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Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

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By Alameda County Environmental Health 10:21 am, Oct 13, 2016

Re: ARC Document Solutions (Formerly City Blue Print)
RWQCB Case#01-0210
1700 Jefferson St
Oakland CA, 94612

ARC has directed Applied Water Resources Corporation (AWR) to provide, on our behalf, professional environmental consulting services to the best of their ability. To the best of my knowledge, the information in this report is accurate and all local Agency and/or Regional Water Quality Control Board regulations and guidelines have been followed.

This report was prepared by AWR and ARC has relied on their advice and assistance. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Matt Westbrock - Asst. Corp. Controller
Authorized Representative

Attachment: Report

APPLIED WATER RESOURCES
CORPORATION

2363 Mariner Square Drive, Suite 245, Alameda, CA 94501
925 426 1112

October 11, 2016

Mr. Mark Detterman
Alameda County Department of Environmental Health-LOP
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: Site Investigation Report
1700 Jefferson Street, Oakland, California
Fuel Lake Case No. RO#151

Dear Mr. Detterman:

On behalf of American Reprographic Company, LLC (ARC) and based on Alameda County Environmental Health's (ACEH) June 19, 2014, April 29, 2015, and February 16, 2016 letters, Applied Water Resources (AWR) has prepared the enclosed Site Investigation Report for 1700 Jefferson Street, Oakland, California.

Please contact me with questions and comments regarding this report at (510) 671-2085 or email at smichelson@awrcorp.net.

Sincerely,

Steven Michelson, PG
Principal Geologist

cc: Mr. Matthew Westbrock, ARC
Mr. Jeffery Grimes, ARC

Enclosure

Site Investigation Report

1700 Jefferson Street Oakland, CA

October 2016

APPLIED WATER RESOURCES

Site Investigation Report

1700 Jefferson Oakland, CA

October 2016

Prepared on behalf of:
ARC

Prepared by:
Applied Water Resources Corporation
2363 Mariner Square Dr., Alameda, CA 94501

Yola Bayram
Geologist

Steven Michelson, PG
Principal Geologist

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1. INTRODUCTION

AWR has prepared this Site Investigation Report on behalf of American Reprographics Company, LLC (Client) for the property located at 1700 Jefferson Street Oakland, CA. This report was prepared pursuant to the *2013 Conceptual Site Model and Work Plan*, *2013 Work Plan Addendums, March 2015 Foundation Depth Survey Report*, and the *December 2015 Work Plan Addendum* and Alameda County Department of Environmental Health's (ACEH) letters dated June 19, 2014, April 29, 2015, and February 16, 2016 letters.

The objectives of this Site Investigation were to address the data gaps identified by ACEH and the Conceptual Site Model (CSM) including:

- Vertical and lateral extent of contamination in primary source area
- Vertical and lateral extent of secondary source areas
- Lateral extent of dissolved plume
- Vapor intrusion risk assessment at the Site and adjacent properties

Field work for this investigation was performed in May and July 2016.

2. BACKGROUND AND SETTING

2.1 PROPERTY DESCRIPTION

The Site is located in City of Oakland on the northeast corner of the intersection of Jefferson Street and 17th Street in Oakland, California (Figure 1). The nearest significant surface water features are Lake Merritt, 0.5 mile to the west, and San Francisco Bay, 2.5 miles to the east. The Site is essentially flat at an approximate elevation of 35 feet above mean sea level (ft msl). The local topography slopes gently down towards the north and northeast.

The Site is a former gas station that had two 1,000 gallon gasoline underground storage tanks (USTs) and one 550 gallon gasoline UST. The Site is located in a largely commercial portion of downtown Oakland and is currently used by ARC for commercial printing operations.

Adjacent to the northern boundary of the Site is a three story apartment building that includes one inhabited level below surrounding ground surface. This lower level is open to a courtyard that is approximately 11 feet below street level and adjacent to Jefferson Street. East of the the apartment building and adjacent to the northern boundary are two commercial buildings and it is unknown if a basement exists in either building. On the southeastern boundary is a two-story commercial building with a basement.

Approximately 225 feet north of the Site is the former Merrill Sign Company, which previously had three shallow ground water monitor wells, which are now destroyed. This facility is currently under reconstruction.

Approximately 200 feet northeast of the Site, adjacent to MW-5, is a two-story commercial building that is currently under reconstruction.

2.2 Geologic and Hydrogeologic Setting

The Site is relatively flat at approximately 35 feet mean sea level (ft msl). Forty borings have been advanced at the Site and off-Site to a maximum depth of 42 ft bgs. Boring logs are provided in Appendix B. Geologic cross sections through these borings are presented in Figures 4 to 7.

Based on the boring logs, subsurface materials generally consist of finer-grained deposits (sandy silt, silt, and sandy clay) with interbedded sand with silt lenses to approximately 20 feet below ground surface (ft bgs). Poorly graded fine to medium sand is present from about 20 ft bgs to approximately 30 ft bgs. Underlying the sand is a stiff lean clay to approximately 34 ft bgs. Clayey silt with a silty sand lens was encountered to the maximum explored depth of 42 ft bgs.

Ground water is unconfined within the poorly graded sand zone and is under water table conditions, not under pressure. Ground water in on-Site monitor wells ranges from 22 to 26 ft bgs. In the recent investigation, ground water was measured at approximately 24 ft bgs in and saturated soil was found at approximately 21 ft bgs.

The dominant ground water gradient direction is towards the north-northwest. The inclusion of data collected from three monitor wells at 612 18th Street (Merrill Site) improved the overall interpretation of the ground water gradient in the vicinity of the Site. A rose diagram is presented in Figure 8.

2.3 Environmental Investigation History

This section summarizes the investigations and remedial actions completed to date. The reports upon which this summary is based are listed in the References section of this Report. Table 1 summarizes all laboratory analytical results for soil, grab ground water, and soil vapor samples prior to this investigation. Figure 2 shows the Site Plan and Figure 3 shows the corresponding soil and ground water sampling locations.

- February 20, 1987 - three borings (Borings 1, 2, and 3) were advanced as part of a geotechnical investigation. Two additional borings (Borings 4 and 5) were advanced near the former USTs.

- June 16, 1987 - the three gasoline USTs were removed from the Site and a suspected unauthorized release was confirmed (HLA 1987). According to a memo dated October 27, 1987, a waste oil tank was not found during excavation of the Site. Soil samples were collected at either 8 or 9 ft bgs on the northwest, southwest, northeast, and southeast

sidewalls and from 6.5 ft bgs on the bottom of the excavation. The excavation was then deepened to approximately 9.5 ft bgs. The excavated soil was aerated on-site for approximately one month and sampling from the stockpile did not reveal concentrations above the laboratory reporting limit of 1mg/kg for petroleum hydrocarbons. The soil was then used to backfill the excavation.

- June 1987 - three ground water monitor wells were installed (MW-1, MW-2, MW-3). Well MW-2 was subsequently destroyed on November 9, 1987 when the current building was constructed. On August 12, 1987, Boring 6 was advanced to investigate soil permeability. In October 1987, borings for piers were drilled in the northwest corner of the property for future construction.

- January 1988 - ground water extraction wells MW-1A and MW-4 were installed to specifically remove free petroleum product. Initially, 28 inches of free product (gasoline) was found in MW-1A. From September 1987 to March 1991, approximately 2,300 gallons of free product were removed from well MW-1A on a daily basis using a hand bailer.

- August 1988 - MW-5 was installed approximately 170 feet north of the Site.

- June 1992 - a ground water extraction and treatment system was installed and operated until July 1999. This system removed a total of 867 gallons of free product. As a consequence of the free product removal efforts, free product thicker than a sheen has not been measured in the monitor wells since 1999.

- April 1996 - well MW-6 was installed to the southwest of the Site.

- March 1998 - five Cone Penetrometer Test (CPT) borings were advanced south and north of the Site to further characterize off-site conditions.

- April 1998 - it was determined that the petroleum at the Site was comprised of leaded gasoline.

- 1999 - oxygen release compound (ORC®) socks were installed within wells MW-1A, MW-3, MW-4, and MW-5. The ORC® socks were removed at the request of ACEH in 2002 (MACTEC 2004).

- April 15, 2010 - all monitor wells were surveyed by Muir Consulting of Oakdale, California to Geotracker specifications using NAVD88 datum. The prior monitor well elevations referenced the City of Oakland datum, which differs -5.7 feet from NAVD88, the standard national datum.

- April 2011 - three wells were installed at the Merrill Sign Company (Merrill Site), a site located on the corner of 18th and Jefferson St (PDE, 2011). AWR coordinated with PDE, the consulting company for that site, to measure depth to water and collect ground water

samples in the monitor wells at the Merrill Site. The Merrill Site was given case closure on July 31, 2012 and the monitor wells associated with that site were destroyed shortly after.

- In 2013, AWR investigated historical records and to identify potential current and historical utility corridors and remaining USTs, pipelines, and other infrastructure associated within the former gas station. An investigation was performed to evaluate whether a preferential contaminant migration pathway exist along the utility corridors. Six temporary soil vapor points were installed and screened with a photoionization detector (PID). One soil vapor sample was collected for laboratory analysis. No significant preferential contaminant pathways were identified.

- In September 2014, ground water samples were analyzed for ethanol, lead scavengers, and fuel oxygenates. Ethanol was not detected in any of the samples. 1,2-dicholoroethane (1,2-DCA) was detected in MW-1, MW-4, and MW-5 at concentrations below the ESL for ground water based on threat to indoor air.

3. SITE INVESTIGATION

In May and July 2016, a licensed drilling contractor was mobilized to the Site with a direct push drill rig to advance 29 vertical borings to assist with the collection of soil, ground water and/or soil vapor samples. Boring locations are shown in Figure 3. Eighteen borings were advanced on the Site and 11 borings were advanced off-site. The rationale for the boring locations are:

Boring ID	Rationale for Sampling to Assess
C1-C3	Potential Location of Former Fuel Dispenser
C4	"Pit" in 1939 Plan/Plume Delineation
C5, C6	Former UST Area
C7	Delineation for Neighboring Property
C8-C10	Former UST Area
C11-C14, C16-C18	Plume Delineation
C19	Near Patch in Sidewalk
C20	Plume Delineation
SV1, SV3, SV5, SV7	Indoor Air Risk for Apartment and ARC Building
SV2, SV4, SV6, SV8	Indoor Air Risk for ARC Building and neighbors
SV9	Indoor Air Risk for Building near MW-5
SV10-SV13	Indoor Air Risk for Apartment Building
SV14	Indoor Air Risk for Building near MW-5
SS-1	Indoor Air Risk for ARC Building

The locations were marked with paint and Underground Service Alert was notified at least 48 hours prior to commencing work. In addition, a private subsurface utility locator cleared the area of the

proposed boring locations and marked underground utilities. A boring permit was obtained from ACPW and permits to drill in the public right of way were obtained from the City of Oakland (Appendix A).

The soil and ground water samples were collected from boreholes advanced using a limited access hydraulic direct push rig, equipped with a four-foot long sample barrel. Dual-tube methodology was used to prevent vertical cross-contamination during ground water and soil sample collection. Drilling and sampling was performed under the supervision of a California Professional Geologist.

3.1 Soil and Grab Ground Water Sample Collection

Soil samples were collected from the sample barrel. Soil in each boring was logged and classified during drilling operations according to the Unified Soil Classification System (USCS). A photo-ionization detector (PID) was also used to screen the soil for VOCs. Lithologic logs of the soil borings are included as Appendix B. Sample depths were selected based on requirements presented in the State Water Resources Control Board's August 2012 Low Threat Closure Policy (LTCP) as well as based on field observations such as PID readings, odors, as well as color changes to gley. Soil samples were collected into laboratory supplied jars and EPA Method 5035 compliant Encore sampling containers. Following drilling and sample collection, each boring location was either abandoned with neat cement tremie grouted to the surface under ACPW supervision or converted into a temporary or permanent soil vapor well.

Grab ground water samples were collected from 10 borings within new polyvinyl chloride (PVC) screen installed in the borehole. Ground water was collected from each of the borings using a clean bailer into the appropriate laboratory provided container.

Following collection, the grab groundwater and soil samples were labeled and transferred to a pre-chilled insulated container. All samples were transported by courier service to a state certified laboratory for analysis.

3.2 Soil Vapor Sample Collection

Seven soil vapor samples were collected immediately above the capillary fringe (between 16.75 and 19.5 ft bgs) in order to evaluate representative vapor intrusion scenarios. In addition, five soil vapor samples were collected for the purposes of evaluating soil vapor near either the foundation of the ARC building, the building near MW-5, or the apartment building. These samples were collected at 6 ft bgs for the commercial buildings and at 11.5 ft bgs for the apartment building. Soil vapor points were installed in a 2-inch diameter boring using a ¼" vapor sampling implant. A quarter-inch of sand was placed at the bottom of the boring to ensure that the implant was not in direct contact with native soil. The implant was installed with attached tubing within a 12 inch filter pack and beneath 12 inches of dry granular bentonite to prevent moisture from entering the filter pack from above. Hydrated bentonite was used to fill the rest of the boring to ground surface. Borings converted into temporary or permanent soil vapor wells

were first tremied with dry bentonite to one foot below the depth of the desired for the soil vapor implant. A foot of sand was placed beneath and above the soil vapor implant. The remainder of the boring was constructed as described. Permanent soil vapor wells were secured with a traffic-rated monitor well box. Temporary soil vapor points were abandoned accordingly.

A sub-slab sample point was installed directly beneath the ARC building slab, which is approximately 1 foot in thickness, and sealed with hydrated bentonite.

To allow the subsurface to equilibrate back to representative conditions, the sampling of soil vapor was conducted at least two hours after installation.

4. FINDINGS

This section discusses the environmental conditions encountered both on-Site and off-site in the 2016 investigation. Tables 2 through 4 summarize the 2016 laboratory analytical results, Appendix C contains the laboratory analytical reports, and Appendix D contains the soil vapor sampling field sheets.

4.1 SCREENING CRITERIA SELECTION

Concentrations in soil, ground water and soil vapor in Tables 2 through 4 are compared to the LTCP (Table 1 and Appendix 4) and the following Environmental Screening Levels (RWQCB, 2016).

- Soil Leaching to Groundwater Screening Levels (Table S-2), Drinking and Non-Drinking Water Resources.
- Groundwater Vapor Intrusion Human Health Risk Screening Levels (Table GW3), Deep Groundwater, Fine-Coarse, Residential Land Use Scenario.
- Drinking Water ESL: MCL priority Direct Exposure Human Health Risk Levels (Table GW-1)
- Soil Vapor/Subslab Vapor Intrusion Human Health Risk Screening Levels (Table SG-1), Residential Land Use Scenario, Commercial Land Use Scenario.

4.2 SOIL CONDITIONS

4.2.1 On-Site Soil

The 2016 investigation revealed concentrations of petroleum hydrocarbons in the vadose zone beneath the former dispenser island and the former UST excavation areas (Table 1). Significant concentrations were found at approximately 3 ft bgs beneath the former dispenser island area and between 11 and 18 ft bgs in the UST excavation area. PAHs were also found at concentrations above their respective screening levels in soil samples collected near the former dispenser island.

Concentrations of petroleum hydrocarbons were also measured in soil samples collected from the capillary fringe on-Site in the vicinity of the former UST and dispenser island. In contrast, soil samples collected from the capillary fringe beneath the ARC building, which approximately 100 feet cross-gradient from the UST excavation, did not reveal significant concentrations. Soil samples collected in the silt/clay layer underlying the water-bearing sand did not reveal concentrations of petroleum hydrocarbons.

Samples collected in the area of the "pit" did not reveal concentrations of TPHd or TPHmo in the vadose zone.

4.2.2 Off-Site Soil

Off-site soil samples collected in the vadose zone in two borings advanced on south side of 18th Street, adjacent to the apartment building revealed relatively low concentrations of TPH as gasoline in the vadose zone, all less than 1 mg/kg.

Soil samples collected along the north side of 18th Street, near MW-5 and the patch in the sidewalk, revealed no detectable concentrations of TPHg above 15 feet bgs, and relatively low concentrations below 15 feet. Soil samples collected 3 feet and 7 feet bgs near the patch in the sidewalk revealed concentrations of TPHd and TPHmo far below their respective ESLs and both constituents were not detected at 13.5 feet bgs.

Soil samples collected along Jefferson Street did not reveal measurable concentrations of petroleum hydrocarbons in the capillary fringe.

4.3 GROUND WATER

4.3.1 On-Site Ground Water

Monitor wells (MW-1, MW-3, MW-4) in the vicinity of the former USTs revealed free product until remedial actions were implemented for removal. The off-site monitor well MW-5, approximately 170 feet from the former USTs, also contained free petroleum product. Following the cessation of ground water extraction remediation efforts in September 1999, the monitor wells have not revealed a measurable thickness of free product. Analytical results from ground water collected from monitor wells in March 2016 are provided in Table 3. Refer to periodic ground water quality monitoring reports for prior ground water quality data.

Grab ground water samples collected in the immediate vicinity of the UST excavation reveal significant concentrations of petroleum hydrocarbons, and higher than concentrations found in on-Site monitor wells. Unlike sampling ground water from monitor wells, the process by which grab ground water samples are collected disturbs the soil and can generate concentrations higher than those measured in ground water monitor wells.

Samples collected upgradient and to the northeast of the UST excavation under the ARC building revealed much lower concentrations of TPHg and benzene.

4.3.2 Off-Site Ground Water

Grab ground water samples collected in between the Site and MW-5 along 18th Street revealed concentrations of TPHg comparable to or lower than concentrations found in MW-5, however benzene was not detected at comparable concentrations in grab ground water samples collected between the Site and MW-5. Similarly, grab ground water samples collected along Jefferson Street downgradient of the UST excavation revealed concentrations of TPHg and benzene two to three orders of magnitude lower than concentrations found in MW-5.

Due to utilities in the eastern portion of Jefferson Street, the denial of access to the courtyard by the property owner, refusal encountered at 17 ft bgs along the south side of 18th Street, and the courtyard extending beneath the sidewalk, ground water samples could not be collected in the immediate vicinity of the courtyard.

The Site is currently the only known source of gasoline in the area. However, lower concentrations are measured in ground water samples collected along Jefferson Street between the Site and MW-5. Consequently, the data do not conclusively demonstrate that the petroleum at MW-5 is due to the UST release at the Site. Instead, it appears that concentrations of petroleum MW-5 are due to another, as yet unidentified source, or are at least co-mingled with much lower concentrations migrating from the Site.

4.3.3 Petroleum Distribution in Ground Water

Figures 9 to 11 depict the interpreted distribution of TPHg, benzene, and ethylbenzene using all of the data describing ground water quality in the samples collected from the borings and from the monitor wells in 2016, including interpretation of data from 2011 collected from monitor wells at 612 18th Street and CPT data from 1998.

Based on the data, the dissolved phase plume appears to have extended approximately 350 feet beyond the source area and 150 to 200 feet beyond MW-5. At more than 350 feet, the overall plume is atypically long (LLNL, 1995) and may be due to an additional unknown source of gasoline contributing to the concentrations at MW-5.

4.4 Soil Vapor

Benzene and ethylbenzene are present in ground water at the Site and MW-5 at concentrations exceeding environmental screening levels for risk to indoor air in a residential scenario. To further evaluate the potential risk to indoor air, soil vapor samples were collected from various depths both on-Site and off-site to evaluate risk to indoor air for both commercial and residential properties (Tables 4a and 4b). Soil vapor samples were collected from approximately 16.5 feet bgs to evaluate risk to indoor air in basements.

These same soil vapor samples also can be used to evaluate risk to ground floor indoor air when collected outside building footprint (Abreu 2006). Soil vapor samples were also collected

beneath the ARC building to evaluate risk to ground floor indoor air. Isoconcentration contours of concentrations in soil vapor are presented in Figures 12 and 13.

According to the LTCP, a bioattenuation zone is considered present when the concentration of oxygen is at least 4%. Table 4a indicates whether an adequate bioattenuation zone is present at a given location based on the oxygen concentration. The appropriate LTCP screening level is then applied according to the applicable land use scenario, residential or commercial or both, and according to absence or presence of a bioattenuation zone.

4.4.1 On Site Soil Vapor

Four soil vapor samples (SV1, SV3, SV5, SV7) were collected immediately above the capillary fringe (between 18.75 and 19.5 ft bgs) to evaluate vapor intrusion risk to the ARC building and adjacent apartment building and commercial buildings along their southern margins. Benzene concentrations in all four samples, and ethylbenzene in three samples, exceed the ESL for risk to indoor air for residential and commercial scenarios. Toluene and xylenes in two samples exceed screening levels were encountered near the UST excavation and MW-1 along the northern property line.

Three soil vapor samples (SV4, SV6, SV8) were collected at 6 ft bgs to evaluate soil vapor conditions near the foundation of the ARC building and ground floor of the neighboring buildings along their southern margins. Because a soil vapor sample could not be collected at SV2 due unusual high vacuum conditions in the borehole, the results from nearby SV4 are used to evaluate risk to the ground floor of the nearby apartment building. Concentrations of petroleum in SV6 and SV8 are significantly lower than measured in the deeper soil vapor samples (SV5, SV7) collected nearby beneath the eastern portion of the ARC building. This reduction in concentrations is likely due to the presence of the shallow silts and clays, which provide much lower pneumatic permeability.

Only soil vapor from SV4, collected near the northeastern corner of the UST excavation, revealed concentrations above the screening levels for BTEX. Concentrations in SV6 and SV8, beneath the ARC building, revealed concentrations below screening levels. Similarly, the sub-slab sample, SS1, collected under the ARC building and revealed concentrations of petroleum hydrocarbons below their respective screening levels.

4.4.2 South Side of 18th Street near Apartment Building

Three soil vapor samples (SV10, SV12, SV13) were collected proximal to the subslab of the basement to the apartment building to evaluate potential risk to indoor air along the northern margin of the apartment building. SV10 and SV12 contained concentrations of TPHg above the ESL for risk to indoor air, but below the reporting limit for BTEX. However, the elevated TPHg required the laboratory to dilute the sample, which raised the reporting limit above screening levels. Consequently, it is possible that concentrations of benzene exceed risk to indoor air. Naphthalene was detected above the screening levels in SV10. It is noted that benzene in SV13 was measured at 37µg/m3, near its screening level of 48µg/m3.

The laboratory performed an open scan of ten samples to identify the compounds that were causing high reporting limits. A majority of the compounds revealed in the open scan were lighter end hydrocarbons related to butane or propene.

We note that a more thorough evaluation of risk to indoor air at the apartment building would have been performed by collecting soil vapor samples within courtyard. However, despite several meetings with the property owner, the owner refused to grant access to the property to allow such an evaluation.

4.4.3 North Side of 18th Street near MW-5

Two soil vapor samples (SV9, SV14) were collected to evaluate potential risk to indoor air along the southern margin of the commercial building near MW-5. The soil vapor sample (SV9), collected at 18 ft bgs, had concentrations of benzene and ethylbenzene above screening levels. However, the soil vapor sample (SV14), collected at 6 ft bgs, contained petroleum hydrocarbons below respective screening levels.

Concentrations measured in soil vapor collected from SV9, collected near MW-5, are two to three order of magnitude greater than concentrations in soil vapor collected from similar depths along the southern margin of the 18th Street. Similarly, concentrations measured in soil vapor collected from SV14, are five to ten times greater than concentrations in soil vapor collected closer to ground water. These comparisons indicate greater concentrations of petroleum hydrcarbons in the subsurface at MW-5 compared with the south side 18th Street, which is closer to the source at the ARC property. Consequently, a separate source of petroleum appears to be contributing to the conditions along the north side of 18th Street.

4.5 Evaluation of Natural Attenuation Parameters in Ground Water

During biodegradation, the biochemical processes of microbes utilizes electron acceptors to oxidize hydrocarbons to carbon dioxide and water. This process generates energy to support the growth of cells. In aerobic degradation, the electron acceptor is primarily oxygen. In anaerobic degradation, compounds other than oxygen such as nitrate, ferric iron, carbon dioxide, and sulfate ions also can be used as electron acceptors. Electron acceptors are generally consumed in the following preferential order: oxygen, nitrate, manganese, ferric iron, sulfate, and carbon dioxide. Since oxygen and nitrate are toxic to sulfate-reducing organisms, sulfate cannot be used as an electron acceptor until oxygen and nitrate have been sufficiently depleted (Wiedemeier; et al, 1995). Metabolism through iron reduction consumes ferric iron and produces ferrous iron as a by-product. ORP is a measure of electron activity in solution.

In 2016, natural attenuation parameters were collected from a well outside of the plume area and unaffected by petroleum contamination (MW-6), a downgradient well within the plume (MW-5), and a well near the source area (MW-1). Results are presented in Table 5.

The following trends were observed based on the natural attenuation data:

- Oxidation reduction potential (ORP) decreases moving towards the source area at the Site from 76.4mV to –325.7mV and increases to -220.2 in the downgradient well. ORP values <-100 are indicative of anaerobic conditions.

- Dissolved oxygen (DO) is depleted (<0.05 mg/L) both in the background well and within the plume.

- Nitrate is one order of magnitude lower in concentration in the source area and downgradient of the plume than background.

- Approximately 97% of total manganese measured in the source area and 100% measured downgradient of the plume exists in soluble form.

- A majority of total iron measured, over 75%, is ferric iron in the source area. However, approximately 73% of total iron measured in the downgradient well is ferrous iron.

- Sulfate concentrations in the source area are three times lower and in the downgradient well are two orders of magnitude lower than what was measured in background.

- Total sulfide and hydrogen sulfide concentrations were not measured above the laboratory reporting limit in the background well, however they were measured in the source area at concentrations of 14 and 8.56 mg/L. Downgradient concentrations were measured at two orders of magnitude lower.

- TOC is above background in both the source area and downgradient well and is highest in the source area. BOD was not detected in the background well, however it was detected in the source area at 19 mg/L and increased to 30 mg/L in the downgradient well.

- Alkalinity is 50% higher in concentration in the source area than in background, however the downgradient well is approximately 8% less in concentration than background.

- Methane increases approximately 300% in concentration in the source area and 600% in the downgradient well compared to background.

Based on these trends, the following conclusions are made regarding natural attenuation parameters at the Site:

- Reduced, anaerobic conditions are present in the source area and within the plume. This can also be assumed due to the observation of gley-colored soils found within the borings advanced both off-site and on-Site, which is indicative of reduced conditions in the aquifer.

- Available electron acceptors (oxygen, nitrate, and manganese (IV)) have been depleted in the source area and in the downgradient direction.

- It appears that ferric iron is currently a dominant electron acceptor in the downgradient direction due to the significant concentration of ferrous iron in MW-5. However, it does not appear that ferric iron is currently the electron acceptor in the source area due to the lack of ferrous iron concentrations in MW-1.

- Sulfate is an electron acceptor in both the source area as well as the downgradient direction due to the decreased concentration of sulfate in MW-1 and the increased concentrations of sulfide and hydrogen sulfide. However, it appears that sulfate may depleted in the downgradient direction.

- The concentrations of TOC and BOD in the source area and the downgradient direction reveal high amounts of organic carbon content within the ground water plume. For a frame of reference, municipal sewage that is efficiently treated by a three-stage process would have a BOD value of about 20 mg/L or less and the concentrations of BOD in MW-1 and MW-5 were measured at 19 and 30 mg/L (Sawyer, et al 2003). This indicates that the microbes have a greater demand for oxygen due to the high content of organic carbon from the residual hydrocarbon contamination.

- Total alkalinity is expected to increase from background concentrations when biological activity is occurring. Alkalinity concentrations in MW-1 indicate that biological activity is occurring in the source area, however concentrations in MW-5 may indicate that the system is stalled.

- Methane was all measured at significantly higher concentrations than in the background well. Methane was measured at a higher concentration in the downgradient direction than in the source. This is an indication that methanogenesis is occurring within the ground water plume.

4.6 Evaluation of Sources

This section summarizes findings describing known and potential primary and secondary source areas based on the data collected to date.

4.6.1 Former UST and Dispenser Island Area

Three gasoline USTs and a fuel dispensing island were removed in 1987. The tanks consisted of two 1,000 gallon gasoline USTs and one 550 gallon gasoline UST. The removal report indicated that the excavation of soil extended to at most 9.5 feet beneath the USTs. No excavation depth was reported for the dispenser island.

Historical data revealed up to 28 inches of separate phase gasoline was measured on ground water. Subsequent remediation focused on bailing and pumping fuel out of wells concluded in 1999 and successfully eliminated measurable thicknesses of separate phase on ground water.

The recent investigation encountered elevated concentrations of petroleum hydrocarbons in soil underlying the former UST and dispenser island, and in soil vapor and ground water in the vicinity of, and downgradient from, the former UST and dispenser island. The residual concentrations in soil are considered a secondary source and likely contribute to ongoing elevated concentrations measured in ground water and soil vapor.

4.6.2 MW-5 Area

Soil samples collected near the patch in the sidewalk near MW-5 at 3 feet bgs revealed concentrations of TPHd and TPHmo far below their respective ESLs and both constituents were not detected at 13.5 feet bgs. Soil samples collected in the vadose zone along the south side of 18th Street revealed concentrations of TPH in the gasoline range less than 1 mg/kg and it is likely that these represent lighter-end diesel and not gasoline. Consequently, no other potential sources of petroleum have been identified that may have contributed the petroleum measured at MW-5.

Nonetheless, based on the inconsistencies listed below, it appears that another as yet unidentified source is contributing to the petroleum measured at MW-5.

- The persistent elevated concentrations of petroleum hydrocarbons at MW-5 more than 150 feet from the former UST area is unusual for petroleum hydrocarbon releases (LLNL, 1995).

- The recent investigation reveals lower concentrations in ground water and soil vapor along the southern margin of 18th Street, which lies between MW-5 and the former USTs.

- Significant concentrations of TPHg and BTEX are present in ground water at MW-5 and at nearby sampling locations along the north side of 18th Street. Relatively high concentrations of benzene are present at MW-5. In contrast, benzene was not detected above the reporting limit in samples collected along the south side of 18th Street or near the intersection of 18th Street and San Pablo Ave, which are locations between the former UST at the Site and MW-5.

- A soil vapor sample collected near MW-5 had concentrations of benzene and ethylbenzene above their respective screening levels. However, concentrations in soil vapor samples collected 30 feet to the south of MW-5 are two to three order of magnitudes lower.

- The much lower concentrations on the south side of 18th Street, which is between the Site source area and MW-5, suggests a second source to MW-5, which has not yet been identified.

4.7 ASSESSMENT OF RISK

This section summarizes the potential risks to indoor air at the Site and adjacent neighboring properties.

4.7.1 Ground Water

Concentrations of petroleum hydrocarbons in ground water exceed drinking water quality screening levels for risk to human health from both consumption (drinking) and potential impact to soil vapor and indoor. Risk to indoor air is addressed in the subsection below.

Concentrations in ground water are considered to not pose a significant risk to human health because the East Bay Municipal Utility District provides potable water to all residents. No drinking water supply water wells are located in the area. Consequently, there is no completed exposure pathway between humans and ground water.

The nearest significant surface water features are Lake Merritt, 0.5 mile to the west, and San Francisco Bay, 2.5 miles to the east. These distances are considered far too great for the dissolved petroleum in ground water to pose a significant to surface water resources (LLNL, 1995).

4.7.2 Soil

Concentrations of petroleum hydrocarbons in vadose zone (unsaturated) soil exceed screening levels for risk to human health in the vicinity. All areas at, in the vicinity of the Site, are paved with asphalt or concrete, which severs the exposure pathway to all persons within residential and commercial land use scenarios. However, construction workers who may excavate below the hard surfaces at the Site in the vicinity of the former UST may encounter elevated concentrations of petroleum and should take appropriate precautions.

4.7.3 Soil Vapor

Concentrations of petroleum hydrocarbons in soil vapor exceed screening levels for the protection of human health under residential and commercial land use scenarios. The data indicate that potential risks to indoor air may be present within the

- West side of the ARC building, based on concentrations measured in SV4,
- South side of the apartment building basement and ground floor, based on concentrations measured in SV1, SV3, SV4. However, additional soil vapor sampling in the courtyard to the apartment building (as recommended herein) may show concentrations that do not pose a risk to indoor air, similar to the findings beneath the eastern portion of the ARC building.
- North side of the apartment building basement, based on concentrations TPHg measured in SV10 and SV12. Assuming similar proportions of benzene to TPHg in SV10 and SV12,

then it is possible for the actual concentration of benzene in SV10 to exceed the LTCP screening criterion.

- West side of the commercial buildings with basements (if any) east of the ARC building, based on concentrations measured in SV5 and SV7.

- South side of commercial building if it has a basement adjacent to MW-5, based on concentrations measured in SV9.

5. Conceptual Site Model

The Conceptual Site Model (CSM) is a representation of site conditions developed using available data, interpretations, and assumptions based on experience to demonstrate the relationship between contaminants of concern, transport media and mechanisms, and potential receptors. As requested by ACEH, the major CSM elements are highlighted in tabular format. The CSM is documented in Table 6 with written description as well as in maps, geologic cross-sections, soil boring logs, tables, and diagrams. This CSM also identifies data gaps that, if addressed, would aid the assessment of risk, if any, and the design of a remedy, if needed. As appropriate, the data gaps guide the development of work plan to further characterize site conditions. This CSM will be updated as new information becomes available.

6. Quality Assurance/Quality Control

6.1 Field QA/QC

Soil vapor sampling was conducted in accordance with the DTSC's 2015 Soil Vapor Advisory using a shroud and helium as a leak check compound. Isopropyl alcohol was used as a leak check compound for one soil vapor sample due to the laboratory not having helium available at the time. Helium concentrations were maintained between 15-20% within the shroud. Significant leakage is considered present when the tracer compound is present in the test sample at more than 5% of the source concentration (DTSC 2015). One sample, SV10, had concentrations of helium in the same above 5% of the source concentration. However, this sample set should not be discarded since TPHg and naphthalene were detected above their respective screening levels in this sample. The remainder of the samples either had no detections of helium or detections below the DTSC standard. Per DTSC, samples with less than 5% of the leak compound are considered representative and reveals that the sample quality is of a high integrity.

6.2 Laboratory QA/QC

The laboratory implemented its own internal QA/QC measures including but not limited to method blanks, calibration checks, reporting limit verifications, instrument blanks, and laboratory control samples.

EPA method 8260 was used to analyze soil vapor in seven samples due to the detection of significant high-level concentrations outside of the range of the TO-15 method. Consequently, high reporting limits were provided and it was requested that TPHg concentrations be estimated. An open scan of ten samples was performed to determine what compounds are interfering with the analysis. A majority of the compounds estimated in the open scan were on the lighter end of the carbon chain and are related to butane or propene.

Oxygen data was recalled for SV-3 due to a compromise during the analytical run.

7. Deviations From Work Plan

The following are deviations from the *December 2015 Work Plan Addendum:*

- Two former storm drains were discovered in the parking lane along the eastern and western sides of Jefferson Street during drilling. The storm drains were cemented in place and ran the length of the street. The apartment courtyard runs underneath the sidewalk and other utilities were located in the parking and traffic lanes on the eastern side of Jefferson Street. Consequently, soil vapor point was eliminated and C13 and C14 were relocated to the western side of Jefferson Street in the right traffic lance. C15 was also eliminated due to the existence of a gas and electrical line in the parking lane on the western side of Jefferson Street.

- C21 and SV17 were eliminated due to denial of access by the property owner to the apartment courtyard adjacent to the property.

- Due to lithology observed in C12, the third soil vapor well in the ARC building was eliminated and the naming schematic for the soil vapor wells following SV8 were changed to accommodate this.

- Ground water was collected from boring C4 for the purposes of plume delineation.

- Refusal was met at location C16 and a ground water sample could not be collected.

- Due to utilities in the sidewalk, C19 and the soil vapor wells near MW-5 were relocated to the parking lane.

- The laboratory was unable to provide helium for the sample collection of SV9 and isopropyl alcohol inside of a shroud was used instead as a leak check.

- A sub-slab sample was added to assess risk to indoor air of the ARC building.

- In seven samples, EPA method 8260 was used to analyze soil vapor due to the detection of significant high-level concentrations outside of the range of the TO-15 method. Consequently, high reporting limits were provided and it was requested that TPHg

concentrations be estimated to quantify the potential amount of petroleum hydrocarbons in soil vapor.

- Due to the high reporting limits, EPA method TO-17 was used to analyze two soil vapor samples to better quantify representative concentrations of petroleum hydrocarbons.

- Two soil vapor samples (SV2 and SV11) could not be collected due to high vacuum conditions downhole.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 CONCLUSIONS

The following conclusions are based on the recent and historical data:

Setting:

- Saturated soil was recently encountered at the site at approximately 21 ft bgs and depth to ground water in monitor wells is found at approximately 24 ft bgs.

- The dominant ground water gradient direction is towards the north-northwest.

- Subsurface materials consist primarily of finer-grained deposits (sandy silt, silt, and sandy clay) with interbedded sand with silt lenses to approximately 20 ft bgs. Poorly graded sands were encountered to approximately 30 ft bgs. Underlying the sand is a stiff lean clay to approximately 34 ft bgs. Clayey silt with a silty sand lens was encountered to the maximum explored depth of 42 ft bgs.

- The nearest water supply wells are 1,800 feet and 2,100 from the Site and both are upgradient.

UST and Dispenser Source Area:

- Concentrations above screening levels for petroleum hydrocarbons are present in the vadose zone at approximately 3 ft bgs in the former dispenser island area and between 11 and 18 ft bgs in the UST excavation area. PAHs were also found at concentrations above their respective screening levels near the former dispenser island. This information indicates that significant concentrations of residual petroleum remain in soil beneath the former UST and dispenser island.

- In the UST excavation area, soil samples collected in the silt/clay layer underlying the water-bearing sand did not reveal concentrations of petroleum hydrocarbons. This information limits the vertical extent of petroleum to the saturated sand zone, between about 20 feet and 30 feet bgs.

- The highest concentrations of petroleum hydrocarbons, namely BTEX, in soil vapor samples collected immediately above the capillary fringe are near the UST excavation and MW-1.

- Petroleum hydrocarbons are present in the capillary fringe both on-Site and off-site with the exception of samples collected under the ARC building and samples collected in Jefferson Street. All concentrations detected off-site are below their respective screening levels.

- Metals were not detected above their respective screening levels in any of the soil samples collected. This information indicates that metals do not pose a significant risk at the site and the Site is not a significant source of metals contamination.

Pit Area:

- Samples collected in the "pit" did not reveal concentrations of TPHd or TPHmo in the vadose zone. This information indicates that the "pit" is not a source of TPH.

MW-5 Area:

- Due to the inconsistences of benzene concentrations in the ground water and soil vapor on the south side of 18th Street, there is evidence that concentrations found in MW-5 may not be solely associated with the Site and there may be an off-site contributor.

Potential risks to indoor air to ARC Building:

- West side of the ARC building, based on concentrations measured in SV4,

Potential risks to indoor air to Apartment Building:

- South side of the apartment building basement and ground floor, based on concentrations measured in SV1, SV3, SV4, SV5, and SV7.

- North side of the apartment building basement, based on concentrations measured in SV10 and SV12.

- Due to utilities in the eastern portion of Jefferson Street, the denial of access to the courtyard by the property owner, and the courtyard extending beneath the sidewalk, ground water samples could not be collected in the immediate vicinity of the courtyard.

Potential risks to indoor air to building at MW-5:

- South side of commercial building if it has a basement adjacent to MW-5, based on concentrations measured in SV9.

Potential risks to indoor air to commercial buildings northeast of ARC:

- West side of the commercial buildings with basements (if any) east of the ARC building, based on concentrations measured in SV5 and SV7.

8.2 RECOMMENDATIONS

Data gaps are presented in Table 7 and the following recommendations are made based on the current understanding of the conditions at the Site:

- Evaluate risk to human health at the ARC building, adjacent apartment, and adjacent commercial building.
    - Further evaluation of the western portion of the ARC building should be performed by collecting indoor air samples at appropriate locations and under conditions designed to yield samples that accurately represent the quality of indoor air.
    - Further evaluation of the apartment building and neighboring commercial could be performed by collecting soil vapor samples within 2 ft to 3 ft below the basement slab, or indoor air samples. The soil vapor samples should be collected within the finer grained materials above the deeper saturated sands.
- Evaluate the continuity of petroleum in ground water between the Site and the southern edge of 18th Street. This evaluation should consist of the collection of ground water and soil vapor samples and is needed to determine if the former operations at ARC contributed to concentrations along 18th Street or if the concentrations are due to an as of yet unidentified source. Permission from the owner of the apartment building should be further pursued by ACEH.
- Sufficient characterization of the former UST and dispenser island area has been performed, which reveals significant residual petroleum in the subsurface that is likely contributing to the ongoing concentrations of petroleum in ground water and soil gas. Accordingly, a Corrective Action Plan should be developed and implemented to reduce these residual concentrations and the ongoing associated risks.

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TABLES

Table 1
Historical Soil, Grab Ground Water, and Soil Vapor Analytical Results
1700 Jefferson, Oakland, California

Soil Analytical Results

Sample ID	Sample Depth (ft bgs)	Date Sampled	TVH	TPHg	TPHd	TPHk	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes, Total
			(mg/kg)								
4	11.5	2/19/1987	64	--	--	--	--	--	--	--	--
	15.5	2/19/1987	310	--	--	--	--	--	--	--	--
	20	2/19/1987	2,100	--	--	--	--	--	--	--	--
	26.5	2/19/1987	1,700	--	--	--	--	--	--	--	--
	30	2/19/1987	46	--	--	--	--	--	--	--	--
5	14.5	2/20/1987	150	--	--	--	--	--	--	--	--
	19.5	2/20/1987	900	--	--	--	--	--	--	--	--
	24	2/20/1987	3,300	--	--	--	--	--	--	--	--
Northwest	9	6/16/1987	17	--	--	--	--	--	--	--	--
Southwest	9	6/16/1987	170	--	--	--	--	--	--	--	--
Northeast	8	6/16/1987	920	--	--	--	--	--	--	--	--
Southeast	8	6/16/1987	690	--	--	--	--	--	--	--	--
North Center Bottom	6.5	6/16/1987	8,800	--	--	--	--	--	--	--	--
South Center Bottom	6.5	6/16/1987	2,900	--	--	--	--	--	--	--	--
Stockpile	--	6/16/1987	410	--	--	--	--	--	--	--	--
MW-1	23.5	6/24/1987	4,500	--	--	--	--	--	--	--	--
MW-2	24	6/25/1987	1U	--	--	--	--	--	--	--	--
MW-3	23.5	6/24/1987	0.8U	--	--	--	--	--	--	--	--
MW-4	23	6/24/1987	270	--	--	--	--	--	--	--	--
CB-4 (MW-5)	21	8/15/1988	--	10U	10U	10U	--	0.009	0.005U	0.005U	0.005U
CB-6 (MW-5)	31	8/15/1988	--	10U	10U	10U	--	--	--	--	--
CPT-1	1-1.5	2/19/1998	--	1U	--	--	50U	5U	5U	5U	5U
	24-24.5	2/19/1998	--	1U	--	--	50U	5U	5U	5U	5U
CPT-2	1-1.5	2/19/1998	--	1U	--	--	50U	5U	5U	5U	6
	24-24.5	2/19/1998	--	4.3	--	--	300U	30U	30U	30U	30U
CPT-3	1.5-1.8	2/19/1998	--	1U	--	--	50U	5U	5U	5U	5U
	23-23.5	2/19/1998	--	1U	--	--	50U	5U	5U	5U	5U
CPT-4	0.5-1.0	2/19/1998	--	1U	--	--	50U	5U	5U	5U	5U
CPT-4	23-23.5	2/19/1998	--	1U	--	--	50U	5U	5U	5U	5U
CPT-5	0.5-1.0	2/19/1998	--	2U	--	--	100U	10U	10U	10U	10U
CPT-6	0.5-1.0	2/19/1998	--	1U	--	--	50U	5U	5U	5U	5U
	23-23.5	2/19/1998	--	1U	--	--	50U	5U	5U	5U	5U

Ground Water Analytical Results

Sample ID	Date Sampled	TPHg	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes, Total
		(µg/L)					
CPT-1	2/19/1998	50U	5U	0.5U	0.5U	0.5U	2U
CPT-2	2/19/1998	200	5U	0.5U	0.6	0.5U	2
CPT-3	2/19/1998	180	5U	0.5U	0.5U	0.5U	2U
CPT-4	2/19/1998	50	5U	0.5U	0.5U	0.5U	2U
CPT-6	2/19/1998	420	5U	1.2	0.5U	0.5U	2U

Soil Vapor Analytical Results

Location ID	Sample Date	Max. PID Concentration	Acetone	Carbon Disulfide	n-Hexane	2-Butanone	Tetrahydrofuran	Cyclohexane	Benzene	n-Heptane	4-Methyl-2-Pentanone	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	1,2,4-Trimethylbenzene
		ppm	$\mu g/m^3$													
A1	11/16/2013	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A2	11/16/2013	0.9	26	4.9	3.4	8.6	6.6	510	3.1	4.9	4.3	110	6	29	12	5.3
A3	11/16/2013	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A4	11/16/2013	0.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A6	11/16/2013	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A7	11/16/2013	0.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

ppm: parts per million
$\mu g/m^3$ micrograms per cubic meter
PID: photoionization detector
TVH: Total volatile hydrocarbons
TPHg: Total petroleum hydrocarbons as gasoline
TPHd: Total petroleum hydrocarbons as diesel
TPHk: Total petroleum hydrocarbons as kerosene
mg/Kg: milligrams per kilogram
MTBE: Methyl tert-butyl ether
ft bgs: feet below ground surface
U: not detected above reporting limit
--: Not Analyzed
(µg/L): micrograms per liter

Table 2
2016 Soil Analytical Results
1700 Jefferson Street, Oakland, CA

Location	ID	Sample Depth (ft bgs)	Sample Date	VOCs									PAHs			Metals				
				TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes, Total	MTBE	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Cadmium	Chromium	Lead	Nickel	Zinc
				mg/kg																
Criteria	ESLs			3,400	3,600	32,000	0.049	9.3	1.4	11	0.84	3.9	--	0.25	3.9	43*	530,000*[A]	160	86	110,000
	LTCP (0-5 ft bgs) Commercial			100	100	--	8.2	--	89	--	--	45	0.68	0.68	45	--	--	--	--	--
	LTCP (5-10 ft bgs) Commercial			--	--	--	12	--	134	--	--	45	--	--	45	--	--	--	--	--
ARC Parking Lot	C1 (Pit)	3	05/22/16	<0.55	--	--	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.01	<0.01	<0.01	<0.25	69	4	47	28
		8	05/22/16	<0.57	--	--	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	--	--	--	<0.25	52	3.6	38	38
		20	05/22/16	610	--	--	<3.1	<3.1	<3.1	3.8	<3.1	<3.1	--	--	--	<0.25	43	3.8	40	21
		22	05/22/16	2	--	--	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	--	--	--	--	--	--	--	--
	C2 (disp isl)	3	05/22/16	5,800	--	--	<5	9.5	17	190	<5	40	6.2	12	15	<0.25	38	14	37	21
		8	05/22/16	1,000	--	--	<0.52	3.7	6	38	<0.52	4.5	--	--	--	<0.25	56	6.2	40	39
		21	05/22/16	24	--	--	<0.014	<0.014	0.047	0.21	<0.014	0.083	--	--	--	<0.25	42	4.5	36	18
	C3 (disp isl)	3.5	05/15/16	<0.43	--	--	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	<0.01	<0.01	<0.01	<0.25	70	4.5	54	29
		8	05/15/16	0.73	--	--	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	--	--	--	<0.25	53	3.4	41	32
		19	05/15/16	<0.42	--	--	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	--	--	--	--	--	--	--	--
		20	05/15/16	1.8	--	--	0.0099	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	--	--	--	--	--	--	--	--
		21.5	05/15/16	0.96	--	--	<0.0096	<0.0096	<0.0096	<0.0096	<0.0096	0.011	--	--	--	<0.25	59	2.2	53	26
	C4 (disp isl)	3	05/22/16	<0.58	<1	<5	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.01	<0.01	<0.01	<0.25	47	2.7	41	24
		8	05/22/16	<0.39	<1	<5	<0.0079	<0.0079	<0.0079	<0.0079	<0.0079	<0.0079	--	--	--	<0.25	61	4.4	46	37
		25	05/22/16	520	12	13	<0.54	1.6	2.9	15	<0.54	4.2	--	--	--	<0.25	39	2.6	39	21
	C5 (UST exc)	3	05/22/16	<0.63	--	--	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.44	0.75	0.73	<0.25	57	34	44	64
		8	05/22/16	<0.46	--	--	<0.0092	<0.0092	<0.0092	<0.0092	<0.0092	<0.0092	--	--	--	<0.25	59	6.8	46	31
		21	05/22/16	27,000	--	--	36	260	270	1,400	<23	160	--	--	--	<0.25	42	2	35	18
	C6 (UST exc)	3	05/22/16	<0.70	--	--	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.05	<0.05	<0.05	<0.25	38	56	27	67
		8	05/22/16	<0.56	--	--	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	--	--	--	<0.25	37	2.8	28	28
		23.5	05/22/16	3,100	--	--	3.5	47	18	180	<2.1	17	--	--	--	<0.25	42	10	38	28
	C7 (prop line)	12	05/22/16	<0.40	--	--	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.01	<0.01	<0.01	<0.25	45	2.6	40	23
		20	05/22/16	0.57	--	--	0.014	<0.0085	<0.0085	0.023	<0.0085	<0.0085	--	--	--	<0.25	42	1.6	35	18
	C8 (UST exc)	3	05/15/16	<0.43	--	--	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.01	<0.01	<0.01	<0.25	47	3.6	45	26
		8	05/15/16	<0.39	--	--	0.0091	<0.0077	<0.0077	<0.0077	<0.0077	<0.0077	--	--	--	<0.25	62	3	48	29
		16	05/15/16	0.43	--	--	0.027	0.019	<0.0066	0.014	<0.0066	<0.0066	--	--	--	--	--	--	--	--
		17	05/15/16	5.6	--	--	0.52	0.98	0.16	0.85	<0.052	0.092	--	--	--	--	--	--	--	--
		19	05/15/16	6.9	--	--	<0.0096	<0.0096	<0.0096	<0.0096	<0.0096	0.085	--	--	--	<0.25	58	3.6	40	31
	C9 (UST exc)	3	05/22/16	<0.50	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.25	78	5	53	29
		8	05/22/16	<0.48	--	--	<0.0096	<0.0096	<0.0096	<0.0096	<0.0096	<0.0096	--	--	--	<0.25	88	5.2	47	43
		21	05/22/16	73	--	--	<0.22	0.33	0.43	2.1	<0.22	0.81	--	--	--	<0.25	42	5.1	39	20
	C10 (UST Exc)	4	05/15/16	4	--	--	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.05	<0.05	<0.05	<0.25	53	42	33	62
		6	05/15/16	51	--	--	<0.0071	<0.0071	0.097	0.015	<0.0071	<0.0071	--	--	--	--	--	--	--	--
		8	05/15/16	0.55	--	--	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	--	--	--	<0.25	52	9.8	35	46
		11	05/15/16	850	--	--	<1.6	3.9	8.8	30	<1.6	6	--	--	--	--	--	--	--	--
		12.5	05/15/16	800	--	--	<3.2	8	10	47	<3.2	6	--	--	--	--	--	--	--	--
		16	05/15/16	1600	--	--	10	55	22	110	<3.6	8.7	--	--	--	--	--	--	--	--
		18	05/15/16	6400	--	--	41	330	110	550	<17	36	--	--	--	<0.25	52	16	49	25
		23	05/15/16	39	--	--	<0.19	0.48	0.35	2	<0.19	0.5	--	--	--	--	--	--	--	--
		32	05/15/16	<0.44	--	--	<0.0089	<0.0089	<0.0089	<0.0089	<0.0089	<0.0089	--	--	--	--	--	--	--	--
		36	05/15/16	<0.41	--	--	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	--	--	--	<0.25	42	4.6	36	29
		38	05/15/16	<0.45	--	--	<0.0089	<0.0089	<0.0089	<0.0089	<0.0089	<0.0089	--	--	--	--	--	--	--	--
ARC Building (inside)	C11	3	05/14/16	<0.31	--	--	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.01	<0.01	<0.01	<0.25	33	29	17	27
		8	05/14/16	<0.30	--	--	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	--	--	--	<0.25	61	3.1	45	30
		23	05/14/16	<0.56	--	--	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	--	--	--	--	--	--	--	--
	C12	3	05/15/16	<0.36	--	--	<0.0073	<0.0073	<0.0073	<0.0073	<0.0073	<0.0073	<0.01	<0.01	<0.01	<0.25	32	2	15	13
		8	05/15/16	<0.28	--	--	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056	--	--	--	<0.25	49	2.8	44	28
		21.5	05/15/16	<0.47	--	--	<0.0094	<0.0094	<0.0094	<0.0094	<0.0094	<0.0094	--	--	--	--	--	--	--	--
W side of Jefferson St	C13	21	07/06/16	<0.52	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--	--	--	--	--	--	--	--
	C14	21	07/06/16	<0.44	--	--	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	--	--	--	--	--	--	--	--
S side of 18th St near Apt Bldg	C16	16.5	05/16/16	<0.59	--	--	<0.0089	<0.0089	<0.0089	<0.0089	<0.0089	<0.0089	--	--	--	--	--	--	--	--
	C17	15.5	05/16/16	0.83	--	--	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	--	--	--	--	--	--	--	--
		18.5	05/16/16	0.72	--	--	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	--	--	--	--	--	--	--	--
		19.5	05/16/16	0.8	--	--	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	--	--	--	--	--	--	--	--
N side 18th St (MW-5 area)	C18	13	05/16/16	<0.54	--	--	<0.011	<0.011	<0.011	<0.011	<0.011	--	--	--	--	--	--	--	--	--
		17	05/16/16	<0.52	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	--	--	--	--	--	--	--	--	--
		18.5	05/16/16	<0.73	--	--	<0.015	<0.015	<0.015	<0.015	<0.015	--	--	--	--	--	--	--	--	--
		19.5	05/16/16	<0.68	--	--	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	--	--	--	--	--	--	--	--
		25	05/16/16	1.6	--	--	<0.012	<0.012	0.029	0.12	<0.012	--	--	--	--	--	--	--	--	--
	C19	3	07/06/16	<0.49	<1	<5	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.01	<0.01	<0.01	<0.25	51	2.1	48	25
		8	07/06/16	<0.43	<1	<5	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	--	--	--	<0.25	40	2.4	33	22
		13.5	07/06/16	<0.43	<1	<5	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	--	--	--	--	--	--	--	--
		22	07/06/16	170	--	--	<0.0088	<0.0088	0.36	1.3	<0.0088	<0.0088	--	--	--	--	--	--	--	--
	SV9	3	07/06/16	<0.42	7.7	140	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.1	<0.1	<0.1	<0.25	58	3.3	50	29
		8	07/06/16	<0.42	<1	7	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	--	--	--	<0.25	46	<5	36	30
		13.5	07/06/16	--	<1	<5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		16	07/06/16	0.5	--	--	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	--	--	--	--	--	--	--	--
		20	07/06/16	0.75	--	--	<0.0098	<0.0098	<0.0098	0.012	<0.0098	0.016	--	--	--	--	--	--	--	--
E side Jefferson St (MW-5 area)	C20	21	05/16/16	<0.59	--	--	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	--	--	--	--	--	--	--	--
		22.5	05/17/16	<0.55		--	<0.011	<0.011	<0.011	<0.011	<0.011	--	--	--	--	--	--	--	--	--
		25	05/17/16	<0.62	--	--	0.027	<0.012	0.029	<0.012	<0.012	--	--	--	--	--	--	--	--	--

Notes:

TPHg: Total Petroleum Hydrocarbons as gasoline
TPHd: Total Petroleum Hydrocarbons as diesel
TPHmo: Total Petroleum Hydrocarbons as motor oil

A: assumes Chromium III
concentration above applicable LTCP criteria
concentration above applicable ESL

--: not analyzed/not applicable
ft bgs: feet below ground surface

ESLs: Environmental screening levels for soil leaching to ground water, non-drinking water resource (SFBay Feb 2016 Rev 3)
*: Direct exposure for any land use, construction worker, shallow and deep soil exposure
LTCP: Low Threat Closure Policy Table 1 and Appendix 4 (State Water Resources Control Board August 2012)

Table 3
2016 Ground Water Analyical Results
1700 Jefferson Street, Oakland, CA

GRAB GROUND WATER SAMPLES

Location ID	Sample Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes, Total	TBA	1,2-DCA	DIPE	Methanol	Ethanol
		µg/L									
ESLs		220*	30	100,000	370	38,000	12*	90	--	--	--
C3	05/15/16	92,000	12,000	7,600	1,700	8,800	<2,000	<500	<500	<50,000	<500
C4	05/22/16	130,000	19,000	35,000	3,300	18,000	<2,000	<500	<500	<100,000	<50,000
C11	05/14/16	290	28	1.4	<0.50	9	61	1.7	1.2	<500	<50
C12	05/15/16	<50	1.2	<0.50	<0.50	0.86	3.4	<0.50	<0.50	<500	<50
C13	07/06/16	<50	0.83	<0.50	<0.50	<0.50	<2	4.5	<0.50	<500	<50
C14	07/06/16	160	<2.5	<2.5	<2.5	<2.5	<10	78	7.3	<500	<250
C17	05/16/16	57,000	<500	15,000	2,300	11,000	<2,000	<500	<500	<500,000	<50,000
C18	05/16/16	27,000	<50	600	760	3,400	<50	<50	<50	--	--
C19	07/06/16	39,000	570	630	1,900	9,300	<200	<50	<50	<500	<5,000
C20	05/17/16	18,000	2,600	890	1,100	1,700	<400	<100	<100	<25,000	<10,000

MONITOR WELL SAMPLES

Location ID	Sample Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes, Total
		µg/L				
ESLs		220*	30	100,000	370	38,000
MW-1	03/30/16	13,000	2,200	670	270	380
MW-3	03/30/16	1,200	99	<5	14	<5
MW-4	03/30/16	3,400	300	73	47	83
MW-5	03/30/16	69,000	7,500	11,000	1,100	3,700
MW-6	03/30/16	<50	<0.5	<0.5	<0.5	<0.5

Notes:

ESLs: Environmental screening levels for deep ground water vapor intrusion human health risk screening levels for residential with a fine-coarse scenario (SFBay Feb 2016 Rev3)

*: Direct exposure for tapwater since a vapor intrusion level is not provided

µg/L: micrograms per liter

TPHg: Total Petroleum Hydrocarbons as gasoline

TBA: tert-butyl alcohol

1,2-DCA: 1,2-dicholorethane

DIPE: Diisopropyl ether

concentration above applicable ESL

Table 4a
2016 Soil Vapor Analyical Results
1700 Jefferson Street, Oakland, CA

Location	ID	Temp or Perm Well	Approx. Screen Interval (ft bgs)	Vapor Point Depth (ft bgs)	Lithology	Residential or Commercial Land Use	Bioattenuation Zone (Oxygen >4%)	Lab Method	Petroleum Related Compounds per LTCP						Natural Attenuation Parameters					
									TPHg*	Benzene	Toluene	Ethylbenzene	Xylenes, Total	Naphthalene	Hydrogen	Carbon Dioxide	Carbon Monoxide	Methane	Oxygen	Helium
									µg/m3						%					
Criteria	*ESLs for Residential Scenario*								*300,000*	*48*	*160,000*	*560*	*52,000*	*41*	--	--	--	--	--	--
	ESLs for Commercial Scenario								*2,500,000*	*420*	*1,300,000*	*4,900*	*440,000*	*360*	--	--	--	--	--	--
	LTCP for Residential without Bioattenuation Zone (Oxygen < 4%)								--	*85*	--	*1,100*	--	*93*	--	--	--	--	--	--
	LTCP for Commercial without Bioattenuation Zone (Oxygen < 4%)								--	*280*	--	*3,600*	--	*310*	--	--	--	--	--	--
	LTCP for Residential with Bioattenuation Zone (Oxygen > 4%)								--	*85,000*	--	*1,100,000*	--	*93,000*	--	--	--	--	*4%*	--
	LTCP for Commercial with Bioattenuation Zone (Oxygen > 4%)								--	*280,000*	--	*3,600,000*	--	*310,000*	--	--	--	--	*4%*	--
ARC Parking Lot (UST area)	SV1	P	17-19	18.75	SP-SM	Both	No	TO17	--	3,400,000J	2,200,000J	170,000	1,300,000	<34,000	--	--	--	--	--	--
	SV2	P	4-6	5.75	SM	Both	--	n/a	Not sampled due to high vacuum downhole						Not sampled due to high vacuum downhole					
	SV3	P	17-24	19.5	SP-SM	Both	No	8260	39,400,000	640,000	810,000	<100,000	150,000	<100,000	<0.01	2.5	<0.004	0.018	--	<0.05
	SV4	P	4-6	5.75	SM	Both	No	8260	--	470,000	220,000	130,000	210,000	<5,000	<0.1	3	<0.04	0.56	3.4	<0.05
ARC Bldg (inside)	SS-1	T	Subslab	Subslab	--	Commercial	Yes (per SV6,7)	TO15	2,640	8	3.8	<2.2	7.5	<5.3	<0.01	0.2	<0.004	0.0003	<0.4	0.096
	SV5	P	17-25	19	SP-SM	Both	Yes (per SV6,7)	8260	2,810,000	18,000	<500	<500	<500	<500	0.085	5	<0.004	0.018	1.3	<0.05
	SV6	P	4-6	5.75	MLS	Both	Yes	TO15	3,520	35	33	8.3	35	5.5	<0.01	0.1	<0.004	0.00062	11	0.059
	SV7	P	17-25	19.5	SP-SM	Both	Yes (per SV6,7)	8260	10,700,000	<20,000	<20,000	<20,000	<20,000	<20,000	0.036	11	<0.004	0.012	1.5	<0.05
	SV8	P	4-6	5.75	MLS	Both	Yes	TO15	1,610	35	31	8	34	<5.3	0.021	<0.004	<0.004	0.002	13	<0.05
South Side 18th St (next to Apt Bldg)	SV10	T	15-17	16.75	SM	Residential	No	8260	1,800,000	<500	<500	<500	<500	200J	0.43	4.2	<0.004	0.0001	2	2
	SV11	T	9.5-11.5	11.25	MLS	Residential	--	n/a	Not sampled due to high vacuum downhole						Not sampled due to high vacuum downhole					
	SV12	P	15-17	16.75	SP-SM	Residential	Yes	8260	864,000	<2,000	<2,000	<2,000	<2,000	<2,000	2.6	0.074	<0.004	0.0049	12	0.39
								TO17	--	35	51	10	54	<8	--	--	--	--	--	--
	SV13	T	9.5-11.5	11.25	SM	Residential	Yes	TO15	5,910	37	110	41	210	6.3	0.15	0.059	<0.004	0.0036	13	0.14
N 18th St (MW5 area)	SV9	T	17-20	18	SP	Commercial	Yes (per SV14)	8260	--	24,000	<10,000	44,000	64,000	<10,000	--	5.8	<0.04	0.06	2.9	--
	SV14	T	4-6	5.75	SM	Commercial	Yes	TO15	12,700	150	470	120	550	<5.3	0.032	0.19	<0.004	0.0017	12	<0.05

Notes:
ESLs: Environmental Screening Levels for Vapor Instrusion: Human Health Risk Levels (SFBay February 2016 Rev. 3)
LTCP: Low Threat Closure Policy Appendix 4 (State Water Resources Control Board August 2012)
TPHg: Total Petroleum Hydrocarbons as gasoline
HHR: Human Health Risk
--: not analyzed; not applicable
µg/m3: micrograms per cubic meter
concentration above applicable ESL, if both residential and commercial, then lowest value is applied
concentration above applicable LTCP criteria, if both residential and commercial, then lowest value is applied

**: leak check compound used in lieu of helium
* or J: Estimated quantity
ft bgs: feet below ground surface
Temp: Temporarysoil vapor sample location
Perm: Installed soil vapor well

LTCP Bioattenuation zone: Greater than 4% oxygen at 5 ft bgs

Table 4b
2016 Soil Vapor Analyical Results
1700 Jefferson Street, Oakland, CA

								Other Detected Chemicals (not referenced in LTCP)																				
Location	ID	Temp or Perm Well	Approx. Screen Interval (ft bgs)	Vapor Point Depth (ft bgs)	Lithology	Residential or Commercial Land Use	Lab Method	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	tert-Butyl benzene	n-Propyl benzene	Bromomethane	Carbon Disulfide	Chloroethane	Chloroform	Chloromethane	Cyclohexane	Dichlorodifluoro methane	4-Ethyltoluene	Heptane	Hexane	2-Hexanone	Methyl isobutyl ketone	2-Propanol**	Propene	Tetrachloroethene	Trichloroethene	Trichlorofluoro methane
Criteria	*ESLs for Residential Scenario*							--	--	--	--	*2,600*	--	*5E+06*	*61*	*47,000*	--	--	--	--	--	--	*2E+06*	--	--	*240*	*240*	--
	ESLs for Commercial Scenario							--	--	--	--	*22,000*	--	*4E+07*	*530*	*4E+05*	--	--	--	--	--	--	*1E+07*	--	--	*2,100*	*3,000*	--
ARC Parking Lot (UST area)	SV1	P	17-19	18.75	SP-SM	Both	TO17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SV2	P	4-6	5.75	SM	Commercial	n/a	Not sampled due to high vacuum downhole																				
	SV3	P	17-24	19.5	SP-SM	Both	8260	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	--	<100,000	<100,000	<100,000	<100,000
	SV4	P	4-6	5.75	SM	Commercial	8260	42,000	19,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	23,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	--	<5,000	<5,000	<5,000	<5,000
ARC Bldg (inside)	SS-1	T	Subslab	Subslab	--	Commercial	TO15	<2.5	<2.5	--	--	<2	2.5	<1.3	<2.4	<1	280	3.7	<2.5	79	250	<2.1	<2.1	--	<88	<3.4	<2.8	82
	SV5	P	17-25	19	SP-SM	Both	8260	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	--	<500	<500	<500	<500
	SV6	P	4-6	5.75	MLS	Commercial	TO15	8.6	4.8	--	--	2.1	67	<1.3	<2.4	<1	88	<2.5	<2.5	40	84	29	18	--	250	<3.4	<2.8	26
	SV7	P	17-25	19.5	SP-SM	Both	8260	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	<20,000	--	<20,000	<20,000	<20,000	<20,000
	SV8	P	4-6	5.75	MLS	Commercial	TO15	<2.5	<2.5	--	--	7.3	41	<1.3	9.4	<1	95	<2.5	<2.5	35	91	12	7.2	--	950	<3.4	<2.8	17
South Side 18th St (next to Apt Bldg)	SV10	T	15-17	16.75	SM	Residential	8260	<500	<500	<500	<500	<500	<500	<500	<500	1,700	<500	<500	<500	<500	<500	<500	<500	--	<500	<500	<500	<500
	SV11	T	9.5-11.5	11.25	MLS	Residential	n/a	Not sampled due to high vacuum downhole																				
	SV12	P	15-17	16.75	SP-SM	Residential	8260	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	<2,000	--	<2,000	<2,000	<2,000	<2,000
							TO17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SV13	T	9.5-11.5	11.25	SM	Residential	TO15	96	35	--	--	3.5	30	<1.3	<2.4	<1	480	<2.5	24	72	130	<2.1	5.1	--	<88	3.6	<2.8	<2.8
N 18th St (MW5 area)	SV9	T	17-20	18	SP	Commercial	8260	33,000	18,000	13,000	29,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<400,000	<10,000	<10,000	<10,000	<10,000
	SV14	T	4-6	5.75	SM	Commercial	TO15	88	34	--	--	7.3	230	47	<2.4	15	640	3.4	36	350	740	<2.1	<2.1	--	1,700	560	9.2	12

Notes:

ESLs: Environmental Screening Levels for Vapor Instrusion: Human Health Risk Levels (SFBay February 2016 Rev. 3)

LTCP: Low Threat Closure Policy Appendix 4 (State Water Resources Control Board August 2012)

TPHg: Total Petroleum Hydrocarbons as gasoline

HHR: Human Health Risk

--: not analyzed; not applicable

µg/m3: micrograms per cubic meter

concentration above applicable ESL, if both then lowest value is applied

concentration above applicable LTCP criteria, if both then lowest value is applied

**: leak check compound used in lieu of helium

* or J: Estimated quantity

ft bgs: feet below ground surface

Temp: Temporary soil vapor sample location

Perm: Installed soil vapor well

Table 5
2016 Natural Attenuation Parameters
1700 Jefferson Street, Oakland, CA

Well ID	Date Sampled	pH (Lab)	ORP (field)	Dissolved Oxygen (field)	Nitrate as N	Nitrate as NO3	Dissolved Manganese	Total Manganese	Dissolved Iron (Fe+2)	Total Iron	Sulfate	Total Sulfide	Hydrogen Sulfide	TOC	BOD	Total Alkalinity	Bicarbonate	Ethane	Ethylene	Methane
		S.U.	mV	mg/L			µg/L				mg/L					mg CaCO3/L		µg/L		
MW-1	05/18/16	6.83	-325.7	0.05	0.1	0.46	6800	7000	<400	1900	18	14	8.56	17	19	588	588	1.8	4	1000
MW-5	05/18/16	7.05	-220.2	0.03	0.11	0.47	2100	2100	3000	4100	0.14	0.19	0.092	4.4	30	314	314	4.1	11	2100
MW-6	05/18/16	6.86	76.4	0.04	3	13	1800	2000	<20	35	67	<0.05	<0.03	1.2	<4	341	341	<0.2	<0.3	3.4

Notes:

ORP: Oxidation reduction potential
TOC: Total organic carbon
BOD: Biological oxygen demand
S.U.: Standard units
µg/L: micrograms per liter
mg/L: milligrams per liter
mg CaCO3/L: milligrams calcium carbonate per liter
mV: Millivolts

Table 6
Conceptual Site Model
1700 Jefferson St, Oakland, CA

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Background and Setting	Site	The Site is located in City of Oakland on the northeast corner of the intersection of Jefferson Street and 17th Street in Oakland, California (Figures 1 and 2). The Site is a former gas station that had two 1,000 gallon gasoline underground storage tanks (USTs) and one 550 gallon gasoline UST. The Site is currently used by ARC for commercial printing operations.	None	NA
	Adjacent Properties	Adjacent to the northeastern boundary of the Site is a three story apartment building with a basement that is occupied by residents and a courtyard that is approximately 11 feet below ground surface (ft bgs). The courtyard extends underneath the sidewalk both on Jefferson Street and on 18th Street. In addition to the apartment building, on the northern boundary are two commercial buildings and it is unknown if a basement exists in either building. On the southeastern boundary is a two-story commercial building with a basement. It is unknown whether or not the basement is occupied.	None	NA
	Nearby Properties	Approximately 225 feet north of the Site is 612 18th Street, which included three shallow ground water monitor wells that are now destroyed. The property is currently under construction to build a multi-story residential building. Approximately 200 feet northeast of the Site, near MW-5, is a two-story commercial building that is currently under construction, but may be occupied soon.	None	NA
	Underground Infrastructure	Utilities in the general vicinity of the Site are shown on Figure 3. In addition to utilities identified by a private locator, filled in storm drains were discovered on both sides of Jefferson Street during drilling. Refusal was met at 17 ft bgs on the northern boundary of the courtyard and when the drill bit was brought to the surface, remnants of concrete were found. It is theorized that this is the footing of the retaining wall associated with the courtyard and likely runs the length of the courtyard.	None	NA
Geology and Hydrogeology	Regional	This Site is located on the western margin of the East Bay Plain Subbasin of the Santa Clara Valley Ground Water Basin. The East Bay Plain subbasin aquifer system consists of unconsolidated sediments of Quaternary age. Deposits include the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation, the early Holocene Temescal Formation, and Artificial Fill (DWR 2004). Soil in the vicinity consists of Pleistocene beach and dune deposits (Merritt sand) consisting of loose, well sorted fine to medium sand (Helley and others 1979).	None	NA
	Site	*Geology* The Site is relatively flat at an elevation of approximately 35 feet mean sea level (ft msl). Forty borings have been advanced at the Site and off-Site to a maximum depth of 42 ft bgs and indicate subsurface materials consist primarily of finer-grained deposits (sandy silt, silt, and sandy clay) with interbedded sand with silt lenses to approximately 20 feet below ground surface (ft bgs). Poorly graded sands were encountered from 20 ft bgs to approximately 30 ft bgs. Underlying the sand is a stiff lean clay to approximately 34 ft bgs. Clayey silt with a silty sand lens was encountered to the maximum explored depth of 42 ft bgs. *Hydrogeology* Saturated soil was encountered at the Site at approximately 21 ft bgs and depth to ground water in monitor wells has ranged from 22 to 26 ft bgs and was found at approximately 24 ft bgs in 2016. The dominant ground water gradient direction appears to be towards the north-northwest. A rose diagram is presented in Figure 8. Ground water is found in an unconfined aquifer within the poorly graded sand zone and is not under pressure.	None	NA
Surface Water Bodies		The closest surface water body is Lake Merritt, which is located approximately 0.5 miles from the Site.	None	NA

Table 6
Conceptual Site Model
1700 Jefferson St, Oakland, CA

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Nearby Wells		According to GeoTracker's Groundwater Ambient Monitoring and Assessment (GAMA) database, the nearest water supply well is approximately 2100 feet northeast of the Site. This well is located at 244 Lakeside Dr. and is used for irrigation purposes. In addition, a water supply well is located approximately 1,800 feet southeast of the Site according to well completion reports received from Department of Water Resources (DWR). This water supply well is used for irrigation. Both supply wells are located upgradient of the Site and there does not appear to be any water supply wells located downgradient of the Site.	None	NA
Sensitive Receptors		There are two schools within 1,800 feet of the Site and both are upgradient. Oakland School for the Arts is 750 feet northeast of the Site and Envision Academy of Arts and Technology is located 1,800 feet southeast of the Site. A home for elders is located downgradient of the Site approximately 800 feet northwest. An apartment building is located adjacent to the Site in the cross-gradient direction. This building has a basement that is occupied by residents and the depth of the basement is approximately 11 ft bgs. Commercial buildings are located adjacent to the Site and MW-5, one building has a basement and is located adjacent to the Site in the upgradient direction.	None	NA
Sources	On-Site	The three former USTs and dispenser island at the Site are the only known sources of petroleum hydrocarbons at the Site. These USTs, piping, and dispenser were approximately 40 years old when they were removed in 1987. The excavation of the USTs extended to approximately 9.5 feet. The product lines and dispensers were also removed, but these excavations were not documented and their depths are unknown. The excavated soil was stockpiled and spread on Site and allowed to aerate. Aeration continued until sampling revealed concentrations less than 1 mg/kg volatile hydrocarbons (HLA 1987). The excavation was backfilled on August 5 and 6, 1987 with the aerated soil. A "pit" was identified in a 1939 building plan, which was considered a potential source of heavier petroleum hydrocarbons. This was investigated in 2016 and heavier petroleum hydrocarbons were not detected in the vadose zone.	None	NA
	Off-Site	Properties near to the Site with the potential to affect conditions at 1700 Jefferson, and/or with the potential to contribute to petroleum measured in ground water migrating from 1700 Jefferson were identified in the Geotracker and ACEH databases and DWR well logs. There are three former Sites located east and southeast and upgradient of the Site: 540 17th Street, 1417 Clay Street, and 1 City Hall. 1417 Clay Street and 1 City Hall were both closed and are approximately 900 feet upgradient from the Site. 540 17th Street is approximately 400 feet east of the Site and was closed in 1995. Limited information is on the ACEH website and it is unknown whether or not this was a UST Site. A former bus depot was located cross-gradient to the Site at 1825 San Pablo Ave, and is not an active Site on the Geotracker website. Soil borings and monitor wells were also affiliated with a Site located at 557 18th Street, approximately 250 feet cross-gradient from MW-5. No other information is available on Geotracker or ACEH. Although the above Sites are in the vicinity of 1700 Jefferson, at present they do not appear to have the potential to contribute to conditions beneath 1700 Jefferson. However, the former bus depot, 540 17th Street, and 557 18th Street do have the potential to contribute petroleum hydrocarbons to ground water cross and downgradient from 1700 Jefferson. A patch was identified in the sidewalk near MW-5, which may be consistent with a former UST. However, soil samples do not reveal significant shallow concentrations and no obvious source near MW-5 has been found.	The potential contribution of petroleum hydrocarbons to ground water from the former bus depot, 540 17th Street, and 557 18th Street.	Request files from ACEH for the sites to understand what contamination existed at each site, if any.

Table 6
Conceptual Site Model
1700 Jefferson St, Oakland, CA

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Distribution of Petroleum Hydrocarbons	Soil	*Vadose Zone* At the Site, significant concentrations of petroleum hydrocarbons were found at approximately 3 ft bgs beneath the former dispenser island area and between 11 and 18 ft bgs in the UST excavation area. PAHs were also found at concentrations above their respective screening levels in soil samples collected near the former dispenser island. Soil samples collected in the vadose zone in two borings advanced on 18th Street revealed concentrations of TPH as gasoline, however all concentrations were less than 1 mg/kg. *Capillary Fringe* Concentrations of petroleum hydrocarbons were found in all soil samples collected from the capillary fringe on-Site with the exception of samples collected under the ARC building, which are approximately 100 feet crossgradient from the UST excavation. Off-site soil samples collected in borings along 18th Street revealed concentrations of petroleum hydrocarbons in the capillary fringe. Soil samples collected on Jefferson Street did not reveal concentrations of petroleum hydrocarbons in the capillary fringe. *Saturated Soil Below Water-Bearing Zone* At the Site, soil samples collected in the silt/clay layer underlying the water-bearing sand did not reveal concentrations of petroleum hydrocarbons. Vertically limiting petroleum hydrocarbons to the saturated sand layer.	None	NA
	Ground Water	The dissolved phase plume appears to have extended approximately 350 feet beyond the source area and 150 to 200 feet beyond MW-5. A distance to the downgradient edge of the measureable concentrations in ground water more than 255 feet is atypical (LLNL, 1995) and may be a consequence of the cross-gradient location of these borings, or due to some unknown mechanism resulting in TPHg at MW-5. Due to the lack of benzene concentrations in the borings on 18th Street, it is also still unknown if concentrations found at MW-5 are related to the Site. Although the Site is currently the only known source of gasoline in the area, the data is not conclusive. Concentrations detected at MW-5 may potentially be a co-mingled plume from the Site and another source.	The source to ground water contamination at MW-5 is still unknown. Benzene concentrations on 18th Street are not comparable to MW-5 concentrations.	Sampling in the courtyard is necessary to evaluate any connection between the Site and MW-5.
	Soil Vapor	Soil vapor was sampled at various depths both on-Site and off-Site to evaluate risk to indoor air for both commercial and residential properties (Table 3). Isoconcentration contours are presented in Figures 12 and 13. *Site* The highest concentrations of petroleum hydrocarbons, namely BTEX, above their respective screening levels were concentrated near the UST excavation and MW-1. In addition, the highest concentrations detected at 6 ft bgs was in a sample near the northeastern corner of the UST excavation and is the only sample above its respective screening level for benzene and ethylbenzene. A sub-slab sample revealed concentrations of petroleum hydrocarbons, however all concentrations were found to be below their respective screening levels. *Apartment Building* On the southern boundary of the apartment building, concentrations of BTEX were detected above their respective screening levels. On the northern boundary of the apartment building, estimated concentrations of TPHg and naphthalene were detected above their respective screening levels. BTEX was detected in the soil vapor samples on the northern boundary, however their concentrations were significantly lower in comparison to the southern boundary of the property.	See Page 4	See Page 4

Table 6
Conceptual Site Model
1700 Jefferson St, Oakland, CA

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Distribution of Petroleum Hydrocarbons	Soil Vapor	The data appears to show that vapor intrusion is a potential risk to the apartment building, specifically on the southern boundary of the property adjacent to the Site and needs to be further evaluated with indoor air samples. *Off-Site Commercial Buildings* An estimation of TPHg concentration indicates that petroleum hydrocarbons likely exist in the soil vapor at 19 ft bgs near the commercial building with a basement adjacent to the Site. Two soil vapor samples collected at 6 ft bgs in the same vicinity revealed concentrations of petroleum hydrocarbons, however all concentrations were below their respective screening levels. Soil vapor near MW-5 appears to be elevated in petroleum hydrocarbons, however concentrations in soil vapor samples collected 30 feet to the south of MW-5 are two to three order of magnitudes lower in comparison. This is further indication that data identifying the Site as the sole source to contamination is inconclusive and needs to be further investigated.	Concentrations under the apartment building are still unknown due to the drastic difference in concentrations south and north of the building.	Sampling in the courtyard is necessary to evaluate any connection between the Site and MW-5.
Distribution of Risk	Soil	Concentrations of petroleum hydrocarbons in soil beneath the former dispenser island and USTs are significant and serve as a secondary source of petroleum to ground water. At this time, the Site is capped and does not pose a risk to direct exposure. However, the soil will be a risk to construction workers during any removal action or subsurface work and should be managed accordingly.	None	NA
	Ground Water	Concentrations of petroleum hydrocarbons in ground water are significant and indicates that ground water likely serves as source to soil vapor contamination which in turn poses a vapor intrusion risk to indoor air. Risk by direct exposure to ground water is not a concern due to the fact that ground in the vicinity is not used for drinking water purposes and the City of Oakland is served by a municipal water supply.	None	NA
	Soil Vapor	Concentrations of petroleum hydrocarbons in soil vapor exceed screening levels for the protection of human health under residential and commercial land use scenarios. The data indicate that potential risks to indoor air may be present within the • West side of the ARC building, based on concentrations measured in SV4, • South side of the apartment building basement and ground floor, based on concentrations measured in SV1, SV3, SV4. • North side of the apartment building basement, based on concentrations TPHg measured in SV10 and SV12. • West side of the commercial buildings with basements (if any) east of the ARC building, based on concentrations in SV5, SV6. • South side of commercial building with basement (if any) adjacent to MW-5, based on concentrations measured in SV9.	Actual indoor air conditions at the apartment building and commercial buildings are unknown.	Indoor air sampling is necessary to evaluate human health risk to residents in the apartment building. Indoor air samples should be collected in the ARC building and the adjacent commercial building.

