hexanone	ND	7.5	1.22	
Isopropanol	ND	15	1.22	
Methyl-t-Butyl Ether (MTBE)	ND	8.8	1.22	
Methylene Chloride	ND	21	1.22	
4-Methyl-2-Pentanone	ND	7.5	1.22	
Styrene	ND	7.8	1.22	
1,1,2,2-Tetrachloroethane	ND	8.4	1.22	
Tetrachloroethene	ND	4.1	1.22	
Toluene	6.4	2.3	1.22	
1,1,1-Trichloroethane	ND	3.3	1.22	
1,1,2-Trichloroethane	ND	3.3	1.22	
Trichloroethene	ND	3.3	1.22	
Trichlorofluoromethane	ND	6.9	1.22	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	14	1.22	
1,2,4-Trimethylbenzene	11	9.0	1.22	
1,3,5-Trimethylbenzene	3.5	3.0	1.22	
Vinyl Acetate	ND	8.6	1.22	
Vinyl Chloride	ND	1.6	1.22	
o-Xylene	23	2.7	1.22	
p/m-Xylene	26	11	1.22	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	118	68-134	
1,2-Dichloroethane-d4	93	67-133	
Toluene-d8	71	70-130	

Return to Contents

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

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-3	**17-03-0359-3-A**	**03/03/17 10:43**	**Air**	**GC/MS II**	**N/A**	**03/06/17 16:57**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	16	1.06	
Acetone	ND	5.1	1.06	
Benzene	13	1.7	1.06	
Benzyl Chloride	ND	8.3	1.06	
Bromodichloromethane	ND	3.6	1.06	
Bromoform	ND	5.5	1.06	
Bromomethane	ND	2.1	1.06	
2-Butanone	24	4.7	1.06	
n-Butylbenzene	ND	2.9	1.06	
sec-Butylbenzene	7.2	2.9	1.06	
tert-Butylbenzene	5.0	2.9	1.06	
Carbon Disulfide	32	6.6	1.06	
Carbon Tetrachloride	ND	3.3	1.06	
Chlorobenzene	ND	2.4	1.06	
Chloroethane	ND	1.4	1.06	
Chloroform	31	2.6	1.06	
Chloromethane	ND	1.1	1.06	
Dibromochloromethane	ND	4.5	1.06	
1,2-Dibromoethane	ND	4.1	1.06	
1,2-Dichlorobenzene	ND	3.2	1.06	
1,3-Dichlorobenzene	5.6	3.2	1.06	
1,4-Dichlorobenzene	ND	3.2	1.06	
Dichlorodifluoromethane	ND	2.6	1.06	
1,1-Dichloroethane	ND	2.2	1.06	
1,2-Dichloroethane	ND	2.2	1.06	
1,1-Dichloroethene	ND	2.1	1.06	
c-1,2-Dichloroethene	ND	2.1	1.06	
t-1,2-Dichloroethene	ND	2.1	1.06	
1,2-Dichloropropane	ND	2.5	1.06	
c-1,3-Dichloropropene	ND	2.4	1.06	
t-1,3-Dichloropropene	ND	4.8	1.06	
Dichlorotetrafluoroethane	ND	15	1.06	
1,1-Difluoroethane	ND	5.7	1.06	
Ethylbenzene	24	2.3	1.06	
4-Ethyltoluene	ND	2.6	1.06	

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

Return to Contents

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Parameter	Result	RL	DF	Qualifiers
Hexachloro-1,3-Butadiene	ND	17	1.06	
2-Hexanone	ND	6.5	1.06	
Isopropanol	14	13	1.06	
Methyl-t-Butyl Ether (MTBE)	ND	7.7	1.06	
Methylene Chloride	ND	18	1.06	
4-Methyl-2-Pentanone	ND	6.5	1.06	
Styrene	ND	6.8	1.06	
1,1,2,2-Tetrachloroethane	ND	7.3	1.06	
Tetrachloroethene	19	3.6	1.06	
Toluene	9.5	2.0	1.06	
1,1,1-Trichloroethane	ND	2.9	1.06	
1,1,2-Trichloroethane	ND	2.9	1.06	
Trichloroethene	ND	2.9	1.06	
Trichlorofluoromethane	ND	6.0	1.06	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	12	1.06	
1,2,4-Trimethylbenzene	ND	7.8	1.06	
1,3,5-Trimethylbenzene	ND	2.6	1.06	
Vinyl Acetate	ND	7.5	1.06	
Vinyl Chloride	ND	1.4	1.06	
o-Xylene	22	2.3	1.06	
p/m-Xylene	76	9.2	1.06	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	111	68-134	
1,2-Dichloroethane-d4	96	67-133	
Toluene-d8	76	70-130	

