

Introductory Note Fairgrounds Environmental Conditions – July 2022

Petaluma Fairgrounds Environmental Site Analysis completed by Edd Clark & Associates

Introduction

This provides an overview of the environmental studies the City of Petaluma commissioned on the Petaluma Fairgrounds Site from 2020 to 2022 to understand existing conditions and inform the current and future potential uses of the site. The environmental analysis work completed at the Fairgrounds Site provides technical analysis for City engineers and other City departments, as well as local environmental regulatory bodies to identify the presence of hazardous substances, monitoring needs for specific sites, and a basis for ensuring the appropriate land uses to protect the well-being of the community and the environment.

This summary highlights the multiphase research process and analysis the City of Petaluma has undertaken to support community health and environmental well-being at the Fairgrounds Site.

Multiphase Site Analysis Process Overview

To identify current environmental conditions for health and environmental safety on the 55-acre site (this does not include the Library and Pool sites), the City retained the services of Edd Clark and Associates Inc (EC&A), a Sonoma County-based environmental services firm. EC&A conducted the environmental site analysis through a multiphase site analysis process under the direction of the City of Petaluma from 2020 through 2022. The City of Petaluma appreciates the significant collaboration from the Sonoma-Marín Fair Board, which provided key information concerning site maintenance, and access to the site, facilities, and coordination with tenants on numerous occasions throughout this period.

The environmental work, background information, maps, and findings are documented in the Phase I Environmental Assessment Report (EC&A, 2020), Phase II Subsurface Investigation Report (EC&A, 2022), and the Summary of Environmental Work completed at the 301 Payran Street Site (EC&A, 2022). The following provides a high-level description of the multiphase site analysis process and key findings, which can be found in full in each of the reports. This overview is intended to orient community members on the extensive research and resources included in each document.

Phase I Environmental Assessment Report (EC&A, 2020)

The first phase began in 2020 when the City of Petaluma contracted with EC&A to conduct an environmental assessment to identify Recognized Environmental Conditions (RECs), and the presence of hazardous substances and petroleum products on the Fairgrounds Site. The findings described fully in the Phase I Environmental Assessment Report identified five RECs and important data gaps concerning contamination events on the site. The results from the Phase I study showed the need for a series of tests and additional research to determine if the RECs required more environmental work and might impact permitted land uses in the area.

Phase II Subsurface Investigation Report (EC&A, 2022)

Following these recommendations, the City of Petaluma authorized EC&A to conduct the second phase of research to address the RECs and data gaps identified in Phase I. EC&A accomplished this by collecting soil, soil vapor, indoor air, and groundwater samples to evaluate the impacts of current and past land uses. Data gaps were filled through additional investigation and specific tests throughout the site, particularly on the Speedway track.

Following is a list of Identified Primary Constituents of Concern resulting from the Fairgrounds environmental analysis:

- Gasoline (TPH-g)
- Benzene
- Toluene
- Ethylbenzene
- Xylenes
- Naphthalene
- Tetrachloroethene (PCE)
- Methyl tert-butyl ether (MTBE)
- Tert-butyl alcohol (TBA)

Sampling completed in June and December 2021 as part of the Phase II investigation identified levels of contamination typical of sites in agrarian and urban areas historically used for varied commercial, civic, and agricultural uses. The constituents of concern are generally limited to 301 Payran Street, and to a lesser extent, the Maintenance Yard. EC&A noted the Maintenance Yard as an area for further analysis due to levels of PCE and Benzene, that are acceptable for commercial and industrial land uses but are above levels acceptable for residential uses. The results show that the identified levels of hazardous substances and petroleum products do not affect current commercial and industrial land uses, but that residential uses would warrant additional investigation, remediation, and/or mitigation.

The Phase II Subsurface Investigation Report recommended that the City of Petaluma continue to investigate information on past contamination events and complete a Soil, Soil Vapor, and Groundwater Management Plan (SSVGMP) to identify appropriate treatments throughout the site to avoid health and environmental impacts during any future construction activities (Phase II, EC&A 2022). The SSVGMP would protect worker safety and manage contamination in the event impacted soil and/or groundwater is encountered during construction or other soil disturbance activities.

Summary of Environmental Work completed at the 301 Payran Street Site (EC&A, 2022)

Concurrently, EC&A has been working with the City of Petaluma specifically on the Leaking Underground Storage Tank (LUST) Case (No. 49-0037) at 301 Payran Street, which encompasses part of Live Oak Charter school adjacent to 301 Payran Street. The site is currently being regulated by the San Francisco Bay Regional Water Quality Control Board (SFBRQCB) and is being tested and investigated as part of the ongoing work at 301 Payran Street. The information generated helps the City and regional environmental regulatory bodies determine when further environmental work may be needed and whether any related land use restrictions may be advisable.

Next Steps

The environmental site analysis conducted as a multiphase process by EC&A is part of the City's due diligence for identifying, monitoring, and remediating environmental conditions to protect health and environmental well-being at the Fairgrounds Site. In May 2022, the City of Petaluma confirmed the recommendations of the Phase II Subsurface Investigation Report and contracted with EC&A to complete the SSVGMP, expected in July 2022. By following the soil and groundwater management guidance provided in the SSVGMP, construction activities can safely occur at the site. The Phase II investigation indicates that current uses can continue at the site, and that additional investigation or mitigation may be necessary for certain areas if land uses are modified to meet the community's vision and needs for the site.

The City of Petaluma will continue to closely monitor and carry out the appropriate environmental management practices recommended by the technical team at EC&A and the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB).