Table 7
Data Gaps and Recommended Action
1700 Jefferson St, Oakland, CA

Data Gap	Proposed Investigation	Rationale	Analysis
The potential contribution of petroleum hydrocarbons to ground water from the former bus depot, 540 17th Street, and 557 18th Street.	Request files from ACEH for the sites to understand what contamination existed at each site, if any.	Petroleum hydrocarbons were detected upgradient and cross-gradient from MW-5 approximately 80 to 100 feet to the east. In addition, benzene was not detected in grab ground water despite a concentration of 7,500 µg/L being detected in MW-5.	Ground water: TPHg, BTEX, MTBE Soil Vapor: TO-15
The contribution to ground water contamination from the Site to MW-5 is still unknown. Benzene concentrations on 18th Street are not comparable to MW-5 concentrations.	Sampling in the courtyard is necessary to evaluate any connection between the Site and MW-5.	Significant concentrations of TPHg and BTEX were detected in ground water both on-Site and near MW-5. However, benzene was not detected above the reporting limit in samples collected along the south side of 18th Street or near the intersection of 18th Street and San Pablo Ave.	Ground water: TPHg, BTEX, MTBE Soil Vapor: TO-15
Concentrations under the apartment building are still unknown due to the drastic difference in concentrations south and north of the building.	Indoor air samples should be collected or sampling in the courtyard is necessary to evaluate indoor air risk to the apartment building.	Significant concentrations of TPHg and BTEX were detected in ground water both on-Site and near MW-5. However, benzene was not detected above the reporting limit in samples collected along the south side of 18th Street. Concentrations near the southern end of the apartment are elevated and trigger the need for indoor air samples.	Indoor air samples: 24 hr TO-15

FIGURES

APPLIED WATER RESOURCES

Figure - 1

Site Location Map

300 Hegenberger Road

1700 Jefferson Street

APPLIED WATER RESOURCES

Figure - 2

Site Plan

1700 Jefferson Street, Oakland, CA

- Monitor Well
- Extraction Well
- Former Dispenser Island (approx)
- Tank Removal Excavation Area (approx.)
- Property Boundary

Figure 3

Soil Boring Locations

1700 Jefferson Street, Oakland, CA

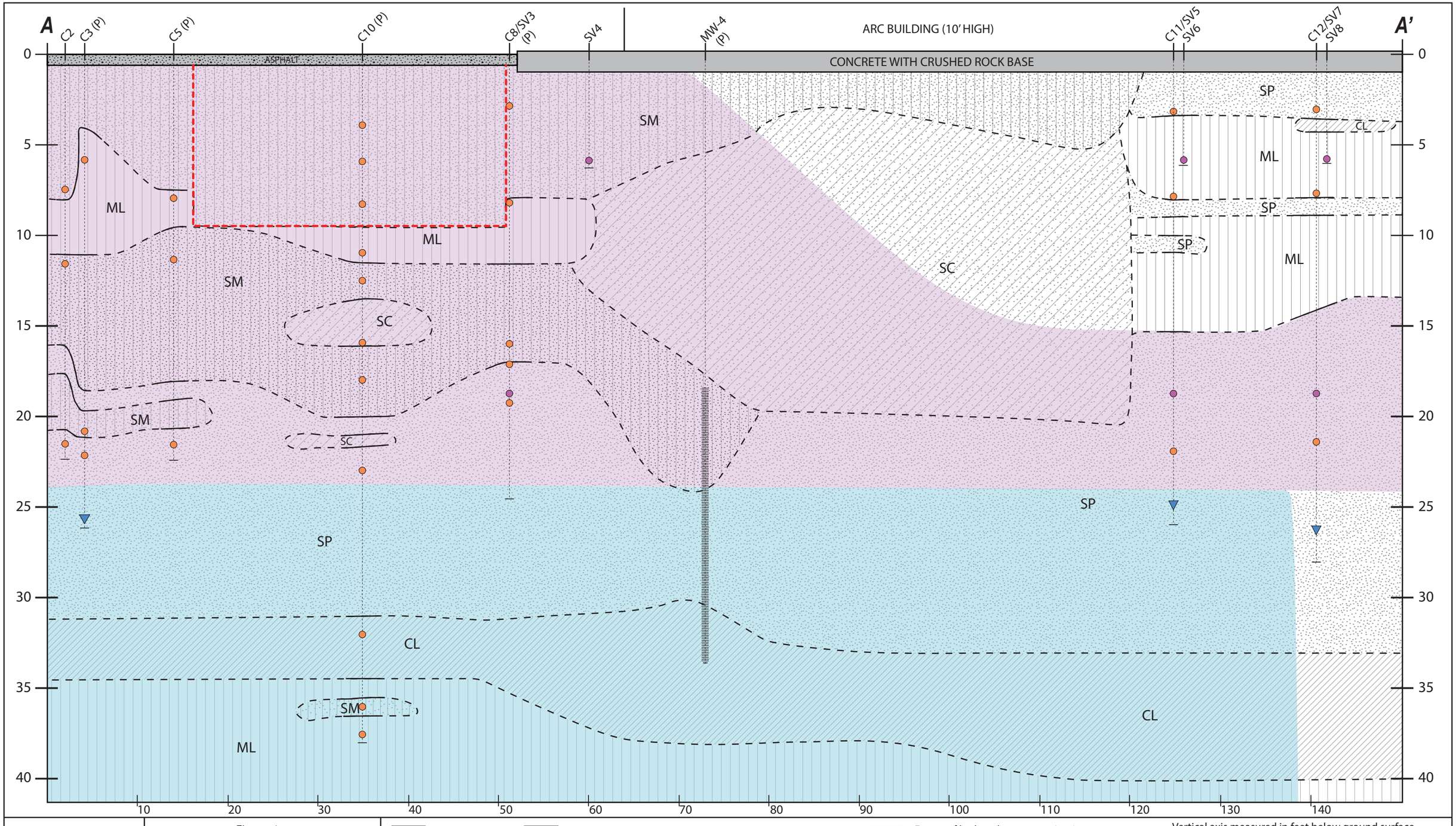
APPLIED WATER RESOURCES

Borings
- Monitor Well
- Extraction Well
- Soil Vapor - Permenant
- Soil Vapor - Temporary
- Grab Soil
- Grab Groundwater

Previous Borings
- Soil Borings (1987-1988 approx)
- Soil Borings - 612 18th St. (2010)
- Monitor Well - 612 18th St
- CPT Well (1998 approx)
- Sub Slab - 612 18th St.
- Soil Vapor Points (2013)

Other
- Tank Removal Excavation Area (approx)
- Property Boundary
- Former Dispenser Island (approx)
- Manhole
- Cross Section Line

Utilities
- Sanitary Sewer
- Water
- Gas
- Electrical
- AT&T
- Street Lighting
- Storm Drain
- Old Storm Drain (Filled)



APPLIED WATER RESOURCES

Figure 4

Cross-Section Location

A-A'

1700 Jefferson Street, Oakland, CA

ML	Silt	CL	Clay	Soil Sample	Extent of hydrocabon contamination in ground water
SP	Sand	SC	Clayey Sands	Soil Vapor Sample	Extent of hydrocarbon contamination in soil vapor
SM	Silty Sands	▼	Ground Water Sample	Well Screen	Excavation (1987)

Vertical axis measured in feet below ground surface

Horizontal axis measured in feet from beginning of cross section line (see site map)

Vertical exaggeration: 2x

(P) : Projected

CPT-1
MW-3 (P)
C1
C5
C10
SV3 (P)
C6
SV4 (P)
MW-1(P)
SV1
SV13 (P)
C16/SV10 (P) &
C17/SV12 (P)**
SV14 (P)
SV9 (P)
MW-5
C20
MW-1
(612 18th St.)

ASPHALT
CONCRETE
TOPSOIL
COURTYARD

ML
CL
SM
SP
SC

0
5
10
15
20
25
30
35
40

20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320
340
360
380
400
420
440
460

Vertical exaggeration: 4x

(P) : Projected

Vertical axes measured in feet below ground surface

Horizontal axis measured in feet from beginning of cross section line (see site map)

APPLIED WATER RESOURCES

Figure 5

Cross-Section Location B-B′

1700 Jefferson Street, Oakland, CA

ML Silt
CL Clay
SP Sand
SC Clayey Sands
SM Silty Sands

Ground Water Sample
Soil Sample
Soil Vapor Sample
Well Screen

Extent of hydrocabon contamination in ground water
Extent of hydrocarbon contamination in soil vapor
Excavation (1987)

Electrical Line
Sanitary Sewer
Gas Line
Water Line
Storm Drain

** C16 Hit refusal at 17'. Rest of lithology from C17

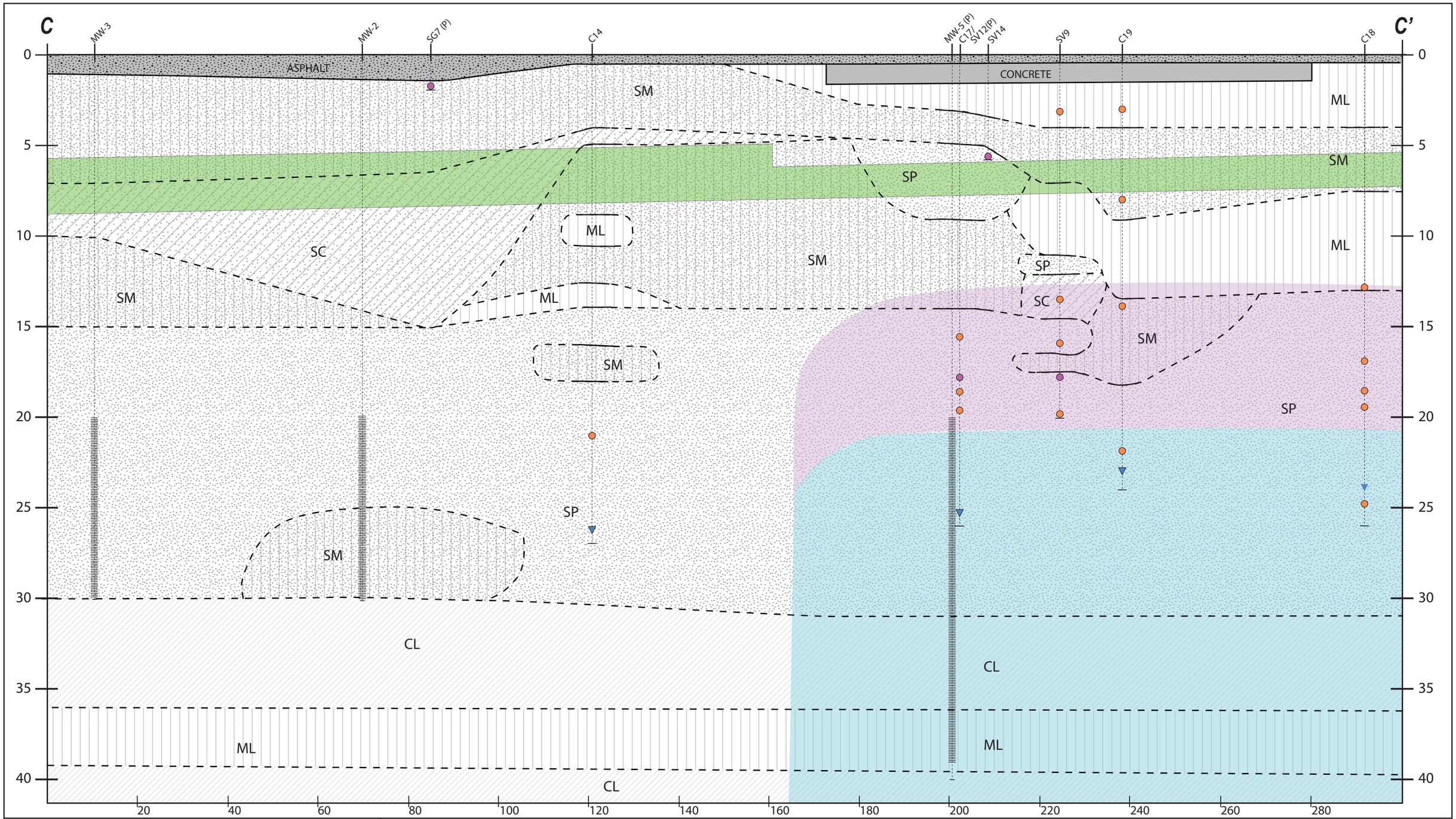


Figure 6

Cross-Section Location

C-C'

1700 Jefferson Street, Oakland, CA

APPLIED WATER RESOURCES

ML	Silt	CL	Clay		Soil Sample		Extent of hydrocabon contamination in ground water
SP	Sand	SC	Clayey Sands		Soil Vapor Sample		Extent of hydrocarbon contamination in soil vapor
SM	Silty Sands		Ground Water Sample		Well Screen		Storm Drain

Vertical axis measured in feet below ground surface

Horizontal axis measured in feet from beginning of cross section line (see site map)

Vertical exaggeration: 4x

(P) : Projected

C4 C7 SV1 MW-1 (P) *lithology not shown C8/SV3 (P) SV4 (P) MW-4 C11/ SV5 (P) SV6 (P) C12/SV7 SV8

ASPHALT

CONCRETE

ML SM SP CL SC

Apartment Building Basement (518 18th St)

0 5 10 15 20 25 30 35 40

10 20 30 40 50 60 70 80 90 100 110 120 130 140

APPLIED WATER RESOURCES

Figure 7

Cross-Section Location D-D'

1700 Jefferson Street, Oakland, CA

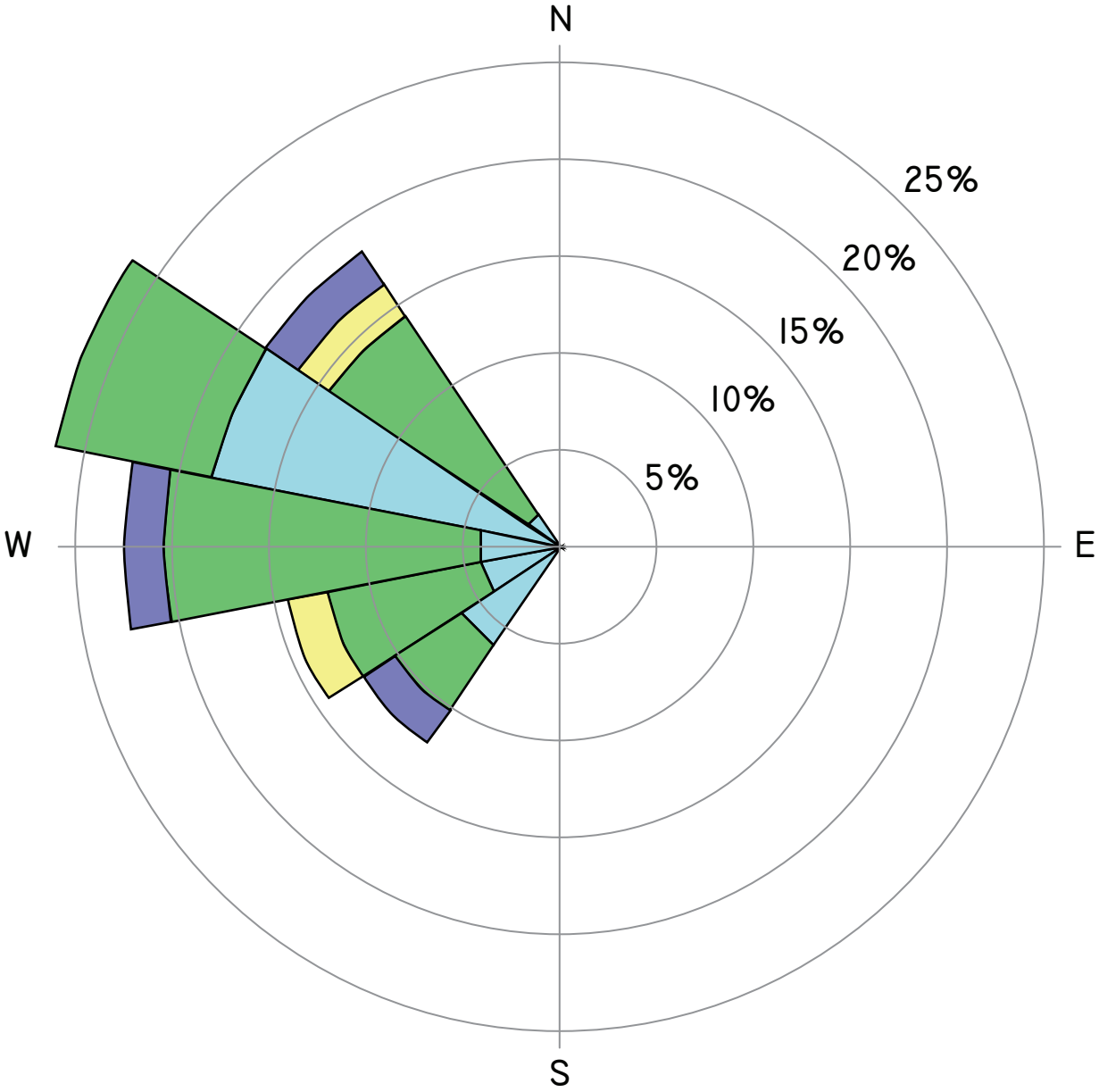
ML	Silt	CL	Clay		Soil Sample		Extent of hydrocabon contamination in ground water
SP	Sand	SC	Clayey Sands		Soil Vapor Sample		Extent of hydrocarbon contamination in soil vapor
SM	Silty Sands		Ground Water Sample		Well Screen		Excavation (1987)

Vertical axes measured in feet below ground surface

Horizontal axis measured in feet from beginning of cross section line (see site map)

Vertical exaggeration: 2x

(P) : Projected



APPLIED WATER RESOURCES

Figure - 8

Ground Water Gradient Rose Diagram

1700 Jefferson St, Oakland, CA

Gradient (ft/ft) x1000

0-3	6-9
3-6	9-12

Figure 9

TPHg Isoconcentration Contours in Ground Water

1700 Jefferson Street, Oakland, CA

APPLIED WATER RESOURCES

C17 <500 TPHg Concentration (µg/L) (2016)

Isoconcentration Contour

Monitor Well

Extraction Well

Grab Groundwater

Tank Removal Excavation Area (approx)

Property Boundary

Former Dispenser Island (approx)

Manhole

Monitor Well - 612 18th St (*Sampled in 2011)

Utilities

Sanitary Sewer

Water

Gas

Electrical

AT&T

Street Lighting

Storm Drain

Old Storm Drain (Filled)

Figure 10

Benzene Isoconcentration Contours in Ground Water

1700 Jefferson Street, Oakland, CA

APPLIED WATER RESOURCES

C17 <500 Benzene Concentration (µg/L) (2016)

Isoconcentration Contour

Monitor Well

Extraction Well

Grab Groundwater

Tank Removal Excavation Area (approx)

Property Boundary

Former Dispenser Island (approx)

Manhole

Monitor Well - 612 18th St (*Sampled in 2011)

Utilities

Sanitary Sewer

Water

Gas

Electrical

AT&T

Street Lighting

Storm Drain

Old Storm Drain (Filled)

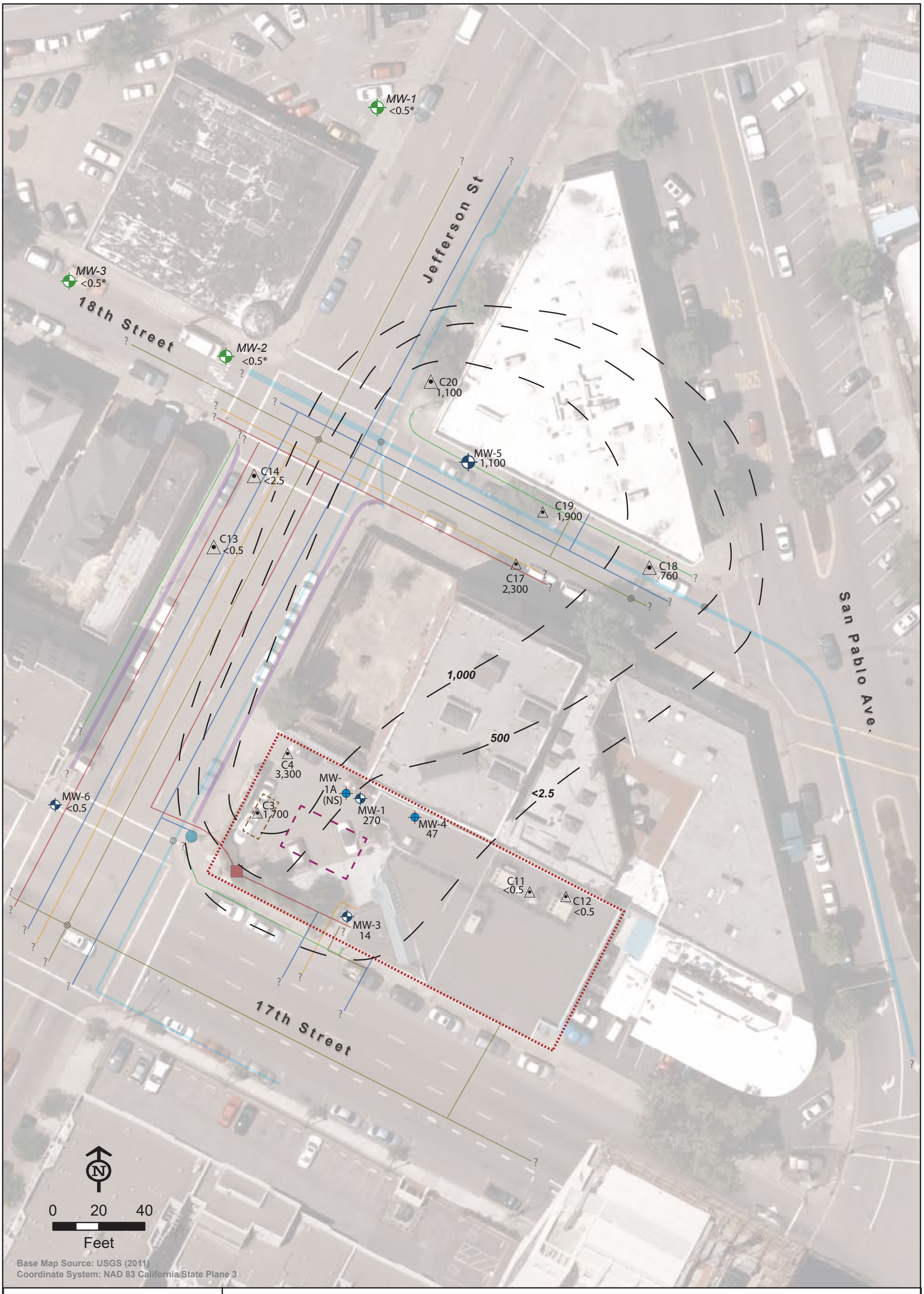


Figure 11

Ethylbenzene Isoconcentration Contours in Ground Water

1700 Jefferson Street, Oakland, CA

APPLIED WATER RESOURCES

C17 <500 Ethylbenzene Concentration (µg/L)(2016)

Isoconcentration Contour

Monitor Well

Extraction Well

Grab Groundwater

Tank Removal Excavation Area (approx)

Property Boundary

Former Dispenser Island (approx)

Manhole

Monitor Well - 612 18th St (*Sampled in 2011)

Utilities

Sanitary Sewer

Water

Gas

Electrical

AT&T

Street Lighting

Storm Drain

Old Storm Drain (Filled)

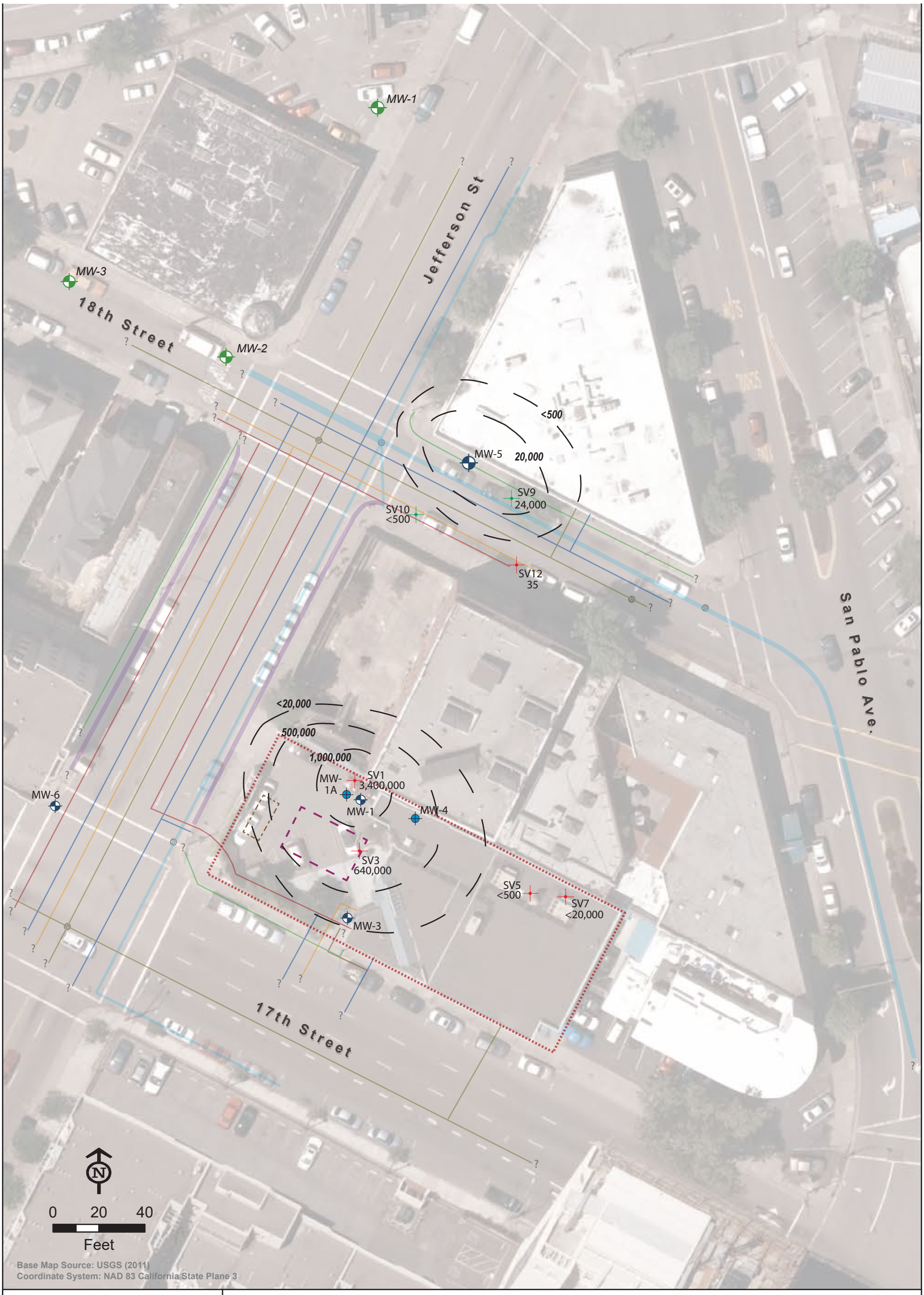


Figure 12

Benzene Isoconcentration Contours in Deep Soil Vapor

1700 Jefferson Street, Oakland, CA

APPLIED WATER RESOURCES

SV1 <500 Benzene Concentration (µg/m³)(2016)

Isoconcentration Contour

Monitor Well

Extraction Well

Soil Vapor - Permenant

Soil Vapor - Temporary

Tank Removal Excavation Area (approx)

Property Boundary

Former Dispenser Island (approx)

Manhole

Monitor Well - 612 18th St (*Sampled in 2011)

Soil Vapor Points (2013)

Utilities

Sanitary Sewer

Water

Gas

Electrical

AT&T

Street Lighting

Storm Drain

Old Storm Drain (Filled)

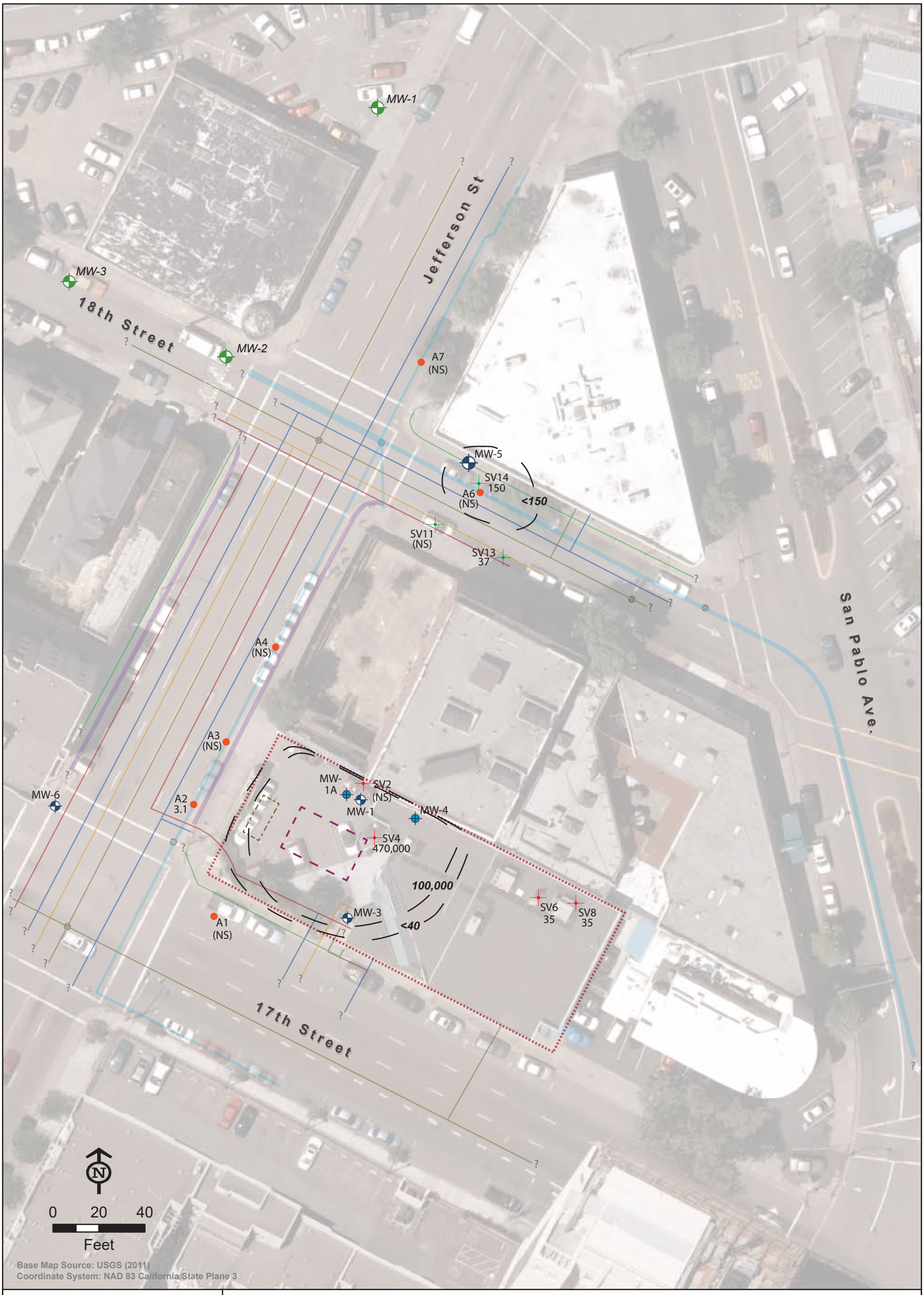


Figure 13

Benzene Isoconcentrations Contours in Shallow Soil Vapor

1700 Jefferson Street, Oakland, CA

APPLIED WATER RESOURCES

C17 <500 Benzene Concentration (µg/m³)(2016)

Isoconcentration Contour

Monitor Well

Extraction Well

Soil Vapor - Permenant

Soil Vapor - Temporary

Tank Removal Excavation Area (approx)

Property Boundary

Former Dispenser Island (approx)

Manhole

Monitor Well - 612 18th St (*Sampled in 2011)

Soil Vapor Points (2013)

Utilities

Sanitary Sewer

Water

Gas

Electrical

AT&T

Street Lighting

Storm Drain

Old Storm Drain (Filled)

APPENDIX A

PERMITS

CITY OF OAKLAND • Community and Economic Development Agency
250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • Fax (510) 238-2263

JOB SITE

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.
Applications for which no permit is issued within 180 days shall expire by limitation. To renew, submit new application and pay new fees.

CHECK REVERSE

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA • 2ND FLOOR • OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: X1600959 OPW - Excavation **Filed Date:** 5/13/2016
Job Site: 0 JEFFERSON ST **Schedule Inspection by calling:** [redacted]
Parcel No: 003 006300804
District:

For SL; X; and CGS permits see **SPECIAL NOTE** below

Project Description: Soil boring(s) on Jefferson St between 17th & 18th St; see site plan.
If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum $5,800.00 fine for non-compliance.
No impact on traffic lane (vehicular or pedestrian) allowed without approved Traffic Control Plan.
Contact: Y BAYRAM, 510 671-2088. Permit valid 90 days.
Separate Obstruction permit required to reserve/block parking lane.
Call PWA INSPECTION prior to start: 510-238-3651 or email PWA_inspections@oaklandnet.com.
Petition to allow monitoring well to encroach into the parking lane on the south side of 18th Street near Jefferson Street. Monitoring parcel 003 -0063-008-04.
If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum $5,800.00 fine for non-compliance.
The indenture agreement created for this encroachment application is administrative only.
Additional permit(s) required to do the work described.

Related Permits: X1600958

	Name	Applicant	Address	Phone	License #
Owner:	BLUE PRINT SERVICE COMPANY INC		945 BRYANT ST SAN FRANCISCO, CA		
Contractor:	APPLIED WATER RESOURCES CORPORATION		2363 MARINER SQUARE DR STE 245 ALAMEDA, CA	(510) 671-2095	937701
Contractor-Employee:	Applied Water Resources/ C	X	OAKLAND, CA	510 671-2089	
	Cary				

5.13

PERMIT DETAILS: Building/Public Infrastructure/Excavation/NA

General Information

Excavation Type: Private Party
Special Paving Detail Required:
Tree Removal Involved:
Date Street Last Resurfaced:
Holiday Restriction (Nov 1 - Jan 1):
Worker's Compensation Company Name:
Limited Operation Area (7AM-9AM) And (4PM-6PM):
Worker's Compensation Policy #:

Key Dates

Approximate Start Date:
Approximate End Date:

CITY OF OAKLAND

SPECIAL NOTE

- SL; X; and CGS permits: prior to start, email pwa_inspections@oaklandnet.com or call 510-238-3651
- SL and X permits valid 90 days; CGS permits valid 30 days

CITY OF OAKLAND • Community and Economic Development Agency
250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • Fax (510) 238-2263

JOB SITE

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.
Applications for which no permit is issued within 180 days shall expire by limitation. Renewal after 180 days after expired.

CHECK REVERSE

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA • 2ND FLOOR • OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: OB1600546 Obstruction
Filed Date: 5/13/2016
Job Site: 0 JEFFERSON ST
Schedule Inspection by calling: [redacted]
Parcel No: 003 006300804
District:

For SL; X; and CGS permits see **SPECIAL NOTE** below

Project Description: Reserve 12 parking spaces total for Soil boring(s) on Jefferson St between 17th & 18th St; 18th & 19th St; and 18th Street near Jefferson, and block 25' portion of sidewalk on 18th St. Leave 5.5' clear for pedestrian access. Ensure environmental controls are in place to prevent dust/debris/waste water from contaminating environment; see site plan. Three spaces NO FEE per X1600958,-959,-960. Five metered spaces; 7 non-metered. Comply with terms set forth in CVC Section 22651 (m). No impact on traffic lane or sidewalk allowed. To Have Illegally Parked Vehicle Ticketed Call 510-777-3333. Applicant arranges towing. For Towed Vehicle: Call 510-238-3021.
If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum $5,800.00 fine for non-compliance.
Contact: Y BAYRAM, 510 671-2088. Permit valid 90 days.
Call PWA INSPECTION prior to start: 510-238-3651 or email PWA_inspections@oaklandnet.com.
Petition to allow monitoring well to encroach into the parking lane on the south side of 18th Street near Jefferson Street. Monitoring parcel 003-0063-008-04.
If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum $5,800.00 fine for non-compliance.
The indenture agreement created for this encroachment application is administrative only.
Additional permit(s) required to do the work described.

Related Permits: X1600960

	Name	Applicant	Address	Phone	License #
Owner:	BLUE PRINT SERVICE COMPANY INC		945 BRYANT ST SAN FRANCISCO, CA		
Contractor:	APPLIED WATER RESOURCES CORPORATION		2363 MARINER SQUARE DR STE 245 ALAMEDA, CA	(510) 671-2095	937701
Contractor-Employee:	Applied Water Resources/ C	X	OAKLAND, CA	510 671-2089	
	Cary				

5-13

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

Work Information

Start Date: 05/16/2016
End Date: 05/18/2016
Obstruction Permit Type: Short Term (Max 14 Days)
Number of Meters (Metered Area): 4
Length Of Obstruction (Unmetered Area): 175

CITY OF OAKLAND

SPECIAL NOTE

- SL; X; and CGS permits: prior to start, email pwa_inspections@oaklandnet.com or call 510-238-3651
- SL and X permits valid 90 days; CGS permits valid 30 days

CITY OF OAKLAND • Community and Economic Development Agency
250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • Fax (510) 238-2263

JOB SITE

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.
Applications for which no permit is issued within 180 days shall expire by limitation. No refund more than 180 days after expired.

CHECK REVERSE

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA • 2ND FLOOR • OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: X1600958 OPW - Excavation
Filed Date: 5/13/2016
Job Site: 0 JEFFERSON ST
Schedule Inspection by calling: [redacted]
Parcel No: 003 006300804
District:

For SL; X; and CGS permits see **SPECIAL NOTE** below

Project Description: Soil boring(s) on 18th St near Jefferson St; see site plan.
If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum $5,800.00 fine for non-compliance.
No impact on traffic lane (vehicular or pedestrian) allowed without approved Traffic Control Plan.
Contact: Y BAYRAM, 510 671-2088. Permit valid 90 days.
Separate Obstruction permit required to reserve/block parking lane.
Call PWA INSPECTION prior to start: 510-238-3651 or email PWA_inspections@oaklandnet.com.
Petition to allow monitoring well to encroach into the parking lane on the south side of 18th Street near Jefferson Street. Monitoring parcel 003 -0063-008-04.
If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum $5,800.00 fine for non-compliance.
The indenture agreement created for this encroachment application is administrative only.
Additional permit(s) required to do the work described.

Related Permits: ENMI16105

	Name	Applicant	Address	Phone	License #
Owner:	BLUE PRINT SERVICE COMPANY INC		945 BRYANT ST SAN FRANCISCO, CA		
Contractor:	APPLIED WATER RESOURCES CORPORATION		2363 MARINER SQUARE DR STE 245 ALAMEDA, CA	(510) 671-2095	937701
Contractor-Employee:	Applied Water Resources/ C	X	OAKLAND, CA	510 671-2089	

5.13

PERMIT DETAILS: Building/Public Infrastructure/Excavation/NA

General Information

Excavation Type: Private Party
Special Paving Detail Required:
Tree Removal Involved:
Date Street Last Resurfaced:
Holiday Restriction (Nov 1 - Jan 1):
Worker's Compensation Company Name:
Limited Operation Area (7AM-9AM) And (4PM-6PM):
Worker's Compensation Policy #:

Key Dates

Approximate Start Date:
Approximate End Date:

CITY OF OAKLAND

SPECIAL NOTE

- SL; X; and CGS permits: prior to start, email pwa_inspections@oaklandnet.com or call 510-238-3651

CITY OF OAKLAND • Community and Economic Development Agency

250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • Fax (510) 238-[illegible]

JOB SITE

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.
Applications for which no permit is issued within 180 days shall expire by limitation. No refund more than 180 days after expiration.

CHECK REVERSE

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA ▪ 2ND FLOOR ▪ OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: X1600960 OPW - Excavation **Filed Date:** 5/13/2016

Job Site: 0 JEFFERSON ST **Schedule Inspection by calling:** 510-238-[illegible]

Parcel No: 003 006300804

District:

For SL; X; and CGS permits see **SPECIAL NOTE** below

Project Description: Soil boring(s) on Jefferson St between 18th & 19th St; see site plan.
If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum $5,800.00 fine for non-compliance.
No impact on traffic lane (vehicular or pedestrian) allowed without approved Traffic Control Plan.
Contact: Y BAYRAM, 510 671-2088. Permit valid 90 days.
Separate Obstruction permit required to reserve/block parking lane.
Call PWA INSPECTION prior to start: 510-238-3651 or email PWA_inspections@oaklandnet.com.
Petition to allow monitoring well to encroach into the parking lane on the south side of 18th Street near Jefferson Street. Monitoring parcel 003 -0063-008-04.
If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum $5,800.00 fine for non-compliance.
The indenture agreement created for this encroachment application is administrative only.
Additional permit(s) required to do the work described.

Related Permits: X1600959

	Name	Applicant	Address	Phone	License #
Owner:	BLUE PRINT SERVICE COMPANY INC		945 BRYANT ST SAN FRANCISCO, CA		
Contractor:	APPLIED WATER RESOURCES CORPORATION		2363 MARINER SQUARE DR STE 245 ALAMEDA, CA	(510) 671-2095	937701
Contractor-Employee:	Applied Water Resources/ C	X	OAKLAND, CA	510 671-2089	
	Cary				

5.13

PERMIT DETAILS: Building/Public Infrastructure/Excavation/NA

General Information

Excavation Type: Private Party
Special Paving Detail Required:
Tree Removal Involved:
Date Street Last Resurfaced:
Holiday Restriction (Nov 1 - Jan 1):
Worker's Compensation Company Name:
Limited Operation Area (7AM-9AM) And (4PM-6PM):
Worker's Compensation Policy #:

Key Dates

Approximate Start Date:
Approximate End Date:

CITY OF OAKLAND

SPECIAL NOTE

- SL; X; and CGS permits: prior to start, email pwa_inspections@oaklandnet.com or call 510-238-3651

ermits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

FIELD COPY

CITY OF OAKLAND

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Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: OB1600757 Obstruction **Filed Date:** 6/28/2016

Job Site: 0 JEFFERSON ST **Schedule Inspection by calling:** 510-238-3444

Parcel No: 003 006300804

District:

Project Description: Reserve 3 METERED parking spaces [J1717, 1715, and 1710] AND Block 200 ft of traffic lane per TSD 16-0114 only for drilling vehicle, equipment, or material for soil/ground-water sampling. Comply with all terms, conditions and restrictions stated in the Traffic Control Plan. Any/all changes need prior written approval. Provide original Traffic Control Plan at each renewal. No impact on sidewalk allowed. Ensure that environmental controls are in place to prevent dust/debris/waste water from contaminating environment. No-parking signs picked up by applicant after payment, 4TH FLOOR. To Have Illegally Parked Vehicle Ticketed Call 510-777-3333. Applicant arranges towing. Comply with terms set forth in CVC Section 22651 (m). For Towed Vehicle: Call 510-238-3021.
Contact: 510 671-2090
REF: Soil boring(s) on Jefferson St between 17th & 18th St; see site plan.
Contact: Y BAYRAM, 510 671-2088.

Related Permits: X1600959 X1600960

	Name	Applicant	Address	Phone	License #
Owner:	BLUE PRINT SERVICE COMPANY INC		945 BRYANT ST SAN FRANCISCO, CA		
Contractor:	APPLIED WATER RESOURCES CORPORATION		2363 MARINER SQUARE DR STE 245 ALAMEDA, CA	(510) 671-2095	937701
Contractor-Employee:	Applied Water Resources/ C Cary	X	OAKLAND, CA	510 671 2089	

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

Work Information

Start Date: 07/06/2016
End Date: 07/06/2016

Obstruction Permit Type: Short Term (Max 14 Days)
Number of Meters (Metered Area): 3
Length Of Obstruction (Unmetered Area):

Traffic Control Plan (TCP) to be approved every 30 days by PWA Transportation Services or whenever there is any deviation from previously approved TCP.

TOTAL FEES TO BE PAID AT FILING: $538.82

Application Fee	$70.00	Records Management Fee	$16.63	Short Term Meter	$52.50
Short Term Permits	$52.50	Technology Enhancement Fee	$9.19	Transportation Service	$338.00

Plans Checked By _____ Date _____ Permit Issued By BG Date 6/28/16

Finalized By _____ Date _____

...its for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

CITY OF OAKLAND

CITY OF OAKLAND

FIELD COPY

250 FRANK H. OGAWA PLAZA ▪ 2ND FLOOR ▪ OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: OB1600758 Obstruction **Filed Date:** 6/28/2016

Job Site: 0 JEFFERSON ST **Schedule Inspection by calling:** 510-238-3444

Parcel No: 003 006300804

District:

Project Description: Reserve 2 NON-METERED parking spaces along 18th St, near Jefferson St, for drilling vehicle, equipment, or material for soil/ground-water sampling. Post No-parking signs 72 hours prior in residential areas. No impact on traffic lane or sidewalk allowed. No-parking signs picked up by applicant after payment, 4TH FLOOR. To Have Illegally Parked Vehicle Ticketed Call 510-777-3333. Applicant arranges towing. Comply with terms set forth in CVC Section 22651 (m). For Towed Vehicle: Call 510-238-3021. Contact: Y BAYRAM, 510 671-2088. REF: Soil boring(s) on 18th St near Jefferson St; see site plan.

Related Permits: X1600958 X1600959

	Name	Applicant	Address	Phone	License #
Owner:	BLUE PRINT SERVICE COMPANY INC		945 BRYANT ST SAN FRANCISCO, CA		
Contractor:	APPLIED WATER RESOURCES CORPORATION		2363 MARINER SQUARE DR STE 245 ALAMEDA, CA	(510) 671-2095	937701
Contractor-Employee:	Applied Water Resources/ C Cary	X	OAKLAND, CA	510 671 2089	

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

Work Information

Start Date: 07/06/2016
End Date: 07/06/2016

Obstruction Permit Type: Short Term (Max 14 Days)
Number of Meters (Metered Area):
Length Of Obstruction (Unmetered Area): 50

TOTAL FEES TO BE PAID AT FILING: ~~$49.34~~

Application Fee	$70.00	Records Management Fee	$9.88	Short Term Permits	($36.00)
Technology Enhancement Fee	$5.46				

Plans Checked By _____ Date _____ Permit Issued By BG Date 6/28/

Finalized By _____ Date _____

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 05/05/2016 By jamesy

Permit Numbers: W2016-0330 to W2016-0331
Permits Valid from 05/14/2016 to 05/18/2016

Application Id: 1462230701079
Site Location: 1700 Jefferson Street
Project Start Date: 05/14/2016

City of Project Site: Oakland
Completion Date: 05/18/2016

Assigned Inspector: Contact Lindsay Furuyama at (925) 956-2311 or Lfuruyama@groundzonees.com

Applicant: Applied Water Resources - Yola Bayram
2363 Mariner Square Drive, Suite 245, Alameda, CA 94501
Phone: 510-671-2088

Property Owner: ARC Document Solutions .
1981 N. Broadway, Suite 385, Walnut Creek, CA 94596
Phone: --

Client: ** same as Property Owner **

Total Due: $530.00
Receipt Number: WR2016-0225 **Total Amount Paid:** $530.00
Payer Name : Steven Ira Michelson Paid By: MC **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 17 Boreholes
Driller: Cascade Drilling, L.P - Lic #: 938110 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2016-0330	05/05/2016	08/12/2016	17	2.00 in.	30.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

5. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting,

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 05/05/2016 By jamesy

Permit Numbers: W2016-0330 to W2016-0331
Permits Valid from 05/18/2016 to 07/06/2016

Application Id: 1462230701079
City of Project Site: Oakland
Site Location: 1700 Jefferson Street
Project Start Date: 05/14/2016
Completion Date: 05/18/2016
Assigned Inspector: Contact Lindsay Furuyama at (925) 956-2311 or Lfuruyama@groundzonees.com
Extension Start Date: 05/18/2016
Extension End Date: 07/06/2016
Extension Count: 1
Extended By: jamesy

Applicant: Applied Water Resources - Yola Bayram
2363 Mariner Square Drive, Suite 245, Alameda, CA 94501
Phone: 510-671-2088

Property Owner: ARC Document Solutions .
1981 N. Broadway, Suite 385, Walnut Creek, CA 94596
Phone: --

Client: ** same as Property Owner **

Total Due: $530.00
Receipt Number: WR2016-0225 **Total Amount Paid:** $530.00
Payer Name : Steven Ira Michelson Paid By: MC **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 17 Boreholes
Driller: Cascade Drilling, L.P - Lic #: 938110 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2016-0330	05/05/2016	08/12/2016	17	2.00 in.	30.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

No Fee Document Pursuant To Government Code Section 27383

recording requested by:

CITY OF OAKLAND
when recorded mail to:

City of Oakland
Public Works Department
Dalziel Admin Building
250 Ogawa Plaza - 4th Floor
Oakland, CA 94612
Attn: Director, PWD

---------- *space above for City of Oakland's use only* ----------

INDENTURE AGREEMENT

Address 1700 Jefferson Street **permit no.** ENMI 16083

parcel no. 003 -0063-008-04 **authorities** Municipal Code Section 12.08.080

description Allow monitoring well to encroach into the parking lane on the south side of 18th Street near Jefferson Street to monitor parcel 003 -0063-008-04.

RECITAL

The owners subscribed below of fee simple interest in the property referenced above and described in Exhibit B attached hereto, is hereby granted, for an indeterminate period of time, the revocable permit referenced above allowing the temporary encroachment described above and delineated in Exhibit C, attached hereto, and limiting the use, exercise, and operation of the encroachment with the requirements and restrictions set forth in Exhibit A, attached hereto, and the associated permit. The owners agrees by and between themselves to be bound by the general and special conditions in Exhibit A and to comply with these conditions faithfully and fully at all times. The conditions of this agreement and associated permit shall equally bind all agents, heirs, successors, and assigns of the owners.

ACKNOWLEDGEMENT OF PROPERTY OWNER

(Notarization of signature required)
Blue Print Service Company, Inc, a CA corporation

Signature _____ Date _____
Blue Print Service Company, Inc

Print Name _____ Title _____

ATTACHMENTS

Exhibit **A** - Conditions of encroachment
Exhibit **B** - Description of privately owned parcel
Exhibit **C** - Limits of encroachment

CITY OF OAKLAND
a municipal corporation **by** _____ **date** _____

MIKE NEARY, P.E.
Assistant Director
Public Works Department

GUS AMIRZEHNI, P.E.
Division Manager
Public Works Department

EXHIBIT A

Conditions for an Encroachment in the Public Right-of-Way

address 1700 Jefferson Street **parcel no.** 003 -0063-008-04

permittee BLUE PRINT SERVICE COMPANY, INC **permit no.** ENMI 16083

- **General conditions of the encroachment**

1. This agreement may be voided and the associated permit for an encroachment may be revoked at any time and for any reason, at the sole discretion of the City Administrator or his or her designee, or the associated permit may be suspended at any time, at the sole discretion of the Director of Public Works, upon failure of the permittee to comply fully and continuously with each and all of the general and special conditions set forth herein and in the associated permit.

2. The property owner and permittee hereby disclaim any right, title, or interest in or to any portion of the public right-of-way, including the sidewalk and street, and agree that the encroachment is granted for indeterminate period of time and that the use and occupancy by the permittee of the public right-of-way is temporary and does not constitute an abandonment, whether expressed or implied, by the City of Oakland of any of its rights associated with the statutory and customary purpose and use of and operations in the public right-of-way.

3. The permittee agrees to indemnify and save harmless the City of Oakland, its officers, agents, employees, and volunteers, and each of them, from any suits, claims, or actions brought by any person or persons, corporations, or other entities for on account of any bodily injury, disease, or illness, including death, damage to property, real or personal, or damages of any nature, however caused, and regardless of responsibility for negligence, arising in any manner out of the construction of or installation of a private improvement itself or sustained as result of its construction or installation or resulting from the permittee's failure to maintain, repair, remove and/or reconstruct the private improvement.

4. The permittee shall maintain fully in force and effect at all times that the encroachment occupies the public right-of-way good and sufficient public liability insurance in a face amount not less than $300,000.00 for each occurrence, and property damage insurance in a face amount not less than $50,000.00 for each occurrence, both including contractual liability, insuring the City of Oakland, its officers, agents, employees, and volunteers against any and all claims arising out of the existence of the encroachment in the public right-of-way, as respects liabilities assume under this permit, and that a certificate of such insurance and subsequent notices of the renewal thereof, shall be filed with the Director of Public Works of the City of Oakland, and that such certificate shall state that the insurance coverage shall not be canceled or be permitted to lapse without thirty calendar (30) days written notice to the Director of Public Works. The permittee also agree that the City of Oakland may review the type and amount of insurance required of the permittee annually and may require the permittee to increase the amount of and/or change the type of insurance coverage required.

5. The permittee shall be solely and fully liable and responsible for the repair, replacement, removal, reconstruction, and maintenance of any portion or all of the private improvements constructed or installed in the public right-of-way, whether by the cause, neglect, or negligence of the permittee or others and for the associated costs and expenses necessary to restore or remove the encroachment to the satisfaction of the Director of Public Works and shall not allow the encroachment to become a blight or a menace or a hazard to the health and safety of the general public.

6. The permittee acknowledge and agree that the encroachment is out of the ordinary and does not comply with City of Oakland standard installations. The permittee further acknowledge and agree that

the City of Oakland and public utility agencies will periodically conduct work in the public right-of-way, including excavation, trenching, and relocation of its facilities, all of which may damage the encroachment. Permittee further acknowledge and agree that the City and public utility agencies take no responsibility for repair or replacement of the encroachment which may be damaged by the City or its contractors or public utility agencies or their contractors. Permittee further acknowledge and agree that upon notification by and to the satisfaction of the Director of Public Works, permittee shall immediately repair, replace, or remove, at the sole expense of the permittee, all damages to the encroachment that are directly or indirectly attributable to work by the City or its contractors or public utility agencies or their contractors.

7. Permittee shall remain liable for and shall immediately reimburse the City of Oakland for all costs, fee assessments, penalties, and accruing interest associated with the City's notification and subsequent abatement action for required maintenance, repairs, or removal, whether in whole or in part, of the encroachment or of damaged City infrastructure made necessary by the failure, whether direct or indirect, of the permittee to monitor the encroachment effectively and accomplish preventative, remedial, or restorative work expeditiously. The City reserves the unqualified right to collect all monies unpaid through any combination of available statutory remedies, including recordation of Prospective Liens and Priority Liens/ Special Assessments with the Alameda County Recorder, inclusion of non-reimbursed amounts by the Alameda County Assessor with the annual assessment of the general levy, and awards of judgments by a court of competent jurisdiction.

8. Upon revocation of the encroachment permit, permittee shall immediately, completely, and permanently remove the encroachment from the public right-of-way and restore the public right-of-way to its original conditions existing before the construction or installation of the encroachment, to the satisfaction of the Director of Public Works and all at the sole expense of the permittee.

9. This agreement and the associated permit for an encroachment shall become effective upon filing of this agreement with the Alameda County Recorder for recordation as an encumbrance of the property and its title.

- **Special conditions of the encroachment**

10. That said permittee shall obtain excavation permit(s) prior to construction and separate excavation permit(s) prior to the removal of the monitoring well.

11. That said permittee shall provide to the City of Oakland an AS BUILT plan showing the actual location of the monitoring well and the results of all data collected from the monitoring well.

12. That said permittee shall remove the monitoring well and repair any damage to the street area in accordance with City standards two (2) years after construction or as soon as monitoring is complete.

13. That said permittee shall notify the Planning and Building Department, Engineering Services Division after the monitoring well is removed and the street area restored to initiate the procedure to rescind the minor encroachment permit.

14. That the monitoring well's cover installed within the sidewalk area shall have a skid-proof surface.

15. That the monitoring well's casting and cover shall be iron and shall meet H-20 load rating. The cover shall be secured with a minimum of two stainless steel bolts. Bolts and cover shall be mounted flush with the surrounding surface. For sidewalk installations, a pre-cast concrete utility box and non-skid cover may be needed in conjunction with the bolted cast iron cover with City approval.

16. That said permittee acknowledges that the City makes no representations or warranties as to the

conditions beneath said encroachment. By accepting this revocable permit, permittee agrees that it will use the encroachment area at its own risk, is responsible for the proper coordination of its activities with all other permittee, underground utilities, contractors, or workmen operating, within the encroachment area and for the safety of itself and any of its personnel in connection with its entry under this revocable permit.

17. That said permittee acknowledges that the City is unaware of the existence of any hazardous substances beneath the encroachment area, and permittee hereby waives and fully releases and forever discharges the City and its officers, directors, employees, agents, servants, representatives, assigns and successors from any and all claims, demands, liabilities, damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs), whether direct or indirect, known or unknown, foreseen or unforeseen, that may arise out of or in any way connected with the physical condition or required remediation of the excavation area of any law or regulation applicable thereto, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Sections 9601 et seq.), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 466 et seq.), the Safe Drinking Water Act (14 U.S.C. Sections 1401, 1450), the Hazardous Waste Control Law (California Health and Safety Code Sections 25100 et seq.), the Porter-Cologne Water Quality Control Act (California Health and Safety Code Section 13000 et seq.), the Hazardous Substance Account Act (California Health and Safety Code Sections 253000 et seq.), and the Safe Drinking Water and Toxic Enforcement Act (California Health and Safety Code Section 25249.5 et seq.).

18. That said permittee further acknowledges that it understands and agrees that it hereby expressly waives all rights and benefits which it now has or in the future may have, under and by virtue of the terms of California Civil Code Section 1542, which reads as follows: "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."

19. That said permittee recognizes that by waiving the provisions of this section, permittee will not be able to make any claims for damages that may exist, and to which, if known, would materially affect its decision to agree to these encroachment terms and conditions, regardless of whether permittee's lack of knowledge is the result of ignorance, oversight, error, negligence, or any other cause.

20. (a) That said permittee, by the acceptance of this revocable permit, agrees and promises to indemnify, defend, and hold harmless the City of Oakland, its officers, agents, and employees, to the maximum extent permitted by law, from any and all claims, demands, liabilities damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs; collectively referred to as "claims", whether direct or indirect, known or unknown, foreseen or unforeseen, to the extent that such claims were either (1) caused by the permittee, its agents, employees, contractors or representatives, or, (2) in the case of environmental contamination, the claim is a result of environmental contamination that emanates or emanated from 1700 Jefferson Street, Oakland, California site, or was otherwise caused by the permittee, its agents, employees, contractors or representatives.

(b) That, if any contamination is discovered below or in the immediate vicinity of the encroachment, and the contaminants found are of the type used, housed, stored, processed or sold on or from 1700 Jefferson Street, Oakland, California site, such shall amount to a rebuttable presumption that the contamination below, or in the immediate vicinity of, the encroachment was caused by the permittee, its agents, employees, contractors or representatives.

(c) That said permittee shall comply with all applicable federal, state, county and local laws, rules, and regulations governing the installation, maintenance, operation and abatement of the encroachment.

21. That said Minor Encroachment Permit and Agreement shall take effect when all the conditions hereinabove set forth shall have been complied with to the satisfaction of the Director of Public Works, and shall become null and void upon the failure of the permittee to comply with all conditions.

22. That said permittee understands that a rescission of this agreement will be needed to complete this agreement at some future date when monitoring is completed and well is removed. Additional permitting will be required.

23. **That said Indenture Agreement alone does not allow work to be done which requires inspection. Permittee to obtain any and all required permits before beginning work.**

24. The City, at its sole discretion and at future date not yet determined, may impose additional and continuing fees as prescribed in the Master Fee Schedule for use and occupancy of the public right-of-way.

EXHIBIT B

Description of the Private Property Abutting the Encroachment

address 1700 Jefferson Street | parcel no. 003 -0063-008-04
Scrivener's Affidavit no. 2000-113503 | recorded April 14, 2000

PARCEL ONE:

THE EASTERN 19 50 FEET OF LOT 8, ALL OF LOTS 9 AND 10 AND THE WESTERN 10 FEET OF LOT 11, AS SAID LOTS ARE SHOWN ON THE "MAP SHOWING THE LOCATION OF 17TH STREET BETWEEN GROVE STREET AND SAN PABLO ROAD," - FILED FEBRUARY 17, 1869, IN BOOK 7 OF MAPS AT PAGE 27, IN THE OFFICE OF THE COUNTY RECORDER OF ALAMEDA COUNTY, DESCRIBED AS FOLLOWS

BEGINNING AT A POINT ON THE NORTHERN LINE OF 17TH STREET DISTANT THEREON EASTERLY 380 50 FEET FROM THE EASTERN LINE OF GROVE STREET, AS SAID STREETS ARE SHOWN ON SAID MAP, SAID POINT OF BEGINNING BEING THE INTERSECTION OF SAID LINE OF 17TH STREET WITH THE EASTERN LINE OF THE PARCEL OF LAND FINALLY CONDEMNED FOR THE OPENING AND EXTENSION OF JEFFERSON STREET, RUNNING THENCE EASTERLY ALONG SAID LINE OF 17TH STREET 129.50 FEET, THENCE NORTHERLY PARALLEL WITH SAID LINE OF GORVE STREET 100 FEET, THENCE WESTERLY PARALLEL WITH SAID LINE OF 17TH STREET 129 50 FEET TO SAID EASTERN LINE OF SAID LAND SO CONDEMNED, THENCE SOUTHERLY PARALLEL WITH SAID LINE OF GROVE STREET AND ALONG SAID EASTERN LINE OF LAND SO CONDEMNED 100 FEET TO THE POINT OF BEGINNING

EXCEPTING THEREFROM THAT PORTION OF THE PREMISES GRANTED TO THE CITY OF OAKLAND, FROM MASONIC HOMES OF CALIFORNIA, IN DEED RECORDED MARCH 15, 1973, REEL 3364, IMAGE 512, OFFICIAL RECORDS, INSTRUMENT NO. 73-33644.

PARCEL TWO:

A PORTION OF LOT 11, "MAP SHOWING LOCATION OF 17TH STREET BETWEEN GROVE STREET AND SAN PABLO ROAD AS DEDICATED TO THE CITY OF OAKLAND", FILED FEBRUARY 17, 1869, MAP BOOK 7, PAGE 27, ALAMEDA COUNTY RECORDS, DESCRIBED AS FOLLOWS.

BEGINNING AT THE MOST EASTERN CORNER OF THE HEREINABOVE MENTIONED LOT 11; THENCE NORTH 62° 35' 24" WEST, 40 FEET, THENCE SOUTH 27° 24' 36" WEST, 71 FEET; THENCE SOUTH 62° 35' 24" EAST, 40 FEET; THENCE ALONG THE SOUTHEASTERN BOUNDARY LINE OF SAID LOT 11 NORTH 27° 24' 36" EAST, 71 FEET TO THE POINT OF BEGINNING.

A more legible copy is available at the Office of the Director, PWD, City of Oakland, 250 Frank H. Ogawa Plaza, 4th floor.

EXHIBIT B (continued)

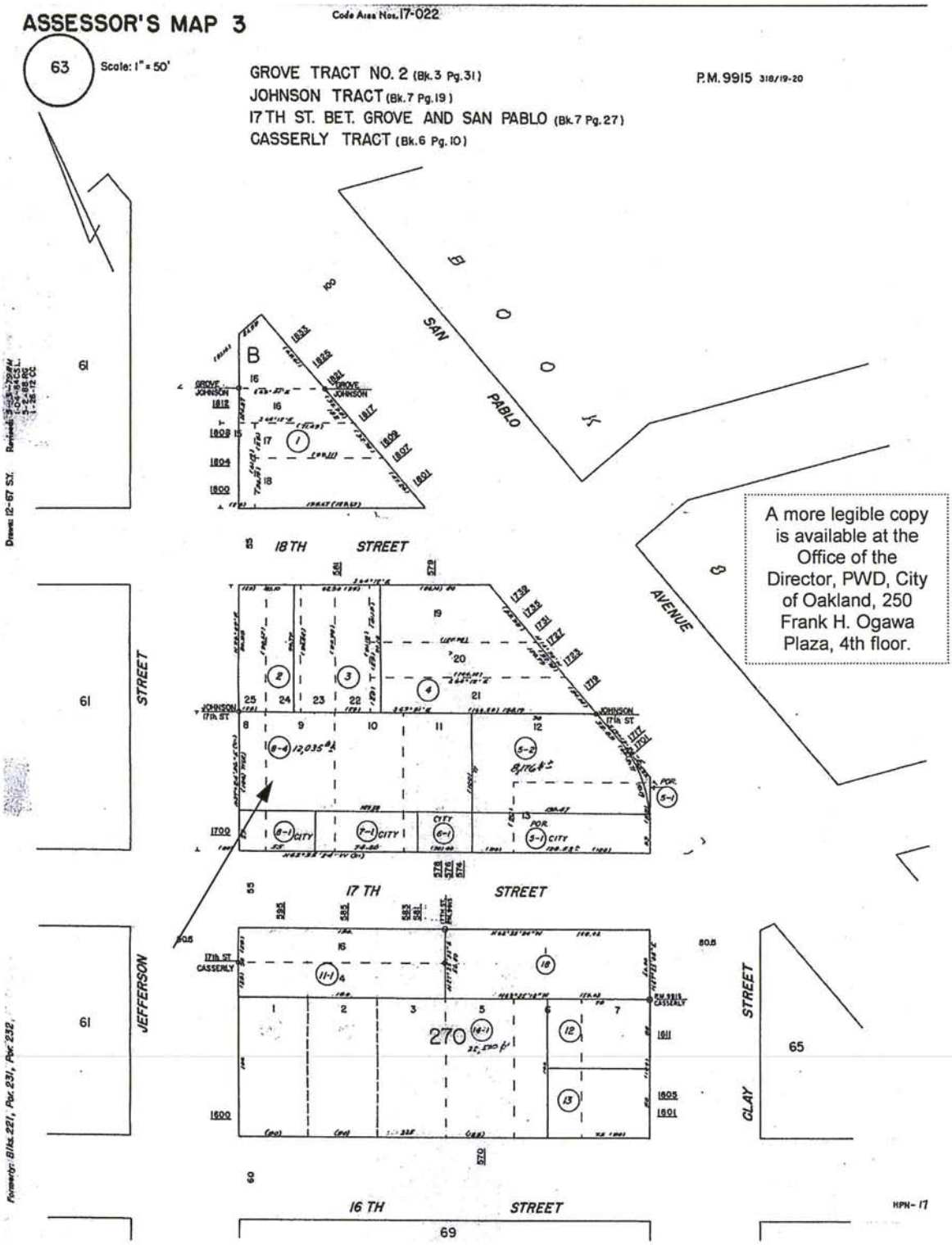
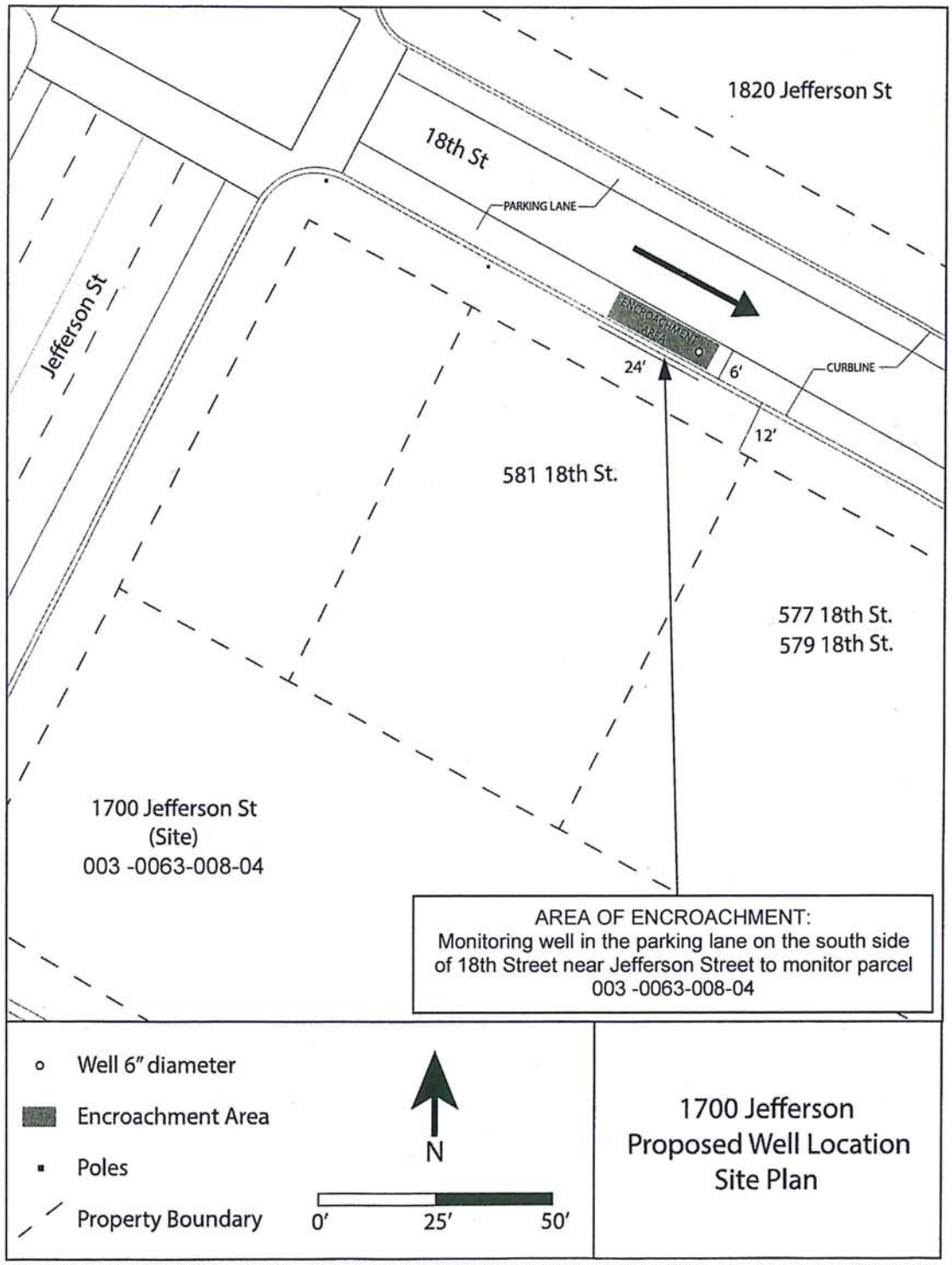


EXHIBIT C

Limits Of The Encroachment In The Public Right-Of-Way

address 1700 Jefferson Street **parcel no.** 003 -0063-008-04



A more legible copy is available at the Office of the Director, PWD, City of Oakland, 250 Frank H. Ogawa Plaza, 4th floor.

APPENDIX B

LITHOLOGIC BORING LOGS

AWR Corporation
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/22/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** ft. **Static:** ft.
Groundwater Sampling Method:		**Total Boring Depth:** 22 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
								Asphalt and base rock	Hand augered to 5' bgs
						SM		Silty sand (SM), dark yellow brown, fg-mg sand, 25% silt, stiff, dense, dry	
						CL		Sandy Clay (CL) dark brown with red mottling, ~15% fg sand, 5-10% silt, low plasticity, stiff, dry	
5		10.1				SP-SM		Sand with silt (SP-SM) medium reddish brown, fg-mg sand, 5-10% silt, medium dense, dry	
		14.7							
		15.1						Color change to light gray with red mottling and silt increases to 15-20%	
		20						Sandy silt (ML) light gray, 15% fg sand, stiff, red mottling, non plastic, dry	
		20.1				ML			
10		21.2							
		29						Sand with silt (SP-SM) gley, fg sand, 5% silt, medium dense, and TPH odor, dry	
		31.1				SP-SM			
		27.1						Silty sand (SM) gley, fg-mg sand, 10-15% silt, poorly graded, medium dense, TPH odor, dry	
		25				SM			
15		31						Sand with silt (SP-SM) gley, fg sand, 5% silt, medium dense, TPH odor, dry	
		102				SP-SM		Trace of red mottling	
		125							
		45						Gley tapers off to light yellowish brown	
		21						Sand (SP) light yellowish brown, fg-mg sand, trace silt, loose, dry-damp, TPH odor	
20		476				SP		Dark grayish-green/gley	
		125						Dark grayish-gren/gley coloring tapers off; moist	
		122.6						TPH odor	
								Total Depth: 22 ft.	
25									

AWR Corporation
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/22/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** ft. **Static:** ft.
Groundwater Sampling Method:		**Total Boring Depth:** 22 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
								Asphalt and base rock	
		60						Silty sand (SM), dark yellow brown, fg-mg poorly graded sand, 25% silt, stiff, dense, dry	
		870						Strong odor, some gley streaking	
		942							
		1928				SM		Trace gley streaking; very strong TPH odor	
5		1862							
		1983							
		1178							
		963						Silt (ML), light reddish gray with gley veining, trace fg sand, low plasticity, soft, moist,strong TPH odor	
		674				ML			
10		578							
		828						Silty sand (SM), dark browm, fg-mg sand, 10-15% silt, poorly graded, dense, TPH odor, dry	
		2764							
		2983				SM			
		3110						Gley coloring from 14-15'	
15		3001							
		2204						Sand with silt (SP-SM), light reddish brown, poorly graded fg sand, 5% silt, loose, TPH odor, dry-damp	
		2687				SP-SM			
		2572						Silty sand (SM), light reddish-gray, fg-mg sand, 10-15% silt, poorly graded, medium dense, TPH odor, moist	
		2874				SM			
20		1805							
		1780						Sand (SP), light reddish brown, poorly graded, fg-mg sand, 5% silt, loose, TPH odor, damp to moist	
		1574				SP		Gley coloring from 21' to total depth	
								Total Depth: 22 ft.	
25									

AWR Corporation
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/15/2016	**Logged By:** Yola Bayram
Location: 1700 Jefferson Street Oakland, CA	
Client: ARC Document Solutions	
Drilling Co.: Cascade	**Driller:** Jose
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie
Groundwater Sampling Method: Bailer	
Soil Sampling Method: Encores/Jars	

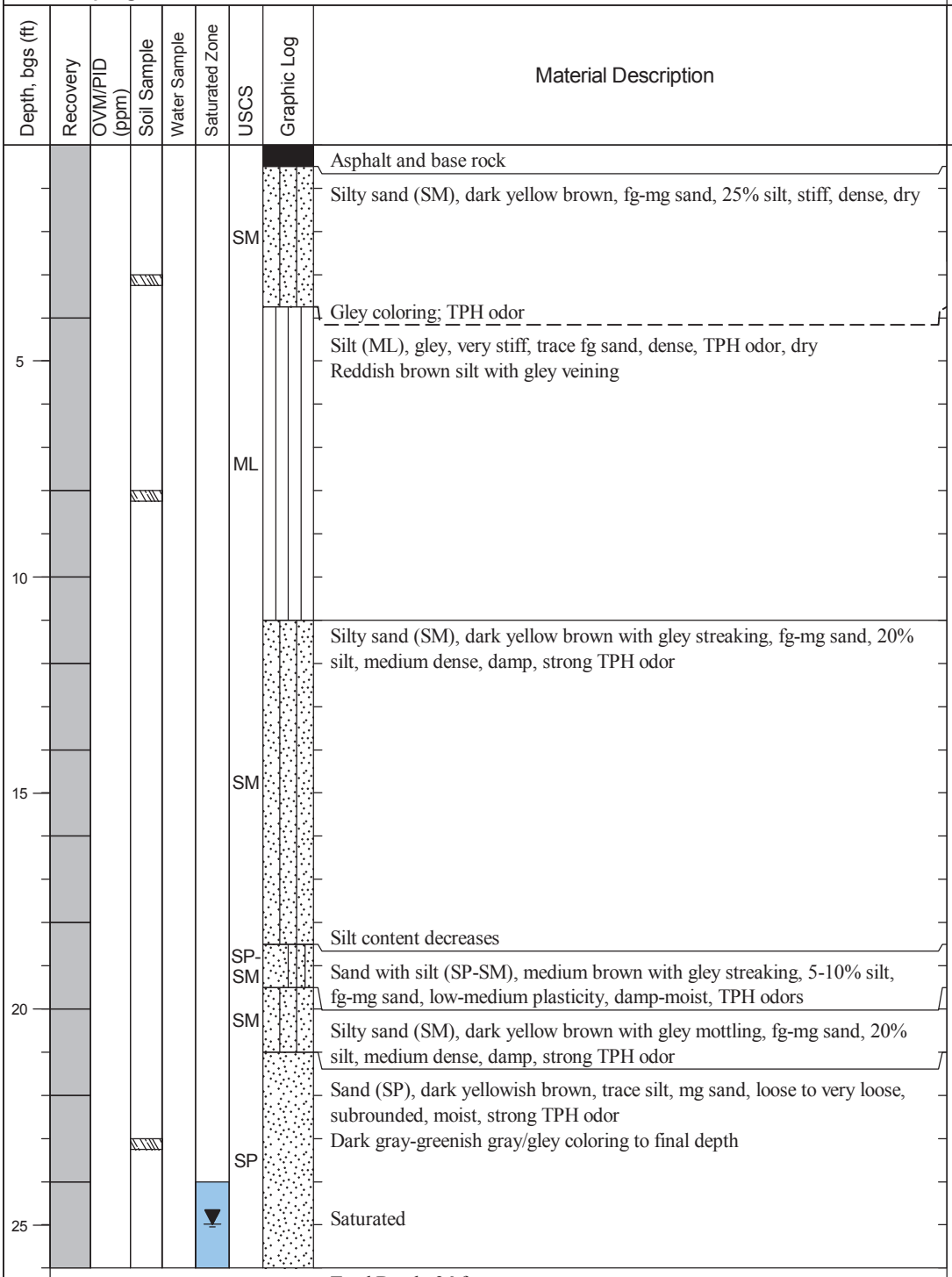
Soil Boring

Elevation
GSE:

Depth to Water
Initial: 24.98 ft. **Static:** ft.

Total Boring Depth: 26 ft.

Lat.: **Long:**



AWR Corporation
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/22/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** 25.35 ft. **Static:** ft.
Groundwater Sampling Method: Bailer		**Total Boring Depth:** 28 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
								Asphalt and base rock	
		0						Silty sand (SM), light reddish brown, fg poorly graded sand, trace silt, stiff, dense, damp	
		3.3				SM			
		9						Sandy silt (ML) light reddish brown, 5-10% fg sand, low plasticity, damp	
		11.2				ML			
5		8.7						Silty sand (SM) dark reddish brown, little silt, fg-mg sand, poorly graded, med dense, dry to damp	
		11.4				SM			
		10.1							
		9.3						Silt (ML), light grayish brown with red mottling, 5% fg sand, 5-10% clay, slight plasticity, medium stiff to soft, damp	
		10.1							
10		12.1				ML			
		14.1							
		16.8						Sandy silt (ML) light reddish brown with some gray streaking, 25% fg-mg sand, no plasticity, dry	
		17.1				ML			
		21.2						Gley from 14.5 to 15.25'	
15		28.4						Sand with silt (SP-SM), light reddish brown, poorly graded fg sand, 10% silt, loose, TPH odor, dry-damp	
		29.1				SP-SM			
		37.4						Sand (SP), light reddish gray, poorly graded, 5% silt, fg-mg sand, loose, TPH odor, damp	
		38.2							
		45.9				SP			
20		108.7							
		1180							
		1600						Silty sand (SM) dark reddish brown, little silt, fg-mg sand, poorly graded, med dense, damp	
		3009				SM			
		3108						Sand (SP), light reddish brown, poorly graded, 5% silt, fg-mg sand, loose, TPH odor, damp	
		3309			▼			Gley coloring begins at 23.5' to total depth with very strong TPH odor	
25		2307				SP		Moist	
		2866						Saturated	Ground water sample collected
		3809						Total Depth: 28 ft.	

AWR Corporation
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Boring Log: C5

Date: 5/15/2016	**Logged By:** Yola Bayram
Location: 1700 Jefferson Street Oakland, CA	
Client: ARC Document Solutions	
Drilling Co.: Cascade	**Driller:** Jose
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie
Groundwater Sampling Method:	
Soil Sampling Method: Encores/Jars	

Soil Boring

Elevation
GSE:

Depth to Water
Initial: ft. **Static:** ft.

Total Boring Depth: 22 ft.

Lat.: **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Material Description	Remarks
							Asphalt and base rock	
		22.1					Silty sand (SM), dark yellow brown, fg-mg sand, 25% silt, stiff, dense, dry	
		57.1						
		145.1	▨					
		110				SM		Strong TPH odor beginning at 4' and continuing through total depth
5		50						
		57.1						
		75.2						
		110.8	▨					
		148				ML	Silt (ML), reddish brown with gley streaking, trace fg sand, 10% clay, low plasticity, moist	
10		381					Silty sand (SM), dark yellow brown, fg-mg sand, 25% silt, stiff, dense, TPH odor, dry	
		405						
		548						
		340					Gley from 12.5' to 17.5'	
		439				SM		
15		671						
		938						
		1287						
		1975				SP-SM	Sand with silt (SP-SM), medium brown, 5% silt, fg-mg sand, TPH odor, medium dense, dry	
		1567				SM	Silty sand (SM), dark yellow brown, fg-mg sand, 20-25% silt, stiff, dense, TPH odor, dry	
20		2057						
		3359	▨			SP-SM	Sand with silt (SP-SM), medium yellowish brown with gley streaking, 5% silt, fg-mg sand, TPH odor, loose, damp	
		3009					Total Depth: 22 ft.	
25								

AWR Corporation
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/22/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** ft. **Static:** ft.
Groundwater Sampling Method:		**Total Boring Depth:** 24 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
								Asphalt and base rock	
		0						Silty sand (SM), dark yellow brown, fg-mg sand, 25% silt, stiff, dense, some debris, dry	
		2							
		14							
		21				SM		Gley coloring; Strong TPH odor	
5		26							
		28							
		78							
		128						Sandy Silt (ML), gley with trace red mottling, very stiff, 10-15% fg sand, dense, dry	
		156							
10		126						Gley coloring tapers off to light reddish brown with trace gley veining	
		118							
		577				ML		No gley veining	
		214							
		339							
15		671							
		534						Silty sand (SM), light reddish gray, fg-mg sand, 20-25% silt, stiff, dense, very strong TPH odor, dry	
		289				SM			
		268						Sand with silt (SP-SM), dark reddish brown, 5% silt, fg-mg sand, loose, TPH odor, dry	
		279				SP-SM			
20		387						Sand with silt (SP-SM), light yellowish gray, 5-10% silt, fg-mg sand, loose, TPH odor, dry	
		587				SP-SM			
		417						Sand (SP), no fines, fg-mg sand, loose to very loose, subrounded, damp-moist, strong TPH odor	
		600				SP			
		1871						Total Depth: 24 ft.	
25									

AWR Corporation
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/22/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** ft. **Static:** ft.
Groundwater Sampling Method:		**Total Boring Depth:** 22 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

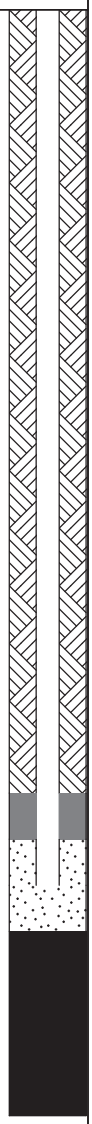
Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
								Asphalt and base rock	
		0						Silty sand (SM), light reddish brown, fg poorly graded sand, 10% silt, dense, dry	
		4.9							
		3.9	▨						
		5.8				SM			
5		14.9							
		20.1							
		27.9							
		32.4	▨					Sandy silt (ML) light yellowish brown with red mottling, 5% fg sand, low to slight plasticity, damp	
		38				ML			
10		18.9							
		19						Silty sand (SM) light grayish brown with red mottling, 10-15% silt, fg poorly graded sand, dense, damp	
		21.2	▨			SM		Color change to dark reddish brown; silt content decreases to 5-10%	
		38.9						Sandy silt (ML) light reddish brown, 10-15% fg sand, low plasticity, dry	
		37.9				ML			
15		40.1							
		57.9						Silty sand (SM) light grayish brown with red mottling, 10-15% silt, fg poorly graded sand, dense, damp	
		62.5				SM			
		65.6				SP-SM		Sand with silt (SP-SM), light reddish brown, poorly graded, 5% silt, fg-mg sand, loose, TPH odor, damp	
		110						Silty sand (SM) gley, 10-15% silt, fg poorly graded sand, dense, damp, trace black streaking	
20		379	▨			SM			
		411						Sand (SP), medium grayish brown with gley veining, fg-mg sand, loose, damp	
		909	▨			SP			
								Total Depth: 22 ft.	
25									

APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/15/2016 Logged By: Yola Bayram	Well Specifications
Location: 1700 Jefferson Street Oakland, CA	Elevation
Client: ARC Document Solutions	**TOC:** **GSE:**
Drilling Co.: Cascade	Depth to Water
Drilling Method: Direct Push **Driller:** Jose	**Initial:** ft. **Static:** ft.
Well Sand Filter: **Well Seal:** Hydrated Bentonite	**Total Boring Depth:** 24 ft.
Grout Materials and Method: Bentonite	**Lat.:** **Long:**
Completion: Well Box	**PVC Diameter:**
Groundwater Sampling Method:	**Screen Interval:** ft.
Soil Sampling Method: Encores/Jars	**Screen Slot Size:**

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Material Description
					Asphalt and base rock
	0				Silty sand (SM), light yellow brown, fg-mg sand, 25% silt, stiff, dense, dry
	0				
	0	▨		SM	
	0				
5	0				
	0				
	0	▨			
	0				Sandy silt (ML) reddish brown, trace fg sand, slight plasticity, trace clay, soft to medium stiff, damp to moist
	0			ML	
10	0				Sand content increases with depth ~15%
	0				
	2				Silty sand (SM), light yellow brown, fg-mg sand, 25% silt, stiff, dense, dry
	1.5			SM	
	3.6				No recovery
15					
	34.4	▨			Silty sand (SM), light yellow brown, fg-mg sand, 25% silt, stiff, dense, dry
	409	▨		SM	Some TPH odor; light gley veining
	109				Sand with silt (SP-SM) light grayish brown, fg-mg sand, subangular, 5-10% silt, loose, TPH odor, dry
	1278	▨			
20	1331				
				SP-SM	Damp
	>3000				Moist
	>3000				
	>3000				Gley coloring
	>3000				Wet
					Total Depth: 24 ft.
25					

Soil vapor well installed. Dry Bentonite placed under and 1' above filter pack



AWR Corporation
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/22/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** ft. **Static:** ft.
Groundwater Sampling Method:		**Total Boring Depth:** 22 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
								Asphalt and base rock	
		75						Silty sand (SM), dark yellow brown, fg-mg sand, 25% silt, stiff, dense, dry	TPH odor from 2' to total depth
		62.7							
		77.8							
		67.9				SM		10-15% clay from 3.5' to 4.5'	
5		11.4							
		27.6							
		69.1							
		59.5							
		79.1						Sandy Silt (ML), dark brown with red mottling, stiff, 10-15% fg-mg sand, dry	
10		101.2				ML		Color change to light brownish red	
		88.9							
		78.2						Sandy Silt (ML), light reddish brown, 10-15% fg-mg sand, 5-10% clay, low plasticity, soft, damp	
		30.6				ML			
		35.7							
15		30.1							
		45.1						Silty sand (SM), light reddish gray, fg-mg sand, 20-25% silt, stiff, dense, very strong TPH odor, dry	
		32.4				SM		6" sand lens with 5% silt, mostly mg sand, light gray	
		88.1				SP-SM		Sand with silt (SP-SM), dark reddish brown, 5% silt, fg-mg sand, loose, TPH odor, damp	
		109.7				SM		Silty sand (SM), light gray with red mottling, fg-mg sand, 20-25% silt, stiff, dense, very strong TPH odor, dry-damp	
20		263.7							
		314.6				SP-SM		Sand with silt (SP-SM), light reddish brown with gley veining, fg-mg sand, loose, damp-moist, strong TPH odor, damp	
		316.7						Gley coloring	
								Total Depth: 22 ft.	
25									

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Date: 5/15/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** 25.25 ft. **Static:** ft.
Groundwater Sampling Method: Bailer		**Total Boring Depth:** 38 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
								Asphalt and base rock	
		0						Silty sand (SM), dark yellow brown, fg-mg sand, 25% silt, stiff, dense, some debris, dry	
		0							
		0							
		9.1						Grades to gley Large concrete piece (~1") and blue plastic pieces	Strong TPH odor beginning at 4' and continuing through total depth
5		17.6				SM		Strong TPH odor	
		21							
		20.1						Silt content decreases to 10-15%, medium dense with mg sand Wood pieces and few gravel	
		8.8							
		9.5						Gley tapers off to light reddish brown	
10		381						Silt (ML), reddish brown with trace gley coloring, very stiff, trace fg sand,	
		1291				ML		dense, dry	
		783						Silty sand (SM), dark yellow brown, fg-mg sand, 25% silt, stiff, dense, dry	
		340				SM			
		439						Clayey sand (SC), light brown with some mottling of gley, 10% clay, low to medium plasticity, well graded fg-mg sand, trace silt, dry	
15		671				SC		Plasticity and clay content decreases with depth	
		938						Silty sand (SM), dark yellow brown, fg-mg sand, 25% silt, stiff, dense, very strong TPH odor, dry	
		>3000							
		>3000				SM			
		>3000							
20		>3000				SP-SM		Sand with silt (SP-SM), medium brown with mottling of gley, 5-10% silt, fg-mg sand, low-medium plasticity, dry-damp	
		>3000				SC			
		2000				SP-SM		Clayey sand (SC), light brown with mottling of gley, 10% clay, low to medium plasticity, well graded fg-mg sand, trace silt, dry	
		1789						Sand with silt (SP-SM), medium brown with gley splotches, 5-10% silt, fg-mg sand, low-medium plasticity, dry-damp	
		1481						Sand (SP), gley, no fines, mg sand, loose to very loose, subrounded, moist, strong TPH odor Saturated	
25		1001			▼				
		1273				SP			
		2004							
		2508							
		2610							

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Date: 5/15/2016 Logged By: Yola Bayram

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
		>3000				SP			PID malfunctioning after 30'
								Clay (CL), light grayish brown with mottling of dark greenish gray/gley, 5% silt, stiff, lean clay, medium plasticity, saturated	
						CL			
								Silt content increases to 15-20%	
35						ML		Clayey Silt (ML), light grayish brown, 20-30% clay, slight plasticity, 15-20% vfg to fg sand, saturated	
						SM		Silty sand (SM), light yellow brown, 20-30% silt, 15-20% clay, dense, vfg to fg sand, saturated	
						ML		Clayey silt as described	
								Total Depth: 38 ft.	
40									
45									
50									
55									
60									

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Boring Log: C11/SV5

Date: 5/14/2016	**Logged By:** Yola Bayram
Location: 1700 Jefferson Street Oakland, CA	
Client: ARC Document Solutions	
Drilling Co.: Cascade	
Drilling Method: Direct Push	**Driller:** Jose
Well Sand Filter:	**Well Seal:** Hydrated Bentonite
Grout Materials and Method: Bentonite	
Completion: Well Box	
Groundwater Sampling Method: Bailer	
Soil Sampling Method: Encores/Jars	

Well Specifications

Elevation
TOC: **GSE:**

Depth to Water
Initial: Dry ft. **Static:** 25.35 ft.