Return to Contents

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

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-4	**17-03-0359-4-A**	**03/03/17 10:56**	**Air**	**GC/MS II**	**N/A**	**03/06/17 17:53**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	15	1.03	
Acetone	25	4.9	1.03	
Benzene	3.7	1.6	1.03	
Benzyl Chloride	ND	8.0	1.03	
Bromodichloromethane	3.6	3.4	1.03	
Bromoform	ND	5.3	1.03	
Bromomethane	ND	2.0	1.03	
2-Butanone	56	4.5	1.03	
n-Butylbenzene	ND	2.8	1.03	
sec-Butylbenzene	ND	2.8	1.03	
tert-Butylbenzene	ND	2.8	1.03	
Carbon Disulfide	ND	6.4	1.03	
Carbon Tetrachloride	ND	3.2	1.03	
Chlorobenzene	ND	2.4	1.03	
Chloroethane	ND	1.4	1.03	
Chloroform	32	2.5	1.03	
Chloromethane	ND	1.1	1.03	
Dibromochloromethane	ND	4.4	1.03	
1,2-Dibromoethane	ND	3.9	1.03	
1,2-Dichlorobenzene	ND	3.1	1.03	
1,3-Dichlorobenzene	5.4	3.1	1.03	
1,4-Dichlorobenzene	ND	3.1	1.03	
Dichlorodifluoromethane	2.8	2.5	1.03	
1,1-Dichloroethane	ND	2.1	1.03	
1,2-Dichloroethane	ND	2.1	1.03	
1,1-Dichloroethene	ND	2.0	1.03	
c-1,2-Dichloroethene	ND	2.0	1.03	
t-1,2-Dichloroethene	ND	2.0	1.03	
1,2-Dichloropropane	ND	2.4	1.03	
c-1,3-Dichloropropene	ND	2.3	1.03	
t-1,3-Dichloropropene	ND	4.7	1.03	
Dichlorotetrafluoroethane	ND	14	1.03	
1,1-Difluoroethane	ND	5.6	1.03	
Ethylbenzene	ND	2.2	1.03	
4-Ethyltoluene	ND	2.5	1.03	

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

Return to Contents

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Parameter	Result	RL	DF	Qualifiers
Hexachloro-1,3-Butadiene	ND	16	1.03	
2-Hexanone	6.6	6.3	1.03	
Isopropanol	25	13	1.03	
Methyl-t-Butyl Ether (MTBE)	ND	7.4	1.03	
Methylene Chloride	ND	18	1.03	
4-Methyl-2-Pentanone	ND	6.3	1.03	
Styrene	ND	6.6	1.03	
1,1,2,2-Tetrachloroethane	ND	7.1	1.03	
Tetrachloroethene	ND	3.5	1.03	
Toluene	4.0	1.9	1.03	
1,1,1-Trichloroethane	ND	2.8	1.03	
1,1,2-Trichloroethane	ND	2.8	1.03	
Trichloroethene	ND	2.8	1.03	
Trichlorofluoromethane	ND	5.8	1.03	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	12	1.03	
1,2,4-Trimethylbenzene	ND	7.6	1.03	
1,3,5-Trimethylbenzene	ND	2.5	1.03	
Vinyl Acetate	ND	7.2	1.03	
Vinyl Chloride	ND	1.3	1.03	
o-Xylene	2.6	2.2	1.03	
p/m-Xylene	ND	8.9	1.03	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	102	68-134	
1,2-Dichloroethane-d4	95	67-133	
Toluene-d8	97	70-130	