PHASE I ENVIRONMENTAL SITE ASSESSMENT

SONOMA-MARIN FAIRGROUNDS
866 E. Washington Street
Petaluma, California
Sonoma County APNs: 007-031-004 & 007-031-005

Project No. 0977,001.20

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1.0 EXECUTIVE SUMMARY

The following is the Phase I Environmental Site Assessment (ESA) report on the Sonoma-Marin Fairgrounds property located at 866 E. Washington Street in Petaluma, California, and further designated as Sonoma County Assessor's Parcel Numbers (APN) 007-031-004 and 007-031-005. This ESA was performed by Edd Clark and Associates, Inc. (EC&A) at the request of Ms. Brittany Bendix, representing the City of Petaluma Planning Department, to identify Recognized Environmental Conditions (RECs) in connection with the property described above. Hereafter in this report, the property described above will be referred to as the subject site or subject property. Figures with various views of the subject site and vicinity including approximate parcel boundaries are presented in Appendix A.

The purpose of this report is to provide information regarding RECs on or near the subject site. In general, this ESA follows the guidelines established by the American Society for Testing and Materials' (ASTM's) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (E1527-13). This ESA is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser protection as described in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the California Health and Safety Code; that is the "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice as defined at 42 U.S.C. 9601(35)(B)".

The Scope of Services for this ESA consisted of four tasks:

- Task 1: Research and review of reasonably ascertainable regulatory information
- Task 2: A site reconnaissance of subject and nearby properties
- Task 3: Interviews of persons with knowledge of subject and surrounding properties
- Task 4: Preparation of this ESA report

1.1 Site Description and Current Use

The subject site, consisting of two contiguous irregularly-shaped parcels (one trapezoidal and one triangular) totaling approximately 63.5-acres of land, is known as 866 E. Washington Street located in Petaluma, California. Other addresses on the subject property include 482 Kenilworth Drive, 175 Fairgrounds Drive, 100 Gness Concourse, 100 and 175 Fairgrounds Drive, 100 Gness Drive and 301 Payran Street. The property is the Sonoma-Marin Fairgrounds & Event Center, and development includes parking lots, a racetrack and grandstand, a carnival area, a horse arena, exhibit halls/banquet rooms, administrative and maintenance buildings, restrooms, barns and stalls for livestock and various storage outbuildings. Kenilworth Park and the Petaluma Regional Library are located on the west corner of the property; a swimming pool is located on the north corner. The main annual events at the subject site include the Petaluma Music Festival, the Sonoma-Marin Fair and the Fourth of July Fireworks. Throughout the year, the public can rent a variety of spaces to host weddings, parties, outdoor picnics, conferences and dances. Year-round services (leased space) include the Airport Express, El Dorado Food Truck, Goodwill Donation Center, Happy Hearts Preschool, Java Hut, Live Oak Charter School, Petaluma Speedway,

Petaluma Park and Ride, Play Dog Play park, Playland Enterprises (paintball) and Rebuilding Together (community volunteers). During site reconnaissance EC&A observed two 500-gallon above-ground fuel tanks (ASTs) in an outbuilding at the Petaluma Speedway (part of the subject site). According to the manager of the Petaluma Speedway, both tanks are 500-gallons in capacity; one contains diesel and the other contains gasoline. The sunken concrete flooring in the outbuilding provides secondary containment in the event of an accidental discharge. There is an onsite water supply well used solely for irrigation.

The subject site is located as shown on the Site Location Map, Figure 1 (Appendix A); general subject site features are as shown on the Site Map, Figure 2 (Appendix A). Site photographs depicting current site conditions, building configuration and land use in the site vicinity are presented in Appendix B.

1.2 Standard and Additional Environmental Records Search

The subject property is listed on 16 of the databases searched by Environmental Data Resources, Inc. (EDR): LUST; Cortese; HIST CORTESE; CERS; RGA LUST; FINDS; HAZNET; HWTS; CIWQS; RCRA NonGen/NLR; ECHO; ENVIROSTOR; VCP; CERS HAZ WASTE; SWEEPS UST and CA FID UST. Many of these listings are duplicates, databases that list information from other databases or information regarding the handling and disposal of hazardous waste (used oil, oil/water separator sludge, solvents, household waste, etc.). EC&A reviewed each listing; no violations were found. However, the two onsite LUST (Leaking Underground Storage Tank) cases, 866 E. Washington Street and 301 Payran Street merit further discussion.

866 E. Washington Street

Two 550-gallon underground storage tanks (USTs) for gasoline were removed from a storage building in the southern corner of the subject property in 1988. One of the USTs was in good condition; the older UST, located adjacent to the first, was badly corroded and did leak, as evidenced by soil and groundwater samples collected during tank removal activities. In 1991, soil borings were advanced in order to define the extent of the contamination, followed by over-excavation of the impacted area. The final excavation limits were roughly 35 feet long, 25 feet wide and 12.5 feet deep. All soil samples collected from the sidewalls and bottom of the excavation were non-detect for Total Petroleum Hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene and xylenes (BTEX). The excavated soil was aerated and subsequently disposed of onsite around the horse arena (northeastern portion of the subject property) in 1994. In 1993, one groundwater monitoring well was installed approximately 25 feet downgradient from the former UST location. The well was sampled quarterly for one year for TPHg and BTEX; all analytical results were non-detect. Based on two grab-groundwater samples that were collected at the time of the excavation, it is possible that relatively minor impacts to groundwater may exist in a small and localized area directly beneath the former location of the UST. The maximum concentrations detected in the grab-groundwater samples were 1,700 micrograms per Liter ($\mu\text{g/L}$) TPHg, 15 $\mu\text{g/L}$ benzene (although this detection was attributed to slough from the excavation), and 6.8 $\mu\text{g/L}$ total xylenes. The TPHg and benzene concentrations exceed the San Francisco Bay Regional Water Quality Control Board's (SFBRWQCB's) July 25, 2019 (Rev. 2) Tier 1 Environmental Screening Levels (ESLs) for groundwater. The TPHg and benzene concentrations also exceed the SFBRWQCB's Groundwater Vapor Intrusion Human Health Risk Levels. As reported above, the groundwater impacts appear to be limited to the area directly below the former

USTs location and it is likely that some biodegradation has occurred over time. However, given the groundwater concentrations at the time of collection, this constitutes a REC.