Total Boring Depth: 26 ft.
Lat.: **Long:**
PVC Diameter:
Screen Interval: ft.
Screen Slot Size:

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Material Description
					Concrete slab
	0				Crushed rock base
	0			SP-SM	Sand with silt (SP-SM) dark red brown, 5-10% silt, trace gravel, fg-mg sand, subrounded, loose to medium dense, dry
	0			SP	Sand (SP) light to pale yellowish brown, trace silt, loose, fg-mg subrounded sand, dry
	0				Sandy silt (ML) light reddish brown, 10-15% fg sand, medium stiff to stiff, trace clay, dry
5	0			ML	
	0				Sand content increases with depth
	0			SP-SM	Sand with silt (SP-SM) light reddish brown, fg-mg sand, subangular, 5-10% silt, slightly loose to medium dense, dry
	0			ML	Silt content increases with depth
10	0			SP-SM	Sandy silt (ML) reddish brown, trace fg sand, slight plasticity, trace clay, soft to medium stiff, damp to moist
	0				Sand with silt (SP-SM) light gray with red mottling, poorly graded, trace silt, dense, damp
	0			ML	Silt increases with depth ~10-15% silt
	0				Sandy silt (ML) light reddish brown, 10-15% fg sand, medium stiff to stiff, trace clay, damp
15	0				Silt decreases with depth ~5% silt
	0			SP	Sand (SP) light to medium brown, fg-mg sand, loose-medium dense, trace silt, dry
	0				Color change to light gray brown and silt content increases to 5-10%
	0			SP-SM	Sand with silt (SP-SM) light gray brown, fg-mg sand, subangular, 5-10% silt, slightly
	1.2				loose to medium dense, dry
20	14.1				Sand (SP) light to medium brown, fg-mg sand, loose-medium dense, trace silt, damp
	23.4				Gley coloring to total depth
	32.4			SP	
	22.1				
	14.5				Wet
25	16.8				
	22.5				Saturated

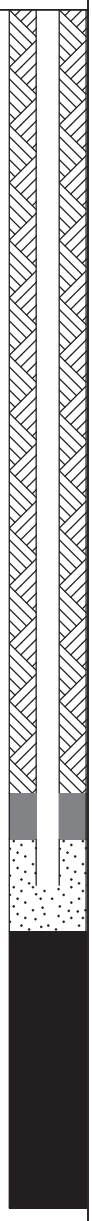
Total Depth: 26 ft.

Remarks/Well Diagram

Soil vapor well installed. Dry Bentonite placed under and 1' above filter pack

Slight TPH Odor

Dry; GW sample collected next day



APPLIED WATER RESOURCES CORP.
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Date: 5/15/2016	Logged By: Yola Bayram	Well Specifications
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**TOC:** **GSE:**
Drilling Co.: Cascade		Depth to Water
Drilling Method: Direct Push	**Driller:** Jose	**Initial:** 26.75 ft. **Static:** ft.
Well Sand Filter:	**Well Seal:** Hydrated Bentonite	**Total Boring Depth:** 28 ft.
Grout Materials and Method: Bentonite		**Lat.:** **Long:**
Completion: Well Box		**PVC Diameter:**
Groundwater Sampling Method: Bailer		**Screen Interval:** ft.
Soil Sampling Method: Encores/Jars		**Screen Slot Size:**

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Material Description	Remarks/Well Diagram
					Concrete slab	
	0			SP-SM	Crushed rock base	Soil vapor well installed. Dry Bentonite placed under and 1' above filter pack
	0				Sand with silt (SP-SM) dark red brown, 5-10% silt, trace gravel, fg-mg sand, subrounded, loose to medium dense, dry	
	0			SP	Sand (SP) light to pale yellowish brown, trace silt, loose, fg-mg subrounded sand, dry	
	0			CL	Clay (CL) light orange brown, trace fg sand, low plasticity, soft to medium stiff, some mottling and brick debris, damp	
5	0					
	0			ML	Sandy silt (ML) light reddish brown, 20-25% fg-mg sand, trace clay, stiff, damp to moist Dry and sand content increases with depth	
	0					
	0			SP-SM	Sand with silt (SP-SM) light reddish brown, fg-mg sand, subangular, 5-10% silt, slightly loose to medium dense, dry	
	0					
10	0				Sandy silt (ML) reddish brown with red mottling, trace fg sand, slight plasticity, trace clay, soft to medium stiff, damp to moist	
	0			ML		
	0					
	0					
	0			SP-SM	Sand with silt (SP-SM) light reddish brown, fg-mg sand, subangular, 5-10% silt, slightly loose to medium dense, damp	
15	0			SP-SM	Sand with silt (SP-SM) dark reddish brown, mg sand, 5-10% silt, dense, damp	
	0			SP	Sand (SP) medium to dark reddish brown, mg sand, trace silt, loose, subrounded, dry	
	0			SP-SM	Sand with silt (SP-SM) light brownish gray with red mottling, fg-mg sand, subangular, ~10% silt, slightly loose to medium dense, damp	
	0				Sand (SP) medium to dark reddish brown, mg sand, trace silt, loose, subrounded, dry-damp	
20	0			SP		
	0					
	0			SP-SM	Sand with silt (SP-SM) light brownish gray with red mottling, fg-mg sand, subangular, ~10% silt, slightly loose to medium dense, damp Moist to wet	
	0.2					
	0.5				Color change to gley	
	.4				Sand (SP) gley, mg sand, trace silt, very loose to loose, subrounded, wet	Slight TPH Odor
25	1.2			SP		
	1.4				Saturated	
	0.4				Color change to light reddish brown Silt content increases to 5-10%	
	0					
					Total Depth: 28 ft.	

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Date: 7/16/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** 25.77 ft. **Static:** ft.
Groundwater Sampling Method: Bailer		**Total Boring Depth:** 27 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
								Asphalt	
						SM		Silty sand (SM) light reddish brown, poorly graded fg-mg sand, 15-20% silt, stiff, dense, red mottling, dry	Hand augered to 5'
						SC-SM		Clayey sand (SC-SM) with silt, light yellowish brown, 10% silt, fg-mg sand, stiff, low plasticity, dense, dry	
5		0				SP-SM		Sand (SP-SM) with silt, dark reddish brown, 5-10% silt, loose, fg-mg sand, dry	
		0				CL		Sandy clay (CL), reddish brown, 10-15% fg-mg sand, 15-20% silt, damp to moist 30-40% silt at 8' Reddish brown with gley veining from 9-11'	
10		0				SM		Silty sand (SM) gley, 15-20% silt, fg-mg sand, loose, subrounded, damp to moist	
		0				CL		Sandy clay (CL), reddish brown with mottled gley, 10-15% fg-mg sand, 15-20% silt, damp to moist	
15		0				SM		Silty sand (SM) reddish brown, 15-20% silt, fg-mg sand, loose, subrounded, damp.	
		0				SP-SM		Sand (SP-SM) with silt, dark reddish brown, fg-mg sand, subrounded, loose, <5% silt, moist Color change to light grayish brown Silt content varies between <5% to 10% throughout depth Moist Wet	Ground water sample collected
20		0							
25		0						Total Depth: 27 ft.	

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Date: 7/16/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** 25.98 ft. **Static:** ft.
Groundwater Sampling Method: Bailer		**Total Boring Depth:** 27 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
0								Asphalt	
						SM		Silty sand (SM) light reddish brown, poorly graded fg-mg sand, 15-20% silt, stiff, dense, red mottling, dry	Hand augered to 5'
						SC-SM		Clayey sand (SC-SM) with silt, light yellowish brown, 10% silt, fg-mg sand, stiff, low plasticity, dense, dry	
5		0						Silty sand as above.	
		0				SM		Light gray veining at 6.5', grades to gley	
		0						Silt content increases at 7.5'	
		0				ML		Sandy silt (ML), gley with iron mottling, low plasticity, trace silt, 10-15% fg sand, damp	
10		0						Silty sand (SM) gley, 10-15% silt, fg-mg sand, damp.	
		0				SM			
		0				ML		Sandy silt (ML) gley with red mottling, 20-25% fg-mg sand, stiff, damp	
		0				SP-SM		Sand with silt (SP-SM) dark reddish brown, 10% silt, 5% clay, dense, damp	
15		0							
		0				SM		Silty sand (SM) reddish brown with light gray veining, fg-mg sand, 15-20% silt, damp	
		0						Sand with silt (SP-SM) dark reddish brown, 5% silt, dense, damp	
		0							Ground water sample collected
20		0							
		0				SP-SM		Moist	
		0						Wet	
25		0						Saturated	
		0						Total Depth: 27 ft.	

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Date: 5/16/2016 Logged By: Yola Bayram

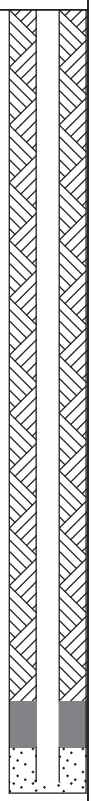
Location: 1700 Jefferson Street Oakland, CA
Client: ARC Document Solutions
Drilling Co.: Cascade
Drilling Method: Direct Push **Driller:** Jose
Well Sand Filter: **Well Seal:** Hydrated Bentonite
Grout Materials and Method: Bentonite
Completion: Asphalt
Groundwater Sampling Method:
Soil Sampling Method: Encores/Jars

Well Specifications
Elevation
TOC: **GSE:**
Depth to Water
Initial: ft. **Static:** ft.
Total Boring Depth: 17 ft.
Lat.: **Long:**
PVC Diameter:
Screen Interval: ft.
Screen Slot Size:

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Material Description
	0				Asphalt and base rock
	0				Concrete slab with baserock
	0			ML	Sandy silt (MLS), dark red brown, 10% fg sand, low plasticity, slight elasticity, soft, dense, dry
	0				Silt decreases with depth; some mottling
	0			SM	Silty sand (SM) light red brown with gray mottling, 25-30% silt, low plasticity, dense, fg-mg sand, dry
5	0				
	0			SP-SM	Sand with silt (SP-SM), light brownish gray with red mottling, fg-mg sand, 5-10% silt, loose, dry
	0			SM	Silty sand (SM) light red brown with gray mottling, 25-30% silt, low plasticity, dense, fg-mg sand, dry
	0				Sandy silt (MLS), dark red brown, 10% fg sand, low plasticity, slight elasticity, soft, dense, dry
10	0				
	0			ML	Sand content increases
	0				
	0				
15					
	0			SM	Silty sand (SM) light red brown with gray mottling, 25-30% silt, low plasticity, dense, fg-mg sand, dry
	0				Color change to gley
					Damp; Refusal
					Total Depth: 17 ft.
20					
25					

Hand augered to 5'
Soil vapor temporary point installed.

Refusal at 17'. Drillers stated that it felt like a concrete slab and he could not break through it.



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
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Boring Log: C17/SV12

Date: 5/16/2016	**Logged By:** Yola Bayram
Location: 1700 Jefferson Street Oakland, CA	
Client: ARC Document Solutions	
Drilling Co.: Cascade	
Drilling Method: Direct Push	**Driller:** Jose
Well Sand Filter:	**Well Seal:** Hydrated Bentonite
Grout Materials and Method: Bentonite	
Completion: Well Box	
Groundwater Sampling Method: Bailer	
Soil Sampling Method: Encores/Jars	

Well Specifications

Elevation
TOC: **GSE:**

Depth to Water
Initial: ft. **Static:** ft.

Total Boring Depth: 26 ft.
Lat.: **Long:**
PVC Diameter:
Screen Interval: ft.
Screen Slot Size:

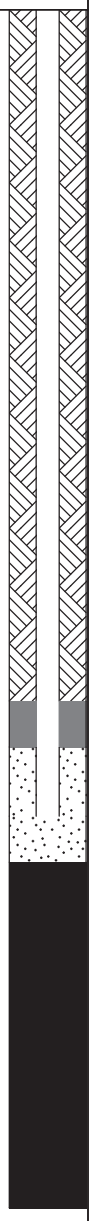
Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Material Description
					Asphalt and base rock
	0				Concrete slab with baserock
	0			ML	Sandy silt (MLS), dark red brown, 10% fg sand, low plasticity, slight elasticity, soft, dense, dry
	0			SM	Silty sand (SM) light red brown, 25-30% silt, low plasticity, dense, fg-mg sand, dry
5	0				
	0			SP-SM	Sand with silt (SP-SM), light brownish gray with red mottling, fg-mg sand, 5-10% silt, loose, dry
	0				Moist-wet
	0				Silty sand (SM) light brown with red mottling, 15-25% silt, dense, stiff, fg-mg sand Wet-saturated
10	0			SM	
	0				
	0				Sand with silt (SP-SM), gley with red mottling, mg sand, 5-10% silt, loose, dry-damp
15	0			SP-SM	
	0				
	0			SP-SM	Sand with silt (SP-SM), light brown with trace gley veining, fg-mg sand, dense, medium stiff, 5-10% silt, damp
	39.7				No gley veining between 18' and 19'.
20	56.7			SP	Sand (SP), light brown, fg-mg sand, no to trace silt, loose, damp Gley veining Damp to moist
	1038				Wet to saturated
	443				Gley veining tapers off
	517				Color change to gley from 23'-25'
	1028				
25	605				Color change to light brown
	524				Total Depth: 26 ft.

Remarks/Well Diagram

Soil vapor well installed.

Dry benotinite chips placed up to 1' below soil vapor intake

Strong TPH odors from 20 to TD'



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Date: 5/16/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** 24.56 ft. **Static:** ft.
Groundwater Sampling Method: Bailer		**Total Boring Depth:** 26 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
								Asphalt and base rock	
						ML		Sandy silt (MLS), dark red brown, 10% fg sand, low plasticity, slight elasticity, soft, dense, dry	Hand augered to 5' PID malfunctioning
5						SP-SM		Sand with silt (SP-SM) dark red brown, 5-10% silt, stiff, dense, fg-mg sand, dry Moist-wet from 6'-7' Silt content increases with depth	
10						ML		Sandy silt (ML) dark gray with red mottling, dense, stiff, 10-15% fg-mg sand, damp	
15						SP		Sand (SP), dark brown, trace silt, fg-mg sand, loose, moist to wet Silt content increases at 14'	
						SP-SM		Sand with silt (SP-SM), light brown with trace gley mottling, fg-mg sand, dense, medium stiff, 5-10% silt, damp, TPH odor	
						SP		Sand (SP), light reddish brown, fg-mg sand, loose, damp Moist increases with depth	
20						SP-SM		Sand with silt (SP-SM) gley, fg-mg sand, loose, 5% silt, TPH odor, moist Wet Saturated with strong TPH odor	Ground water sample collected
25								Total Depth: 26 ft.	

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Date: 7/6/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** 23.57 ft. **Static:** ft.
Groundwater Sampling Method: Bailer		**Total Boring Depth:** 24 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Material Description	Remarks
0							Asphalt and base rock	
							Concrete slab with baserock	Hand augered to 5'
						ML	Sandy silt (MLS), dark red brown, 10% fg sand, low plasticity, slight elasticity, soft, dense, dry	PID malfunctioning
							Silt decreases with depth; some mottling	
5						SM	Silty sand (SM) light reddish brown, 30-40% silt, fg-mg sand, dense, dry	
10						ML	Sandy silt (ML) light gray with red mottling, 15% clay, 15% fg sand, moderate plasticity, damp Sand content increases with depth	
						ML	Sandy silt (ML) dark red brown, 10% fg-mg sand, stiff, dense, damp	
							Grades to gley coloring	
15						SM	Silty sand (SM) light reddish brown with gley veining, 10-15% silt, fg-mg sand, loose, damp Trace gley veining	
20						SP	Sand (SP) light reddish brown, fg-mg sand, trace silt, loose, damp	Ground water sample collected
							Grades to gley at 21'; Moist	TPH odor
							Wet	
							Saturated	
25							Total Depth: 24 ft.	

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Date: 5/17/2016	Logged By: Yola Bayram	Soil Boring
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**GSE:**
Drilling Co.: Cascade	**Driller:** Jose	Depth to Water
Drilling Method: Direct Push	**Grout Materials and Method:** Neat cement/Tremie	**Initial:** 24.89 ft. **Static:** ft.
Groundwater Sampling Method: Bailer		**Total Boring Depth:** 26 ft.
Soil Sampling Method: Encores/Jars		**Lat.:** **Long:**

Depth, bgs (ft)	Recovery	OVM/PID (ppm)	Soil Sample	Water Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks
								Topsoil	
						SM		Silty sand (SM) dark red brown, 25% silt, fg-mg sand, loose - medium dense, subrounded, dry	Hand augered to 5'
5		0						Silt content increases with depth	
		0						Sandy silt (ML) light gray brown with red mottling, 10-15% sand, fg-mg sand, little plasticity, trace clay, dense, dry	
		0				ML		Plasticity increases with depth, 15% clay content	
		0						Silt content increases with depth; sand content decreases with depth	
10		0						Silty sand (SM) dark red brown with light gray mottling, 25% silt, fg-mg sand, loose - medium dense, subrounded, damp-moist	
		0				SM		Sandy silt (ML) light gray brown with red mottling, 10-15% sand, fg-mg sand, little plasticity, trace clay, dense, dry	
		0				ML		Silty sand (SM) dark red brown with light gray mottling, 25% silt, fg-mg sand, loose - medium dense, subrounded, dry to damp	
15		0				SM		Sand content increases with depth	
		0						Sand (SP) dark brown, no to trace silt, fg-mg sand, subrounded, loose, damp	
		0						Moist	
20		0							Ground water sample collected
		10				SP			
		53							
		80						Wet with dark gray sand as described	
		100						No odor	
		190						Gley coloring; TPH odor to total depth	
25		180						Total Depth: 26 ft.	

APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Boring Log: SV1

Date: 5/22/2016	**Logged By:** Yola Bayram
Location: 1700 Jefferson Street Oakland, CA	
Client: ARC Document Solutions	
Drilling Co.: Cascade	
Drilling Method: Direct Push	**Driller:** Jose
Well Sand Filter:	**Well Seal:** Hydrated Bentonite
Grout Materials and Method: Bentonite	
Completion: Well Box	
Groundwater Sampling Method:	
Soil Sampling Method: Encores/Jars	

Well Specifications

Elevation
TOC: **GSE:**

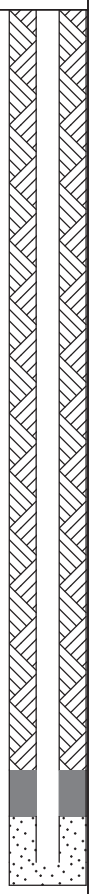
Depth to Water
Initial: ft. **Static:** ft.

Total Boring Depth: 19 ft.
Lat.: **Long:**
PVC Diameter:
Screen Interval: ft.
Screen Slot Size:

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Material Description
					Asphalt and base rock
	2.9				Silty sand (SM), light reddish brown, fg poorly graded sand, 15% silt, dense, damp-moist
	4.8				
	18.2				
	14.3			SM	
5	22.1				
	27.1				6" sand lens with trace silt; dry-damp
	29.3				
	31.2				Sandy silt (ML) light yellowish brown with red mottling, 5% fg sand, low to slight plasticity, damp
	32.4			ML	
10	20.1				
	19.1				Silty sand (SM) light grayish brown with red mottling, 10-15% silt, fg poorly graded sand, dense, damp Gley coloring from 12 to 12.5'
	11.4			SM	
	11.1				Sandy silt (ML) light reddish brown, 10-15% fg sand, low plasticity, dry
	10.1			ML	
15	18.9				
	41.2				Silty sand (SM) light grayish brown with red mottling, 20-25% silt, fg poorly graded sand, dense, dry-damp
	37.4			SM	
	21.2				Sand with silt (SP-SM), gley, poorly graded, 5% silt, fg-mg sand, loose, TPH odor, dry-damp
	18.5			SP-SM	
20					Total Depth: 19 ft.
25					

Remarks/Well Diagram

Soil vapor well installed.



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

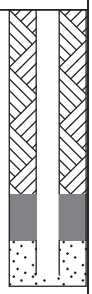
Date: 5/22/2016 Logged By: Yola Bayram

Location: 1700 Jefferson Street Oakland, CA
Client: ARC Document Solutions
Drilling Co.: Cascade
Drilling Method: Direct Push **Driller:** Jose
Well Sand Filter: **Well Seal:** Hydrated Bentonite
Grout Materials and Method: Bentonite
Completion: Well Box
Groundwater Sampling Method:
Soil Sampling Method:

Well Specifications

Elevation
TOC: **GSE:**
Depth to Water
Initial: ft. **Static:** ft.
Total Boring Depth: 6 ft.
Lat.: **Long:**
PVC Diameter:
Screen Interval: ft.
Screen Slot Size:

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks/Well Diagram
0						Asphalt and base rock	Soil vapor well installed.
				SM		Silty sand (SM), light reddish brown, fg poorly graded sand, 15% silt, dense, damp	
5						6" sand lens with trace silt	
						Total Depth: 6 ft.	
10							
15							
20							
25							



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

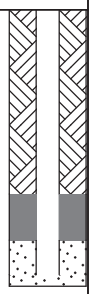
Date: 5/15/2016 Logged By: Yola Bayram

Location: 1700 Jefferson Street Oakland, CA
Client: ARC Document Solutions
Drilling Co.: Cascade
Drilling Method: Direct Push **Driller:** Jose
Well Sand Filter: **Well Seal:** Hydrated Bentonite
Grout Materials and Method: Bentonite
Completion: Well Box
Groundwater Sampling Method:
Soil Sampling Method:

Well Specifications

Elevation
TOC: **GSE:**
Depth to Water
Initial: ft. **Static:** ft.
Total Boring Depth: 6 ft.
Lat.: **Long:**
PVC Diameter:
Screen Interval: ft.
Screen Slot Size:

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks/Well Diagram
0	0					Asphalt and base rock	Soil vapor well installed.
	0			SM		Silty sand (SM), light yellow brown, fg-mg sand, 25% silt, stiff, dense, dry	
	0						
5	0						
	0					Total Depth: 6 ft.	
10							
15							
20							
25							



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/14/2016 Logged By: Yola Bayram

Location: 1700 Jefferson Street Oakland, CA
Client: ARC Document Solutions
Drilling Co.: Cascade
Drilling Method: Direct Push **Driller:** Jose
Well Sand Filter: **Well Seal:** Hydrated Bentonite
Grout Materials and Method: Bentonite
Completion: Well Box
Groundwater Sampling Method: Bailer
Soil Sampling Method: Encores/Jars

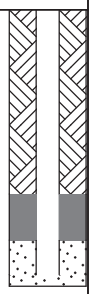
Well Specifications

Elevation
TOC: **GSE:**
Depth to Water
Initial: ft. **Static:** ft.
Total Boring Depth: 6 ft.
Lat.: **Long:**
PVC Diameter:
Screen Interval: ft.
Screen Slot Size:

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Material Description
	0				Concrete slab
	0				Crushed rock base
	0			SP-SM	Sand with silt (SP-SM) dark red brown, 5-10% silt, trace gravel, fg-mg sand, subrounded, loose to medium dense, dry
	0			SP	Sand (SP) light to pale yellowish brown, trace silt, loose, fg-mg subrounded sand, dry
5	0			ML	Sandy silt (ML) light reddish brown, 10-15% fg sand, medium stiff to stiff, trace clay, dry
	0				Total Depth: 6 ft.
10					
15					
20					
25					

Remarks/Well Diagram

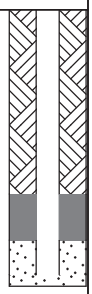
Soil Vapor well installed



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/14/2016	Logged By: Yola Bayram	Well Specifications
Location: 1700 Jefferson Street Oakland, CA		Elevation
Client: ARC Document Solutions		**TOC:** **GSE:**
Drilling Co.: Cascade		Depth to Water
Drilling Method: Direct Push	**Driller:** Jose	**Initial:** ft. **Static:** ft.
Well Sand Filter:	**Well Seal:** Hydrated Bentonite	**Total Boring Depth:** 6 ft.
Grout Materials and Method: Bentonite		**Lat.:** **Long:**
Completion: Well Box		**PVC Diameter:**
Groundwater Sampling Method:		**Screen Interval:** ft.
Soil Sampling Method:		**Screen Slot Size:**

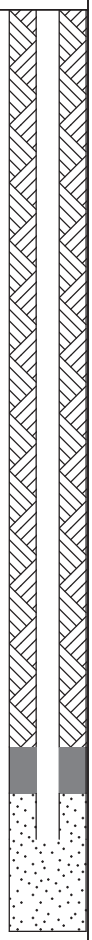
Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks/Well Diagram
						Concrete slab	Soil vapor well installed.
	0			SP-SM		Crushed rock base	
	0					Sand with silt (SP-SM) dark red brown, 5-10% silt, trace gravel, fg-mg sand, subrounded, loose to medium dense, dry	
	0			SP		Sand (SP) light to pale yellowish brown, trace silt, loose, fg-mg subrounded sand, dry	
	0			CL		Clay (CL) light orange brown, trace fg sand, low plasticity, soft to medium stiff, some mottling and brick debris, damp	
5	0			ML		Sandy silt (ML) light reddish brown, 20-25% fg-mg sand, trace clay, stiff, damp to moist Dry and sand content increases with depth	
	0					Total Depth: 6 ft.	
10							
15							
20							
25							



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 7/6/2016 Logged By: Yola Bayram	Well Specifications
Location: 1700 Jefferson Street Oakland, CA	Elevation
Client: ARC Document Solutions	**TOC:** **GSE:**
Drilling Co.: Cascade	Depth to Water
Drilling Method: Direct Push **Driller:** Jose	**Initial:** ft. **Static:** ft.
Well Sand Filter: **Well Seal:** Hydrated Bentonite	**Total Boring Depth:** 20 ft.
Grout Materials and Method: Bentonite	**Lat.:** **Long:**
Completion: Asphalt	**PVC Diameter:**
Groundwater Sampling Method:	**Screen Interval:** ft.
Soil Sampling Method: Encores/Jars	**Screen Slot Size:**

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks/Well Diagram
						Asphalt and base rock	
						Concrete slab with baserock	Soil vapor temporary point installed. Hand augered to 5'
				ML		Sandy silt (MLS), dark red brown, 10% fg sand, low plasticity, slight elasticity, soft, dense, dry	
						Silt decreases with depth; some mottling	PID malfunctioning
5				SM		Silty sand (SM) light reddish brown, 30-40% silt, fg-mg sand, dense, dry	
				ML		Sandy silt (ML) light gray with red mottling, 10% clay, 15% fg-mg sand, low plasticity, slightly damp	
10						Sand content increases with depth	
				SP-SM		Sand with silt (SP-SM), medium redddish brown, 5-10% silt, 5% clay, fg-mg sand, dense, moist	
				SC		Clayey sand (SC) dark brown, 10-15% clay, very stiff, dense, low plasticity, fg-mg sand, 5% silt, dry	Motor oil odor?\
						trace gley veining at 12.5'	
15				SP-SM		Sand with silt (SP-SM), light reddish brown, 15% silt, loose, fg-mg sand, dry.	TPH odor
				SM		Silty sand (SM) light grayish brown, 15% silt, loose, mg sand, dry.	
				SP		Sand (SP) light reddish brown, fg-mg sand, loose, dry	
						Silt content 5%	
20						Damp	
						Total Depth: 20 ft.	
25							



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

Date: 5/16/2016 Logged By: Yola Bayram

Location: 1700 Jefferson Street Oakland, CA
Client: ARC Document Solutions
Drilling Co.: Cascade
Drilling Method: Direct Push **Driller:** Jose
Well Sand Filter: **Well Seal:** Hydrated Bentonite
Grout Materials and Method: Bentonite
Completion: Asphalt
Groundwater Sampling Method:
Soil Sampling Method:

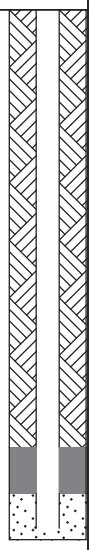
Well Specifications

Elevation
TOC: **GSE:**
Depth to Water
Initial: ft. **Static:** ft.
Total Boring Depth: 11.5 ft.
Lat.: **Long:**
PVC Diameter:
Screen Interval: ft.
Screen Slot Size:

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Material Description
	0				Asphalt and base rock
	0				Concrete slab with baserock
	0			ML	Sandy silt (MLS), dark red brown, 10% fg sand, low plasticity, slight elasticity, soft, dense, dry
	0				Silt decreases with depth; some mottling
	0			SM	Silty sand (SM) light red brown with gray veining, 25-30% silt, low plasticity, dense, fg-mg sand, dry
5	0				
	0			SP-SM	Sand with silt (SP-SM), light brownish gray with red mottling, fg-mg sand, 5-10% silt, loose, dry
	0			SM	Silty sand (SM) light red brown with gray veining, 25-30% silt, low plasticity, dense, fg-mg sand, dry
	0				
	0			ML	Sandy silt (MLS), dark red brown, 10% fg sand, low plasticity, slight elasticity, soft, dense, dry
10	0				
	0				
					Total Depth: 11.5 ft.
15					
20					
25					

Remarks/Well Diagram

Soil vapor temporary point installed.



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

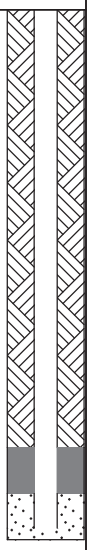
Date: 5/16/2016 Logged By: Yola Bayram

Location: 1700 Jefferson Street Oakland, CA
Client: ARC Document Solutions
Drilling Co.: Cascade
Drilling Method: Direct Push **Driller:** Jose
Well Sand Filter: **Well Seal:** Hydrated Bentonite
Grout Materials and Method: Bentonite
Completion: Well Box
Groundwater Sampling Method:
Soil Sampling Method:

Well Specifications

Elevation
TOC: **GSE:**
Depth to Water
Initial: ft. **Static:** ft.
Total Boring Depth: 11.5 ft.
Lat.: **Long:**
PVC Diameter:
Screen Interval: ft.
Screen Slot Size:

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Material Description	Remarks/Well Diagram
0	0				Asphalt and base rock	Temporary soil vapor point
	0				Concrete slab with baserock	
	0			ML	Sandy silt (MLS), dark red brown, 10% fg sand, low plasticity, slight elasticity, soft, dense, dry	
	0			SM	Silty sand (SM) light red brown, 25-30% silt, low plasticity, dense, fg-mg sand, dry	
5	0					
	0			SP-SM	Sand with silt (SP-SM), light brownish gray with red mottling, fg-mg sand, 5-10% silt, loose, dry	
	0					
	0				Moist-wet	
10	0			SM	Silty sand (SM) light brown with red mottling, 15-25% silt, dense, stiff, fg-mg sand Moist-wet from 10 to 11'	
	0					
					Total Depth: 11.5 ft.	
15						
20						
25						



APPLIED WATER RESOURCES CORP.
2363 Mariner Square Drive
Suite 245
Alameda, CA 94501

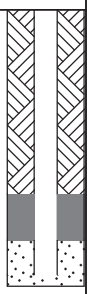
Date: 5/17/2016 Logged By: Yola Bayram

Location: 1700 Jefferson Street Oakland, CA
Client: ARC Document Solutions
Drilling Co.: Cascade
Drilling Method: Direct Push **Driller:** Jose
Well Sand Filter: **Well Seal:** Hydrated Bentonite
Grout Materials and Method: Bentonite
Completion: Asphalt
Groundwater Sampling Method:
Soil Sampling Method: N/A

Well Specifications

Elevation
TOC: **GSE:**
Depth to Water
Initial: ft. **Static:** ft.
Total Boring Depth: 6 ft.
Lat.: **Long:**
PVC Diameter:
Screen Interval: ft.
Screen Slot Size:

Depth, bgs (ft)	OVM (ppm)	Soil Sample	Saturated Zone	USCS	Graphic Log	Material Description	Remarks/Well Diagram
	0					Asphalt and base rock	Soil vapor temporary point installed.
	0					Concrete slab with baserock	
	0			ML		Sandy silt (MLS), dark red brown, 10% fg sand, low plasticity, slight elasticity, soft, dense, dry	
	0					Silt decreases with depth; some mottling	
	0					Silty sand (SM) light reddish brown, 20-30% silt, fg-mg sand, dense, dry	
5	0			SM			
	0					Total Depth: 6 ft.	
10							
15							
20							
25							



APPENDIX C

ANALYTICAL LABORATORY REPORTS

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1605623 **Amended:** 05/25/2016

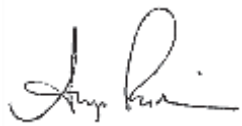
Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700 Jefferson

Project Received: 05/16/2016

Analytical Report reviewed & approved for release on 05/23/2016 by:



Angela Rydelius,
Laboratory Manager

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

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CDPH ELAP 1644 ♦ NELAP 4033ORELAP

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1605623

Glossary Abbreviation

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

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1605623

Analytical Qualifiers

S	Surrogate spike recovery outside accepted recovery limits
a3	sample diluted due to high organic content.
a9	reporting limit near, but not identical to, our standard reporting limit due to variable Encore/Solid sample weight
b1	aqueous sample that contains greater than ~1 vol. % sediment
c2	surrogate recovery outside of the control limits due to matrix interference.
c7	Surrogate value diluted out of range

Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validated the prep batch.
F3	the surrogate standard recovery and/or RPD is outside of acceptance limits.

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-3	1605623-001A	Soil	05/14/2016 16:00	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0061	1	05/17/2016 13:38
Ethylbenzene	ND	0.0061	1	05/17/2016 13:38
Methyl-t-butyl ether (MTBE)	ND	0.0061	1	05/17/2016 13:38
Naphthalene	ND	0.0061	1	05/17/2016 13:38
Toluene	ND	0.0061	1	05/17/2016 13:38
Xylenes, Total	ND	0.0061	1	05/17/2016 13:38

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/17/2016 13:38
Toluene-d8	108	70-130	05/17/2016 13:38
4-BFB	97	70-130	05/17/2016 13:38
Benzene-d6	96	60-140	05/17/2016 13:38
Ethylbenzene-d10	106	60-140	05/17/2016 13:38
1,2-DCB-d4	85	60-140	05/17/2016 13:38

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-8	1605623-002A	Soil	05/14/2016 16:10	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0061	1	05/17/2016 14:17
Ethylbenzene	ND	0.0061	1	05/17/2016 14:17
Methyl-t-butyl ether (MTBE)	ND	0.0061	1	05/17/2016 14:17
Naphthalene	ND	0.0061	1	05/17/2016 14:17
Toluene	ND	0.0061	1	05/17/2016 14:17
Xylenes, Total	ND	0.0061	1	05/17/2016 14:17

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/17/2016 14:17
Toluene-d8	108	70-130	05/17/2016 14:17
4-BFB	97	70-130	05/17/2016 14:17
Benzene-d6	95	60-140	05/17/2016 14:17
Ethylbenzene-d10	105	60-140	05/17/2016 14:17
1,2-DCB-d4	84	60-140	05/17/2016 14:17

Analyst(s): AK Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-23	1605623-003A	Soil	05/14/2016 16:20	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.011	1	05/17/2016 14:57
Ethylbenzene	ND	0.011	1	05/17/2016 14:57
Methyl-t-butyl ether (MTBE)	ND	0.011	1	05/17/2016 14:57
Naphthalene	ND	0.011	1	05/17/2016 14:57
Toluene	ND	0.011	1	05/17/2016 14:57
Xylenes, Total	ND	0.011	1	05/17/2016 14:57

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	05/17/2016 14:57
Toluene-d8	108	70-130	05/17/2016 14:57
4-BFB	99	70-130	05/17/2016 14:57
Benzene-d6	96	60-140	05/17/2016 14:57
Ethylbenzene-d10	108	60-140	05/17/2016 14:57
1,2-DCB-d4	85	60-140	05/17/2016 14:57

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-3.5	1605623-005A	Soil	05/15/2016 16:00	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0085	1	05/17/2016 15:38
Ethylbenzene	ND	0.0085	1	05/17/2016 15:38
Methyl-t-butyl ether (MTBE)	ND	0.0085	1	05/17/2016 15:38
Naphthalene	ND	0.0085	1	05/17/2016 15:38
Toluene	ND	0.0085	1	05/17/2016 15:38
Xylenes, Total	ND	0.0085	1	05/17/2016 15:38

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	05/17/2016 15:38
Toluene-d8	108	70-130	05/17/2016 15:38
4-BFB	100	70-130	05/17/2016 15:38
Benzene-d6	100	60-140	05/17/2016 15:38
Ethylbenzene-d10	111	60-140	05/17/2016 15:38
1,2-DCB-d4	88	60-140	05/17/2016 15:38

Analyst(s): AK Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-8	1605623-006A	Soil	05/15/2016 16:10	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0078	1	05/17/2016 16:18
Ethylbenzene	ND	0.0078	1	05/17/2016 16:18
Methyl-t-butyl ether (MTBE)	ND	0.0078	1	05/17/2016 16:18
Naphthalene	ND	0.0078	1	05/17/2016 16:18
Toluene	ND	0.0078	1	05/17/2016 16:18
Xylenes, Total	ND	0.0078	1	05/17/2016 16:18
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	98	70-130		05/17/2016 16:18
Toluene-d8	107	70-130		05/17/2016 16:18
4-BFB	103	70-130		05/17/2016 16:18
Benzene-d6	97	60-140		05/17/2016 16:18
Ethylbenzene-d10	108	60-140		05/17/2016 16:18
1,2-DCB-d4	85	60-140		05/17/2016 16:18

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-19	1605623-007A	Soil	05/15/2016 16:20	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0083	1	05/17/2016 16:59
Ethylbenzene	ND	0.0083	1	05/17/2016 16:59
Methyl-t-butyl ether (MTBE)	ND	0.0083	1	05/17/2016 16:59
Naphthalene	ND	0.0083	1	05/17/2016 16:59
Toluene	ND	0.0083	1	05/17/2016 16:59
Xylenes, Total	ND	0.0083	1	05/17/2016 16:59
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	101	70-130		05/17/2016 16:59
Toluene-d8	108	70-130		05/17/2016 16:59
4-BFB	100	70-130		05/17/2016 16:59
Benzene-d6	98	60-140		05/17/2016 16:59
Ethylbenzene-d10	107	60-140		05/17/2016 16:59
1,2-DCB-d4	86	60-140		05/17/2016 16:59

Analyst(s): AK Analytical Comments: a9

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NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-20	1605623-008A	Soil	05/15/2016 16:25	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	**0.0099**	0.0066	1	05/17/2016 17:39
Ethylbenzene	ND	0.0066	1	05/17/2016 17:39
Methyl-t-butyl ether (MTBE)	ND	0.0066	1	05/17/2016 17:39
Naphthalene	ND	0.0066	1	05/17/2016 17:39
Toluene	ND	0.0066	1	05/17/2016 17:39
Xylenes, Total	ND	0.0066	1	05/17/2016 17:39

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	05/17/2016 17:39
Toluene-d8	108	70-130	05/17/2016 17:39
4-BFB	105	70-130	05/17/2016 17:39
Benzene-d6	93	60-140	05/17/2016 17:39
Ethylbenzene-d10	102	60-140	05/17/2016 17:39
1,2-DCB-d4	83	60-140	05/17/2016 17:39

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-21.5	1605623-009A	Soil	05/15/2016 16:30	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0096	1	05/18/2016 01:33
Ethylbenzene	ND	0.0096	1	05/18/2016 01:33
Methyl-t-butyl ether (MTBE)	ND	0.0096	1	05/18/2016 01:33
Naphthalene	**0.011**	0.0096	1	05/18/2016 01:33
Toluene	ND	0.0096	1	05/18/2016 01:33
Xylenes, Total	ND	0.0096	1	05/18/2016 01:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	05/18/2016 01:33
Toluene-d8	108	70-130	05/18/2016 01:33
4-BFB	102	70-130	05/18/2016 01:33
Benzene-d6	96	60-140	05/18/2016 01:33
Ethylbenzene-d10	108	60-140	05/18/2016 01:33
1,2-DCB-d4	85	60-140	05/18/2016 01:33

Analyst(s): AK Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-3	1605623-011A	Soil	05/15/2016 14:20	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0086	1	05/18/2016 02:11
Ethylbenzene	ND	0.0086	1	05/18/2016 02:11
Methyl-t-butyl ether (MTBE)	ND	0.0086	1	05/18/2016 02:11
Naphthalene	ND	0.0086	1	05/18/2016 02:11
Toluene	ND	0.0086	1	05/18/2016 02:11
Xylenes, Total	ND	0.0086	1	05/18/2016 02:11

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/18/2016 02:11
Toluene-d8	108	70-130	05/18/2016 02:11
4-BFB	99	70-130	05/18/2016 02:11
Benzene-d6	97	60-140	05/18/2016 02:11
Ethylbenzene-d10	107	60-140	05/18/2016 02:11
1,2-DCB-d4	85	60-140	05/18/2016 02:11

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-8	1605623-012A	Soil	05/15/2016 14:30	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	**0.0091**	0.0077	1	05/18/2016 02:50
Ethylbenzene	ND	0.0077	1	05/18/2016 02:50
Methyl-t-butyl ether (MTBE)	ND	0.0077	1	05/18/2016 02:50
Naphthalene	ND	0.0077	1	05/18/2016 02:50
Toluene	ND	0.0077	1	05/18/2016 02:50
Xylenes, Total	ND	0.0077	1	05/18/2016 02:50

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/18/2016 02:50
Toluene-d8	109	70-130	05/18/2016 02:50
4-BFB	99	70-130	05/18/2016 02:50
Benzene-d6	100	60-140	05/18/2016 02:50
Ethylbenzene-d10	111	60-140	05/18/2016 02:50
1,2-DCB-d4	87	60-140	05/18/2016 02:50

Analyst(s): AK Analytical Comments: a9

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NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-16	1605623-013A	Soil	05/15/2016 14:40	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	**0.027**	0.0066	1	05/18/2016 03:29
Ethylbenzene	ND	0.0066	1	05/18/2016 03:29
Methyl-t-butyl ether (MTBE)	ND	0.0066	1	05/18/2016 03:29
Naphthalene	ND	0.0066	1	05/18/2016 03:29
Toluene	**0.019**	0.0066	1	05/18/2016 03:29
Xylenes, Total	**0.014**	0.0066	1	05/18/2016 03:29

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/18/2016 03:29
Toluene-d8	107	70-130	05/18/2016 03:29
4-BFB	101	70-130	05/18/2016 03:29
Benzene-d6	97	60-140	05/18/2016 03:29
Ethylbenzene-d10	107	60-140	05/18/2016 03:29
1,2-DCB-d4	84	60-140	05/18/2016 03:29

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-17	1605623-014A	Soil	05/15/2016 14:50	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	**0.52**	0.052	6.7	05/19/2016 00:51
Ethylbenzene	**0.16**	0.052	6.7	05/19/2016 00:51
Methyl-t-butyl ether (MTBE)	ND	0.052	6.7	05/19/2016 00:51
Naphthalene	**0.092**	0.052	6.7	05/19/2016 00:51
Toluene	**0.98**	0.052	6.7	05/19/2016 00:51
Xylenes, Total	**0.85**	0.052	6.7	05/19/2016 00:51

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/19/2016 00:51
Toluene-d8	100	70-130	05/19/2016 00:51
4-BFB	101	70-130	05/19/2016 00:51
Benzene-d6	86	60-140	05/19/2016 00:51
Ethylbenzene-d10	90	60-140	05/19/2016 00:51
1,2-DCB-d4	95	60-140	05/19/2016 00:51

Analyst(s): AK Analytical Comments: a9

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NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-19	1605623-015A	Soil	05/15/2016 15:00	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0096	1	05/18/2016 04:45
Ethylbenzene	ND	0.0096	1	05/18/2016 04:45
Methyl-t-butyl ether (MTBE)	ND	0.0096	1	05/18/2016 04:45
Naphthalene	**0.085**	0.0096	1	05/18/2016 04:45
Toluene	ND	0.0096	1	05/18/2016 04:45
Xylenes, Total	ND	0.0096	1	05/18/2016 04:45
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	94	70-130		05/18/2016 04:45
Toluene-d8	109	70-130		05/18/2016 04:45
4-BFB	105	70-130		05/18/2016 04:45
Benzene-d6	101	60-140		05/18/2016 04:45
Ethylbenzene-d10	114	60-140		05/18/2016 04:45
1,2-DCB-d4	87	60-140		05/18/2016 04:45

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-3	1605623-016A	Soil	05/15/2016 09:55	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0073	1	05/18/2016 05:24
Ethylbenzene	ND	0.0073	1	05/18/2016 05:24
Methyl-t-butyl ether (MTBE)	ND	0.0073	1	05/18/2016 05:24
Naphthalene	ND	0.0073	1	05/18/2016 05:24
Toluene	ND	0.0073	1	05/18/2016 05:24
Xylenes, Total	ND	0.0073	1	05/18/2016 05:24
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	94	70-130		05/18/2016 05:24
Toluene-d8	108	70-130		05/18/2016 05:24
4-BFB	97	70-130		05/18/2016 05:24
Benzene-d6	98	60-140		05/18/2016 05:24
Ethylbenzene-d10	109	60-140		05/18/2016 05:24
1,2-DCB-d4	85	60-140		05/18/2016 05:24

Analyst(s): AK Analytical Comments: a9

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NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-8	1605623-017A	Soil	05/15/2016 10:00	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0056	1	05/18/2016 12:07
Ethylbenzene	ND	0.0056	1	05/18/2016 12:07
Methyl-t-butyl ether (MTBE)	ND	0.0056	1	05/18/2016 12:07
Naphthalene	ND	0.0056	1	05/18/2016 12:07
Toluene	ND	0.0056	1	05/18/2016 12:07
Xylenes, Total	ND	0.0056	1	05/18/2016 12:07

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	05/18/2016 12:07
Toluene-d8	109	70-130	05/18/2016 12:07
4-BFB	98	70-130	05/18/2016 12:07
Benzene-d6	90	60-140	05/18/2016 12:07
Ethylbenzene-d10	103	60-140	05/18/2016 12:07
1,2-DCB-d4	83	60-140	05/18/2016 12:07

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-21.5	1605623-018A	Soil	05/15/2016 10:20	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0094	1	05/18/2016 10:01
Ethylbenzene	ND	0.0094	1	05/18/2016 10:01
Methyl-t-butyl ether (MTBE)	ND	0.0094	1	05/18/2016 10:01
Naphthalene	ND	0.0094	1	05/18/2016 10:01
Toluene	ND	0.0094	1	05/18/2016 10:01
Xylenes, Total	ND	0.0094	1	05/18/2016 10:01

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/18/2016 10:01
Toluene-d8	110	70-130	05/18/2016 10:01
4-BFB	100	70-130	05/18/2016 10:01
Benzene-d6	96	60-140	05/18/2016 10:01
Ethylbenzene-d10	111	60-140	05/18/2016 10:01
1,2-DCB-d4	86	60-140	05/18/2016 10:01

Analyst(s): AK Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-4	1605623-019A	Soil	05/15/2016 12:00	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0081	1	05/18/2016 12:47
Ethylbenzene	ND	0.0081	1	05/18/2016 12:47
Methyl-t-butyl ether (MTBE)	ND	0.0081	1	05/18/2016 12:47
Naphthalene	ND	0.0081	1	05/18/2016 12:47
Toluene	ND	0.0081	1	05/18/2016 12:47
Xylenes, Total	ND	0.0081	1	05/18/2016 12:47

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	05/18/2016 12:47
Toluene-d8	112	70-130	05/18/2016 12:47
4-BFB	104	70-130	05/18/2016 12:47
Benzene-d6	103	60-140	05/18/2016 12:47
Ethylbenzene-d10	124	60-140	05/18/2016 12:47
1,2-DCB-d4	102	60-140	05/18/2016 12:47

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-6	1605623-020A	Soil	05/15/2016 12:10	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0071	1	05/18/2016 13:28
Ethylbenzene	**0.097**	0.0071	1	05/18/2016 13:28
Methyl-t-butyl ether (MTBE)	ND	0.0071	1	05/18/2016 13:28
Naphthalene	ND	0.0071	1	05/18/2016 13:28
Toluene	ND	0.0071	1	05/18/2016 13:28
Xylenes, Total	**0.015**	0.0071	1	05/18/2016 13:28

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/18/2016 13:28
Toluene-d8	111	70-130	05/18/2016 13:28
4-BFB	113	70-130	05/18/2016 13:28
Benzene-d6	91	60-140	05/18/2016 13:28
Ethylbenzene-d10	111	60-140	05/18/2016 13:28
1,2-DCB-d4	83	60-140	05/18/2016 13:28

Analyst(s): AK Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-8	1605623-021A	Soil	05/15/2016 12:05	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0078	1	05/18/2016 14:08
Ethylbenzene	ND	0.0078	1	05/18/2016 14:08
Methyl-t-butyl ether (MTBE)	ND	0.0078	1	05/18/2016 14:08
Naphthalene	ND	0.0078	1	05/18/2016 14:08
Toluene	ND	0.0078	1	05/18/2016 14:08
Xylenes, Total	ND	0.0078	1	05/18/2016 14:08

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/18/2016 14:08
Toluene-d8	108	70-130	05/18/2016 14:08
4-BFB	103	70-130	05/18/2016 14:08
Benzene-d6	86	60-140	05/18/2016 14:08
Ethylbenzene-d10	98	60-140	05/18/2016 14:08
1,2-DCB-d4	81	60-140	05/18/2016 14:08

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-11	1605623-022A	Soil	05/15/2016 12:15	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	1.6	200	05/18/2016 22:55
Ethylbenzene	**8.8**	1.6	200	05/18/2016 22:55
Methyl-t-butyl ether (MTBE)	ND	1.6	200	05/18/2016 22:55
Naphthalene	**6.0**	1.6	200	05/18/2016 22:55
Toluene	**3.9**	1.6	200	05/18/2016 22:55
Xylenes, Total	**30**	1.6	200	05/18/2016 22:55

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	97		70-130	05/18/2016 22:55
Toluene-d8	101		70-130	05/18/2016 22:55
4-BFB	102		70-130	05/18/2016 22:55
Benzene-d6	102		60-140	05/18/2016 22:55
Ethylbenzene-d10	76		60-140	05/18/2016 22:55
1,2-DCB-d4	144	S	60-140	05/18/2016 22:55

Analyst(s): AK Analytical Comments: a9,c2

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-12.5	1605623-023A	Soil	05/15/2016 12:20	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	3.2	400	05/18/2016 23:34
Ethylbenzene	**10**	3.2	400	05/18/2016 23:34
Methyl-t-butyl ether (MTBE)	ND	3.2	400	05/18/2016 23:34
Naphthalene	**6.0**	3.2	400	05/18/2016 23:34
Toluene	**8.0**	3.2	400	05/18/2016 23:34
Xylenes, Total	**47**	3.2	400	05/18/2016 23:34

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/18/2016 23:34
Toluene-d8	101	70-130	05/18/2016 23:34
4-BFB	103	70-130	05/18/2016 23:34
Benzene-d6	88	60-140	05/18/2016 23:34
Ethylbenzene-d10	64	60-140	05/18/2016 23:34
1,2-DCB-d4	138	60-140	05/18/2016 23:34

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-16	1605623-024A	Soil	05/15/2016 12:30	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	**10**	3.6	400	05/19/2016 00:13
Ethylbenzene	**22**	3.6	400	05/19/2016 00:13
Methyl-t-butyl ether (MTBE)	ND	3.6	400	05/19/2016 00:13
Naphthalene	**8.7**	3.6	400	05/19/2016 00:13
Toluene	**55**	3.6	400	05/19/2016 00:13
Xylenes, Total	**110**	3.6	400	05/19/2016 00:13

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/19/2016 00:13
Toluene-d8	101	70-130	05/19/2016 00:13
4-BFB	103	70-130	05/19/2016 00:13
Benzene-d6	107	60-140	05/19/2016 00:13
Ethylbenzene-d10	72	60-140	05/19/2016 00:13
1,2-DCB-d4	133	60-140	05/19/2016 00:13

Analyst(s): AK Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-18	1605623-025A	Soil	05/15/2016 12:40	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	**41**	17	2,000	05/19/2016 12:28
Ethylbenzene	**110**	17	2,000	05/19/2016 12:28
Methyl-t-butyl ether (MTBE)	ND	17	2,000	05/19/2016 12:28
Naphthalene	**36**	17	2,000	05/19/2016 12:28
Toluene	**330**	17	2,000	05/19/2016 12:28
Xylenes, Total	**550**	17	2,000	05/19/2016 12:28

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	97		70-130	05/19/2016 12:28
Toluene-d8	102		70-130	05/19/2016 12:28
4-BFB	100		70-130	05/19/2016 12:28
Benzene-d6	258	S	60-140	05/19/2016 12:28
Ethylbenzene-d10	201	S	60-140	05/19/2016 12:28
1,2-DCB-d4	567	S	60-140	05/19/2016 12:28

Analyst(s): AK Analytical Comments: a9,c7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-23	1605623-026A	Soil	05/15/2016 13:00	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.19	20	05/19/2016 01:29
Ethylbenzene	**0.35**	0.19	20	05/19/2016 01:29
Methyl-t-butyl ether (MTBE)	ND	0.19	20	05/19/2016 01:29
Naphthalene	**0.50**	0.19	20	05/19/2016 01:29
Toluene	**0.48**	0.19	20	05/19/2016 01:29
Xylenes, Total	**2.0**	0.19	20	05/19/2016 01:29

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/19/2016 01:29
Toluene-d8	102	70-130	05/19/2016 01:29
4-BFB	102	70-130	05/19/2016 01:29
Benzene-d6	92	60-140	05/19/2016 01:29
Ethylbenzene-d10	105	60-140	05/19/2016 01:29
1,2-DCB-d4	107	60-140	05/19/2016 01:29

Analyst(s): AK Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-32	1605623-027A	Soil	05/15/2016 13:30	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0089	1	05/19/2016 02:08
Ethylbenzene	ND	0.0089	1	05/19/2016 02:08
Methyl-t-butyl ether (MTBE)	ND	0.0089	1	05/19/2016 02:08
Naphthalene	ND	0.0089	1	05/19/2016 02:08
Toluene	ND	0.0089	1	05/19/2016 02:08
Xylenes, Total	ND	0.0089	1	05/19/2016 02:08
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	92	70-130		05/19/2016 02:08
Toluene-d8	110	70-130		05/19/2016 02:08
4-BFB	105	70-130		05/19/2016 02:08
Benzene-d6	87	60-140		05/19/2016 02:08
Ethylbenzene-d10	103	60-140		05/19/2016 02:08
1,2-DCB-d4	83	60-140		05/19/2016 02:08

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-36	1605623-028A	Soil	05/15/2016 13:45	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0082	1	05/19/2016 02:46
Ethylbenzene	ND	0.0082	1	05/19/2016 02:46
Methyl-t-butyl ether (MTBE)	ND	0.0082	1	05/19/2016 02:46
Naphthalene	ND	0.0082	1	05/19/2016 02:46
Toluene	ND	0.0082	1	05/19/2016 02:46
Xylenes, Total	ND	0.0082	1	05/19/2016 02:46
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	94	70-130		05/19/2016 02:46
Toluene-d8	110	70-130		05/19/2016 02:46
4-BFB	104	70-130		05/19/2016 02:46
Benzene-d6	88	60-140		05/19/2016 02:46
Ethylbenzene-d10	104	60-140		05/19/2016 02:46
1,2-DCB-d4	83	60-140		05/19/2016 02:46

Analyst(s): AK Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS (Encore Sampling)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-38	1605623-029A	Soil	05/15/2016 14:00	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0089	1	05/19/2016 03:24
Ethylbenzene	ND	0.0089	1	05/19/2016 03:24
Methyl-t-butyl ether (MTBE)	ND	0.0089	1	05/19/2016 03:24
Naphthalene	ND	0.0089	1	05/19/2016 03:24
Toluene	ND	0.0089	1	05/19/2016 03:24
Xylenes, Total	ND	0.0089	1	05/19/2016 03:24

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	05/19/2016 03:24
Toluene-d8	110	70-130	05/19/2016 03:24
4-BFB	104	70-130	05/19/2016 03:24
Benzene-d6	91	60-140	05/19/2016 03:24
Ethylbenzene-d10	108	60-140	05/19/2016 03:24
1,2-DCB-d4	86	60-140	05/19/2016 03:24

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C16-16.5	1605623-031A	Soil	05/16/2016 08:45	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.012	1	05/19/2016 04:03
Ethylbenzene	ND	0.012	1	05/19/2016 04:03
Methyl-t-butyl ether (MTBE)	ND	0.012	1	05/19/2016 04:03
Naphthalene	ND	0.012	1	05/19/2016 04:03
Toluene	ND	0.012	1	05/19/2016 04:03
Xylenes, Total	ND	0.012	1	05/19/2016 04:03

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	05/19/2016 04:03
Toluene-d8	111	70-130	05/19/2016 04:03
4-BFB	103	70-130	05/19/2016 04:03
Benzene-d6	90	60-140	05/19/2016 04:03
Ethylbenzene-d10	107	60-140	05/19/2016 04:03
1,2-DCB-d4	83	60-140	05/19/2016 04:03

Analyst(s): AK Analytical Comments: a9

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5030B
Date Prepared:	5/21/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Oxygenates and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-GW	1605623-004A	Water	05/14/2016 17:00	GC28	121321

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	05/21/2016 13:01
Benzene	**28**	0.50	1	05/21/2016 13:01
t-Butyl alcohol (TBA)	**61**	2.0	1	05/21/2016 13:01
1,2-Dibromoethane (EDB)	ND	0.50	1	05/21/2016 13:01
1,2-Dichloroethane (1,2-DCA)	**1.7**	0.50	1	05/21/2016 13:01
Diisopropyl ether (DIPE)	**1.2**	0.50	1	05/21/2016 13:01
Ethanol	ND	50	1	05/21/2016 13:01
Ethylbenzene	ND	0.50	1	05/21/2016 13:01
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	05/21/2016 13:01
Methyl-t-butyl ether (MTBE)	ND	0.50	1	05/21/2016 13:01
Toluene	**1.4**	0.50	1	05/21/2016 13:01
Xylenes, Total	**9.0**	0.50	1	05/21/2016 13:01

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/21/2016 13:01
Toluene-d8	102	70-130	05/21/2016 13:01
4-BFB	98	70-130	05/21/2016 13:01

Analyst(s): MW Analytical Comments: b1

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5030B
Date Prepared:	5/21/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Oxygenates and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-GW	1605623-010A	Water	05/15/2016 17:00	GC28	121321

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	500	1,000	05/21/2016 14:55
Benzene	**12,000**	500	1,000	05/21/2016 14:55
t-Butyl alcohol (TBA)	ND	2000	1,000	05/21/2016 14:55
1,2-Dibromoethane (EDB)	ND	500	1,000	05/21/2016 14:55
1,2-Dichloroethane (1,2-DCA)	ND	500	1,000	05/21/2016 14:55
Diisopropyl ether (DIPE)	ND	500	1,000	05/21/2016 14:55
Ethanol	ND	50,000	1,000	05/21/2016 14:55
Ethylbenzene	**1700**	500	1,000	05/21/2016 14:55
Ethyl tert-butyl ether (ETBE)	ND	500	1,000	05/21/2016 14:55
Methyl-t-butyl ether (MTBE)	ND	500	1,000	05/21/2016 14:55
Toluene	**7600**	500	1,000	05/21/2016 14:55
Xylenes, Total	**8800**	500	1,000	05/21/2016 14:55

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/21/2016 14:55
Toluene-d8	100	70-130	05/21/2016 14:55
4-BFB	97	70-130	05/21/2016 14:55

Analyst(s): MW Analytical Comments: b1

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5030B
Date Prepared:	5/21/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Oxygenates and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-GW	1605623-030A	Water	05/15/2016 10:45	GC28	121321

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	05/21/2016 15:33
Benzene	**1.2**	0.50	1	05/21/2016 15:33
t-Butyl alcohol (TBA)	**3.4**	2.0	1	05/21/2016 15:33
1,2-Dibromoethane (EDB)	ND	0.50	1	05/21/2016 15:33
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	05/21/2016 15:33
Diisopropyl ether (DIPE)	ND	0.50	1	05/21/2016 15:33
Ethanol	ND	50	1	05/21/2016 15:33
Ethylbenzene	ND	0.50	1	05/21/2016 15:33
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	05/21/2016 15:33
Methyl-t-butyl ether (MTBE)	ND	0.50	1	05/21/2016 15:33
Toluene	ND	0.50	1	05/21/2016 15:33
Xylenes, Total	**0.86**	0.50	1	05/21/2016 15:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/21/2016 15:33
Toluene-d8	100	70-130	05/21/2016 15:33
4-BFB	94	70-130	05/21/2016 15:33

Analyst(s): MW

Analytical Comments: b1

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-3	1605623-001A	Soil	05/14/2016 16:00	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.31	1	05/17/2016 13:38

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	05/17/2016 13:38
Benzene-D6	100	70-130	05/17/2016 13:38

Analyst(s): MW

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-8	1605623-002A	Soil	05/14/2016 16:10	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.30	1	05/17/2016 14:17

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	05/17/2016 14:17
Benzene-D6	98	70-130	05/17/2016 14:17

Analyst(s): MW

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-23	1605623-003A	Soil	05/14/2016 16:20	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.56	1	05/17/2016 14:57

Surrogates	REC (%)	Limits	
Dibromofluoromethane	102	70-130	05/17/2016 14:57
Benzene-D6	98	70-130	05/17/2016 14:57

Analyst(s): AK Analytical Comments: a9

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NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-3.5	1605623-005A	Soil	05/15/2016 16:00	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.43	1	05/17/2016 15:38
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	102	70-130		05/17/2016 15:38
Benzene-D6	104	70-130		05/17/2016 15:38

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-8	1605623-006A	Soil	05/15/2016 16:10	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**0.73**	0.39	1	05/17/2016 16:18
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	101	70-130		05/17/2016 16:18
Benzene-D6	101	70-130		05/17/2016 16:18

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-19	1605623-007A	Soil	05/15/2016 16:20	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.42	1	05/17/2016 16:59
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	103	70-130		05/17/2016 16:59
Benzene-D6	100	70-130		05/17/2016 16:59

Analyst(s): AK Analytical Comments: a9

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Analytical Report

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Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-20	1605623-008A	Soil	05/15/2016 16:25	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**1.8**	0.33	1	05/17/2016 17:39

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	102	70-130	05/17/2016 17:39
Benzene-D6	96	70-130	05/17/2016 17:39

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-21.5	1605623-009A	Soil	05/15/2016 16:30	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**0.96**	0.48	1	05/18/2016 01:33

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	98	70-130	05/18/2016 01:33
Benzene-D6	98	70-130	05/18/2016 01:33

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-3	1605623-011A	Soil	05/15/2016 14:20	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.43	1	05/18/2016 02:11

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	97	70-130	05/18/2016 02:11
Benzene-D6	100	70-130	05/18/2016 02:11

Analyst(s): AK Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-8	1605623-012A	Soil	05/15/2016 14:30	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.39	1	05/18/2016 02:50

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/18/2016 02:50
Benzene-D6	103	70-130	05/18/2016 02:50

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-16	1605623-013A	Soil	05/15/2016 14:40	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**0.43**	0.33	1	05/18/2016 03:29

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	05/18/2016 03:29
Benzene-D6	98	70-130	05/18/2016 03:29

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-17	1605623-014A	Soil	05/15/2016 14:50	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**5.6**	0.39	1	05/18/2016 04:07

Surrogates	REC (%)	Limits	
Dibromofluoromethane	100	70-130	05/18/2016 04:07
Benzene-D6	99	70-130	05/18/2016 04:07

Analyst(s): AK Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-19	1605623-015A	Soil	05/15/2016 15:00	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**6.9**	0.48	1	05/18/2016 04:45

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/18/2016 04:45
Benzene-D6	104	70-130	05/18/2016 04:45

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-3	1605623-016A	Soil	05/15/2016 09:55	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.36	1	05/18/2016 05:24

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/18/2016 05:24
Benzene-D6	101	70-130	05/18/2016 05:24

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-8	1605623-017A	Soil	05/15/2016 10:00	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.28	1	05/18/2016 12:07

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/18/2016 12:07
Benzene-D6	94	70-130	05/18/2016 12:07

Analyst(s): AK Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-21.5	1605623-018A	Soil	05/15/2016 10:20	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.47	1	05/18/2016 10:01

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/18/2016 10:01
Benzene-D6	101	70-130	05/18/2016 10:01

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-4	1605623-019A	Soil	05/15/2016 12:00	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**4.0**	0.40	1	05/18/2016 12:47

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	05/18/2016 12:47
Benzene-D6	115	70-130	05/18/2016 12:47

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-6	1605623-020A	Soil	05/15/2016 12:10	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**51**	7.1	20	05/18/2016 21:37

Surrogates	REC (%)	Limits	
Dibromofluoromethane	100	70-130	05/18/2016 21:37
Benzene-D6	89	70-130	05/18/2016 21:37

Analyst(s): AK Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-8	1605623-021A	Soil	05/15/2016 12:05	GC28	120988

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**0.55**	0.39	1	05/18/2016 22:16

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/18/2016 22:16
Benzene-D6	93	70-130	05/18/2016 22:16

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-11	1605623-022A	Soil	05/15/2016 12:15	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**850**	79	200	05/18/2016 22:55

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	100		70-130	05/18/2016 22:55
Benzene-D6	0	S	70-130	05/18/2016 22:55

Analyst(s): AK Analytical Comments: a9,c2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-12.5	1605623-023A	Soil	05/15/2016 12:20	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**800**	160	400	05/18/2016 23:34

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	100		70-130	05/18/2016 23:34
Benzene-D6	0	S	70-130	05/18/2016 23:34

Analyst(s): AK Analytical Comments: a9,c2

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-16	1605623-024A	Soil	05/15/2016 12:30	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**1600**	180	400	05/19/2016 00:13

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	100		70-130	05/19/2016 00:13
Benzene-D6	0	S	70-130	05/19/2016 00:13

Analyst(s): AK Analytical Comments: a9,c2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-18	1605623-025A	Soil	05/15/2016 12:40	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**6400**	860	2,000	05/19/2016 12:28

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	100		70-130	05/19/2016 12:28
Benzene-D6	0	S	70-130	05/19/2016 12:28

Analyst(s): AK Analytical Comments: a9,c7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-23	1605623-026A	Soil	05/15/2016 13:00	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**39**	9.7	20	05/19/2016 01:29

Surrogates	REC (%)	Limits	
Dibromofluoromethane	100	70-130	05/19/2016 01:29
Benzene-D6	90	70-130	05/19/2016 01:29

Analyst(s): AK Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-32	1605623-027A	Soil	05/15/2016 13:30	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.44	1	05/19/2016 02:08

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	05/19/2016 02:08
Benzene-D6	92	70-130	05/19/2016 02:08

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-36	1605623-028A	Soil	05/15/2016 13:45	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.41	1	05/19/2016 02:46

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/19/2016 02:46
Benzene-D6	93	70-130	05/19/2016 02:46

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-38	1605623-029A	Soil	05/15/2016 14:00	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.45	1	05/19/2016 03:24

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/19/2016 03:24
Benzene-D6	97	70-130	05/19/2016 03:24

Analyst(s): AK Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C16-16.5	1605623-031A	Soil	05/16/2016 08:45	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.59	1	05/19/2016 04:03

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/19/2016 04:03
Benzene-D6	95	70-130	05/19/2016 04:03

Analyst(s): AK Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5030B
Date Prepared:	5/21/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-GW	1605623-004A	Water	05/14/2016 17:00	GC28	121321

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**290**	50	1	05/21/2016 13:01

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/21/2016 13:01

Analyst(s): MW Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-GW	1605623-010A	Water	05/15/2016 17:00	GC28	121321

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**92,000**	5000	100	05/21/2016 18:05

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	05/21/2016 18:05

Analyst(s): MW Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-GW	1605623-030A	Water	05/15/2016 10:45	GC28	121321

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	05/21/2016 15:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	05/21/2016 15:33

Analyst(s): MW Analytical Comments: b1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5030B
Date Prepared:	5/21/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Methanol by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-GW	1605623-004A	Water	05/14/2016 17:00	GC28	121321

Analytes	Result	RL	DF	Date Analyzed
Methanol	ND	500	1	05/21/2016 13:01

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/21/2016 13:01

Analyst(s): MW Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-GW	1605623-010A	Water	05/15/2016 17:00	GC28	121321

Analytes	Result	RL	DF	Date Analyzed
Methanol	ND	50,000	100	05/21/2016 18:05

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	05/21/2016 18:05

Analyst(s): MW Analytical Comments: a3,b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-GW	1605623-030A	Water	05/15/2016 10:45	GC28	121321

Analytes	Result	RL	DF	Date Analyzed
Methanol	ND	500	1	05/21/2016 15:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	05/21/2016 15:33

Analyst(s): MW Analytical Comments: b1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW3550B
Date Prepared:	5/17/16	**Analytical Method:**	SW8270C-SIM
Project:	1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-3	1605623-001B	Soil	05/14/2016 16:00	GC35	121052

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	05/17/2016 14:32
Acenaphthylene	ND	0.010	1	05/17/2016 14:32
Anthracene	ND	0.010	1	05/17/2016 14:32
Benzo (a) anthracene	ND	0.010	1	05/17/2016 14:32
Benzo (a) pyrene	ND	0.010	1	05/17/2016 14:32
Benzo (b) fluoranthene	ND	0.010	1	05/17/2016 14:32
Benzo (g,h,i) perylene	ND	0.010	1	05/17/2016 14:32
Benzo (k) fluoranthene	ND	0.010	1	05/17/2016 14:32
Chrysene	ND	0.010	1	05/17/2016 14:32
Dibenzo (a,h) anthracene	ND	0.010	1	05/17/2016 14:32
Fluoranthene	ND	0.010	1	05/17/2016 14:32
Fluorene	ND	0.010	1	05/17/2016 14:32
Indeno (1,2,3-cd) pyrene	ND	0.010	1	05/17/2016 14:32
1-Methylnaphthalene	ND	0.010	1	05/17/2016 14:32
2-Methylnaphthalene	ND	0.010	1	05/17/2016 14:32
Naphthalene	ND	0.010	1	05/17/2016 14:32
Phenanthrene	ND	0.010	1	05/17/2016 14:32
Pyrene	ND	0.010	1	05/17/2016 14:32

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	62	30-130	05/17/2016 14:32
2-Fluorobiphenyl	63	30-130	05/17/2016 14:32

Analyst(s): REB

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW3550B
Date Prepared:	5/17/16	**Analytical Method:**	SW8270C-SIM
Project:	1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-3.5	1605623-005B	Soil	05/15/2016 16:00	GC35	121052

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	05/17/2016 14:57
Acenaphthylene	ND	0.010	1	05/17/2016 14:57
Anthracene	ND	0.010	1	05/17/2016 14:57
Benzo (a) anthracene	ND	0.010	1	05/17/2016 14:57
Benzo (a) pyrene	ND	0.010	1	05/17/2016 14:57
Benzo (b) fluoranthene	ND	0.010	1	05/17/2016 14:57
Benzo (g,h,i) perylene	ND	0.010	1	05/17/2016 14:57
Benzo (k) fluoranthene	ND	0.010	1	05/17/2016 14:57
Chrysene	ND	0.010	1	05/17/2016 14:57
Dibenzo (a,h) anthracene	ND	0.010	1	05/17/2016 14:57
Fluoranthene	ND	0.010	1	05/17/2016 14:57
Fluorene	ND	0.010	1	05/17/2016 14:57
Indeno (1,2,3-cd) pyrene	ND	0.010	1	05/17/2016 14:57
1-Methylnaphthalene	ND	0.010	1	05/17/2016 14:57
2-Methylnaphthalene	ND	0.010	1	05/17/2016 14:57
Naphthalene	ND	0.010	1	05/17/2016 14:57
Phenanthrene	ND	0.010	1	05/17/2016 14:57
Pyrene	ND	0.010	1	05/17/2016 14:57

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	66	30-130	05/17/2016 14:57
2-Fluorobiphenyl	66	30-130	05/17/2016 14:57

Analyst(s): REB

(Cont.)

NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW3550B
Date Prepared:	5/17/16	**Analytical Method:**	SW8270C-SIM
Project:	1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-3	1605623-011B	Soil	05/15/2016 14:20	GC35	121052

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	05/17/2016 15:23
Acenaphthylene	ND	0.010	1	05/17/2016 15:23
Anthracene	ND	0.010	1	05/17/2016 15:23
Benzo (a) anthracene	ND	0.010	1	05/17/2016 15:23
Benzo (a) pyrene	ND	0.010	1	05/17/2016 15:23
Benzo (b) fluoranthene	ND	0.010	1	05/17/2016 15:23
Benzo (g,h,i) perylene	ND	0.010	1	05/17/2016 15:23
Benzo (k) fluoranthene	ND	0.010	1	05/17/2016 15:23
Chrysene	ND	0.010	1	05/17/2016 15:23
Dibenzo (a,h) anthracene	ND	0.010	1	05/17/2016 15:23
Fluoranthene	ND	0.010	1	05/17/2016 15:23
Fluorene	ND	0.010	1	05/17/2016 15:23
Indeno (1,2,3-cd) pyrene	ND	0.010	1	05/17/2016 15:23
1-Methylnaphthalene	ND	0.010	1	05/17/2016 15:23
2-Methylnaphthalene	ND	0.010	1	05/17/2016 15:23
Naphthalene	ND	0.010	1	05/17/2016 15:23
Phenanthrene	ND	0.010	1	05/17/2016 15:23
Pyrene	ND	0.010	1	05/17/2016 15:23

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	63	30-130	05/17/2016 15:23
2-Fluorobiphenyl	62	30-130	05/17/2016 15:23

Analyst(s): REB

(Cont.)

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW3550B
Date Prepared:	5/17/16	**Analytical Method:**	SW8270C-SIM
Project:	1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-3	1605623-016B	Soil	05/15/2016 09:55	GC35	121052

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	05/17/2016 15:48
Acenaphthylene	ND	0.010	1	05/17/2016 15:48
Anthracene	ND	0.010	1	05/17/2016 15:48
Benzo (a) anthracene	ND	0.010	1	05/17/2016 15:48
Benzo (a) pyrene	ND	0.010	1	05/17/2016 15:48
Benzo (b) fluoranthene	ND	0.010	1	05/17/2016 15:48
Benzo (g,h,i) perylene	ND	0.010	1	05/17/2016 15:48
Benzo (k) fluoranthene	ND	0.010	1	05/17/2016 15:48
Chrysene	ND	0.010	1	05/17/2016 15:48
Dibenzo (a,h) anthracene	ND	0.010	1	05/17/2016 15:48
Fluoranthene	ND	0.010	1	05/17/2016 15:48
Fluorene	ND	0.010	1	05/17/2016 15:48
Indeno (1,2,3-cd) pyrene	ND	0.010	1	05/17/2016 15:48
1-Methylnaphthalene	ND	0.010	1	05/17/2016 15:48
2-Methylnaphthalene	ND	0.010	1	05/17/2016 15:48
Naphthalene	ND	0.010	1	05/17/2016 15:48
Phenanthrene	ND	0.010	1	05/17/2016 15:48
Pyrene	ND	0.010	1	05/17/2016 15:48

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	60	30-130	05/17/2016 15:48
2-Fluorobiphenyl	57	30-130	05/17/2016 15:48

Analyst(s): REB

(Cont.)

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW3550B
Date Prepared:	5/17/16	**Analytical Method:**	SW8270C-SIM
Project:	1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-4	1605623-019B	Soil	05/15/2016 12:00	GC17	121052

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.050	5	05/18/2016 15:55
Acenaphthylene	ND	0.050	5	05/18/2016 15:55
Anthracene	ND	0.050	5	05/18/2016 15:55
Benzo (a) anthracene	ND	0.050	5	05/18/2016 15:55
Benzo (a) pyrene	ND	0.050	5	05/18/2016 15:55
Benzo (b) fluoranthene	ND	0.050	5	05/18/2016 15:55
Benzo (g,h,i) perylene	ND	0.050	5	05/18/2016 15:55
Benzo (k) fluoranthene	ND	0.050	5	05/18/2016 15:55
Chrysene	ND	0.050	5	05/18/2016 15:55
Dibenzo (a,h) anthracene	ND	0.050	5	05/18/2016 15:55
Fluoranthene	ND	0.050	5	05/18/2016 15:55
Fluorene	ND	0.050	5	05/18/2016 15:55
Indeno (1,2,3-cd) pyrene	ND	0.050	5	05/18/2016 15:55
1-Methylnaphthalene	ND	0.050	5	05/18/2016 15:55
2-Methylnaphthalene	ND	0.050	5	05/18/2016 15:55
Naphthalene	ND	0.050	5	05/18/2016 15:55
Phenanthrene	ND	0.050	5	05/18/2016 15:55
Pyrene	ND	0.050	5	05/18/2016 15:55

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	62	30-130	05/18/2016 15:55
2-Fluorobiphenyl	58	30-130	05/18/2016 15:55

Analyst(s): REB Analytical Comments: a3

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"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW3050B
Date Prepared:	5/16/16	**Analytical Method:**	SW6020
Project:	1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-3	1605623-001B	Soil	05/14/2016 16:00	ICP-MS1	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/18/2016 01:38
Chromium	**33**	0.50	1	05/18/2016 01:38
Lead	**29**	0.50	1	05/18/2016 01:38
Nickel	**17**	0.50	1	05/18/2016 01:38
Zinc	**27**	5.0	1	05/18/2016 01:38

Surrogates	REC (%)	Limits	
Terbium	96	70-130	05/18/2016 01:38

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C11-8	1605623-002B	Soil	05/14/2016 16:10	ICP-MS3	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/17/2016 20:37
Chromium	**61**	0.50	1	05/17/2016 20:37
Lead	**3.1**	0.50	1	05/17/2016 20:37
Nickel	**45**	0.50	1	05/17/2016 20:37
Zinc	**30**	5.0	1	05/17/2016 20:37

Surrogates	REC (%)	Limits	
Terbium	102	70-130	05/17/2016 20:37

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-3.5	1605623-005B	Soil	05/15/2016 16:00	ICP-MS1	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/18/2016 01:44
Chromium	**70**	0.50	1	05/18/2016 01:44
Lead	**4.5**	0.50	1	05/18/2016 01:44
Nickel	**54**	0.50	1	05/18/2016 01:44
Zinc	**29**	5.0	1	05/18/2016 01:44

Surrogates	REC (%)	Limits	
Terbium	91	70-130	05/18/2016 01:44

Analyst(s): DVH

(Cont.)

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"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW3050B
Date Prepared:	5/16/16	**Analytical Method:**	SW6020
Project:	1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-8	1605623-006B	Soil	05/15/2016 16:10	ICP-MS3	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/17/2016 20:06
Chromium	**53**	0.50	1	05/17/2016 20:06
Lead	**3.4**	0.50	1	05/17/2016 20:06
Nickel	**41**	0.50	1	05/17/2016 20:06
Zinc	**32**	5.0	1	05/17/2016 20:06

Surrogates	REC (%)	Limits	
Terbium	99	70-130	05/17/2016 20:06

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C3-21.5	1605623-009B	Soil	05/15/2016 16:30	ICP-MS3	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/17/2016 21:02
Chromium	**59**	0.50	1	05/17/2016 21:02
Lead	**2.2**	0.50	1	05/17/2016 21:02
Nickel	**53**	0.50	1	05/17/2016 21:02
Zinc	**26**	5.0	1	05/17/2016 21:02

Surrogates	REC (%)	Limits	
Terbium	99	70-130	05/17/2016 21:02

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-3	1605623-011B	Soil	05/15/2016 14:20	ICP-MS1	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/18/2016 01:50
Chromium	**47**	0.50	1	05/18/2016 01:50
Lead	**3.6**	0.50	1	05/18/2016 01:50
Nickel	**45**	0.50	1	05/18/2016 01:50
Zinc	**26**	5.0	1	05/18/2016 01:50

Surrogates	REC (%)	Limits	
Terbium	100	70-130	05/18/2016 01:50

Analyst(s): DVH

(Cont.)

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"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW3050B
Date Prepared:	5/16/16	**Analytical Method:**	SW6020
Project:	1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-8	1605623-012B	Soil	05/15/2016 14:30	ICP-MS1	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/18/2016 01:56
Chromium	**62**	0.50	1	05/18/2016 01:56
Lead	**3.0**	0.50	1	05/18/2016 01:56
Nickel	**48**	0.50	1	05/18/2016 01:56
Zinc	**29**	5.0	1	05/18/2016 01:56

Surrogates	REC (%)	Limits	
Terbium	97	70-130	05/18/2016 01:56

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C8-19	1605623-015B	Soil	05/15/2016 15:00	ICP-MS1	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/18/2016 02:02
Chromium	**58**	0.50	1	05/18/2016 02:02
Lead	**3.6**	0.50	1	05/18/2016 02:02
Nickel	**40**	0.50	1	05/18/2016 02:02
Zinc	**31**	5.0	1	05/18/2016 02:02

Surrogates	REC (%)	Limits	
Terbium	99	70-130	05/18/2016 02:02

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-3	1605623-016B	Soil	05/15/2016 09:55	ICP-MS3	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/17/2016 20:25
Chromium	**32**	0.50	1	05/17/2016 20:25
Lead	**2.0**	0.50	1	05/17/2016 20:25
Nickel	**15**	0.50	1	05/17/2016 20:25
Zinc	**13**	5.0	1	05/17/2016 20:25

Surrogates	REC (%)	Limits	
Terbium	96	70-130	05/17/2016 20:25

Analyst(s): BBO

(Cont.)