Return to Contents

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

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SV-5	**17-03-0359-5-A**	**03/03/17 11:10**	**Air**	**GC/MS II**	**N/A**	**03/06/17 18:49**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	16	1.05	
Acetone	21	5.0	1.05	
Benzene	3.0	1.7	1.05	
Benzyl Chloride	ND	8.1	1.05	
Bromodichloromethane	5.0	3.5	1.05	
Bromoform	ND	5.4	1.05	
Bromomethane	ND	2.0	1.05	
2-Butanone	57	4.6	1.05	
n-Butylbenzene	ND	2.9	1.05	
sec-Butylbenzene	ND	2.9	1.05	
tert-Butylbenzene	ND	2.9	1.05	
Carbon Disulfide	ND	6.5	1.05	
Carbon Tetrachloride	ND	3.3	1.05	
Chlorobenzene	ND	2.4	1.05	
Chloroethane	ND	1.4	1.05	
Chloroform	40	2.6	1.05	
Chloromethane	ND	1.1	1.05	
Dibromochloromethane	ND	4.5	1.05	
1,2-Dibromoethane	ND	4.0	1.05	
1,2-Dichlorobenzene	ND	3.1	1.05	
1,3-Dichlorobenzene	ND	3.1	1.05	
1,4-Dichlorobenzene	ND	3.1	1.05	
Dichlorodifluoromethane	ND	2.6	1.05	
1,1-Dichloroethane	ND	2.1	1.05	
1,2-Dichloroethane	ND	2.1	1.05	
1,1-Dichloroethene	ND	2.1	1.05	
c-1,2-Dichloroethene	ND	2.1	1.05	
t-1,2-Dichloroethene	ND	2.1	1.05	
1,2-Dichloropropane	ND	2.4	1.05	
c-1,3-Dichloropropene	ND	2.4	1.05	
t-1,3-Dichloropropene	ND	4.8	1.05	
Dichlorotetrafluoroethane	ND	15	1.05	
1,1-Difluoroethane	ND	5.7	1.05	
Ethylbenzene	ND	2.3	1.05	
4-Ethyltoluene	ND	2.6	1.05	

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

Return to Contents

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Analytical Report

ERM-WEST	Date Received:	03/04/17
114 Sansome Street, Suite 750	Work Order:	17-03-0359
San Francisco, CA 94104-3805	Preparation:	N/A
	Method:	EPA TO-15
	Units:	ug/m3
Project: Grove Street Wash Rack / 0307273		Page 10 of 14

Parameter	Result	RL	DF	Qualifiers
Hexachloro-1,3-Butadiene	ND	17	1.05	
2-Hexanone	6.8	6.4	1.05	
Isopropanol	18	13	1.05	
Methyl-t-Butyl Ether (MTBE)	ND	7.5	1.05	
Methylene Chloride	ND	18	1.05	
4-Methyl-2-Pentanone	ND	6.4	1.05	
Styrene	ND	6.7	1.05	
1,1,2,2-Tetrachloroethane	ND	7.2	1.05	
Tetrachloroethene	ND	3.6	1.05	
Toluene	3.3	2.0	1.05	
1,1,1-Trichloroethane	ND	2.9	1.05	
1,1,2-Trichloroethane	ND	2.9	1.05	
Trichloroethene	ND	2.8	1.05	
Trichlorofluoromethane	ND	5.9	1.05	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	12	1.05	
1,2,4-Trimethylbenzene	ND	7.7	1.05	
1,3,5-Trimethylbenzene	ND	2.6	1.05	
Vinyl Acetate	ND	7.4	1.05	
Vinyl Chloride	ND	1.3	1.05	
o-Xylene	ND	2.3	1.05	
p/m-Xylene	ND	9.1	1.05	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	104	68-134	
1,2-Dichloroethane-d4	94	67-133	
Toluene-d8	98	70-130	

Return to Contents

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

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DUP-001	**17-03-0359-6-A**	**03/03/17 11:46**	**Air**	**GC/MS II**	**N/A**	**03/06/17 19:39**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	50	3.34	
Acetone	ND	16	3.34	
Benzene	13	5.3	3.34	
Benzyl Chloride	ND	26	3.34	
Bromodichloromethane	ND	11	3.34	
Bromoform	ND	17	3.34	
Bromomethane	ND	6.5	3.34	
2-Butanone	320	15	3.34	
n-Butylbenzene	ND	9.2	3.34	
sec-Butylbenzene	ND	9.2	3.34	
tert-Butylbenzene	ND	9.2	3.34	
Carbon Disulfide	ND	21	3.34	
Carbon Tetrachloride	ND	11	3.34	
Chlorobenzene	ND	7.7	3.34	
Chloroethane	ND	4.4	3.34	
Chloroform	23	8.2	3.34	
Chloromethane	3.5	3.4	3.34	
Dibromochloromethane	ND	14	3.34	
1,2-Dibromoethane	ND	13	3.34	
1,2-Dichlorobenzene	ND	10	3.34	
1,3-Dichlorobenzene	24	10	3.34	
1,4-Dichlorobenzene	74	10	3.34	
Dichlorodifluoromethane	ND	8.3	3.34	
1,1-Dichloroethane	ND	6.8	3.34	
1,2-Dichloroethane	ND	6.8	3.34	
1,1-Dichloroethene	ND	6.6	3.34	
c-1,2-Dichloroethene	ND	6.6	3.34	
t-1,2-Dichloroethene	ND	6.6	3.34	
1,2-Dichloropropane	ND	7.7	3.34	
c-1,3-Dichloropropene	ND	7.6	3.34	
t-1,3-Dichloropropene	ND	15	3.34	
Dichlorotetrafluoroethane	ND	47	3.34	
1,1-Difluoroethane	ND	18	3.34	
Ethylbenzene	34	7.3	3.34	
4-Ethyltoluene	220	8.2	3.34	