301 Payran Street

301 Payran Street is an open Leaking Underground Storage Tank (LUST) case regulated by the County of Sonoma Department of Health Services (CSDHS) because of a release of fuel hydrocarbons (FHCs) to soil and groundwater from an UST for gasoline formerly located at the site. 301 Payran Street is located on the southwestern edge of the subject property and was a fire station from 1957 to 1981.

In 1987 one 5,000-gallon gasoline UST was removed from the site. A leaking UST was removed many years (exact year unknown) before it was replaced by the UST removed in 1987 (VHC, 1988). Confirmation soil samples collected at the time of 1987 UST removal indicated TPHg concentrations of 15 milligrams per kilogram (mg/kg) in the south end and 92 mg/kg in the north end of the UST excavation (VHC, 1988a). Free-floating product was reportedly present on groundwater in the UST excavation. A groundwater sample collected from water in the open excavation on November 3, 1987 reported TPHg, benzene, toluene and xylenes at concentrations of 20,000 micrograms per liter ($\mu\text{g/L}$), 2700 $\mu\text{g/L}$, 840 $\mu\text{g/L}$, and 3700 $\mu\text{g/L}$, respectively.

Over-excavation of FHC-impacted soils was reportedly not conducted at the time of UST removal activities. However, EC&A understands that approximately 60 cubic yards of soils generated during UST removal activities were transported for disposal at Sonoma Central landfill in Petaluma, California in February 1988 (VHC, 1988c). Approximately 20,000 gallons of groundwater were reportedly pumped out of the open UST excavation, stored in an onsite frac tank, tested and subsequently disposed in the City sewer system.

Groundwater monitoring has been conducted at the site since 1987. Groundwater monitoring analytical data collected to date indicates that a significant impact to groundwater by FHCs has occurred at the site, with free phase floating product historically reported in both on- and off-site monitoring wells located on the fairgrounds portion of the subject site. Chemicals of concern (COC) in groundwater at this LUST site consist primarily of TPHg, BTEX, methyl-tert butyl ether (MTBE) and tert-butyl alcohol (TBA).

In February 2005, California Industrial Hygiene Services Inc. (CIHS), performed an air quality assessment at the 301 Payran Street site and site vicinity. Their March 24, 2005 report of the assessment concluded that indoor total volatile organic compound (TVOC) levels in the site building and buildings at the Live Oak Charter School were similar to those in ambient (outdoor) air, and that indoor air TVOC concentrations were within typical values and/or within the range that can be expected to be found in indoor air. CIHS reported benzene concentrations of 2.0 micrograms per cubic meter ($\mu\text{g/m}^3$) in ambient air at the site and 1.9 $\mu\text{g/m}^3$ and 2.0 $\mu\text{g/m}^3$, respectively, in indoor air in the site building. The SFBRWQCB's July 25, 2019 (Rev. 2) Tier ESL for benzene in indoor air is 0.097 $\mu\text{g/m}^3$. This is a VEC and constitutes a REC.

EC&A sampled ambient and indoor air at the 301 Payran Street site on September 22, 2016. Benzene was detected in ambient air at 0.46 $\mu\text{g/m}^3$ and in indoor air at 1.5 $\mu\text{g/m}^3$ and 0.65 $\mu\text{g/m}^3$, respectively. As reported above, the SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for benzene

in indoor air is $0.097 \mu\text{g}/\text{m}^3$. Naphthalene was also detected in indoor air at $18 \mu\text{g}/\text{m}^3$. The SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for naphthalene in indoor air is $0.083 \mu\text{g}/\text{m}^3$.

Several iterations of soil, groundwater and air quality investigations have been performed, a monitoring well groundwater program implemented, and a limited pump and treat groundwater treatment system installed at the site (March 1992). In 2004, a High Vacuum Dual Phase Extraction (HVDPE) pilot test was conducted at the site and in 2012-2013 two HVDPE remedial events were conducted at the site. The pilot test and two HVDPE events resulted in the removal of 3,106 pounds, 73,722 pounds and 59,753 pounds, respectively, of vapor phase FHCs from the site, for a total of 136,600 pounds or 68.3 tons. For all three events, a total of 1,331,710 gallons of groundwater were extracted from the treatment area. Post-HVDPE groundwater monitoring was performed and indicated that FHCs remained in groundwater beneath and extending offsite to the east and southwest at concentrations well above regulatory screening levels. Free floating product was also reported to remain in several monitoring wells both on and offsite at that time.

In 2016-2017 a dedicated trailer-mounted HVDPE system was installed. The system has run from 2018 to July 2020 and has removed approximately 5,582 pounds of fuel hydrocarbons in the form of soil vapor (equivalent to 893 gallons of fuel). Analytical results from the June 2020 groundwater monitoring event indicate that FHC concentrations in groundwater have decreased substantially overall since the startup of the HVDPE system. A comparison of TPHg concentrations for the pre-HVDPE event in December 2016 with those from the June 2020 event using wells that have had at least two sample events after the startup of the HVDPE system show that total TPHg concentrations from these wells decreased from $143,100 \mu\text{g}/\text{L}$ to $40,240 \mu\text{g}/\text{L}$. Total benzene concentrations decreased from $17,238 \mu\text{g}/\text{L}$ to $5,426 \mu\text{g}/\text{L}$. However, elevated FHC concentrations remain in the core of the plume and in the vicinity of MW-8 in the southeastern lobe of the plume (Appendix A). As such, this constitutes a REC. The lateral extents of the impacted groundwater plume are illustrated on isoconcentration maps in Appendix A.