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW3050B
Date Prepared:	5/16/16	**Analytical Method:**	SW6020
Project:	1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C12-8	1605623-017B	Soil	05/15/2016 10:00	ICP-MS3	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/17/2016 20:19
Chromium	**49**	0.50	1	05/17/2016 20:19
Lead	**2.8**	0.50	1	05/17/2016 20:19
Nickel	**44**	0.50	1	05/17/2016 20:19
Zinc	**28**	5.0	1	05/17/2016 20:19

Surrogates	REC (%)	Limits	
Terbium	98	70-130	05/17/2016 20:19

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-4	1605623-019B	Soil	05/15/2016 12:00	ICP-MS1	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/18/2016 02:08
Chromium	**53**	0.50	1	05/18/2016 02:08
Lead	**42**	0.50	1	05/18/2016 02:08
Nickel	**33**	0.50	1	05/18/2016 02:08
Zinc	**62**	5.0	1	05/18/2016 02:08

Surrogates	REC (%)	Limits	
Terbium	103	70-130	05/18/2016 02:08

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-8	1605623-021B	Soil	05/15/2016 12:05	ICP-MS3	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/17/2016 20:12
Chromium	**52**	0.50	1	05/17/2016 20:12
Lead	**9.8**	0.50	1	05/17/2016 20:12
Nickel	**35**	0.50	1	05/17/2016 20:12
Zinc	**46**	5.0	1	05/17/2016 20:12

Surrogates	REC (%)	Limits	
Terbium	98	70-130	05/17/2016 20:12

Analyst(s): BBO

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"When Quality Counts"

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Received:	5/16/16 10:15	**Extraction Method:**	SW3050B
Date Prepared:	5/16/16	**Analytical Method:**	SW6020
Project:	1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-18	1605623-025B	Soil	05/15/2016 12:40	ICP-MS3	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/17/2016 20:31
Chromium	**52**	0.50	1	05/17/2016 20:31
Lead	**16**	0.50	1	05/17/2016 20:31
Nickel	**49**	0.50	1	05/17/2016 20:31
Zinc	**25**	5.0	1	05/17/2016 20:31

Surrogates	REC (%)	Limits	
Terbium	101	70-130	05/17/2016 20:31

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C10-36	1605623-028B	Soil	05/15/2016 13:45	ICP-MS1	120986

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/18/2016 02:14
Chromium	**42**	0.50	1	05/18/2016 02:14
Lead	**4.6**	0.50	1	05/18/2016 02:14
Nickel	**36**	0.50	1	05/18/2016 02:14
Zinc	**29**	5.0	1	05/18/2016 02:14

Surrogates	REC (%)	Limits	
Terbium	98	70-130	05/18/2016 02:14

Analyst(s): DVH

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"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Prepared:	5/16/16	**BatchID:**	120988
Date Analyzed:	5/17/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-120988

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
tert-Amyl methyl ether (TAME)	ND	0.010	-	-	-
Benzene	ND	0.010	-	-	-
t-Butyl alcohol (TBA)	ND	0.10	-	-	-
Diisopropyl ether (DIPE)	ND	0.010	-	-	-
Ethylbenzene	ND	0.010	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.010	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.010	-	-	-
Naphthalene	ND	0.010	-	-	-
Toluene	ND	0.010	-	-	-
Xylenes, Total	ND	0.010	-	-	-
Surrogate Recovery					
Dibromofluoromethane	0.238		0.25	95	70-130
Toluene-d8	0.276		0.25	110	70-130
Benzene-d6	0.210		0.20	105	60-140
Ethylbenzene-d10	0.240		0.20	120	60-140

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0740	0.0787	0.10	74	79	53-116	6.22	20
Benzene	0.0838	0.0912	0.10	84	91	63-137	8.41	20
t-Butyl alcohol (TBA)	0.346	0.355	0.40	86	89	41-135	2.79	20
Diisopropyl ether (DIPE)	0.0789	0.0853	0.10	79	85	52-129	7.78	20
Ethylbenzene	0.0963	0.106	0.10	96	106	74-142	9.44	20
Ethyl tert-butyl ether (ETBE)	0.0805	0.0863	0.10	80	86	53-125	7.03	20
Methyl-t-butyl ether (MTBE)	0.0818	0.0861	0.10	82	86	58-122	5.10	20
Naphthalene	0.0485	0.0476	0.10	48	48	23-73	0	20
Toluene	0.0929	0.102	0.10	93	102	76-130	9.39	20
Xylenes, Total	0.276	0.303	0.30	92	101	70-130	9.43	20
Surrogate Recovery								
Dibromofluoromethane	0.245	0.243	0.25	98	97	70-130	0.942	20
Toluene-d8	0.273	0.276	0.25	109	110	70-130	1.03	20
Benzene-d6	0.188	0.207	0.20	94	104	60-140	9.43	20
Ethylbenzene-d10	0.217	0.241	0.20	109	121	60-140	10.6	20

(Cont.)

NELAP 4033ORELAP

QA/QC Officer

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Prepared:	5/16/16	**BatchID:**	120989
Date Analyzed:	5/17/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-120989

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
tert-Amyl methyl ether (TAME)	ND	0.010	-	-	-
Benzene	ND	0.010	-	-	-
t-Butyl alcohol (TBA)	ND	0.10	-	-	-
Diisopropyl ether (DIPE)	ND	0.010	-	-	-
Ethylbenzene	ND	0.010	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.010	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.010	-	-	-
Naphthalene	ND	0.010	-	-	-
Toluene	ND	0.010	-	-	-
Xylenes, Total	ND	0.010	-	-	-
Surrogate Recovery					
Dibromofluoromethane	0.245		0.25	98	70-130
Toluene-d8	0.273		0.25	109	70-130
Benzene-d6	0.201		0.20	101	60-140
Ethylbenzene-d10	0.232		0.20	116	60-140

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0905	0.0770	0.10	91	77	53-116	16.2	20
Benzene	0.104	0.0911	0.10	104	91	63-137	13.4	20
t-Butyl alcohol (TBA)	0.413	0.374	0.40	103	93	41-135	9.88	20
Diisopropyl ether (DIPE)	0.0977	0.0867	0.10	98	87	52-129	12.0	20
Ethylbenzene	0.124	0.104	0.10	124	104	74-142	17.3	20
Ethyl tert-butyl ether (ETBE)	0.0995	0.0882	0.10	99	88	53-125	12.0	20
Methyl-t-butyl ether (MTBE)	0.100	0.0894	0.10	100	89	58-122	11.2	20
Naphthalene	0.0508	0.0501	0.10	51	50	23-73	1.26	20
Toluene	0.119	0.101	0.10	119	101	76-130	17.0	20
Xylenes, Total	0.350	0.298	0.30	117	99	70-130	16.1	20
Surrogate Recovery								
Dibromofluoromethane	0.242	0.245	0.25	97	98	70-130	1.59	20
Toluene-d8	0.281	0.272	0.25	112	109	70-130	3.15	20
Benzene-d6	0.232	0.205	0.20	116	103	60-140	12.2	20
Ethylbenzene-d10	0.276	0.235	0.20	138	117	60-140	16.1	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Prepared:	5/21/16	**BatchID:**	121321
Date Analyzed:	5/21/16	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121321 1605625-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
tert-Amyl methyl ether (TAME)	ND	9.04	0.50	10	-	90	54-140
Benzene	ND	8.94	0.50	10	-	89	47-158
t-Butyl alcohol (TBA)	ND	34.8	2.0	40	-	87	42-140
1,2-Dibromoethane (EDB)	ND	9.41	0.50	10	-	94	44-155
1,2-Dichloroethane (1,2-DCA)	ND	8.56	0.50	10	-	86	66-125
Diisopropyl ether (DIPE)	ND	8.74	0.50	10	-	87	57-136
Ethanol	ND	409	50	500	-	82	48-114
Ethylbenzene	ND	9.59	0.50	10	-	96	60-152
Ethyl tert-butyl ether (ETBE)	ND	9.20	0.50	10	-	92	55-137
Methyl-t-butyl ether (MTBE)	ND	9.15	0.50	10	-	91	53-139
Toluene	ND	9.18	0.50	10	-	92	52-137
Xylenes, Total	ND	28.1	0.50	30	-	94	70-130
Surrogate Recovery							
Dibromofluoromethane	24.4	24.6		25	98	98	70-130
Toluene-d8	25.3	25.4		25	101	102	70-130
4-BFB	2.33	2.56		2.5	93	102	70-130

(Cont.)

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Prepared:	5/21/16	**BatchID:**	121321
Date Analyzed:	5/21/16	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121321 1605625-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	9.79	10.3	10	ND	98	103	69-139	4.69	20
Benzene	9.46	9.95	10	ND	95	100	69-141	5.03	20
t-Butyl alcohol (TBA)	44.0	44.0	40	4.4	99	99	41-152	0	20
1,2-Dibromoethane (EDB)	9.84	10.3	10	ND	98	103	76-135	4.75	20
1,2-Dichloroethane (1,2-DCA)	10.5	10.8	10	1.5	90	93	73-139	2.83	20
Diisopropyl ether (DIPE)	9.58	10.0	10	ND	93	98	72-140	4.74	20
Ethanol	477	489	500	ND	95	98	40-157	2.52	20
Ethylbenzene	9.80	10.4	10	ND	98	105	73-128	6.39	20
Ethyl tert-butyl ether (ETBE)	9.94	10.4	10	ND	99	104	71-140	4.39	20
Methyl-t-butyl ether (MTBE)	10.1	10.5	10	ND	101	105	73-139	3.49	20
Toluene	9.52	10.2	10	ND	95	101	71-128	6.39	20
Xylenes, Total	29.3	30.8	30	ND	98	103	70-130	5.23	20
Surrogate Recovery									
Dibromofluoromethane	2.32	1.57	25		9,F3	6,F3	73-131	38.5,F1	20
Toluene-d8	25.0	25.1	25		100	100	72-117	0	20
4-BFB	2.55	2.53	2.5		102	101	74-116	0.699	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Prepared:	5/16/16	**BatchID:**	120988
Date Analyzed:	5/17/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-120988

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g)	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	0.245		0.25	98	70-130
Benzene-D6	0.222		0.20	111	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
VOC (C6-C12)	5.82	6.33	6.44	90	98	70-130	8.50	20
Surrogate Recovery								
Dibromofluoromethane	0.252	0.249	0.25	101	100	70-130	0.968	20
Benzene-D6	0.197	0.217	0.20	98	108	70-130	9.78	20

(Cont.)

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QA/QC Officer

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Prepared:	5/16/16	**BatchID:**	120989
Date Analyzed:	5/17/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-120989

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g)	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	0.252		0.25	101	70-130
Benzene-D6	0.208		0.20	104	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
VOC (C6-C12)	7.48	6.37	6.44	116	99	70-130	16.0	20
Surrogate Recovery								
Dibromofluoromethane	0.248	0.253	0.25	99	101	70-130	1.70	20
Benzene-D6	0.251	0.213	0.20	125	106	70-130	16.4	20

NELAP 4033ORELAP

QA/QC Officer

CLIENT: Applied Water Resources
Work Order: 1605623
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121321

SampleID	**MB-121321**	TestCode:	**8260GAS_W**	Units:	**µg/L**	Prep Date:	**5/21/2016**
Batch ID:	**121321**	TestNo:	**SW8260B**	Run ID:	**GC28_160523C**	Analysis Date:	**5/21/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
TPH(g)	ND	50				-				
Surrogate Recovery										
Dibromofluoromethane	25.2		25		101	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605623
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121321

SampleID **LCS-121321**	TestCode: **8260GAS_W**	Units: **µg/L**	Prep Date: **5/21/2016**
Batch ID: **121321**	TestNo: **SW8260B**	Run ID: **GC28_160523C**	Analysis Date: **5/21/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
VOC (C6-C12)	577	50	644	0	90	70 - 130				
Surrogate Recovery										
Dibromofluoromethane	25.4		25		101	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605623
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121321

SampleID	**MB-121321**	TestCode:	**8260IPAMEOH_w**	Units:	**µg/L**	Prep Date:	**5/21/2016**
Batch ID:	**121321**	TestNo:	**SW8260B**	Run ID:	**GC28_160524D**	Analysis Date:	**5/21/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
Methanol	ND	500				-				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605623
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121321

SampleID	LCS-121321	TestCode:	8260IPAMEOH_w	Units:	µg/L	Prep Date:	5/21/2016
Batch ID:	121321	TestNo:	SW8260B	Run ID:	GC28_160524D	Analysis Date:	5/21/2016

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
Methanol	2140	500	2500	0	86	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Prepared:	5/17/16	**BatchID:**	121052
Date Analyzed:	5/17/16	**Extraction Method:**	SW3550B
Instrument:	GC35	**Analytical Method:**	SW8270C-SIM
Matrix:	Soil	**Unit:**	mg/kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121052 1605623-019BMS/MSD

QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	-	0.010	-	-	-	-
Acenaphthylene	ND	-	0.010	-	-	-	-
Anthracene	ND	-	0.010	-	-	-	-
Benzo (a) anthracene	ND	-	0.010	-	-	-	-
Benzo (a) pyrene	ND	0.138	0.010	0.20	-	69	23-129
Benzo (b) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.010	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.010	-	-	-	-
Chrysene	ND	0.112	0.010	0.20	-	56	38-104
Dibenzo (a,h) anthracene	ND	-	0.010	-	-	-	-
Fluoranthene	ND	-	0.010	-	-	-	-
Fluorene	ND	-	0.010	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.010	-	-	-	-
1-Methylnaphthalene	ND	0.149	0.010	0.20	-	74	59-106
2-Methylnaphthalene	ND	0.137	0.010	0.20	-	69	54-108
Naphthalene	ND	-	0.010	-	-	-	-
Phenanthrene	ND	0.123	0.010	0.20	-	61	48-107
Pyrene	ND	0.115	0.010	0.20	-	57	40-104
Surrogate Recovery							
1-Fluoronaphthalene	0.272	0.275		0.50	54	55, F3	63-123
2-Fluorobiphenyl	0.275	0.275		0.50	55	55	55-127

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzo (a) pyrene	NR	NR		ND<0.05	NR	NR	-	NR	
Chrysene	NR	NR		ND<0.05	NR	NR	-	NR	
1-Methylnaphthalene	NR	NR		ND<0.05	NR	NR	-	NR	
2-Methylnaphthalene	NR	NR		ND<0.05	NR	NR	-	NR	
Phenanthrene	NR	NR		ND<0.05	NR	NR	-	NR	
Pyrene	NR	NR		ND<0.05	NR	NR	-	NR	
Surrogate Recovery									
1-Fluoronaphthalene	NR	NR			NR	NR	-	NR	
2-Fluorobiphenyl	NR	NR			NR	NR	-	NR	

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605623
Date Prepared:	5/16/16	**BatchID:**	120986
Date Analyzed:	5/17/16	**Extraction Method:**	SW3050B
Instrument:	ICP-MS3	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-120986 1605621-001AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Cadmium	ND	52.4	0.25	50	-	105	75-125
Chromium	ND	53.8	0.50	50	-	108	75-125
Lead	ND	49.9	0.50	50	-	100	75-125
Nickel	ND	53.0	0.50	50	-	106	75-125
Zinc	ND	518	5.0	500	-	104	75-125
Surrogate Recovery							
Terbium	543	549		500	109	110	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Cadmium	52.8	52.5	50	0.8846	104	103	75-125	0.589	20
Chromium	69.0	71.5	50	21.44	95	100	75-125	3.43	20
Lead	57.5	56.7	50	9.117	97	95	75-125	1.44	20
Nickel	67.3	71.0	50	19.87	95	102	75-125	5.32	20
Zinc	614	625	500	143.1	94	96	75-125	1.74	20
Surrogate Recovery									
Terbium	539	539	500		108	108	70-130	0	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Cadmium	ND<1.2	0.8846	-	-
Chromium	22.0	21.44	2.61	20
Lead	9.22	9.117	1.13	-
Nickel	19.6	19.87	1.36	20
Zinc	146	143.1	2.03	20

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

McCampbell Analytical, Inc.
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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605623 **ClientCode: AWR** **QuoteID: 6007**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:
Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TATs: 4 days; 5 days;

Date Received: 05/16/2016
Date Logged: 05/16/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605623-001	C11-3	Soil	5/14/2016 16:00	☐	A		A			B	B	A				
1605623-002	C11-8	Soil	5/14/2016 16:10	☐	A		A				B					
1605623-003	C11-23	Soil	5/14/2016 16:20	☐	A		A									
1605623-004	C11-GW	Water	5/14/2016 17:00	☐		A		A	A							
1605623-005	C3-3.5	Soil	5/15/2016 16:00	☐	A		A			B	B					
1605623-006	C3-8	Soil	5/15/2016 16:10	☐	A		A				B					
1605623-007	C3-19	Soil	5/15/2016 16:20	☐	A		A									
1605623-008	C3-20	Soil	5/15/2016 16:25	☐	A		A									
1605623-009	C3-21.5	Soil	5/15/2016 16:30	☐	A		A				B					
1605623-010	C3-GW	Water	5/15/2016 17:00	☐		A		A	A							
1605623-011	C8-3	Soil	5/15/2016 14:20	☐	A		A			B	B					
1605623-012	C8-8	Soil	5/15/2016 14:30	☐	A		A				B					
1605623-013	C8-16	Soil	5/15/2016 14:40	☐	A		A									
1605623-014	C8-17	Soil	5/15/2016 14:50	☐	A		A									
1605623-015	C8-19	Soil	5/15/2016 15:00	☐	A		A				B					

Test Legend:

1	8260B_5OXYBTEX_E	2	8260B_9OXYBTEX_W	3	8260GAS_E	4	8260GAS_W
5	8260IPAMEOH_W	6	8270_PNA_S	7	LUFTMS_6020_TTLC_S	8	PREDF REPORT
9		10		11		12	

Prepared by: Maria Venegas

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A, 012A, 013A, 014A, 015A, 016A, 017A, 018A, 019A, 020A, 021A, 022A, 023A, 024A, 025A, 026A, 027A, 028A, 029A, 030A, 031A contain testgroup.

Comments: 1 sample on 4 Day RUSH (029)

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

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605623 **ClientCode: AWR** **QuoteID: 6007**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:

Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TATs: 4 days; 5 days;

Date Received: 05/16/2016
Date Logged: 05/16/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605623-016	C12-3	Soil	5/15/2016 9:55	☐	A		A			B	B					
1605623-017	C12-8	Soil	5/15/2016 10:00	☐	A		A				B					
1605623-018	C12-21.5	Soil	5/15/2016 10:20	☐	A		A									
1605623-019	C10-4	Soil	5/15/2016 12:00	☐	A		A			B	B					
1605623-020	C10-6	Soil	5/15/2016 12:10	☐	A		A									
1605623-021	C10-8	Soil	5/15/2016 12:05	☐	A		A				B					
1605623-022	C10-11	Soil	5/15/2016 12:15	☐	A		A									
1605623-023	C10-12.5	Soil	5/15/2016 12:20	☐	A		A									
1605623-024	C10-16	Soil	5/15/2016 12:30	☐	A		A									
1605623-025	C10-18	Soil	5/15/2016 12:40	☐	A		A				B					
1605623-026	C10-23	Soil	5/15/2016 13:00	☐	A		A									
1605623-027	C10-32	Soil	5/15/2016 13:30	☐	A		A									
1605623-028	C10-36	Soil	5/15/2016 13:45	☐	A		A				B					
1605623-029	C10-38	Soil	5/15/2016 14:00	☐	A		A									
1605623-030	C12-GW	Water	5/15/2016 10:45	☐		A		A	A							

Test Legend:

1	8260B_5OXYBTEX_E	2	8260B_9OXYBTEX_W	3	8260GAS_E	4	8260GAS_W
5	8260IPAMEOH_W	6	8270_PNA_S	7	LUFTMS_6020_TTLC_S	8	PREDF REPORT
9		10		11		12	

Prepared by: Maria Venegas

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A, 012A, 013A, 014A, 015A, 016A, 017A, 018A, 019A, 020A, 021A, 022A, 023A, 024A, 025A, 026A, 027A, 028A, 029A, 030A, 031A contain testgroup.

Comments: 1 sample on 4 Day RUSH (029)

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
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McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605623 **ClientCode: AWR** **QuoteID: 6007**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:

Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TATs: 4 days; 5 days;

Date Received: 05/16/2016
Date Logged: 05/16/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605623-031	C16-16.5	Soil	5/16/2016 8:45	☐	A		A									

Test Legend:

1	8260B_5OXYBTEX_E	2	8260B_9OXYBTEX_W	3	8260GAS_E	4	8260GAS_W
5	8260IPAMEOH_W	6	8270_PNA_S	7	LUFTMS_6020_TTLC_S	8	PREDF REPORT
9		10		11		12	

Prepared by: Maria Venegas

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A, 012A, 013A, 014A, 015A, 016A, 017A, 018A, 019A, 020A, 021A, 022A, 023A, 024A, 025A, 026A, 027A, 028A, 029A, 030A, 031A contain testgroup.

Comments: 1 sample on 4 Day RUSH (029)

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
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McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments: 1 sample on 4 Day RUSH (029)

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605623
Date Logged: 5/16/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605623-001A	C11-3	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/14/2016 16:00	5 days		☐	
1605623-001B	C11-3	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/14/2016 16:00	5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1605623-002A	C11-8	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/14/2016 16:10	5 days		☐	
1605623-002B	C11-8	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/14/2016 16:10	5 days		☐	
1605623-003A	C11-23	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/14/2016 16:20	5 days		☐	
1605623-004A	C11-GW	Water	TPH(g) & BTEX & 9 Oxys by 8260B	2	VOA w/ HCl	☐	5/14/2016 17:00	5 days	5%+	☐	
1605623-005A	C2-3.5	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 16:00	5 days		☐	
1605623-005B	C2-3.5	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 16:00	5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1605623-006A	C3-8	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 16:10	5 days		☐	
1605623-006B	C3-8	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 16:10	5 days		☐	
1605623-007A	C3-19	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 16:20	5 days		☐	
1605623-008A	C3-20	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 16:25	5 days		☐	

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

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http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments: 1 sample on 4 Day RUSH (029)

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605623
Date Logged: 5/16/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605623-009A	C3-21.5	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 16:30	5 days		☐	
1605623-009B	C3-21.5	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 16:30	5 days		☐	
1605623-010A	C3-GW	Water	TPH(g) & BTEX & 9 Oxys by 8260B	2	VOA w/ HCl	☐	5/15/2016 17:00	5 days	10%+	☐	
1605623-011A	C8-3	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 14:20	5 days		☐	
1605623-011B	C8-3	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 14:20	5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1605623-012A	C8-8	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 14:30	5 days		☐	
1605623-012B	C8-8	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 14:30	5 days		☐	
1605623-013A	C8-16	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 14:40	5 days		☐	
1605623-014A	C8-17	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 14:50	5 days		☐	
1605623-015A	C8-19	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 15:00	5 days		☐	
1605623-015B	C8-19	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 15:00	5 days		☐	
1605623-016A	C12-3	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 9:55	5 days		☐	
1605623-016B	C12-3	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 9:55	5 days		☐	

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments: 1 sample on 4 Day RUSH (029)

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605623
Date Logged: 5/16/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605623-016B	C12-3	Soil	SW8270C (PAHs/PNAs)	1	16OZ GJ	☐	5/15/2016 9:55	5 days		☐	
1605623-017A	C12-8	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 10:00	5 days		☐	
1605623-017B	C12-8	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 10:00	5 days		☐	
1605623-018A	C12-21.5	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 10:20	5 days		☐	
1605623-019A	C10-4	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 12:00	5 days		☐	
1605623-019B	C10-4	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 12:00	5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1605623-020A	C10-6	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 12:10	5 days		☐	
1605623-021A	C10-8	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 12:05	5 days		☐	
1605623-021B	C10-8	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 12:05	5 days		☐	
1605623-022A	C10-11	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	2	Encore Sampler	☐	5/15/2016 12:15	5 days		☐	
1605623-023A	C10-12.5	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 12:20	5 days		☐	
1605623-024A	C10-416	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 12:30	5 days		☐	

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments: 1 sample on 4 Day RUSH (029)

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605623
Date Logged: 5/16/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605623-025A	C10-18	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 12:40	5 days		☐	
1605623-025B	C10-18	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 12:40	5 days		☐	
1605623-026A	C10-23	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 13:00	5 days		☐	
1605623-027A	C10-32	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 13:30	5 days		☐	
1605623-028A	C10-36	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 13:45	5 days		☐	
1605623-028B	C10-36	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/15/2016 13:45	5 days		☐	
1605623-029A	C10-38	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/15/2016 14:00	4 days		☐	
1605623-030A	C12-GW	Water	TPH(g) & BTEX & 9 Oxys by 8260B	2	VOA w/ HCl	☐	5/15/2016 10:45	5 days	5%+	☐	
1605623-031A	C16-16.5	Soil	TPH(g) & BTEX & 5-Oxys by 8260B [Encore]	1	Encore Sampler	☐	5/16/2016 8:45	5 days		☐	

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

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1605623

1 of 3

McCampbell Analytical, Inc.

1534 Willow Pass Rd. / Pittsburg, Ca. 94565-1701
www.mccampbell.com / main@mccampbell.com
Telephone: (877) 252-9262 / Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ Write On (DW) ☐ EQuIS ☐ 10 DAY ☐

Effluent Sample Requiring "J" flag ☐ UST Clean Up Fund Project ☒; Claim # 605

Report To: Yola Bayram **Bill To:** AWR

Company: Applied Water Resources Corp

2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501

Tele: (510) 671-2088 **E-Mail:** ybayram@awrcorp.net

Project #: 1700 **Project Name:** 1700 Jefferson

Project Location: 1700 Jefferson **Purchase Order#**

Sampler Signature:

Analysis Request

SAMPLE ID	Location/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	MATRIX: Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	METHOD PRESERVED: HCL	HNO_3	Other	BTEX & TPH as Gas (8021/8015) MTBE	Naphtalene - 8260	LUFT 5 Metals (200.8 / 6020)***	PAHs	TPH as Diesel and Motor Oil (8015)	Fuel Oxygenates, Lead Scavengers	Ethanol and Methanol
C11-3		5-14-16	1600	2					X							X	X	X	X			
C11-8			1610	2					X							X	X	X				
C11-23			1620	1					X							X	X					
C11-GW			1700	2	X								X			X	*				X	X
C3-3.5		5-15-16	1600	2					X							X	X	X	X			
C3-8			1610	2					X							X	X	X				
C3-19			1620	1					X							X	X	X	Not setup no extra Sample Received			
C3-20			1625	1					X							X	X	X				
C3-21.5			1630	2					X							X	X	X				
C3-GW			1700	2	X								X			X					X	X
C8-3		V	1420	2					X							X	X	X	X			

Geotracker # T0600100196 Quote ID#6007

Relinquished By:	Date:	Time:	Received By:
	5-16-16	935	RHL
RHL	5-16-16	1015	

ICE/t° 2.3

GOOD CONDITION

HEAD SPACE ABSENT

DECHLORINATED IN LAB

APPROPRIATE CONTAINERS

PRESERVED IN LAB

COMMENTS:

VOAS O&G METALS OTHER HAZARDOUS:

PRESERVATION pH<2

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ Write On (DW) ☐ EQuIS ☐ 10 DAY ☐

Effluent Sample Requiring "J" flag ☐ UST Clean Up Fund Project ☒; Claim # ~~605~~

Report To: Yola Bayram **Bill To:** AWR

Company: Applied Water Resources Corp
2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501

Tele: (510) 671-2088 **E-Mail:** ybayram@awrcorp.net

Project #: 1700 **Project Name:** 1700 Jefferson

Project Location: 1700 Jefferson **Purchase Order#**

Sampler Signature:

Analysis Request

SAMPLE ID	Location/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	MATRIX: Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	METHOD PRESERVED: HCL	HNO_3	Other	BTEX & TPH as Gas (~~8021 / 8015~~) MTBE 8260 MW	Naphtalene - 8260	LUFT 5 Metals (200.8 / 6020)***	PAHs	TPH as Diesel and Motor Oil (8015)	Fuel Oxygenates, Lead Scavengers	Ethanol and Methanol
C8-8		5-15	1430	2					X							X	X	X				
C8-16			1440	1					X							X	X					
C8-17			1450	1					X							X	X					
C8-19			1500	2					X							X	X	X				
C12-3			955	2					X							X	X	X	X			
C12-8			1000	2					X							X	X	X				
C12-15			1020	1					X							X	X					
C10-4			1700	2					X							X	X	X	X			
C10-6			1210	1					X							X	X					
C10-8			1205	2					X							X	X	X				
C10-11			1215	2					X							X	X					

Geotracker # T0600100196

Quote #6007

C3
C8

Relinquished By:	Date:	Time:	Received By:
	5-16-16	935	
Relinquished By:	Date:	Time:	Received By:
	5-16-16	1015	
Relinquished By:	Date:	Time:	Received By:

ICE/t° 2.3
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB

PRESERVATION VOAS O&G METALS OTHER pH<2 HAZARDOUS:

COMMENTS:
Anything with C10- prefix will have possible very high concentrations in VOCs
(PID read > 3000ppm)

McCampbell Analytical, Inc. RUSH

1534 Willow Pass Rd. / Pittsburg, Ca. 94565-1701
www.mccampbell.com / main@mccampbell.com
Telephone: (877) 252-9262 / Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ Write On (DW) ☐ EQuIS ☐ 10 DAY ☐

Effluent Sample Requiring "J" flag ☐ UST Clean Up Fund Project ☒; Claim # 605

Report To: Yola Bayram **Bill To:** AWR

Company: Applied Water Resources Corp

2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501

Tele: (510) 671-2088 **E-Mail:** ybayram@awrcorp.net

Project #: 1700 **Project Name:** 1700 Jefferson

Project Location: 1700 Jefferson **Purchase Order#**

Sampler Signature:

SAMPLE ID	Location/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	MATRIX: Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	METHOD PRESERVED: HCL	HNO_3	Other	Analysis Request: BTEX & TPH as Gas (8021/8015) MTBE 8260	Naphtalene – 8260	LUFT 5 Metals (200.8 / 6020)***	PAHs	TPH as Diesel and Motor Oil (8015)	Fuel Oxygenates, Lead Scavengers	Ethanol and Methanol
C10-12.5		5-15	1220	1					X							X	X					
C10-16			1230	1					X							X	X					
C10-18			1240	2					X							X	X	X				
C10-23			1300	1					X							X	X					
C10-32			1330	1					X							X	X					
C10-36			1345	2					X							X	X	X				
C10-38	⊗		1400	1					X							X	X					
[redacted]																						
C12-GW		5-15	1045	2	X								X			X	X				X	X
C16-16.5		5-16	845	1					X							X	X					

Geotracker # T0600100196

Quote ID: 6007

Relinquished By:	Date:	Time:	Received By:
	5-16-16	935	
Relinquished By:	Date:	Time:	Received By:
	5-16-16	1015	
Relinquished By:	Date:	Time:	Received By:

ICE/t° 2.7

GOOD CONDITION

HEAD SPACE ABSENT

DECHLORINATED IN LAB

APPROPRIATE CONTAINERS

PRESERVED IN LAB

VOAS O&G METALS OTHER

PRESERVATION pH<2

COMMENTS: 24hr RUSH

Anything w/ C3 C8, C10 prefix will have poss. bkg very high [redacted] concentrations in VOCs.

(PID read > 2000ppm)

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**5/16/2016 10:15**
Project Name:	**1700 Jefferson**	Date Logged:	**5/16/2016**
WorkOrder №:	**1605623** Matrix: Soil/Water	Received by:	Maria Venegas
Carrier:	Randy Glen (MAI Courier)	Logged by:	Maria Venegas

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☐	No ☑	
Sample/Temp Blank temperature	Temp: 2.3°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	NA ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	
	(Ice Type: WET ICE)		

UCMR3 Samples:

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

Comments: Method SW8260B (5 OXYS & BTEX) (Encore) was received passed its 2-day holding time.

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Analytical Report

WorkOrder: 1605624 **Amended:** 06/07/2016

Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700 Jefferson

Project Received: 05/16/2016

Analytical Report reviewed & approved for release on 05/25/2016 by:

Angela Rydelius,
Laboratory Manager

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

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1605624

Glossary Abbreviation

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

Analytical Qualifiers

S	Surrogate spike recovery outside accepted recovery limits
c2	surrogate recovery outside of the control limits due to matrix interference.

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Case Narrative

Client: Applied Water Resources
Project: 1700 Jefferson

Work Order: 1605624
June 07, 2016

TO-15 ANALYSIS

All summa canisters are EVACUATED 5 days after the reporting of the results. Please call or email if a longer retention time is required.

In an effort to attain the lowest reporting limits possible for the majority of the TO-15 target list, high level compounds may be analyzed using EPA Method 8260B.

Polymer (Tedlar) bags are not recommended for TO15 samples. The disadvantages are listed in Appendix B of the DTSC Active Soil Gas Advisory of July 2015.

TPH-gas Estimations:
The following sample was analyzed by TO-15. A TPH gas standard was a part of the daily sequence. The following results were obtained:
1605624-001A…DF=1…1610 µg/M3
1605624-002A…DF=1…3520 µg/M3
1605624-003A…DF=1000…2,810,000 µg/M3
1605624-004A…DF=1…2640 µg/M3
TO-15 Method Blank…ND, RL=720 µg/M3

Angela Rydelius, Lab Manager

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Case Narrative

Client: Applied Water Resources **Work Order:** 1605624
Project: 1700 Jefferson June 07, 2016

EPA 8260B Open Scan performed using EnviroQuant Chemstation software G1701DA Version C.00.00, and NBS75K spectral library.

Open Scan results for purge and trap sample ID: SV5, MAI sample: 1605624-003A; 3mL injection (DF=6.67)The 5 largest unknown peaks by concentration are:

Compound	CAS number	Internal standard used	Molecular weight	Raw amount (ng)	Estimated µg/M^3
Pentane, 2-methyl	96-37-7	1,4-difluorobenzene	86	1862	1,240,000
1-Propene, 2-methyl	115-11-7	1,4-difluorobenzene	56	1485	990,000
Pentane, 3-methyl	96-14-0	1,4-difluorobenzene	86	1346	897,000
Pentane	109-66-0	1,4-difluorobenzene	72	1229	819,000
Pentane, 2,4-dimethyl	108-08-7	1,4-difluorobenzene	100	1171	781,000

Open Scan results TO-15 sample ID: SV8, MAI sample: 1605624-001A; 200 mL injection (DF=1)The largest unknown peaks by concentration are:

Compound	CAS number	Internal standard used	Molecular weight	Raw amount (pL)	Estimated µg/M^3
Butane, 2-methyl	78-78-4	1,4-difluorobenzene	86	12000	422
Pentane	109-66-0	1,4-difluorobenzene	72	11400	335
Pentane, 2-methyl	96-37-7	1,4-difluorobenzene	86	7270	255
Isobutene	75-28-5	1,4-difluorobenzene	58	4710	112
Cyclohexane, methyl	108-87-2	1,4-difluorobenzene	98	3830	153

Open Scan results TO-15 sample ID: SV6, MAI sample: 1605624-002A; 200 mL injection (DF=1)

The largest unknown peaks by concentration are:

Compound	CAS number	Internal standard used	Molecular weight	Raw amount (pL)	Estimated µg/M^3
Octane	111-65-9	Chlorobenzene-d5	114	10500	490
1-Propene, 2-methyl	115-11-7	1,4-difluorobenzene	56	8290	
Pentane	109-66-0	1,4-difluorobenzene	72	6410	
Isobutane	75-28-5	1,4-difluorobenzene	58	4790	
Pentane, 2-methyl	96-37-7	1,4-difluorobenzene	86	4220	

Open Scan results TO-15 sample ID: SS1., MAI sample: 1605624-004A; 200 mL injection (DF=1)

The largest unknown peaks by concentration are:

Compound	CAS number	Internal standard used	Molecular weight	Raw amount (pL)	Estimated µg/M^3
Pentane, 2-methyl	96-37-7	1,4-difluorobenzene	86	19900	
Butane, 2-methyl	78-78-4	1,4-difluorobenzene	72	15900	
Pentane	109-66-0	1,4-difluorobenzene	72	12500	
Pentane, 3-methyl	96-14-0	1,4-difluorobenzene	86	10400	
Cyclopentane, methyl	96-37-7	1,4-difluorobenzene	84	9590	

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Analytical Report

Client: Applied Water Resources
Date Received: 5/16/16 10:15
Date Prepared: 5/20/16
Project: 1700 Jefferson

WorkOrder: 1605624
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: %

Atmospheric gas Oxygen and Nitrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV8	1605624-001A	SoilGas	05/15/2016 14:00	GC26	121352

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.16	28.30	AK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	13	0.4	1	05/20/2016 13:26

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV6	1605624-002A	SoilGas	05/15/2016 12:38	GC26	121352

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.86	25.70	AK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	11	0.4	1	05/20/2016 13:47

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV5	1605624-003A	SoilGas	05/15/2016 16:40	GC26	121352

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.02	27.97	AK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	1.3	0.4	1	05/20/2016 14:08

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/20/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	%

Atmospheric gas Oxygen and Nitrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	1605624-004A	SoilGas	05/15/2016 18:05	GC26	121352

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.60	27.20	AK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	ND	0.4	1	05/20/2016 14:30

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Analytical Report

Client: Applied Water Resources
Date Received: 5/16/16 10:15
Date Prepared: 5/18/16
Project: 1700 Jefferson

WorkOrder: 1605624
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: %

Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV8	1605624-001A	SoilGas	05/15/2016 14:00	GC26	121313

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.16	28.30	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	05/18/2016 07:10

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV6	1605624-002A	SoilGas	05/15/2016 12:38	GC26	121313

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.86	25.70	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	**0.059**	0.050	1	05/18/2016 07:23

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV5	1605624-003A	SoilGas	05/15/2016 16:40	GC26	121313

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.02	27.97	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	05/18/2016 07:36

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/18/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	%

Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	1605624-004A	SoilGas	05/15/2016 18:05	GC26	121313

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.60	27.20	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	**0.096**	0.050	1	05/18/2016 07:49

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/18/16-5/23/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	%

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV8	**1605624-001A**	**SoilGas**	**05/15/2016 14:00**	**GC26**	**121325**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.16	**28.30**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Hydrogen	**0.021**	0.01	1	05/18/2016 07:10
Carbon Dioxide	ND	0.004	1	05/19/2016 15:03
Carbon Monoxide	ND	0.004	1	05/19/2016 15:03
Methane	**0.002**	0.0002	1	05/19/2016 15:03

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV6	**1605624-002A**	**SoilGas**	**05/15/2016 12:38**	**GC26**	**121325**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.86	**25.70**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Hydrogen	ND	0.01	1	05/18/2016 07:23
Carbon Dioxide	**0.1**	0.004	1	05/19/2016 15:24
Carbon Monoxide	ND	0.004	1	05/19/2016 15:24
Methane	**0.00062**	0.0002	1	05/19/2016 15:24

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/18/16-5/23/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	%

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV5	**1605624-003A**	**SoilGas**	**05/15/2016 16:40**	**GC26**	**121325**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.02	**27.97**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Hydrogen	**0.085**	0.01	1	05/18/2016 07:36
Carbon Dioxide	**5.0**	0.8	200	05/23/2016 14:32
Carbon Monoxide	ND	0.004	1	05/19/2016 15:45
Methane	**0.018**	0.002	1	05/19/2016 15:45

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	**1605624-004A**	**SoilGas**	**05/15/2016 18:05**	**GC26**	**121325**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.60	**27.20**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Hydrogen	ND	0.01	1	05/18/2016 07:49
Carbon Dioxide	**0.2**	0.004	1	05/19/2016 16:07
Carbon Monoxide	ND	0.004	1	05/19/2016 16:07
Methane	**0.0003**	0.0002	1	05/19/2016 16:07

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5030B
Date Prepared:	5/24/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV5	1605624-003A	SoilGas	05/15/2016 16:40	GC16	121406

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.02	27.97	AK, MW

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	67,000	6.7	05/24/2016 18:02
tert-Amyl methyl ether (TAME)	ND	500	1	05/24/2016 12:33
Benzene	**18,000**	500	1	05/24/2016 12:33
Bromobenzene	ND	500	1	05/24/2016 12:33
Bromochloromethane	ND	500	1	05/24/2016 12:33
Bromodichloromethane	ND	500	1	05/24/2016 12:33
Bromoform	ND	500	1	05/24/2016 12:33
Bromomethane	ND	500	1	05/24/2016 12:33
2-Butanone (MEK)	ND	13,000	6.7	05/24/2016 18:02
t-Butyl alcohol (TBA)	ND	5000	1	05/24/2016 12:33
n-Butyl benzene	ND	500	1	05/24/2016 12:33
sec-Butyl benzene	ND	500	1	05/24/2016 12:33
tert-Butyl benzene	ND	500	1	05/24/2016 12:33
Carbon Disulfide	ND	500	1	05/24/2016 12:33
Carbon Tetrachloride	ND	500	1	05/24/2016 12:33
Chlorobenzene	ND	500	1	05/24/2016 12:33
Chloroethane	ND	500	1	05/24/2016 12:33
Chloroform	ND	500	1	05/24/2016 12:33
Chloromethane	ND	500	1	05/24/2016 12:33
2-Chlorotoluene	ND	500	1	05/24/2016 12:33
4-Chlorotoluene	ND	500	1	05/24/2016 12:33
Dibromochloromethane	ND	500	1	05/24/2016 12:33
1,2-Dibromo-3-chloropropane	ND	500	1	05/24/2016 12:33
1,2-Dibromoethane (EDB)	ND	500	1	05/24/2016 12:33
Dibromomethane	ND	500	1	05/24/2016 12:33
1,2-Dichlorobenzene	ND	500	1	05/24/2016 12:33
1,3-Dichlorobenzene	ND	500	1	05/24/2016 12:33
1,4-Dichlorobenzene	ND	500	1	05/24/2016 12:33
Dichlorodifluoromethane	ND	500	1	05/24/2016 12:33
1,1-Dichloroethane	ND	500	1	05/24/2016 12:33
1,2-Dichloroethane (1,2-DCA)	ND	500	1	05/24/2016 12:33
1,1-Dichloroethene	ND	500	1	05/24/2016 12:33
cis-1,2-Dichloroethene	ND	500	1	05/24/2016 12:33

(Cont.)

NELAP 4033ORELAP

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5030B
Date Prepared:	5/24/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV5	1605624-003A	SoilGas	05/15/2016 16:40	GC16	121406

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.02	27.97	AK, MW

Analytes	Result	RL	DF	Date Analyzed
trans-1,2-Dichloroethene	ND	500	1	05/24/2016 12:33
1,2-Dichloropropane	ND	500	1	05/24/2016 12:33
1,3-Dichloropropane	ND	500	1	05/24/2016 12:33
2,2-Dichloropropane	ND	500	1	05/24/2016 12:33
1,1-Dichloropropene	ND	500	1	05/24/2016 12:33
cis-1,3-Dichloropropene	ND	500	1	05/24/2016 12:33
trans-1,3-Dichloropropene	ND	500	1	05/24/2016 12:33
Diisopropyl ether (DIPE)	ND	500	1	05/24/2016 12:33
Ethylbenzene	ND	500	1	05/24/2016 12:33
Ethyl tert-butyl ether (ETBE)	ND	500	1	05/24/2016 12:33
Freon 113	ND	500	1	05/24/2016 12:33
Hexachlorobutadiene	ND	500	1	05/24/2016 12:33
Hexachloroethane	ND	500	1	05/24/2016 12:33
2-Hexanone	ND	500	1	05/24/2016 12:33
Isopropylbenzene	ND	500	1	05/24/2016 12:33
4-Isopropyl toluene	ND	500	1	05/24/2016 12:33
Methyl-t-butyl ether (MTBE)	ND	500	1	05/24/2016 12:33
Methylene chloride	ND	500	1	05/24/2016 12:33
4-Methyl-2-pentanone (MIBK)	ND	500	1	05/24/2016 12:33
Naphthalene	ND	500	1	05/24/2016 12:33
n-Propyl benzene	ND	500	1	05/24/2016 12:33
Styrene	ND	500	1	05/24/2016 12:33
1,1,1,2-Tetrachloroethane	ND	500	1	05/24/2016 12:33
1,1,2,2-Tetrachloroethane	ND	500	1	05/24/2016 12:33
Tetrachloroethene	ND	500	1	05/24/2016 12:33
Toluene	ND	500	1	05/24/2016 12:33
1,2,3-Trichlorobenzene	ND	500	1	05/24/2016 12:33
1,2,4-Trichlorobenzene	ND	500	1	05/24/2016 12:33
1,1,1-Trichloroethane	ND	500	1	05/24/2016 12:33
1,1,2-Trichloroethane	ND	500	1	05/24/2016 12:33
Trichloroethene	ND	500	1	05/24/2016 12:33
Trichlorofluoromethane	ND	500	1	05/24/2016 12:33
1,2,3-Trichloropropane	ND	500	1	05/24/2016 12:33

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Angela Rydelius, Lab Manager

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	SW5030B
Date Prepared:	5/24/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV5	**1605624-003A**	**SoilGas**	**05/15/2016 16:40**	**GC16**	**121406**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.02	**27.97**	**AK, MW**

Analytes	Result	RL	DF	Date Analyzed
1,2,4-Trimethylbenzene	ND	500	1	05/24/2016 12:33
1,3,5-Trimethylbenzene	ND	500	1	05/24/2016 12:33
Vinyl Chloride	ND	500	1	05/24/2016 12:33
Xylenes, Total	**1900**	500	1	05/24/2016 12:33

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	50	S	70-130	05/24/2016 12:33
Toluene-d8	105		70-130	05/24/2016 12:33
4-BFB	95		70-130	05/24/2016 12:33

Analytical Comments: c2

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"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV8	1605624-001A	SoilGas	05/15/2016 14:00	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.16	28.30	GM

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	05/22/2016 07:20
Acrolein	ND	5.8	1	05/22/2016 07:20
Acrylonitrile	ND	1.1	1	05/22/2016 07:20
tert-Amyl methyl ether (TAME)	ND	2.1	1	05/22/2016 07:20
Benzene	**35**	1.6	1	05/22/2016 07:20
Benzyl chloride	ND	2.6	1	05/22/2016 07:20
Bromodichloromethane	ND	3.5	1	05/22/2016 07:20
Bromoform	ND	5.2	1	05/22/2016 07:20
Bromomethane	**7.3**	2.0	1	05/22/2016 07:20
1,3-Butadiene	ND	1.1	1	05/22/2016 07:20
2-Butanone (MEK)	ND	75	1	05/22/2016 07:20
t-Butyl alcohol (TBA)	ND	31	1	05/22/2016 07:20
Carbon Disulfide	**41**	1.6	1	05/22/2016 07:20
Carbon Tetrachloride	ND	3.2	1	05/22/2016 07:20
Chlorobenzene	ND	2.4	1	05/22/2016 07:20
Chloroethane	ND	1.3	1	05/22/2016 07:20
Chloroform	**9.4**	2.4	1	05/22/2016 07:20
Chloromethane	ND	1.0	1	05/22/2016 07:20
Cyclohexane	**95**	18	1	05/22/2016 07:20
Dibromochloromethane	ND	4.4	1	05/22/2016 07:20
1,2-Dibromo-3-chloropropane	ND	0.12	1	05/22/2016 07:20
1,2-Dibromoethane (EDB)	ND	3.9	1	05/22/2016 07:20
1,2-Dichlorobenzene	ND	3.0	1	05/22/2016 07:20
1,3-Dichlorobenzene	ND	3.0	1	05/22/2016 07:20
1,4-Dichlorobenzene	ND	3.0	1	05/22/2016 07:20
Dichlorodifluoromethane	ND	2.5	1	05/22/2016 07:20
1,1-Dichloroethane	ND	2.0	1	05/22/2016 07:20
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	05/22/2016 07:20
1,1-Dichloroethene	ND	2.0	1	05/22/2016 07:20
cis-1,2-Dichloroethene	ND	2.0	1	05/22/2016 07:20
trans-1,2-Dichloroethene	ND	2.0	1	05/22/2016 07:20
1,2-Dichloropropane	ND	2.4	1	05/22/2016 07:20
cis-1,3-Dichloropropene	ND	2.3	1	05/22/2016 07:20

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Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV8	1605624-001A	SoilGas	05/15/2016 14:00	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.16	28.30	GM

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	2.3	1	05/22/2016 07:20
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	05/22/2016 07:20
Diisopropyl ether (DIPE)	ND	2.1	1	05/22/2016 07:20
1,4-Dioxane	ND	1.8	1	05/22/2016 07:20
Ethanol	ND	96	1	05/22/2016 07:20
Ethyl acetate	ND	1.8	1	05/22/2016 07:20
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	05/22/2016 07:20
Ethylbenzene	**8.0**	2.2	1	05/22/2016 07:20
4-Ethyltoluene	ND	2.5	1	05/22/2016 07:20
Freon 113	ND	3.9	1	05/22/2016 07:20
Heptane	**35**	21	1	05/22/2016 07:20
Hexachlorobutadiene	ND	5.4	1	05/22/2016 07:20
Hexane	**91**	18	1	05/22/2016 07:20
2-Hexanone	**12**	2.1	1	05/22/2016 07:20
4-Methyl-2-pentanone (MIBK)	**7.2**	2.1	1	05/22/2016 07:20
Methyl-t-butyl ether (MTBE)	ND	1.8	1	05/22/2016 07:20
Methylene chloride	ND	8.8	1	05/22/2016 07:20
Methyl methacrylate	ND	2.1	1	05/22/2016 07:20
Naphthalene	ND	5.3	1	05/22/2016 07:20
Propene	**950**	880	10	05/22/2016 00:34
Styrene	ND	2.2	1	05/22/2016 07:20
1,1,1,2-Tetrachloroethane	ND	3.5	1	05/22/2016 07:20
1,1,2,2-Tetrachloroethane	ND	3.5	1	05/22/2016 07:20
Tetrachloroethene	ND	3.4	1	05/22/2016 07:20
Tetrahydrofuran	ND	3.0	1	05/22/2016 07:20
Toluene	**31**	1.9	1	05/22/2016 07:20
1,2,4-Trichlorobenzene	ND	3.8	1	05/22/2016 07:20
1,1,1-Trichloroethane	ND	2.8	1	05/22/2016 07:20
1,1,2-Trichloroethane	ND	2.8	1	05/22/2016 07:20
Trichloroethene	ND	2.8	1	05/22/2016 07:20
Trichlorofluoromethane	**17**	2.8	1	05/22/2016 07:20
1,2,4-Trimethylbenzene	ND	2.5	1	05/22/2016 07:20
1,3,5-Trimethylbenzene	ND	2.5	1	05/22/2016 07:20

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Angela Rydelius, Lab Manager

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"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV8	1605624-001A	SoilGas	05/15/2016 14:00	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.16	28.30	GM

Analytes	Result	RL	DF	Date Analyzed
Vinyl Acetate	ND	18	1	05/22/2016 07:20
Vinyl Chloride	ND	1.3	1	05/22/2016 07:20
Xylenes, Total	**34**	6.6	1	05/22/2016 07:20
Surrogates	**REC (%)**	**Limits**		
1,2-DCA-d4	78	70-130		05/22/2016 07:20
Toluene-d8	89	70-130		05/22/2016 07:20
4-BFB	94	70-130		05/22/2016 07:20

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Angela Rydelius, Lab Manager

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV6	1605624-002A	SoilGas	05/15/2016 12:38	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.86	25.71	GM

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	05/22/2016 08:06
Acrolein	ND	5.8	1	05/22/2016 08:06
Acrylonitrile	ND	1.1	1	05/22/2016 08:06
tert-Amyl methyl ether (TAME)	ND	2.1	1	05/22/2016 08:06
Benzene	**35**	1.6	1	05/22/2016 08:06
Benzyl chloride	ND	2.6	1	05/22/2016 08:06
Bromodichloromethane	ND	3.5	1	05/22/2016 08:06
Bromoform	ND	5.2	1	05/22/2016 08:06
Bromomethane	**2.1**	2.0	1	05/22/2016 08:06
1,3-Butadiene	ND	1.1	1	05/22/2016 08:06
2-Butanone (MEK)	ND	75	1	05/22/2016 08:06
t-Butyl alcohol (TBA)	ND	31	1	05/22/2016 08:06
Carbon Disulfide	**67**	1.6	1	05/22/2016 08:06
Carbon Tetrachloride	ND	3.2	1	05/22/2016 08:06
Chlorobenzene	ND	2.4	1	05/22/2016 08:06
Chloroethane	ND	1.3	1	05/22/2016 08:06
Chloroform	ND	2.4	1	05/22/2016 08:06
Chloromethane	ND	1.0	1	05/22/2016 08:06
Cyclohexane	**88**	18	1	05/22/2016 08:06
Dibromochloromethane	ND	4.4	1	05/22/2016 08:06
1,2-Dibromo-3-chloropropane	ND	0.12	1	05/22/2016 08:06
1,2-Dibromoethane (EDB)	ND	3.9	1	05/22/2016 08:06
1,2-Dichlorobenzene	ND	3.0	1	05/22/2016 08:06
1,3-Dichlorobenzene	ND	3.0	1	05/22/2016 08:06
1,4-Dichlorobenzene	ND	3.0	1	05/22/2016 08:06
Dichlorodifluoromethane	ND	2.5	1	05/22/2016 08:06
1,1-Dichloroethane	ND	2.0	1	05/22/2016 08:06
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	05/22/2016 08:06
1,1-Dichloroethene	ND	2.0	1	05/22/2016 08:06
cis-1,2-Dichloroethene	ND	2.0	1	05/22/2016 08:06
trans-1,2-Dichloroethene	ND	2.0	1	05/22/2016 08:06
1,2-Dichloropropane	ND	2.4	1	05/22/2016 08:06
cis-1,3-Dichloropropene	ND	2.3	1	05/22/2016 08:06

(Cont.)

Angela Rydelius, Lab Manager

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"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV6	1605624-002A	SoilGas	05/15/2016 12:38	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.86	25.71	GM

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	2.3	1	05/22/2016 08:06
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	05/22/2016 08:06
Diisopropyl ether (DIPE)	ND	2.1	1	05/22/2016 08:06
1,4-Dioxane	ND	1.8	1	05/22/2016 08:06
Ethanol	ND	96	1	05/22/2016 08:06
Ethyl acetate	ND	1.8	1	05/22/2016 08:06
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	05/22/2016 08:06
Ethylbenzene	**8.3**	2.2	1	05/22/2016 08:06
4-Ethyltoluene	ND	2.5	1	05/22/2016 08:06
Freon 113	ND	3.9	1	05/22/2016 08:06
Heptane	**40**	21	1	05/22/2016 08:06
Hexachlorobutadiene	ND	5.4	1	05/22/2016 08:06
Hexane	**84**	18	1	05/22/2016 08:06
2-Hexanone	**29**	2.1	1	05/22/2016 08:06
4-Methyl-2-pentanone (MIBK)	**18**	2.1	1	05/22/2016 08:06
Methyl-t-butyl ether (MTBE)	ND	1.8	1	05/22/2016 08:06
Methylene chloride	ND	8.8	1	05/22/2016 08:06
Methyl methacrylate	ND	2.1	1	05/22/2016 08:06
Naphthalene	**5.5**	5.3	1	05/22/2016 08:06
Propene	**250**	88	1	05/22/2016 08:06
Styrene	ND	2.2	1	05/22/2016 08:06
1,1,1,2-Tetrachloroethane	ND	3.5	1	05/22/2016 08:06
1,1,2,2-Tetrachloroethane	ND	3.5	1	05/22/2016 08:06
Tetrachloroethene	ND	3.4	1	05/22/2016 08:06
Tetrahydrofuran	ND	3.0	1	05/22/2016 08:06
Toluene	**33**	1.9	1	05/22/2016 08:06
1,2,4-Trichlorobenzene	ND	3.8	1	05/22/2016 08:06
1,1,1-Trichloroethane	ND	2.8	1	05/22/2016 08:06
1,1,2-Trichloroethane	ND	2.8	1	05/22/2016 08:06
Trichloroethene	ND	2.8	1	05/22/2016 08:06
Trichlorofluoromethane	**26**	2.8	1	05/22/2016 08:06
1,2,4-Trimethylbenzene	**8.6**	2.5	1	05/22/2016 08:06
1,3,5-Trimethylbenzene	**4.8**	2.5	1	05/22/2016 08:06

(Cont.)

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV6	1605624-002A	SoilGas	05/15/2016 12:38	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.86	25.71	GM

Analytes	Result	RL	DF	Date Analyzed
Vinyl Acetate	ND	18	1	05/22/2016 08:06
Vinyl Chloride	ND	1.3	1	05/22/2016 08:06
Xylenes, Total	**35**	6.6	1	05/22/2016 08:06
Surrogates	**REC (%)**	**Limits**		
1,2-DCA-d4	81	70-130		05/22/2016 08:06
Toluene-d8	82	70-130		05/22/2016 08:06
4-BFB	91	70-130		05/22/2016 08:06

(Cont.)

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	1605624-004A	SoilGas	05/15/2016 18:05	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.60	27.20	GM

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	05/22/2016 08:51
Acrolein	ND	5.8	1	05/22/2016 08:51
Acrylonitrile	ND	1.1	1	05/22/2016 08:51
tert-Amyl methyl ether (TAME)	ND	2.1	1	05/22/2016 08:51
Benzene	**8.0**	1.6	1	05/22/2016 08:51
Benzyl chloride	ND	2.6	1	05/22/2016 08:51
Bromodichloromethane	ND	3.5	1	05/22/2016 08:51
Bromoform	ND	5.2	1	05/22/2016 08:51
Bromomethane	ND	2.0	1	05/22/2016 08:51
1,3-Butadiene	ND	1.1	1	05/22/2016 08:51
2-Butanone (MEK)	ND	75	1	05/22/2016 08:51
t-Butyl alcohol (TBA)	ND	31	1	05/22/2016 08:51
Carbon Disulfide	**2.5**	1.6	1	05/22/2016 08:51
Carbon Tetrachloride	ND	3.2	1	05/22/2016 08:51
Chlorobenzene	ND	2.4	1	05/22/2016 08:51
Chloroethane	ND	1.3	1	05/22/2016 08:51
Chloroform	ND	2.4	1	05/22/2016 08:51
Chloromethane	ND	1.0	1	05/22/2016 08:51
Cyclohexane	**280**	18	1	05/22/2016 08:51
Dibromochloromethane	ND	4.4	1	05/22/2016 08:51
1,2-Dibromo-3-chloropropane	ND	0.12	1	05/22/2016 08:51
1,2-Dibromoethane (EDB)	ND	3.9	1	05/22/2016 08:51
1,2-Dichlorobenzene	ND	3.0	1	05/22/2016 08:51
1,3-Dichlorobenzene	ND	3.0	1	05/22/2016 08:51
1,4-Dichlorobenzene	ND	3.0	1	05/22/2016 08:51
Dichlorodifluoromethane	**3.7**	2.5	1	05/22/2016 08:51
1,1-Dichloroethane	ND	2.0	1	05/22/2016 08:51
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	05/22/2016 08:51
1,1-Dichloroethene	ND	2.0	1	05/22/2016 08:51
cis-1,2-Dichloroethene	ND	2.0	1	05/22/2016 08:51
trans-1,2-Dichloroethene	ND	2.0	1	05/22/2016 08:51
1,2-Dichloropropane	ND	2.4	1	05/22/2016 08:51
cis-1,3-Dichloropropene	ND	2.3	1	05/22/2016 08:51

(Cont.)

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	1605624-004A	SoilGas	05/15/2016 18:05	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.60	27.20	GM

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	2.3	1	05/22/2016 08:51
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	05/22/2016 08:51
Diisopropyl ether (DIPE)	ND	2.1	1	05/22/2016 08:51
1,4-Dioxane	ND	1.8	1	05/22/2016 08:51
Ethanol	ND	96	1	05/22/2016 08:51
Ethyl acetate	ND	1.8	1	05/22/2016 08:51
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	05/22/2016 08:51
Ethylbenzene	ND	2.2	1	05/22/2016 08:51
4-Ethyltoluene	ND	2.5	1	05/22/2016 08:51
Freon 113	ND	3.9	1	05/22/2016 08:51
Heptane	**79**	21	1	05/22/2016 08:51
Hexachlorobutadiene	ND	5.4	1	05/22/2016 08:51
Hexane	**250**	18	1	05/22/2016 08:51
2-Hexanone	ND	2.1	1	05/22/2016 08:51
4-Methyl-2-pentanone (MIBK)	ND	2.1	1	05/22/2016 08:51
Methyl-t-butyl ether (MTBE)	ND	1.8	1	05/22/2016 08:51
Methylene chloride	ND	8.8	1	05/22/2016 08:51
Methyl methacrylate	ND	2.1	1	05/22/2016 08:51
Naphthalene	ND	5.3	1	05/22/2016 08:51
Propene	ND	88	1	05/22/2016 08:51
Styrene	ND	2.2	1	05/22/2016 08:51
1,1,1,2-Tetrachloroethane	ND	3.5	1	05/22/2016 08:51
1,1,2,2-Tetrachloroethane	ND	3.5	1	05/22/2016 08:51
Tetrachloroethene	ND	3.4	1	05/22/2016 08:51
Tetrahydrofuran	ND	3.0	1	05/22/2016 08:51
Toluene	**3.8**	1.9	1	05/22/2016 08:51
1,2,4-Trichlorobenzene	ND	3.8	1	05/22/2016 08:51
1,1,1-Trichloroethane	ND	2.8	1	05/22/2016 08:51
1,1,2-Trichloroethane	ND	2.8	1	05/22/2016 08:51
Trichloroethene	ND	2.8	1	05/22/2016 08:51
Trichlorofluoromethane	**82**	2.8	1	05/22/2016 08:51
1,2,4-Trimethylbenzene	ND	2.5	1	05/22/2016 08:51
1,3,5-Trimethylbenzene	ND	2.5	1	05/22/2016 08:51

(Cont.)

Angela Rydelius, Lab Manager

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Received:	5/16/16 10:15	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	1605624-004A	SoilGas	05/15/2016 18:05	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.60	27.20	GM

Analytes	Result	RL	DF	Date Analyzed
Vinyl Acetate	ND	18	1	05/22/2016 08:51
Vinyl Chloride	ND	1.3	1	05/22/2016 08:51
Xylenes, Total	**7.5**	6.6	1	05/22/2016 08:51
Surrogates	**REC (%)**	**Limits**		
1,2-DCA-d4	79	70-130		05/22/2016 08:51
Toluene-d8	85	70-130		05/22/2016 08:51
4-BFB	92	70-130		05/22/2016 08:51

Angela Rydelius, Lab Manager

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Prepared:	5/20/16	**BatchID:**	121352
Date Analyzed:	5/20/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	µL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121352

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Oxygen	ND	5800	2000	7000	-	83	70-130

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Prepared:	5/17/16 - 5/18/16	**BatchID:**	121313
Date Analyzed:	5/17/16 - 5/18/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	Soilgas	**Unit:**	%
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121313

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Helium	ND	0.102	0.025	0.10	-	102	60-140

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Prepared:	5/17/16 - 5/19/16	**BatchID:**	121325
Date Analyzed:	5/17/16 - 5/19/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	uL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121325

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Carbon Dioxide	ND	99.9	20	100	-	100	70-130
Carbon Monoxide	ND	74.4	20	100	-	74	70-130
Hydrogen	ND	841	25	1000	-	84	70-130
Methane	ND	92.0	1.0	100	-	92	70-130

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McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Prepared:	5/24/16	**BatchID:**	121406
Date Analyzed:	5/24/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121406

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	5000	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	6550	250	5000	-	131	60-140
Benzene	ND	6430	250	5000	-	129	60-140
Bromobenzene	ND	-	250	-	-	-	-
Bromochloromethane	ND	-	250	-	-	-	-
Bromodichloromethane	ND	-	250	-	-	-	-
Bromoform	ND	-	250	-	-	-	-
Bromomethane	ND	-	250	-	-	-	-
2-Butanone (MEK)	ND	-	1000	-	-	-	-
t-Butyl alcohol (TBA)	ND	24,100	2500	20000	-	121	60-140
n-Butyl benzene	ND	-	250	-	-	-	-
sec-Butyl benzene	ND	-	250	-	-	-	-
tert-Butyl benzene	ND	-	250	-	-	-	-
Carbon Disulfide	ND	-	250	-	-	-	-
Carbon Tetrachloride	ND	-	250	-	-	-	-
Chlorobenzene	ND	6050	250	5000	-	121	60-140
Chloroethane	ND	-	250	-	-	-	-
Chloroform	ND	-	250	-	-	-	-
Chloromethane	ND	-	250	-	-	-	-
2-Chlorotoluene	ND	-	250	-	-	-	-
4-Chlorotoluene	ND	-	250	-	-	-	-
Dibromochloromethane	ND	-	250	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	250	-	-	-	-
1,2-Dibromoethane (EDB)	ND	6380	250	5000	-	128	60-140
Dibromomethane	ND	-	250	-	-	-	-
1,2-Dichlorobenzene	ND	-	250	-	-	-	-
1,3-Dichlorobenzene	ND	-	250	-	-	-	-
1,4-Dichlorobenzene	ND	-	250	-	-	-	-
Dichlorodifluoromethane	ND	-	250	-	-	-	-
1,1-Dichloroethane	ND	-	250	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	5790	250	5000	-	116	60-140
1,1-Dichloroethene	ND	6570	250	5000	-	131	60-140
cis-1,2-Dichloroethene	ND	-	250	-	-	-	-
trans-1,2-Dichloroethene	ND	-	250	-	-	-	-
1,2-Dichloropropane	ND	-	250	-	-	-	-
1,3-Dichloropropane	ND	-	250	-	-	-	-
2,2-Dichloropropane	ND	-	250	-	-	-	-

(Cont.)

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McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Prepared:	5/24/16	**BatchID:**	121406
Date Analyzed:	5/24/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121406

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	250	-	-	-	-
cis-1,3-Dichloropropene	ND	-	250	-	-	-	-
trans-1,3-Dichloropropene	ND	-	250	-	-	-	-
Diisopropyl ether (DIPE)	ND	6380	250	5000	-	128	60-140
Ethylbenzene	ND	-	250	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	6250	250	5000	-	125	60-140
Freon 113	ND	-	250	-	-	-	-
Hexachlorobutadiene	ND	-	250	-	-	-	-
Hexachloroethane	ND	-	250	-	-	-	-
2-Hexanone	ND	-	250	-	-	-	-
Isopropylbenzene	ND	-	250	-	-	-	-
4-Isopropyl toluene	ND	-	250	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	6040	250	5000	-	121	60-140
Methylene chloride	ND	-	250	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	250	-	-	-	-
Naphthalene	ND	-	250	-	-	-	-
n-Propyl benzene	ND	-	250	-	-	-	-
Styrene	ND	-	250	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	250	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	250	-	-	-	-
Tetrachloroethene	ND	-	250	-	-	-	-
Toluene	ND	6320	250	5000	-	126	60-140
1,2,3-Trichlorobenzene	ND	-	250	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	250	-	-	-	-
1,1,1-Trichloroethane	ND	-	250	-	-	-	-
1,1,2-Trichloroethane	ND	-	250	-	-	-	-
Trichloroethene	ND	6800	250	5000	-	136	60-140
Trichlorofluoromethane	ND	-	250	-	-	-	-
1,2,3-Trichloropropane	ND	-	250	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	250	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	250	-	-	-	-
Vinyl Chloride	ND	-	250	-	-	-	-
Xylenes, Total	ND	-	250	-	-	-	-

(Cont.)

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"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Prepared:	5/24/16	**BatchID:**	121406
Date Analyzed:	5/24/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121406

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	12,000	12,100		12500	96	97	60-140
Toluene-d8	11,400	11,100		12500	92	89	60-140
4-BFB	1200	1150		1250	96	92	60-140

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"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Prepared:	5/21/16	**BatchID:**	121369
Date Analyzed:	5/21/16	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121369

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	54.5	30	60	-	91	60-140
Acrolein	ND	66.8	2.9	58.25	-	115	60-140
Acrylonitrile	ND	64.4	0.55	55	-	117	60-140
tert-Amyl methyl ether (TAME)	ND	92.6	1.0	105	-	88	60-140
Benzene	ND	62.6	0.80	80	-	78	60-140
Benzyl chloride	ND	142	1.3	132.5	-	108	60-140
Bromodichloromethane	ND	113	1.8	175	-	64	60-140
Bromoform	ND	205	2.6	262.5	-	78	60-140
Bromomethane	ND	133	1.0	97.5	-	136	60-140
1,3-Butadiene	ND	59.3	0.55	55	-	108	60-140
2-Butanone (MEK)	ND	78.2	38	75	-	104	60-140
t-Butyl alcohol (TBA)	ND	80.0	16	77.5	-	103	60-140
Carbon Disulfide	ND	90.8	0.80	80	-	114	60-140
Carbon Tetrachloride	ND	112	1.6	160	-	70	60-140
Chlorobenzene	ND	113	1.2	117.5	-	96	60-140
Chloroethane	ND	73.6	0.65	67.5	-	109	60-140
Chloroform	ND	96.2	1.2	122.5	-	79	60-140
Chloromethane	ND	44.1	0.50	52.5	-	84	60-140
Cyclohexane	ND	90.3	9.0	87.5	-	103	60-140
Dibromochloromethane	ND	160	2.2	217.5	-	74	60-140
1,2-Dibromo-3-chloropropane	ND	260	0.060	245	-	106	60-140
1,2-Dibromoethane (EDB)	ND	144	2.0	195	-	74	60-140
1,2-Dichlorobenzene	ND	137	1.5	152.5	-	90	60-140
1,3-Dichlorobenzene	ND	137	1.5	152.5	-	90	60-140
1,4-Dichlorobenzene	ND	132	1.5	152.5	-	87	60-140
Dichlorodifluoromethane	ND	106	1.2	125	-	84	60-140
1,1-Dichloroethane	ND	96.6	1.0	102.5	-	94	60-140
1,2-Dichloroethane (1,2-DCA)	ND	83.4	1.0	102.5	-	81	60-140
1,1-Dichloroethene	ND	92.5	1.0	100	-	93	60-140
cis-1,2-Dichloroethene	ND	99.6	1.0	100	-	100	60-140
trans-1,2-Dichloroethene	ND	97.7	1.0	100	-	98	60-140
1,2-Dichloropropane	ND	95.9	1.2	117.5	-	82	60-140
cis-1,3-Dichloropropene	ND	93.7	1.2	115	-	81	60-140
trans-1,3-Dichloropropene	ND	89.9	1.2	115	-	78	60-140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	166	1.8	177.5	-	94	60-140
Diisopropyl ether (DIPE)	ND	106	1.0	105	-	101	60-140
1,4-Dioxane	ND	73.0	0.90	92.5	-	79	60-140

(Cont.)

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McCampbell Analytical, Inc.
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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Prepared:	5/21/16	**BatchID:**	121369
Date Analyzed:	5/21/16	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121369

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Ethanol	ND	52.5	48	47.5	-	111	60-140
Ethyl acetate	ND	83.8	0.90	92.5	-	91	60-140
Ethyl tert-butyl ether (ETBE)	ND	105	1.0	105	-	100	60-140
Ethylbenzene	ND	104	1.1	110	-	94	60-140
4-Ethyltoluene	ND	118	1.2	125	-	94	60-140
Freon 113	ND	176	2.0	195	-	90	60-140
Heptane	ND	86.0	10	105	-	82	60-140
Hexachlorobutadiene	ND	219	2.7	270	-	81	60-140
Hexane	ND	91.2	9.0	90	-	101	60-140
2-Hexanone	ND	81.2	1.0	105	-	77	60-140
4-Methyl-2-pentanone (MIBK)	ND	81.0	1.0	105	-	77	60-140
Methyl-t-butyl ether (MTBE)	ND	81.7	0.90	92.5	-	88	60-140
Methylene chloride	ND	84.0	4.4	87.5	-	96	60-140
Methyl methacrylate	ND	89.8	1.0	104	-	86	60-140
Naphthalene	ND	266	2.6	265	-	100	60-140
Propene	ND	ND	44	42.5	-	84	60-140
Styrene	ND	116	1.1	107.5	-	108	60-140
1,1,1,2-Tetrachloroethane	ND	175	1.8	175	-	100	60-140
1,1,2,2-Tetrachloroethane	ND	192	1.8	175	-	110	60-140
Tetrachloroethene	ND	124	1.7	172	-	72	60-140
Tetrahydrofuran	ND	76.1	1.5	75	-	102	60-140
Toluene	ND	77.6	0.95	95	-	82	60-140
1,2,4-Trichlorobenzene	ND	176	1.9	187.5	-	94	60-140
1,1,1-Trichloroethane	ND	96.5	1.4	137.5	-	70	60-140
1,1,2-Trichloroethane	ND	106	1.4	137.5	-	77	60-140
Trichloroethene	ND	95.2	1.4	137.5	-	69	60-140
Trichlorofluoromethane	ND	124	1.4	142.5	-	87	60-140
1,2,4-Trimethylbenzene	ND	116	1.2	125	-	93	60-140
1,3,5-Trimethylbenzene	ND	126	1.2	125	-	101	60-140
Vinyl Acetate	ND	85.4	9.0	90	-	95	60-140
Vinyl Chloride	ND	69.0	0.65	65	-	106	60-140
Xylenes, Total	ND	313	3.3	330	-	95	60-140

(Cont.)

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605624
Date Prepared:	5/21/16	**BatchID:**	121369
Date Analyzed:	5/21/16	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121369

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
1,2-DCA-d4	404	403		500	81	81	70-130
Toluene-d8	431	410		500	86	82	70-130
4-BFB	456	454		500	91	91	70-130

QA/QC Officer

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605624 **ClientCode: AWR** **QuoteID: 6007**

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Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:
Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;
Date Received: 05/16/2016
Date Logged: 05/16/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605624-001	SV8	SoilGas	5/15/2016 14:00	☐	A	A	A	A	A							
1605624-002	SV6	SoilGas	5/15/2016 12:38	☐	A	A		A	A							
1605624-003	SV5	SoilGas	5/15/2016 16:40	☐	A	A		A	A							
1605624-004	SS-1	SoilGas	5/15/2016 18:05	☐	A	A		A	A							

Test Legend:

1	HELIUM_LC_SOILGAS(%)	2	LG_SUMMA_SOILGAS	3	PREDF REPORT	4	TO15_Scan-SIM_SOIL(UG/M3)
5	TO15-8260_SOIL(UG/M3)	6		7		8	
9		10		11		12	

Prepared by: Jena Alfaro

The following SampIDs: 001A, 002A, 003A, 004A contain testgroup.

Comments:

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605624
Date Logged: 5/16/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605624-001A	SV8	SoilGas	ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Hydrogen_3, Methane_4, Oxygen>	1	1L Summa	☐	5/15/2016 14:00	5 days		☐	
			TO15 w/ Helium			☐		5 days		☐	
1605624-002A	SV6	SoilGas	ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Hydrogen_3, Methane_4, Oxygen>	1	1L Summa	☐	5/15/2016 12:38	5 days		☐	
			TO15 w/ Helium			☐		5 days		☐	
1605624-003A	SV5	SoilGas	ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Hydrogen_3, Methane_4, Oxygen>	1	1L Summa	☐	5/15/2016 16:40	5 days		☐	
			TO15 w/ Helium			☐		5 days		☐	
1605624-004A	SS-1	SoilGas	ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Hydrogen_3, Methane_4, Oxygen>	1	1L Summa	☐	5/15/2016 18:05	5 days		☐	
			TO15 w/ Helium			☐		5 days		☐	

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

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

1605624

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ EQuIS ☐ 10 DAY ☐

UST CLEAN UP FUND ☒ ; Claim # 605

Report To: Yola Bayrum **Bill To:** AWR

Company: Applied Water Resources

2363 Mariner Sq. Dr, Ste 245, Alameda, CA

E-Mail: Ybayrum@awrcorp.net

Tele: (510) 671-2088 **Fax:** ( )

Project #: **Project Name:** 1700 Jefferson

Project Location: 1700 Jefferson

Sampler Signature:

Helium Shroud SN#

Other:

Notes: Please Specify units if different than default: VOCs is reported in ug/m3, fixed gas is reported in uL/L. Leak check default is IPA.

Quote 6007

Field Sample ID (Location)	Collection Date	Collection Time	Canister SN#	Sampler Kit SN#	VOCs by TO-15 (ug/m3)	8010 by TO-15 (ug/m3)	TPH(g) (ug/m3)	LEED (inc. 4PCH, Formaldehyde, CO, Total VOCs)	Fixed Gas: CO2, Methane, Ethane, Ethylene, Acetylene, CO (please circle or indicate in notes) uL/L	Fixed Gas: O2, N2 (please circle) uL/L (Hydrogen)	Fixed Gas: Propane uL/L	Helium Leak Check (%)	Leak Check (IPA, Norflorane, 1,1-difluroethane) ug/m3	APH: Aliphatic and/or Aromatic (please circle) ug/m3	Other:	Matrix: Soilgas	Matrix: Indoor Air	Canister Pressure/ Vacuum: Initial	Canister Pressure/ Vacuum: Final
SV8	5-15	1400	1983-1931	316T-779	X				X	X		X				X		30	3
SV6	↓	1238	6407-794	316T-999	X				X	X		X				X		30	4
SV5		1640	6420-851	316T-1314	X				X	X		X				X		30	3
SS-1	↓	1805	6168-754	316-1219	X				X	X		X				X		30	2

Relinquished By:	Date:	Time:	Received By:
	5-16-16	935	
	5-Apr-16	1015	

Temp (°C) : _____ Work Order #: _____

Condition: _____

Custody Seals Intact?: Yes _____ No _____ None _____

Shipped Via: _____

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**5/16/2016 10:15**
Project Name:	**1700 Jefferson**	Date Logged:	**5/16/2016**
WorkOrder №:	**1605624** Matrix: SoilGas	Received by:	Jena Alfaro
Carrier:	Randy Glen (MAI Courier)	Logged by:	Jena Alfaro

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

UCMR3 Samples:

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

Comments:

McCampbell Analytical, Inc.
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Analytical Report

WorkOrder: 1605642

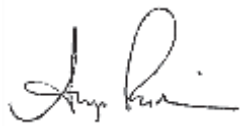
Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700; 1700 Jefferson

Project Received: 05/16/2016

Analytical Report reviewed & approved for release on 05/23/2016 by:



Angela Rydelius,
Laboratory Manager

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

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700; 1700 Jefferson
WorkOrder: 1605642

Glossary Abbreviation

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

Analytical Qualifiers

a3	sample diluted due to high organic content.
a9	reporting limit near, but not identical to, our standard reporting limit due to variable Encore/Solid sample weight

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Received:	5/16/16 14:00	**Extraction Method:**	SW5030B
Date Prepared:	5/21/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	µg/L

Oxygenates and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C17-GW	1605642-004A	Water	05/16/2016 13:00	GC28	121007

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	500	1,000	05/21/2016 16:49
Benzene	ND	500	1,000	05/21/2016 16:49
t-Butyl alcohol (TBA)	ND	2000	1,000	05/21/2016 16:49
1,2-Dichloroethane (1,2-DCA)	ND	500	1,000	05/21/2016 16:49
Diisopropyl ether (DIPE)	ND	500	1,000	05/21/2016 16:49
Ethanol	ND	50,000	1,000	05/21/2016 16:49
Ethylbenzene	**2300**	500	1,000	05/21/2016 16:49
Ethyl tert-butyl ether (ETBE)	ND	500	1,000	05/21/2016 16:49
Methyl-t-butyl ether (MTBE)	ND	500	1,000	05/21/2016 16:49
Toluene	**15,000**	500	1,000	05/21/2016 16:49
Xylenes, Total	**11,000**	500	1,000	05/21/2016 16:49

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/21/2016 16:49
Toluene-d8	101	70-130	05/21/2016 16:49
4-BFB	95	70-130	05/21/2016 16:49

Analyst(s): MW

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Received:	5/16/16 14:00	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C17-15.5	1605642-001B	Soil	05/16/2016 11:45	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**0.83**	0.58	1	05/18/2016 09:22

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/18/2016 09:22
Benzene-D6	102	70-130	05/18/2016 09:22

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C17-18.5	1605642-002B	Soil	05/16/2016 12:00	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**0.72**	0.58	1	05/18/2016 10:44

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/18/2016 10:44
Benzene-D6	94	70-130	05/18/2016 10:44

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C17-19.5	1605642-003B	Soil	05/16/2016 12:10	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**0.80**	0.58	1	05/18/2016 11:25

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	05/18/2016 11:25
Benzene-D6	89	70-130	05/18/2016 11:25

Analyst(s): AK Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Received:	5/16/16 14:00	**Extraction Method:**	SW5030B
Date Prepared:	5/21/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	µg/L

TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C17-GW	1605642-004A	Water	05/16/2016 13:00	GC28	121007

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**57,000**	50,000	1,000	05/21/2016 16:49

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	05/21/2016 16:49

Analyst(s): MW

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Received:	5/16/16 14:00	**Extraction Method:**	SW5030B
Date Prepared:	5/21/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	µg/L

Methanol and Isopropyl Alcohol by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C17-GW	1605642-004A	Water	05/16/2016 13:00	GC28	121007

Analytes	Result	RL	DF	Date Analyzed
Methanol	ND	500,000	1,000	05/21/2016 16:49

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	05/21/2016 16:49

Analyst(s): MW Analytical Comments: a3

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Received:	5/16/16 14:00	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C17-15.5	1605642-001B	Soil	05/16/2016 11:45	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.012	1	05/18/2016 09:22
Ethylbenzene	ND	0.012	1	05/18/2016 09:22
Methyl-t-butyl ether (MTBE)	ND	0.012	1	05/18/2016 09:22
Naphthalene	ND	0.012	1	05/18/2016 09:22
Toluene	ND	0.012	1	05/18/2016 09:22
Xylenes, Total	ND	0.012	1	05/18/2016 09:22

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/18/2016 09:22
Toluene-d8	110	70-130	05/18/2016 09:22
4-BFB	99	70-130	05/18/2016 09:22
Benzene-d6	96	60-140	05/18/2016 09:22
Ethylbenzene-d10	111	60-140	05/18/2016 09:22
1,2-DCB-d4	86	60-140	05/18/2016 09:22

Analyst(s): AK Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C17-18.5	1605642-002B	Soil	05/16/2016 12:00	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.012	1	05/18/2016 10:44
Ethylbenzene	ND	0.012	1	05/18/2016 10:44
Methyl-t-butyl ether (MTBE)	ND	0.012	1	05/18/2016 10:44
Naphthalene	ND	0.012	1	05/18/2016 10:44
Toluene	ND	0.012	1	05/18/2016 10:44
Xylenes, Total	ND	0.012	1	05/18/2016 10:44

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	05/18/2016 10:44
Toluene-d8	109	70-130	05/18/2016 10:44
4-BFB	98	70-130	05/18/2016 10:44
Benzene-d6	91	60-140	05/18/2016 10:44
Ethylbenzene-d10	103	60-140	05/18/2016 10:44
1,2-DCB-d4	83	60-140	05/18/2016 10:44

Analyst(s): AK Analytical Comments: a9

(Cont.)