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

Return to Contents

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Analytical Report

ERM-WEST	Date Received:	03/04/17
114 Sansome Street, Suite 750	Work Order:	17-03-0359
San Francisco, CA 94104-3805	Preparation:	N/A
	Method:	EPA TO-15
	Units:	ug/m3
Project: Grove Street Wash Rack / 0307273		Page 12 of 14

Parameter	Result	RL	DF	Qualifiers
Hexachloro-1,3-Butadiene	ND	53	3.34	
2-Hexanone	ND	21	3.34	
Isopropanol	ND	41	3.34	
Methyl-t-Butyl Ether (MTBE)	ND	24	3.34	
Methylene Chloride	ND	58	3.34	
4-Methyl-2-Pentanone	ND	21	3.34	
Styrene	ND	21	3.34	
1,1,2,2-Tetrachloroethane	ND	23	3.34	
Tetrachloroethene	850	11	3.34	
Toluene	26	6.3	3.34	
1,1,1-Trichloroethane	ND	9.1	3.34	
1,1,2-Trichloroethane	ND	9.1	3.34	
Trichloroethene	58	9.0	3.34	
Trichlorofluoromethane	ND	19	3.34	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	38	3.34	
1,2,4-Trimethylbenzene	1100	25	3.34	
1,3,5-Trimethylbenzene	340	8.2	3.34	
Vinyl Acetate	ND	24	3.34	
Vinyl Chloride	ND	4.3	3.34	
o-Xylene	72	7.3	3.34	
p/m-Xylene	52	29	3.34	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	111	68-134	
1,2-Dichloroethane-d4	94	67-133	
Toluene-d8	80	70-130	

Return to Contents

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

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Analytical Report

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: Grove Street Wash Rack / 0307273

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-021-18210**	**N/A**	**Air**	**GC/MS II**	**N/A**	**03/06/17 14:10**	**170306L01**

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	15	1.00	
Acetone	ND	4.8	1.00	
Benzene	ND	1.6	1.00	
Benzyl Chloride	ND	7.8	1.00	
Bromodichloromethane	ND	3.4	1.00	
Bromoform	ND	5.2	1.00	
Bromomethane	ND	1.9	1.00	
2-Butanone	ND	4.4	1.00	
n-Butylbenzene	ND	2.7	1.00	
sec-Butylbenzene	ND	2.7	1.00	
tert-Butylbenzene	ND	2.7	1.00	
Carbon Disulfide	ND	6.2	1.00	
Carbon Tetrachloride	ND	3.1	1.00	
Chlorobenzene	ND	2.3	1.00	
Chloroethane	ND	1.3	1.00	
Chloroform	ND	2.4	1.00	
Chloromethane	ND	1.0	1.00	
Dibromochloromethane	ND	4.3	1.00	
1,2-Dibromoethane	ND	3.8	1.00	
1,2-Dichlorobenzene	ND	3.0	1.00	
1,3-Dichlorobenzene	ND	3.0	1.00	
1,4-Dichlorobenzene	ND	3.0	1.00	
Dichlorodifluoromethane	ND	2.5	1.00	
1,1-Dichloroethane	ND	2.0	1.00	
1,2-Dichloroethane	ND	2.0	1.00	
1,1-Dichloroethene	ND	2.0	1.00	
c-1,2-Dichloroethene	ND	2.0	1.00	
t-1,2-Dichloroethene	ND	2.0	1.00	
1,2-Dichloropropane	ND	2.3	1.00	
c-1,3-Dichloropropene	ND	2.3	1.00	
t-1,3-Dichloropropene	ND	4.5	1.00	
Dichlorotetrafluoroethane	ND	14	1.00	
1,1-Difluoroethane	ND	5.4	1.00	
Ethylbenzene	ND	2.2	1.00	
4-Ethyltoluene	ND	2.5	1.00	

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

Return to Contents

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Analytical Report

ERM-WEST	Date Received:	03/04/17
114 Sansome Street, Suite 750	Work Order:	17-03-0359
San Francisco, CA 94104-3805	Preparation:	N/A
	Method:	EPA TO-15
	Units:	ug/m3
Project: Grove Street Wash Rack / 0307273		Page 14 of 14