During the course of file reviews, EC&A encountered a letter dated February 4, 1992, from Clemen Environmental Services (CES) to the Division of Fairs and Expositions at the Department of Food and Agriculture regarding the LUST case at 866 E. Washington Street that mentions a surface spill at 301 Payran Street. The letter states "*We also know that a large surface spill of gasoline (over 1000 gallons) from the 301 Payran site, traveled a significant distance along a drainage ditch which runs in the direction of the Fair's former UST site and contaminated soil from this spill still exists along the length of the ditch.*" EC&A was unable to locate any documentation regarding the alleged surface spill. This is a significant data gap and constitutes a REC.

The EDR records search identified numerous offsite environmental regulated facilities within the requested search radii of the subject site. The nearest open LUST facility is the active fueling station at 801 E. Washington Street, approximately 60 feet to the west of the site (Appendix A). Groundwater monitoring has occurred since 1985 as a result of an unauthorized release of gasoline to the subsurface. Several remedial actions have taken place, including soil vapor extraction, groundwater extraction, installation of oxygen releasing compounds, soil excavation, dual-phase extraction, sulfate injection and currently, a fixed HVDPE system (currently being phased out). The plume has been defined, and based on the non-detect analytical results from monitoring wells located adjacent to the subject, does not extend into the subject property.

The nearest open Cleanup Program Site (CPS) is located approximately 150 feet to the east of the subject property at 991 Lindberg Lane (aka 474 Kenilworth Drive). Given the distance from the subject property, the nature of the contaminants (total recoverable petroleum hydrocarbons [TRPH] and motor oil) and groundwater flow-direction, this CPS does not pose a threat of negative environmental impact to the subject property. This facility has been eligible for closure as of 2018. Based on available information on GeoTracker, it appears that legally mandated electronic uploads of documents related to this facility have not been completed. Based on a letter from the SFBRWQCB dated June 26, 2020, there may also be a requirement for a Risk Management Plan.

The nearest closed LUST facility is located over approximately 350 feet to the east of the subject site, the Petaluma School Bus Yard at 993 Lindberg Lane. This site was closed in January 2018.

Based on a review of available regulatory information, due to their distances and groundwater flow-directions relative to the site, the nature of their reported release and/or information obtained from a review of available regulatory files, there are no documented offsite facilities within EDR's specified search radius, which appear to represent a threat of adverse environmental impact to the subject property. A detailed discussion of regulatory agency files reviewed and offsite facilities identified on the databases searched by EDR is presented in Section 5.0.

1.3 General Site Setting

The subject property is located in the incorporated Sonoma County city of Petaluma, California, approximately 500 ft west of Highway 101, and bordered by E. Washington Street to the northwest, Payran Street to the southwest, Kenilworth Drive to the northeast and industrial/automotive properties to the southeast. The Downtown Petaluma business district is located approximately 4500-ft to the west of the subject site. Topography at the subject site is relatively flat, with an approximate surface elevation of 20 ft above mean sea level (msl). The nearest surface water body is Washington Creek, located approximately 350 feet to the north of the subject site. Washington Creek (channelized) empties into the Petaluma River, located approximately 2,000 feet to the west and south of the subject site. Lynch Creek is approximately 0.4 miles to the west of the subject property. Lynch creek also drains into the Petaluma River. Based on regional topography, and historical groundwater flow data from past environmental monitoring conducted at regulated environmental facilities in the subject site vicinity, groundwater flow-direction beneath the site is expected to generally be southwesterly (although at 301 Payran Street on the western side of the subject site has a dual groundwater flow-direction due to the presence of fluvial subsurface channels consisting primarily of sand), and groundwater is expected to be present at seasonally fluctuating depths ranging from approximately 5 to 15 ft below ground surface (bgs). According to the EDR Radius Report, the subject site is not located within either the 100-year or 500-year regional flood zones (Detail Map, Appendix A).

1.4 Historical Use of Subject Property

Based on a review of available historical information, the subject site appears to have first been developed for agricultural use by at least 1894, as evidenced by a Sanborn map from that year. However, consistent with regional land use patterns, use of the subject site for rural residential and agricultural purposes likely dates to at least the mid-1800s. In 1910-1911, when the subject property was used as a stud farm for thoroughbred racehorses, the merchants and leaders of the

City of Petaluma initiated a bond measure to purchase the land to serve as a municipal park and an asset for agricultural heritage. The subject property was known for its horse racing track. The park was used as a baseball park, for sporadic horse racing, for rodeos, as a public campground, and for private picnic and barbeques. Kenilworth Park (as the subject site was named at the time) served as a temporary home for the Protestant Orphan Asylum of San Francisco following the 1906 earthquake. An estimated 210 children were sheltered there for approximately six months. The Fourth District Agricultural Association has been leasing the majority of the subject property and hosting fairs as well as agricultural shows and activities since 1936, except for the years 1943-1945, when the military occupied the site during World War II. EC&A was unable to obtain documents regarding the military use of the subject property during their occupation; however, the Chief Curator and Military Historian for the California Military Department stated that the use was likely temporary housing. According to historical newspaper articles, the Petaluma Red Cross hosted a Christmas party for 250 servicemen stationed at Kenilworth Park (as the property was named at that time) in 1943. Additional details are included in section 5.4 below.

During review of regulatory files from the Petaluma Fire Department and Sonoma County Farm Bureau archives, EC&A ascertained that past uses also include Petaluma Skating Center (circa 1979), flea markets, a camp/dormitories (Nissan Dormitory circa 1980, which had 80 bunkbeds), a miniature golf course and restaurant (circa 1972) and a "children's workshop" circa 1983 (likely where the library now stands).