NELAP 4033ORELAP

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Received:	5/16/16 14:00	**Extraction Method:**	SW5035
Date Prepared:	5/16/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C17-19.5	1605642-003B	Soil	05/16/2016 12:10	GC28	120989

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.012	1	05/18/2016 11:25
Ethylbenzene	ND	0.012	1	05/18/2016 11:25
Methyl-t-butyl ether (MTBE)	ND	0.012	1	05/18/2016 11:25
Naphthalene	ND	0.012	1	05/18/2016 11:25
Toluene	ND	0.012	1	05/18/2016 11:25
Xylenes, Total	ND	0.012	1	05/18/2016 11:25

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/18/2016 11:25
Toluene-d8	108	70-130	05/18/2016 11:25
4-BFB	102	70-130	05/18/2016 11:25
Benzene-d6	86	60-140	05/18/2016 11:25
Ethylbenzene-d10	98	60-140	05/18/2016 11:25
1,2-DCB-d4	80	60-140	05/18/2016 11:25

Analyst(s): AK Analytical Comments: a9

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Prepared:	5/16/16	**BatchID:**	121007
Date Analyzed:	5/16/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS-121007 1605525-040BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
tert-Amyl methyl ether (TAME)	ND	9.39	0.50	10	-	94	54-140
Benzene	ND	9.34	0.50	10	-	93	47-158
t-Butyl alcohol (TBA)	ND	32.9	2.0	40	-	82	42-140
1,2-Dichloroethane (1,2-DCA)	ND	8.44	0.50	10	-	84	66-125
Diisopropyl ether (DIPE)	ND	9.28	0.50	10	-	93	57-136
Ethanol	ND	512	50	500	-	102	48-114
Ethyl tert-butyl ether (ETBE)	ND	9.22	0.50	10	-	92	55-137
Methyl-t-butyl ether (MTBE)	ND	8.93	0.50	10	-	89	53-139
Toluene	ND	9.49	0.50	10	-	95	52-137
Xylenes, Total	ND	30.8	0.50	30	-	103	70-130
Surrogate Recovery							
Dibromofluoromethane	23.6	23.9		25	95	96	70-130
Toluene-d8	23.2	22.7		25	93	91	70-130
4-BFB	2.30	2.27		2.5	92	91	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	10.2	10.6	10	ND	102	106	69-139	3.18	20
Benzene	9.42	9.47	10	ND	93	94	69-141	0.508	20
t-Butyl alcohol (TBA)	43.0	46.1	40	ND	108	115	41-152	6.94	20
1,2-Dichloroethane (1,2-DCA)	9.06	9.16	10	ND	91	92	73-139	1.08	20
Diisopropyl ether (DIPE)	9.75	9.88	10	ND	97	99	72-140	1.30	20
Ethanol	582	634	500	ND	116	127	40-157	8.63	20
Ethyl tert-butyl ether (ETBE)	9.88	10.2	10	ND	99	102	71-140	2.99	20
Methyl-t-butyl ether (MTBE)	9.92	10.2	10	ND	99	102	73-139	2.86	20
Toluene	9.69	9.44	10	ND	96	93	71-128	2.66	20
Xylenes, Total	29.1	30.7	30	ND	97	102	70-130	5.32	20
Surrogate Recovery									
Dibromofluoromethane	24.4	24.3	25		98	97	73-131	0.432	20
Toluene-d8	23.0	22.5	25		92	90	72-117	2.27	20
4-BFB	2.36	2.31	2.5		95	92	74-116	2.35	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Prepared:	5/16/16	**BatchID:**	120989
Date Analyzed:	5/17/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-120989

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g)	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	0.252		0.25	101	70-130
Benzene-D6	0.208		0.20	104	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
VOC (C6-C12)	7.48	6.37	6.44	116	99	70-130	16.0	20
Surrogate Recovery								
Dibromofluoromethane	0.248	0.253	0.25	99	101	70-130	1.70	20
Benzene-D6	0.251	0.213	0.20	125	106	70-130	16.4	20

NELAP 4033ORELAP

QA/QC Officer

CLIENT: Applied Water Resources
Work Order: 1605642
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121007

SampleID **MB-121007**	TestCode: **8260gas_w**	Units: **µg/L**	Prep Date: **5/16/2016**
Batch ID: **121007**	TestNo: **SW8260B**	Run ID: **GC16_160524C**	Analysis Date: **5/16/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
TPH(g)	ND	50				-				
Surrogate Recovery										
Dibromofluoromethane	24.7		25		99	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605642
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121007

SampleID **LCS-121007**	TestCode: **8260gas_w**			Units: **µg/L**			Prep Date: **5/16/2016**			
Batch ID: **121007**	TestNo: **SW8260B**			Run ID: **GC16_160524C**			Analysis Date: **5/16/2016**			
Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
VOC (C6-C12)	512	50	644	0	79	70 - 130				
Surrogate Recovery										
Dibromofluoromethane	25.0		25		100	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Prepared:	5/21/16	**BatchID:**	121007
Date Analyzed:	5/21/16	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS-121007

QC Summary for Methanol and Isopropyl Alcohol

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Methanol	ND	2140	500	2500	-	86	70-130

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Prepared:	5/16/16	**BatchID:**	120989
Date Analyzed:	5/17/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-120989

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	0.20	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.010	-	-	-
Benzene	ND	0.010	-	-	-
Bromobenzene	ND	0.010	-	-	-
Bromochloromethane	ND	0.010	-	-	-
Bromodichloromethane	ND	0.010	-	-	-
Bromoform	ND	0.010	-	-	-
Bromomethane	ND	0.010	-	-	-
2-Butanone (MEK)	ND	0.040	-	-	-
t-Butyl alcohol (TBA)	ND	0.10	-	-	-
n-Butyl benzene	ND	0.010	-	-	-
sec-Butyl benzene	ND	0.010	-	-	-
tert-Butyl benzene	ND	0.010	-	-	-
Carbon Disulfide	ND	0.010	-	-	-
Carbon Tetrachloride	ND	0.010	-	-	-
Chlorobenzene	ND	0.010	-	-	-
Chloroethane	ND	0.010	-	-	-
Chloroform	ND	0.010	-	-	-
Chloromethane	ND	0.010	-	-	-
2-Chlorotoluene	ND	0.010	-	-	-
4-Chlorotoluene	ND	0.010	-	-	-
Dibromochloromethane	ND	0.010	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0080	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0080	-	-	-
Dibromomethane	ND	0.010	-	-	-
1,2-Dichlorobenzene	ND	0.010	-	-	-
1,3-Dichlorobenzene	ND	0.010	-	-	-
1,4-Dichlorobenzene	ND	0.010	-	-	-
Dichlorodifluoromethane	ND	0.010	-	-	-
1,1-Dichloroethane	ND	0.010	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.010	-	-	-
1,1-Dichloroethene	ND	0.010	-	-	-
cis-1,2-Dichloroethene	ND	0.010	-	-	-
trans-1,2-Dichloroethene	ND	0.010	-	-	-
1,2-Dichloropropane	ND	0.010	-	-	-
1,3-Dichloropropane	ND	0.010	-	-	-
2,2-Dichloropropane	ND	0.010	-	-	-
1,1-Dichloropropene	ND	0.010	-	-	-
cis-1,3-Dichloropropene	ND	0.010	-	-	-

(Cont.)

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QA/QC Officer

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Prepared:	5/16/16	**BatchID:**	120989
Date Analyzed:	5/17/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-120989

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.010	-	-	-
Diisopropyl ether (DIPE)	ND	0.010	-	-	-
Ethylbenzene	ND	0.010	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.010	-	-	-
Freon 113	ND	0.010	-	-	-
Hexachlorobutadiene	ND	0.010	-	-	-
Hexachloroethane	ND	0.010	-	-	-
2-Hexanone	ND	0.010	-	-	-
Isopropylbenzene	ND	0.010	-	-	-
4-Isopropyl toluene	ND	0.010	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.010	-	-	-
Methylene chloride	ND	0.010	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.010	-	-	-
Naphthalene	ND	0.010	-	-	-
n-Propyl benzene	ND	0.010	-	-	-
Styrene	ND	0.010	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.010	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.010	-	-	-
Tetrachloroethene	ND	0.010	-	-	-
Toluene	ND	0.010	-	-	-
1,2,3-Trichlorobenzene	ND	0.010	-	-	-
1,2,4-Trichlorobenzene	ND	0.010	-	-	-
1,1,1-Trichloroethane	ND	0.010	-	-	-
1,1,2-Trichloroethane	ND	0.010	-	-	-
Trichloroethene	ND	0.010	-	-	-
Trichlorofluoromethane	ND	0.010	-	-	-
1,2,3-Trichloropropane	ND	0.010	-	-	-
1,2,4-Trimethylbenzene	ND	0.010	-	-	-
1,3,5-Trimethylbenzene	ND	0.010	-	-	-
Vinyl Chloride	ND	0.010	-	-	-
Xylenes, Total	ND	0.010	-	-	-

(Cont.)

NELAP 4033ORELAP

QA/QC Officer

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605642
Date Prepared:	5/16/16	**BatchID:**	120989
Date Analyzed:	5/17/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-120989

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery					
Dibromofluoromethane	0.245		0.25	98	70-130
Toluene-d8	0.273		0.25	109	70-130
4-BFB	0.0247		0.025	99	70-130
Benzene-d6	0.201		0.20	101	60-140
Ethylbenzene-d10	0.232		0.20	116	60-140
1,2-DCB-d4	0.180		0.20	90	60-140

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0905	0.0770	0.10	91	77	70-130	16.2	30
Benzene	0.104	0.0911	0.10	104	91	70-130	13.4	30
t-Butyl alcohol (TBA)	0.413	0.374	0.40	103	93	70-130	9.88	30
Chlorobenzene	0.105	0.0912	0.10	105	91	70-130	13.7	30
1,2-Dibromoethane (EDB)	0.100	0.0877	0.10	100	88	70-130	13.3	30
1,2-Dichloroethane (1,2-DCA)	0.0949	0.0849	0.10	95	85	70-130	11.1	30
1,1-Dichloroethene	0.105	0.0901	0.10	105	90	70-130	15.2	30
Diisopropyl ether (DIPE)	0.0977	0.0867	0.10	98	87	70-130	12.0	30
Ethyl tert-butyl ether (ETBE)	0.0995	0.0882	0.10	99	88	70-130	12.0	30
Methyl-t-butyl ether (MTBE)	0.100	0.0894	0.10	100	89	70-130	11.2	30
Toluene	0.119	0.101	0.10	119	101	70-130	17.0	30
Trichloroethene	0.106	0.0936	0.10	106	94	70-130	12.3	30
Surrogate Recovery								
Dibromofluoromethane	0.242	0.245	0.25	97	98	70-130	1.59	30
Toluene-d8	0.281	0.272	0.25	112	109	70-130	3.15	30
4-BFB	0.0272	0.0265	0.025	109	106	70-130	2.42	30
Benzene-d6	0.232	0.205	0.20	116	103	60-140	12.2	30
Ethylbenzene-d10	0.276	0.235	0.20	138	117	60-140	16.1	30
1,2-DCB-d4	0.205	0.185	0.20	103	93	60-140	10.4	30

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605642 **ClientCode: AWR** **QuoteID: 6007**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:

Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700; 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;

Date Received: **05/16/2016**
Date Logged: **05/16/2016**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605642-001	C17-15.5	Soil	5/16/2016 11:45	☐		B			B							
1605642-002	C17-18.5	Soil	5/16/2016 12:00	☐		B			B							
1605642-003	C17-19.5	Soil	5/16/2016 12:10	☐		B			B							
1605642-004	C17-GW	Water	5/16/2016 13:00	☐	A		A	A								

Test Legend:

1	8260B_9OXYBTEX_W	2	8260GAS_E	3	8260GAS_W	4	8260IPAMEOH_W
5	8260VOC_E	6		7		8	
9		10		11		12	

Prepared by: Briana Cutino

The following SampIDs: 001B, 002B, 003B, 004A contain testgroup.

Comments:

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700; 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605642
Date Logged: 5/16/2016

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605642-001A	C17-15.5	Soil		1	16OZ GJ	☐	5/16/2016 11:45			☑	
1605642-001B	C17-15.5	Soil	TPH(g) & 8260 by P&T GCMS [Encore]	1	Encore	☐	5/16/2016 11:45	5 days		☐	
1605642-002A	C17-18.5	Soil		1	16OZ GJ	☐	5/16/2016 12:00			☑	
1605642-002B	C17-18.5	Soil	TPH(g) & 8260 by P&T GCMS [Encore]	1	Encore	☐	5/16/2016 12:00	5 days		☐	
1605642-003A	C17-19.5	Soil		1	16OZ GJ	☐	5/16/2016 12:10			☑	
1605642-003B	C17-19.5	Soil	TPH(g) & 8260 by P&T GCMS [Encore]	1	Encore	☐	5/16/2016 12:10	5 days		☐	
1605642-004A	C17-GW	Water	TPH(g) & BTEX & 9 Oxys by 8260B	2	VOA w/ HCl	☐	5/16/2016 13:00	5 days	Present	☐	

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

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

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1100 5642

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ Write On (DW) ☐ EQuIS ☐ 10 DAY ☐

Effluent Sample Requiring "J" flag ☐ UST Clean Up Fund Project ☒; Claim # 605

Report To: Yola Bayram	**Bill To: AWR**
Company: Applied Water Resources Corp	
2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501	
Tele: (510) 671-2088	**E-Mail: ybayram@awrcorp.net**
Project #: 1700	**Project Name: 1700 Jefferson**
Project Location: 1700 Jefferson	**Purchase Order#**
Sampler Signature:	

Analysis Request

SAMPLE ID	Location/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	MATRIX: Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	METHOD PRESERVED: HCL	HNO_3	Other	BTEX & TPH as Gas (~~8021/8015~~) MTBE 8260	Naphthalene 8260	LUFT 5 Metals (200.8 / 6020)***	PAHs	TPH as Diesel and Motor Oil (8015)	Fuel Oxygenates, Lead Scavengers	Ethanol and Methanol	Hold Jars Please
~~C17-13.5~~		~~5/16/16~~	~~1145~~	~~2~~					X							X	X						
C17-15.5		5/16/16	1145	2					X							X	X						X
C17-18.5			1200	2					X							X	X						X
C17-19.5			1210	2					X							X	X						X
C17-GW			1300	2	X								X			X					X	X	X

Geotracker # T0600100196 Quote ID#6007

Relinquished By:	Date:	Time:	Received By:
	5-15-16	1300	
Relinquished By:	Date:	Time:	Received By:
	5/16/16	1400	
Relinquished By:	Date:	Time:	Received By:

ICE/t°_____
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____
PRESERVED IN LAB_____

VOAS O&G METALS OTHER HAZARDOUS:
PRESERVATION_____ pH<2

COMMENTS:
~~X~~ Hold Jars please

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**5/16/2016 14:00**
Project Name:	**1700; 1700 Jefferson**	Date Logged:	**5/16/2016**
WorkOrder №:	**1605642** Matrix: Soil/Water	Received by:	Briana Cutino
Carrier:	Bernie Cummins (MAI Courier)	Logged by:	Briana Cutino

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	
Sample/Temp Blank temperature	Temp: 3°C				NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☑	No	☐	NA ☐
Sample labels checked for correct preservation?	Yes	☑	No	☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA ☑
Samples Received on Ice?	Yes	☑	No	☐	
(Ice Type: WET ICE)					

UCMR3 Samples:

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

Comments:

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Analytical Report

WorkOrder: 1605708 **Amended:** 05/31/2016

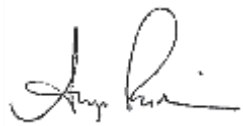
Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700; 1700 Jefferson

Project Received: 05/17/2016

Analytical Report reviewed & approved for release on 05/24/2016 by:



Angela Rydelius,
Laboratory Manager

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

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700; 1700 Jefferson
WorkOrder: 1605708

Glossary Abbreviation

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

Analytical Qualifiers

a9	reporting limit near, but not identical to, our standard reporting limit due to variable Encore/Solid sample weight
a28	reporting limit raised due to cluttered chromatogram

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5030B
Date Prepared:	5/24/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	µg/L

Oxygenates and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 20-GW	1605708-010A	Water	05/17/2016 10:00	GC28	121392

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	100	200	05/24/2016 12:04
Benzene	**2600**	100	200	05/24/2016 12:04
t-Butyl alcohol (TBA)	ND	400	200	05/24/2016 12:04
1,2-Dibromoethane (EDB)	ND	100	200	05/24/2016 12:04
1,2-Dichloroethane (1,2-DCA)	ND	100	200	05/24/2016 12:04
Diisopropyl ether (DIPE)	ND	100	200	05/24/2016 12:04
Ethanol	ND	10,000	200	05/24/2016 12:04
Ethylbenzene	**1100**	100	200	05/24/2016 12:04
Ethyl tert-butyl ether (ETBE)	ND	100	200	05/24/2016 12:04
Methyl-t-butyl ether (MTBE)	ND	100	200	05/24/2016 12:04
Toluene	**890**	100	200	05/24/2016 12:04
Xylenes, Total	**1700**	100	200	05/24/2016 12:04

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/24/2016 12:04
Toluene-d8	102	70-130	05/24/2016 12:04
4-BFB	97	70-130	05/24/2016 12:04

Analyst(s): MW

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5035
Date Prepared:	5/17/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

MTBE and BTEX by GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-13	1605708-002A	Soil	05/16/2016 14:30	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.011	1	05/21/2016 03:30
Ethylbenzene	ND	0.011	1	05/21/2016 03:30
Methyl-t-butyl ether (MTBE)	ND	0.011	1	05/21/2016 03:30
Toluene	ND	0.011	1	05/21/2016 03:30
Xylenes, Total	ND	0.011	1	05/21/2016 03:30

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/21/2016 03:30
Toluene-d8	111	70-130	05/21/2016 03:30
Benzene-d6	91	60-140	05/21/2016 03:30
Ethylbenzene-d10	108	60-140	05/21/2016 03:30

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-17	1605708-003A	Soil	05/16/2016 14:45	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.010	1	05/20/2016 23:03
Ethylbenzene	ND	0.010	1	05/20/2016 23:03
Methyl-t-butyl ether (MTBE)	ND	0.010	1	05/20/2016 23:03
Toluene	ND	0.010	1	05/20/2016 23:03
Xylenes, Total	ND	0.010	1	05/20/2016 23:03

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/20/2016 23:03
Toluene-d8	110	70-130	05/20/2016 23:03
Benzene-d6	91	60-140	05/20/2016 23:03
Ethylbenzene-d10	107	60-140	05/20/2016 23:03

Analyst(s): MW Analytical Comments: a9

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Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5035
Date Prepared:	5/17/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

MTBE and BTEX by GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-18.5	1605708-004A	Soil	05/16/2016 14:50	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.015	1	05/20/2016 23:42
Ethylbenzene	ND	0.015	1	05/20/2016 23:42
Methyl-t-butyl ether (MTBE)	ND	0.015	1	05/20/2016 23:42
Toluene	ND	0.015	1	05/20/2016 23:42
Xylenes, Total	ND	0.015	1	05/20/2016 23:42

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	05/20/2016 23:42
Toluene-d8	111	70-130	05/20/2016 23:42
Benzene-d6	94	60-140	05/20/2016 23:42
Ethylbenzene-d10	112	60-140	05/20/2016 23:42

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-25	1605708-006A	Soil	05/16/2016 15:00	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.012	1	05/21/2016 00:58
Ethylbenzene	**0.029**	0.012	1	05/21/2016 00:58
Methyl-t-butyl ether (MTBE)	ND	0.012	1	05/21/2016 00:58
Toluene	ND	0.012	1	05/21/2016 00:58
Xylenes, Total	**0.12**	0.012	1	05/21/2016 00:58

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/21/2016 00:58
Toluene-d8	110	70-130	05/21/2016 00:58
Benzene-d6	92	60-140	05/21/2016 00:58
Ethylbenzene-d10	108	60-140	05/21/2016 00:58

Analyst(s): MW Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5035
Date Prepared:	5/17/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

MTBE and BTEX by GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 20-22.5	1605708-008B	Soil	05/17/2016 09:50	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.011	1	05/21/2016 02:14
Ethylbenzene	ND	0.011	1	05/21/2016 02:14
Methyl-t-butyl ether (MTBE)	ND	0.011	1	05/21/2016 02:14
Toluene	ND	0.011	1	05/21/2016 02:14
Xylenes, Total	ND	0.011	1	05/21/2016 02:14
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	94	70-130		05/21/2016 02:14
Toluene-d8	110	70-130		05/21/2016 02:14
Benzene-d6	91	60-140		05/21/2016 02:14
Ethylbenzene-d10	106	60-140		05/21/2016 02:14

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 20-25	1605708-009B	Soil	05/17/2016 10:00	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
Benzene	**0.027**	0.012	1	05/21/2016 02:52
Ethylbenzene	**0.029**	0.012	1	05/21/2016 02:52
Methyl-t-butyl ether (MTBE)	ND	0.012	1	05/21/2016 02:52
Toluene	ND	0.012	1	05/21/2016 02:52
Xylenes, Total	ND	0.012	1	05/21/2016 02:52
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	93	70-130		05/21/2016 02:52
Toluene-d8	110	70-130		05/21/2016 02:52
Benzene-d6	94	60-140		05/21/2016 02:52
Ethylbenzene-d10	110	60-140		05/21/2016 02:52

Analyst(s): MW Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5030B
Date Prepared:	5/21/16-5/27/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	µg/L

MTBE and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-GW	1605708-001A	Water	05/16/2016 15:30	GC16	121243

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	50	100	05/21/2016 00:20
Benzene	ND	50	100	05/21/2016 00:20
t-Butyl alcohol (TBA)	ND	200	100	05/27/2016 17:25
1,2-Dibromoethane (EDB)	ND	50	100	05/21/2016 00:20
1,2-Dichloroethane (1,2-DCA)	ND	50	100	05/21/2016 00:20
Diisopropyl ether (DIPE)	ND	50	100	05/21/2016 00:20
Ethanol	ND	5000	100	05/21/2016 00:20
Ethylbenzene	**760**	50	100	05/21/2016 00:20
Ethyl tert-butyl ether (ETBE)	ND	50	100	05/21/2016 00:20
Methyl-t-butyl ether (MTBE)	ND	50	100	05/21/2016 00:20
Toluene	**600**	50	100	05/21/2016 00:20
Xylenes, Total	**3400**	50	100	05/21/2016 00:20

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	05/21/2016 00:20
Toluene-d8	92	70-130	05/21/2016 00:20

Analyst(s): MW

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5035
Date Prepared:	5/17/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-13	1605708-002A	Soil	05/16/2016 14:30	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.54	1	05/21/2016 03:30

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/21/2016 03:30
Benzene-D6	96	70-130	05/21/2016 03:30

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-17	1605708-003A	Soil	05/16/2016 14:45	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.52	1	05/20/2016 23:03

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/20/2016 23:03
Benzene-D6	96	70-130	05/20/2016 23:03

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-18.5	1605708-004A	Soil	05/16/2016 14:50	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.73	1	05/20/2016 23:42

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/20/2016 23:42
Benzene-D6	101	70-130	05/20/2016 23:42

Analyst(s): MW Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5035
Date Prepared:	5/17/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-19.5	1605708-005A	Soil	05/16/2016 14:55	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.68	1	05/21/2016 00:20

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/21/2016 00:20
Benzene-D6	101	70-130	05/21/2016 00:20

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-25	1605708-006A	Soil	05/16/2016 15:00	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**1.6**	0.59	1	05/21/2016 00:58

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/21/2016 00:58
Benzene-D6	96	70-130	05/21/2016 00:58

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 20-21	1605708-007B	Soil	05/17/2016 09:45	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.59	1	05/21/2016 01:36

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	05/21/2016 01:36
Benzene-D6	107	70-130	05/21/2016 01:36

Analyst(s): MW Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5035
Date Prepared:	5/17/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 20-22.5	1605708-008B	Soil	05/17/2016 09:50	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.55	1	05/21/2016 02:14

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	96	70-130	05/21/2016 02:14
Benzene-D6	97	70-130	05/21/2016 02:14

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 20-25	1605708-009B	Soil	05/17/2016 10:00	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.62	1	05/21/2016 02:52

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	96	70-130	05/21/2016 02:52
Benzene-D6	100	70-130	05/21/2016 02:52

Analyst(s): MW Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5030B
Date Prepared:	5/21/16-5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	µg/L

TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-GW	1605708-001A	Water	05/16/2016 15:30	GC16	121243

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**27,000**	5000	100	05/21/2016 00:20

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/21/2016 00:20

Analyst(s): MW

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 20-GW	1605708-010A	Water	05/17/2016 10:00	GC28	121392

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**18,000**	2500	50	05/23/2016 13:30

Surrogates	REC (%)	Limits	
Dibromofluoromethane	100	70-130	05/23/2016 13:30

Analyst(s): MW

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5030B
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	µg/L

Methanol and Isopropyl Alcohol by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 20-GW	1605708-010A	Water	05/17/2016 10:00	GC28	121392

Analytes	Result	RL	DF	Date Analyzed
Methanol	ND	25,000	50	05/23/2016 13:30

Surrogates	REC (%)	Limits	
Dibromofluoromethane	100	70-130	05/23/2016 13:30

Analyst(s): MW Analytical Comments: a28

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5035
Date Prepared:	5/17/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 18-19.5	1605708-005A	Soil	05/16/2016 14:55	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.014	1	05/21/2016 00:20
Ethylbenzene	ND	0.014	1	05/21/2016 00:20
Methyl-t-butyl ether (MTBE)	ND	0.014	1	05/21/2016 00:20
Naphthalene	ND	0.014	1	05/21/2016 00:20
Toluene	ND	0.014	1	05/21/2016 00:20
Xylenes, Total	ND	0.014	1	05/21/2016 00:20

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	05/21/2016 00:20
Toluene-d8	111	70-130	05/21/2016 00:20
4-BFB	99	70-130	05/21/2016 00:20
Benzene-d6	94	60-140	05/21/2016 00:20
Ethylbenzene-d10	111	60-140	05/21/2016 00:20
1,2-DCB-d4	86	60-140	05/21/2016 00:20

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C 20-21	1605708-007B	Soil	05/17/2016 09:45	GC28	121088

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.012	1	05/21/2016 01:36
Ethylbenzene	ND	0.012	1	05/21/2016 01:36
Methyl-t-butyl ether (MTBE)	ND	0.012	1	05/21/2016 01:36
Naphthalene	ND	0.012	1	05/21/2016 01:36
Toluene	ND	0.012	1	05/21/2016 01:36
Xylenes, Total	ND	0.012	1	05/21/2016 01:36

Surrogates	REC (%)	Limits	
Dibromofluoromethane	92	70-130	05/21/2016 01:36
Toluene-d8	112	70-130	05/21/2016 01:36
4-BFB	97	70-130	05/21/2016 01:36
Benzene-d6	97	60-140	05/21/2016 01:36
Ethylbenzene-d10	115	60-140	05/21/2016 01:36
1,2-DCB-d4	89	60-140	05/21/2016 01:36

Analyst(s): MW Analytical Comments: a9

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Prepared:	5/23/16	**BatchID:**	121392
Date Analyzed:	5/23/16	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS-121392 1605766-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
tert-Amyl methyl ether (TAME)	ND	9.79	0.50	10	-	98	54-140
Benzene	ND	10.5	0.50	10	-	105	47-158
t-Butyl alcohol (TBA)	ND	35.8	2.0	40	-	90	42-140
1,2-Dibromoethane (EDB)	ND	9.89	0.50	10	-	99	44-155
1,2-Dichloroethane (1,2-DCA)	ND	9.29	0.50	10	-	93	66-125
Diisopropyl ether (DIPE)	ND	9.87	0.50	10	-	99	57-136
Ethanol	ND	437	50	500	-	87	48-114
Ethylbenzene	ND	11.1	0.50	10	-	111	60-152
Ethyl tert-butyl ether (ETBE)	ND	10.2	0.50	10	-	102	55-137
Methyl-t-butyl ether (MTBE)	ND	9.77	0.50	10	-	98	53-139
Toluene	ND	10.8	0.50	10	-	108	52-137
Xylenes, Total	ND	32.7	0.50	30	-	109	70-130
Surrogate Recovery							
Dibromofluoromethane	24.3	24.2		25	97	97	70-130
Toluene-d8	25.5	25.3		25	102	101	70-130
4-BFB	2.31	2.50		2.5	93	100	70-130

(Cont.)

NELAP 4033ORELAP

QA/QC Officer

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Prepared:	5/23/16	**BatchID:**	121392
Date Analyzed:	5/23/16	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS-121392 1605766-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	10.1	10.2	10	ND	101	102	69-139	0.639	20
Benzene	9.95	9.80	10	ND	99	97	69-141	1.48	20
t-Butyl alcohol (TBA)	54.1	56.1	40	14.48	99	104	41-152	3.78	20
1,2-Dibromoethane (EDB)	10.5	10.3	10	ND	105	103	76-135	2.40	20
1,2-Dichloroethane (1,2-DCA)	9.63	9.58	10	ND	96	96	73-139	0	20
Diisopropyl ether (DIPE)	9.79	9.76	10	ND	98	98	72-140	0	20
Ethanol	474	480	500	ND	95	96	40-157	1.10	20
Ethylbenzene	10.3	10.1	10	ND	103	101	73-128	1.86	20
Ethyl tert-butyl ether (ETBE)	10.3	10.4	10	ND	103	104	71-140	0.670	20
Methyl-t-butyl ether (MTBE)	10.4	10.5	10	ND	105	105	73-139	0	20
Toluene	10.2	9.91	10	ND	101	98	71-128	2.66	20
Xylenes, Total	30.6	30.0	30	ND	102	100	70-130	2.12	20
Surrogate Recovery									
Dibromofluoromethane	24.7	25.3	25		99	101	73-131	2.09	20
Toluene-d8	25.0	24.9	25		100	100	72-117	0	20
4-BFB	2.51	2.53	2.5		100	101	74-116	0.970	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Prepared:	5/17/16	**BatchID:**	121088
Date Analyzed:	5/20/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121088

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	0.20	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.010	-	-	-
Benzene	ND	0.010	-	-	-
Bromobenzene	ND	0.010	-	-	-
Bromochloromethane	ND	0.010	-	-	-
Bromodichloromethane	ND	0.010	-	-	-
Bromoform	ND	0.010	-	-	-
Bromomethane	ND	0.010	-	-	-
2-Butanone (MEK)	ND	0.040	-	-	-
t-Butyl alcohol (TBA)	ND	0.10	-	-	-
n-Butyl benzene	ND	0.010	-	-	-
sec-Butyl benzene	ND	0.010	-	-	-
tert-Butyl benzene	ND	0.010	-	-	-
Carbon Disulfide	ND	0.010	-	-	-
Carbon Tetrachloride	ND	0.010	-	-	-
Chlorobenzene	ND	0.010	-	-	-
Chloroethane	ND	0.010	-	-	-
Chloroform	ND	0.010	-	-	-
Chloromethane	ND	0.010	-	-	-
2-Chlorotoluene	ND	0.010	-	-	-
4-Chlorotoluene	ND	0.010	-	-	-
Dibromochloromethane	ND	0.010	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0080	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0080	-	-	-
Dibromomethane	ND	0.010	-	-	-
1,2-Dichlorobenzene	ND	0.010	-	-	-
1,3-Dichlorobenzene	ND	0.010	-	-	-
1,4-Dichlorobenzene	ND	0.010	-	-	-
Dichlorodifluoromethane	ND	0.010	-	-	-
1,1-Dichloroethane	ND	0.010	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.010	-	-	-
1,1-Dichloroethene	ND	0.010	-	-	-
cis-1,2-Dichloroethene	ND	0.010	-	-	-
trans-1,2-Dichloroethene	ND	0.010	-	-	-
1,2-Dichloropropane	ND	0.010	-	-	-
1,3-Dichloropropane	ND	0.010	-	-	-
2,2-Dichloropropane	ND	0.010	-	-	-
1,1-Dichloropropene	ND	0.010	-	-	-
cis-1,3-Dichloropropene	ND	0.010	-	-	-

(Cont.)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Prepared:	5/17/16	**BatchID:**	121088
Date Analyzed:	5/20/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121088

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.010	-	-	-
Diisopropyl ether (DIPE)	ND	0.010	-	-	-
Ethylbenzene	ND	0.010	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.010	-	-	-
Freon 113	ND	0.010	-	-	-
Hexachlorobutadiene	ND	0.010	-	-	-
Hexachloroethane	ND	0.010	-	-	-
2-Hexanone	ND	0.010	-	-	-
Isopropylbenzene	ND	0.010	-	-	-
4-Isopropyl toluene	ND	0.010	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.010	-	-	-
Methylene chloride	ND	0.010	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.010	-	-	-
Naphthalene	ND	0.010	-	-	-
n-Propyl benzene	ND	0.010	-	-	-
Styrene	ND	0.010	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.010	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.010	-	-	-
Tetrachloroethene	ND	0.010	-	-	-
Toluene	ND	0.010	-	-	-
1,2,3-Trichlorobenzene	ND	0.010	-	-	-
1,2,4-Trichlorobenzene	ND	0.010	-	-	-
1,1,1-Trichloroethane	ND	0.010	-	-	-
1,1,2-Trichloroethane	ND	0.010	-	-	-
Trichloroethene	ND	0.010	-	-	-
Trichlorofluoromethane	ND	0.010	-	-	-
1,2,3-Trichloropropane	ND	0.010	-	-	-
1,2,4-Trimethylbenzene	ND	0.010	-	-	-
1,3,5-Trimethylbenzene	ND	0.010	-	-	-
Vinyl Chloride	ND	0.010	-	-	-
Xylenes, Total	ND	0.010	-	-	-

(Cont.)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Prepared:	5/17/16	**BatchID:**	121088
Date Analyzed:	5/20/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121088

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery					
Dibromofluoromethane	0.234		0.25	93	70-130
Toluene-d8	0.279		0.25	112	70-130
4-BFB	0.0248		0.025	99	70-130
Benzene-d6	0.199		0.20	99	60-140
Ethylbenzene-d10	0.232		0.20	116	60-140
1,2-DCB-d4	0.174		0.20	87	60-140

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0750	0.0786	0.10	75	79	53-116	4.64	20
Benzene	0.0877	0.0882	0.10	88	88	63-137	0	20
t-Butyl alcohol (TBA)	0.324	0.338	0.40	81	84	41-135	4.26	20
Chlorobenzene	0.0925	0.0923	0.10	93	92	77-121	0.242	20
1,2-Dibromoethane (EDB)	0.0874	0.0870	0.10	87	87	67-119	0	20
1,2-Dichloroethane (1,2-DCA)	0.0783	0.0805	0.10	78	80	58-135	2.72	20
1,1-Dichloroethene	0.0861	0.0874	0.10	86	87	42-145	1.54	20
Diisopropyl ether (DIPE)	0.0799	0.0817	0.10	80	82	52-129	2.27	20
Ethyl tert-butyl ether (ETBE)	0.0820	0.0850	0.10	82	85	53-125	3.65	20
Methyl-t-butyl ether (MTBE)	0.0821	0.0861	0.10	82	86	58-122	4.71	20
Toluene	0.105	0.102	0.10	105	103	76-130	2.01	20
Trichloroethene	0.0922	0.0905	0.10	92	90	72-132	1.88	20
Surrogate Recovery								
Dibromofluoromethane	0.230	0.234	0.25	92	94	70-130	2.06	20
Toluene-d8	0.282	0.279	0.25	113	112	70-130	1.13	20
4-BFB	0.0265	0.0267	0.025	106	107	70-130	0.605	20
Benzene-d6	0.200	0.200	0.20	100	100	60-140	0	20
Ethylbenzene-d10	0.246	0.243	0.20	123	122	60-140	1.02	20
1,2-DCB-d4	0.190	0.188	0.20	95	94	60-140	1.32	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Prepared:	5/20/16	**BatchID:**	121243
Date Analyzed:	5/20/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS-121243 1605602-004AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Benzene	ND	9.68	0.50	10	-	97	47-158
Ethylbenzene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	9.29	0.50	10	-	93	53-139
Toluene	ND	9.74	0.50	10	-	97	52-137
Xylenes, Total	ND	-	0.50	-	-	-	-
Surrogate Recovery							
Dibromofluoromethane	23.6	23.8		25	94	95	70-130
Toluene-d8	23.2	22.6		25	93	90	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzene	10.0	9.94	10	ND	100	99	69-141	0.743	20
Methyl-t-butyl ether (MTBE)	9.95	10.3	10	ND	100	103	73-139	3.26	20
Toluene	10.4	10.2	10	ND	104	103	71-128	1.80	20
Surrogate Recovery									
Dibromofluoromethane	23.5	24.0	25		94	96	73-131	2.17	20
Toluene-d8	23.0	22.9	25		92	92	72-117	0	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605708
Date Prepared:	5/17/16	**BatchID:**	121088
Date Analyzed:	5/20/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121088

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g)	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	0.241		0.25	96	70-130
Benzene-D6	0.216		0.20	108	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
VOC (C6-C12)	6.12	6.24	6.44	95	97	70-130	2.03	20
Surrogate Recovery								
Dibromofluoromethane	0.237	0.242	0.25	95	97	70-130	2.09	20
Benzene-D6	0.222	0.216	0.20	111	108	70-130	2.62	20

CLIENT: Applied Water Resources
Work Order: 1605708
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121243

SampleID **MB-121243**	TestCode: **8260gas_w**			Units: **µg/L**		Prep Date: **5/20/2016**			
Batch ID: **121243**	TestNo: **SW8260B**			Run ID: **GC16_160526B**		Analysis Date: **5/20/2016**			
Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
TPH(g)	ND	50				-				
Surrogate Recovery										
Dibromofluoromethane	24.6		25		98	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CLIENT: Applied Water Resources
Work Order: 1605708
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121243

SampleID **LCS-121243**	TestCode: **8260gas_w**	Units: **µg/L**	Prep Date: **5/20/2016**
Batch ID: **121243**	TestNo: **SW8260B**	Run ID: **GC16_160526B**	Analysis Date: **5/20/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
VOC (C6-C12)	521	50	644	0	81	70 - 130				
Surrogate Recovery										
Dibromofluoromethane	25.0		25		100	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605708
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121392

SampleID	**MB-121392**	TestCode:	**8260GAS_W**	Units:	**µg/L**	Prep Date:	**5/23/2016**
Batch ID:	**121392**	TestNo:	**SW8260B**	Run ID:	**GC28_160526B**	Analysis Date:	**5/23/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
TPH(g)	ND	50				-				
Surrogate Recovery										
Dibromofluoromethane	25.1		25		100	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605708
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121392

SampleID **LCS-121392**	TestCode: **8260GAS_W**	Units: **µg/L**	Prep Date: **5/23/2016**
Batch ID: **121392**	TestNo: **SW8260B**	Run ID: **GC28_160526B**	Analysis Date: **5/23/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
VOC (C6-C12)	672	50	644	0	104	70 - 130				
Surrogate Recovery										
Dibromofluoromethane	24.9		25		100	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605708
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121392

SampleID	**MB-121392**	TestCode:	**8260IPAMEOH_W**	Units:	**µg/L**	Prep Date:	**5/23/2016**
Batch ID:	**121392**	TestNo:	**SW8260B**	Run ID:	**GC28_160526A**	Analysis Date:	**5/23/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
Methanol	ND	500				-				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605708
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121392

SampleID	LCS-121392	TestCode:	8260IPAMEOH_W	Units:	µg/L	Prep Date:	5/23/2016
Batch ID:	121392	TestNo:	SW8260B	Run ID:	GC28_160526A	Analysis Date:	5/23/2016

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
Methanol	2250	500	2500	0	90	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605708 **ClientCode: AWR**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:
Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700; 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;
Date Received: 05/17/2016
Date Logged: 05/17/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605708-001	C 18-GW	Water	5/16/2016 15:30	☐			A		A			A				
1605708-002	C 18-13	Soil	5/16/2016 14:30	☐		A		A								
1605708-003	C 18-17	Soil	5/16/2016 14:45	☐		A		A								
1605708-004	C 18-18.5	Soil	5/16/2016 14:50	☐		A		A								
1605708-005	C 18-19.5	Soil	5/16/2016 14:55	☐				A			A					
1605708-006	C 18-25	Soil	5/16/2016 15:00	☐		A		A								
1605708-007	C 20-21	Soil	5/17/2016 9:45	☐				B			B					
1605708-008	C 20-22.5	Soil	5/17/2016 9:50	☐		B		B								
1605708-009	C 20-25	Soil	5/17/2016 10:00	☐		B		B								
1605708-010	C 20-GW	Water	5/17/2016 10:00	☐	A				A	A						

Test Legend:

1	8260B_9OXYBTEX_W	2	8260B_MBTEX_E	3	8260B_MBTEX_W	4	8260GAS_E
5	8260GAS_W	6	8260IPAMEOH_W	7	8260VOC_E	8	PREDF REPORT
9		10		11		12	

Prepared by: Briana Cutino

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007B, 008B, 009B, 010A contain testgroup.

Comments:

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700; 1700 Jefferson
Comments:

QC Level: LEVEL 2
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605708
Date Logged: 5/17/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605708-001A	C 18-GW	Water	SW8260B (MTBE & BTEX)	2	VOA w/ HCl	☐	5/16/2016 15:30	5 days	Present	☐	
1605708-002A	C 18-13	Soil	SW8260B (MTBE & BTEX) (Encore)	1	Encore	☐	5/16/2016 14:30	5 days		☐	
1605708-003A	C 18-17	Soil	SW8260B (MTBE & BTEX) (Encore)	1	Encore	☐	5/16/2016 14:45	5 days		☐	
1605708-004A	C 18-18.5	Soil	SW8260B (MTBE & BTEX) (Encore)	1	Encore	☐	5/16/2016 14:50	5 days		☐	
1605708-005A	C 18-19.5	Soil	SW8260B (VOCs) (Encore) <Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Naphthalene, Toluene, Xylenes, Xylenes, Total>	1	Encore	☐	5/16/2016 14:55	5 days		☐	
1605708-006A	C 18-25	Soil	SW8260B (MTBE & BTEX) (Encore)	1	Encore	☐	5/16/2016 15:00	5 days		☐	
1605708-007A	C 20-21	Sludge		1	16OZ GJ	☐	5/17/2016 9:45			☑	
1605708-007B	C 20-21	Soil	SW8260B (VOCs) (Encore) <Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Naphthalene, Toluene, Xylenes, Xylenes, Total>	1	Encore	☐	5/17/2016 9:45	5 days		☐	
1605708-008A	C 20-22.5	Sludge		1	16OZ GJ	☐	5/17/2016 9:50			☑	
1605708-008B	C 20-22.5	Soil	SW8260B (MTBE & BTEX) (Encore)	1	Encore	☐	5/17/2016 9:50	5 days		☐	
1605708-009A	C 20-25	Sludge		1	16OZ GJ	☐	5/17/2016 10:00			☑	
1605708-009B	C 20-25	Soil	SW8260B (MTBE & BTEX) (Encore)	1	Encore	☐	5/17/2016 10:00	5 days		☐	
1605708-010A	C 20-GW	Water	TPH(g) & BTEX & 9 Oxys by 8260B	2	VOA w/ HCl	☐	5/17/2016 10:00	5 days	Present	☐	

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

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

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1100 5708

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ Write On (DW) ☐ EQuIS ☐ 10 DAY ☐

Effluent Sample Requiring "J" flag ☐ UST Clean Up Fund Project ☒; Claim # 605

Report To: Yola Bayram **Bill To:** AWR

Company: Applied Water Resources Corp

2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501

Tele: (510) 671-2088 **E-Mail:** ybayram@awrcorp.net

Project #: 1700 **Project Name:** 1700 Jefferson

Project Location: 1700 Jefferson **Purchase Order#**

Sampler Signature:

SAMPLE ID	Location/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	MATRIX: Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	METHOD PRESERVED: HCL	HNO_3	Other
C18-6W		5-16-16	1530	2	X								X		
C18-13			1430	1					X						
C18-17			1445	1					X						
C18-18.5			1450	1					X						
C18-19.5			1455	1					X						
C18-25			1500	1					X						
C20-21		5-17-16	945	2					X						
C20-22.5			950	2					X						
C20-25			1000	2					X						
C20-6W			1000	2	X								X		

Analysis Request

BTEX & TPH as Gas (8021/8015) MTBE 8260	Naphtalene	LUFT 5 Metals (200.8 / 6020)***	PAHs	TPH as Diesel and Motor OIL (8015)	Fuel Oxygenates, Lead Scavengers	Ethanol and Methanol		Please Hold Jars	Fuel oxy. Bailers short list
X	X								X
X									
X									
X									
X	X								
X									
X	X							X	
X								X	
X								X	
X					X	X			

Geotracker # T0600100196 Quote ID#6007

Relinquished By:	Date:	Time:	Received By:
	5-17-16	1300	
Relinquished By:	Date:	Time:	Received By:
	5-17-16	1420	
Relinquished By:	Date:	Time:	Received By:

ICE/t°_____
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____
PRESERVED IN LAB_____

COMMENTS:

VOAS O&G METALS OTHER HAZARDOUS:
PRESERVATION_____ pH<2_____

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**5/17/2016 14:20**
Project Name:	**1700; 1700 Jefferson**	Date Logged:	**5/17/2016**
WorkOrder №:	**1605708** Matrix: Sludge/Soil/Water	Received by:	Briana Cutino
Carrier:	Bernie Cummins (MAI Courier)	Logged by:	Briana Cutino

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Sample/Temp Blank temperature	Temp: 3°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	NA ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	
	(Ice Type: WET ICE)		

UCMR3 Samples:

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

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1605748 **Amended:** 06/07/2016

Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700 Jefferson

Project Received: 05/17/2016

Analytical Report reviewed & approved for release on 05/25/2016 by:

Angela Rydelius,
Laboratory Manager

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

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1605748

Glossary Abbreviation

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

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Case Narrative

Client: Applied Water Resources
Project: 1700 Jefferson

Work Order: 1605748
June 07, 2016

TO-15 ANALYSIS

All summa canisters are EVACUATED 5 days after the reporting of the results. Please call or email if a longer retention time is required.

In an effort to attain the lowest reporting limits possible for the majority of the TO-15 target list, high level compounds may be analyzed using EPA Method 8260B.

Polymer (Tedlar) bags are not recommended for TO15 samples. The disadvantages are listed in Appendix B of the DTSC Active Soil Gas Advisory of July 2015.

TPH-gas Estimations:

The following soil gas samples were analyzed by TO-15. A TPH gas standard was a part of the daily sequence. The following results were obtained:
1605748-001A…DF=1000…1,800,000 µg/M3
1605748-002A…DF=1…5910 µg/M3
TO-15 Method Blank…ND, RL=720 µg/M3

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Case Narrative

Client: Applied Water Resources
Project: 1700 Jefferson

Work Order: 1605748
May 27, 2016

TO-15 by 8260 evaluation below calibration:

Sample 1605748-001A was evaluated for Benzene, Toluene, Ethylbenzene, Xylenes, and Naphthalene below the calibration. The results are as follows:

Naphthalene: 200 ug/m3

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Case Narrative

Client: Applied Water Resources
Project: 1700 Jefferson
Work Order: 1605748
June 07, 2016

EPA 8260B Open Scan performed using EnviroQuant Chemstation software G1701DA Version C.00.00, and NBS75K spectral library.

Open Scan results for purge and trap sample ID: SV-10, MAI sample: 1605748-001A; 3 mL injection (DF=6.67)

The 5 largest unknown peaks by concentration are:

Compound	CAS number	Internal standard used	Molecular weight	Raw amount (ng)	Estimated µg/M^3
Butane, 2-methyl	78-78-4	1,4-difluorobenzene	72	1260	840,000
Pentane	109-66-0	1,4-difluorobenzene	72	959.8	640,000
Pentane, 2,4-dimethyl	108-08-7	1,4-difluorobenzene	86	821.9	548,000
Cyclohexane, methyl	108-87-2	1,4-difluorobenzene	98	739.3	494,000
Cyclopentane, 1,3-methyl, cis	2532-58-3	1,4-difluorobenzene	98	556.5	372,000

EPA TO15 Open Scan performed using EnviroQuant Chemstation software G1701DA Version E.02.00, and NBS75K spectral library.

Open Scan results TO-15 sample ID: SV-13., MAI sample: 1605748-002A; 200 mL injection (DF=1)

The largest unknown peaks by concentration are:

Compound	CAS number	Internal standard used	Molecular weight	Raw amount (pl)	Estimated µg/M^3
Cyclopentane, methyl	96-37-7	1,4-difluorobenzene	84	13300	456
Pentane, 2-methyl	107-83-5	1,4-difluorobenzene	86	9540	336
Cyclohexane, methyl	108-87-2	1,4-difluorobenzene	98	7520	302
Hexane, 2,2-dimethyl	590-73-8	1,4-difluorobenzene	114	7220	336
Pentane, 3-methyl	96-14-0	1,4-difluorobenzene	86	5080	178

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Received:	5/17/16 14:20	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/20/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	%

Atmospheric gas Oxygen and Nitrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-10	**1605748-001A**	**SoilGas**	**05/16/2016 14:47**	**GC26**	**121352**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.46	**26.87**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Oxygen	**2.0**	0.4	1	05/20/2016 16:36

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-13	**1605748-002A**	**SoilGas**	**05/16/2016 16:43**	**GC26**	**121352**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.14	**26.29**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Oxygen	**13**	0.4	1	05/20/2016 16:57

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Received:	5/17/16 14:20	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/24/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	%

Helium and Hydrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-10	**1605748-001A**	**SoilGas**	**05/16/2016 14:47**	**GC26**	**121400**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.46	**26.87**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Helium	**2.0**	1.2	25	05/24/2016 09:23
Hydrogen	**0.43**	0.25	25	05/24/2016 09:23

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-13	**1605748-002A**	**SoilGas**	**05/16/2016 16:43**	**GC26**	**121400**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.14	**26.29**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Helium	**0.14**	0.05	1	05/24/2016 07:42
Hydrogen	**0.15**	0.01	1	05/24/2016 07:42

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Received:	5/17/16 14:20	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/19/16-5/20/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	%

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-10	**1605748-001A**	**SoilGas**	**05/16/2016 14:47**	**GC26**	**121325**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.46	**26.87**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	**4.2**	0.04	10	05/20/2016 11:09
Carbon Monoxide	ND	0.004	1	05/19/2016 18:13
Methane	**0.0001**	0.0002	1	05/19/2016 18:13

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-13	**1605748-002A**	**SoilGas**	**05/16/2016 16:43**	**GC26**	**121325**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.14	**26.29**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	**0.059**	0.004	1	05/19/2016 18:34
Carbon Monoxide	ND	0.004	1	05/19/2016 18:34
Methane	**0.0036**	0.0002	1	05/19/2016 18:34

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5030B
Date Prepared:	5/24/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-10	1605748-001A	SoilGas	05/16/2016 14:47	GC16	121406

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.46	26.87	AK, MW

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	67,000	6.7	05/24/2016 22:08
tert-Amyl methyl ether (TAME)	ND	500	1	05/24/2016 11:54
Benzene	ND	500	1	05/24/2016 11:54
Bromobenzene	ND	500	1	05/24/2016 11:54
Bromochloromethane	ND	500	1	05/24/2016 11:54
Bromodichloromethane	ND	500	1	05/24/2016 11:54
Bromoform	ND	500	1	05/24/2016 11:54
Bromomethane	ND	500	1	05/24/2016 11:54
2-Butanone (MEK)	ND	2000	1	05/24/2016 11:54
t-Butyl alcohol (TBA)	ND	5000	1	05/24/2016 11:54
n-Butyl benzene	ND	500	1	05/24/2016 11:54
sec-Butyl benzene	ND	500	1	05/24/2016 11:54
tert-Butyl benzene	ND	500	1	05/24/2016 11:54
Carbon Disulfide	ND	500	1	05/24/2016 11:54
Carbon Tetrachloride	ND	500	1	05/24/2016 11:54
Chlorobenzene	ND	500	1	05/24/2016 11:54
Chloroethane	ND	500	1	05/24/2016 11:54
Chloroform	ND	500	1	05/24/2016 11:54
Chloromethane	**1700**	500	1	05/24/2016 11:54
2-Chlorotoluene	ND	500	1	05/24/2016 11:54
4-Chlorotoluene	ND	500	1	05/24/2016 11:54
Dibromochloromethane	ND	500	1	05/24/2016 11:54
1,2-Dibromo-3-chloropropane	ND	500	1	05/24/2016 11:54
1,2-Dibromoethane (EDB)	ND	500	1	05/24/2016 11:54
Dibromomethane	ND	500	1	05/24/2016 11:54
1,2-Dichlorobenzene	ND	500	1	05/24/2016 11:54
1,3-Dichlorobenzene	ND	500	1	05/24/2016 11:54
1,4-Dichlorobenzene	ND	500	1	05/24/2016 11:54
Dichlorodifluoromethane	ND	500	1	05/24/2016 11:54
1,1-Dichloroethane	ND	500	1	05/24/2016 11:54
1,2-Dichloroethane (1,2-DCA)	ND	500	1	05/24/2016 11:54
1,1-Dichloroethene	ND	500	1	05/24/2016 11:54
cis-1,2-Dichloroethene	ND	500	1	05/24/2016 11:54

(Cont.)

NELAP 4033ORELAP

Angela Rydelius, Lab Manager

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5030B
Date Prepared:	5/24/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-10	1605748-001A	SoilGas	05/16/2016 14:47	GC16	121406

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.46	26.87	AK, MW

Analytes	Result	RL	DF	Date Analyzed
trans-1,2-Dichloroethene	ND	500	1	05/24/2016 11:54
1,2-Dichloropropane	ND	500	1	05/24/2016 11:54
1,3-Dichloropropane	ND	500	1	05/24/2016 11:54
2,2-Dichloropropane	ND	500	1	05/24/2016 11:54
1,1-Dichloropropene	ND	500	1	05/24/2016 11:54
cis-1,3-Dichloropropene	ND	500	1	05/24/2016 11:54
trans-1,3-Dichloropropene	ND	500	1	05/24/2016 11:54
Diisopropyl ether (DIPE)	ND	500	1	05/24/2016 11:54
Ethylbenzene	ND	500	1	05/24/2016 11:54
Ethyl tert-butyl ether (ETBE)	ND	500	1	05/24/2016 11:54
Freon 113	ND	500	1	05/24/2016 11:54
Hexachlorobutadiene	ND	500	1	05/24/2016 11:54
Hexachloroethane	ND	500	1	05/24/2016 11:54
2-Hexanone	ND	500	1	05/24/2016 11:54
Isopropylbenzene	ND	500	1	05/24/2016 11:54
4-Isopropyl toluene	ND	500	1	05/24/2016 11:54
Methyl-t-butyl ether (MTBE)	ND	500	1	05/24/2016 11:54
Methylene chloride	ND	500	1	05/24/2016 11:54
4-Methyl-2-pentanone (MIBK)	ND	500	1	05/24/2016 11:54
Naphthalene	ND	500	1	05/24/2016 11:54
n-Propyl benzene	ND	500	1	05/24/2016 11:54
Styrene	ND	500	1	05/24/2016 11:54
1,1,1,2-Tetrachloroethane	ND	500	1	05/24/2016 11:54
1,1,2,2-Tetrachloroethane	ND	500	1	05/24/2016 11:54
Tetrachloroethene	ND	500	1	05/24/2016 11:54
Toluene	ND	500	1	05/24/2016 11:54
1,2,3-Trichlorobenzene	ND	500	1	05/24/2016 11:54
1,2,4-Trichlorobenzene	ND	500	1	05/24/2016 11:54
1,1,1-Trichloroethane	ND	500	1	05/24/2016 11:54
1,1,2-Trichloroethane	ND	500	1	05/24/2016 11:54
Trichloroethene	ND	500	1	05/24/2016 11:54
Trichlorofluoromethane	ND	500	1	05/24/2016 11:54
1,2,3-Trichloropropane	ND	500	1	05/24/2016 11:54

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Angela Rydelius, Lab Manager

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Received:	5/17/16 14:20	**Extraction Method:**	SW5030B
Date Prepared:	5/24/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-10	1605748-001A	SoilGas	05/16/2016 14:47	GC16	121406

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.46	26.87	AK, MW

Analytes	Result	RL	DF	Date Analyzed
1,2,4-Trimethylbenzene	ND	500	1	05/24/2016 11:54
1,3,5-Trimethylbenzene	ND	500	1	05/24/2016 11:54
Vinyl Chloride	ND	500	1	05/24/2016 11:54
Xylenes, Total	ND	500	1	05/24/2016 11:54
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	71	70-130		05/24/2016 11:54
Toluene-d8	98	70-130		05/24/2016 11:54
4-BFB	94	70-130		05/24/2016 11:54

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Received:	5/17/16 14:20	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-13	1605748-002A	SoilGas	05/16/2016 16:43	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.46	26.87	GM

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	05/22/2016 09:37
Acrolein	ND	5.8	1	05/22/2016 09:37
Acrylonitrile	ND	1.1	1	05/22/2016 09:37
tert-Amyl methyl ether (TAME)	ND	2.1	1	05/22/2016 09:37
Benzene	**37**	1.6	1	05/22/2016 09:37
Benzyl chloride	ND	2.6	1	05/22/2016 09:37
Bromodichloromethane	ND	3.5	1	05/22/2016 09:37
Bromoform	ND	5.2	1	05/22/2016 09:37
Bromomethane	**3.5**	2.0	1	05/22/2016 09:37
1,3-Butadiene	ND	1.1	1	05/22/2016 09:37
2-Butanone (MEK)	ND	75	1	05/22/2016 09:37
t-Butyl alcohol (TBA)	ND	31	1	05/22/2016 09:37
Carbon Disulfide	**30**	1.6	1	05/22/2016 09:37
Carbon Tetrachloride	ND	3.2	1	05/22/2016 09:37
Chlorobenzene	ND	2.4	1	05/22/2016 09:37
Chloroethane	ND	1.3	1	05/22/2016 09:37
Chloroform	ND	2.4	1	05/22/2016 09:37
Chloromethane	ND	1.0	1	05/22/2016 09:37
Cyclohexane	**480**	18	1	05/22/2016 09:37
Dibromochloromethane	ND	4.4	1	05/22/2016 09:37
1,2-Dibromo-3-chloropropane	ND	0.12	1	05/22/2016 09:37
1,2-Dibromoethane (EDB)	ND	3.9	1	05/22/2016 09:37
1,2-Dichlorobenzene	ND	3.0	1	05/22/2016 09:37
1,3-Dichlorobenzene	ND	3.0	1	05/22/2016 09:37
1,4-Dichlorobenzene	ND	3.0	1	05/22/2016 09:37
Dichlorodifluoromethane	ND	2.5	1	05/22/2016 09:37
1,1-Dichloroethane	ND	2.0	1	05/22/2016 09:37
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	05/22/2016 09:37
1,1-Dichloroethene	ND	2.0	1	05/22/2016 09:37
cis-1,2-Dichloroethene	ND	2.0	1	05/22/2016 09:37
trans-1,2-Dichloroethene	ND	2.0	1	05/22/2016 09:37
1,2-Dichloropropane	ND	2.4	1	05/22/2016 09:37
cis-1,3-Dichloropropene	ND	2.3	1	05/22/2016 09:37

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Received:	5/17/16 14:20	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-13	1605748-002A	SoilGas	05/16/2016 16:43	GC29	121369

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.46	26.87	GM

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	2.3	1	05/22/2016 09:37
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	05/22/2016 09:37
Diisopropyl ether (DIPE)	ND	2.1	1	05/22/2016 09:37
1,4-Dioxane	ND	1.8	1	05/22/2016 09:37
Ethanol	ND	96	1	05/22/2016 09:37
Ethyl acetate	ND	1.8	1	05/22/2016 09:37
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	05/22/2016 09:37
Ethylbenzene	**41**	2.2	1	05/22/2016 09:37
4-Ethyltoluene	**24**	2.5	1	05/22/2016 09:37
Freon 113	ND	3.9	1	05/22/2016 09:37
Heptane	**72**	21	1	05/22/2016 09:37
Hexachlorobutadiene	ND	5.4	1	05/22/2016 09:37
Hexane	**130**	18	1	05/22/2016 09:37
2-Hexanone	ND	2.1	1	05/22/2016 09:37
4-Methyl-2-pentanone (MIBK)	**5.1**	2.1	1	05/22/2016 09:37
Methyl-t-butyl ether (MTBE)	ND	1.8	1	05/22/2016 09:37
Methylene chloride	ND	8.8	1	05/22/2016 09:37
Methyl methacrylate	ND	2.1	1	05/22/2016 09:37
Naphthalene	**6.3**	5.3	1	05/22/2016 09:37
Propene	ND	88	1	05/22/2016 09:37
Styrene	ND	2.2	1	05/22/2016 09:37
1,1,1,2-Tetrachloroethane	ND	3.5	1	05/22/2016 09:37
1,1,2,2-Tetrachloroethane	ND	3.5	1	05/22/2016 09:37
Tetrachloroethene	**3.6**	3.4	1	05/22/2016 09:37
Tetrahydrofuran	ND	3.0	1	05/22/2016 09:37
Toluene	**110**	1.9	1	05/22/2016 09:37
1,2,4-Trichlorobenzene	ND	3.8	1	05/22/2016 09:37
1,1,1-Trichloroethane	ND	2.8	1	05/22/2016 09:37
1,1,2-Trichloroethane	ND	2.8	1	05/22/2016 09:37
Trichloroethene	ND	2.8	1	05/22/2016 09:37
Trichlorofluoromethane	ND	2.8	1	05/22/2016 09:37
1,2,4-Trimethylbenzene	**96**	2.5	1	05/22/2016 09:37
1,3,5-Trimethylbenzene	**35**	2.5	1	05/22/2016 09:37

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Received:	5/17/16 14:20	**Extraction Method:**	TO15
Date Prepared:	5/22/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-13	**1605748-002A**	**SoilGas**	**05/16/2016 16:43**	**GC29**	**121369**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.46	**26.87**	**GM**

Analytes	Result	RL	DF	Date Analyzed
Vinyl Acetate	ND	18	1	05/22/2016 09:37
Vinyl Chloride	ND	1.3	1	05/22/2016 09:37
Xylenes, Total	**210**	6.6	1	05/22/2016 09:37
Surrogates	**REC (%)**	**Limits**		
1,2-DCA-d4	77	70-130		05/22/2016 09:37
Toluene-d8	86	70-130		05/22/2016 09:37
4-BFB	89	70-130		05/22/2016 09:37

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Prepared:	5/20/16	**BatchID:**	121352
Date Analyzed:	5/20/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	µL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121352

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Oxygen	ND	5800	2000	7000	-	83	70-130

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Prepared:	5/23/16	**BatchID:**	121400
Date Analyzed:	5/23/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	Soilgas	**Unit:**	µL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121400

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Helium	ND	933	250	1000	-	93	70-130
Hydrogen	ND	819	50	1000	-	82	70-130

QA/QC Officer

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Prepared:	5/19/16	**BatchID:**	121325
Date Analyzed:	5/19/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	uL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121325

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Carbon Dioxide	ND	99.9	20	100	-	100	70-130
Carbon Monoxide	ND	74.4	20	100	-	74	70-130
Methane	ND	92.0	1.0	100	-	92	70-130

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Prepared:	5/24/16	**BatchID:**	121406
Date Analyzed:	5/24/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121406

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	5000	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	6550	250	5000	-	131	60-140
Benzene	ND	6430	250	5000	-	129	60-140
Bromobenzene	ND	-	250	-	-	-	-
Bromochloromethane	ND	-	250	-	-	-	-
Bromodichloromethane	ND	-	250	-	-	-	-
Bromoform	ND	-	250	-	-	-	-
Bromomethane	ND	-	250	-	-	-	-
2-Butanone (MEK)	ND	-	1000	-	-	-	-
t-Butyl alcohol (TBA)	ND	24,100	2500	20000	-	121	60-140
n-Butyl benzene	ND	-	250	-	-	-	-
sec-Butyl benzene	ND	-	250	-	-	-	-
tert-Butyl benzene	ND	-	250	-	-	-	-
Carbon Disulfide	ND	-	250	-	-	-	-
Carbon Tetrachloride	ND	-	250	-	-	-	-
Chlorobenzene	ND	6050	250	5000	-	121	60-140
Chloroethane	ND	-	250	-	-	-	-
Chloroform	ND	-	250	-	-	-	-
Chloromethane	ND	-	250	-	-	-	-
2-Chlorotoluene	ND	-	250	-	-	-	-
4-Chlorotoluene	ND	-	250	-	-	-	-
Dibromochloromethane	ND	-	250	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	250	-	-	-	-
1,2-Dibromoethane (EDB)	ND	6380	250	5000	-	128	60-140
Dibromomethane	ND	-	250	-	-	-	-
1,2-Dichlorobenzene	ND	-	250	-	-	-	-
1,3-Dichlorobenzene	ND	-	250	-	-	-	-
1,4-Dichlorobenzene	ND	-	250	-	-	-	-
Dichlorodifluoromethane	ND	-	250	-	-	-	-
1,1-Dichloroethane	ND	-	250	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	5790	250	5000	-	116	60-140
1,1-Dichloroethene	ND	6570	250	5000	-	131	60-140
cis-1,2-Dichloroethene	ND	-	250	-	-	-	-
trans-1,2-Dichloroethene	ND	-	250	-	-	-	-
1,2-Dichloropropane	ND	-	250	-	-	-	-
1,3-Dichloropropane	ND	-	250	-	-	-	-
2,2-Dichloropropane	ND	-	250	-	-	-	-

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Prepared:	5/24/16	**BatchID:**	121406
Date Analyzed:	5/24/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121406

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	250	-	-	-	-
cis-1,3-Dichloropropene	ND	-	250	-	-	-	-
trans-1,3-Dichloropropene	ND	-	250	-	-	-	-
Diisopropyl ether (DIPE)	ND	6380	250	5000	-	128	60-140
Ethylbenzene	ND	-	250	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	6250	250	5000	-	125	60-140
Freon 113	ND	-	250	-	-	-	-
Hexachlorobutadiene	ND	-	250	-	-	-	-
Hexachloroethane	ND	-	250	-	-	-	-
2-Hexanone	ND	-	250	-	-	-	-
Isopropylbenzene	ND	-	250	-	-	-	-
4-Isopropyl toluene	ND	-	250	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	6040	250	5000	-	121	60-140
Methylene chloride	ND	-	250	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	250	-	-	-	-
Naphthalene	ND	-	250	-	-	-	-
n-Propyl benzene	ND	-	250	-	-	-	-
Styrene	ND	-	250	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	250	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	250	-	-	-	-
Tetrachloroethene	ND	-	250	-	-	-	-
Toluene	ND	6320	250	5000	-	126	60-140
1,2,3-Trichlorobenzene	ND	-	250	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	250	-	-	-	-
1,1,1-Trichloroethane	ND	-	250	-	-	-	-
1,1,2-Trichloroethane	ND	-	250	-	-	-	-
Trichloroethene	ND	6800	250	5000	-	136	60-140
Trichlorofluoromethane	ND	-	250	-	-	-	-
1,2,3-Trichloropropane	ND	-	250	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	250	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	250	-	-	-	-
Vinyl Chloride	ND	-	250	-	-	-	-
Xylenes, Total	ND	-	250	-	-	-	-

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"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Prepared:	5/24/16	**BatchID:**	121406
Date Analyzed:	5/24/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121406

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	12,000	12,100		12500	96	97	60-140
Toluene-d8	11,400	11,100		12500	92	89	60-140
4-BFB	1200	1150		1250	96	92	60-140

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Prepared:	5/21/16	**BatchID:**	121369
Date Analyzed:	5/21/16	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121369

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	54.5	30	60	-	91	60-140
Acrolein	ND	66.8	2.9	58.25	-	115	60-140
Acrylonitrile	ND	64.4	0.55	55	-	117	60-140
tert-Amyl methyl ether (TAME)	ND	92.6	1.0	105	-	88	60-140
Benzene	ND	62.6	0.80	80	-	78	60-140
Benzyl chloride	ND	142	1.3	132.5	-	108	60-140
Bromodichloromethane	ND	113	1.8	175	-	64	60-140
Bromoform	ND	205	2.6	262.5	-	78	60-140
Bromomethane	ND	133	1.0	97.5	-	136	60-140
1,3-Butadiene	ND	59.3	0.55	55	-	108	60-140
2-Butanone (MEK)	ND	78.2	38	75	-	104	60-140
t-Butyl alcohol (TBA)	ND	80.0	16	77.5	-	103	60-140
Carbon Disulfide	ND	90.8	0.80	80	-	114	60-140
Carbon Tetrachloride	ND	112	1.6	160	-	70	60-140
Chlorobenzene	ND	113	1.2	117.5	-	96	60-140
Chloroethane	ND	73.6	0.65	67.5	-	109	60-140
Chloroform	ND	96.2	1.2	122.5	-	79	60-140
Chloromethane	ND	44.1	0.50	52.5	-	84	60-140
Cyclohexane	ND	90.3	9.0	87.5	-	103	60-140
Dibromochloromethane	ND	160	2.2	217.5	-	74	60-140
1,2-Dibromo-3-chloropropane	ND	260	0.060	245	-	106	60-140
1,2-Dibromoethane (EDB)	ND	144	2.0	195	-	74	60-140
1,2-Dichlorobenzene	ND	137	1.5	152.5	-	90	60-140
1,3-Dichlorobenzene	ND	137	1.5	152.5	-	90	60-140
1,4-Dichlorobenzene	ND	132	1.5	152.5	-	87	60-140
Dichlorodifluoromethane	ND	106	1.2	125	-	84	60-140
1,1-Dichloroethane	ND	96.6	1.0	102.5	-	94	60-140
1,2-Dichloroethane (1,2-DCA)	ND	83.4	1.0	102.5	-	81	60-140
1,1-Dichloroethene	ND	92.5	1.0	100	-	93	60-140
cis-1,2-Dichloroethene	ND	99.6	1.0	100	-	100	60-140
trans-1,2-Dichloroethene	ND	97.7	1.0	100	-	98	60-140
1,2-Dichloropropane	ND	95.9	1.2	117.5	-	82	60-140
cis-1,3-Dichloropropene	ND	93.7	1.2	115	-	81	60-140
trans-1,3-Dichloropropene	ND	89.9	1.2	115	-	78	60-140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	166	1.8	177.5	-	94	60-140
Diisopropyl ether (DIPE)	ND	106	1.0	105	-	101	60-140
1,4-Dioxane	ND	73.0	0.90	92.5	-	79	60-140

(Cont.)

QA/QC Officer

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Prepared:	5/21/16	**BatchID:**	121369
Date Analyzed:	5/21/16	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121369

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Ethanol	ND	52.5	48	47.5	-	111	60-140
Ethyl acetate	ND	83.8	0.90	92.5	-	91	60-140
Ethyl tert-butyl ether (ETBE)	ND	105	1.0	105	-	100	60-140
Ethylbenzene	ND	104	1.1	110	-	94	60-140
4-Ethyltoluene	ND	118	1.2	125	-	94	60-140
Freon 113	ND	176	2.0	195	-	90	60-140
Heptane	ND	86.0	10	105	-	82	60-140
Hexachlorobutadiene	ND	219	2.7	270	-	81	60-140
Hexane	ND	91.2	9.0	90	-	101	60-140
2-Hexanone	ND	81.2	1.0	105	-	77	60-140
4-Methyl-2-pentanone (MIBK)	ND	81.0	1.0	105	-	77	60-140
Methyl-t-butyl ether (MTBE)	ND	81.7	0.90	92.5	-	88	60-140
Methylene chloride	ND	84.0	4.4	87.5	-	96	60-140
Methyl methacrylate	ND	89.8	1.0	104	-	86	60-140
Naphthalene	ND	266	2.6	265	-	100	60-140
Propene	ND	ND	44	42.5	-	84	60-140
Styrene	ND	116	1.1	107.5	-	108	60-140
1,1,1,2-Tetrachloroethane	ND	175	1.8	175	-	100	60-140
1,1,2,2-Tetrachloroethane	ND	192	1.8	175	-	110	60-140
Tetrachloroethene	ND	124	1.7	172	-	72	60-140
Tetrahydrofuran	ND	76.1	1.5	75	-	102	60-140
Toluene	ND	77.6	0.95	95	-	82	60-140
1,2,4-Trichlorobenzene	ND	176	1.9	187.5	-	94	60-140
1,1,1-Trichloroethane	ND	96.5	1.4	137.5	-	70	60-140
1,1,2-Trichloroethane	ND	106	1.4	137.5	-	77	60-140
Trichloroethene	ND	95.2	1.4	137.5	-	69	60-140
Trichlorofluoromethane	ND	124	1.4	142.5	-	87	60-140
1,2,4-Trimethylbenzene	ND	116	1.2	125	-	93	60-140
1,3,5-Trimethylbenzene	ND	126	1.2	125	-	101	60-140
Vinyl Acetate	ND	85.4	9.0	90	-	95	60-140
Vinyl Chloride	ND	69.0	0.65	65	-	106	60-140
Xylenes, Total	ND	313	3.3	330	-	95	60-140

(Cont.)

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605748
Date Prepared:	5/21/16	**BatchID:**	121369
Date Analyzed:	5/21/16	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121369

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
1,2-DCA-d4	404	403		500	81	81	70-130
Toluene-d8	431	410		500	86	82	70-130
4-BFB	456	454		500	91	91	70-130

QA/QC Officer

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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605748 **ClientCode: AWR** **QuoteID: 6007**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:

Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;

Date Received: 05/17/2016
Date Logged: 05/17/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605748-001	SV-10	SoilGas	5/16/2016 14:47	☐	A	A	A		A	A						
1605748-002	SV-13	SoilGas	5/16/2016 16:43	☐	A	A			A	A						
1605748-003	Unused Summa	SoilGas	<Not Provided>	☐				A			A					

Test Legend:

1	HELIUM_LC_SOILGAS(%)	2	LG_SUMMA_SOILGAS	3	PREDF REPORT	4	PRUNUSEDSUMMA
5	TO15_Scan-SIM_SOIL(UG/M3)	6	TO15-8260_SOIL(UG/M3)	7	UNUSED_SUMMA	8	
9		10		11		12	

Prepared by: Jena Alfaro

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

Comments:

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605748
Date Logged: 5/17/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605748-001A	SV-10	SoilGas	ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Hydrogen_3, Methane_4, Oxygen>	1	1L Summa	☐	5/16/2016 14:47	5 days		☐	
			ASTM D1946-90 (Helium)			☐		5 days		☐	
			TO15 w/ Helium			☐		5 days		☐	
			ASTM D1946-90 (Light Gases, Atmospheric) <Oxygen>			☐		5 days		☐	
1605748-002A	SV-13	SoilGas	ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Hydrogen_3, Methane_4, Oxygen>	1	1L Summa	☐	5/16/2016 16:43	5 days		☐	
			ASTM D1946-90 (Helium)			☐		5 days		☐	
			TO15 w/ Helium			☐		5 days		☐	
			ASTM D1946-90 (Light Gases, Atmospheric) <Oxygen>			☐		5 days		☐	
1605748-003A	Unused Summa	SoilGas	Unused Summa	1	1L Summa	☐	<Not Provided>	5 days		☐	

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

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

1605748

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 5 DAY ☒
GeoTracker EDF ☒ PDF ☒ EDD ☐ EQuIS ☐ 10 DAY ☐
UST Clean Up Fund Project ☒ Claim # 605

Report To: Yola Bayram	Bill To: AWR
Company: Applied Water Resources	
2363 Mariner Sq Dr Alameda, CA 94501	
E-Mail: YBayram@awrcorp.net	
Tele: (510) 671-2088	Fax: ( )
Project #: 1700 Jefferson	Project Name:
Project Location: 1700 Jefferson	
Sampler Signature:	

Field Sample ID (Location)	Collection Date	Collection Time	Canister SN#	Sampler Kit SN#	VOCs by TO-15 (ug/m3)	8010 by TO-15 (ug/m3)	TPH(g) (ug/m3)	LEED (inc. 4PCH, Formaldehyde, CO, Total VOCs)	Fixed Gas: CO2, Methane, Ethane, Ethylene, Acetylene, CO (please circle or indicate in notes) uL/L (Hydrogen)	Fixed Gas: O2, N2 (please circle) uL/L	Fixed Gas: Propane uL/L	Helium Leak Check (%)	Leak Check (IPA, Norflorane, 1,1-difluroethane) ug/m3	APH: Aliphatic and/or Aromatic (please circle) ug/m3	Other:	Matrix: Soilgas	Matrix: Indoor Air	Cannister Pressure/ Vacuum: Initial	Cannister Pressure/ Vacuum: Final
SV-10	5-16-16	1447	R0880-258	316T 307	X				X	X		X				X		30	4
SV-13	5-16-16	1643	6413-800	316T 1218	X				X	X		X				X		30	3

Helium Shroud SN#
Other:

Notes: Please Specify units if different than defaults VOCs is ug/m3 and fixed gas is uL/L. Leak check default is IPA.

Quote 6007

Relinquished By:	Date:	Time:	Received By:
	5-17-16	1300	
Relinquished By:	Date:	Time:	Received By:
5-17-16		1420	
Relinquished By:	Date:	Time:	Received By:

Temp (°C) : _____ Work Order #: _____
Condition: _____
Custody Seals Intact?: Yes _____ No _____ None _____
Shipped Via: _____

Discard can # 1869-1289. Downhole pressure was > 10 in Hg

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**5/17/2016 14:20**
Project Name:	**1700 Jefferson**	Date Logged:	**5/17/2016**
WorkOrder №:	**1605748** Matrix: SoilGas	Received by:	Jena Alfaro
Carrier:	Bernie Cummins (MAI Courier)	Logged by:	Jena Alfaro

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

UCMR3 Samples:

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

Comments:

McCampbell Analytical, Inc.
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Analytical Report

WorkOrder: 1605876 **Amended:** 07/11/2016

Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700 Jefferson

Project Received: 05/19/2016

Analytical Report reviewed & approved for release on 05/27/2016 by:

Angela Rydelius,
Laboratory Manager

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

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1605876

Glossary Abbreviation

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

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1605876

Analytical Qualifiers

a3	sample diluted due to high organic content.
j1	see attached narrative

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Case Narrative

Client: Applied Water Resources
Project: 1700 Jefferson

Work Order: 1605876
July 11, 2016

TO-15 ANALYSIS

All summa canisters are EVACUATED 5 days after the reporting of the results. Please call or email if a longer retention time is required.

In an effort to attain the lowest reporting limits possible for the majority of the TO-15 target list, high level compounds may be analyzed using EPA Method 8260B.

Polymer (Tedlar) bags are not recommended for TO15 samples. The disadvantages are listed in Appendix B of the DTSC Active Soil Gas Advisory of July 2015.

j1) The Oxygen data for sample SV-3 (1605876-004a) has been recalled. It was determined that the sample was compromised during this particular analytical run. The result was reported at 24% originally. We no longer had the sample for re-analysis therefore we do not have valid data for this sample.

TPH-gas Estimations:

The following air samples were analyzed by USEPA method 8260. No TPH gas standard was analyzed as part of the analytical sequence. Per client request, these injections were evaluated against a TPH gas calibration. The following results are estimated:
1605876-001A….DF=4 …864,000 µg/M3
1605876-003A…DF=40 … 10,700,000 µg/M3
1605876-004A…DF=200 … 39,400,000 µg/M3
LCS…77% recovery
LCSD…84% recovery
Method blank…ND, RL = 25,000 µg/M3
The following sample was analyzed by TO-15. A TPH gas standard was a part of the daily sequence. The following results were obtained:
1605876-002A…DF=1…12,700 µg/M3
TO-15 Method Blank…ND, RL=720 µg/M3

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
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Case Narrative

Client: Applied Water Resources **Work Order:** 1605876
Project: 1700 Jefferson June 07, 2016

EPA 8260B Open Scan performed using EnviroQuant Chemstation software G1701DA Version C.00.00, and NBS75K spectral library.Open Scan results for purge and trap sample ID: SV-12, MAI sample: 1605876-001A; 5 mL injection (DF=4)The 5 largest unknown peaks by concentration are:

Compound	CAS number	Internal standard used	Molecular weight	Raw amount (ng)	Estimated µg/M^3
Butane, 2-methyl	78-78-4	1,4-difluorobenzene	72	1075.7	430000
Pentane	109-66-0	1,4-difluorobenzene	72	798.8	320000
Cyclopentane, methyl	96-37-7	1,4-difluorobenzene	84	427.7	171000
Butane	106-97-8	1,4-difluorobenzene	58	297.2	119000
Hexane	110-54-3	1,4-difluorobenzene	86	177.6	79000

Open Scan results for purge and trap sample ID: SV-7., MAI sample: 1605876-003A; 0.5 mL injection (DF=40)The largest unknown peaks by concentration are:

Compound	CAS number	Internal standard used	Molecular weight	Raw amount (ng)	Estimated µg/M^3
Butane, 2-methyl	78-78-4	1,4-difluorobenzene	72	607.4	2420000
Pentane	109-66-0	1,4-difluorobenzene	72	319.0	1280000
Cyclopentane, methyl	96-37-7	1,4-difluorobenzene	84	177.1	708000
Hexane, 2-methyl	591-76-4	1,4-difluorobenzene	100	154.2	616000
Hexane	110-54-3	1,4-difluorobenzene	86	148.5	594000

Open Scan results for purge and trap sample ID: SV-3., MAI sample: 1605876-004A; 0.1 mL injection (DF=200)The largest unknown peaks by concentration are:

Compound	CAS number	Internal standard used	Molecular weight	Raw amount (ng)	Estimated µg/M^3
Butane, 2-methyl	78-78-4	1,4-difluorobenzene	72	324.6	6480000
Pentane	109-66-0	1,4-difluorobenzene	72	206.3	4120000
Pentane, 2-methyl	107-83-5	1,4-difluorobenzene	86	151.2	3020000
Hexane	110-54-3	1,4-difluorobenzene	86	139.3	2780000
Pentane, 2,4-dimethyl	108-08-7	1,4-difluorobenzene	100	114.2	2280000

Open Scan results TO-15 sample ID: SV-14., MAI sample: 1605876-002A; 200 mL injection (DF=1)The largest unknown peaks by concentration are:

Compound	CAS number	Internal standard used	Molecular weight	Raw amount (pl)	Estimated µg/M^3
Butane, 2,2,3,3-tetramethyl	594-82-1	1,4-difluorobenzene	114	22950	1070
Pentane	109-66-0	1,4-difluorobenzene	72	13670	402
Pentane, 2-methyl	107-83-5	1,4-difluorobenzene	86	12920	454
Cyclohexane, methyl	108-87-2	1,4-difluorobenzene	98	10930	438
Hexane, 3-methyl	589-34-4	1,4-difluorobenzene	100	9377	380

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Analytical Report

Client: Applied Water Resources
Date Received: 5/19/16 16:00
Date Prepared: 5/24/16-5/25/16
Project: 1700 Jefferson

WorkOrder: 1605876
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: µL/L

Atmospheric gas Oxygen and Nitrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-12	1605876-001A	SoilGas	05/18/2016 14:33	GC26	121512

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.30	AK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	**120,000**	4000	1	05/24/2016 17:38

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-14	1605876-002A	SoilGas	05/18/2016 15:40	GC26	121512

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.33	26.69	AK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	**120,000**	4000	1	05/24/2016 18:00

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-7	1605876-003A	SoilGas	05/18/2016 16:57	GC26	121512

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.00	27.94	AK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	**15,000**	4000	1	05/24/2016 18:21

(Cont.)

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/25/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	µL/L

Atmospheric gas Oxygen and Nitrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	1605876-004A	SoilGas	05/18/2016 17:58	GC26	121512

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.83	25.60	AK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	**NR**	20,000	5	05/25/2016 07:08

Analytical Comments: j1

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client: Applied Water Resources
Date Received: 5/19/16 16:00
Date Prepared: 5/24/16
Project: 1700 Jefferson

WorkOrder: 1605876
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: µL/L

Hydrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-12	1605876-001A	SoilGas	05/18/2016 14:33	GC26	121514

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.30	AK

Analytes	Result	RL	DF	Date Analyzed
Hydrogen	**26,000**	100	1	05/24/2016 11:46

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-14	1605876-002A	SoilGas	05/18/2016 15:40	GC26	121514

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.33	26.69	AK

Analytes	Result	RL	DF	Date Analyzed
Hydrogen	**320**	100	1	05/24/2016 11:59

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-7	1605876-003A	SoilGas	05/18/2016 16:57	GC26	121514

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.00	27.94	AK

Analytes	Result	RL	DF	Date Analyzed
Hydrogen	**360**	100	1	05/24/2016 12:11

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/24/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	µL/L

Hydrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	1605876-004A	SoilGas	05/18/2016 17:58	GC26	121514

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.83	25.60	AK

Analytes	Result	RL	DF	Date Analyzed
Hydrogen	ND	100	1	05/24/2016 12:24

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Analytical Report

Client: Applied Water Resources
Date Received: 5/19/16 16:00
Date Prepared: 5/24/16
Project: 1700 Jefferson

WorkOrder: 1605876
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: %

Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-12	1605876-001A	SoilGas	05/18/2016 14:33	GC26	121514

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.30	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	**0.39**	0.050	1	05/24/2016 11:46

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-14	1605876-002A	SoilGas	05/18/2016 15:40	GC26	121514

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.33	26.69	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	05/24/2016 11:59

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-7	1605876-003A	SoilGas	05/18/2016 16:57	GC26	121514

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.00	27.94	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	05/24/2016 12:11

(Cont.)