Parameter	Result	RL	DF	Qualifiers
Hexachloro-1,3-Butadiene	ND	16	1.00	
2-Hexanone	ND	6.1	1.00	
Isopropanol	ND	12	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	7.2	1.00	
Methylene Chloride	ND	17	1.00	
4-Methyl-2-Pentanone	ND	6.1	1.00	
Styrene	ND	6.4	1.00	
1,1,2,2-Tetrachloroethane	ND	6.9	1.00	
Tetrachloroethene	ND	3.4	1.00	
Toluene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	2.7	1.00	
1,1,2-Trichloroethane	ND	2.7	1.00	
Trichloroethene	ND	2.7	1.00	
Trichlorofluoromethane	ND	5.6	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	11	1.00	
1,2,4-Trimethylbenzene	ND	7.4	1.00	
1,3,5-Trimethylbenzene	ND	2.5	1.00	
Vinyl Acetate	ND	7.0	1.00	
Vinyl Chloride	ND	1.3	1.00	
o-Xylene	ND	2.2	1.00	
p/m-Xylene	ND	8.7	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	68-134	
1,2-Dichloroethane-d4	97	67-133	
Toluene-d8	98	70-130	

Return to Contents

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

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Quality Control - LCS/LCSD

ERM-WEST
114 Sansome Street, Suite 750
San Francisco, CA 94104-3805

Date Received: 03/04/17
Work Order: 17-03-0359
Preparation: N/A
Method: EPA TO-15

Project: Grove Street Wash Rack / 0307273

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-021-18210	**LCS**	**Air**	**GC/MS II**	**N/A**	**03/06/17 11:31**	**170306L01**
095-01-021-18210	**LCSD**	**Air**	**GC/MS II**	**N/A**	**03/06/17 12:22**	**170306L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
1,2,4-Trichlorobenzene	185.5	183.7	99	180.4	97	31-151	11-171	2	0-30	
Acetone	59.39	55.15	93	56.67	95	67-133	56-144	3	0-30	
Benzene	79.87	73.39	92	74.67	93	70-130	60-140	2	0-30	
Benzyl Chloride	129.4	124.2	96	121.4	94	38-158	18-178	2	0-30	
Bromodichloromethane	167.5	164.1	98	168.1	100	70-130	60-140	2	0-30	
Bromoform	258.4	265.0	103	268.5	104	63-147	49-161	1	0-30	
Bromomethane	97.08	93.96	97	96.05	99	70-139	58-150	2	0-30	
2-Butanone	73.73	64.96	88	67.91	92	66-132	55-143	4	0-30	
n-Butylbenzene	137.2	132.2	96	129.5	94	50-150	33-167	2	0-30	
sec-Butylbenzene	137.2	130.4	95	132.4	96	50-150	33-167	1	0-30	
tert-Butylbenzene	137.2	134.9	98	137.4	100	50-150	33-167	2	0-30	
Carbon Disulfide	77.85	65.63	84	66.70	86	68-146	55-159	2	0-30	
Carbon Tetrachloride	157.3	162.0	103	165.8	105	70-136	59-147	2	0-30	
Chlorobenzene	115.1	115.2	100	116.7	101	70-130	60-140	1	0-30	
Chloroethane	65.96	60.28	91	61.84	94	65-149	51-163	3	0-30	
Chloroform	122.1	113.2	93	116.5	95	70-130	60-140	3	0-30	
Chloromethane	51.63	46.02	89	47.40	92	69-141	57-153	3	0-30	
Dibromochloromethane	213.0	211.6	99	215.6	101	70-138	59-149	2	0-30	
1,2-Dibromoethane	192.1	193.9	101	196.8	102	70-133	60-144	1	0-30	
1,2-Dichlorobenzene	150.3	147.0	98	148.5	99	48-138	33-153	1	0-30	
1,3-Dichlorobenzene	150.3	150.3	100	152.8	102	56-134	43-147	2	0-30	
1,4-Dichlorobenzene	150.3	149.0	99	150.1	100	52-136	38-150	1	0-30	
Dichlorodifluoromethane	123.6	122.4	99	125.8	102	67-139	55-151	3	0-30	
1,1-Dichloroethane	101.2	91.83	91	94.32	93	70-130	60-140	3	0-30	
1,2-Dichloroethane	101.2	96.21	95	99.12	98	70-132	60-142	3	0-30	
1,1-Dichloroethene	99.12	98.14	99	100.4	101	70-135	59-146	2	0-30	
c-1,2-Dichloroethene	99.12	93.19	94	95.55	96	70-130	60-140	3	0-30	
t-1,2-Dichloroethene	99.12	93.54	94	94.93	96	70-130	60-140	1	0-30	
1,2-Dichloropropane	115.5	108.1	94	110.8	96	70-130	60-140	2	0-30	
c-1,3-Dichloropropene	113.5	114.5	101	116.7	103	70-130	60-140	2	0-30	
t-1,3-Dichloropropene	113.5	117.8	104	121.4	107	70-147	57-160	3	0-30	
Dichlorotetrafluoroethane	174.8	173.7	99	178.8	102	51-135	37-149	3	0-30	
1,1-Difluoroethane	67.54	61.92	92	64.18	95	70-131	60-141	4	0-30	
Ethylbenzene	108.6	105.2	97	106.1	98	70-130	60-140	1	0-30	
4-Ethyltoluene	122.9	117.8	96	119.9	98	68-130	58-140	2	0-30	
Hexachloro-1,3-Butadiene	266.6	267.3	100	270.2	101	44-146	27-163	1	0-30	