Several structures (including hitching sheds, box stalls and an agricultural pavilion) are indicated at the subject site in Sanborn maps from 1894 to 1949, although the Sanborn maps of 1923 and 1949 are devoid of detail. The 1959 map shows the fire station located at 301 Payran Street but is devoid of any other structures on the subject property (poor coverage of the subject property through 1965). Over the years, many structures (exhibition halls, administrative offices, barns, stalls, a swimming pool, and other developments mainly revolving around agriculture and the annual fair) have been erected throughout the subject property.

Detailed information regarding past uses of the subject property and site vicinity are presented in Section 5.4.

1.5 Data Gaps & Data Failures, Vapor Encroachment Concerns and De Minimis Conditions

Data Gaps & Data Failures

Data gaps occur when required information is missing despite the good faith efforts made by the environmental professional to gather such information. An attempt was made to obtain readily available historical sources at appropriate time intervals dating back to at least the 1940s, or first reported development of the subject property. Data gaps in our historic research, which ranged between 1933 and 2020, were encountered. Data failure occurs when a significant (10 years or more) gap of time exists between two historic sources and a reasonable effort has been made to obtain additional sources of information. Although data failure with respect to historic research, as defined in the ASTM standard, has occurred, these data failures do not diminish EC&A's ability to provide an opinion on a release or potential release of hazardous substances at the subject property.

Separator sludge was reportedly disposed of in the past according to environmental records. During site reconnaissance, EC&A did not observe any oil/water separators and current staff had no knowledge of an oil/water separator even having been at the subject site. This is a significant data gap and is considered a REC.

A significant data gap was identified regarding the old transformers being stored in the southeast corner of the property. At the time of site reconnaissance, EC&A was unable to access the ground surface beneath the transformers to assess any staining that may be present. This constitutes a significant data gap, but not a REC. If staining on the ground had been observed, it would be a REC.

During the course of file reviews, EC&A encountered a letter dated February 4, 1992, from CES to the Division of Fairs and Expositions at the Department of Food and Agriculture regarding the LUST case at 866 E. Washington Street that mentions a surface spill at 301 Payran Street. The letter states *"We also know that a large surface spill of gasoline (over 1000 gallons) from the 301 Payran site, traveled a significant distance along a drainage ditch which runs in the direction of the Fair's former UST site and contaminated soil from this spill still exists along the length of the ditch."* EC&A was unable to locate any documentation regarding the alleged surface spill. This is a significant data gap and constitutes a REC.

Vapor Encroachment Concerns

EC&A conducted an evaluation for vapor encroachment concerns (VECs) using methodology established in ASTM Standard of Practice E2600-10. Based on a review of available information, a VEC does exist at the subject site near and at 301 Payran Street (open LUST case) and in the former USTs location near the southeast corner of the subject property (facility listed as 866 Washington St E on State database GeoTracker).

As stated above, in February 2005, CIHS, performed an air quality assessment at the 301 Payran Street site and site vicinity. Their March 24, 2005 report of the assessment concluded that indoor total volatile organic compound (TVOC) levels in the site building and buildings at the Live Oak Charter School were similar to those in ambient (outdoor) air, and that indoor air TVOC concentrations were within typical values and/or within the range that can be expected to be found in indoor air. CIHS reported benzene concentrations of 2.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in ambient air at the site and 1.9 $\mu\text{g}/\text{m}^3$ and 2.0 $\mu\text{g}/\text{m}^3$, respectively, in indoor air in the site building. The SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for benzene in indoor air is 0.097 $\mu\text{g}/\text{m}^3$. This is a VEC and constitutes a REC.

As stated above, EC&A sampled ambient and indoor air at the 301 Payran Street LUST facility on September 22, 2016. Benzene was detected in ambient air at 0.46 $\mu\text{g}/\text{m}^3$ and in indoor air at 1.5 $\mu\text{g}/\text{m}^3$ and 0.65 $\mu\text{g}/\text{m}^3$, respectively. The SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for benzene in indoor air is 0.097 $\mu\text{g}/\text{m}^3$. Naphthalene was also detected in indoor air at 18 $\mu\text{g}/\text{m}^3$. The SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for naphthalene in indoor air is 0.083 $\mu\text{g}/\text{m}^3$. This a VEC that constitutes a REC.

Benzene (up to 15 $\mu\text{g}/\text{L}$) detected in groundwater samples collected beneath the former USTs near the southeast corner of the subject property exceeds the SFBRWQCB's July 25, 2019 (Rev. 2)

Groundwater Vapor Intrusion Human Health Risk Level for benzene of 0.42 µg/L. This is a VEC that constitutes a REC.

EC&A submitted a shallow soil and soil vapor assessment work plan to the County of Sonoma Department of Health Services (CSDHS) on July 24, 2020, in order to further assess current subsurface conditions. The work plan was approved by the CSDHS in a letter dated July 30, 2020. Three sub-slab probes (Vapor Pins™ manufactured by Cox-Colvin and Associates) were installed in the concrete slab floor of the Site building on September 18, 2020. Sub-slab soil vapor samples were collected from the Vapor Pins™ on September 21, 2020. Two exterior soil vapor wells will be installed adjacent to the Live Oak Charter School classroom closest to the 301 Payran Street site and six shallow soil borings will be advanced at 301 Payran Street and at the school on October 5, 2020. Data from this investigation will be used to evaluate whether the LUST facility complies with Low Threat Closure Policy (LTCP) Media Specific Criteria for soil vapor intrusion into indoor air and direct contact with shallow soil.