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Date Received:	5/19/16 16:00	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/24/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	%

Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	1605876-004A	SoilGas	05/18/2016 17:58	GC26	121514

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.83	25.60	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	05/24/2016 12:24

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/25/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	uL/L

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-12	**1605876-001A**	**SoilGas**	**05/18/2016 14:33**	**GC26**	**121516**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	**24.30**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	**740**	40	1	05/25/2016 08:47
Carbon Monoxide	ND	40	1	05/25/2016 08:47
Methane	**49**	2.0	1	05/25/2016 08:47

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-14	**1605876-002A**	**SoilGas**	**05/18/2016 15:40**	**GC26**	**121516**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.33	**26.69**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	**1900**	40	1	05/25/2016 09:08
Carbon Monoxide	ND	40	1	05/25/2016 09:08
Methane	**17**	2.0	1	05/25/2016 09:08

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	5/25/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	uL/L

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-7	**1605876-003A**	**SoilGas**	**05/18/2016 16:57**	**GC26**	**121516**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.00	**27.94**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	**110,000**	1600	40	05/25/2016 11:14
Carbon Monoxide	ND	40	1	05/25/2016 09:50
Methane	**120**	2.0	1	05/25/2016 09:50

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	**1605876-004A**	**SoilGas**	**05/18/2016 17:58**	**GC26**	**121516**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.83	**25.60**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	**25,000**	1600	40	05/25/2016 10:53
Carbon Monoxide	ND	40	1	05/25/2016 09:29
Methane	**180**	2.0	1	05/25/2016 09:29

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	SW5030B
Date Prepared:	5/26/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-12	1605876-001A	SoilGas	05/18/2016 14:33	GC16	121524

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.30	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	40,000	4	05/26/2016 13:02
tert-Amyl methyl ether (TAME)	ND	2000	4	05/26/2016 13:02
Benzene	ND	2000	4	05/26/2016 13:02
Bromobenzene	ND	2000	4	05/26/2016 13:02
Bromochloromethane	ND	2000	4	05/26/2016 13:02
Bromodichloromethane	ND	2000	4	05/26/2016 13:02
Bromoform	ND	2000	4	05/26/2016 13:02
Bromomethane	ND	2000	4	05/26/2016 13:02
2-Butanone (MEK)	ND	8000	4	05/26/2016 13:02
t-Butyl alcohol (TBA)	ND	20,000	4	05/26/2016 13:02
n-Butyl benzene	ND	2000	4	05/26/2016 13:02
sec-Butyl benzene	ND	2000	4	05/26/2016 13:02
tert-Butyl benzene	ND	2000	4	05/26/2016 13:02
Carbon Disulfide	ND	2000	4	05/26/2016 13:02
Carbon Tetrachloride	ND	2000	4	05/26/2016 13:02
Chlorobenzene	ND	2000	4	05/26/2016 13:02
Chloroethane	ND	2000	4	05/26/2016 13:02
Chloroform	ND	2000	4	05/26/2016 13:02
Chloromethane	ND	2000	4	05/26/2016 13:02
2-Chlorotoluene	ND	2000	4	05/26/2016 13:02
4-Chlorotoluene	ND	2000	4	05/26/2016 13:02
Dibromochloromethane	ND	2000	4	05/26/2016 13:02
1,2-Dibromo-3-chloropropane	ND	2000	4	05/26/2016 13:02
1,2-Dibromoethane (EDB)	ND	2000	4	05/26/2016 13:02
Dibromomethane	ND	2000	4	05/26/2016 13:02
1,2-Dichlorobenzene	ND	2000	4	05/26/2016 13:02
1,3-Dichlorobenzene	ND	2000	4	05/26/2016 13:02
1,4-Dichlorobenzene	ND	2000	4	05/26/2016 13:02
Dichlorodifluoromethane	ND	2000	4	05/26/2016 13:02
1,1-Dichloroethane	ND	2000	4	05/26/2016 13:02
1,2-Dichloroethane (1,2-DCA)	ND	2000	4	05/26/2016 13:02
1,1-Dichloroethene	ND	2000	4	05/26/2016 13:02
cis-1,2-Dichloroethene	ND	2000	4	05/26/2016 13:02

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	SW5030B
Date Prepared:	5/26/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-12	1605876-001A	SoilGas	05/18/2016 14:33	GC16	121524

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.30	AK

Analytes	Result	RL	DF	Date Analyzed
trans-1,2-Dichloroethene	ND	2000	4	05/26/2016 13:02
1,2-Dichloropropane	ND	2000	4	05/26/2016 13:02
1,3-Dichloropropane	ND	2000	4	05/26/2016 13:02
2,2-Dichloropropane	ND	2000	4	05/26/2016 13:02
1,1-Dichloropropene	ND	2000	4	05/26/2016 13:02
cis-1,3-Dichloropropene	ND	2000	4	05/26/2016 13:02
trans-1,3-Dichloropropene	ND	2000	4	05/26/2016 13:02
Diisopropyl ether (DIPE)	ND	2000	4	05/26/2016 13:02
Ethylbenzene	ND	2000	4	05/26/2016 13:02
Ethyl tert-butyl ether (ETBE)	ND	2000	4	05/26/2016 13:02
Freon 113	ND	2000	4	05/26/2016 13:02
Hexachlorobutadiene	ND	2000	4	05/26/2016 13:02
Hexachloroethane	ND	2000	4	05/26/2016 13:02
2-Hexanone	ND	2000	4	05/26/2016 13:02
Isopropylbenzene	ND	2000	4	05/26/2016 13:02
4-Isopropyl toluene	ND	2000	4	05/26/2016 13:02
Methyl-t-butyl ether (MTBE)	ND	2000	4	05/26/2016 13:02
Methylene chloride	ND	2000	4	05/26/2016 13:02
4-Methyl-2-pentanone (MIBK)	ND	2000	4	05/26/2016 13:02
Naphthalene	ND	2000	4	05/26/2016 13:02
n-Propyl benzene	ND	2000	4	05/26/2016 13:02
Styrene	ND	2000	4	05/26/2016 13:02
1,1,1,2-Tetrachloroethane	ND	2000	4	05/26/2016 13:02
1,1,2,2-Tetrachloroethane	ND	2000	4	05/26/2016 13:02
Tetrachloroethene	ND	2000	4	05/26/2016 13:02
Toluene	ND	2200	4	05/26/2016 13:02
1,2,3-Trichlorobenzene	ND	2000	4	05/26/2016 13:02
1,2,4-Trichlorobenzene	ND	2000	4	05/26/2016 13:02
1,1,1-Trichloroethane	ND	2000	4	05/26/2016 13:02
1,1,2-Trichloroethane	ND	2000	4	05/26/2016 13:02
Trichloroethene	ND	2000	4	05/26/2016 13:02
Trichlorofluoromethane	ND	2000	4	05/26/2016 13:02
1,2,3-Trichloropropane	ND	2000	4	05/26/2016 13:02

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Date Prepared:	5/26/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-12	1605876-001A	SoilGas	05/18/2016 14:33	GC16	121524

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.30	AK

Analytes	Result	RL	DF	Date Analyzed
1,2,4-Trimethylbenzene	ND	2000	4	05/26/2016 13:02
1,3,5-Trimethylbenzene	ND	2000	4	05/26/2016 13:02
Vinyl Chloride	ND	2000	4	05/26/2016 13:02
Xylenes, Total	ND	2000	4	05/26/2016 13:02
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	98	70-130		05/26/2016 13:02
Toluene-d8	95	70-130		05/26/2016 13:02
4-BFB	99	70-130		05/26/2016 13:02

Analytical Comments: a3

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Date Received:	5/19/16 16:00	**Extraction Method:**	SW5030B
Date Prepared:	5/26/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-7	1605876-003A	SoilGas	05/18/2016 16:57	GC16	121524

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.00	27.94	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	400,000	40	05/26/2016 12:21
tert-Amyl methyl ether (TAME)	ND	20,000	40	05/26/2016 12:21
Benzene	ND	20,000	40	05/26/2016 12:21
Bromobenzene	ND	20,000	40	05/26/2016 12:21
Bromochloromethane	ND	20,000	40	05/26/2016 12:21
Bromodichloromethane	ND	20,000	40	05/26/2016 12:21
Bromoform	ND	20,000	40	05/26/2016 12:21
Bromomethane	ND	20,000	40	05/26/2016 12:21
2-Butanone (MEK)	ND	80,000	40	05/26/2016 12:21
t-Butyl alcohol (TBA)	ND	200,000	40	05/26/2016 12:21
n-Butyl benzene	ND	20,000	40	05/26/2016 12:21
sec-Butyl benzene	ND	20,000	40	05/26/2016 12:21
tert-Butyl benzene	ND	20,000	40	05/26/2016 12:21
Carbon Disulfide	ND	20,000	40	05/26/2016 12:21
Carbon Tetrachloride	ND	20,000	40	05/26/2016 12:21
Chlorobenzene	ND	20,000	40	05/26/2016 12:21
Chloroethane	ND	20,000	40	05/26/2016 12:21
Chloroform	ND	20,000	40	05/26/2016 12:21
Chloromethane	ND	20,000	40	05/26/2016 12:21
2-Chlorotoluene	ND	20,000	40	05/26/2016 12:21
4-Chlorotoluene	ND	20,000	40	05/26/2016 12:21
Dibromochloromethane	ND	20,000	40	05/26/2016 12:21
1,2-Dibromo-3-chloropropane	ND	20,000	40	05/26/2016 12:21
1,2-Dibromoethane (EDB)	ND	20,000	40	05/26/2016 12:21
Dibromomethane	ND	20,000	40	05/26/2016 12:21
1,2-Dichlorobenzene	ND	20,000	40	05/26/2016 12:21
1,3-Dichlorobenzene	ND	20,000	40	05/26/2016 12:21
1,4-Dichlorobenzene	ND	20,000	40	05/26/2016 12:21
Dichlorodifluoromethane	ND	20,000	40	05/26/2016 12:21
1,1-Dichloroethane	ND	20,000	40	05/26/2016 12:21
1,2-Dichloroethane (1,2-DCA)	ND	20,000	40	05/26/2016 12:21
1,1-Dichloroethene	ND	20,000	40	05/26/2016 12:21
cis-1,2-Dichloroethene	ND	20,000	40	05/26/2016 12:21

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Project:	1700 Jefferson	**Unit:**	µg/m³

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Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-7	1605876-003A	SoilGas	05/18/2016 16:57	GC16	121524

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.00	27.94	AK

Analytes	Result	RL	DF	Date Analyzed
trans-1,2-Dichloroethene	ND	20,000	40	05/26/2016 12:21
1,2-Dichloropropane	ND	20,000	40	05/26/2016 12:21
1,3-Dichloropropane	ND	20,000	40	05/26/2016 12:21
2,2-Dichloropropane	ND	20,000	40	05/26/2016 12:21
1,1-Dichloropropene	ND	20,000	40	05/26/2016 12:21
cis-1,3-Dichloropropene	ND	20,000	40	05/26/2016 12:21
trans-1,3-Dichloropropene	ND	20,000	40	05/26/2016 12:21
Diisopropyl ether (DIPE)	ND	20,000	40	05/26/2016 12:21
Ethylbenzene	ND	20,000	40	05/26/2016 12:21
Ethyl tert-butyl ether (ETBE)	ND	20,000	40	05/26/2016 12:21
Freon 113	ND	20,000	40	05/26/2016 12:21
Hexachlorobutadiene	ND	20,000	40	05/26/2016 12:21
Hexachloroethane	ND	20,000	40	05/26/2016 12:21
2-Hexanone	ND	20,000	40	05/26/2016 12:21
Isopropylbenzene	ND	20,000	40	05/26/2016 12:21
4-Isopropyl toluene	ND	20,000	40	05/26/2016 12:21
Methyl-t-butyl ether (MTBE)	ND	20,000	40	05/26/2016 12:21
Methylene chloride	ND	20,000	40	05/26/2016 12:21
4-Methyl-2-pentanone (MIBK)	ND	20,000	40	05/26/2016 12:21
Naphthalene	ND	20,000	40	05/26/2016 12:21
n-Propyl benzene	ND	20,000	40	05/26/2016 12:21
Styrene	ND	20,000	40	05/26/2016 12:21
1,1,1,2-Tetrachloroethane	ND	20,000	40	05/26/2016 12:21
1,1,2,2-Tetrachloroethane	ND	20,000	40	05/26/2016 12:21
Tetrachloroethene	ND	20,000	40	05/26/2016 12:21
Toluene	ND	20,000	40	05/26/2016 12:21
1,2,3-Trichlorobenzene	ND	20,000	40	05/26/2016 12:21
1,2,4-Trichlorobenzene	ND	20,000	40	05/26/2016 12:21
1,1,1-Trichloroethane	ND	20,000	40	05/26/2016 12:21
1,1,2-Trichloroethane	ND	20,000	40	05/26/2016 12:21
Trichloroethene	ND	20,000	40	05/26/2016 12:21
Trichlorofluoromethane	ND	20,000	40	05/26/2016 12:21
1,2,3-Trichloropropane	ND	20,000	40	05/26/2016 12:21

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	SW5030B
Date Prepared:	5/26/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-7	1605876-003A	SoilGas	05/18/2016 16:57	GC16	121524

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.00	27.94	AK

Analytes	Result	RL	DF	Date Analyzed
1,2,4-Trimethylbenzene	ND	20,000	40	05/26/2016 12:21
1,3,5-Trimethylbenzene	ND	20,000	40	05/26/2016 12:21
Vinyl Chloride	ND	20,000	40	05/26/2016 12:21
Xylenes, Total	ND	20,000	40	05/26/2016 12:21
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	94	70-130		05/26/2016 12:21
Toluene-d8	93	70-130		05/26/2016 12:21
4-BFB	96	70-130		05/26/2016 12:21

Analytical Comments: a3

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	SW5030B
Date Prepared:	5/26/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	1605876-004A	SoilGas	05/18/2016 17:58	GC16	121524

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.83	25.60	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	2,000,000	200	05/26/2016 16:26
tert-Amyl methyl ether (TAME)	ND	100,000	200	05/26/2016 16:26
Benzene	**640,000**	100,000	200	05/26/2016 16:26
Bromobenzene	ND	100,000	200	05/26/2016 16:26
Bromochloromethane	ND	100,000	200	05/26/2016 16:26
Bromodichloromethane	ND	100,000	200	05/26/2016 16:26
Bromoform	ND	100,000	200	05/26/2016 16:26
Bromomethane	ND	100,000	200	05/26/2016 16:26
2-Butanone (MEK)	ND	400,000	200	05/26/2016 16:26
t-Butyl alcohol (TBA)	ND	1,000,000	200	05/26/2016 16:26
n-Butyl benzene	ND	100,000	200	05/26/2016 16:26
sec-Butyl benzene	ND	100,000	200	05/26/2016 16:26
tert-Butyl benzene	ND	100,000	200	05/26/2016 16:26
Carbon Disulfide	ND	100,000	200	05/26/2016 16:26
Carbon Tetrachloride	ND	100,000	200	05/26/2016 16:26
Chlorobenzene	ND	100,000	200	05/26/2016 16:26
Chloroethane	ND	100,000	200	05/26/2016 16:26
Chloroform	ND	100,000	200	05/26/2016 16:26
Chloromethane	ND	100,000	200	05/26/2016 16:26
2-Chlorotoluene	ND	100,000	200	05/26/2016 16:26
4-Chlorotoluene	ND	100,000	200	05/26/2016 16:26
Dibromochloromethane	ND	100,000	200	05/26/2016 16:26
1,2-Dibromo-3-chloropropane	ND	100,000	200	05/26/2016 16:26
1,2-Dibromoethane (EDB)	ND	100,000	200	05/26/2016 16:26
Dibromomethane	ND	100,000	200	05/26/2016 16:26
1,2-Dichlorobenzene	ND	100,000	200	05/26/2016 16:26
1,3-Dichlorobenzene	ND	100,000	200	05/26/2016 16:26
1,4-Dichlorobenzene	ND	100,000	200	05/26/2016 16:26
Dichlorodifluoromethane	ND	100,000	200	05/26/2016 16:26
1,1-Dichloroethane	ND	100,000	200	05/26/2016 16:26
1,2-Dichloroethane (1,2-DCA)	ND	100,000	200	05/26/2016 16:26
1,1-Dichloroethene	ND	100,000	200	05/26/2016 16:26
cis-1,2-Dichloroethene	ND	100,000	200	05/26/2016 16:26

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	SW5030B
Date Prepared:	5/26/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	1605876-004A	SoilGas	05/18/2016 17:58	GC16	121524

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.83	25.60	AK

Analytes	Result	RL	DF	Date Analyzed
trans-1,2-Dichloroethene	ND	100,000	200	05/26/2016 16:26
1,2-Dichloropropane	ND	100,000	200	05/26/2016 16:26
1,3-Dichloropropane	ND	100,000	200	05/26/2016 16:26
2,2-Dichloropropane	ND	100,000	200	05/26/2016 16:26
1,1-Dichloropropene	ND	100,000	200	05/26/2016 16:26
cis-1,3-Dichloropropene	ND	100,000	200	05/26/2016 16:26
trans-1,3-Dichloropropene	ND	100,000	200	05/26/2016 16:26
Diisopropyl ether (DIPE)	ND	100,000	200	05/26/2016 16:26
Ethylbenzene	ND	100,000	200	05/26/2016 16:26
Ethyl tert-butyl ether (ETBE)	ND	100,000	200	05/26/2016 16:26
Freon 113	ND	100,000	200	05/26/2016 16:26
Hexachlorobutadiene	ND	100,000	200	05/26/2016 16:26
Hexachloroethane	ND	100,000	200	05/26/2016 16:26
2-Hexanone	ND	100,000	200	05/26/2016 16:26
Isopropylbenzene	ND	100,000	200	05/26/2016 16:26
4-Isopropyl toluene	ND	100,000	200	05/26/2016 16:26
Methyl-t-butyl ether (MTBE)	ND	100,000	200	05/26/2016 16:26
Methylene chloride	ND	100,000	200	05/26/2016 16:26
4-Methyl-2-pentanone (MIBK)	ND	100,000	200	05/26/2016 16:26
Naphthalene	ND	100,000	200	05/26/2016 16:26
n-Propyl benzene	ND	100,000	200	05/26/2016 16:26
Styrene	ND	100,000	200	05/26/2016 16:26
1,1,1,2-Tetrachloroethane	ND	100,000	200	05/26/2016 16:26
1,1,2,2-Tetrachloroethane	ND	100,000	200	05/26/2016 16:26
Tetrachloroethene	ND	100,000	200	05/26/2016 16:26
Toluene	**810,000**	100,000	200	05/26/2016 16:26
1,2,3-Trichlorobenzene	ND	100,000	200	05/26/2016 16:26
1,2,4-Trichlorobenzene	ND	100,000	200	05/26/2016 16:26
1,1,1-Trichloroethane	ND	100,000	200	05/26/2016 16:26
1,1,2-Trichloroethane	ND	100,000	200	05/26/2016 16:26
Trichloroethene	ND	100,000	200	05/26/2016 16:26
Trichlorofluoromethane	ND	100,000	200	05/26/2016 16:26
1,2,3-Trichloropropane	ND	100,000	200	05/26/2016 16:26

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	SW5030B
Date Prepared:	5/26/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	1605876-004A	SoilGas	05/18/2016 17:58	GC16	121524

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.83	25.60	AK

Analytes	Result	RL	DF	Date Analyzed
1,2,4-Trimethylbenzene	ND	100,000	200	05/26/2016 16:26
1,3,5-Trimethylbenzene	ND	100,000	200	05/26/2016 16:26
Vinyl Chloride	ND	100,000	200	05/26/2016 16:26
Xylenes, Total	**150,000**	100,000	200	05/26/2016 16:26
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	94	70-130		05/26/2016 16:26
Toluene-d8	95	70-130		05/26/2016 16:26
4-BFB	96	70-130		05/26/2016 16:26

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	TO15
Date Prepared:	5/25/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-14	1605876-002A	SoilGas	05/18/2016 15:40	GC29	121525

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.33	26.69	GM

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	05/25/2016 21:46
Acrolein	ND	5.8	1	05/25/2016 21:46
Acrylonitrile	ND	1.1	1	05/25/2016 21:46
tert-Amyl methyl ether (TAME)	ND	2.1	1	05/25/2016 21:46
Benzene	**150**	1.6	1	05/25/2016 21:46
Benzyl chloride	ND	2.6	1	05/25/2016 21:46
Bromodichloromethane	ND	3.5	1	05/25/2016 21:46
Bromoform	ND	5.2	1	05/25/2016 21:46
Bromomethane	**7.3**	2.0	1	05/25/2016 21:46
1,3-Butadiene	ND	1.1	1	05/25/2016 21:46
2-Butanone (MEK)	ND	75	1	05/25/2016 21:46
t-Butyl alcohol (TBA)	ND	31	1	05/25/2016 21:46
Carbon Disulfide	**230**	1.6	1	05/25/2016 21:46
Carbon Tetrachloride	ND	3.2	1	05/25/2016 21:46
Chlorobenzene	ND	2.4	1	05/25/2016 21:46
Chloroethane	**47**	1.3	1	05/25/2016 21:46
Chloroform	ND	2.4	1	05/25/2016 21:46
Chloromethane	**15**	1.0	1	05/25/2016 21:46
Cyclohexane	**640**	18	1	05/25/2016 21:46
Dibromochloromethane	ND	4.4	1	05/25/2016 21:46
1,2-Dibromo-3-chloropropane	ND	0.12	1	05/25/2016 21:46
1,2-Dibromoethane (EDB)	ND	3.9	1	05/25/2016 21:46
1,2-Dichlorobenzene	ND	3.0	1	05/25/2016 21:46
1,3-Dichlorobenzene	ND	3.0	1	05/25/2016 21:46
1,4-Dichlorobenzene	ND	3.0	1	05/25/2016 21:46
Dichlorodifluoromethane	**3.4**	2.5	1	05/25/2016 21:46
1,1-Dichloroethane	ND	2.0	1	05/25/2016 21:46
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	05/25/2016 21:46
1,1-Dichloroethene	ND	2.0	1	05/25/2016 21:46
cis-1,2-Dichloroethene	ND	2.0	1	05/25/2016 21:46
trans-1,2-Dichloroethene	ND	2.0	1	05/25/2016 21:46
1,2-Dichloropropane	ND	2.4	1	05/25/2016 21:46
cis-1,3-Dichloropropene	ND	2.3	1	05/25/2016 21:46

(Cont.)

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	TO15
Date Prepared:	5/25/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-14	1605876-002A	SoilGas	05/18/2016 15:40	GC29	121525

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.33	26.69	GM

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	2.3	1	05/25/2016 21:46
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	05/25/2016 21:46
Diisopropyl ether (DIPE)	ND	2.1	1	05/25/2016 21:46
1,4-Dioxane	ND	1.8	1	05/25/2016 21:46
Ethanol	ND	96	1	05/25/2016 21:46
Ethyl acetate	ND	1.8	1	05/25/2016 21:46
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	05/25/2016 21:46
Ethylbenzene	**120**	2.2	1	05/25/2016 21:46
4-Ethyltoluene	**36**	2.5	1	05/25/2016 21:46
Freon 113	ND	3.9	1	05/25/2016 21:46
Heptane	**350**	21	1	05/25/2016 21:46
Hexachlorobutadiene	ND	5.4	1	05/25/2016 21:46
Hexane	**740**	18	1	05/25/2016 21:46
2-Hexanone	ND	2.1	1	05/25/2016 21:46
4-Methyl-2-pentanone (MIBK)	ND	2.1	1	05/25/2016 21:46
Methyl-t-butyl ether (MTBE)	ND	1.8	1	05/25/2016 21:46
Methylene chloride	ND	8.8	1	05/25/2016 21:46
Methyl methacrylate	ND	2.1	1	05/25/2016 21:46
Naphthalene	ND	5.3	1	05/25/2016 21:46
Propene	**1700**	880	10	05/25/2016 21:01
Styrene	ND	2.2	1	05/25/2016 21:46
1,1,1,2-Tetrachloroethane	ND	3.5	1	05/25/2016 21:46
1,1,2,2-Tetrachloroethane	ND	3.5	1	05/25/2016 21:46
Tetrachloroethene	**560**	3.4	1	05/25/2016 21:46
Tetrahydrofuran	ND	3.0	1	05/25/2016 21:46
Toluene	**470**	1.9	1	05/25/2016 21:46
1,2,4-Trichlorobenzene	ND	3.8	1	05/25/2016 21:46
1,1,1-Trichloroethane	ND	2.8	1	05/25/2016 21:46
1,1,2-Trichloroethane	ND	2.8	1	05/25/2016 21:46
Trichloroethene	**9.2**	2.8	1	05/25/2016 21:46
Trichlorofluoromethane	**12**	2.8	1	05/25/2016 21:46
1,2,4-Trimethylbenzene	**88**	2.5	1	05/25/2016 21:46
1,3,5-Trimethylbenzene	**34**	2.5	1	05/25/2016 21:46

(Cont.)

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Received:	5/19/16 16:00	**Extraction Method:**	TO15
Date Prepared:	5/25/16	**Analytical Method:**	TO15
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-14	**1605876-002A**	**SoilGas**	**05/18/2016 15:40**	**GC29**	**121525**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.33	**26.69**	**GM**

Analytes	Result	RL	DF	Date Analyzed
Vinyl Acetate	ND	18	1	05/25/2016 21:46
Vinyl Chloride	ND	1.3	1	05/25/2016 21:46
Xylenes, Total	**550**	6.6	1	05/25/2016 21:46
Surrogates	**REC (%)**	**Limits**		
1,2-DCA-d4	79	70-130		05/25/2016 21:46
Toluene-d8	86	70-130		05/25/2016 21:46
4-BFB	96	70-130		05/25/2016 21:46

Angela Rydelius, Lab Manager

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"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Prepared:	5/24/16	**BatchID:**	121512
Date Analyzed:	5/24/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	µL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121512

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Oxygen	ND	5970	2000	7000	-	85	70-130

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Prepared:	5/23/16 - 5/24/16	**BatchID:**	121514
Date Analyzed:	5/23/16 - 5/24/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	Soilgas	**Unit:**	µL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121514

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Hydrogen	ND	814	50	1000	-	81	70-130

QA/QC Officer

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"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Prepared:	5/23/16 - 5/24/16	**BatchID:**	121514
Date Analyzed:	5/23/16 - 5/24/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	Soilgas	**Unit:**	%
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121514

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Helium	ND	0.0763	0.025	0.10	-	76	60-140

QA/QC Officer

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"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Prepared:	5/25/16	**BatchID:**	121516
Date Analyzed:	5/25/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	uL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121516

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Carbon Dioxide	ND	109	20	100	-	109	70-130
Carbon Monoxide	ND	78.7	20	100	-	79	70-130
Methane	ND	93.3	1.0	100	-	93	70-130

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Prepared:	5/26/16	**BatchID:**	121524
Date Analyzed:	5/26/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121524

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	5000	-	-	-
tert-Amyl methyl ether (TAME)	ND	250	-	-	-
Benzene	ND	250	-	-	-
Bromobenzene	ND	250	-	-	-
Bromochloromethane	ND	250	-	-	-
Bromodichloromethane	ND	250	-	-	-
Bromoform	ND	250	-	-	-
Bromomethane	ND	250	-	-	-
2-Butanone (MEK)	ND	1000	-	-	-
t-Butyl alcohol (TBA)	ND	2500	-	-	-
n-Butyl benzene	ND	250	-	-	-
sec-Butyl benzene	ND	250	-	-	-
tert-Butyl benzene	ND	250	-	-	-
Carbon Disulfide	ND	250	-	-	-
Carbon Tetrachloride	ND	250	-	-	-
Chlorobenzene	ND	250	-	-	-
Chloroethane	ND	250	-	-	-
Chloroform	ND	250	-	-	-
Chloromethane	ND	250	-	-	-
2-Chlorotoluene	ND	250	-	-	-
4-Chlorotoluene	ND	250	-	-	-
Dibromochloromethane	ND	250	-	-	-
1,2-Dibromo-3-chloropropane	ND	250	-	-	-
1,2-Dibromoethane (EDB)	ND	250	-	-	-
Dibromomethane	ND	250	-	-	-
1,2-Dichlorobenzene	ND	250	-	-	-
1,3-Dichlorobenzene	ND	250	-	-	-
1,4-Dichlorobenzene	ND	250	-	-	-
Dichlorodifluoromethane	ND	250	-	-	-
1,1-Dichloroethane	ND	250	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	250	-	-	-
1,1-Dichloroethene	ND	250	-	-	-
cis-1,2-Dichloroethene	ND	250	-	-	-
trans-1,2-Dichloroethene	ND	250	-	-	-
1,2-Dichloropropane	ND	250	-	-	-
1,3-Dichloropropane	ND	250	-	-	-
2,2-Dichloropropane	ND	250	-	-	-
1,1-Dichloropropene	ND	250	-	-	-
cis-1,3-Dichloropropene	ND	250	-	-	-

(Cont.)

NELAP 4033ORELAP

QA/QC Officer

McCampbell Analytical, Inc.
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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Prepared:	5/26/16	**BatchID:**	121524
Date Analyzed:	5/26/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121524

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	250	-	-	-
Diisopropyl ether (DIPE)	ND	250	-	-	-
Ethylbenzene	ND	250	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	250	-	-	-
Freon 113	ND	250	-	-	-
Hexachlorobutadiene	ND	250	-	-	-
Hexachloroethane	ND	250	-	-	-
2-Hexanone	ND	250	-	-	-
Isopropylbenzene	ND	250	-	-	-
4-Isopropyl toluene	ND	250	-	-	-
Methyl-t-butyl ether (MTBE)	ND	250	-	-	-
Methylene chloride	ND	250	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	250	-	-	-
Naphthalene	ND	250	-	-	-
n-Propyl benzene	ND	250	-	-	-
Styrene	ND	250	-	-	-
1,1,1,2-Tetrachloroethane	ND	250	-	-	-
1,1,2,2-Tetrachloroethane	ND	250	-	-	-
Tetrachloroethene	ND	250	-	-	-
Toluene	ND	250	-	-	-
1,2,3-Trichlorobenzene	ND	250	-	-	-
1,2,4-Trichlorobenzene	ND	250	-	-	-
1,1,1-Trichloroethane	ND	250	-	-	-
1,1,2-Trichloroethane	ND	250	-	-	-
Trichloroethene	ND	250	-	-	-
Trichlorofluoromethane	ND	250	-	-	-
1,2,3-Trichloropropane	ND	250	-	-	-
1,2,4-Trimethylbenzene	ND	250	-	-	-
1,3,5-Trimethylbenzene	ND	250	-	-	-
Vinyl Chloride	ND	250	-	-	-
Xylenes, Total	ND	250	-	-	-
Surrogate Recovery					
Dibromofluoromethane	12,100		12500	97	60-140
Toluene-d8	11,300		12500	91	60-140
4-BFB	1100		1250	88	60-140

(Cont.)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Prepared:	5/26/16	**BatchID:**	121524
Date Analyzed:	5/26/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121524

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	4990	5350	5000	100	107	60-140	6.95	30
Benzene	5050	5240	5000	101	105	60-140	3.84	30
t-Butyl alcohol (TBA)	17,100	20,100	20000	86	100	60-140	15.8	30
Chlorobenzene	4590	4710	5000	92	94	60-140	2.56	30
1,2-Dibromoethane (EDB)	5120	5220	5000	102	104	60-140	1.99	30
1,2-Dichloroethane (1,2-DCA)	4580	4900	5000	92	98	60-140	6.69	30
1,1-Dichloroethene	5000	5420	5000	100	108	60-140	8.06	30
Diisopropyl ether (DIPE)	5110	5380	5000	102	108	60-140	5.17	30
Ethyl tert-butyl ether (ETBE)	5010	5390	5000	100	108	60-140	7.36	30
Methyl-t-butyl ether (MTBE)	4800	5220	5000	96	104	60-140	8.29	30
Toluene	4900	4930	5000	98	99	60-140	0.544	30
Trichloroethene	5200	5520	5000	104	110	60-140	5.85	30
Surrogate Recovery								
Dibromofluoromethane	12,100	12,300	12500	97	99	60-140	1.90	30
Toluene-d8	11,400	11,000	12500	92	88	60-140	3.79	30
4-BFB	1190	1100	1250	95	88	60-140	7.98	30

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Prepared:	5/25/16	**BatchID:**	121525
Date Analyzed:	5/25/16	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121525

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	57.1	30	60	-	95	60-140
Acrolein	ND	70.5	2.9	58.25	-	121	60-140
Acrylonitrile	ND	67.6	0.55	55	-	123	60-140
tert-Amyl methyl ether (TAME)	ND	101	1.0	105	-	96	60-140
Benzene	ND	66.1	0.80	80	-	83	60-140
Benzyl chloride	ND	149	1.3	132.5	-	113	60-140
Bromodichloromethane	ND	118	1.8	175	-	67	60-140
Bromoform	ND	208	2.6	262.5	-	79	60-140
Bromomethane	ND	108	1.0	97.5	-	111	60-140
1,3-Butadiene	ND	45.0	0.55	55	-	82	60-140
2-Butanone (MEK)	ND	82.8	38	75	-	110	60-140
t-Butyl alcohol (TBA)	ND	84.5	16	77.5	-	109	60-140
Carbon Disulfide	ND	94.0	0.80	80	-	117	60-140
Carbon Tetrachloride	ND	116	1.6	160	-	72	60-140
Chlorobenzene	ND	120	1.2	117.5	-	102	60-140
Chloroethane	ND	58.6	0.65	67.5	-	87	60-140
Chloroform	ND	99.8	1.2	122.5	-	81	60-140
Chloromethane	ND	45.8	0.50	52.5	-	87	60-140
Cyclohexane	ND	93.4	9.0	87.5	-	107	60-140
Dibromochloromethane	ND	168	2.2	217.5	-	77	60-140
1,2-Dibromo-3-chloropropane	ND	279	0.060	245	-	114	60-140
1,2-Dibromoethane (EDB)	ND	153	2.0	195	-	78	60-140
1,2-Dichlorobenzene	ND	145	1.5	152.5	-	95	60-140
1,3-Dichlorobenzene	ND	144	1.5	152.5	-	95	60-140
1,4-Dichlorobenzene	ND	139	1.5	152.5	-	91	60-140
Dichlorodifluoromethane	ND	110	1.2	125	-	88	60-140
1,1-Dichloroethane	ND	101	1.0	102.5	-	98	60-140
1,2-Dichloroethane (1,2-DCA)	ND	85.5	1.0	102.5	-	83	60-140
1,1-Dichloroethene	ND	97.3	1.0	100	-	97	60-140
cis-1,2-Dichloroethene	ND	104	1.0	100	-	104	60-140
trans-1,2-Dichloroethene	ND	101	1.0	100	-	101	60-140
1,2-Dichloropropane	ND	102	1.2	117.5	-	87	60-140
cis-1,3-Dichloropropene	ND	100	1.2	115	-	87	60-140
trans-1,3-Dichloropropene	ND	95.7	1.2	115	-	83	60-140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	169	1.8	177.5	-	95	60-140
Diisopropyl ether (DIPE)	ND	110	1.0	105	-	105	60-140
1,4-Dioxane	ND	77.9	0.90	92.5	-	84	60-140

(Cont.)

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Prepared:	5/25/16	**BatchID:**	121525
Date Analyzed:	5/25/16	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121525

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Ethanol	ND	ND	48	47.5	-	84	60-140
Ethyl acetate	ND	87.7	0.90	92.5	-	95	60-140
Ethyl tert-butyl ether (ETBE)	ND	113	1.0	105	-	108	60-140
Ethylbenzene	ND	108	1.1	110	-	99	60-140
4-Ethyltoluene	ND	123	1.2	125	-	98	60-140
Freon 113	ND	180	2.0	195	-	92	60-140
Heptane	ND	90.4	10	105	-	86	60-140
Hexachlorobutadiene	ND	228	2.7	270	-	85	60-140
Hexane	ND	94.5	9.0	90	-	105	60-140
2-Hexanone	ND	84.0	1.0	105	-	80	60-140
4-Methyl-2-pentanone (MIBK)	ND	85.5	1.0	105	-	81	60-140
Methyl-t-butyl ether (MTBE)	ND	86.3	0.90	92.5	-	93	60-140
Methylene chloride	ND	86.8	4.4	87.5	-	99	60-140
Methyl methacrylate	ND	95.1	1.0	104	-	91	60-140
Naphthalene	ND	285	2.6	265	-	108	60-140
Propene	ND	ND	44	42.5	-	90	60-140
Styrene	ND	112	1.1	107.5	-	105	60-140
1,1,1,2-Tetrachloroethane	ND	184	1.8	175	-	105	60-140
1,1,2,2-Tetrachloroethane	ND	206	1.8	175	-	118	60-140
Tetrachloroethene	ND	133	1.7	172	-	77	60-140
Tetrahydrofuran	ND	80.7	1.5	75	-	108	60-140
Toluene	ND	82.3	0.95	95	-	87	60-140
1,2,4-Trichlorobenzene	ND	189	1.9	187.5	-	101	60-140
1,1,1-Trichloroethane	ND	100	1.4	137.5	-	73	60-140
1,1,2-Trichloroethane	ND	113	1.4	137.5	-	82	60-140
Trichloroethene	ND	101	1.4	137.5	-	73	60-140
Trichlorofluoromethane	ND	123	1.4	142.5	-	86	60-140
1,2,4-Trimethylbenzene	ND	122	1.2	125	-	97	60-140
1,3,5-Trimethylbenzene	ND	129	1.2	125	-	103	60-140
Vinyl Acetate	ND	89.4	9.0	90	-	99	60-140
Vinyl Chloride	ND	53.5	0.65	65	-	82	60-140
Xylenes, Total	ND	328	3.3	330	-	99	60-140

(Cont.)

QA/QC Officer

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605876
Date Prepared:	5/25/16	**BatchID:**	121525
Date Analyzed:	5/25/16	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121525

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
1,2-DCA-d4	380	388		500	76	78	70-130
Toluene-d8	427	411		500	85	82	70-130
4-BFB	452	452		500	90	90	70-130

QA/QC Officer

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605876 **ClientCode: AWR** **QuoteID: 6007**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:
Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;
Date Received: 05/19/2016
Date Logged: 05/19/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605876-001	SV-12	SoilGas	5/18/2016 14:33	☐	A	A	A	A	A	A						
1605876-002	SV-14	SoilGas	5/18/2016 15:40	☐	A	A			A	A						
1605876-003	SV-7	SoilGas	5/18/2016 16:57	☐	A	A			A	A						
1605876-004	SV-3	SoilGas	5/18/2016 17:58	☐	A	A			A	A						

Test Legend:

1	HELIUM_LC_SOILGAS(%)	2	LG_SUMMA_SOILGAS	3	PREDF REPORT	4	PRHELIUM SHROUD
5	TO15_Scan-SIM_SOIL(UG/M3)	6	TO15-8260_SOIL(UG/M3)	7		8	
9		10		11		12	

Prepared by: Jena Alfaro

The following SampIDs: 001A, 002A, 003A, 004A contain testgroup.

Comments:

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605876
Date Logged: 5/19/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605876-001A	SV-12	SoilGas	ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Hydrogen_3, Methane_4, Oxygen>	1	1L Summa	☐	5/18/2016 14:33	5 days		☐	
			TO15 w/ Helium			☐		5 days		☐	
1605876-002A	SV-14	SoilGas	ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Hydrogen_3, Methane_4, Oxygen>	1	1L Summa	☐	5/18/2016 15:40	5 days		☐	
			TO15 w/ Helium			☐		5 days		☐	
1605876-003A	SV-7	SoilGas	ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Hydrogen_3, Methane_4, Oxygen>	1	1L Summa	☐	5/18/2016 16:57	5 days		☐	
			TO15 w/ Helium			☐		5 days		☐	
1605876-004A	SV-3	SoilGas	ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Hydrogen_3, Methane_4, Oxygen>	1	1L Summa	☐	5/18/2016 17:58	5 days		☐	
			TO15 w/ Helium			☐		5 days		☐	

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

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

160587Q

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1534 Willow Pass Rd. / Pittsburg, Ca. 94565-1701
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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 5 DAY ☒
GeoTracker EDF ☒ PDF ☒ EDD ☐ EQuIS ☐ 10 DAY ☐
UST Clean Up Fund Project ☒ Claim # 705

Report To: Yola Bayram	Bill To: AWR
Company: AWR	
2323 Mariner Square Drive, Ste 245, Alameda, CA	
E-Mail: ybayram@awrcorp.net	
Tele: (510) 671-2088	Fax: ( )
Project #: 1700 Jefferson	Project Name: 1700 Jefferson
Project Location: "	
Sampler Signature:	

Field Sample ID (Location)	Collection Date	Collection Time	Canister SN#	Sampler Kit SN#	VOCs by TO-15 (ug/m3)	8010 by TO-15 (ug/m3)	TPH(g) (ug/m3)	LEED (inc. 4PCH, Formaldehyde, CO, Total VOCs)	Fixed Gas: CO2 (Methane, Ethane, Ethylene, Acetylene, CO (please circle or indicate in notes) uL/L (Hydrogen)	Fixed Gas: O2, N2 (please circle) uL/L	Fixed Gas: Propane uL/L	Helium Leak Check (%)	Leak Check (IPA, Norflorane, 1,1-difluroethane) ug/m3	APH: Aliphatic and/or Aromatic (please circle) ug/m3	Other:	Matrix: Soilgas	Matrix: Indoor Air	Cannister Pressure/ Vacuum: Initial	Cannister Pressure/ Vacuum: Final
SV-12	5-18-16	1433	1973-1921	316T-777	X				X	X		X				X		30	6
SV-14	5-18-16	1540	6304-784	316T-667	X				X	X		X				X		30	4
SV-7	5-18-16	1657	1987-1935	316-[illegible]991	X				X	X		X				X		30	3
SV-3	5-18-16	1758	6205-746	316-1315	X				X	X		X				X		30	4

Analysis Requested

Helium Shroud SN#

Other:

Notes: Please Specify units if different than defaults VOCs is ug/m3 and fixed gas is uL/L. Leak check default is IPA.

Quote 6007

Relinquished By:	Date:	Time:	Received By:
	5-19-16	1110	
Relinquished By:	Date:	Time:	Received By:
	5-19-16	1600	
Relinquished By:	Date:	Time:	Received By:

Temp (°C): _____ Work Order #: _____

Condition: _____

Custody Seals Intact?: Yes _____ No _____ None _____

Shipped Via: _____

Please note that samples SV-7 & SV-3 are likely very high concentrations.

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**5/19/2016 16:00**
Project Name:	**1700 Jefferson**	Date Logged:	**5/19/2016**
WorkOrder №:	**1605876** Matrix: SoilGas	Received by:	Jena Alfaro
Carrier:	Bernie Cummins (MAI Courier)	Logged by:	Jena Alfaro

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

UCMR3 Samples:

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

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1605954

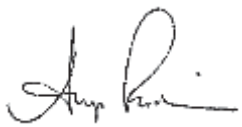
Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700; 1700 Jefferson

Project Received: 05/23/2016

Analytical Report reviewed & approved for release on 06/01/2016 by:



Angela Rydelius,
Laboratory Manager

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

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CDPH ELAP 1644 ♦ NELAP 4033ORELAP

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700; 1700 Jefferson
WorkOrder: 1605954

Glossary Abbreviation

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

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700; 1700 Jefferson
WorkOrder: 1605954

Analytical Qualifiers

S	Surrogate spike recovery outside accepted recovery limits
a3	sample diluted due to high organic content.
a9	reporting limit near, but not identical to, our standard reporting limit due to variable Encore/Solid sample weight
a28	reporting limit raised due to cluttered chromatogram
b1	aqueous sample that contains greater than ~1 vol. % sediment
c1	surrogate recovery outside of the control limits due to the dilution of the sample.
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
e2	diesel range compounds are significant; no recognizable pattern

Quality Control Qualifiers

F10	MS/MSD outside control limits. Physical or chemical interferences exist due to sample matrix.

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5030B
Date Prepared:	6/1/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	µg/L

Oxygenates and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-GW	1605954-011A	Water	05/22/2016 13:00	GC18	121699

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	500	1,000	06/01/2016 16:48
Benzene	**19,000**	500	1,000	06/01/2016 16:48
t-Butyl alcohol (TBA)	ND	2000	1,000	06/01/2016 16:48
1,2-Dibromoethane (EDB)	ND	500	1,000	06/01/2016 16:48
1,2-Dichloroethane (1,2-DCA)	ND	500	1,000	06/01/2016 16:48
Diisopropyl ether (DIPE)	ND	500	1,000	06/01/2016 16:48
Ethanol	ND	50,000	1,000	06/01/2016 16:48
Ethylbenzene	**3300**	500	1,000	06/01/2016 16:48
Ethyl tert-butyl ether (ETBE)	ND	500	1,000	06/01/2016 16:48
Methyl-t-butyl ether (MTBE)	ND	500	1,000	06/01/2016 16:48
Toluene	**35,000**	500	1,000	06/01/2016 16:48
Xylenes, Total	**18,000**	500	1,000	06/01/2016 16:48

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	06/01/2016 16:48
Toluene-d8	89	70-130	06/01/2016 16:48
4-BFB	91	70-130	06/01/2016 16:48

Analyst(s): MW Analytical Comments: b1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-3	1605954-001B	Soil	05/22/2016 12:30	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.58	1	05/24/2016 12:41

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/24/2016 12:41
Benzene-D6	109	70-130	05/24/2016 12:41

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-8	1605954-002B	Soil	05/22/2016 12:35	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.39	1	05/24/2016 14:36

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	05/24/2016 14:36
Benzene-d6	103	70-130	05/24/2016 14:36

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-25	1605954-004B	Soil	05/22/2016 12:45	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**520**	27	50	05/24/2016 15:14

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	05/24/2016 15:14
Benzene-d6	100	70-130	05/24/2016 15:14

Analyst(s): MW Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C5-3	1605954-005B	Soil	05/22/2016 10:45	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.63	1	05/24/2016 15:52

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/24/2016 15:52
Benzene-d6	102	70-130	05/24/2016 15:52

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C5-8	1605954-006B	Soil	05/22/2016 10:50	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.46	1	05/24/2016 16:30

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/24/2016 16:30
Benzene-d6	102	70-130	05/24/2016 16:30

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C5-21	1605954-007B	Soil	05/22/2016 10:55	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**27,000**	1100	2,000	05/25/2016 12:59

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	101		70-130	05/25/2016 12:59
Benzene-d6	0	S	70-130	05/25/2016 12:59

Analyst(s): MW Analytical Comments: a9,c1

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Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C6-3	1605954-008B	Soil	05/22/2016 11:00	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.70	1	05/24/2016 01:56

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/24/2016 01:56
Benzene-D6	102	70-130	05/24/2016 01:56

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C6-8	1605954-009B	Soil	05/22/2016 11:05	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.56	1	05/24/2016 01:18

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/24/2016 01:18
Benzene-D6	88	70-130	05/24/2016 01:18

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C6-23.5	1605954-010B	Soil	05/22/2016 11:10	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**3100**	100	200	05/24/2016 21:40

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	101		70-130	05/24/2016 21:40
Benzene-d6	0	S	70-130	05/24/2016 21:40

Analyst(s): MW Analytical Comments: a9,c1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C7-12	1605954-013B	Soil	05/22/2016 13:35	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.40	1	05/24/2016 22:18

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	05/24/2016 22:18
Benzene-d6	96	70-130	05/24/2016 22:18

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C7-20	1605954-014B	Soil	05/22/2016 13:40	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**0.57**	0.43	1	05/24/2016 22:55

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/24/2016 22:55
Benzene-d6	85	70-130	05/24/2016 22:55

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C9-3	1605954-016B	Soil	05/22/2016 12:00	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.50	1	05/24/2016 17:46

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	97		70-130	05/24/2016 17:46
Benzene-d6	153	S	70-130	05/24/2016 17:46

Analyst(s): MW Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C9-8	1605954-017B	Soil	05/22/2016 12:05	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.48	1	05/25/2016 02:43
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	97	70-130		05/25/2016 02:43
Benzene-d6	102	70-130		05/25/2016 02:43

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C9-21	1605954-018B	Soil	05/22/2016 12:10	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**73**	11	20	05/24/2016 23:33
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	101	70-130		05/24/2016 23:33
Benzene-d6	90	70-130		05/24/2016 23:33

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-3	1605954-022B	Soil	05/22/2016 09:00	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.55	1	05/25/2016 03:21
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	97	70-130		05/25/2016 03:21
Benzene-d6	105	70-130		05/25/2016 03:21

Analyst(s): MW Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-8	1605954-023B	Soil	05/22/2016 09:10	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.57	1	05/25/2016 03:59
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	96	70-130		05/25/2016 03:59
Benzene-d6	106	70-130		05/25/2016 03:59

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-20	1605954-026B	Soil	05/22/2016 09:25	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**610**	150	200	05/25/2016 00:11
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	102	70-130		05/25/2016 00:11
Benzene-d6	95	70-130		05/25/2016 00:11

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-22	1605954-027B	Soil	05/22/2016 09:30	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**2.0**	0.76	1	05/25/2016 00:49
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	96	70-130		05/25/2016 00:49
Benzene-d6	100	70-130		05/25/2016 00:49

Analyst(s): MW Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C2-3	1605954-028B	Soil	05/22/2016 10:00	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**5800**	250	400	05/24/2016 20:25

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	05/24/2016 20:25
Benzene-d6	104	70-130	05/24/2016 20:25

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C2-8	1605954-029B	Soil	05/22/2016 10:05	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**1000**	26	50	05/25/2016 01:27

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	05/25/2016 01:27
Benzene-d6	101	70-130	05/25/2016 01:27

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C2-21	1605954-032B	Soil	05/22/2016 10:20	GC28	121349

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**24**	1.4	2	05/25/2016 12:22

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	05/25/2016 12:22
Benzene-D6	90	70-130	05/25/2016 12:22

Analyst(s): MW Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5030B
Date Prepared:	6/1/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	µg/L

TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-GW	1605954-011A	Water	05/22/2016 13:00	GC18	121699

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**130,000**	10,000	200	06/01/2016 15:53

Surrogates	REC (%)	Limits	
Dibromofluoromethane	89	70-130	06/01/2016 15:53

Analyst(s): MW Analytical Comments: b1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5030B
Date Prepared:	6/1/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	µg/L

Methanol by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-GW	1605954-011A	Water	05/22/2016 13:00	GC28	121699

Analytes	Result	RL	DF	Date Analyzed
Methanol	ND	100,000	200	06/01/2016 16:19

Surrogates	REC (%)	Limits	
Dibromofluoromethane	104	70-130	06/01/2016 16:19

Analyst(s): MW Analytical Comments: a28,b1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-3	1605954-001B	Soil	05/22/2016 12:30	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.012	1	05/24/2016 12:41
Ethylbenzene	ND	0.012	1	05/24/2016 12:41
Methyl-t-butyl ether (MTBE)	ND	0.012	1	05/24/2016 12:41
Naphthalene	ND	0.012	1	05/24/2016 12:41
Toluene	ND	0.012	1	05/24/2016 12:41
Xylenes, Total	ND	0.012	1	05/24/2016 12:41

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/24/2016 12:41
Toluene-d8	109	70-130	05/24/2016 12:41
4-BFB	96	70-130	05/24/2016 12:41
Benzene-d6	103	60-140	05/24/2016 12:41
Ethylbenzene-d10	117	60-140	05/24/2016 12:41
1,2-DCB-d4	89	60-140	05/24/2016 12:41

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-8	1605954-002B	Soil	05/22/2016 12:35	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0079	1	05/24/2016 21:02
Ethylbenzene	ND	0.0079	1	05/24/2016 21:02
Methyl-t-butyl ether (MTBE)	ND	0.0079	1	05/24/2016 21:02
Naphthalene	ND	0.0079	1	05/24/2016 21:02
Toluene	ND	0.0079	1	05/24/2016 21:02
Xylenes, Total	ND	0.0079	1	05/24/2016 21:02

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	05/24/2016 21:02
Toluene-d8	109	70-130	05/24/2016 21:02
4-BFB	98	70-130	05/24/2016 21:02
Benzene-d6	92	60-140	05/24/2016 21:02
Ethylbenzene-d10	107	60-140	05/24/2016 21:02
1,2-DCB-d4	84	60-140	05/24/2016 21:02

Analyst(s): MW Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-25	1605954-004B	Soil	05/22/2016 12:45	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.54	50	05/24/2016 15:14
Ethylbenzene	**2.9**	0.54	50	05/24/2016 15:14
Methyl-t-butyl ether (MTBE)	ND	0.54	50	05/24/2016 15:14
Naphthalene	**4.2**	0.54	50	05/24/2016 15:14
Toluene	**1.6**	0.54	50	05/24/2016 15:14
Xylenes, Total	**15**	0.54	50	05/24/2016 15:14

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/24/2016 15:14
Toluene-d8	102	70-130	05/24/2016 15:14
4-BFB	102	70-130	05/24/2016 15:14
Benzene-d6	102	60-140	05/24/2016 15:14
Ethylbenzene-d10	91	60-140	05/24/2016 15:14
1,2-DCB-d4	116	60-140	05/24/2016 15:14

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C5-3	1605954-005B	Soil	05/22/2016 10:45	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.013	1	05/24/2016 15:52
Ethylbenzene	ND	0.013	1	05/24/2016 15:52
Methyl-t-butyl ether (MTBE)	ND	0.013	1	05/24/2016 15:52
Naphthalene	ND	0.013	1	05/24/2016 15:52
Toluene	ND	0.013	1	05/24/2016 15:52
Xylenes, Total	ND	0.013	1	05/24/2016 15:52

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	05/24/2016 15:52
Toluene-d8	110	70-130	05/24/2016 15:52
4-BFB	100	70-130	05/24/2016 15:52
Benzene-d6	96	60-140	05/24/2016 15:52
Ethylbenzene-d10	111	60-140	05/24/2016 15:52
1,2-DCB-d4	86	60-140	05/24/2016 15:52

Analyst(s): MW Analytical Comments: a9

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NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C5-8	1605954-006B	Soil	05/22/2016 10:50	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0092	1	05/24/2016 16:30
Ethylbenzene	ND	0.0092	1	05/24/2016 16:30
Methyl-t-butyl ether (MTBE)	ND	0.0092	1	05/24/2016 16:30
Naphthalene	ND	0.0092	1	05/24/2016 16:30
Toluene	ND	0.0092	1	05/24/2016 16:30
Xylenes, Total	ND	0.0092	1	05/24/2016 16:30

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/24/2016 16:30
Toluene-d8	110	70-130	05/24/2016 16:30
4-BFB	100	70-130	05/24/2016 16:30
Benzene-d6	97	60-140	05/24/2016 16:30
Ethylbenzene-d10	114	60-140	05/24/2016 16:30
1,2-DCB-d4	87	60-140	05/24/2016 16:30

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C5-21	1605954-007B	Soil	05/22/2016 10:55	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	**36**	23	2,000	05/25/2016 12:59
Ethylbenzene	**270**	23	2,000	05/25/2016 12:59
Methyl-t-butyl ether (MTBE)	ND	23	2,000	05/25/2016 12:59
Naphthalene	**160**	23	2,000	05/25/2016 12:59
Toluene	**260**	23	2,000	05/25/2016 12:59
Xylenes, Total	**1400**	23	2,000	05/25/2016 12:59

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	98		70-130	05/25/2016 12:59
Toluene-d8	100		70-130	05/25/2016 12:59
4-BFB	102		70-130	05/25/2016 12:59
Benzene-d6	1190	S	60-140	05/25/2016 12:59
Ethylbenzene-d10	810	S	60-140	05/25/2016 12:59
1,2-DCB-d4	1469	S	60-140	05/25/2016 12:59

Analyst(s): MW Analytical Comments: c1,a9

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NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C6-3	1605954-008B	Soil	05/22/2016 11:00	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.014	1	05/24/2016 01:56
Ethylbenzene	ND	0.014	1	05/24/2016 01:56
Methyl-t-butyl ether (MTBE)	ND	0.014	1	05/24/2016 01:56
Naphthalene	ND	0.014	1	05/24/2016 01:56
Toluene	ND	0.014	1	05/24/2016 01:56
Xylenes, Total	**0.016**	0.014	1	05/24/2016 01:56

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	05/24/2016 01:56
Toluene-d8	111	70-130	05/24/2016 01:56
4-BFB	96	70-130	05/24/2016 01:56
Benzene-d6	96	60-140	05/24/2016 01:56
Ethylbenzene-d10	111	60-140	05/24/2016 01:56
1,2-DCB-d4	83	60-140	05/24/2016 01:56

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C6-8	1605954-009B	Soil	05/22/2016 11:05	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.011	1	05/24/2016 01:18
Ethylbenzene	ND	0.011	1	05/24/2016 01:18
Methyl-t-butyl ether (MTBE)	ND	0.011	1	05/24/2016 01:18
Naphthalene	ND	0.011	1	05/24/2016 01:18
Toluene	ND	0.011	1	05/24/2016 01:18
Xylenes, Total	ND	0.011	1	05/24/2016 01:18

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	05/24/2016 01:18
Toluene-d8	110	70-130	05/24/2016 01:18
4-BFB	97	70-130	05/24/2016 01:18
Benzene-d6	84	60-140	05/24/2016 01:18
Ethylbenzene-d10	95	60-140	05/24/2016 01:18
1,2-DCB-d4	76	60-140	05/24/2016 01:18

Analyst(s): MW Analytical Comments: a9

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McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C6-23.5	1605954-010B	Soil	05/22/2016 11:10	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	**3.5**	2.1	200	05/24/2016 21:40
Ethylbenzene	**18**	2.1	200	05/24/2016 21:40
Methyl-t-butyl ether (MTBE)	ND	2.1	200	05/24/2016 21:40
Naphthalene	**17**	2.1	200	05/24/2016 21:40
Toluene	**47**	2.1	200	05/24/2016 21:40
Xylenes, Total	**180**	2.1	200	05/24/2016 21:40

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/24/2016 21:40
Toluene-d8	101	70-130	05/24/2016 21:40
4-BFB	99	70-130	05/24/2016 21:40
Benzene-d6	106	60-140	05/24/2016 21:40
Ethylbenzene-d10	68	60-140	05/24/2016 21:40
1,2-DCB-d4	135	60-140	05/24/2016 21:40

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C7-12	1605954-013B	Soil	05/22/2016 13:35	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0081	1	05/24/2016 22:18
Ethylbenzene	ND	0.0081	1	05/24/2016 22:18
Methyl-t-butyl ether (MTBE)	ND	0.0081	1	05/24/2016 22:18
Naphthalene	ND	0.0081	1	05/24/2016 22:18
Toluene	ND	0.0081	1	05/24/2016 22:18
Xylenes, Total	ND	0.0081	1	05/24/2016 22:18

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/24/2016 22:18
Toluene-d8	109	70-130	05/24/2016 22:18
4-BFB	99	70-130	05/24/2016 22:18
Benzene-d6	91	60-140	05/24/2016 22:18
Ethylbenzene-d10	105	60-140	05/24/2016 22:18
1,2-DCB-d4	84	60-140	05/24/2016 22:18

Analyst(s): MW Analytical Comments: a9

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McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C7-20	1605954-014B	Soil	05/22/2016 13:40	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	**0.014**	0.0085	1	05/24/2016 22:55
Ethylbenzene	ND	0.0085	1	05/24/2016 22:55
Methyl-t-butyl ether (MTBE)	ND	0.0085	1	05/24/2016 22:55
Naphthalene	ND	0.0085	1	05/24/2016 22:55
Toluene	ND	0.0085	1	05/24/2016 22:55
Xylenes, Total	**0.023**	0.0085	1	05/24/2016 22:55

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	05/24/2016 22:55
Toluene-d8	110	70-130	05/24/2016 22:55
4-BFB	99	70-130	05/24/2016 22:55
Benzene-d6	80	60-140	05/24/2016 22:55
Ethylbenzene-d10	93	60-140	05/24/2016 22:55
1,2-DCB-d4	80	60-140	05/24/2016 22:55

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C9-3	1605954-016B	Soil	05/22/2016 12:00	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.010	1	05/25/2016 11:40
Ethylbenzene	ND	0.010	1	05/25/2016 11:40
Methyl-t-butyl ether (MTBE)	ND	0.010	1	05/25/2016 11:40
Naphthalene	ND	0.010	1	05/25/2016 11:40
Toluene	ND	0.010	1	05/25/2016 11:40
Xylenes, Total	ND	0.010	1	05/25/2016 11:40

Surrogates	REC (%)	Limits	
Dibromofluoromethane	96	70-130	05/25/2016 11:40
Toluene-d8	108	70-130	05/25/2016 11:40
4-BFB	94	70-130	05/25/2016 11:40
Benzene-d6	91	60-140	05/25/2016 11:40
Ethylbenzene-d10	103	60-140	05/25/2016 11:40
1,2-DCB-d4	83	60-140	05/25/2016 11:40

Analyst(s): MW Analytical Comments: a9

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McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C9-8	1605954-017B	Soil	05/22/2016 12:05	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0096	1	05/25/2016 02:43
Ethylbenzene	ND	0.0096	1	05/25/2016 02:43
Methyl-t-butyl ether (MTBE)	ND	0.0096	1	05/25/2016 02:43
Naphthalene	ND	0.0096	1	05/25/2016 02:43
Toluene	ND	0.0096	1	05/25/2016 02:43
Xylenes, Total	ND	0.0096	1	05/25/2016 02:43

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/25/2016 02:43
Toluene-d8	112	70-130	05/25/2016 02:43
4-BFB	99	70-130	05/25/2016 02:43
Benzene-d6	95	60-140	05/25/2016 02:43
Ethylbenzene-d10	110	60-140	05/25/2016 02:43
1,2-DCB-d4	86	60-140	05/25/2016 02:43

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C9-21	1605954-018B	Soil	05/22/2016 12:10	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.22	20	05/24/2016 23:33
Ethylbenzene	**0.43**	0.22	20	05/24/2016 23:33
Methyl-t-butyl ether (MTBE)	ND	0.22	20	05/24/2016 23:33
Naphthalene	**0.81**	0.22	20	05/24/2016 23:33
Toluene	**0.33**	0.22	20	05/24/2016 23:33
Xylenes, Total	**2.1**	0.22	20	05/24/2016 23:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/24/2016 23:33
Toluene-d8	101	70-130	05/24/2016 23:33
4-BFB	101	70-130	05/24/2016 23:33
Benzene-d6	94	60-140	05/24/2016 23:33
Ethylbenzene-d10	101	60-140	05/24/2016 23:33
1,2-DCB-d4	105	60-140	05/24/2016 23:33

Analyst(s): MW Analytical Comments: a9

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McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-3	1605954-022B	Soil	05/22/2016 09:00	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.011	1	05/25/2016 03:21
Ethylbenzene	ND	0.011	1	05/25/2016 03:21
Methyl-t-butyl ether (MTBE)	ND	0.011	1	05/25/2016 03:21
Naphthalene	ND	0.011	1	05/25/2016 03:21
Toluene	ND	0.011	1	05/25/2016 03:21
Xylenes, Total	ND	0.011	1	05/25/2016 03:21

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/25/2016 03:21
Toluene-d8	111	70-130	05/25/2016 03:21
4-BFB	96	70-130	05/25/2016 03:21
Benzene-d6	98	60-140	05/25/2016 03:21
Ethylbenzene-d10	113	60-140	05/25/2016 03:21
1,2-DCB-d4	87	60-140	05/25/2016 03:21

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-8	1605954-023B	Soil	05/22/2016 09:10	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.011	1	05/25/2016 03:59
Ethylbenzene	ND	0.011	1	05/25/2016 03:59
Methyl-t-butyl ether (MTBE)	ND	0.011	1	05/25/2016 03:59
Naphthalene	ND	0.011	1	05/25/2016 03:59
Toluene	ND	0.011	1	05/25/2016 03:59
Xylenes, Total	ND	0.011	1	05/25/2016 03:59

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	05/25/2016 03:59
Toluene-d8	111	70-130	05/25/2016 03:59
4-BFB	98	70-130	05/25/2016 03:59
Benzene-d6	98	60-140	05/25/2016 03:59
Ethylbenzene-d10	115	60-140	05/25/2016 03:59
1,2-DCB-d4	88	60-140	05/25/2016 03:59

Analyst(s): MW Analytical Comments: a9

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McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-20	1605954-026B	Soil	05/22/2016 09:25	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	3.1	200	05/25/2016 00:11
Ethylbenzene	ND	3.1	200	05/25/2016 00:11
Methyl-t-butyl ether (MTBE)	ND	3.1	200	05/25/2016 00:11
Naphthalene	ND	3.1	200	05/25/2016 00:11
Toluene	ND	3.1	200	05/25/2016 00:11
Xylenes, Total	**3.8**	3.1	200	05/25/2016 00:11

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/25/2016 00:11
Toluene-d8	101	70-130	05/25/2016 00:11
4-BFB	101	70-130	05/25/2016 00:11
Benzene-d6	98	60-140	05/25/2016 00:11
Ethylbenzene-d10	109	60-140	05/25/2016 00:11
1,2-DCB-d4	117	60-140	05/25/2016 00:11

Analyst(s): MW Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-22	1605954-027B	Soil	05/22/2016 09:30	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.015	1	05/25/2016 00:49
Ethylbenzene	ND	0.015	1	05/25/2016 00:49
Methyl-t-butyl ether (MTBE)	ND	0.015	1	05/25/2016 00:49
Naphthalene	ND	0.015	1	05/25/2016 00:49
Toluene	ND	0.015	1	05/25/2016 00:49
Xylenes, Total	ND	0.015	1	05/25/2016 00:49

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	05/25/2016 00:49
Toluene-d8	110	70-130	05/25/2016 00:49
4-BFB	103	70-130	05/25/2016 00:49
Benzene-d6	94	60-140	05/25/2016 00:49
Ethylbenzene-d10	108	60-140	05/25/2016 00:49
1,2-DCB-d4	84	60-140	05/25/2016 00:49

Analyst(s): MW Analytical Comments: a9

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McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C2-3	1605954-028B	Soil	05/22/2016 10:00	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	5.0	400	05/24/2016 20:25
Ethylbenzene	**17**	5.0	400	05/24/2016 20:25
Methyl-t-butyl ether (MTBE)	ND	5.0	400	05/24/2016 20:25
Naphthalene	**40**	5.0	400	05/24/2016 20:25
Toluene	**9.5**	5.0	400	05/24/2016 20:25
Xylenes, Total	**190**	5.0	400	05/24/2016 20:25

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	98		70-130	05/24/2016 20:25
Toluene-d8	102		70-130	05/24/2016 20:25
4-BFB	109		70-130	05/24/2016 20:25
Benzene-d6	106		60-140	05/24/2016 20:25
Ethylbenzene-d10	69		60-140	05/24/2016 20:25
1,2-DCB-d4	143	S	60-140	05/24/2016 20:25

Analyst(s): MW Analytical Comments: a9,c1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C2-8	1605954-029B	Soil	05/22/2016 10:05	GC28	121348

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.52	50	05/25/2016 01:27
Ethylbenzene	**6.0**	0.52	50	05/25/2016 01:27
Methyl-t-butyl ether (MTBE)	ND	0.52	50	05/25/2016 01:27
Naphthalene	**4.5**	0.52	50	05/25/2016 01:27
Toluene	**3.7**	0.52	50	05/25/2016 01:27
Xylenes, Total	**38**	0.52	50	05/25/2016 01:27

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	05/25/2016 01:27
Toluene-d8	103	70-130	05/25/2016 01:27
4-BFB	114	70-130	05/25/2016 01:27
Benzene-d6	103	60-140	05/25/2016 01:27
Ethylbenzene-d10	94	60-140	05/25/2016 01:27
1,2-DCB-d4	117	60-140	05/25/2016 01:27

Analyst(s): MW Analytical Comments: a9

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW5035
Date Prepared:	5/23/16	**Analytical Method:**	SW8260B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C2-21	1605954-032B	Soil	05/22/2016 10:20	GC28	121349

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.014	1	05/25/2016 02:05
Ethylbenzene	**0.047**	0.014	1	05/25/2016 02:05
Methyl-t-butyl ether (MTBE)	ND	0.014	1	05/25/2016 02:05
Naphthalene	**0.083**	0.014	1	05/25/2016 02:05
Toluene	ND	0.014	1	05/25/2016 02:05
Xylenes, Total	**0.21**	0.014	1	05/25/2016 02:05

Surrogates	REC (%)	Limits	
Dibromofluoromethane	94	70-130	05/25/2016 02:05
Toluene-d8	112	70-130	05/25/2016 02:05
4-BFB	104	70-130	05/25/2016 02:05
Benzene-d6	97	60-140	05/25/2016 02:05
Ethylbenzene-d10	114	60-140	05/25/2016 02:05
1,2-DCB-d4	87	60-140	05/25/2016 02:05

Analyst(s): MW Analytical Comments: a9

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"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3550B
Date Prepared:	5/23/16	**Analytical Method:**	SW8270C-SIM
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-3	1605954-001A	Soil	05/22/2016 12:30	GC35	121335

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	05/25/2016 10:40
Acenaphthylene	ND	0.010	1	05/25/2016 10:40
Anthracene	ND	0.010	1	05/25/2016 10:40
Benzo (a) anthracene	ND	0.010	1	05/25/2016 10:40
Benzo (a) pyrene	ND	0.010	1	05/25/2016 10:40
Benzo (b) fluoranthene	ND	0.010	1	05/25/2016 10:40
Benzo (g,h,i) perylene	ND	0.010	1	05/25/2016 10:40
Benzo (k) fluoranthene	ND	0.010	1	05/25/2016 10:40
Chrysene	ND	0.010	1	05/25/2016 10:40
Dibenzo (a,h) anthracene	ND	0.010	1	05/25/2016 10:40
Fluoranthene	ND	0.010	1	05/25/2016 10:40
Fluorene	ND	0.010	1	05/25/2016 10:40
Indeno (1,2,3-cd) pyrene	ND	0.010	1	05/25/2016 10:40
1-Methylnaphthalene	ND	0.010	1	05/25/2016 10:40
2-Methylnaphthalene	ND	0.010	1	05/25/2016 10:40
Naphthalene	ND	0.010	1	05/25/2016 10:40
Phenanthrene	ND	0.010	1	05/25/2016 10:40
Pyrene	ND	0.010	1	05/25/2016 10:40

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	80	30-130	05/25/2016 10:40
2-Fluorobiphenyl	85	30-130	05/25/2016 10:40

Analyst(s): REB

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3550B
Date Prepared:	5/23/16	**Analytical Method:**	SW8270C-SIM
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C5-3	1605954-005A	Soil	05/22/2016 10:45	GC35	121335

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.020	2	05/25/2016 11:05
Acenaphthylene	ND	0.020	2	05/25/2016 11:05
Anthracene	ND	0.020	2	05/25/2016 11:05
Benzo (a) anthracene	ND	0.020	2	05/25/2016 11:05
Benzo (a) pyrene	ND	0.020	2	05/25/2016 11:05
Benzo (b) fluoranthene	ND	0.020	2	05/25/2016 11:05
Benzo (g,h,i) perylene	ND	0.020	2	05/25/2016 11:05
Benzo (k) fluoranthene	ND	0.020	2	05/25/2016 11:05
Chrysene	ND	0.020	2	05/25/2016 11:05
Dibenzo (a,h) anthracene	ND	0.020	2	05/25/2016 11:05
Fluoranthene	ND	0.020	2	05/25/2016 11:05
Fluorene	ND	0.020	2	05/25/2016 11:05
Indeno (1,2,3-cd) pyrene	ND	0.020	2	05/25/2016 11:05
1-Methylnaphthalene	**0.44**	0.020	2	05/25/2016 11:05
2-Methylnaphthalene	**0.75**	0.020	2	05/25/2016 11:05
Naphthalene	**0.73**	0.020	2	05/25/2016 11:05
Phenanthrene	ND	0.020	2	05/25/2016 11:05
Pyrene	ND	0.020	2	05/25/2016 11:05

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	96	30-130	05/25/2016 11:05
2-Fluorobiphenyl	87	30-130	05/25/2016 11:05

Analyst(s): REB

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3550B
Date Prepared:	5/23/16	**Analytical Method:**	SW8270C-SIM
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C6-3	1605954-008A	Soil	05/22/2016 11:00	GC35	121335

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.050	5	05/25/2016 11:30
Acenaphthylene	ND	0.050	5	05/25/2016 11:30
Anthracene	ND	0.050	5	05/25/2016 11:30
Benzo (a) anthracene	ND	0.050	5	05/25/2016 11:30
Benzo (a) pyrene	ND	0.050	5	05/25/2016 11:30
Benzo (b) fluoranthene	ND	0.050	5	05/25/2016 11:30
Benzo (g,h,i) perylene	ND	0.050	5	05/25/2016 11:30
Benzo (k) fluoranthene	ND	0.050	5	05/25/2016 11:30
Chrysene	ND	0.050	5	05/25/2016 11:30
Dibenzo (a,h) anthracene	ND	0.050	5	05/25/2016 11:30
Fluoranthene	ND	0.050	5	05/25/2016 11:30
Fluorene	ND	0.050	5	05/25/2016 11:30
Indeno (1,2,3-cd) pyrene	ND	0.050	5	05/25/2016 11:30
1-Methylnaphthalene	ND	0.050	5	05/25/2016 11:30
2-Methylnaphthalene	ND	0.050	5	05/25/2016 11:30
Naphthalene	ND	0.050	5	05/25/2016 11:30
Phenanthrene	ND	0.050	5	05/25/2016 11:30
Pyrene	ND	0.050	5	05/25/2016 11:30

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	84	30-130	05/25/2016 11:30
2-Fluorobiphenyl	85	30-130	05/25/2016 11:30

Analyst(s): REB Analytical Comments: a3

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3550B
Date Prepared:	5/23/16	**Analytical Method:**	SW8270C-SIM
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C7-12	1605954-013A	Soil	05/22/2016 13:35	GC35	121335

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	05/25/2016 11:55
Acenaphthylene	ND	0.010	1	05/25/2016 11:55
Anthracene	ND	0.010	1	05/25/2016 11:55
Benzo (a) anthracene	ND	0.010	1	05/25/2016 11:55
Benzo (a) pyrene	ND	0.010	1	05/25/2016 11:55
Benzo (b) fluoranthene	ND	0.010	1	05/25/2016 11:55
Benzo (g,h,i) perylene	ND	0.010	1	05/25/2016 11:55
Benzo (k) fluoranthene	ND	0.010	1	05/25/2016 11:55
Chrysene	ND	0.010	1	05/25/2016 11:55
Dibenzo (a,h) anthracene	ND	0.010	1	05/25/2016 11:55
Fluoranthene	ND	0.010	1	05/25/2016 11:55
Fluorene	ND	0.010	1	05/25/2016 11:55
Indeno (1,2,3-cd) pyrene	ND	0.010	1	05/25/2016 11:55
1-Methylnaphthalene	ND	0.010	1	05/25/2016 11:55
2-Methylnaphthalene	ND	0.010	1	05/25/2016 11:55
Naphthalene	ND	0.010	1	05/25/2016 11:55
Phenanthrene	ND	0.010	1	05/25/2016 11:55
Pyrene	ND	0.010	1	05/25/2016 11:55

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	83	30-130	05/25/2016 11:55
2-Fluorobiphenyl	84	30-130	05/25/2016 11:55

Analyst(s): REB

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McCampbell Analytical, Inc.
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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3550B
Date Prepared:	5/23/16	**Analytical Method:**	SW8270C-SIM
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C9-3	1605954-016A	Soil	05/22/2016 12:00	GC35	121335

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	05/25/2016 12:20
Acenaphthylene	ND	0.010	1	05/25/2016 12:20
Anthracene	ND	0.010	1	05/25/2016 12:20
Benzo (a) anthracene	ND	0.010	1	05/25/2016 12:20
Benzo (a) pyrene	ND	0.010	1	05/25/2016 12:20
Benzo (b) fluoranthene	ND	0.010	1	05/25/2016 12:20
Benzo (g,h,i) perylene	ND	0.010	1	05/25/2016 12:20
Benzo (k) fluoranthene	ND	0.010	1	05/25/2016 12:20
Chrysene	ND	0.010	1	05/25/2016 12:20
Dibenzo (a,h) anthracene	ND	0.010	1	05/25/2016 12:20
Fluoranthene	ND	0.010	1	05/25/2016 12:20
Fluorene	ND	0.010	1	05/25/2016 12:20
Indeno (1,2,3-cd) pyrene	ND	0.010	1	05/25/2016 12:20
1-Methylnaphthalene	ND	0.010	1	05/25/2016 12:20
2-Methylnaphthalene	ND	0.010	1	05/25/2016 12:20
Naphthalene	ND	0.010	1	05/25/2016 12:20
Phenanthrene	ND	0.010	1	05/25/2016 12:20
Pyrene	ND	0.010	1	05/25/2016 12:20

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	80	30-130	05/25/2016 12:20
2-Fluorobiphenyl	81	30-130	05/25/2016 12:20

Analyst(s): REB

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McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3550B
Date Prepared:	5/23/16	**Analytical Method:**	SW8270C-SIM
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-3	1605954-022A	Soil	05/22/2016 09:00	GC35	121335

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	05/25/2016 12:46
Acenaphthylene	ND	0.010	1	05/25/2016 12:46
Anthracene	ND	0.010	1	05/25/2016 12:46
Benzo (a) anthracene	ND	0.010	1	05/25/2016 12:46
Benzo (a) pyrene	ND	0.010	1	05/25/2016 12:46
Benzo (b) fluoranthene	ND	0.010	1	05/25/2016 12:46
Benzo (g,h,i) perylene	ND	0.010	1	05/25/2016 12:46
Benzo (k) fluoranthene	ND	0.010	1	05/25/2016 12:46
Chrysene	ND	0.010	1	05/25/2016 12:46
Dibenzo (a,h) anthracene	ND	0.010	1	05/25/2016 12:46
Fluoranthene	ND	0.010	1	05/25/2016 12:46
Fluorene	ND	0.010	1	05/25/2016 12:46
Indeno (1,2,3-cd) pyrene	ND	0.010	1	05/25/2016 12:46
1-Methylnaphthalene	ND	0.010	1	05/25/2016 12:46
2-Methylnaphthalene	ND	0.010	1	05/25/2016 12:46
Naphthalene	ND	0.010	1	05/25/2016 12:46
Phenanthrene	ND	0.010	1	05/25/2016 12:46
Pyrene	ND	0.010	1	05/25/2016 12:46

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	83	30-130	05/25/2016 12:46
2-Fluorobiphenyl	84	30-130	05/25/2016 12:46

Analyst(s): REB

(Cont.)

NELAP 4033ORELAP

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3550B
Date Prepared:	5/23/16	**Analytical Method:**	SW8270C-SIM
Project:	1700; 1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C2-3	1605954-028A	Soil	05/22/2016 10:00	GC35	121335

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.50	50	05/25/2016 14:11
Acenaphthylene	ND	0.50	50	05/25/2016 14:11
Anthracene	ND	0.50	50	05/25/2016 14:11
Benzo (a) anthracene	ND	0.50	50	05/25/2016 14:11
Benzo (a) pyrene	ND	0.50	50	05/25/2016 14:11
Benzo (b) fluoranthene	ND	0.50	50	05/25/2016 14:11
Benzo (g,h,i) perylene	ND	0.50	50	05/25/2016 14:11
Benzo (k) fluoranthene	ND	0.50	50	05/25/2016 14:11
Chrysene	ND	0.50	50	05/25/2016 14:11
Dibenzo (a,h) anthracene	ND	0.50	50	05/25/2016 14:11
Fluoranthene	ND	0.50	50	05/25/2016 14:11
Fluorene	ND	0.50	50	05/25/2016 14:11
Indeno (1,2,3-cd) pyrene	ND	0.50	50	05/25/2016 14:11
1-Methylnaphthalene	**6.2**	0.50	50	05/25/2016 14:11
2-Methylnaphthalene	**12**	0.50	50	05/25/2016 14:11
Naphthalene	**15**	0.50	50	05/25/2016 14:11
Phenanthrene	ND	0.50	50	05/25/2016 14:11
Pyrene	ND	0.50	50	05/25/2016 14:11

Surrogates	REC (%)	Qualifiers	Limits	
1-Fluoronaphthalene	481	S	30-130	05/25/2016 14:11
2-Fluorobiphenyl	75		30-130	05/25/2016 14:11

Analyst(s): REB Analytical Comments: c4

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3050B
Date Prepared:	5/23/16	**Analytical Method:**	SW6020
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-3	1605954-001A	Soil	05/22/2016 12:30	ICP-MS3	121320

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 01:21
Chromium	**47**	0.50	1	05/25/2016 01:21
Lead	**2.7**	0.50	1	05/25/2016 01:21
Nickel	**41**	0.50	1	05/25/2016 01:21
Zinc	**24**	5.0	1	05/25/2016 01:21

Surrogates	REC (%)	Limits	
Terbium	104	70-130	05/25/2016 01:21

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-8	1605954-002A	Soil	05/22/2016 12:35	ICP-MS3	121320

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/26/2016 22:56
Chromium	**61**	0.50	1	05/26/2016 22:56
Lead	**4.4**	0.50	1	05/26/2016 22:56
Nickel	**46**	0.50	1	05/26/2016 22:56
Zinc	**37**	5.0	1	05/26/2016 22:56

Surrogates	REC (%)	Limits	
Terbium	104	70-130	05/26/2016 22:56

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-25	1605954-004A	Soil	05/22/2016 12:45	ICP-MS3	121320

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 01:47
Chromium	**39**	0.50	1	05/25/2016 01:47
Lead	**2.6**	0.50	1	05/25/2016 01:47
Nickel	**39**	0.50	1	05/25/2016 01:47
Zinc	**21**	5.0	1	05/25/2016 01:47

Surrogates	REC (%)	Limits	
Terbium	103	70-130	05/25/2016 01:47

Analyst(s): DVH

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3050B
Date Prepared:	5/23/16	**Analytical Method:**	SW6020
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C5-3	1605954-005A	Soil	05/22/2016 10:45	ICP-MS3	121320

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 01:53
Chromium	**57**	0.50	1	05/25/2016 01:53
Lead	**34**	0.50	1	05/25/2016 01:53
Nickel	**44**	0.50	1	05/25/2016 01:53
Zinc	**64**	5.0	1	05/25/2016 01:53

Surrogates	REC (%)	Limits	
Terbium	104	70-130	05/25/2016 01:53

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C5-8	1605954-006A	Soil	05/22/2016 10:50	ICP-MS3	121320

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 01:59
Chromium	**59**	0.50	1	05/25/2016 01:59
Lead	**6.8**	0.50	1	05/25/2016 01:59
Nickel	**46**	0.50	1	05/25/2016 01:59
Zinc	**31**	5.0	1	05/25/2016 01:59

Surrogates	REC (%)	Limits	
Terbium	103	70-130	05/25/2016 01:59

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C5-21	1605954-007A	Soil	05/22/2016 10:55	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/26/2016 23:02
Chromium	**42**	0.50	1	05/26/2016 23:02
Lead	**2.0**	0.50	1	05/26/2016 23:02
Nickel	**35**	0.50	1	05/26/2016 23:02
Zinc	**18**	5.0	1	05/26/2016 23:02

Surrogates	REC (%)	Limits	
Terbium	106	70-130	05/26/2016 23:02

Analyst(s): DVH

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3050B
Date Prepared:	5/23/16	**Analytical Method:**	SW6020
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C6-3	1605954-008A	Soil	05/22/2016 11:00	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/24/2016 19:03
Chromium	**38**	0.50	1	05/24/2016 19:03
Lead	**56**	0.50	1	05/24/2016 19:03
Nickel	**27**	0.50	1	05/24/2016 19:03
Zinc	**67**	5.0	1	05/24/2016 19:03

Surrogates	REC (%)	Limits	
Terbium	103	70-130	05/24/2016 19:03

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C6-8	1605954-009A	Soil	05/22/2016 11:05	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 02:06
Chromium	**37**	0.50	1	05/25/2016 02:06
Lead	**2.8**	0.50	1	05/25/2016 02:06
Nickel	**28**	0.50	1	05/25/2016 02:06
Zinc	**28**	5.0	1	05/25/2016 02:06

Surrogates	REC (%)	Limits	
Terbium	103	70-130	05/25/2016 02:06

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C6-23.5	1605954-010A	Soil	05/22/2016 11:10	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 02:12
Chromium	**42**	0.50	1	05/25/2016 02:12
Lead	**10**	0.50	1	05/25/2016 02:12
Nickel	**38**	0.50	1	05/25/2016 02:12
Zinc	**28**	5.0	1	05/25/2016 02:12

Surrogates	REC (%)	Limits	
Terbium	104	70-130	05/25/2016 02:12

Analyst(s): DVH

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client: Applied Water Resources
Date Received: 5/23/16 12:00
Date Prepared: 5/23/16
Project: 1700; 1700 Jefferson

WorkOrder: 1605954
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C7-12	1605954-013A	Soil	05/22/2016 13:35	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 02:18
Chromium	**45**	0.50	1	05/25/2016 02:18
Lead	**2.6**	0.50	1	05/25/2016 02:18
Nickel	**40**	0.50	1	05/25/2016 02:18
Zinc	**23**	5.0	1	05/25/2016 02:18

Surrogates	REC (%)	Limits	
Terbium	104	70-130	05/25/2016 02:18

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C7-20	1605954-014A	Soil	05/22/2016 13:40	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/26/2016 23:09
Chromium	**42**	0.50	1	05/26/2016 23:09
Lead	**1.6**	0.50	1	05/26/2016 23:09
Nickel	**35**	0.50	1	05/26/2016 23:09
Zinc	**18**	5.0	1	05/26/2016 23:09

Surrogates	REC (%)	Limits	
Terbium	104	70-130	05/26/2016 23:09

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C9-3	1605954-016A	Soil	05/22/2016 12:00	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 02:25
Chromium	**78**	0.50	1	05/25/2016 02:25
Lead	**5.0**	0.50	1	05/25/2016 02:25
Nickel	**53**	0.50	1	05/25/2016 02:25
Zinc	**29**	5.0	1	05/25/2016 02:25

Surrogates	REC (%)	Limits	
Terbium	103	70-130	05/25/2016 02:25

Analyst(s): DVH

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3050B
Date Prepared:	5/23/16	**Analytical Method:**	SW6020
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C9-8	1605954-017A	Soil	05/22/2016 12:05	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 02:31
Chromium	**88**	0.50	1	05/25/2016 02:31
Lead	**5.2**	0.50	1	05/25/2016 02:31
Nickel	**47**	0.50	1	05/25/2016 02:31
Zinc	**43**	5.0	1	05/25/2016 02:31

Surrogates	REC (%)	Limits	
Terbium	104	70-130	05/25/2016 02:31

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C9-21	1605954-018A	Soil	05/22/2016 12:10	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 02:37
Chromium	**42**	0.50	1	05/25/2016 02:37
Lead	**5.1**	0.50	1	05/25/2016 02:37
Nickel	**39**	0.50	1	05/25/2016 02:37
Zinc	**20**	5.0	1	05/25/2016 02:37

Surrogates	REC (%)	Limits	
Terbium	102	70-130	05/25/2016 02:37

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-3	1605954-022A	Soil	05/22/2016 09:00	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 02:44
Chromium	**69**	0.50	1	05/25/2016 02:44
Lead	**4.0**	0.50	1	05/25/2016 02:44
Nickel	**47**	0.50	1	05/25/2016 02:44
Zinc	**28**	5.0	1	05/25/2016 02:44

Surrogates	REC (%)	Limits	
Terbium	109	70-130	05/25/2016 02:44

Analyst(s): DVH

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3050B
Date Prepared:	5/23/16	**Analytical Method:**	SW6020
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-8	1605954-023A	Soil	05/22/2016 09:10	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 03:09
Chromium	**52**	0.50	1	05/25/2016 03:09
Lead	**3.6**	0.50	1	05/25/2016 03:09
Nickel	**38**	0.50	1	05/25/2016 03:09
Zinc	**38**	5.0	1	05/25/2016 03:09

Surrogates	REC (%)	Limits	
Terbium	102	70-130	05/25/2016 03:09

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C1-20	1605954-026A	Soil	05/22/2016 09:25	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/25/2016 03:15
Chromium	**43**	0.50	1	05/25/2016 03:15
Lead	**3.8**	0.50	1	05/25/2016 03:15
Nickel	**40**	0.50	1	05/25/2016 03:15
Zinc	**21**	5.0	1	05/25/2016 03:15

Surrogates	REC (%)	Limits	
Terbium	103	70-130	05/25/2016 03:15

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C2-3	1605954-028A	Soil	05/22/2016 10:00	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/26/2016 23:15
Chromium	**38**	0.50	1	05/26/2016 23:15
Lead	**14**	0.50	1	05/26/2016 23:15
Nickel	**37**	0.50	1	05/26/2016 23:15
Zinc	**21**	5.0	1	05/26/2016 23:15

Surrogates	REC (%)	Limits	
Terbium	104	70-130	05/26/2016 23:15

Analyst(s): DVH

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3050B
Date Prepared:	5/23/16	**Analytical Method:**	SW6020
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C2-8	1605954-029A	Soil	05/22/2016 10:05	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/26/2016 23:21
Chromium	**56**	0.50	1	05/26/2016 23:21
Lead	**6.2**	0.50	1	05/26/2016 23:21
Nickel	**40**	0.50	1	05/26/2016 23:21
Zinc	**39**	5.0	1	05/26/2016 23:21

Surrogates	REC (%)	Limits	
Terbium	103	70-130	05/26/2016 23:21

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C2-21	1605954-032A	Soil	05/22/2016 10:20	ICP-MS3	121347

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/26/2016 23:27
Chromium	**42**	0.50	1	05/26/2016 23:27
Lead	**4.5**	0.50	1	05/26/2016 23:27
Nickel	**36**	0.50	1	05/26/2016 23:27
Zinc	**18**	5.0	1	05/26/2016 23:27

Surrogates	REC (%)	Limits	
Terbium	104	70-130	05/26/2016 23:27

Analyst(s): DVH

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Received:	5/23/16 12:00	**Extraction Method:**	SW3550B
Date Prepared:	5/23/16	**Analytical Method:**	SW8015B
Project:	1700; 1700 Jefferson	**Unit:**	mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-3	1605954-001A	Soil	05/22/2016 12:30	GC9b	121338

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	05/23/2016 22:57
TPH-Motor Oil (C18-C36)	ND	5.0	1	05/23/2016 22:57

Surrogates	REC (%)	Limits	
C9	94	70-130	05/23/2016 22:57

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-8	1605954-002A	Soil	05/22/2016 12:35	GC9a	121338

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	05/24/2016 01:32
TPH-Motor Oil (C18-C36)	ND	5.0	1	05/24/2016 01:32

Surrogates	REC (%)	Limits	
C9	97	70-130	05/24/2016 01:32

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C4-25	1605954-004A	Soil	05/22/2016 12:45	GC2B	121338

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	**12**	1.0	1	05/26/2016 19:03
TPH-Motor Oil (C18-C36)	**13**	5.0	1	05/26/2016 19:03

Surrogates	REC (%)	Limits	
C9	102	70-130	05/26/2016 19:03

Analyst(s): TD

Analytical Comments: e4 (e11?),e2

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	6/1/16	**BatchID:**	121699
Date Analyzed:	6/1/16	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS-121699

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
tert-Amyl methyl ether (TAME)	ND	11.2	0.50	10	-	112	54-140
Benzene	ND	10.7	0.50	10	-	107	47-158
t-Butyl alcohol (TBA)	ND	38.2	2.0	40	-	96	42-140
1,2-Dibromoethane (EDB)	ND	10.4	0.50	10	-	104	44-155
1,2-Dichloroethane (1,2-DCA)	ND	10.9	0.50	10	-	109	66-125
Diisopropyl ether (DIPE)	ND	10.6	0.50	10	-	106	57-136
Ethanol	ND	410	50	500	-	82	48-114
Ethylbenzene	ND	11.7	0.50	10	-	117	60-152
Ethyl tert-butyl ether (ETBE)	ND	10.8	0.50	10	-	108	55-137
Methyl-t-butyl ether (MTBE)	ND	10.7	0.50	10	-	107	53-139
Toluene	ND	10.8	0.50	10	-	108	52-137
Xylenes, Total	ND	33.2	0.50	30	-	111	70-130
Surrogate Recovery							
Dibromofluoromethane	23.8	23.7		25	95	95	70-130
Toluene-d8	22.3	22.3		25	89	89	70-130
4-BFB	2.22	2.29		2.5	89	92	70-130

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121348
Date Analyzed:	5/23/16 - 5/24/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121348

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g)	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	0.240		0.25	96	70-130
Benzene-D6	0.205		0.20	103	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
VOC (C6-C12)	5.73	5.47	6.44	89	85	70-130	4.61	20
Surrogate Recovery								
Dibromofluoromethane	0.246	0.247	0.25	98	99	70-130	0.410	20
Benzene-D6	0.206	0.199	0.20	103	100	70-130	3.39	20

(Cont.)