RPD: Relative Percent Difference. CL: Control Limits

Return to Contents

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Quality Control - LCS/LCSD

ERM-WEST		Date Received:	03/04/17
114 Sansome Street, Suite 750		Work Order:	17-03-0359
San Francisco, CA 94104-3805		Preparation:	N/A
		Method:	EPA TO-15
Project: Grove Street Wash Rack / 0307273			Page 2 of 2

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
2-Hexanone	102.4	97.73	95	99.40	97	70-136	59-147	2	0-30	
Isopropanol	61.45	52.83	86	54.62	89	57-135	44-148	3	0-30	
Methyl-t-Butyl Ether (MTBE)	90.13	80.26	89	81.93	91	68-130	58-140	2	0-30	
Methylene Chloride	86.84	84.55	97	86.65	100	69-130	59-140	2	0-30	
4-Methyl-2-Pentanone	102.4	98.38	96	101.1	99	70-130	60-140	3	0-30	
Styrene	106.5	102.7	96	104.5	98	65-131	54-142	2	0-30	
1,1,2,2-Tetrachloroethane	171.6	165.4	96	169.0	98	63-130	52-141	2	0-30	
Tetrachloroethene	169.6	171.0	101	171.8	101	70-130	60-140	0	0-30	
Toluene	94.21	85.16	90	86.63	92	70-130	60-140	2	0-30	
1,1,1-Trichloroethane	136.4	132.6	97	135.3	99	70-130	60-140	2	0-30	
1,1,2-Trichloroethane	136.4	136.3	100	139.3	102	70-130	60-140	2	0-30	
Trichloroethene	134.3	132.0	98	135.2	101	70-130	60-140	2	0-30	
Trichlorofluoromethane	140.5	152.2	108	156.7	112	63-141	50-154	3	0-30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	191.6	186.9	98	189.8	99	70-136	59-147	2	0-30	
1,2,4-Trimethylbenzene	122.9	119.9	98	122.3	99	60-132	48-144	2	0-30	
1,3,5-Trimethylbenzene	122.9	117.4	96	119.6	97	62-130	51-141	2	0-30	
Vinyl Acetate	88.03	73.33	83	75.50	86	58-130	46-142	3	0-30	
Vinyl Chloride	63.91	59.65	93	60.90	95	70-134	59-145	2	0-30	
o-Xylene	108.6	100.6	93	102.4	94	69-130	59-140	2	0-30	
p/m-Xylene	217.1	204.7	94	208.7	96	70-132	60-142	2	0-30	

Total number of LCS compounds: 56
Total number of ME compounds: 0
Total number of ME compounds allowed: 3
LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

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Summa Canister Vacuum Summary

Work Order: 17-03-0359 Page 1 of 1

Sample Name	Vacuum Out	Vacuum In	Equipment	Description
SV-1	-29.50 in Hg	-3.00 in Hg	LC994	Summa Canister 1L
SV-2	-29.50 in Hg	-4.80 in Hg	LC903	Summa Canister 1L
SV-3	-29.50 in Hg	-1.80 in Hg	LC944	Summa Canister 1L
SV-4	-29.50 in Hg	-2.00 in Hg	LC188	Summa Canister 1L
SV-5	-29.50 in Hg	-2.00 in Hg	LC613	Summa Canister 1L
DUP-001	-29.50 in Hg	-17.60 in Hg	SLC113	Summa Canister 1L

Return to Contents

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Sample Analysis Summary Report

Work Order: 17-03-0359 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA TO-15	N/A	866	GC/MS II	2

Return to Contents

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Glossary of Terms and Qualifiers

Work Order: 17-03-0359 Page 1 of 1

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

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

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

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

Return to Contents

Virendra Patel

From: Kevin Almestad <Kevin.Almestad@erm.com>
Sent: Wednesday, March 08, 2017 3:21 PM
To: Virendra Patel; Giorgio Molinario
Cc: Erick Ovalle
Subject: RE: Sampling Equipment Order for Oakland Site

Virendra,

That makes sense. The field point ID will be SV-2 for the duplicate (Dup-001).