A complete copy of the work plan can be found online at:

https://documents.geotracker.waterboards.ca.gov/esi/uploads/geo_report/8132411122/T0609700807.PDF

De Minimis Conditions

EC&A observed a limited area of stained gravel and dirt surfaces by petroleum products in areas used for parking of heavy equipment at the subject property (sheds, shops and/or garages). Staining of these surfaces is likely the result of minor leakage and dripping of petroleum products from parked heavy equipment and are consistent with these types of uses. The staining of gravel and dirt surfaces at the subject site is not significant in extent and is considered a *de minimis* condition. By definition, *de minimis* conditions do not present a material risk of harm to public health or the environment and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not RECs (ATSM, 1527-13).

1.6 Recognized Environmental Conditions

Recognized Environmental Conditions (RECs) are defined by ASTM Standard Practice E1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. In the course of performing this ESA, EC&A identified five RECs associated with the subject property.

- Groundwater containing fuel hydrocarbon (FHC) concentrations exceeding both the SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESLs for groundwater and the SFBRWQCB's July 25, 2019 (Rev. 2) Groundwater Vapor Intrusion Human Health Risk Levels at the open LUST case at 301 Payran Street (part of the subject property) and beneath the former USTs near the southeast corner of the subject site is a REC.

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- Soil vapor containing FHC concentrations exceeding the SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESLs for soil vapor at and near the open LUST case at 301 Payran Street is a REC.
 - The lack of information regarding a surface spill of gasoline at 301 Payran Street is a significant data gap that constitutes a REC.
 - Indoor air containing concentrations of FHCs that exceed SFBRWQCB's July 25, 2019 (Rev. 2) Vapor ESLs for Indoor Air inside the building 301 Payran Street and the adjacent school constitutes a REC.
 - The lack of information regarding a suspected oil/water separator is a significant data gap that constitutes a REC.

1.7 Conclusions

EC&A has performed this ESA in conformance with the scope and limitations of ASTM Standard Practice E1527-13, of the property located at 866 E. Washington Street in Petaluma, California, designated as Sonoma County APNs 007-031-004 & 007-031-005. Any exceptions to, or deletions from, this practice are described in Section 2.0 of this Report.

This report is governed by the Limitations set forth in Sections 2.4 and 2.5 of this report. This Executive Summary is not to be used without the accompaniment of the entire report.

2.0 INTRODUCTION

2.1 Purpose

The purpose of this ESA is to establish whether there are RECs on or near the subject property. RECs are defined as those contaminants identified in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products. RECs are defined as follows:

The presence or likely presence of any hazardous substances or petroleum products, in, on or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. RECs are additionally defined as any hazardous substances or petroleum products that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures, on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions. (ASTM E1527-13)

Pursuant to the ASTM Standard of Practice E1527-13, RECs do not include asbestos-containing materials (ACMs), lead-based paint or other non-CERCLA-related conditions (i.e. radon gas, lead in drinking water, mold, indoor air quality, emerging contaminants such as per- and polyfluoroalkyl substances [PFAS], etc.). However, an evaluation of the potential for VECs to represent a REC was conducted, using methodology established in ASTM Standard of Practice E2600-10.

2.2 Scope of Services

The scope of services for this ESA generally follows the Standard Practice for Environmental Site Assessments (ASTM E1527-13). Accordingly, it is intended to focus on the contaminants defined by CERCLA and petroleum products. As such, “all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice” as defined in 42 USC 9601(35)(B) is applied. However, an evaluation of business environmental risk associated with a parcel of commercial real estate may necessitate investigation beyond that identified in this ESA.

The scope of services includes inspection of the site and area for RECs, and acquisition of information that can be obtained from regulatory agency files that are obtainable without accessing the archives of the various agencies. Accordingly, it cannot be guaranteed that all files are examined or that every possible condition is evaluated.

The records review includes files available at State, County and/or City offices listed in Section 5.2 of this report. In some cases, the status of a site is established from telephone interviews of staff persons in these offices. For nearby environmental regulated sites (if applicable), information available online at GeoTracker and/or actual case files may be reviewed, as deemed appropriate. The site reconnaissance includes visual observations of nearby properties as viewed from the site or public roadways. Interviews, including those of persons known or suspected of being familiar with the history of the site, or of persons reasonably available at the time of the site inspection(s), are conducted when such interviews are possible.

The scope of services for this ESA does not include a survey for, or analyses of, construction materials that may contain asbestos; however, any obvious indications of its presence are reported. Neither does the scope of services include a survey for, or analyses of, onsite structures for lead-based paint or other non-CERCLA-related conditions (i.e., radon gas, lead in drinking water, mold, indoor air quality, etc.). For buildings constructed prior to 1981, the Code of Federal Regulations (29 CFR 1916.1101 and 29 CFR 1910.1001) define presumed asbestos-containing materials (ACMs) to be present in numerous types of building materials. In buildings constructed after 1978, it is unlikely that lead-based paint (LBP) is present. Structures built prior to 1978 and especially prior to the 1960s, should be expected to contain LBP. Based on the age of the subject site structures, it is likely that ACMs and LBP were used in subject site building materials. However, prior to any demolition, handling, or disposal of building materials, it may be required by regulatory authorities to conduct a survey for the presence of suspect ACMs and LBP by properly licensed professionals. EC&A can assist with references for such professionals, if requested.

2.3 Significant Assumptions

This ESA is intended to assess the environmental conditions of a specific parcel(s) of real estate. It is also intended to constitute appropriate inquiry for purposes of the CERCLA-innocent landowner defense; however, it is not intended to be limited to that purpose. Finally, this ESA is intended to reflect a commercially prudent and reasonable inquiry designed to recognize the environmental conditions of a property.