NELAP 4033ORELAP

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121349
Date Analyzed:	5/23/16 - 5/24/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121349

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g)	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	0.244		0.25	98	70-130
Benzene-D6	0.206		0.20	103	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
VOC (C6-C12)	6.31	5.92	6.44	98	92	70-130	6.39	20
Surrogate Recovery								
Dibromofluoromethane	0.245	0.247	0.25	98	99	70-130	0.769	20
Benzene-D6	0.218	0.204	0.20	109	102	70-130	6.92	20

CLIENT: Applied Water Resources
Work Order: 1605954
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121699

SampleID	**MB-121699**	TestCode:	**8260GAS_W**	Units:	**µg/L**	Prep Date:	**6/1/2016**
Batch ID:	**121699**	TestNo:	**SW8260B**	Run ID:	**GC18_160601F**	Analysis Date:	**6/1/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
TPH(g)	ND	50				-				
Surrogate Recovery										
Dibromofluoromethane	21.9		25		88	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605954
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121699

SampleID **LCS-121699**	TestCode: **8260GAS_W**	Units: **µg/L**	Prep Date: **6/1/2016**
Batch ID: **121699**	TestNo: **SW8260B**	Run ID: **GC18_160601F**	Analysis Date: **6/1/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
VOC (C6-C12)	602	50	644	0	93	70 - 130				
Surrogate Recovery										
Dibromofluoromethane	21.8		25		87	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605954
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121699

SampleID	MB-121699	TestCode:	8260IPAMEOH_W	Units:	µg/L	Prep Date:	6/1/2016
Batch ID:	121699	TestNo:	SW8260B	Run ID:	GC28_160602A	Analysis Date:	6/1/2016

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
Methanol	ND	500				-				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1605954
Project: 1700; 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 121699

SampleID	LCS-121699	TestCode:	8260IPAMEOH_W	Units:	µg/L	Prep Date:	6/1/2016
Batch ID:	121699	TestNo:	SW8260B	Run ID:	GC28_160602A	Analysis Date:	6/1/2016

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
Methanol	2670	500	2500	70.76	107	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

Angela Rydelius, Lab Manager

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121348
Date Analyzed:	5/23/16 - 5/24/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121348

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	0.20	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.010	-	-	-
Benzene	ND	0.010	-	-	-
Bromobenzene	ND	0.010	-	-	-
Bromochloromethane	ND	0.010	-	-	-
Bromodichloromethane	ND	0.010	-	-	-
Bromoform	ND	0.010	-	-	-
Bromomethane	ND	0.010	-	-	-
2-Butanone (MEK)	ND	0.040	-	-	-
t-Butyl alcohol (TBA)	ND	0.10	-	-	-
n-Butyl benzene	ND	0.010	-	-	-
sec-Butyl benzene	ND	0.010	-	-	-
tert-Butyl benzene	ND	0.010	-	-	-
Carbon Disulfide	ND	0.010	-	-	-
Carbon Tetrachloride	ND	0.010	-	-	-
Chlorobenzene	ND	0.010	-	-	-
Chloroethane	ND	0.010	-	-	-
Chloroform	ND	0.010	-	-	-
Chloromethane	ND	0.010	-	-	-
2-Chlorotoluene	ND	0.010	-	-	-
4-Chlorotoluene	ND	0.010	-	-	-
Dibromochloromethane	ND	0.010	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0080	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0080	-	-	-
Dibromomethane	ND	0.010	-	-	-
1,2-Dichlorobenzene	ND	0.010	-	-	-
1,3-Dichlorobenzene	ND	0.010	-	-	-
1,4-Dichlorobenzene	ND	0.010	-	-	-
Dichlorodifluoromethane	ND	0.010	-	-	-
1,1-Dichloroethane	ND	0.010	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.010	-	-	-
1,1-Dichloroethene	ND	0.010	-	-	-
cis-1,2-Dichloroethene	ND	0.010	-	-	-
trans-1,2-Dichloroethene	ND	0.010	-	-	-
1,2-Dichloropropane	ND	0.010	-	-	-
1,3-Dichloropropane	ND	0.010	-	-	-
2,2-Dichloropropane	ND	0.010	-	-	-
1,1-Dichloropropene	ND	0.010	-	-	-
cis-1,3-Dichloropropene	ND	0.010	-	-	-

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121348
Date Analyzed:	5/23/16 - 5/24/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121348

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.010	-	-	-
Diisopropyl ether (DIPE)	ND	0.010	-	-	-
Ethylbenzene	ND	0.010	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.010	-	-	-
Freon 113	ND	0.010	-	-	-
Hexachlorobutadiene	ND	0.010	-	-	-
Hexachloroethane	ND	0.010	-	-	-
2-Hexanone	ND	0.010	-	-	-
Isopropylbenzene	ND	0.010	-	-	-
4-Isopropyl toluene	ND	0.010	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.010	-	-	-
Methylene chloride	ND	0.010	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.010	-	-	-
Naphthalene	ND	0.010	-	-	-
n-Propyl benzene	ND	0.010	-	-	-
Styrene	ND	0.010	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.010	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.010	-	-	-
Tetrachloroethene	ND	0.010	-	-	-
Toluene	ND	0.010	-	-	-
1,2,3-Trichlorobenzene	ND	0.010	-	-	-
1,2,4-Trichlorobenzene	ND	0.010	-	-	-
1,1,1-Trichloroethane	ND	0.010	-	-	-
1,1,2-Trichloroethane	ND	0.010	-	-	-
Trichloroethene	ND	0.010	-	-	-
Trichlorofluoromethane	ND	0.010	-	-	-
1,2,3-Trichloropropane	ND	0.010	-	-	-
1,2,4-Trimethylbenzene	ND	0.010	-	-	-
1,3,5-Trimethylbenzene	ND	0.010	-	-	-
Vinyl Chloride	ND	0.010	-	-	-
Xylenes, Total	ND	0.010	-	-	-

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121348
Date Analyzed:	5/23/16 - 5/24/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121348

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery					
Dibromofluoromethane	0.233		0.25	93	70-130
Toluene-d8	0.280		0.25	112	70-130
4-BFB	0.0241		0.025	96	70-130
Benzene-d6	0.188		0.20	94	60-140
Ethylbenzene-d10	0.218		0.20	109	60-140
1,2-DCB-d4	0.167		0.20	84	60-140

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0752	0.0720	0.10	75	72	53-116	4.31	20
Benzene	0.0868	0.0786	0.10	87	79	63-137	9.82	20
t-Butyl alcohol (TBA)	0.325	0.326	0.40	81	81	41-135	0	20
Chlorobenzene	0.0882	0.0848	0.10	88	85	77-121	3.91	20
1,2-Dibromoethane (EDB)	0.0834	0.0810	0.10	83	81	67-119	2.82	20
1,2-Dichloroethane (1,2-DCA)	0.0803	0.0746	0.10	80	75	58-135	7.33	20
1,1-Dichloroethene	0.0816	0.0693	0.10	82	69	42-145	16.3	20
Diisopropyl ether (DIPE)	0.0796	0.0732	0.10	80	73	52-129	8.39	20
Ethyl tert-butyl ether (ETBE)	0.0814	0.0758	0.10	81	76	53-125	7.14	20
Methyl-t-butyl ether (MTBE)	0.0815	0.0758	0.10	82	76	58-122	7.33	20
Toluene	0.0972	0.0908	0.10	97	91	76-130	6.75	20
Trichloroethene	0.0890	0.0813	0.10	89	81	72-132	9.03	20
Surrogate Recovery								
Dibromofluoromethane	0.239	0.240	0.25	96	96	70-130	0	20
Toluene-d8	0.272	0.272	0.25	109	109	70-130	0	20
4-BFB	0.0258	0.0258	0.025	103	103	70-130	0	20
Benzene-d6	0.199	0.192	0.20	100	96	60-140	3.92	20
Ethylbenzene-d10	0.231	0.221	0.20	115	111	60-140	4.29	20
1,2-DCB-d4	0.180	0.178	0.20	90	89	60-140	0.705	20

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121349
Date Analyzed:	5/23/16 - 5/24/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121349

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	0.20	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.010	-	-	-
Benzene	ND	0.010	-	-	-
Bromobenzene	ND	0.010	-	-	-
Bromochloromethane	ND	0.010	-	-	-
Bromodichloromethane	ND	0.010	-	-	-
Bromoform	ND	0.010	-	-	-
Bromomethane	ND	0.010	-	-	-
2-Butanone (MEK)	ND	0.040	-	-	-
t-Butyl alcohol (TBA)	ND	0.10	-	-	-
n-Butyl benzene	ND	0.010	-	-	-
sec-Butyl benzene	ND	0.010	-	-	-
tert-Butyl benzene	ND	0.010	-	-	-
Carbon Disulfide	ND	0.010	-	-	-
Carbon Tetrachloride	ND	0.010	-	-	-
Chlorobenzene	ND	0.010	-	-	-
Chloroethane	ND	0.010	-	-	-
Chloroform	ND	0.010	-	-	-
Chloromethane	ND	0.010	-	-	-
2-Chlorotoluene	ND	0.010	-	-	-
4-Chlorotoluene	ND	0.010	-	-	-
Dibromochloromethane	ND	0.010	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0080	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0080	-	-	-
Dibromomethane	ND	0.010	-	-	-
1,2-Dichlorobenzene	ND	0.010	-	-	-
1,3-Dichlorobenzene	ND	0.010	-	-	-
1,4-Dichlorobenzene	ND	0.010	-	-	-
Dichlorodifluoromethane	ND	0.010	-	-	-
1,1-Dichloroethane	ND	0.010	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.010	-	-	-
1,1-Dichloroethene	ND	0.010	-	-	-
cis-1,2-Dichloroethene	ND	0.010	-	-	-
trans-1,2-Dichloroethene	ND	0.010	-	-	-
1,2-Dichloropropane	ND	0.010	-	-	-
1,3-Dichloropropane	ND	0.010	-	-	-
2,2-Dichloropropane	ND	0.010	-	-	-
1,1-Dichloropropene	ND	0.010	-	-	-
cis-1,3-Dichloropropene	ND	0.010	-	-	-

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121349
Date Analyzed:	5/23/16 - 5/24/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121349

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.010	-	-	-
Diisopropyl ether (DIPE)	ND	0.010	-	-	-
Ethylbenzene	ND	0.010	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.010	-	-	-
Freon 113	ND	0.010	-	-	-
Hexachlorobutadiene	ND	0.010	-	-	-
Hexachloroethane	ND	0.010	-	-	-
2-Hexanone	ND	0.010	-	-	-
Isopropylbenzene	ND	0.010	-	-	-
4-Isopropyl toluene	ND	0.010	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.010	-	-	-
Methylene chloride	ND	0.010	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.010	-	-	-
Naphthalene	ND	0.010	-	-	-
n-Propyl benzene	ND	0.010	-	-	-
Styrene	ND	0.010	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.010	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.010	-	-	-
Tetrachloroethene	ND	0.010	-	-	-
Toluene	ND	0.010	-	-	-
1,2,3-Trichlorobenzene	ND	0.010	-	-	-
1,2,4-Trichlorobenzene	ND	0.010	-	-	-
1,1,1-Trichloroethane	ND	0.010	-	-	-
1,1,2-Trichloroethane	ND	0.010	-	-	-
Trichloroethene	ND	0.010	-	-	-
Trichlorofluoromethane	ND	0.010	-	-	-
1,2,3-Trichloropropane	ND	0.010	-	-	-
1,2,4-Trimethylbenzene	ND	0.010	-	-	-
1,3,5-Trimethylbenzene	ND	0.010	-	-	-
Vinyl Chloride	ND	0.010	-	-	-
Xylenes, Total	ND	0.010	-	-	-

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121349
Date Analyzed:	5/23/16 - 5/24/16	**Extraction Method:**	SW5035
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-121349

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery					
Dibromofluoromethane	0.236		0.25	95	70-130
Toluene-d8	0.278		0.25	111	70-130
4-BFB	0.0244		0.025	97	70-130
Benzene-d6	0.193		0.20	97	60-140
Ethylbenzene-d10	0.222		0.20	111	60-140
1,2-DCB-d4	0.166		0.20	83	60-140

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0800	0.0768	0.10	80	77	53-116	4.07	20
Benzene	0.0928	0.0864	0.10	93	86	63-137	7.19	20
t-Butyl alcohol (TBA)	0.347	0.334	0.40	87	83	41-135	3.84	20
Chlorobenzene	0.0949	0.0890	0.10	95	89	77-121	6.34	20
1,2-Dibromoethane (EDB)	0.0900	0.0844	0.10	90	84	67-119	6.40	20
1,2-Dichloroethane (1,2-DCA)	0.0849	0.0797	0.10	85	80	58-135	6.29	20
1,1-Dichloroethene	0.0877	0.0801	0.10	88	80	42-145	9.10	20
Diisopropyl ether (DIPE)	0.0848	0.0801	0.10	85	80	52-129	5.72	20
Ethyl tert-butyl ether (ETBE)	0.0872	0.0821	0.10	87	82	53-125	6.04	20
Methyl-t-butyl ether (MTBE)	0.0869	0.0825	0.10	87	83	58-122	5.23	20
Toluene	0.104	0.0969	0.10	104	97	76-130	7.23	20
Trichloroethene	0.0956	0.0875	0.10	96	87	72-132	8.87	20
Surrogate Recovery								
Dibromofluoromethane	0.238	0.240	0.25	95	96	70-130	0.602	20
Toluene-d8	0.273	0.272	0.25	109	109	70-130	0	20
4-BFB	0.0263	0.0263	0.025	105	105	70-130	0	20
Benzene-d6	0.207	0.197	0.20	104	99	60-140	4.97	20
Ethylbenzene-d10	0.242	0.230	0.20	121	115	60-140	5.04	20
1,2-DCB-d4	0.190	0.181	0.20	95	91	60-140	4.60	20

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121335
Date Analyzed:	5/24/16	**Extraction Method:**	SW3550B
Instrument:	GC17	**Analytical Method:**	SW8270C-SIM
Matrix:	Soil	**Unit:**	mg/kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS-121335 1605877-001AMS/MSD

QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	-	0.010	-	-	-	-
Acenaphthylene	ND	-	0.010	-	-	-	-
Anthracene	ND	-	0.010	-	-	-	-
Benzo (a) anthracene	ND	-	0.010	-	-	-	-
Benzo (a) pyrene	ND	0.144	0.010	0.20	-	72	23-129
Benzo (b) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.010	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.010	-	-	-	-
Chrysene	ND	0.160	0.010	0.20	-	80	38-104
Dibenzo (a,h) anthracene	ND	-	0.010	-	-	-	-
Fluoranthene	ND	-	0.010	-	-	-	-
Fluorene	ND	-	0.010	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.010	-	-	-	-
1-Methylnaphthalene	ND	0.179	0.010	0.20	-	90	59-106
2-Methylnaphthalene	ND	0.169	0.010	0.20	-	84	54-108
Naphthalene	ND	-	0.010	-	-	-	-
Phenanthrene	ND	0.170	0.010	0.20	-	85	48-107
Pyrene	ND	0.140	0.010	0.20	-	70	40-104
Surrogate Recovery							
1-Fluoronaphthalene	0.372	0.369		0.50	74	74	63-123
2-Fluorobiphenyl	0.365	0.356		0.50	73	71	55-127

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzo (a) pyrene	NR	NR		0.028	NR	NR	-	NR	
Chrysene	NR	NR		0.026	NR	NR	-	NR	
1-Methylnaphthalene	NR	NR		ND<0.02	NR	NR	-	NR	
2-Methylnaphthalene	NR	NR		ND<0.02	NR	NR	-	NR	
Phenanthrene	NR	NR		0.023	NR	NR	-	NR	
Pyrene	NR	NR		0.047	NR	NR	-	NR	
Surrogate Recovery									
1-Fluoronaphthalene	NR	NR			NR	NR	-	NR	
2-Fluorobiphenyl	NR	NR			NR	NR	-	NR	

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121320
Date Analyzed:	5/23/16	**Extraction Method:**	SW3050B
Instrument:	ICP-MS1	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS-121320 1605946-005AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Cadmium	ND	45.0	0.25	50	-	90	75-125
Chromium	ND	45.2	0.50	50	-	90	75-125
Lead	ND	45.8	0.50	50	-	92	75-125
Nickel	ND	45.5	0.50	50	-	91	75-125
Zinc	ND	461	5.0	500	-	92	75-125
Surrogate Recovery							
Terbium	524	506		500	105	101	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Cadmium	47.0	49.7	50	0.44	93	99	75-125	5.73	20
Chromium	84.8	88.2	50	39	92	99	75-125	3.91	20
Lead	57.4	67.8	50	12.86	89	110	75-125	16.6	20
Nickel	88.3	91.6	50	48	81	87	75-125	3.71	20
Zinc	539	554	500	78	92	95	75-125	2.74	20
Surrogate Recovery									
Terbium	473	540	500		95	108	70-130	13.1	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Cadmium	ND<1.2	0.44	-	-
Chromium	38.4	39	1.54	20
Lead	12.2	12.86	5.13	-
Nickel	46.4	48	3.33	20
Zinc	77.0	78	1.28	-

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121347
Date Analyzed:	5/24/16	**Extraction Method:**	SW3050B
Instrument:	ICP-MS2	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS-121347 1605954-008AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Cadmium	ND	46.5	0.25	50	-	93	75-125
Chromium	ND	47.3	0.50	50	-	95	75-125
Lead	ND	51.8	0.50	50	-	104	75-125
Nickel	ND	47.3	0.50	50	-	95	75-125
Zinc	ND	487	5.0	500	-	97	75-125
Surrogate Recovery							
Terbium	467	503		500	93	101	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Cadmium	49.0	47.8	50	ND	98	95	75-125	2.46	20
Chromium	87.8	87.5	50	38.20	99	99	75-125	0	20
Lead	83.2	75.2	50	55.96	54,F10	38,F10	75-125	10.1	20
Nickel	78.8	75.1	50	27.33	103	96	75-125	4.77	20
Zinc	552	538	500	67.03	97	94	75-125	2.51	20
Surrogate Recovery									
Terbium	523	520	500		105	104	70-130	0.518	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Cadmium	ND<1.2	ND	-	-
Chromium	39.4	38.20	3.14	20
Lead	55.4	55.96	1.00	20
Nickel	27.7	27.33	1.35	20
Zinc	68.2	67.03	1.75	-

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605954
Date Prepared:	5/23/16	**BatchID:**	121338
Date Analyzed:	5/23/16	**Extraction Method:**	SW3550B
Instrument:	GC11B	**Analytical Method:**	SW8015B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700; 1700 Jefferson	**Sample ID:**	MB/LCS-121338 1605954-001AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	45.5	1.0	40	-	114	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	22.4	21.8		25	90	87	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	48.2	49.6	40	ND	120	124	70-130	3.04	30
Surrogate Recovery									
C9	23.5	23.5	25		94	94	70-130	0	30

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605954 **ClientCode: AWR** **QuoteID: 6007**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:

Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700; 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;

Date Received: **05/23/2016**
Date Logged: **05/23/2016**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605954-001	C4-3	Soil	5/22/2016 12:30	☐		B			B	A	A	A	A			
1605954-002	C4-8	Soil	5/22/2016 12:35	☐		B			B		A		A			
1605954-004	C4-25	Soil	5/22/2016 12:45	☐		B			B		A		A			
1605954-005	C5-3	Soil	5/22/2016 10:45	☐		B			B	A	A					
1605954-006	C5-8	Soil	5/22/2016 10:50	☐		B			B		A					
1605954-007	C5-21	Soil	5/22/2016 10:55	☐		B			B		A					
1605954-008	C6-3	Soil	5/22/2016 11:00	☐		B			B	A	A					
1605954-009	C6-8	Soil	5/22/2016 11:05	☐		B			B		A					
1605954-010	C6-23.5	Soil	5/22/2016 11:10	☐		B			B		A					
1605954-011	C4-GW	Water	5/22/2016 13:00	☐	A		A	A								
1605954-013	C7-12	Soil	5/22/2016 13:35	☐		B			B	A	A					
1605954-014	C7-20	Soil	5/22/2016 13:40	☐		B			B		A					
1605954-016	C9-3	Soil	5/22/2016 12:00	☐		B			B	A	A					
1605954-017	C9-8	Soil	5/22/2016 12:05	☐		B			B		A					
1605954-018	C9-21	Soil	5/22/2016 12:10	☐		B			B		A					

Test Legend:

1	8260B_9OXYBTEX_W	2	8260GAS_E	3	8260GAS_W	4	8260IPAMEOH_W
5	8260VOC_E	6	8270_PNA_S	7	LUFTMS_6020_TTLC_S	8	PREDF REPORT
9	TPH(DMO)_S	10		11		12	

Prepared by: Jena Alfaro

The following SampIDs: 001B, 002B, 004B, 005B, 006B, 007B, 008B, 009B, 010B, 011A, 013B, 014B, 016B, 017B, 018B, 022B, 023B, 026B, 027B, 028B, 029B, 032B contain testgroup.

Comments:

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

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605954 **ClientCode: AWR** **QuoteID: 6007**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:

Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700; 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;

Date Received: 05/23/2016
Date Logged: 05/23/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605954-022	C1-3	Soil	5/22/2016 9:00	☐		B			B	A	A					
1605954-023	C1-8	Soil	5/22/2016 9:10	☐		B			B		A					
1605954-026	C1-20	Soil	5/22/2016 9:25	☐		B			B		A					
1605954-027	C1-22	Soil	5/22/2016 9:30	☐		B			B							
1605954-028	C2-3	Soil	5/22/2016 10:00	☐		B			B	A	A					
1605954-029	C2-8	Soil	5/22/2016 10:05	☐		B			B		A					
1605954-032	C2-21	Soil	5/22/2016 10:20	☐		B			B		A					

Test Legend:

1	8260B_9OXYBTEX_W	2	8260GAS_E	3	8260GAS_W	4	8260IPAMEOH_W
5	8260VOC_E	6	8270_PNA_S	7	LUFTMS_6020_TTLC_S	8	PREDF REPORT
9	TPH(DMO)_S	10		11		12	

Prepared by: Jena Alfaro

The following SampIDs: 001B, 002B, 004B, 005B, 006B, 007B, 008B, 009B, 010B, 011A, 013B, 014B, 016B, 017B, 018B, 022B, 023B, 026B, 027B, 028B, 029B, 032B contain testgroup.

Comments:

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700; 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605954
Date Logged: 5/23/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605954-001A	C4-3	Soil	SW8015B (Diesel & Motor Oil)	1	16OZ GJ	☐	5/22/2016 12:30	5 days		☐	
			SW6020 (LUFT)			☐		5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1605954-001B	C4-3	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 12:30	5 days		☐	
1605954-002A	C4-8	Soil	SW8015B (Diesel & Motor Oil)	1	16OZ GJ	☐	5/22/2016 12:35	5 days		☐	
			SW6020 (LUFT)			☐		5 days		☐	
1605954-002B	C4-8	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 12:35	5 days		☐	
1605954-003A	C4-15	Soil		1	Encore Sampler	☐	5/22/2016 12:40			☑	
1605954-004A	C4-25	Soil	SW8015B (Diesel & Motor Oil)	1	16OZ GJ	☐	5/22/2016 12:45	5 days		☐	
			SW6020 (LUFT)			☐		5 days		☐	
1605954-004B	C4-25	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 12:45	5 days		☐	
1605954-005A	C5-3	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 10:45	5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1605954-005B	C5-3	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 10:45	5 days		☐	
1605954-006A	C5-8	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 10:50	5 days		☐	

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700; 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605954
Date Logged: 5/23/2016

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Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605954-006B	C5-8	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 10:50	5 days		☐	
1605954-007A	C5-21	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 10:55	5 days		☐	
1605954-007B	C5-21	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 10:55	5 days		☐	
1605954-008A	C6-3	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 11:00	5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1605954-008B	C6-3	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 11:00	5 days		☐	
1605954-009A	C6-8	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 11:05	5 days		☐	
1605954-009B	C6-8	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 11:05	5 days		☐	
1605954-010A	C6-23.5	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 11:10	5 days		☐	
1605954-010B	C6-23.5	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 11:10	5 days		☐	
1605954-011A	C4-GW	Soil	TPH(g) & BTEX & 9 Oxys by 8260B	2	VOA w/ HCl	☐	5/22/2016 13:00	5 days	1%+	☐	
1605954-012A	C7-3	Soil		1	16OZ GJ	☐	5/22/2016 13:30			☑	
				1	Encore Sampler	☐				☑	
1605954-013A	C7-12	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 13:35	5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700; 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605954
Date Logged: 5/23/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605954-013B	C7-12	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 13:35	5 days		☐	
1605954-014A	C7-20	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 13:40	5 days		☐	
1605954-014B	C7-20	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 13:40	5 days		☐	
1605954-015A	C7-22	Soil		1	Encore Sampler	☐	5/22/2016 13:45			☑	
1605954-016A	C9-3	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 12:00	5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1605954-016B	C9-3	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 12:00	5 days		☐	
1605954-017A	C9-8	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 12:05	5 days		☐	
1605954-017B	C9-8	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 12:05	5 days		☐	
1605954-018A	C9-21	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 12:10	5 days		☐	
1605954-018B	C9-21	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 12:10	5 days		☐	
1605954-019A	SV1-3	Soil		1	Encore Sampler	☐	5/22/2016 14:00			☑	
1605954-020A	SV1-8	Soil		1	Encore Sampler	☐	5/22/2016 14:05			☑	
1605954-021A	SV1-18.5	Soil		1	Encore Sampler	☐	5/22/2016 14:10			☑	
1605954-022A	C1-3	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 9:00	5 days		☐	

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700; 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605954
Date Logged: 5/23/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605954-022A	C1-3	Soil	SW8270C (PAHs/PNAs)	1	16OZ GJ	☐	5/22/2016 9:00	5 days		☐	
1605954-022B	C1-3	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 9:00	5 days		☐	
1605954-023A	C1-8	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 9:10	5 days		☐	
1605954-023B	C1-8	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 9:10	5 days		☐	
1605954-024A	C1-12	Soil		1	Encore Sampler	☐	5/22/2016 9:15			☑	
1605954-025A	C1-17	Soil		1	Encore Sampler	☐	5/22/2016 9:20			☑	
1605954-026A	C1-20	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 9:25	5 days		☐	
1605954-026B	C1-20	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 9:25	5 days		☐	
1605954-027A	C1-22	Soil		1	16OZ GJ	☐	5/22/2016 9:30			☑	
1605954-027B	C1-22	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 9:30	5 days		☐	
1605954-028A	C2-3	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 10:00	5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1605954-028B	C2-3	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 10:00	5 days		☐	
1605954-029A	C2-8	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 10:05	5 days		☐	

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700; 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605954
Date Logged: 5/23/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605954-029B	C2-8	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 10:05	5 days		☐	
1605954-030A	C2-12	Soil		1	Encore Sampler	☐	5/22/2016 10:10			☑	
1605954-031A	C2-14.5	Soil		1	Encore Sampler	☐	5/22/2016 10:15			☑	
1605954-032A	C2-21	Soil	SW6020 (LUFT)	1	16OZ GJ	☐	5/22/2016 10:20	5 days		☐	
1605954-032B	C2-21	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	5/22/2016 10:20	5 days		☐	

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

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

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1605954

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☒ Write On (DW) ☐ EQuIS ☐ 10 DAY ☐

Effluent Sample Requiring "J" flag ☐ UST Clean Up Fund Project ☒; Claim #~~605~~

Report To: Yola Bayram **Bill To:** AWR

Company: Applied Water Resources Corp

2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501

Tele: (510) 671-2088 **E-Mail:** ybayram@awrcorp.net

Project #: 1700 **Project Name:** 1700 Jefferson

Project Location: 1700 Jefferson **Purchase Order#**

Sampler Signature:

Analysis Request

SAMPLE ID	Location/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	MATRIX: Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	METHOD PRESERVED: HCL	HNO_3	Other	BTEX & TPH as Gas (8021/8260) MTBE $7200	Naphtalène	LUFT 5 Metals (200.8 / 6020)***	PAHs	TPH as Diesel and Motor Oil (8015)	Fuel Oxygenates, Lead Scavengers	Ethanol and Methanol	HOLD
C4-3		5-22-16	1230	2					X							X	X	X	X	X			
C4-8			1235	2												X	X	X		X			
C4-15			1240	1																			X
★ C4-25			1245	2												X	X	X		X			
C5-3			1045	2												X	X	X	X				
C5-8			1050	2												X	X	X					
★ C5-21			1055	2												X	X	X					
C6-3			1100	2												X	X	X	X				
C6-8			1105	2												X	X	X					
★ C6-23.5			1110	2												X	X	X					
C4-GW			1300	2	X								X			X					X	X	

Geotracker # T0600100196

Quote ID: 6007

Relinquished By:	Date:	Time:	Received By:
	5-23-16	1105	
Relinquished By:	Date:	Time:	Received By:
	5/23	1200	
Relinquished By:	Date:	Time:	Received By:

ICE/t°_____
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____
PRESERVED IN LAB_____

VOAS O&G METALS OTHER HAZARDOUS:
PRESERVATION_____ pH<2_____

COMMENTS:
★ All Samples w/ sters will likely have elevated Concentration

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ Write On (DW) ☐ EQuIS ☐ 10 DAY ☐

Effluent Sample Requiring "J" flag ☐ UST Clean Up Fund Project ☒; Claim #~~605~~

Report To: Yola Bayram **Bill To:** AWR

Company: Applied Water Resources Corp

2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501

Tele: (510) 671-2088 **E-Mail:** ybayram@awrcorp.net

Project #: 1700 **Project Name:** 1700 Jefferson

Project Location: 1700 Jefferson **Purchase Order#**

Sampler Signature:

SAMPLE ID	Location/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	MATRIX: Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	METHOD PRESERVED: HCL	HNO_3	Other	BTEX & TPH as Gas (8021/ 8015) MTBE	Naphtalène	LUFT 5 Metals (200.8 / 6020)***	PAHs	TPH as Diesel and Motor OIl (8015)	Fuel Oxygenates, Lead Scavengers	Ethanol and Methanol	HOLD
C7-3		5.22.16	1330	2					X													X	
C7-12			1335	2												X	X	X	X				
C7-20			1340	2												X	X	X					
C7-22			1345	1																		X	
C9-3			1200	2												X	X	X	X				
C9-8			1205	2												X	X	X					
C9-21			1210	2												X	X	X					
~~SV1-2~~ SV1-3			1400	1																		X	
SV1-8			1405	1																		X	
SV1-18.5			1410	1																		X	

Geotracker # T0600100196 Quote ID#6007

Relinquished By:	Date:	Time:	Received By:
	5.23	1105	
Relinquished By:	Date:	Time:	Received By:
	5.23	1200	
Relinquished By:	Date:	Time:	Received By:

ICE/t°_____ COMMENTS:

GOOD CONDITION_____

HEAD SPACE ABSENT_____

DECHLORINATED IN LAB_____

APPROPRIATE CONTAINERS_____

PRESERVED IN LAB_____

VOAS O&G METALS OTHER HAZARDOUS:

PRESERVATION_____ pH<2_____

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ Write On (DW) ☐ EQuIS ☐ 10 DAY ☐

Effluent Sample Requiring "J" flag ☐ UST Clean Up Fund Project ☒; Claim #~~605~~

Report To: Yola Bayram **Bill To:** AWR

Company: Applied Water Resources Corp

2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501

Tele: (510) 671-2088 **E-Mail:** ybayram@awrcorp.net

Project #: 1700 **Project Name:** 1700 Jefferson

Project Location: 1700 Jefferson **Purchase Order#**

Sampler Signature:

Analysis Request

SAMPLE ID	Location/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	MATRIX: Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	METHOD PRESERVED: HCL	HNO_3	Other	BTEX & TPH as Gas (8021/8015) MTBE 8260	Naphtalene	LUFT 5 Metals (200.8 / 6020)***	PAHs	TPH as Diesel and Motor Oil (8015)	Fuel Oxygenates, Lead Scavengers	Ethanol and Methanol	Please Hold Jar	HOLD
C1-3		5-22-14	900	2					X							X	X	X	X					
C1-8		"	910	2					"							X	X	X						
C1-12		"	915	1					"														X	X
C1-17		"	920	1					"														X	X
☆ C1-20		"	925	2					"							X	X	X						
☆ C1-22		"	930	2					"							X							X	
C2-3		"	1000	2					"							X	X	X	X					
☆ C2-8		"	1005	2					"							X	X	X						
C2-12		"	1010	1					"														X	X
C2-14.5		"	1015	1					"														X	X
☆ C2-21		↓	1020	2					↓							X	X	X						

Geotracker # T0600100196 Quote ID#6007

Relinquished By:	Date:	Time:	Received By:
	5-23	1105	
Relinquished By:	Date:	Time:	Received By:
	5-23	1200	
Relinquished By:	Date:	Time:	Received By:

ICE/t°_____ **COMMENTS:**

GOOD CONDITION_____

HEAD SPACE ABSENT_____

DECHLORINATED IN LAB_____

APPROPRIATE CONTAINERS_____

PRESERVED IN LAB_____

VOAS O&G METALS OTHER HAZARDOUS:

PRESERVATION_____ pH<2_____

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**5/23/2016 12:00**
Project Name:	**1700; 1700 Jefferson**	Date Logged:	**5/23/2016**
WorkOrder №:	**1605954** Matrix: Soil	Received by:	Jena Alfaro
Carrier:	Randy Glen (MAI Courier)	Logged by:	Jena Alfaro

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Sample/Temp Blank temperature	Temp: 4.2°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	NA ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	
	(Ice Type: WET ICE)		

UCMR3 Samples:

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

Comments:

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Analytical Report

WorkOrder: 1606291 **Amended:** 07/11/2016

Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Tyson Fulmer
Project P.O.:
Project Name: Imp WP: Task 2Fl; 1700 Jefferson

Project Received: 06/07/2016

Analytical Report reviewed & approved for release on 06/20/2016 by:

Angela Rydelius,
Laboratory Manager

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

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: Imp WP: Task 2Fl; 1700 Jefferson
WorkOrder: 1606291

Glossary Abbreviation

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

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: Imp WP: Task 2Fl; 1700 Jefferson
WorkOrder: 1606291

Analytical Qualifiers

S	Surrogate spike recovery outside accepted recovery limits
j1	see attached narrative

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Case Narrative

Client: Applied Water Resources
Project: Imp WP: Task 2Fl; 1700 Jefferson

Work Order: 1606291
June 20, 2016

TO-15 ANALYSIS

All summa canisters are EVACUATED 5 days after the reporting of the results. Please call or email if a longer retention time is required.

In an effort to attain the lowest reporting limits possible for the majority of the TO-15 target list, high level compounds may be analyzed using EPA Method 8260B.

Polymer (Tedlar) bags are not recommended for TO15 samples. The disadvantages are listed in Appendix B of the DTSC Active Soil Gas Advisory of July 2015.

TO-17 VOC Analysis GC-37

Sample: AWR SV-1 (1606291-002A)

The reported concentrations of benzene and toluene are estimates due to the measured values exceeding the instrument's highest calibration level. The measured concentrations of Ethylbenzene, Total Xylenes, MTBE, and Nathalene were within the calibration range and do not require an estimation descriptor. It should be noted that an additional QC standard was spiked and analyzed for toluene only and recovered 94% of the expected value. This QC sample was diluted and desorbed in identical fashion as the 1606291-002A sample .The QC was spiked with neat toluene at the same concentration as the calculated toluene value from the sample.

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Received:	6/7/16 17:10	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	6/22/16	**Analytical Method:**	ASTM D 1946-90
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Unit:**	µL/L

Atmospheric gas Oxygen and Nitrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	1606291-001A	SoilGas	06/06/2016 16:43	GC26	122075

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.55	27.10	AK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	**34,000**	4000	1	06/22/2016 12:57

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Received:	6/7/16 17:10	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	6/8/16	**Analytical Method:**	ASTM D 1946-90
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Unit:**	µL/L

Helium and Hydrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	1606291-001A	SoilGas	06/06/2016 16:43	GC26	122078

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.55	27.10	AK

Analytes	Result	RL	DF	Date Analyzed
Hydrogen	ND	100	1	06/08/2016 11:25

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Received:	6/7/16 17:10	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	6/8/16	**Analytical Method:**	ASTM D 1946-90
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Unit:**	%

Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	1606291-001A	SoilGas	06/06/2016 16:43	GC26	122078

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.55	27.10	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	06/08/2016 11:25

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Received:	6/7/16 17:10	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	6/8/16-6/9/16	**Analytical Method:**	ASTM D 1946-90
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Unit:**	uL/L

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	**1606291-001A**	**SoilGas**	**06/06/2016 16:43**	**GC26**	**122080**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.55	**27.10**	**AK**

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	**30,000**	160	4	06/08/2016 14:37
Carbon Monoxide	ND	40	1	06/09/2016 14:12
Methane	**560**	2.0	1	06/09/2016 14:12

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Received:	6/7/16 17:10	**Extraction Method:**	SW5030B
Date Prepared:	6/9/16	**Analytical Method:**	SW8260B
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	1606291-001A	SoilGas	06/06/2016 16:43	GC18	122120

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.55	27.10	MW

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	100,000	10	06/09/2016 14:50
tert-Amyl methyl ether (TAME)	ND	5000	10	06/09/2016 14:50
Benzene	**470,000**	20,000	40	06/09/2016 16:09
Bromobenzene	ND	5000	10	06/09/2016 14:50
Bromochloromethane	ND	5000	10	06/09/2016 14:50
Bromodichloromethane	ND	5000	10	06/09/2016 14:50
Bromoform	ND	5000	10	06/09/2016 14:50
Bromomethane	ND	5000	10	06/09/2016 14:50
2-Butanone (MEK)	ND	20,000	10	06/09/2016 14:50
t-Butyl alcohol (TBA)	ND	50,000	10	06/09/2016 14:50
n-Butyl benzene	ND	5000	10	06/09/2016 14:50
sec-Butyl benzene	ND	5000	10	06/09/2016 14:50
tert-Butyl benzene	ND	5000	10	06/09/2016 14:50
Carbon Disulfide	ND	5000	10	06/09/2016 14:50
Carbon Tetrachloride	ND	5000	10	06/09/2016 14:50
Chlorobenzene	ND	5000	10	06/09/2016 14:50
Chloroethane	ND	5000	10	06/09/2016 14:50
Chloroform	ND	5000	10	06/09/2016 14:50
Chloromethane	**23,000**	5000	10	06/09/2016 14:50
2-Chlorotoluene	ND	5000	10	06/09/2016 14:50
4-Chlorotoluene	ND	5000	10	06/09/2016 14:50
Dibromochloromethane	ND	5000	10	06/09/2016 14:50
1,2-Dibromo-3-chloropropane	ND	5000	10	06/09/2016 14:50
1,2-Dibromoethane (EDB)	ND	5000	10	06/09/2016 14:50
Dibromomethane	ND	5000	10	06/09/2016 14:50
1,2-Dichlorobenzene	ND	5000	10	06/09/2016 14:50
1,3-Dichlorobenzene	ND	5000	10	06/09/2016 14:50
1,4-Dichlorobenzene	ND	5000	10	06/09/2016 14:50
Dichlorodifluoromethane	ND	5000	10	06/09/2016 14:50
1,1-Dichloroethane	ND	5000	10	06/09/2016 14:50
1,2-Dichloroethane (1,2-DCA)	ND	5000	10	06/09/2016 14:50
1,1-Dichloroethene	ND	5000	10	06/09/2016 14:50
cis-1,2-Dichloroethene	ND	5000	10	06/09/2016 14:50
trans-1,2-Dichloroethene	ND	5000	10	06/09/2016 14:50

(Cont.)

NELAP 4033ORELAP

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Received:	6/7/16 17:10	**Extraction Method:**	SW5030B
Date Prepared:	6/9/16	**Analytical Method:**	SW8260B
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	1606291-001A	SoilGas	06/06/2016 16:43	GC18	122120

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.55	27.10	MW

Analytes	Result	RL	DF	Date Analyzed
1,2-Dichloropropane	ND	5000	10	06/09/2016 14:50
1,3-Dichloropropane	ND	5000	10	06/09/2016 14:50
2,2-Dichloropropane	ND	5000	10	06/09/2016 14:50
1,1-Dichloropropene	ND	5000	10	06/09/2016 14:50
cis-1,3-Dichloropropene	ND	5000	10	06/09/2016 14:50
trans-1,3-Dichloropropene	ND	5000	10	06/09/2016 14:50
Diisopropyl ether (DIPE)	ND	5000	10	06/09/2016 14:50
Ethylbenzene	**130,000**	5000	10	06/09/2016 14:50
Ethyl tert-butyl ether (ETBE)	ND	5000	10	06/09/2016 14:50
Freon 113	ND	5000	10	06/09/2016 14:50
Hexachlorobutadiene	ND	5000	10	06/09/2016 14:50
Hexachloroethane	ND	5000	10	06/09/2016 14:50
2-Hexanone	ND	5000	10	06/09/2016 14:50
Isopropylbenzene	**7800**	5000	10	06/09/2016 14:50
4-Isopropyl toluene	ND	5000	10	06/09/2016 14:50
Methyl-t-butyl ether (MTBE)	ND	5000	10	06/09/2016 14:50
Methylene chloride	ND	5000	10	06/09/2016 14:50
4-Methyl-2-pentanone (MIBK)	ND	5000	10	06/09/2016 14:50
Naphthalene	ND	5000	10	06/09/2016 14:50
n-Propyl benzene	**18,000**	5000	10	06/09/2016 14:50
Styrene	ND	5000	10	06/09/2016 14:50
1,1,1,2-Tetrachloroethane	ND	5000	10	06/09/2016 14:50
1,1,2,2-Tetrachloroethane	ND	5000	10	06/09/2016 14:50
Tetrachloroethene	ND	5000	10	06/09/2016 14:50
Toluene	**220,000**	5000	10	06/09/2016 14:50
1,2,3-Trichlorobenzene	ND	5000	10	06/09/2016 14:50
1,2,4-Trichlorobenzene	ND	5000	10	06/09/2016 14:50
1,1,1-Trichloroethane	ND	5000	10	06/09/2016 14:50
1,1,2-Trichloroethane	ND	5000	10	06/09/2016 14:50
Trichloroethene	ND	5000	10	06/09/2016 14:50
Trichlorofluoromethane	ND	5000	10	06/09/2016 14:50
1,2,3-Trichloropropane	ND	5000	10	06/09/2016 14:50
1,2,4-Trimethylbenzene	**42,000**	5000	10	06/09/2016 14:50
1,3,5-Trimethylbenzene	**19,000**	5000	10	06/09/2016 14:50

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Received:	6/7/16 17:10	**Extraction Method:**	SW5030B
Date Prepared:	6/9/16	**Analytical Method:**	SW8260B
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	**1606291-001A**	**SoilGas**	**06/06/2016 16:43**	**GC18**	**122120**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.55	**27.10**	**MW**

Analytes	Result	RL	DF	Date Analyzed
Vinyl Chloride	ND	5000	10	06/09/2016 14:50
Xylenes, Total	**210,000**	5000	10	06/09/2016 14:50

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	55	S	70-130	06/09/2016 14:50
Toluene-d8	105		70-130	06/09/2016 14:50
4-BFB	89		70-130	06/09/2016 14:50

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Received:	6/7/16 17:10	**Extraction Method:**	TO17
Date Prepared:	6/15/16-6/17/16	**Analytical Method:**	TO17
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Unit:**	µg/m³

Volatile Organic Compounds in µg/m³

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-1	1606291-002A	SoilGas	06/07/2016 11:20	GC37	122380

Analytes	Result	RL	DF	Sample Volume	Date Analyzed
Benzene	**3,400,000**	34,000	1,700	0.1 L	06/15/2016 17:39
Ethylbenzene	**170,000**	34,000	1,700	0.1 L	06/15/2016 17:39
Methyl-t-butyl ether (MTBE)	ND	34,000	1,700	0.1 L	06/15/2016 17:39
Naphthalene	ND	34,000	1,700	0.1 L	06/15/2016 17:39
Toluene	**2,200,000**	34,000	1,700	0.1 L	06/15/2016 17:39
Xylenes, Total	**1,300,000**	100,000	1,700	0.1 L	06/15/2016 17:39

Surrogates	REC (%)	Limits	
4-BFB	97	70-130	06/15/2016 17:39
toluene-d8	104	70-130	06/15/2016 17:39
1,2-DCA-d4	72	70-130	06/15/2016 17:39

Analyst(s): KBO Analytical Comments: j1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-12	1606291-003A	SoilGas	06/07/2016 11:59	GC37	122510

Analytes	Result	RL	DF	Sample Volume	Date Analyzed
Benzene	**35**	8.0	1	0.25 L	06/17/2016 18:43
Ethylbenzene	**10**	8.0	1	0.25 L	06/17/2016 18:43
Methyl-t-butyl ether (MTBE)	ND	8.0	1	0.25 L	06/17/2016 18:43
Naphthalene	ND	8.0	1	0.25 L	06/17/2016 18:43
Toluene	**51**	8.0	1	0.25 L	06/17/2016 18:43
Xylenes, Total	**54**	24	1	0.25 L	06/17/2016 18:43

Surrogates	REC (%)	Limits	
4-BFB	91	70-130	06/17/2016 18:43
toluene-d8	95	70-130	06/17/2016 18:43
1,2-DCA-d4	120	70-130	06/17/2016 18:43

Analyst(s): KBO

Angela Rydelius, Lab Manager

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Prepared:	6/8/16	**BatchID:**	122075
Date Analyzed:	6/8/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	µL/L
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Sample ID:**	MB/LCS-122075

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Oxygen	ND	8680	2000	7000	-	124	70-130

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Prepared:	6/8/16	**BatchID:**	122078
Date Analyzed:	6/8/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	Soilgas	**Unit:**	%
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Sample ID:**	MB/LCS-122078

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Helium	ND	0.125	0.025	0.10	-	125	60-140
Hydrogen	ND	1260	50	1000	-	126	70-130

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Prepared:	6/9/16	**BatchID:**	122080
Date Analyzed:	6/9/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	uL/L
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Sample ID:**	MB/LCS-122080

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Carbon Dioxide	ND	98.2	20	100	-	98	70-130
Carbon Monoxide	ND	70.5	20	100	-	71	70-130
Methane	ND	82.0	1.0	100	-	82	70-130

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Prepared:	6/9/16	**BatchID:**	122120
Date Analyzed:	6/9/16	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Sample ID:**	MB/LCS-122120

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND<10,000	-	10,000	-	-	-	-
tert-Amyl methyl ether (TAME)	ND<500	6160	500	5000	-	123	60-140
Benzene	ND<500	5560	500	5000	-	111	60-140
Bromobenzene	ND<500	-	500	-	-	-	-
Bromochloromethane	ND<500	-	500	-	-	-	-
Bromodichloromethane	ND<500	-	500	-	-	-	-
Bromoform	ND<500	-	500	-	-	-	-
Bromomethane	ND<500	-	500	-	-	-	-
2-Butanone (MEK)	ND<2000	-	2000	-	-	-	-
t-Butyl alcohol (TBA)	ND<5000	26,300	5000	20000	-	131	60-140
n-Butyl benzene	ND<500	-	500	-	-	-	-
sec-Butyl benzene	ND<500	-	500	-	-	-	-
tert-Butyl benzene	ND<500	-	500	-	-	-	-
Carbon Disulfide	ND<500	-	500	-	-	-	-
Carbon Tetrachloride	ND<500	-	500	-	-	-	-
Chlorobenzene	ND<500	5430	500	5000	-	109	60-140
Chloroethane	ND<500	-	500	-	-	-	-
Chloroform	ND<500	-	500	-	-	-	-
Chloromethane	ND<500	-	500	-	-	-	-
2-Chlorotoluene	ND<500	-	500	-	-	-	-
4-Chlorotoluene	ND<500	-	500	-	-	-	-
Dibromochloromethane	ND<500	-	500	-	-	-	-
1,2-Dibromo-3-chloropropane	ND<500	-	500	-	-	-	-
1,2-Dibromoethane (EDB)	ND<500	5640	500	5000	-	113	60-140
Dibromomethane	ND<500	-	500	-	-	-	-
1,2-Dichlorobenzene	ND<500	-	500	-	-	-	-
1,3-Dichlorobenzene	ND<500	-	500	-	-	-	-
1,4-Dichlorobenzene	ND<500	-	500	-	-	-	-
Dichlorodifluoromethane	ND<500	-	500	-	-	-	-
1,1-Dichloroethane	ND<500	-	500	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND<500	5870	500	5000	-	117	60-140
1,1-Dichloroethene	ND<500	5200	500	5000	-	104	60-140
cis-1,2-Dichloroethene	ND<500	-	500	-	-	-	-
trans-1,2-Dichloroethene	ND<500	-	500	-	-	-	-
1,2-Dichloropropane	ND<500	-	500	-	-	-	-
1,3-Dichloropropane	ND<500	-	500	-	-	-	-
2,2-Dichloropropane	ND<500	-	500	-	-	-	-

(Cont.)

NELAP 4033ORELAP

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Prepared:	6/9/16	**BatchID:**	122120
Date Analyzed:	6/9/16	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Sample ID:**	MB/LCS-122120

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND<500	-	500	-	-	-	-
cis-1,3-Dichloropropene	ND<500	-	500	-	-	-	-
trans-1,3-Dichloropropene	ND<500	-	500	-	-	-	-
Diisopropyl ether (DIPE)	ND<500	6050	500	5000	-	121	60-140
Ethylbenzene	ND<500	-	500	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND<500	6020	500	5000	-	120	60-140
Freon 113	ND<500	-	500	-	-	-	-
Hexachlorobutadiene	ND<500	-	500	-	-	-	-
Hexachloroethane	ND<500	-	500	-	-	-	-
2-Hexanone	ND<500	-	500	-	-	-	-
Isopropylbenzene	ND<500	-	500	-	-	-	-
4-Isopropyl toluene	ND<500	-	500	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND<500	6010	500	5000	-	120	60-140
Methylene chloride	ND<500	-	500	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND<500	-	500	-	-	-	-
Naphthalene	ND<500	-	500	-	-	-	-
n-Propyl benzene	ND<500	-	500	-	-	-	-
Styrene	ND<500	-	500	-	-	-	-
1,1,1,2-Tetrachloroethane	ND<500	-	500	-	-	-	-
1,1,2,2-Tetrachloroethane	ND<500	-	500	-	-	-	-
Tetrachloroethene	ND<500	-	500	-	-	-	-
Toluene	ND<500	5400	500	5000	-	108	60-140
1,2,3-Trichlorobenzene	ND<500	-	500	-	-	-	-
1,2,4-Trichlorobenzene	ND<500	-	500	-	-	-	-
1,1,1-Trichloroethane	ND<500	-	500	-	-	-	-
1,1,2-Trichloroethane	ND<500	-	500	-	-	-	-
Trichloroethene	ND<500	5520	500	5000	-	110	60-140
Trichlorofluoromethane	ND<500	-	500	-	-	-	-
1,2,3-Trichloropropane	ND<500	-	500	-	-	-	-
1,2,4-Trimethylbenzene	ND<500	-	500	-	-	-	-
1,3,5-Trimethylbenzene	ND<500	-	500	-	-	-	-
Vinyl Chloride	ND<500	-	500	-	-	-	-
Xylenes, Total	ND<500	-	500	-	-	-	-

(Cont.)

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Prepared:	6/9/16	**BatchID:**	122120
Date Analyzed:	6/9/16	**Extraction Method:**	SW5030B
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Sample ID:**	MB/LCS-122120

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	25,000	13,000		12500	100	104	60-140
Toluene-d8	24,700	12,100		12500	99	96	60-140
4-BFB	2220	1150		1250	89	92	60-140

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Prepared:	6/15/16	**BatchID:**	122380
Date Analyzed:	6/15/16	**Extraction Method:**	TO17
Instrument:	GC37	**Analytical Method:**	TO17
Matrix:	Sorbent Tube	**Unit:**	µg/m³
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Sample ID:**	MB/LCS-122380

QC Summary Report for TO17

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Benzene	ND	12.4	2.0	18	-	69	60-140
Ethylbenzene	ND	15.1	2.0	18	-	84	60-140
Methyl-t-butyl ether (MTBE)	ND	14.4	2.0	18	-	80	60-140
Naphthalene	ND	15.1	2.0	18	-	84	60-140
Toluene	ND	13.7	2.0	18	-	76	60-140
Xylenes, Total	ND	43.0	6.0	54	-	80	60-140
Surrogate Recovery							
1,2-DCA-d4	74.2	77.7		100	74	78	60-140

(Cont.)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1606291
Date Prepared:	6/17/16	**BatchID:**	122510
Date Analyzed:	6/17/16	**Extraction Method:**	TO17
Instrument:	GC37	**Analytical Method:**	TO17
Matrix:	Sorbent Tube	**Unit:**	µg/m³
Project:	Imp WP: Task 2Fl; 1700 Jefferson	**Sample ID:**	MB/LCS-122510

QC Summary Report for TO17

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Benzene	ND	12.2	2.0	18	-	68	60-140
Ethylbenzene	ND	14.6	2.0	18	-	81	60-140
Methyl-t-butyl ether (MTBE)	ND	14.4	2.0	18	-	80	60-140
Naphthalene	ND	15.2	2.0	18	-	85	60-140
Toluene	ND	14.2	2.0	18	-	79	60-140
Xylenes, Total	ND	41.5	6.0	54	-	77	60-140
Surrogate Recovery							
1,2-DCA-d4	72.9	76.1		100	73	76	70-130

QA/QC Officer

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1606291 **ClientCode: AWR** **QuoteID: 6007**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Tyson Fulmer
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:
Email: tfulmer@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: Imp WP: Task 2FI; 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;
Date Received: 06/07/2016
Date Logged: 06/07/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1606291-001	SV-4	SoilGas	6/6/2016 16:43	☐	A	A	A	A		A	A					
1606291-002	SV-1	SoilGas	6/7/2016 11:20	☐								A				
1606291-003	SV-12	SoilGas	6/7/2016 11:59	☐								A				
1606291-004	Unused Summa 1	SoilGas	<Not Provided>	☐					A				A			
1606291-005	Unused Summa 2	SoilGas	<Not Provided>	☐					A				A			
1606291-006	Unused Summa 3	SoilGas	<Not Provided>	☐					A				A			

Test Legend:

1	ATMOSPHERICGAS_SG(UL/L)	2	HELIUM_LC_SOILGAS(%)	3	HELIUM+HYDROGEN_SOILGAS	4	LG_SUMMA_SOILGAS
5	PRUNUSEDSUMMA	6	TO15_Scan-SIM_SOIL(UG/M3)	7	TO15-8260_SOIL(UG/M3)	8	TO17VOC_ST(UGM3)
9	UNUSED_SUMMA	10		11		12	

Prepared by: Jena Alfaro

The following SampID: 001A contains testgroup.

Comments:

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: Imp WP: Task 2Fl; 1700 Jefferson
Comments:

QC Level:
Client Contact: Tyson Fulmer
Contact's Email: tfulmer@awrcorp.net

Work Order: 1606291
Date Logged: 6/7/2016

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1606291-001A	SV-4	SoilGas	ASTM D1946-90 (Helium) <Hydrogen_3>	1	1L Summa	☐	6/6/2016 16:43	5 days		☐	
			TO15 w/ Helium, O2, CO2 and Methane			☐		5 days		☐	
1606291-002A	SV-1	SoilGas	TO17 (VOCs) (µg/m³) <Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Naphthalene, Toluene, Xylenes, Total>	1	Sorbent Tube	☐	6/7/2016 11:20	5 days		☐	
1606291-003A	SV-12	SoilGas	TO17 (VOCs) (µg/m³) <Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Naphthalene, Toluene, Xylenes, Total>	1	Sorbent Tube	☐	6/7/2016 11:59	5 days		☐	
1606291-004A	Unused Summa 1	SoilGas	Unused Summa	1	1L Summa	☐	<Not Provided>	5 days		☐	
1606291-005A	Unused Summa 2	SoilGas	Unused Summa	1	1L Summa	☐	<Not Provided>	5 days		☐	
1606291-006A	Unused Summa 3	SoilGas	Unused Summa	1	1L Summa	☐	<Not Provided>	5 days		☐	

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

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

1606291

SAMPLE ANALYSIS/COMPOSITE REQUEST FORM
CHAIN-OF-CUSTODY

Invoice to:	AWR Corp	Date: 6/7/2016	Page: 1 of 1
Project Name: 1700 Jefferson		Location: Oakland CA	
Project #: Imp WP: Task 2 FI		EDF report: y / n email:	tfulmer@awrcorp.net
Project Manager:		Tel: 510-671-2087	Fax: (925) 938-1610
Laboratory:	McCampbell Analytical	Turnaround Time (days)	1 2 3 4 5 6 7 14 Standard X
Sampler Signature:			

Sample ID	Date	Time	Sample Matrix	# Containers	Type of Container	Preservative	Analyses Required: VOCs by TO-15/8260*	Fixed Gases CO2, CH4, CO, O2, H by ASTM D1946	Helium Leak Check %	BTEX, MTBE and Naphthaalene by EPA TO-17	Initial Presure	Final Pressue	Total ml drawn through tube
SV-4	6/6/2016	16:43	Air	1	Summa	None	X	X	X		30	4	NA
SV-1	6/7/2016	11:20	Air	1	Tube	None				X	NA		100
SV-12	6/7/2016	11:59	Air	1	TUbe	None				X	NA		250

*** Sample SV-4 is likely high in petroleum concentrations please include naphthalene in list of VOCs**
Samples SV-1 and SV-2 likely have high TPH concentrations.
NA: Not Applicable

Relinquished by:	Date	Time	Received by:	Date	Time
Tyson Fulmer	6/7/16	1410		6-7-16	1410
	6-7-16	1710		6/7/16	1710

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**6/7/2016 17:10**
Project Name:	**Imp WP: Task 2FI; 1700 Jefferson**	Date Logged:	**6/7/2016**
WorkOrder №:	**1606291** Matrix: SoilGas	Received by:	Jena Alfaro
Carrier:	Bernie Cummins (MAI Courier)	Logged by:	Jena Alfaro

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	
Sample/Temp Blank temperature	Temp: 2.7°C				NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☐	No	☐	NA ☑
Sample labels checked for correct preservation?	Yes	☑	No	☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA ☑
Samples Received on Ice?	Yes	☑	No	☐	
(Ice Type: WET ICE)					

UCMR3 Samples:

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

Comments:

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Analytical Report

WorkOrder: 1607224 **Amended:** 07/19/2016

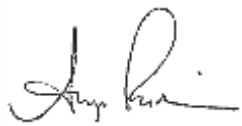
Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700 Jefferson

Project Received: 07/07/2016

Analytical Report reviewed & approved for release on 07/14/2016 by:



Angela Rydelius,
Laboratory Manager

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

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CDPH ELAP 1644 ♦ NELAP 4033ORELAP

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1607224

Glossary Abbreviation

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

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1607224

Analytical Qualifiers

S	Surrogate spike recovery outside accepted recovery limits
a3	sample diluted due to high organic content.
a9	reporting limit near, but not identical to, our standard reporting limit due to variable Encore/Solid sample weight
b1	aqueous sample that contains greater than ~1 vol. % sediment
c2	surrogate recovery outside of the control limits due to matrix interference.
c8	sample pH is greater than 2
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant

Quality Control Qualifiers

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

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/11/16-7/12/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Oxygenates and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C13-GW	1607224-001A	Water	07/06/2016 14:00	GC28	123596

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	07/11/2016 13:33
Benzene	**0.83**	0.50	1	07/11/2016 13:33
t-Butyl alcohol (TBA)	ND	2.0	1	07/11/2016 13:33
1,2-Dibromoethane (EDB)	ND	0.50	1	07/11/2016 13:33
1,2-Dichloroethane (1,2-DCA)	**4.5**	0.50	1	07/11/2016 13:33
Diisopropyl ether (DIPE)	ND	0.50	1	07/11/2016 13:33
Ethanol	ND	50	1	07/11/2016 13:33
Ethylbenzene	ND	0.50	1	07/11/2016 13:33
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/11/2016 13:33
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/11/2016 13:33
Toluene	ND	0.50	1	07/11/2016 13:33
Xylenes, Total	ND	0.50	1	07/11/2016 13:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	95	70-130	07/11/2016 13:33
Toluene-d8	93	70-130	07/11/2016 13:33
4-BFB	75	70-130	07/11/2016 13:33

Analyst(s): KF Analytical Comments: c8,b1

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/11/16-7/12/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Oxygenates and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C14-GW	1607224-002A	Water	07/06/2016 13:30	GC18	123596

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	2.5	5	07/12/2016 12:33
Benzene	ND	2.5	5	07/12/2016 12:33
t-Butyl alcohol (TBA)	ND	10	5	07/12/2016 12:33
1,2-Dibromoethane (EDB)	ND	2.5	5	07/12/2016 12:33
1,2-Dichloroethane (1,2-DCA)	**78**	2.5	5	07/12/2016 12:33
Diisopropyl ether (DIPE)	**7.3**	2.5	5	07/12/2016 12:33
Ethanol	ND	250	5	07/12/2016 12:33
Ethylbenzene	ND	2.5	5	07/12/2016 12:33
Ethyl tert-butyl ether (ETBE)	ND	2.5	5	07/12/2016 12:33
Methyl-t-butyl ether (MTBE)	ND	2.5	5	07/12/2016 12:33
Toluene	ND	2.5	5	07/12/2016 12:33
Xylenes, Total	ND	2.5	5	07/12/2016 12:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	118	70-130	07/12/2016 12:33
Toluene-d8	109	70-130	07/12/2016 12:33
4-BFB	96	70-130	07/12/2016 12:33

Analyst(s): MW Analytical Comments: b1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/11/16-7/12/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Oxygenates and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-GW	**1607224-003A**	**Water**	**07/06/2016 08:45**	**GC18**	**123596**

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	50	100	07/12/2016 13:11
Benzene	**570**	50	100	07/12/2016 13:11
t-Butyl alcohol (TBA)	ND	200	100	07/12/2016 13:11
1,2-Dibromoethane (EDB)	ND	50	100	07/12/2016 13:11
1,2-Dichloroethane (1,2-DCA)	ND	50	100	07/12/2016 13:11
Diisopropyl ether (DIPE)	ND	50	100	07/12/2016 13:11
Ethanol	ND	5000	100	07/12/2016 13:11
Ethylbenzene	**1900**	50	100	07/12/2016 13:11
Ethyl tert-butyl ether (ETBE)	ND	50	100	07/12/2016 13:11
Methyl-t-butyl ether (MTBE)	ND	50	100	07/12/2016 13:11
Toluene	**630**	50	100	07/12/2016 13:11
Xylenes, Total	**9300**	50	100	07/12/2016 13:11

Surrogates	REC (%)	Limits	
Dibromofluoromethane	117	70-130	07/12/2016 13:11
Toluene-d8	108	70-130	07/12/2016 13:11
4-BFB	97	70-130	07/12/2016 13:11

Analyst(s): MW Analytical Comments: b1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

MTBE and BTEX by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IDW	1607224-012A	Soil	07/06/2016 14:30	GC16	123411

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/09/2016 18:34
Ethylbenzene	ND	0.0050	1	07/09/2016 18:34
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/09/2016 18:34
Toluene	ND	0.0050	1	07/09/2016 18:34
Xylenes, Total	ND	0.0050	1	07/09/2016 18:34
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	101	70-130		07/09/2016 18:34
Toluene-d8	112	70-130		07/09/2016 18:34
Benzene-d6	97	60-140		07/09/2016 18:34
Ethylbenzene-d10	108	60-140		07/09/2016 18:34

Analyst(s): KF

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5035
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-8	1607224-004B	Sludge	07/06/2016 08:15	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.43	1	07/09/2016 11:09

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	07/09/2016 11:09
Benzene-d6	108	70-130	07/09/2016 11:09

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-13.5	1607224-005B	Sludge	07/06/2016 08:20	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.43	1	07/09/2016 11:50

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	07/09/2016 11:50
Benzene-d6	93	70-130	07/09/2016 11:50

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C13-21	1607224-006A	Soil	07/06/2016 13:15	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.52	1	07/09/2016 12:30

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	07/09/2016 12:30
Benzene-d6	93	70-130	07/09/2016 12:30

Analyst(s): KF Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5035
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C14-21	1607224-007A	Soil	07/06/2016 12:15	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.44	1	07/09/2016 13:11

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	07/09/2016 13:11
Benzene-d6	94	70-130	07/09/2016 13:11

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-3	1607224-009B	Sludge	07/06/2016 08:10	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.49	1	07/09/2016 13:51

Surrogates	REC (%)	Limits	
Dibromofluoromethane	100	70-130	07/09/2016 13:51
Benzene-d6	98	70-130	07/09/2016 13:51

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-16	1607224-010A	Soil	07/06/2016 09:35	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**0.50**	0.43	1	07/09/2016 14:32

Surrogates	REC (%)	Limits	
Dibromofluoromethane	100	70-130	07/09/2016 14:32
Benzene-d6	96	70-130	07/09/2016 14:32

Analyst(s): KF Analytical Comments: a9

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5035
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-22	1607224-011A	Soil	07/06/2016 08:30	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**170**	4.4	10	07/09/2016 15:12

Surrogates	REC (%)	Limits	
Dibromofluoromethane	108	70-130	07/09/2016 15:12
Benzene-d6	86	70-130	07/09/2016 15:12

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-3	1607224-013B	Sludge	07/06/2016 09:00	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.42	1	07/09/2016 15:53

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	07/09/2016 15:53
Benzene-d6	95	70-130	07/09/2016 15:53

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-8	1607224-014B	Sludge	07/06/2016 09:05	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.42	1	07/09/2016 16:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	103	70-130	07/09/2016 16:33
Benzene-d6	94	70-130	07/09/2016 16:33

Analyst(s): KF Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5035
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-20	**1607224-015A**	**Soil**	**07/06/2016 09:10**	**GC16**	**123417**

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**0.75**	0.49	1	07/09/2016 17:14

Surrogates	REC (%)	Limits	
Dibromofluoromethane	103	70-130	07/09/2016 17:14
Benzene-d6	92	70-130	07/09/2016 17:14

Analyst(s): KF Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/kg

TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IDW	1607224-012A	Soil	07/06/2016 14:30	GC16	123411

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.25	1	07/09/2016 18:34

Surrogates	REC (%)	Limits	
Dibromofluoromethane	103	70-130	07/09/2016 18:34
Benzene-d6	87	60-140	07/09/2016 18:34

Analyst(s): KF

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/11/16-7/12/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C13-GW	1607224-001A	Water	07/06/2016 14:00	GC28	123596

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	07/11/2016 13:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	113	70-130	07/11/2016 13:33

Analyst(s): KF Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C14-GW	1607224-002A	Water	07/06/2016 13:30	GC28	123596

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**160**	50	1	07/11/2016 14:11

Surrogates	REC (%)	Limits	
Dibromofluoromethane	114	70-130	07/11/2016 14:11

Analyst(s): KF Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-GW	1607224-003A	Water	07/06/2016 08:45	GC18	123596

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**39,000**	5000	100	07/12/2016 13:11

Surrogates	REC (%)	Limits	
Dibromofluoromethane	93	70-130	07/12/2016 13:11

Analyst(s): KF Analytical Comments: b1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/11/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/L

Methanol by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C13-GW	1607224-001A	Water	07/06/2016 14:00	GC28	123596

Analytes	Result	RL	DF	Date Analyzed
Methanol	ND	500	1	07/11/2016 13:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	114	70-130	07/11/2016 13:33

Analyst(s): KF Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C14-GW	1607224-002A	Water	07/06/2016 13:30	GC28	123596

Analytes	Result	RL	DF	Date Analyzed
Methanol	ND	500	1	07/11/2016 14:11

Surrogates	REC (%)	Limits	
Dibromofluoromethane	114	70-130	07/11/2016 14:11

Analyst(s): KF Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-GW	1607224-003A	Water	07/06/2016 08:45	GC28	123596

Analytes	Result	RL	DF	Date Analyzed
Methanol	ND	500	1	07/11/2016 14:50

Surrogates	REC (%)	Qualifiers	Limits	
Dibromofluoromethane	67	S	70-130	07/11/2016 14:50

Analyst(s): KF Analytical Comments: c2,b1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5035
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-8	1607224-004B	Sludge	07/06/2016 08:15	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0086	1	07/09/2016 11:09
Ethylbenzene	ND	0.0086	1	07/09/2016 11:09
Methyl-t-butyl ether (MTBE)	ND	0.0086	1	07/09/2016 11:09
Naphthalene	ND	0.0086	1	07/09/2016 11:09
Toluene	ND	0.0086	1	07/09/2016 11:09
Xylenes, Total	ND	0.0086	1	07/09/2016 11:09

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	07/09/2016 11:09
Toluene-d8	115	70-130	07/09/2016 11:09
4-BFB	89	70-130	07/09/2016 11:09
Benzene-d6	121	60-140	07/09/2016 11:09
Ethylbenzene-d10	139	60-140	07/09/2016 11:09
1,2-DCB-d4	99	60-140	07/09/2016 11:09

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-13.5	1607224-005B	Sludge	07/06/2016 08:20	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0087	1	07/09/2016 11:50
Ethylbenzene	ND	0.0087	1	07/09/2016 11:50
Methyl-t-butyl ether (MTBE)	ND	0.0087	1	07/09/2016 11:50
Naphthalene	ND	0.0087	1	07/09/2016 11:50
Toluene	ND	0.0087	1	07/09/2016 11:50
Xylenes, Total	ND	0.0087	1	07/09/2016 11:50

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	07/09/2016 11:50
Toluene-d8	113	70-130	07/09/2016 11:50
4-BFB	89	70-130	07/09/2016 11:50
Benzene-d6	103	60-140	07/09/2016 11:50
Ethylbenzene-d10	116	60-140	07/09/2016 11:50
1,2-DCB-d4	83	60-140	07/09/2016 11:50

Analyst(s): KF Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5035
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C13-21	1607224-006A	Soil	07/06/2016 13:15	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.010	1	07/09/2016 12:30
Ethylbenzene	ND	0.010	1	07/09/2016 12:30
Methyl-t-butyl ether (MTBE)	ND	0.010	1	07/09/2016 12:30
Naphthalene	ND	0.010	1	07/09/2016 12:30
Toluene	ND	0.010	1	07/09/2016 12:30
Xylenes, Total	ND	0.010	1	07/09/2016 12:30

Surrogates	REC (%)	Limits	
Dibromofluoromethane	97	70-130	07/09/2016 12:30
Toluene-d8	111	70-130	07/09/2016 12:30
4-BFB	87	70-130	07/09/2016 12:30
Benzene-d6	103	60-140	07/09/2016 12:30
Ethylbenzene-d10	123	60-140	07/09/2016 12:30
1,2-DCB-d4	84	60-140	07/09/2016 12:30

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C14-21	1607224-007A	Soil	07/06/2016 12:15	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0088	1	07/09/2016 13:11
Ethylbenzene	ND	0.0088	1	07/09/2016 13:11
Methyl-t-butyl ether (MTBE)	ND	0.0088	1	07/09/2016 13:11
Naphthalene	ND	0.0088	1	07/09/2016 13:11
Toluene	ND	0.0088	1	07/09/2016 13:11
Xylenes, Total	ND	0.0088	1	07/09/2016 13:11

Surrogates	REC (%)	Limits	
Dibromofluoromethane	99	70-130	07/09/2016 13:11
Toluene-d8	114	70-130	07/09/2016 13:11
4-BFB	91	70-130	07/09/2016 13:11
Benzene-d6	104	60-140	07/09/2016 13:11
Ethylbenzene-d10	113	60-140	07/09/2016 13:11
1,2-DCB-d4	87	60-140	07/09/2016 13:11

Analyst(s): KF Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5035
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-3	1607224-009B	Sludge	07/06/2016 08:10	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0098	1	07/09/2016 13:51
Ethylbenzene	ND	0.0098	1	07/09/2016 13:51
Methyl-t-butyl ether (MTBE)	ND	0.0098	1	07/09/2016 13:51
Naphthalene	ND	0.0098	1	07/09/2016 13:51
Toluene	ND	0.0098	1	07/09/2016 13:51
Xylenes, Total	ND	0.0098	1	07/09/2016 13:51

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	07/09/2016 13:51
Toluene-d8	111	70-130	07/09/2016 13:51
4-BFB	86	70-130	07/09/2016 13:51
Benzene-d6	109	60-140	07/09/2016 13:51
Ethylbenzene-d10	125	60-140	07/09/2016 13:51
1,2-DCB-d4	87	60-140	07/09/2016 13:51

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-16	1607224-010A	Soil	07/06/2016 09:35	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0087	1	07/09/2016 14:32
Ethylbenzene	ND	0.0087	1	07/09/2016 14:32
Methyl-t-butyl ether (MTBE)	ND	0.0087	1	07/09/2016 14:32
Naphthalene	ND	0.0087	1	07/09/2016 14:32
Toluene	ND	0.0087	1	07/09/2016 14:32
Xylenes, Total	ND	0.0087	1	07/09/2016 14:32

Surrogates	REC (%)	Limits	
Dibromofluoromethane	98	70-130	07/09/2016 14:32
Toluene-d8	109	70-130	07/09/2016 14:32
4-BFB	90	70-130	07/09/2016 14:32
Benzene-d6	106	60-140	07/09/2016 14:32
Ethylbenzene-d10	121	60-140	07/09/2016 14:32
1,2-DCB-d4	85	60-140	07/09/2016 14:32

Analyst(s): KF Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5035
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-22	1607224-011A	Soil	07/06/2016 08:30	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.088	10	07/09/2016 15:12
Ethylbenzene	**0.36**	0.088	10	07/09/2016 15:12
Methyl-t-butyl ether (MTBE)	ND	0.088	10	07/09/2016 15:12
Naphthalene	ND	0.088	10	07/09/2016 15:12
Toluene	ND	0.088	10	07/09/2016 15:12
Xylenes, Total	**1.3**	0.088	10	07/09/2016 15:12

Surrogates	REC (%)	Limits	
Dibromofluoromethane	106	70-130	07/09/2016 15:12
Toluene-d8	94	70-130	07/09/2016 15:12
4-BFB	80	70-130	07/09/2016 15:12
Benzene-d6	96	60-140	07/09/2016 15:12
Ethylbenzene-d10	134	60-140	07/09/2016 15:12
1,2-DCB-d4	96	60-140	07/09/2016 15:12

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-3	1607224-013B	Sludge	07/06/2016 09:00	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0083	1	07/09/2016 15:53
Ethylbenzene	ND	0.0083	1	07/09/2016 15:53
Methyl-t-butyl ether (MTBE)	ND	0.0083	1	07/09/2016 15:53
Naphthalene	ND	0.0083	1	07/09/2016 15:53
Toluene	ND	0.0083	1	07/09/2016 15:53
Xylenes, Total	ND	0.0083	1	07/09/2016 15:53

Surrogates	REC (%)	Limits	
Dibromofluoromethane	100	70-130	07/09/2016 15:53
Toluene-d8	114	70-130	07/09/2016 15:53
4-BFB	99	70-130	07/09/2016 15:53
Benzene-d6	105	60-140	07/09/2016 15:53
Ethylbenzene-d10	119	60-140	07/09/2016 15:53
1,2-DCB-d4	91	60-140	07/09/2016 15:53

Analyst(s): KF Analytical Comments: a9

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Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5035
Date Prepared:	7/7/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Volatile Organics by P&T and GC/MS [Encore Sampling]

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-8	1607224-014B	Sludge	07/06/2016 09:05	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0084	1	07/09/2016 16:33
Ethylbenzene	ND	0.0084	1	07/09/2016 16:33
Methyl-t-butyl ether (MTBE)	ND	0.0084	1	07/09/2016 16:33
Naphthalene	ND	0.0084	1	07/09/2016 16:33
Toluene	ND	0.0084	1	07/09/2016 16:33
Xylenes, Total	ND	0.0084	1	07/09/2016 16:33

Surrogates	REC (%)	Limits	
Dibromofluoromethane	102	70-130	07/09/2016 16:33
Toluene-d8	111	70-130	07/09/2016 16:33
4-BFB	95	70-130	07/09/2016 16:33
Benzene-d6	104	60-140	07/09/2016 16:33
Ethylbenzene-d10	116	60-140	07/09/2016 16:33
1,2-DCB-d4	89	60-140	07/09/2016 16:33

Analyst(s): KF Analytical Comments: a9

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-20	1607224-015A	Soil	07/06/2016 09:10	GC16	123417

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0098	1	07/09/2016 17:14
Ethylbenzene	ND	0.0098	1	07/09/2016 17:14
Methyl-t-butyl ether (MTBE)	ND	0.0098	1	07/09/2016 17:14
Naphthalene	**0.016**	0.0098	1	07/09/2016 17:14
Toluene	ND	0.0098	1	07/09/2016 17:14
Xylenes, Total	**0.012**	0.0098	1	07/09/2016 17:14

Surrogates	REC (%)	Limits	
Dibromofluoromethane	101	70-130	07/09/2016 17:14
Toluene-d8	111	70-130	07/09/2016 17:14
4-BFB	99	70-130	07/09/2016 17:14
Benzene-d6	102	60-140	07/09/2016 17:14
Ethylbenzene-d10	114	60-140	07/09/2016 17:14
1,2-DCB-d4	88	60-140	07/09/2016 17:14

Analyst(s): KF Analytical Comments: a9

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW3550B
Date Prepared:	7/11/16	**Analytical Method:**	SW8270C-SIM
Project:	1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-3	1607224-009A	Sludge	07/06/2016 08:10	GC35	123564

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	07/12/2016 20:43
Acenaphthylene	ND	0.010	1	07/12/2016 20:43
Anthracene	ND	0.010	1	07/12/2016 20:43
Benzo (a) anthracene	ND	0.010	1	07/12/2016 20:43
Benzo (a) pyrene	ND	0.010	1	07/12/2016 20:43
Benzo (b) fluoranthene	ND	0.010	1	07/12/2016 20:43
Benzo (g,h,i) perylene	ND	0.010	1	07/12/2016 20:43
Benzo (k) fluoranthene	ND	0.010	1	07/12/2016 20:43
Chrysene	ND	0.010	1	07/12/2016 20:43
Dibenzo (a,h) anthracene	ND	0.010	1	07/12/2016 20:43
Fluoranthene	ND	0.010	1	07/12/2016 20:43
Fluorene	ND	0.010	1	07/12/2016 20:43
Indeno (1,2,3-cd) pyrene	ND	0.010	1	07/12/2016 20:43
1-Methylnaphthalene	ND	0.010	1	07/12/2016 20:43
2-Methylnaphthalene	ND	0.010	1	07/12/2016 20:43
Naphthalene	ND	0.010	1	07/12/2016 20:43
Phenanthrene	ND	0.010	1	07/12/2016 20:43
Pyrene	ND	0.010	1	07/12/2016 20:43

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	97	30-130	07/12/2016 20:43
2-Fluorobiphenyl	100	30-130	07/12/2016 20:43

Analyst(s): REB

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW3550B
Date Prepared:	7/11/16	**Analytical Method:**	SW8270C-SIM
Project:	1700 Jefferson	**Unit:**	mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-3	1607224-013A	Sludge	07/06/2016 09:00	GC35	123564

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.10	10	07/12/2016 21:08
Acenaphthylene	ND	0.10	10	07/12/2016 21:08
Anthracene	ND	0.10	10	07/12/2016 21:08
Benzo (a) anthracene	ND	0.10	10	07/12/2016 21:08
Benzo (a) pyrene	ND	0.10	10	07/12/2016 21:08
Benzo (b) fluoranthene	ND	0.10	10	07/12/2016 21:08
Benzo (g,h,i) perylene	ND	0.10	10	07/12/2016 21:08
Benzo (k) fluoranthene	ND	0.10	10	07/12/2016 21:08
Chrysene	ND	0.10	10	07/12/2016 21:08
Dibenzo (a,h) anthracene	ND	0.10	10	07/12/2016 21:08
Fluoranthene	ND	0.10	10	07/12/2016 21:08
Fluorene	ND	0.10	10	07/12/2016 21:08
Indeno (1,2,3-cd) pyrene	ND	0.10	10	07/12/2016 21:08
1-Methylnaphthalene	ND	0.10	10	07/12/2016 21:08
2-Methylnaphthalene	ND	0.10	10	07/12/2016 21:08
Naphthalene	ND	0.10	10	07/12/2016 21:08
Phenanthrene	ND	0.10	10	07/12/2016 21:08
Pyrene	ND	0.10	10	07/12/2016 21:08

Surrogates	REC (%)	Limits	
1-Fluoronaphthalene	99	30-130	07/12/2016 21:08
2-Fluorobiphenyl	100	30-130	07/12/2016 21:08

Analyst(s): REB Analytical Comments: a3

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW3050B
Date Prepared:	7/7/16	**Analytical Method:**	SW6020
Project:	1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-8	1607224-004A	Sludge	07/06/2016 08:15	ICP-MS1	123410

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	07/12/2016 04:15
Chromium	**40**	0.50	1	07/12/2016 04:15
Lead	**2.4**	0.50	1	07/12/2016 04:15
Nickel	**33**	0.50	1	07/12/2016 04:15
Zinc	**22**	5.0	1	07/12/2016 04:15

Surrogates	REC (%)	Limits	
Terbium	89	70-130	07/12/2016 04:15

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-3	1607224-009A	Sludge	07/06/2016 08:10	ICP-MS3	123410

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	07/12/2016 03:24
Chromium	**51**	0.50	1	07/12/2016 03:24
Lead	**2.1**	0.50	1	07/12/2016 03:24
Nickel	**48**	0.50	1	07/12/2016 03:24
Zinc	**25**	5.0	1	07/12/2016 03:24

Surrogates	REC (%)	Limits	
Terbium	94	70-130	07/12/2016 03:24

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IDW	1607224-012A	Soil	07/06/2016 14:30	ICP-MS3	123410

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	07/12/2016 04:07
Chromium	**59**	0.50	1	07/12/2016 04:07
Lead	**3.1**	0.50	1	07/12/2016 04:07
Nickel	**47**	0.50	1	07/12/2016 04:07
Zinc	**30**	5.0	1	07/12/2016 20:01

Surrogates	REC (%)	Limits	
Terbium	94	70-130	07/12/2016 04:07

Analyst(s): DVH

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW3050B
Date Prepared:	7/7/16	**Analytical Method:**	SW6020
Project:	1700 Jefferson	**Unit:**	mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-3	1607224-013A	Sludge	07/06/2016 09:00	ICP-MS3	123410

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	07/12/2016 04:13
Chromium	**58**	0.50	1	07/12/2016 04:13
Lead	**3.3**	0.50	1	07/12/2016 04:13
Nickel	**50**	0.50	1	07/12/2016 04:13
Zinc	**29**	5.0	1	07/12/2016 20:26

Surrogates	REC (%)	Limits	
Terbium	93	70-130	07/12/2016 04:13

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-8	1607224-014A	Sludge	07/06/2016 09:05	ICP-MS1	123410

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	07/12/2016 00:14
Chromium	**46**	0.50	1	07/12/2016 00:14
Lead	ND	5.0	1	07/12/2016 00:14
Nickel	**36**	0.50	1	07/12/2016 00:14
Zinc	**30**	5.0	1	07/12/2016 00:14

Surrogates	REC (%)	Limits	
Terbium	88	70-130	07/12/2016 00:14

Analyst(s): DVH

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW3550B
Date Prepared:	7/7/16	**Analytical Method:**	SW8015B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-8	1607224-004A	Sludge	07/06/2016 08:15	GC9a	123389

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/08/2016 16:46
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/08/2016 16:46

Surrogates	REC (%)	Limits	
C9	93	70-130	07/08/2016 16:46

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-13.5	1607224-005A	Sludge	07/06/2016 08:20	GC9a	123389

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/08/2016 17:24
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/08/2016 17:24

Surrogates	REC (%)	Limits	
C9	93	70-130	07/08/2016 17:24

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-13.5	1607224-008A	Soil	07/06/2016 09:30	GC9a	123389

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/08/2016 18:03
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/08/2016 18:03

Surrogates	REC (%)	Limits	
C9	92	70-130	07/08/2016 18:03

Analyst(s): TK

(Cont.)