We haven't uploaded the field ID points yet (that will be done in the next day or so), but they will follow that nomenclature.

All the best,

Kevin Almestad
Staff Scientist

ERM
114 Sansome Street, Suite 750 | San Francisco | CA 94104
T +1 628 221 7802 | **M** +1 925 330 9267
E Kevin.Almestad@erm.com | **W** www.erm.com

From: Virendra Patel [mailto:VirendraPatel@eurofinsUS.com]
Sent: Wednesday, March 08, 2017 3:13 PM
To: Kevin Almestad; Giorgio Molinario
Cc: Erick Ovalle
Subject: RE: Sampling Equipment Order for Oakland Site

Kevin,

Thanks, however, no attachment? We have the sample ID as Dup-001 (as listed on the COC), we can either use the same ID for the field point if that is what you have on GeoTracker or use the same field point as the primary sample.

You will have to let us know what you have entered for the field point name on GeoTracker. The field point for the duplicate should match what GeoTracker is expecting. Hope that makes sense?

Best Regards,

Virendra Patel
Project Manager

Eurofins Calscience, Inc.

Return to Contents

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7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

WO NO. / LAB USE ONLY: **17-03-0359** KA

AIR CHAIN-OF-CUSTODY RECORD

DATE: 3/3/17
PAGE: 1 OF 1

LABORATORY CLIENT: ERM
ADDRESS: 114 Sansome St.
CITY: San Francisco STATE: CA ZIP: 94104
TEL: 628-221-7602
E-MAIL: Kevin.Almestad@erm.com, Giorgio.Molinario@erm.com
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"): ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD
EDD: ☐ COELT EDF ☐ OTHER
UNITS:

CLIENT PROJECT NAME / NO.: ~~Lo Her & Coyle MLK~~ Grove Street Wash Rack
P.O. NO.: 0307273
PROJECT CONTACT: Giorgio Molinario
LAB CONTACT OR QUOTE NO.:
PROJECT ADDRESS: ~~3584~~ MLK Jr. Way
SAMPLER(S): (PRINT) Kevin Almestad, Tyler Callahan
CITY: Oakland STATE: CA ZIP: 94609

SPECIAL INSTRUCTIONS:
Provide EDF files:
Global ID: T0600102106
Log Code: ERMW
KA

• Field point IDs will be the same as Sample IDs

Revised COC received from Kevin Almestad (ERM) on 03/08/17 15:13pm.
-Virendra (ECI)

REQUESTED ANALYSES: VOCs TO-15; 2-Propanol KA

LAB USE ONLY	SAMPLE ID	FIELD ID / POINT OF COLLECTION	MATRIX Indoor (I) Soil Vap. (SV) Ambient (A)	SAMPLING EQUIPMENT Media ID	Canister Size 6L or 1L	Flow Controller ID	START SAMPLING INFORMATION Date	Time (24 hr clock)	Canister Pressure (in Hg)	STOP SAMPLING INFORMATION Date	Time (24 hr clock)	Canister Pressure (in Hg)	VOCs TO-15	2-Propanol
1	SV-1		SV	LC994	1L	SGM236	3/3/17	1006	>30	3/3/17	1011	4	X	X
2	SV-2		SV	LC903	1L	SGM111	3/3/17	1117	>30	3/3/17	1146	6	↓	↓
3	SV-3		SV	LC944	1L	SGM382	3/3/17	1036	>30	3/3/17	1043	4	↓	↓
4	SV-4		SV	LC188	1L	SGM174	3/3/17	1050	>30	3/3/17	1056	4	↓	↓
5	SV-5		SV	LC613	1L	SGM250	3/3/17	1104	>30	3/3/17	1110	4	↓	↓
6	DUP-001		SV	1360	1L	SGM111	3/3/17	1117	>30	3/3/17	1146	19	↓	↓

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 3/4/17	Time: 1140
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

AIR CHAIN-OF-CUSTODY RECORD

WO NO. / LAB USE ONLY: **17-03-0359**

DATE: 3/3/17

PAGE: 1 OF 1

LABORATORY CLIENT: ERM

ADDRESS: 114 Sansome St.