2.4 Limitations and Exceptions

The scope of services performed to complete this ESA was limited in nature. While this type of work is considered to be valuable in the preliminary evaluation of the possibility of the site being impacted by hazardous substances or petroleum hydrocarbons, it may not reveal releases of these substances that have occurred. Additionally, site conditions can change with time, and this ESA is not intended to predict how those changes will impact the property. The limited nature of an ESA prevents it from being considered to be a risk assessment. Additionally, the scope of services does not include a determination of the extent of business environmental risk or the possible public health impact of known or suspected hazardous substance(s) or petroleum products.

This service has been performed in accordance with generally accepted environmental investigation practices for similar studies conducted at this time and in this geographic area. No other guarantees or warranties, expressed or implied, are provided.

It is understood by the parties hereto that the party who has requested this ESA will use it to evaluate site environmental conditions. EC&A intends no other use or disclosure. Client agrees

to hold EC&A harmless for any inverse condemnation or devaluation of said property that may result if this ESA or information generated from it is used for other purposes. This ESA is issued with the understanding that it is to be used only in its entirety.

2.5 User Reliance

This ESA is intended for use only by the City of Petaluma and/or their assignees. If other parties wish to rely on it, please have them contact EC&A so that a mutual understanding and agreement of the terms and conditions for its use can be established.

2.6 Involved Parties

The City of Petaluma is the current listed owner of the property known as the Sonoma-Marin Fairgrounds in Petaluma, California, and further designated as Sonoma County APNs 007-031-004 and 007-031-005. The City of Petaluma retained EC&A to conduct this ESA to evaluate any potential negative environmental or other nuisance conditions associated with the subject property.

2.7 Data Gaps & Data Failures, Vapor Encroachment Concerns and De Minimis Conditions

Data Gaps & Data Failures

Data gaps occur when required information is missing despite the good faith efforts made by the environmental professional to gather such information. An attempt was made to obtain readily available historical sources at appropriate time intervals dating back to at least the 1940s, or first reported development of the subject property. Data gaps in our historic research, which ranged between 1933 and 2020, were encountered. Data failure occurs when a significant (10 years or more) gap of time exists between two historic sources and a reasonable effort has been made to obtain additional sources of information. Although data failure with respect to historic research, as defined in the ASTM standard, has occurred, these data failures do not diminish EC&A's ability to provide an opinion on a release or potential release of hazardous substances at the subject property.

Separator sludge was reportedly disposed of in the past according to environmental records. During site reconnaissance, EC&A did not observe any oil/water separators and current staff had no knowledge of an oil/water separator even having been at the subject site. This is a significant data gap and is considered a REC.

A significant data gap was identified regarding the old transformers being stored in the southeast corner of the property. At the time of site reconnaissance, EC&A was unable to access the ground surface beneath the transformers to assess any staining that may be present. This data gap, although significant, is not considered a REC because staining on the ground beneath the transformers was not observed. If staining on the ground had been observed, it would be a REC.

During the course of file reviews, EC&A encountered a letter dated February 4, 1992, from CES to the Division of Fairs and Expositions at the Department of Food and Agriculture regarding the LUST case at 866 E. Washington Street that mentions a surface spill at 301 Payran Street. The letter states "*We also know that a large surface spill of gasoline (over 1000 gallons) from the 301 Payran site, traveled a significant distance along a drainage ditch which runs in the direction of the Fair's former UST site and contaminated soil from this spill still exists along the length of the*

ditch.” EC&A was unable to locate any documentation regarding the alleged surface spill. This is a significant data gap and constitutes a REC.

Vapor Encroachment Concerns

EC&A conducted an evaluation for vapor encroachment concerns (VECs) using methodology established in ASTM Standard of Practice E2600-10. Based on a review of available information, a VEC does exist at the subject site near and at 301 Payran Street (open LUST case).

In February 2005, CIHS performed an air quality assessment at the 301 Payran Street site and site vicinity. Their March 24, 2005 report of the assessment concluded that indoor total volatile organic compound (TVOC) levels in the site building and buildings at the Live Oak Charter School were similar to those in ambient (outdoor) air, and that indoor air TVOC concentrations were within typical values and/or within the range that can be expected to be found in indoor air. CIHS reported benzene concentrations of 2.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in ambient air at the site and 1.9 $\mu\text{g}/\text{m}^3$ and 2.0 $\mu\text{g}/\text{m}^3$, respectively, in indoor air in the site building. The San Francisco Bay Regional Water Quality Control Board’s (SFBRWQCB’s) Environmental Screening Level (ESL) for benzene in commercial/industrial space is 0.42 $\mu\text{g}/\text{m}^3$.

EC&A sampled ambient and indoor air at the 301 Payran Street site on September 22, 2016. Benzene was detected in ambient air at 0.46 $\mu\text{g}/\text{m}^3$ and in indoor air at 1.5 $\mu\text{g}/\text{m}^3$ and 0.65 $\mu\text{g}/\text{m}^3$, respectively. The SFBRWQCB’s July 25, 2019 (Rev. 2) Tier 1 ESL for benzene in indoor air is 0.083 $\mu\text{g}/\text{m}^3$. Naphthalene was also detected in indoor air at 18 $\mu\text{g}/\text{m}^3$. The SFBRWQCB’s July 25, 2019 (Rev. 2) Tier 1 ESL for naphthalene in indoor air is 0.083 $\mu\text{g}/\text{m}^3$. This a VEC that constitutes a REC.