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Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW3550B
Date Prepared:	7/7/16	**Analytical Method:**	SW8015B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C19-3	1607224-009A	Sludge	07/06/2016 08:10	GC9a	123389

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/08/2016 19:21
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/08/2016 19:21

Surrogates	REC (%)	Limits	
C9	92	70-130	07/08/2016 19:21

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IDW	1607224-012A	Soil	07/06/2016 14:30	GC9a	123389

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/08/2016 20:39
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/08/2016 20:39

Surrogates	REC (%)	Limits	
C9	92	70-130	07/08/2016 20:39

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-3	1607224-013A	Sludge	07/06/2016 09:00	GC11B	123389

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	**7.7**	5.0	5	07/09/2016 06:13
TPH-Motor Oil (C18-C36)	**140**	25	5	07/09/2016 06:13

Surrogates	REC (%)	Limits	
C9	92	70-130	07/09/2016 06:13

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

(Cont.)

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Received:	7/7/16 15:40	**Extraction Method:**	SW3550B
Date Prepared:	7/7/16	**Analytical Method:**	SW8015B
Project:	1700 Jefferson	**Unit:**	mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9-8	**1607224-014A**	**Sludge**	**07/06/2016 09:05**	**GC9a**	**123389**

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/08/2016 21:56
TPH-Motor Oil (C18-C36)	**7.0**	5.0	1	07/08/2016 21:56

Surrogates	REC (%)	Limits	
C9	92	70-130	07/08/2016 21:56

Analyst(s): TK Analytical Comments: e7

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Prepared:	7/11/16	**BatchID:**	123596
Date Analyzed:	7/11/16	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123596 1607224-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
tert-Amyl methyl ether (TAME)	ND	7.18	0.50	10	-	72	54-140
Benzene	ND	9.07	0.50	10	-	91	47-158
t-Butyl alcohol (TBA)	ND	26.6	2.0	40	-	66	42-140
1,2-Dibromoethane (EDB)	ND	8.58	0.50	10	-	86	44-155
1,2-Dichloroethane (1,2-DCA)	ND	8.71	0.50	10	-	87	66-125
Diisopropyl ether (DIPE)	ND	7.31	0.50	10	-	73	57-136
Ethanol	ND	345	50	500	-	69	48-114
Ethylbenzene	ND	10.3	0.50	10	-	103	60-152
Ethyl tert-butyl ether (ETBE)	ND	7.63	0.50	10	-	76	55-137
Methyl-t-butyl ether (MTBE)	ND	7.83	0.50	10	-	78	53-139
Toluene	ND	9.52	0.50	10	-	95	52-137
Xylenes, Total	ND	31.5	0.50	30	-	105	70-130
Surrogate Recovery							
Dibromofluoromethane	23.3	22.8		25	93	91	70-130
Toluene-d8	23.4	23.8		25	94	95	70-130
4-BFB	1.76	2.08		2.5	70	83	70-130

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QA/QC Officer

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Prepared:	7/11/16	**BatchID:**	123596
Date Analyzed:	7/11/16	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123596 1607224-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	9.21	9.50	10	ND	92	95	69-139	3.09	20
Benzene	10.3	10.5	10	0.8266	95	97	69-141	1.66	20
t-Butyl alcohol (TBA)	29.4	30.2	40	ND	74	75	41-152	2.44	20
1,2-Dibromoethane (EDB)	9.23	9.41	10	ND	92	94	76-135	1.97	20
1,2-Dichloroethane (1,2-DCA)	11.7	11.8	10	4.492	72,F1	73	73-139	0.674	20
Diisopropyl ether (DIPE)	7.97	8.37	10	ND	78	82	72-140	4.91	20
Ethanol	349	354	500	ND	70	71	40-157	1.47	20
Ethylbenzene	11.4	10.6	10	ND	114	106	73-128	7.00	20
Ethyl tert-butyl ether (ETBE)	8.52	8.90	10	ND	85	89	71-140	4.40	20
Methyl-t-butyl ether (MTBE)	8.33	8.59	10	ND	83	86	73-139	3.09	20
Toluene	10.1	10.0	10	ND	99	98	71-128	0.510	20
Xylenes, Total	38.3	33.9	30	ND	127	112	70-130	12.3	20
Surrogate Recovery									
Dibromofluoromethane	22.0	22.0	25		88	88	73-131	0	20
Toluene-d8	23.2	23.0	25		93	92	72-117	1.13	20
4-BFB	2.14	2.09	2.5		86	83	74-116	2.72	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Prepared:	7/7/16	**BatchID:**	123411
Date Analyzed:	7/7/16	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123411 1607240-001AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Benzene	ND	0.0455	0.0050	0.050	-	91	63-137
Ethylbenzene	ND	0.0557	0.0050	0.050	-	111	74-142
Methyl-t-butyl ether (MTBE)	ND	0.0361	0.0050	0.050	-	72	58-122
Toluene	ND	0.0515	0.0050	0.050	-	103	76-130
Xylenes, Total	ND	0.166	0.0050	0.15	-	110	70-130
Surrogate Recovery							
Dibromofluoromethane	0.112	0.113		0.12	90	91	70-130
Toluene-d8	0.129	0.128		0.12	103	103	70-130
Benzene-d6	0.0963	0.0966		0.10	96	97	60-140
Ethylbenzene-d10	0.120	0.122		0.10	120	122	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzene	0.0330	0.0314	0.050	ND	66	63	63-137	4.74	20
Ethylbenzene	0.0326	0.0311	0.050	ND	65,F1	62,F1	74-142	4.77	20
Methyl-t-butyl ether (MTBE)	0.0264	0.0252	0.050	ND	53,F1	50,F1	58-122	4.81	20
Toluene	0.0324	0.0310	0.050	ND	65,F1	62,F1	76-130	4.39	20
Xylenes, Total	0.0959	0.0916	0.15	ND	64,F1	61,F1	70-130	4.56	20
Surrogate Recovery									
Dibromofluoromethane	0.109	0.108	0.12		87	87	70-130	0	20
Toluene-d8	0.116	0.115	0.12		93	92	70-130	0.565	20
Benzene-d6	0.0678	0.0663	0.10		68	66	60-140	2.25	20
Ethylbenzene-d10	0.0736	0.0715	0.10		74	71	60-140	2.89	20

CLIENT: Applied Water Resources
Work Order: 1607224
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 123417

SampleID **MB-123417**	TestCode: **8260GAS_E**	Units: **mg/kg**	Prep Date: **7/7/2016**
Batch ID: **123417**	TestNo: **SW8260B**	Run ID: **GC18_160714C**	Analysis Date: **7/8/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
TPH(g)	ND	0.50				-				
Surrogate Recovery										
Dibromofluoromethane	0.225		0.25		90	70 - 130				
Benzene-D6	0.221		0.2		111	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1607224
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 123417

SampleID **LCS-123417**	TestCode: **8260GAS_E**	Units: **mg/kg**	Prep Date: **7/7/2016**
Batch ID: **123417**	TestNo: **SW8260B**	Run ID: **GC18_160714C**	Analysis Date: **7/8/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
VOC (C6-C12)	6.44	0.50	6.44	0	100	70 - 130				
Surrogate Recovery										
Dibromofluoromethane	0.232		0.25		93	70 - 130				
Benzene-D6	0.221		0.2		111	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1607224
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 123417

SampleID **LCSD-123417**	TestCode: **8260GAS_E**			Units: **mg/kg**			Prep Date: **7/7/2016**			
Batch ID: **123417**	TestNo: **SW8260B**			Run ID: **GC18_160714C**			Analysis Date: **7/8/2016**			
Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
VOC (C6-C12)	6.49	0.50	6.44	0	101	70 - 130	6.4381591	0.810	20	
Surrogate Recovery										
Dibromofluoromethane	0.231		0.25		93	70 - 130				
Benzene-D6	0.234		0.2		117	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1607224
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 123411

SampleID **MB-123411**	TestCode: **8260GAS_S**	Units: **mg/kg**	Prep Date: **7/7/2016**
Batch ID: **123411**	TestNo: **SW8260B**	Run ID: **GC28_160711B**	Analysis Date: **7/7/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
TPH(g)	ND	0.25				-				
Surrogate Recovery										
Dibromofluoromethane	0.133		0.125		106	70 - 130				
Benzene-D6	0.104		0.1		103	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1607224
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 123411

SampleID **LCS-123411**	TestCode: **8260GAS_S**	Units: **mg/kg**	Prep Date: **7/7/2016**
Batch ID: **123411**	TestNo: **SW8260B**	Run ID: **GC28_160711B**	Analysis Date: **7/7/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
VOC (C6-C12)	3.16	0.25	3.2	0	99	74 - 142				
Surrogate Recovery										
Dibromofluoromethane	0.134		0.125		107	70 - 130				
Benzene-D6	0.104		0.1		104	60 - 140				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1607224
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 123596

SampleID **MB-123596**	TestCode: **8260GAS_W**	Units: **µg/L**	Prep Date: **7/11/2016**
Batch ID: **123596**	TestNo: **SW8260B**	Run ID: **GC28_160712C**	Analysis Date: **7/11/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
TPH(g)	ND	50				-				
Surrogate Recovery										
Dibromofluoromethane	27.6		25		110	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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Angela Rydelius, Lab Manager

CLIENT: Applied Water Resources
Work Order: 1607224
Project: 1700 Jefferson

ANALYTICAL QC SUMMARY REPORT

BatchID: 123596

SampleID **LCS-123596**	TestCode: **8260GAS_W**	Units: **µg/L**	Prep Date: **7/11/2016**
Batch ID: **123596**	TestNo: **SW8260B**	Run ID: **GC28_160712C**	Analysis Date: **7/11/2016**

Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
VOC (C6-C12)	610	50	644	0	95	70 - 130				
Surrogate Recovery										
Dibromofluoromethane	27.1		25		108	70 - 130				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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Angela Rydelius, Lab Manager

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Prepared:	7/11/16	**BatchID:**	123596
Date Analyzed:	7/11/16	**Extraction Method:**	SW5030B
Instrument:	GC28	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-123596

QC Summary for Methanol and Isopropyl Alcohol

Analyte	MB Result	RL			
Methanol	ND	500	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Methanol	2000	2160	2500	80	87	52-118	7.91	25

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Prepared:	7/7/16	**BatchID:**	123417
Date Analyzed:	7/8/16	**Extraction Method:**	SW5035
Instrument:	GC18	**Analytical Method:**	SW8260B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS/LCSD-123417

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Benzene	ND	0.010	-	-	-
Ethylbenzene	ND	0.010	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.010	-	-	-
Naphthalene	ND	0.010	-	-	-
Toluene	ND	0.010	-	-	-
Xylenes, Total	ND	0.010	-	-	-
Surrogate Recovery					
Dibromofluoromethane	0.281		0.25	113	70-130
Toluene-d8	0.293		0.25	117	70-130
4-BFB	0.0254		0.025	102	70-130
Benzene-d6	0.209		0.20	105	60-140
Ethylbenzene-d10	0.237		0.20	118	60-140
1,2-DCB-d4	0.198		0.20	99	60-140

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Benzene	0.109	0.104	0.10	109	104	63-137	4.27	20
Ethylbenzene	0.120	0.123	0.10	120	123	74-142	2.83	20
Methyl-t-butyl ether (MTBE)	0.105	0.0996	0.10	105	100	58-122	5.11	20
Naphthalene	0.0502	0.0514	0.10	50	51	23-73	2.40	20
Toluene	0.113	0.115	0.10	113	115	76-130	1.62	20
Xylenes, Total	0.340	0.350	0.30	113	117	70-130	3.02	20
Surrogate Recovery								
Dibromofluoromethane	0.293	0.291	0.25	117	116	70-130	0.625	20
Toluene-d8	0.292	0.296	0.25	117	119	70-130	1.32	20
4-BFB	0.0257	0.0260	0.025	103	104	70-130	1.08	20
Benzene-d6	0.210	0.222	0.20	105	111	60-140	5.90	20
Ethylbenzene-d10	0.243	0.259	0.20	122	129	60-140	6.21	20
1,2-DCB-d4	0.205	0.216	0.20	102	108	60-140	5.18	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Prepared:	7/11/16	**BatchID:**	123564
Date Analyzed:	7/12/16 - 7/14/16	**Extraction Method:**	SW3550B
Instrument:	GC17, GC35	**Analytical Method:**	SW8270C-SIM
Matrix:	Soil	**Unit:**	mg/kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123564 1607224-013AMS/MSD

QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	-	0.010	-	-	-	-
Acenaphthylene	ND	-	0.010	-	-	-	-
Anthracene	ND	-	0.010	-	-	-	-
Benzo (a) anthracene	ND	-	0.010	-	-	-	-
Benzo (a) pyrene	ND	0.180	0.010	0.20	-	90	23-129
Benzo (b) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.010	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.010	-	-	-	-
Chrysene	ND	0.163	0.010	0.20	-	81	38-104
Dibenzo (a,h) anthracene	ND	-	0.010	-	-	-	-
Fluoranthene	ND	-	0.010	-	-	-	-
Fluorene	ND	-	0.010	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.010	-	-	-	-
1-Methylnaphthalene	ND	0.186	0.010	0.20	-	93	59-106
2-Methylnaphthalene	ND	0.172	0.010	0.20	-	86	54-108
Naphthalene	ND	-	0.010	-	-	-	-
Phenanthrene	ND	0.168	0.010	0.20	-	84	48-107
Pyrene	ND	0.173	0.010	0.20	-	87	40-104
Surrogate Recovery							
1-Fluoronaphthalene	0.438	0.363		0.50	88	73	63-123
2-Fluorobiphenyl	0.464	0.354		0.50	93	71	55-127

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzo (a) pyrene	NR	NR		ND<0.1	NR	NR	-	NR	
Chrysene	NR	NR		ND<0.1	NR	NR	-	NR	
1-Methylnaphthalene	NR	NR		ND<0.1	NR	NR	-	NR	
2-Methylnaphthalene	NR	NR		ND<0.1	NR	NR	-	NR	
Phenanthrene	NR	NR		ND<0.1	NR	NR	-	NR	
Pyrene	NR	NR		ND<0.1	NR	NR	-	NR	
Surrogate Recovery									
1-Fluoronaphthalene	NR	NR			NR	NR	-	NR	
2-Fluorobiphenyl	NR	NR			NR	NR	-	NR	

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Prepared:	7/7/16	**BatchID:**	123410
Date Analyzed:	7/8/16	**Extraction Method:**	SW3050B
Instrument:	ICP-MS1, ICP-MS3	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123410 1607226-002AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Cadmium	ND	50.5	0.25	50	-	101	75-125
Chromium	ND	49.7	0.50	50	-	99	75-125
Lead	ND	48.6	0.50	50	-	97	75-125
Nickel	ND	49.9	0.50	50	-	100	75-125
Zinc	ND	502	5.0	500	-	100	75-125
Surrogate Recovery							
Terbium	462	474		500	92	95	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Cadmium	48.9	49.9	50	0.45	97	99	75-125	2.00	20
Chromium	115	116	50	61	108	110	75-125	0.949	20
Lead	59.0	58.7	50	10.45	97	97	75-125	0	20
Nickel	135	131	50	81	109	100	75-125	3.31	20
Zinc	573	574	500	97	95	95	75-125	0	20
Surrogate Recovery									
Terbium	497	484	500		99	97	70-130	2.61	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Cadmium	ND<1.2	0.45	-	-
Chromium	63.4	61	3.93	20
Lead	10.2	10.45	2.39	-
Nickel	80.2	81	0.988	20
Zinc	97.2	97	0.206	-

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607224
Date Prepared:	7/7/16	**BatchID:**	123389
Date Analyzed:	7/7/16	**Extraction Method:**	SW3550B
Instrument:	GC39B	**Analytical Method:**	SW8015B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123389 1607218-001AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	44.9	1.0	40	-	112	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
Surrogate Recovery							
C9	23.7	23.5		25	95	94	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	66.1	64.9	40	22.56	109	106	70-130	1.83	30
Surrogate Recovery									
C9	23.6	23.6	25		94	94	70-130	0	30

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1607224 **ClientCode: AWR**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:
Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;

Date Received: 07/07/2016
Date Logged: 07/07/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1607224-001	C13-GW	Water	7/6/2016 14:00	☐	A				A	A						
1607224-002	C14-GW	Water	7/6/2016 13:30	☐	A				A	A						
1607224-003	C19-GW	Water	7/6/2016 8:45	☐	A				A	A						
1607224-004	C19-8	Sludge	7/6/2016 8:15	☐			B				B		A	A	A	
1607224-005	C19-13.5	Sludge	7/6/2016 8:20	☐			B				B				A	
1607224-006	C13-21	Soil	7/6/2016 13:15	☐			A				A					
1607224-007	C14-21	Soil	7/6/2016 12:15	☐			A				A					
1607224-008	SV9-13.5	Soil	7/6/2016 9:30	☐											A	
1607224-009	C19-3	Sludge	7/6/2016 8:10	☐			B				B	A	A		A	
1607224-010	SV9-16	Soil	7/6/2016 9:35	☐			A				A					
1607224-011	C19-22	Soil	7/6/2016 8:30	☐			A				A					
1607224-012	IDW	Soil	7/6/2016 14:30	☐		A		A					A		A	
1607224-013	SV9-3	Sludge	7/6/2016 9:00	☐			B				B	A	A		A	
1607224-014	SV9-8	Sludge	7/6/2016 9:05	☐			B				B		A		A	
1607224-015	SV9-20	Soil	7/6/2016 9:10	☐			A				A					

Test Legend:

1	8260B_9OXYBTEX_W	2	8260B_MBTEX_S	3	8260GAS_E	4	8260GAS_S
5	8260GAS_W	6	8260IPAMEOH_W	7	8260VOC_E	8	8270_PNA_S
9	LUFTMS_6020_TTLC_S	10	PREDF REPORT	11	TPH(DMO)_S	12	

Prepared by: Jena Alfaro

The following SampIDs: 001A, 002A, 003A, 004B, 005B, 006A, 007A, 009B, 010A, 011A, 012A, 013B, 014B, 015A contain testgroup.

Comments:

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1607224
Date Logged: 7/7/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1607224-001A	C13-GW	Water	TPH(g) & BTEX & 9 Oxys by 8260B	2	VOA w/ HCl	☐	7/6/2016 14:00	5 days	25%+	☐	
1607224-002A	C14-GW	Water	TPH(g) & BTEX & 9 Oxys by 8260B	2	VOA w/ HCl	☐	7/6/2016 13:30	5 days	10%+	☐	
1607224-003A	C19-GW	Water	TPH(g) & BTEX & 9 Oxys by 8260B	2	VOA w/ HCl	☐	7/6/2016 8:45	5 days	25%+	☐	
1607224-004A	C19-8	Sludge	SW8015B (Diesel & Motor Oil)	1	8OZ GJ	☐	7/6/2016 8:15	5 days		☐	
			SW6020 (LUFT)			☐		5 days		☐	
1607224-004B	C19-8	Sludge	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	7/6/2016 8:15	5 days		☐	
1607224-005A	C19-13.5	Sludge	SW8015B (Diesel & Motor Oil)	1	16OZ GJ	☐	7/6/2016 8:20	5 days		☐	
1607224-005B	C19-13.5	Sludge	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	7/6/2016 8:20	5 days		☐	
1607224-006A	C13-21	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	7/6/2016 13:15	5 days		☐	
1607224-007A	C14-21	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	7/6/2016 12:15	5 days		☐	
1607224-008A	SV9-13.5	Soil	SW8015B (Diesel & Motor Oil)	1	16OZ GJ	☐	7/6/2016 9:30	5 days		☐	
1607224-009A	C19-3	Sludge	SW8015B (Diesel & Motor Oil)	1	8OZ GJ	☐	7/6/2016 8:10	5 days		☐	
			SW6020 (LUFT)			☐		5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1607224-009B	C19-3	Sludge	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	7/6/2016 8:10	5 days		☐	

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

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1607224
Date Logged: 7/7/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1607224-010A	SV9-16	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	7/6/2016 9:35	5 days		☐	
1607224-011A	C19-22	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	7/6/2016 8:30	5 days		☐	
1607224-012A	IDW	Soil	SW8015B (Diesel & Motor Oil)	1	16OZ GJ	☐	7/6/2016 14:30	5 days		☐	
			SW6020 (LUFT)			☐		5 days		☐	
			TPH(g) & MBTEX by 8260B			☐		5 days		☐	
1607224-013A	SV9-3	Sludge	SW8015B (Diesel & Motor Oil)	1	8OZ GJ	☐	7/6/2016 9:00	5 days		☐	
			SW6020 (LUFT)			☐		5 days		☐	
			SW8270C (PAHs/PNAs)			☐		5 days		☐	
1607224-013B	SV9-3	Sludge	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	7/6/2016 9:00	5 days		☐	
1607224-014A	SV9-8	Sludge	SW8015B (Diesel & Motor Oil)	1	8OZ GJ	☐	7/6/2016 9:05	5 days		☐	
			SW6020 (LUFT)			☐		5 days		☐	
1607224-014B	SV9-8	Sludge	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	7/6/2016 9:05	5 days		☐	
1607224-015A	SV9-20	Soil	TPH(g) & 8260 (Misc. Compounds) by GCMS [Encore]	1	Encore Sampler	☐	7/6/2016 9:10	5 days		☐	

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

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

1607224

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ Write On (DW) ☐ EQuIS ☐ 10 DAY ☐

Effluent Sample Requiring "J" flag ☐ UST Clean Up Fund Project ☐; Claim # 605

Report To: Yola Bayram **Bill To:** AWR

Company: Applied Water Resources Corp

2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501

Tele: (510) 671-2088 **E-Mail:** ybayram@awrcorp.net

Project #: 1700 **Project Name:** 1700 Jefferson

Project Location: 1700 Jefferson **Purchase Order#**

Sampler Signature:

SAMPLE ID	Location/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	MATRIX: Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	METHOD PRESERVED: HCL	HNO_3	Other	Analysis Request: BTEX & TPH as Gas (8021/8015) MTBE 8260	Naphtalene	LUFT 5 Metals (200.8 / 6020)***	PAHs	TPH as Diesel and Motor OII (8015)	Fuel Oxygenates, Lead Scavengers	Ethanol and Methanol
C13-GW		7-6-16	1400	2	X								X			X					X	X
C14-GW			1330	2	X								X			X					X	X
C19-GW			845	2	X								X			X					X	X
C19-8			815	2					X						X	X	X	X		X		
C19-13.5			820	2					X						X	X	X			X		
C13-21			1315	1					X						X	X	X					
C14-21			1215	1					X						X	X	X					
SV9-13.5			930	1					X						X					X		
C19-3			810	2					X						X	X	X	X	X	X		
SV9-16			935	1					X						X	X	X					
C19-22			830	1					X						X	X	X					

Geotracker # T0600100196 Quote ID#6007

Relinquished By:	Date:	Time:	Received By:
	7-7-16	1145	
Relinquished By:	Date:	Time:	Received By:
	7-7-16	1540	
Relinquished By:	Date:	Time:	Received By:

ICE/t° 4, Twet

GOOD CONDITION_____

HEAD SPACE ABSENT_____

DECHLORINATED IN LAB_____

APPROPRIATE CONTAINERS_____

PRESERVED IN LAB_____

COMMENTS:

PRESERVATION VOAS O&G METALS OTHER HAZARDOUS: _____ pH<2 _____

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ Write On (DW) ☐ EQuIS ☐ 10 DAY ☐

Effluent Sample Requiring "J" flag ☐ UST Clean Up Fund Project ☒; Claim # 605

Report To: Yola Bayram — Bill To: AWR

Company: Applied Water Resources Corp

2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501

Tele: (510) 671-2088 — E-Mail: ybayram@awrcorp.net

Project #: 1700 — Project Name: 1700 Jefferson

Project Location: 1700 Jefferson — Purchase Order#

Sampler Signature:

SAMPLE ID	Location/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	MATRIX: Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	METHOD PRESERVED: HCL	HNO_3	Other	Analysis Request: BTEX & TPH as Gas (~~8021/8015~~) MTBE	Naphtalene	LUFT 5 Metals (200.8 / 6020)***	PAHs	TPH as Diesel and Motor Oil (8015)	Fuel Oxygenates, Lead Scavengers	Ethanol and Methanol
IDW		7/6/16	1430	1					X						X	X		X		X		
SV9-3			900	2					X						X	X	X	X	X	X		
SV9-8			905	2					X						X	X	X	X		X		
SV9-20			910	1					X						X	X	X					

Geotracker # T0600100196 Quote ID#6007

Relinquished By:	Date:	Time:	Received By:
	7-7-16	1145	
Relinquished By:	Date:	Time:	Received By:
	7-7-16	1540	
Relinquished By:	Date:	Time:	Received By:

ICE/t°_____
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____
PRESERVED IN LAB_____

COMMENTS: Quote 6007

VOAS O&G METALS OTHER HAZARDOUS:
PRESERVATION_____ pH<2_____

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**7/7/2016 15:40**
Project Name:	**1700 Jefferson**	Date Logged:	**7/7/2016**
WorkOrder №:	**1607224** Matrix: Sludge/Soil/Water	Received by:	Jena Alfaro
Carrier:	Bernie Cummins (MAI Courier)	Logged by:	Jena Alfaro

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Sample/Temp Blank temperature	Temp: 4.7°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	NA ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	
	(Ice Type: WET ICE)		

UCMR3 Samples:

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

Comments:

McCampbell Analytical, Inc.
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Analytical Report

WorkOrder: 1607225

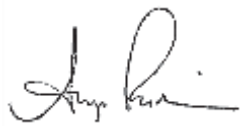
Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700 Jefferson

Project Received: 07/07/2016

Analytical Report reviewed & approved for release on 07/13/2016 by:



Angela Rydelius,
Laboratory Manager

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1607225

Glossary Abbreviation

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

Analytical Qualifiers

c10	estimated value.

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Received:	7/7/16 15:40	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	7/11/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	µL/L

Atmospheric gas Oxygen and Nitrogen

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9	1607225-001A	SoilGas	07/06/2016 13:08	GC26	123622

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.77	23.61	AK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	**29,000**	4000	1	07/11/2016 15:30

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Received:	7/7/16 15:40	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	7/11/16	**Analytical Method:**	ASTM D 1946-90
Project:	1700 Jefferson	**Unit:**	uL/L

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9	1607225-001A	SoilGas	07/06/2016 13:08	GC26	123620

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.77	23.51	AK

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	**58,000**	800	20	07/11/2016 11:55
Carbon Monoxide	ND	40	1	07/11/2016 11:17
Methane	**60**	2.0	1	07/11/2016 11:17

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/12/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9	1607225-001A	SoilGas	07/06/2016 13:08	GC16	123693

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.77	23.51	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	200,000	20	07/12/2016 15:23
tert-Amyl methyl ether (TAME)	ND	10,000	20	07/12/2016 15:23
Benzene	**24,000**	10,000	20	07/12/2016 15:23
Bromobenzene	ND	10,000	20	07/12/2016 15:23
Bromochloromethane	ND	10,000	20	07/12/2016 15:23
Bromodichloromethane	ND	10,000	20	07/12/2016 15:23
Bromoform	ND	10,000	20	07/12/2016 15:23
Bromomethane	ND	10,000	20	07/12/2016 15:23
2-Butanone (MEK)	ND	40,000	20	07/12/2016 15:23
t-Butyl alcohol (TBA)	ND	100,000	20	07/12/2016 15:23
n-Butyl benzene	ND	10,000	20	07/12/2016 15:23
sec-Butyl benzene	ND	10,000	20	07/12/2016 15:23
tert-Butyl benzene	**13,000**	10,000	20	07/12/2016 15:23
Carbon Disulfide	ND	10,000	20	07/12/2016 15:23
Carbon Tetrachloride	ND	10,000	20	07/12/2016 15:23
Chlorobenzene	ND	10,000	20	07/12/2016 15:23
Chloroethane	ND	10,000	20	07/12/2016 15:23
Chloroform	ND	10,000	20	07/12/2016 15:23
Chloromethane	ND	10,000	20	07/12/2016 15:23
2-Chlorotoluene	ND	10,000	20	07/12/2016 15:23
4-Chlorotoluene	ND	10,000	20	07/12/2016 15:23
Dibromochloromethane	ND	10,000	20	07/12/2016 15:23
1,2-Dibromo-3-chloropropane	ND	10,000	20	07/12/2016 15:23
1,2-Dibromoethane (EDB)	ND	10,000	20	07/12/2016 15:23
Dibromomethane	ND	10,000	20	07/12/2016 15:23
1,2-Dichlorobenzene	ND	10,000	20	07/12/2016 15:23
1,3-Dichlorobenzene	ND	10,000	20	07/12/2016 15:23
1,4-Dichlorobenzene	ND	10,000	20	07/12/2016 15:23
Dichlorodifluoromethane	ND	10,000	20	07/12/2016 15:23
1,1-Dichloroethane	ND	10,000	20	07/12/2016 15:23
1,2-Dichloroethane (1,2-DCA)	ND	10,000	20	07/12/2016 15:23
1,1-Dichloroethene	ND	10,000	20	07/12/2016 15:23
cis-1,2-Dichloroethene	ND	10,000	20	07/12/2016 15:23

(Cont.)

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Angela Rydelius, Lab Manager

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/12/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9	1607225-001A	SoilGas	07/06/2016 13:08	GC16	123693

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.77	23.51	AK

Analytes	Result	RL	DF	Date Analyzed
trans-1,2-Dichloroethene	ND	10,000	20	07/12/2016 15:23
1,2-Dichloropropane	ND	10,000	20	07/12/2016 15:23
1,3-Dichloropropane	ND	10,000	20	07/12/2016 15:23
2,2-Dichloropropane	ND	10,000	20	07/12/2016 15:23
1,1-Dichloropropene	ND	10,000	20	07/12/2016 15:23
cis-1,3-Dichloropropene	ND	10,000	20	07/12/2016 15:23
trans-1,3-Dichloropropene	ND	10,000	20	07/12/2016 15:23
Diisopropyl ether (DIPE)	ND	10,000	20	07/12/2016 15:23
Ethylbenzene	**44,000**	10,000	20	07/12/2016 15:23
Ethyl tert-butyl ether (ETBE)	ND	10,000	20	07/12/2016 15:23
Freon 113	ND	10,000	20	07/12/2016 15:23
Hexachlorobutadiene	ND	10,000	20	07/12/2016 15:23
Hexachloroethane	ND	10,000	20	07/12/2016 15:23
2-Hexanone	ND	10,000	20	07/12/2016 15:23
Isopropylbenzene	ND	10,000	20	07/12/2016 15:23
4-Isopropyl toluene	ND	10,000	20	07/12/2016 15:23
Methyl-t-butyl ether (MTBE)	ND	10,000	20	07/12/2016 15:23
Methylene chloride	ND	10,000	20	07/12/2016 15:23
4-Methyl-2-pentanone (MIBK)	ND	10,000	20	07/12/2016 15:23
Naphthalene	ND	10,000	20	07/12/2016 15:23
n-Propyl benzene	**29,000**	10,000	20	07/12/2016 15:23
Styrene	ND	10,000	20	07/12/2016 15:23
1,1,1,2-Tetrachloroethane	ND	10,000	20	07/12/2016 15:23
1,1,2,2-Tetrachloroethane	ND	10,000	20	07/12/2016 15:23
Tetrachloroethene	ND	10,000	20	07/12/2016 15:23
Toluene	ND	10,000	20	07/12/2016 15:23
1,2,3-Trichlorobenzene	ND	10,000	20	07/12/2016 15:23
1,2,4-Trichlorobenzene	ND	10,000	20	07/12/2016 15:23
1,1,1-Trichloroethane	ND	10,000	20	07/12/2016 15:23
1,1,2-Trichloroethane	ND	10,000	20	07/12/2016 15:23
Trichloroethene	ND	10,000	20	07/12/2016 15:23
Trichlorofluoromethane	ND	10,000	20	07/12/2016 15:23
1,2,3-Trichloropropane	ND	10,000	20	07/12/2016 15:23

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/12/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9	1607225-001A	SoilGas	07/06/2016 13:08	GC16	123693

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.77	23.51	AK

Analytes	Result	RL	DF	Date Analyzed
1,2,4-Trimethylbenzene	**33,000**	10,000	20	07/12/2016 15:23
1,3,5-Trimethylbenzene	**18,000**	10,000	20	07/12/2016 15:23
Vinyl Chloride	ND	10,000	20	07/12/2016 15:23
Xylenes, Total	**64,000**	10,000	20	07/12/2016 15:23
Surrogates	**REC (%)**	**Limits**		
Dibromofluoromethane	127	70-130		07/12/2016 15:23
Toluene-d8	100	70-130		07/12/2016 15:23
4-BFB	88	70-130		07/12/2016 15:23

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Received:	7/7/16 15:40	**Extraction Method:**	SW5030B
Date Prepared:	7/12/16	**Analytical Method:**	SW8260B
Project:	1700 Jefferson	**Unit:**	µg/m³

Leak Check Compound

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV9	1607225-001A	SoilGas	07/06/2016 13:08	GC16	123693

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.77	23.51	AK

Analytes	Result	RL	DF	Date Analyzed
2-Propanol	ND	400,000	20	07/12/2016 15:23

Analytical Comments: c10

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Prepared:	7/11/16	**BatchID:**	123622
Date Analyzed:	7/11/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	µL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123622

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Oxygen	ND	5520	2000	7000	-	79	70-130

QA/QC Officer

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Prepared:	7/11/16	**BatchID:**	123620
Date Analyzed:	7/11/16	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	uL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123620

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Carbon Dioxide	ND	96.6	20	100	-	97	70-130
Carbon Monoxide	ND	76.3	20	100	-	76	70-130
Methane	ND	92.8	1.0	100	-	93	70-130

QA/QC Officer

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Prepared:	7/12/16	**BatchID:**	123693
Date Analyzed:	7/12/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123693

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	5000	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	5440	250	5000	-	109	60-140
Benzene	ND	5680	250	5000	-	114	60-140
Bromobenzene	ND	-	250	-	-	-	-
Bromochloromethane	ND	-	250	-	-	-	-
Bromodichloromethane	ND	-	250	-	-	-	-
Bromoform	ND	-	250	-	-	-	-
Bromomethane	ND	-	250	-	-	-	-
2-Butanone (MEK)	ND	-	1000	-	-	-	-
t-Butyl alcohol (TBA)	ND	18,200	2500	20000	-	91	60-140
n-Butyl benzene	ND	-	250	-	-	-	-
sec-Butyl benzene	ND	-	250	-	-	-	-
tert-Butyl benzene	ND	-	250	-	-	-	-
Carbon Disulfide	ND	-	250	-	-	-	-
Carbon Tetrachloride	ND	-	250	-	-	-	-
Chlorobenzene	ND	5190	250	5000	-	104	60-140
Chloroethane	ND	-	250	-	-	-	-
Chloroform	ND	-	250	-	-	-	-
Chloromethane	ND	-	250	-	-	-	-
2-Chlorotoluene	ND	-	250	-	-	-	-
4-Chlorotoluene	ND	-	250	-	-	-	-
Dibromochloromethane	ND	-	250	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	250	-	-	-	-
1,2-Dibromoethane (EDB)	ND	5000	250	5000	-	100	60-140
Dibromomethane	ND	-	250	-	-	-	-
1,2-Dichlorobenzene	ND	-	250	-	-	-	-
1,3-Dichlorobenzene	ND	-	250	-	-	-	-
1,4-Dichlorobenzene	ND	-	250	-	-	-	-
Dichlorodifluoromethane	ND	-	250	-	-	-	-
1,1-Dichloroethane	ND	-	250	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	5220	250	5000	-	104	60-140
1,1-Dichloroethene	ND	5560	250	5000	-	111	60-140
cis-1,2-Dichloroethene	ND	-	250	-	-	-	-
trans-1,2-Dichloroethene	ND	-	250	-	-	-	-
1,2-Dichloropropane	ND	-	250	-	-	-	-
1,3-Dichloropropane	ND	-	250	-	-	-	-
2,2-Dichloropropane	ND	-	250	-	-	-	-

(Cont.)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Prepared:	7/12/16	**BatchID:**	123693
Date Analyzed:	7/12/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123693

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	250	-	-	-	-
cis-1,3-Dichloropropene	ND	-	250	-	-	-	-
trans-1,3-Dichloropropene	ND	-	250	-	-	-	-
Diisopropyl ether (DIPE)	ND	5630	250	5000	-	113	60-140
Ethylbenzene	ND	-	250	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	5640	250	5000	-	113	60-140
Freon 113	ND	-	250	-	-	-	-
Hexachlorobutadiene	ND	-	250	-	-	-	-
Hexachloroethane	ND	-	250	-	-	-	-
2-Hexanone	ND	-	250	-	-	-	-
Isopropylbenzene	ND	-	250	-	-	-	-
4-Isopropyl toluene	ND	-	250	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	5490	250	5000	-	110	60-140
Methylene chloride	ND	-	250	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	250	-	-	-	-
Naphthalene	ND	-	250	-	-	-	-
n-Propyl benzene	ND	-	250	-	-	-	-
Styrene	ND	-	250	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	250	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	250	-	-	-	-
Tetrachloroethene	ND	-	250	-	-	-	-
Toluene	ND	5490	250	5000	-	110	60-140
1,2,3-Trichlorobenzene	ND	-	250	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	250	-	-	-	-
1,1,1-Trichloroethane	ND	-	250	-	-	-	-
1,1,2-Trichloroethane	ND	-	250	-	-	-	-
Trichloroethene	ND	5690	250	5000	-	114	60-140
Trichlorofluoromethane	ND	-	250	-	-	-	-
1,2,3-Trichloropropane	ND	-	250	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	250	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	250	-	-	-	-
Vinyl Chloride	ND	-	250	-	-	-	-
Xylenes, Total	ND	16,200	250	15000	-	108	60-140

(Cont.)

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1607225
Date Prepared:	7/12/16	**BatchID:**	123693
Date Analyzed:	7/12/16	**Extraction Method:**	SW5030B
Instrument:	GC16	**Analytical Method:**	SW8260B
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-123693

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	13,300	13,100		12500	106	105	60-140
Toluene-d8	12,800	12,600		12500	102	101	60-140
4-BFB	1090	1160		1250	87	93	60-140

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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1607225 **ClientCode: AWR** **QuoteID: 6007**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:

Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TAT: 5 days;

Date Received: 07/07/2016
Date Logged: 07/07/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1607225-001	SV9	SoilGas	7/6/2016 13:08	☐	A	A	A	A	A	A	A					

Test Legend:

1	ATMOSPHERICGAS_SG(UL/L)	2	LG_SUMMA_SOILGAS	3	PREDF REPORT	4	TO15_Scan-SIM_SOIL(UG/M3)
5	TO15-8260_SOIL(UG/M3)	6	TO15-LC_SOIL(UG/M3)	7	TO15-LC8260_SOIL(UG/M3)	8	
9		10		11		12	

Prepared by: Jena Alfaro

The following SampID: 001A contains testgroup.

Comments:

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments:

QC Level:
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1607225
Date Logged: 7/7/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1607225-001A	SV9	SoilGas	TO15 for Soil Vapor (Scan-SIM)	1	1L Summa	☐	7/6/2016 13:08	5 days		☐	
			ASTM D1946-90 (Light Gases) <Carbon Dioxide_2, Carbon Monoxide_2, Methane_4>			☐		5 days		☐	
			ASTM D1946-90 (Light Gases, Atmospheric) <Oxygen>			☐		5 days		☐	

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

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

1607225

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH ☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐ 5 DAY ☒

GeoTracker EDF ☒ PDF ☒ EDD ☐ EQuIS ☐ 10 DAY ☐

UST CLEAN UP FUND ☒ ; Claim # 605

Report To: Yola Bayram **Bill To:** AWR

Company: Applied Water Resources Corp

2363 Mariner Sq Dr, Ste 245, Alameda, CA 94501

E-Mail : Ybayram@awrcorp.net

Tele: (510) 6712088 **Fax:** ( )

Project #: 1700 **Project Name1700 Jefferson:**

Project Location: 1700 Jefferson

Sampler Signature:

Field Sample ID (Location)	Collection Date	Collection Time	Canister SN#	Sampler Kit SN#	VOCs by TO-15 (ug/m3)	8010 by TO-15 (ug/m3)	TPH(g) (ug/m3)	LEED (inc. 4PCH, Formaldehyde, CO, Total VOCs)	Fixed Gas: CO2, Methane, Ethane, Ethylene, Acetylene, CO (please circle or indicate in notes) uL/L	Fixed Gas: O2, N2 (please circle) uL/L	Fixed Gas: Propane uL/L	Helium Leak Check (%)	Leak Check (IPA) Norflorane, 1,1-difluroethane) ug/m3	APH: Aliphatic and/or Aromatic (please circle) ug/m3	Other:	Matrix: Soilgas	Matrix: Indoor Air	Canister Pressure/ Vacuum: Initial	Canister Pressure/ Vacuum: Final
SV9	7-6-16	1308	J1868-1288	316-767	X				X	X			X			X		25	4

Helium Shroud SN#

Other:

Notes: Please Specify units if different than default: VOCs is reported in ug/m3, fixed gas is reported in uL/L. Leak check default is IPA.

Relinquished By:	Date:	Time:	Received By:
	7-7-16	1145	
Relinquished By:	Date:	Time:	Received By:
	7-7-16	1540	
Relinquished By:	Date:	Time:	Received By:

Temp (°C) : _____ Work Order #: _____

Condition: _____

Custody Seals Intact?: Yes _____ No _____ None _____

Shipped Via: _____

Quote 6007

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**7/7/2016 15:40**
Project Name:	**1700 Jefferson**	Date Logged:	**7/7/2016**
WorkOrder №:	**1607225** Matrix: SoilGas	Received by:	Jena Alfaro
Carrier:	Bernie Cummins (MAI Courier)	Logged by:	Jena Alfaro

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

UCMR3 Samples:

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

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1605871 **Amended:** 05/27/2016

Report Created for: Applied Water Resources

2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501

Project Contact: Yola Bayram
Project P.O.:
Project Name: 1700 Jefferson

Project Received: 05/19/2016

Analytical Report reviewed & approved for release on 05/26/2016 by:

Angela Rydelius,
Laboratory Manager

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

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CDPH ELAP 1644 ♦ NELAP 4033ORELAP

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1605871

Glossary Abbreviation

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

Analytical Qualifiers

H	samples were analyzed out of holding time
a1	sample diluted due to matrix interference

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Glossary of Terms & Qualifier Definitions

Client: Applied Water Resources
Project: 1700 Jefferson
WorkOrder: 1605871

Quality Control Qualifiers

F10	MS/MSD outside control limits. Physical or chemical interferences exist due to sample matrix.

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Case Narrative

Client: Applied Water Resources
Project: 1700 Jefferson

Work Order: 1605871
May 27, 2016

Calculation of un-ionized Hydrogen Sulfide using SM4500-S2- H

Using the Field pH and Temperature Hydrogen Sulfide is calculated as:

Sample ID: 1605871-001
Client ID: MW-6
Field pH: 6.85
Field Temp: 20.4C
Sulfide: ND<0.05 mg/L
Hydrogen sulfide: ND<0.03 mg/L

Sample ID: 1605871-002
Client ID: MW-5
Field pH: 7.02
Field Temp: 19.8C
Sulfide: 0.19 mg/L
Hydrogen sulfide: 0.092 mg/L

Sample ID: 1605871-003
Client ID: MW-1
Field pH: 6.81
Field Temp: 18.7C
Sulfide: 14 mg/L
Hydrogen sulfide: 8.56 mg/L

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Received:	5/19/16 16:00	**Extraction Method:**	E300.1
Date Prepared:	5/20/16-5/21/16	**Analytical Method:**	E300.1
Project:	1700 Jefferson	**Unit:**	mg/L

Inorganic Anions by IC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1605871-001B	Water	05/18/2016 14:00	IC3	121228

Analytes	Result	RL	DF	Date Analyzed
Nitrate as N	**3.0**	0.10	1	05/20/2016 13:30
Nitrate as NO_3^-	**13**	0.45	1	05/20/2016 13:30
Sulfate	**67**	5.0	50	05/21/2016 11:10

Surrogates	REC (%)	Limits	
Formate	98	85-115	05/20/2016 13:30

Analyst(s): AO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1605871-002B	Water	05/18/2016 13:30	IC3	121228

Analytes	Result	RL	DF	Date Analyzed
Nitrate as N	**0.11**	0.10	1	05/20/2016 01:57
Nitrate as NO_3^-	**0.47**	0.45	1	05/20/2016 01:57
Sulfate	**0.14**	0.10	1	05/20/2016 01:57

Surrogates	REC (%)	Limits	
Formate	102	85-115	05/20/2016 01:57

Analyst(s): AO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1605871-003B	Water	05/18/2016 14:30	IC3	121228

Analytes	Result	RL	DF	Date Analyzed
Nitrate as N	**0.10**	0.10	1	05/20/2016 02:37
Nitrate as NO_3^-	**0.46**	0.45	1	05/20/2016 02:37
Sulfate	**18**	1.0	10	05/21/2016 11:51

Surrogates	REC (%)	Limits	
Formate	99	85-115	05/20/2016 02:37

Analyst(s): AO

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Received:	5/19/16 16:00	**Extraction Method:**	SM2320 B-1997
Date Prepared:	5/26/16	**Analytical Method:**	SM2320 B-1997
Project:	1700 Jefferson	**Unit:**	mg $CaCO_3$/L

Total & Speciated Alkalinity as Calcium Carbonate

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	**1605871-001A**	**Water**	**05/18/2016 14:00**	**Titrino**	**121502**

Analytes	Result	RL	DF	Date Analyzed
Total Alkalinity	**341**	1.00	1	05/26/2016 10:21
Carbonate	ND	1.00	1	05/26/2016 10:21
Bicarbonate	**341**	1.00	1	05/26/2016 10:21
Hydroxide	ND	1.00	1	05/26/2016 10:21

Analyst(s): HN

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	**1605871-002A**	**Water**	**05/18/2016 13:30**	**Titrino**	**121502**

Analytes	Result	RL	DF	Date Analyzed
Total Alkalinity	**314**	1.00	1	05/26/2016 10:37
Carbonate	ND	1.00	1	05/26/2016 10:37
Bicarbonate	**314**	1.00	1	05/26/2016 10:37
Hydroxide	ND	1.00	1	05/26/2016 10:37

Analyst(s): HN

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	**1605871-003A**	**Water**	**05/18/2016 14:30**	**Titrino**	**121502**

Analytes	Result	RL	DF	Date Analyzed
Total Alkalinity	**588**	1.00	1	05/26/2016 10:50
Carbonate	ND	1.00	1	05/26/2016 10:50
Bicarbonate	**588**	1.00	1	05/26/2016 10:50
Hydroxide	ND	1.00	1	05/26/2016 10:50

Analyst(s): HN

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Received:	5/19/16 16:00	**Extraction Method:**	SM5210 B-2001
Date Prepared:	5/19/16	**Analytical Method:**	SM5210 B-2001
Project:	1700 Jefferson	**Unit:**	mg/L

Biochemical Oxygen Demand (BOD)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1605871-001H	Water	05/18/2016 14:00	SPECTROPHOTOMETER	121229

Analytes	Result	RL	DF	Date Analyzed
BOD	ND	4.0	1	05/19/2016 20:30

Analyst(s): AL

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1605871-002H	Water	05/18/2016 13:30	SPECTROPHOTOMETER	121229

Analytes	Result	RL	DF	Date Analyzed
BOD	**30**	20	5	05/19/2016 20:38

Analyst(s): AL

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1605871-003H	Water	05/18/2016 14:30	SPECTROPHOTOMETER	121229

Analytes	Result	RL	DF	Date Analyzed
BOD	**19**	8.0	2	05/19/2016 20:46

Analyst(s): AL

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Received:	5/19/16 16:00	**Extraction Method:**	E200.8
Date Prepared:	5/19/16	**Analytical Method:**	E200.8
Project:	1700 Jefferson	**Unit:**	µg/L

Dissolved Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1605871-001G	Water	05/18/2016 14:00	ICP-MS2	121220

Analytes	Result	RL	DF	Date Analyzed
Iron	ND	20	1	05/25/2016 23:15
Manganese	**1800**	20	1	05/25/2016 23:15

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1605871-002G	Water	05/18/2016 13:30	ICP-MS2	121220

Analytes	Result	RL	DF	Date Analyzed
Iron	**3000**	20	1	05/25/2016 23:21
Manganese	**2100**	20	1	05/25/2016 23:21

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1605871-003G	Water	05/18/2016 14:30	ICP-MS3	121220

Analytes	Result	RL	DF	Date Analyzed
Iron	ND	400	20	05/23/2016 15:24
Manganese	**6800**	400	20	05/23/2016 15:24

Analyst(s): DVH Analytical Comments: a1

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Received:	5/19/16 16:00	**Extraction Method:**	E200.8
Date Prepared:	5/19/16	**Analytical Method:**	E200.8
Project:	1700 Jefferson	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1605871-001F	Water	05/18/2016 14:00	ICP-MS3	121173

Analytes	Result	RL	DF	Date Analyzed
Iron	**35**	20	1	05/20/2016 14:25
Manganese	**2000**	20	1	05/20/2016 14:25

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1605871-002F	Water	05/18/2016 13:30	ICP-MS3	121173

Analytes	Result	RL	DF	Date Analyzed
Iron	**4100**	20	1	05/20/2016 14:31
Manganese	**2100**	20	1	05/20/2016 14:31

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1605871-003F	Water	05/18/2016 14:30	ICP-MS3	121173

Analytes	Result	RL	DF	Date Analyzed
Iron	**1900**	20	1	05/20/2016 14:38
Manganese	**7000**	20	1	05/20/2016 14:38

Analyst(s): DVH

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Received:	5/19/16 16:00	**Extraction Method:**	SM4500H+B-2000
Date Prepared:	5/19/16	**Analytical Method:**	SM4500H+B-2000
Project:	1700 Jefferson	**Unit:**	pH units @ 25°C

pH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1605871-001D	Water	05/18/2016 14:00	WetChem	121231

Analytes	Result	Qualifiers	Accuracy	DF	Date Analyzed
pH	**6.86**	H	±0.05	1	05/19/2016 20:36

Analyst(s): RB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1605871-002D	Water	05/18/2016 13:30	WetChem	121231

Analytes	Result	Qualifiers	Accuracy	DF	Date Analyzed
pH	**7.05**	H	±0.05	1	05/19/2016 20:39

Analyst(s): RB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1605871-003D	Water	05/18/2016 14:30	WetChem	121231

Analytes	Result	Qualifiers	Accuracy	DF	Date Analyzed
pH	**6.83**	H	±0.05	1	05/19/2016 20:42

Analyst(s): RB

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Received:	5/19/16 16:00	**Extraction Method:**	RSK175
Date Prepared:	5/23/16	**Analytical Method:**	RSK175
Project:	1700 Jefferson	**Unit:**	µg/L

Dissolved Gases by RSK 175

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1605871-001E	Water	05/18/2016 14:00	GC26	121343

Analytes	Result	RL	DF	Date Analyzed
Ethane	ND	0.20	1	05/23/2016 09:34
Ethylene	ND	0.30	1	05/23/2016 09:34
Methane	**3.4**	0.10	1	05/23/2016 09:34

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1605871-002E	Water	05/18/2016 13:30	GC26	121343

Analytes	Result	RL	DF	Date Analyzed
Ethane	**4.1**	0.20	1	05/23/2016 10:02
Ethylene	**11**	0.30	1	05/23/2016 10:02
Methane	**2100**	5.0	50	05/23/2016 10:17

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1605871-003E	Water	05/18/2016 14:30	GC26	121343

Analytes	Result	RL	DF	Date Analyzed
Ethane	**1.8**	0.20	1	05/23/2016 10:38
Ethylene	**4.0**	0.30	1	05/23/2016 10:38
Methane	**1000**	2.0	20	05/23/2016 11:52

Analyst(s): AK

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Received:	5/19/16 16:00	**Extraction Method:**	SM4500-S^{-2} D-2000
Date Prepared:	5/20/16	**Analytical Method:**	SM4500-S^{-2} D-2000
Project:	1700 Jefferson	**Unit:**	mg/L

Total Sulfide - S

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1605871-001D	Water	05/18/2016 14:00	SPECTROPHOTOMETER	121289

Analytes	Result	RL	DF	Date Analyzed
Total Sulfide	ND	0.050	1	05/20/2016 18:50

Analyst(s): RB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1605871-002D	Water	05/18/2016 13:30	SPECTROPHOTOMETER	121289

Analytes	Result	RL	DF	Date Analyzed
Total Sulfide	**0.19**	0.050	1	05/20/2016 19:05

Analyst(s): RB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1605871-003D	Water	05/18/2016 14:30	SPECTROPHOTOMETER	121289

Analytes	Result	RL	DF	Date Analyzed
Total Sulfide	**14**	0.50	10	05/20/2016 19:10

Analyst(s): RB

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Analytical Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Received:	5/19/16 16:00	**Extraction Method:**	E415.3
Date Prepared:	5/23/16	**Analytical Method:**	E415.3
Project:	1700 Jefferson	**Unit:**	mg/L

Total Organic Carbon (TOC) reported as NPOC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1605871-001C	Water	05/18/2016 14:00	SKALAR	121303

Analytes	Result	RL	DF	Date Analyzed
TOC	**1.2**	0.30	1	05/23/2016 10:19

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1605871-002C	Water	05/18/2016 13:30	SKALAR	121303

Analytes	Result	RL	DF	Date Analyzed
TOC	**4.4**	0.30	1	05/23/2016 12:36

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1605871-003C	Water	05/18/2016 14:30	SKALAR	121303

Analytes	Result	RL	DF	Date Analyzed
TOC	**17**	0.30	1	05/23/2016 11:30

Analyst(s): TD

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Prepared:	5/19/16 - 5/20/16	**BatchID:**	121228
Date Analyzed:	5/19/16 - 5/20/16	**Extraction Method:**	E300.1
Instrument:	IC1	**Analytical Method:**	E300.1
Matrix:	Water	**Unit:**	mg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121228 1605830-001AMS/MSD

QC Summary Report for E300.1

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Nitrate as N	ND	1.02	0.10	1	-	102	85-115
Nitrate as $NO3^{-}$	ND	-	0.45	-	-	-	-
Sulfate	ND	0.980	0.10	1	-	98	85-115
Surrogate Recovery							
Formate	0.113	0.113		0.10	113	113	85-115

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Nitrate as N	4.32	4.35	1	3.419	90	93	85-115	0.893	15
Sulfate	NR	NR	1	52	NR	NR	85-115	NR	15
Surrogate Recovery									
Formate	0.108	0.109	0.10		108	109	85-115	0.818	10

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Prepared:	5/26/16	**BatchID:**	121502
Date Analyzed:	5/26/16	**Extraction Method:**	SM2320 B-1997
Instrument:	Titrino	**Analytical Method:**	SM2320 B-1997
Matrix:	Water	**Unit:**	mg $CaCO_3$/L
Project:	1700 Jefferson		

QC Summary Report for Alkalinity

SampID	Sample Result	Sample DF	Dup / Serial Dilution Result	Dup / Serial Dilution DF	RPD	Acceptance Criteria (%)
1605871-001A	341	1	345	1	1.34	<20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Prepared:	5/19/16	**BatchID:**	121229
Date Analyzed:	5/19/16	**Extraction Method:**	SM5210 B-2001
Instrument:	SPECTROPHOTOMETER	**Analytical Method:**	SM5210 B-2001
Matrix:	Water	**Unit:**	mg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121229

QC Summary Report for BOD

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
BOD	ND	210	4.0	198	-	106	80-120

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Prepared:	5/19/16	**BatchID:**	121220
Date Analyzed:	5/23/16	**Extraction Method:**	E200.8
Instrument:	ICP-MS3	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121220 1605871-003GMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Iron	ND	4830	20	5000	-	97	85-115
Manganese	ND	5130	20	5000	-	103	85-115

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Iron	5380	5440	5000	ND<400	104	105	70-130	0.998	20
Manganese	12,700	12,600	5000	6780	118	116	70-130	0.950	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Prepared:	5/19/16	**BatchID:**	121173
Date Analyzed:	5/19/16	**Extraction Method:**	E200.8
Instrument:	ICP-MS1	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121173 1605756-002AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Iron	ND	5080	20	5000	-	102	85-115
Manganese	ND	4970	20	5000	-	99	85-115
Surrogate Recovery							
Terbium	753	743		750	100	99	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Iron	13,300	14,100	5000	7400	118	134,F10	75-125	5.75	20
Manganese	8720	9040	5000	4100	92	98	75-125	3.66	20
Surrogate Recovery									
Terbium	794	798	750		106	106	70-130	0	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Iron	7980	7400	7.84	20
Manganese	4450	4100	8.54	20

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Prepared:	5/19/16	**BatchID:**	121231
Date Analyzed:	5/19/16	**Extraction Method:**	SM4500H+B-2000
Instrument:	WetChem	**Analytical Method:**	SM4500H+B-2000
Matrix:	Water	**Unit:**	pH units @ 25°C
Project:	1700 Jefferson		

QC Summary Report for pH

SampID	Sample Result	Sample DF	Dup / Serial Dilution Result	Dup / Serial Dilution DF	Precision	Acceptance Criteria
1605864-001F	7.89	1	7.90	1	0.01	0.1

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Prepared:	5/23/16	**BatchID:**	121343
Date Analyzed:	5/23/16	**Extraction Method:**	RSK175
Instrument:	GC26	**Analytical Method:**	RSK175
Matrix:	Air	**Unit:**	µL/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121343

QC Summary Report for RSK175

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Ethane	ND	10.6	0.50	10	-	106	70-130
Ethylene	ND	7.56	0.50	10	-	76	70-130
Methane	ND	10.3	0.50	10	-	103	70-130

QA/QC Officer

McCampbell Analytical, Inc.
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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Prepared:	5/20/16	**BatchID:**	121289
Date Analyzed:	5/20/16	**Extraction Method:**	SM4500-S^{-2} D-2000
Instrument:	SPECTROPHOTOMETER	**Analytical Method:**	SM4500-S^{-2} D-2000
Matrix:	Water	**Unit:**	mg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121289 1605871-001DMS/MSD

QC Summary Report For SM4500 S-2D

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Total Sulfide	ND	0.533	0.050	0.50	-	107	80-120

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Total Sulfide	0.475	0.473	0.50	ND	95	95	80-120	0	20

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Quality Control Report

Client:	Applied Water Resources	**WorkOrder:**	1605871
Date Prepared:	5/23/16	**BatchID:**	121303
Date Analyzed:	5/23/16	**Extraction Method:**	E415.3
Instrument:	SKALAR	**Analytical Method:**	E415.3
Matrix:	Water	**Unit:**	mg/L
Project:	1700 Jefferson	**Sample ID:**	MB/LCS-121303 1605871-001CMS/MSD

QC Summary Report for E415.3

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TOC	ND	50.6	0.30	50	-	101	80-120
Total Nitrogen	ND	52.0	0.70	50	-	104	80-120

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TOC	52.6	52.9	50	1.2	103	103	70-130	0	20
Total Nitrogen	55.6	55.4	50	3.0	105	105	70-130	0	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1605871 **ClientCode: AWR**

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Report to:
Yola Bayram
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 94501
FAX:

Email: ybayram@awrcorp.net
cc/3rd Party:
PO:
ProjectNo: 1700 Jefferson

Bill to:
Candace Curtis
Applied Water Resources
2363 Mariner Square Drive, Ste. 245
Alameda, CA 24501
ccurtis@awrcorp.net

Requested TATs: 5 days; 7 days;

Date Received: 05/19/2016
Date Logged: 05/19/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1605871-001	MW-6	Water	5/18/2016 14:00	☐	B	A	H	C	G	F	D	D	E	D		
1605871-002	MW-5	Water	5/18/2016 13:30	☐	B	A	H	C	G	F	D	D	E	D		
1605871-003	MW-1	Water	5/18/2016 14:30	☐	B	A	H	C	G	F	D	D	E	D		

Test Legend:

1	300_1_W	2	Alk_W	3	BOD_W	4	cnsTOC_W
5	FEMNMS_FF_DISS	6	FEMNMS_TTLC_W	7	PH_W	8	PRH2SCALC
9	RSK175_W	10	SULFIDE_W	11		12	

Prepared by: Agustina Venegas

The following SampIDs: 001D, 002D, 003D contain testgroup.

Comments:

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments:

QC Level: LEVEL 2
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605871
Date Logged: 5/19/2016

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605871-001A	MW-6	Water	SM2320B (Alkalinity)	1	500mL HDPE, unprsv.	☐	5/18/2016 14:00	5 days	Present	☐	
1605871-001B	MW-6	Water	E300.1 (Inorganic Anions) <Nitrate as N, Nitrate as $NO3^-$, Sulfate>	1	125mL HDPE, unprsv.	☐	5/18/2016 14:00	5 days	Present	☐	
1605871-001C	MW-6	Water	E415.3 (TOC)	2	VOA w/ HCl	☐	5/18/2016 14:00	5 days	Present	☐	
1605871-001D	MW-6	Water	Hydrogen Sulfide	2	250mLa HDPE w/ NaOH + Na2S2O3 + 1-125mL HPDE	☐	5/18/2016 14:00	5 days	Present	☐	
1605871-001E	MW-6	Water	RSK175	2	aVOA w/ H2SO4	☐	5/18/2016 14:00	5 days	Present	☐	
1605871-001F	MW-6	Water	E200.8 (Fe & Mn)	1	250mL HDPE w/ HNO3	☐	5/18/2016 14:00	5 days	Present	☐	
1605871-001G	MW-6	Water	E200.8 (Fe & Mn) (Dissolved-Field Filtered)	1	250mL HDPE w/ HNO3	☐	5/18/2016 14:00	5 days	Present	☐	
1605871-001H	MW-6	Water	SM5210B (BOD)	1	1L HDPE, unprsv.	☐	5/18/2016 14:00	7 days	Present	☐	
1605871-002A	MW-5	Water	SM2320B (Alkalinity)	1	500mL HDPE, unprsv.	☐	5/18/2016 13:30	5 days	Present	☐	
1605871-002B	MW-5	Water	E300.1 (Inorganic Anions) <Nitrate as N, Nitrate as $NO3^-$, Sulfate>	1	125mL HDPE, unprsv.	☐	5/18/2016 13:30	5 days	Present	☐	
1605871-002C	MW-5	Water	E415.3 (TOC)	2	VOA w/ HCl	☐	5/18/2016 13:30	5 days	Present	☐	
1605871-002D	MW-5	Water	Hydrogen Sulfide	2	250mLa HDPE w/ NaOH + Na2S2O3 + 1-125mL HPDE	☐	5/18/2016 13:30	5 days	Present	☐	
1605871-002E	MW-5	Water	RSK175	2	aVOA w/ H2SO4	☐	5/18/2016 13:30	5 days	Present	☐	
1605871-002F	MW-5	Water	E200.8 (Fe & Mn)	1	250mL HDPE w/ HNO3	☐	5/18/2016 13:30	5 days	Present	☐	

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

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

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WORK ORDER SUMMARY

Client Name: APPLIED WATER RESOURCES
Project: 1700 Jefferson
Comments:

QC Level: LEVEL 2
Client Contact: Yola Bayram
Contact's Email: ybayram@awrcorp.net

Work Order: 1605871
Date Logged: 5/19/2016

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1605871-002G	MW-5	Water	E200.8 (Fe & Mn) (Dissolved-Field Filtered)	1	250mL HDPE w/ HNO3	☐	5/18/2016 13:30	5 days	Present	☐	
1605871-002H	MW-5	Water	SM5210B (BOD)	1	1L HDPE, unprsv.	☐	5/18/2016 13:30	7 days	Present	☐	
1605871-003A	MW-1	Water	SM2320B (Alkalinity)	1	500mL HDPE, unprsv.	☐	5/18/2016 14:30	5 days	Present	☐	
1605871-003B	MW-1	Water	E300.1 (Inorganic Anions) <Nitrate as N, Nitrate as $NO3^{-}$, Sulfate>	1	125mL HDPE, unprsv.	☐	5/18/2016 14:30	5 days	Present	☐	
1605871-003C	MW-1	Water	E415.3 (TOC)	2	VOA w/ HCl	☐	5/18/2016 14:30	5 days	Present	☐	
1605871-003D	MW-1	Water	Hydrogen Sulfide	2	250mLa HDPE w/ NaOH + Na2S2O3 + 1-125mL HPDE	☐	5/18/2016 14:30	5 days	Present	☐	
1605871-003E	MW-1	Water	RSK175	2	aVOA w/ H2SO4	☐	5/18/2016 14:30	5 days	Present	☐	
1605871-003F	MW-1	Water	E200.8 (Fe & Mn)	1	250mL HDPE w/ HNO3	☐	5/18/2016 14:30	5 days	Present	☐	
1605871-003G	MW-1	Water	E200.8 (Fe & Mn) (Dissolved-Field Filtered)	1	250mL HDPE w/ HNO3	☐	5/18/2016 14:30	5 days	Present	☐	
1605871-003H	MW-1	Water	SM5210B (BOD)	1	1L HDPE, unprsv.	☐	5/18/2016 14:30	7 days	Present	☐	

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

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

1605871

SAMPLE ANALYSIS/COMPOSITE REQUEST FORM
CHAIN-OF-CUSTODY

Invoice to: AWR Corp	Date: 5/19/2016	Page: 1 of 1	
Project Name: 1700 Jefferson	1700 Jefferson Oakland, CA		
Project #: 1700 Jefferson	EDF report: y / n email: ybayram@awrcorp.net		
Project Manager Yola Bayram	Tel: 510-671-2088	Fax: 510-227-5495	
Laboratory: McCampbell	Turnaround Time (days)	1 2 3 4 5 6 7 14 Std	X
Sampler Signature:	Analyses Required		

Sample ID	Date	Time	Sample Matrix	# Containers	Preservative	Alkalinity	Nitrate as N and NO3	Sulfate	TOC	H2S	Unable to analyze CO2 -MV RSK-175 (CO2, Methane, Ethene, Ethane)	Total and Dissolved Fe and Total and Dissolved Mn	Field pH	BOD
MW-6	5/18/16	1400	GW	10	VARIES	X	X	X	X	X	X	X	X	X
MW-5	5/18/16	1330	GW	10	VARIES	X	X	X	X	X	X	X	X	X
MW-1	5/18/16	1430	GW	10	VARIES	X	X	X	X	X	X	X	X	X

Notes: Dissolved Fe and Mn have been field filtered. Geotracker #T0600100196

Relinquished by:	Date	Time	Received by:	Date	Time
	5-19-16	1110		5-19-16	1110
	5-19-16	1600	Agustin N.	5/19/16	1600

AWR Corp
2363 Mariner Square Drive Suite 245
(510) 671 2094 Fax (510) 373 2166

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Sample Receipt Checklist

Client Name:	**Applied Water Resources**	Date and Time Received:	**5/19/2016 16:00**
Project Name:	**1700 Jefferson**	Date Logged:	**5/19/2016**
WorkOrder №:	**1605871** Matrix: Water	Received by:	Agustina Venegas
Carrier:	Bernie Cummins (MAI Courier)	Logged by:	Agustina Venegas

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☐	No ☑	
Sample/Temp Blank temperature	Temp: 4.5°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	NA ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes ☑	No ☐	NA ☐
Samples Received on Ice?	Yes ☑	No ☐	
	(Ice Type: WET ICE)		

UCMR3 Samples:

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

Comments: Method SM4500H+B (Field pH) was received passed its 0.01-day holding time. Method SM4500H+B (pH) was received passed its 0.01-day holding time.

APPENDIX D

SAMPLING FIELD SHEETS

SOIL GAS FIELD WORKSHEET

Project Name: 1700 JEFFERSON	Date: 05/15/2016
Location: 1700 JEFFERSON ST	Client: ARC
Sampler: CC	Weather: SUNNY

		Sampler Signature:	Sample ID							
			SV-6		SV-8		SS-1		SV-5	
Sample Info	Train ID#		MAN316T-1222		MAN 316T-1314		MAN 316T-999		MAN 316T-779	
	Sample Can ID#		CAN 6407-794		CAN 1983-1931		CAN 1868-1288		CAN 6420-851	
	Borehole Case Volume		0.4 L		0.4L		0.12L		1.8L	
Shut In Test	Vacuum Start ("Hg)	27	Time 1206	22	Time 1319	16	Time 1505	15.5	Time 1551	
	Vacuum Finish ("Hg)	27	Time 1209	22	Time 1321	16	Time 1506	15.5	Time 1553	
Sample Purge	Purge Can Vacuum Start ("Hg)	30	Time 1209	24 ~~5~~	Time 1330	18	Time 1507	*16 @ 1600	Time 1555 ~~1600~~ →	
	Purge Can Vacuum Finish ("Hg)	24	Time 1216	18	Time 1339	14	Time 1500	7	Time 1614	
	Downhole Vacuum Pressure ("Hg)*	0		0.5		0		0.5		
	Purge Rate (ml/min)	~~200~~ 170		130				SEE BACK		
	Purge Volume (liters)	1.2		1.2				5.4L		
Helium Measurements	Helium Shroud Measurements % Helium	27.5	Time 1228	18.6	Time 1353		Time	24.3	Time 1633	
		—	Time —	18.7	Time 1355		Time	24.5	Time 1636	
		21.2	Time 1236	19.4	Time 1359		Time	24.5	Time 1638	
	Downhole Helium/Oxygen %	0.1	Time 1223	0	Time 1354	6.2	Time 1522	0	Time 1630	
Sample Collection	Vacuum Start ("Hg)	30	Time 1230	30	Time 1353		Time	30	Time 1633	
	Vacuum Finish ("Hg)	4	Time 1236	3	Time 1400		Time	3	Time 1640	
	Sample Rate (ml/min)	~~4.3~~								

Notes: SV-6 Helium analyser battery died during sample. start: 27.5 end=21.2

SS-1: Aborted due to He in borehole

*If downhole vacuum pressure > 7.35"Hg, open and close valve on sample can during sampling so that soil vacuum pressure remains below 7.35"Hg

Casing Volume of 2" Sandpack or Dry Bentonite (L/foot)	0.19	Tube volume 1/4" (liters per foot)	0.004

SOIL GAS FIELD WORKSHEET

Project Name: 1700 JEFFERSON	Date: 05-15-2016
Location: 1700 JEFFERSON ST	Client: ARC
Sampler: CC	Weather: SUN

		Sampler Signature:	Sample ID			
			SS-1			
Sample Info	Train ID#		MAN 316-1219			
	Sample Can ID#		CAN 6168-754			
	Borehole Case Volume		0.12 L			
Shut In Test	Vacuum Start ("Hg)		5 Time 1745	Time	Time	Time
	Vacuum Finish ("Hg)		5 Time 1747	Time	Time	Time
Sample Purge	Purge Can Vacuum Start ("Hg)		5 Time 1740	Time	Time	Time
	Purge Can Vacuum Finish ("Hg)		3 Time 1758	Time	Time	Time
	Downhole Vacuum Pressure ("Hg)*		0			
	Purge Rate (ml/min)					
	Purge Volume (liters)					
Helium Measurements	Helium Shroud Measurements % Helium		21.1 Time 1758	Time	Time	Time
			20.8 Time 1801	Time	Time	Time
			20.1 Time 1805	Time	Time	Time
	Downhole Helium/Oxygen %		0 Time 1756	Time	Time	Time
Sample Collection	Vacuum Start ("Hg)		30 Time 1758	Time	Time	Time
	Vacuum Finish ("Hg)		2 Time 1805	Time	Time	Time
	Sample Rate (ml/min)					

Notes:

*If downhole vacuum pressure > 7.35"Hg, open and close valve on sample can during sampling so that soil vacuum pressure remains below 7.35"Hg

Casing Volume of 2" Sandpack or Dry Bentonite (L/foot)	0.19	Tube volume 1/4" (liters per foot)	0.004

SOIL GAS FIELD WORKSHEET

Project Name: 1700 Jefferson	Date: 5/16/16
Location: 18th & Jefferson, Oakland	Client: ARC
Sampler: TRF	Weather: Sunny, Hot

Sampler Signature:

		Sample ID									
		SV-10		SV-11		SV-13					
Sample Info	Train ID#	316T1307		316T990		316T1218					
	Sample Can ID#	2508		1289		800					
	Borehole Case Volume	0.4l		0.4l		0.4l					
Shut In Test	Vacuum Start ("Hg)	25	Time 1420	25	Time 1505	~~1620~~ 22	Time 1622		Time		
	Vacuum Finish ("Hg)	25	Time 1423	25	Time 1510	22	Time 1625		Time		
Sample Purge	Purge Can Vacuum Start ("Hg)	>30	Time 1423	27	Time 1511	22	Time 1625		Time		
	Purge Can Vacuum Finish ("Hg)	25	Time 1427	22	Time 1522	17	Time 1620		Time		
	Downhole Vacuum Pressure ("Hg)*	2 Purge 2.5 Sample		6, ~~8~~ 9, 10.5 (1511, 1514, 1516)		2.5					
	Purge Rate (ml/min)	~200		~109		~200					
	Purge Volume (liters)	1.2		1.2		1.2					
Helium Measurements	Helium Shroud Measurements % Helium	20.1	Time 1435	19.2	Time 1531	23.5	Time 1636		Time		
		19.6	Time 1438	20.8	Time 1533	22.3	Time 1637		Time		
		19.7	Time 1441	21.2	Time 1535	19.7	Time 1640		Time		
	Downhole Helium/~~Oxygen~~ %	0,0	Time 1437	0,0.1,0	Time 1531	0.3,0,0	Time 1636		Time		
Sample Collection	Vacuum Start ("Hg)	30	Time 1438	30	Time 1531	~30	Time 1636		Time		
	Vacuum Finish ("Hg)	4	Time 1447	11.5	Time 1535	3	Time 1643		Time		
	Sample Rate (ml/min)	133ml/min		NA		150					

Notes: SV-11 - Downhole Hg > 7.5 after 4 min, turn off at 1535, wait to resample turn on again 1542, Pressure doesn't drop, downhole = vac pressure, can't sample, leave 11.5 "Hg in can

*If downhole vacuum pressure > 7.35"Hg, open and close valve on sample can during sampling so that soil vacuum pressure remains below 7.35"Hg

Casing Volume of 2" Sandpack or Dry Bentonite (L/foot)	0.19	Tube volume 1/4" (liters per foot)	0.004

SOIL GAS FIELD WORKSHEET

Project Name: 1700 Jefferson	Date: 5/18/16
Location: 18th & Jefferson, Oakland	Client: ARC
Sampler: TRF	Weather: Sonny

Sampler Signature:

		Sample ID								
		SV-12		SV-14		SV-7		SV-3 (TPHodor)		
Sample Info	Train ID#	316T-777		316T-667		new train#: 316-991 316T-816 leaked		316-1315		
	Sample Can ID#	1921		6304 784		1987-1935		6205-746		
	Borehole Case Volume	1.0 l		0.4 l		[redacted] 1.6L		1.6 L		
Shut In Test	Vacuum Start ("Hg)	17	Time 1406	12	Time 1453	[redacted]29	Time 1629	24	Time 1718	
	Vacuum Finish ("Hg)	17	Time 1409	12	Time 1458	29	Time 1634	24	Time 1720	
Sample Purge	Purge Can Vacuum Start ("Hg)	17	Time 1410	12	Time 1520	30	Time [redacted]	7	Time 1727	
	Purge Can Vacuum Finish ("Hg)	12	Time 1421	7	Time 1530	24	Time 1636 1643	2	Time 1734	
	Downhole Vacuum Pressure ("Hg)*	[redacted] 5		0.2		0		0.25		
	Purge Rate (ml/min)	~175		~120mL		~210		~140		
	Purge Volume (liters)	3 l		1.2L		4.8L		4.8L		
Helium Measurements	Helium Shroud Measurements % Helium	25.5	Time 1424	17.5	Time 1532	15.2	Time 1651	18	Time 1753	
		25.8	Time 1426	17.0	Time 1535	17.0	Time 16:54	17.7	Time 1755	
		27.1	Time 1428	20.5	Time 1538	19.3	Time 1656	18.6	Time 1757	
	Downhole Helium/Oxygen %	0,0,0	Time 1423	0,0,0	Time 1530	02:4% No measurement	Time 1650	02:15% No measurement	Time 1749	
Sample Collection	Vacuum Start ("Hg)	30	Time 1425	730	Time 1531	30	Time 1650	30	Time [redacted] 1751	
	Vacuum Finish ("Hg)	6..	Time 1433	4	Time 1540	3	Time 1657	4	Time [redacted] 1758	
	Sample Rate (ml/min)	100		~100		~142		~140		

Notes: SV-7 Gil air running 0.75 L/min on SV-7 Started @ 1632 ended @ [redacted]1636 SV-3: Gil-Air purge 0.75L/min @1722 ended @ 1727

*If downhole vacuum pressure > 7.35"Hg, open and close valve on sample can during sampling so that soil vacuum pressure remains below 7.35"Hg

Casing Volume of 2" Sandpack or Dry Bentonite (L/foot)	0.19	Tube volume 1/4" (liters per foot)	0.004

SOIL GAS FIELD WORKSHEET

Project Name: 1700 Jefferson	Date: 6/6/16 - 6/7/16
Location: Oakland CA	Client: ARC
Sampler: TRT	Weather: Clear Sunny, Windy

Sampler Signature:

		Sample ID	6/6/16 SV-2		6/6/16 SV-4		6/7/16 SV-1		6/7/16 SV-12	
Sample Info	Train ID#		316T-846		316T-776		316T-992		316T-778	
	Sample Can ID#		R0896-252A		J1974-1922		NA		NA	
	Borehole Case Volume		0.4		0.4		0.5		0.9	
Shut In Test	Vacuum Start ("Hg)	Time	29	1532	29	1610	NA	—	NA	—
	Vacuum Finish ("Hg)	Time	29	1535	28	1617	NA	—	NA	—
Sample Purge	Purge Can Vacuum Start ("Hg)	Time	29	1535	28.5	1617	NA	1107	NA	1144
	Purge Can Vacuum Finish ("Hg)	Time	25	1542	22.5	1630	NA	1109	NA	1147
	Downhole Vacuum Pressure ("Hg)*		22		1- Purge 1- Sample		NA - TO17 Tube w/ Gilair		NA - TO17 Tube w/ Gilair	
	Purge Rate (ml/min)		95		92		0.8 l/min		0.8 l/min	
	Purge Volume (liters)		2.31		1.2	1 - Purge 0.2 - DH Test	1.5		2.7	
Helium Measurements	Downhole Measurements	Time	He: NA O2:		--* 17.9	1632	NA		NA	
	Helium Shroud Measurements % Helium	Time			14.1	1637				
		Time			15.0	1639				
		Time			13.5	1641				
Sample Collection	Vacuum Start ("Hg)	Time			30	1635	NA	1118	NA	1154
	Vacuum Finish ("Hg)	Time			4	1643	NA 100ml	1120	NA	1159
	Sample Rate (ml/min)				150		50@2' = 100ml		50@5' = 250ml	

Notes: SV-2, formation too tight to collect sample, verify w/ plunger test, Strong TPH smell from SV-4* No measurable He downhole, due to high TPH. SV-1 & SV-12 - TO17 w/ Gilair pump

*If downhole vacuum pressure > 7.35"Hg, open and close valve on sample can during sampling so that soil vacuum pressure remains below 7.35"Hg

Casing Volume of 2" Sandpack or Dry Bentonite (L/foot)	0.19	Tube volume 1/4" (liters per foot)	0.004

SOIL GAS FIELD WORKSHEET

Project Name: 1700 Broadway	Date: 7/6/16
Location: Oakland CA	Client: ARC
Sampler: Tyson Fulmer	Weather: Clear Windy

Sampler Signature:

		Sample ID							
		SV-9							
Sample Info	Train ID#	767							
	Sample Can ID#	J1868-1288							
	Borehole Case Volume	0.8l							
Shut In Test	Vacuum Start – ("Hg)	-13	Time 1235		Time		Time		Time
	Vacuum Finish – ("Hg)	-13	Time 1240		Time		Time		Time
Sample Purge	Purge ~~Can~~ Vacuum Start – ("Hg)	–	Time 1240		Time		Time		Time
	Purge ~~Can~~ Vacuum – Finish ("Hg)	–	Time 1258		Time		Time		Time
	Downhole Vacuum Pressure ("Hg)*	0							
	Purge Rate (ml/min)	150 ml/min							
	Purge Volume (liters)	1.2							
Sample Collection	Vacuum Start – ("Hg)	25	Time 1259		Time		Time		Time
	Vacuum Finish – ("Hg)	4	Time 1306		Time		Time		Time
	Sample Rate (ml/min)	~171							

Notes: No Purge canister; Shut in test conducted w/ sample can for negative vac pressure. Purge w/ Gil-Air Pump at 150 ml/min - 16 min. Liquid leak check compound in ground, odor (TPH) during purge

*If downhole vacuum pressure > 7.35"Hg, open and close valve on sample can during sampling so that soil vacuum pressure remains below 7.35"Hg

Casing Volume of 2" Sandpack or Dry Bentonite (L/foot)	0.19	Tube volume 1/4" (liters per foot)	0.004