CITY: San Francisco STATE: CA ZIP: 94104

TEL: [redacted]628-221-7602 E-MAIL: [redacted] Kevin.Almestad@erm.com

Giorgio.Molinario@erm.com

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD")

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

EDD: ☐ COELT EDF ☐ OTHER

UNITS:

SPECIAL INSTRUCTIONS:

Provide EDF files

CLIENT PROJECT NAME / NO.: Co Her & Coyle MLK

PROJECT CONTACT: Giorgio Molinario

PROJECT ADDRESS: [redacted]3884 MLK Jr. Way

CITY: Oakland STATE: CA ZIP: 94609

P.O. NO.: 0307273

LAB CONTACT OR QUOTE NO.:

SAMPLER(S): (PRINT) Kevin Almestad, Tyler Callahan

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD ID / POINT OF COLLECTION	MATRIX: Indoor (I) Soil Vap. (SV) Ambient (A)	SAMPLING EQUIPMENT: Media ID	Canister Size 6L or 1L	Flow Controller ID	START SAMPLING INFORMATION: Date	Time (24 hr clock)	Canister Pressure (in Hg)	STOP SAMPLING INFORMATION: Date	Time (24 hr clock)	Canister Pressure (in Hg)	VOCs TO-15	2-Propanol			
1	SV-1		SV	LC994	1L	SGM236	3/3/17	1006	>30	3/3/17	1011	4					
2	SV-2		SV	LC903	1L	SGM111	3/3/17	1117	>30	3/3/17	1146	6					
3	SV-3		SV	LC944	1L	SGM382	3/3/17	1036	>30	3/3/17	1043	4					
4	SV-4		SV	LC188	1L	SGM174	3/3/17	1050	>30	3/3/17	1056	4					
5	SV-5		SV	LC613	1L	SGM250	3/3/17	1104	>30	3/3/17	1110	4					
6	DUP-001		SV	1360	1L	SGM111	3/3/17	1117	>30	3/3/17	1146	19					

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 3/4/17	Time: 1140
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

2014-07-01 Revision

Return to Contents

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WORK ORDER NUMBER: 17-03- 0359

SAMPLE RECEIPT CHECKLIST

COOLER 0 OF 0

CLIENT: ERM

DATE: 03 / 04 / 2017

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

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): _____°C (w/ CF): _____°C; ☐ Blank ☐ Sample

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

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

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☑ Air ☐ Filter Checked by: SR

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present (Box) ☐ N/A Checked by: SR

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A Checked by: TR

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☐	☑	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☑ No analysis requested ☐ Not relinquished ☑ No relinquished date ☑ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☑ 03-04-17	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

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

Air: ☐ Tedlar™ ☑ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: TR

Reviewed by: SR

Return to Contents

Appendix C
Waste Disposal Records

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
NOT REQUIRED	1	888-423-6060	7010648

5. Generator's Name and Mailing Address
Cotter & Coyle
2847 Arguello Drive, Burlingame CA 94010
Generator's Phone: 4152155805

Generator's Site Address (if different than mailing address)
3884 Martin Luther King Jr. Way
Oakland, CA 94607

6. Transporter 1 Company Name — American Integrated Services, Inc. — U.S. EPA ID Number: CAR000148338

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address — U.S. EPA ID Number:
Potrero Hills Landfill
3675 Potrero Hills Lane
Suisun, CA 94585
Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Waste Solid (Soil)	01	DM	560	P	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Wear protective equipment while handling. Weights or volumes are approximate. 24 hour emergency number (888) 423-6060

1x55

Profile#: PHLF15339
Project #: 77006-5-8

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: NEIL COTTER — Signature: [signature] — Month: 4 — Day: 7 — Year: 201

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: MARCO MARTINEZ — Signature: [signature] — Month: 4 — Day: 24 — Year: 17

Transporter 2 Printed/Typed Name: — Signature: — Month: — Day: — Year:

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month: — Day: — Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: — Signature: — Month: — Day: — Year:

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
NOT REQUIRED	1	8885-423-6060	7010671

GENERATOR

5. Generator's Name and Mailing Address
Cotter & Coyle
2847 Arguello Drive, Burlingame CA 94010
Generator's Phone: 4152155805

Generator's Site Address (if different than mailing address)
3884 Martin Luther King Jr, Way
Oakland, CA 94607

6. Transporter 1 Company Name: American Integrated Services, Inc.
U.S. EPA ID Number: CAR000148338

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Crosby & Overton, Inc.
1630 W. 16th Street
Long Beach, CA. 90813 562-432-5445
Facility's Phone:
U.S. EPA ID Number: CAD028409019

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Waste Liquid (Groundwater)	01	DM	55	G	
2.						
3.						
4.						

1 X 55

13. Special Handling Instructions and Additional Information
Wear protective equipment while handling. Weights or volumes are approximate. 24 hour emergency number (888) 423-6060.

Profile#: 27578
Project #: 77006-5-8

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: NEIL COTTER
Signature:
Month: 4 Day: 7 Year: 2017

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: MARCO MARTINEZ
Signature:
Month: 4 Day: 24 Year: 17

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month Day Year