EC&A submitted a shallow soil and soil vapor assessment work plan to the County of Sonoma Department of Health Services (CSDHS) on July 24, 2020, in order to further assess current subsurface conditions. The work plan was approved by the CSDHS in a letter dated July 30, 2020. Three sub-slab probes (Vapor Pins™ manufactured by Cox-Colvin and Associates) were installed in the concrete slab floor of the Site building on September 18, 2020. Sub-slab soil vapor samples were collected from the Vapor Pins™ on September 21, 2020. Two exterior soil vapor wells will be installed adjacent to the Live Oak Charter School classroom closest to the 301 Payran Street site and six shallow soil borings will be advanced at 301 Payran Street and at the school on October 5, 2020.

A complete copy of the work plan can be found online at:

https://documents.geotracker.waterboards.ca.gov/esi/uploads/geo_report/8132411122/T0609700807.PDF

De Minimis Conditions

EC&A observed a limited area of stained gravel and dirt surfaces by petroleum products in areas used for parking of heavy equipment at the subject property (sheds, shops and/or garages). Staining of these surfaces is likely the result of minor leakage and dripping of petroleum products from parked heavy equipment and are consistent with these types of uses. The staining of gravel and dirt surfaces at the subject site is not significant in extent and is considered a *de minimis*

condition. By definition, *de minimis* conditions do not present a material risk of harm to public health or the environment and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not RECs (ATSM, 1527-13).

3.0 SITE DESCRIPTION

3.1 Site Location and Legal Description

Designated as 866 E. Washington Street in Petaluma, California, with Sonoma County APNs 007-031-004, and 007-031-005, the subject site consists of two contiguous irregular-shaped parcels of land totaling approximately 63.5 acres. The subject property is located in the city limits of Petaluma, California, and is currently zoned for Open Space and Parks (OSP), Civil Facility District (CF [public/semi-public education]) and Mixed Uses (MU1B). Figures with various views of the site and vicinity including approximate parcel boundaries are presented in Appendix A.

3.2 Site and Vicinity General Characteristics

The subject property is located in the incorporated Sonoma County city of Petaluma, California, approximately 500 ft west of Highway 101, and bordered by E. Washington Street to the northwest, Payran Street to the southwest, Kenilworth Drive to the northeast and industrial/automotive properties to the southeast. The Downtown Petaluma business district is located approximately 4500-ft to the west of the subject site. Topography at the subject site is relatively flat, with an approximate surface elevation of 20 ft above mean sea level (msl). The nearest surface water body is Washington Creek, located approximately 350 feet to the north of the subject site. Washington Creek (channelized) empties into the Petaluma River, located approximately 2,000 feet to the west and south of the subject site. Lynch Creek is approximately 0.4 miles to the west of the subject property. Lynch creek also drains into the Petaluma River. Based on regional topography, and historical groundwater flow data from past environmental monitoring conducted at regulated environmental facilities in the subject site vicinity, groundwater flow-direction beneath the site is expected to generally be southwesterly (although at 301 Payran Street on the western side of the subject site has a dual groundwater flow-direction due to the presence of fluvial subsurface channels consisting primarily of sand), and groundwater is expected to be present at seasonally fluctuating depths ranging from approximately 5 to 15 ft below ground surface (bgs). According to the EDR Radius Report, the subject site is not located within either the 100-year or 500-year regional flood zones (Detail Map, Appendix A).

Land use in the immediate subject site vicinity is primarily commercial and light industrial, with residential and mixed-use properties primarily to the west.

3.3 Current Use of the Property

The subject site, consisting of two contiguous irregularly shaped parcels totaling approximately 63.5-acres of land, is known as 866 E. Washington Street located in Petaluma, California. Other addresses on the subject property include 482 Kenilworth Drive, 175 Fairgrounds Drive, 100 Gness Concourse, 100 and 175 Fairgrounds Drive, 100 Gness Drive and 301 Payran Street. The property is the Sonoma-Marin Fairgrounds & Event Center, and is developed with parking lots, a racetrack and grandstand, a carnival area, a horse arena, exhibit halls/banquet rooms, administrative and maintenance buildings, restrooms, barns and stalls for livestock. Kenilworth

Park and the Petaluma Regional Library are located on the western corner of the subject property; a swimming pool is located on the northern corner. The main annual events at the subject site include the Petaluma Music Festival, the Sonoma-Marin Fair, the Fourth of July Fireworks, the Ligue Henri IV Picnic, the Cinco de Mayo Festival, the Basque Picnic, the Northern California Guatemalan Festival and the Dia de Los Muertos Celebration. Throughout the year, the public can rent a variety of spaces to host weddings, parties, outdoor picnics, conferences, fundraiser events and dances. Year-round services include the Airport Express, El Dorado Food Truck, Goodwill Donation Center, Happy Hearts Preschool, Java Hut, Live Oak Charter School, Petaluma Speedway, Petaluma Park and Ride, Play Dog Play park, Playland Enterprises (paintball) and Rebuilding Together (community volunteers). The subject site is located as shown on the Site Location Map, Figure 1 (Appendix A); general subject site features are as shown on the Site Map, Figure 2 (Appendix A). Site photographs depicting current site conditions, building configuration and land use in the site vicinity are presented in Appendix B.

3.4 Descriptions of Improvements

3.4.1 Structures

The subject site is currently developed with a variety of structures serving various purposes, including administrative, educational (Live Oak Charter School and Happy Hearts Preschool), showcase buildings, an auction house, livestock pens and barns, a racetrack, a horse arena, a milking barn, grandstands, parking lots and maintenance buildings. In addition, the northwestern portion of the property (separate from the Fairgrounds and under control of the City of Petaluma) is currently developed with the Petaluma Regional Library, Petaluma Swim Center, Petaluma Skate Park, Kenilworth Playground and Kenilworth Teen Center.

3.4.2 Roads

The main entrance to the subject property is from E. Washington Street. There are also multiple gates/entrances from bordering streets (Kenilworth Drive, Lindberg Lane and Payran Street).

Kenilworth Drive curves inside the northwestern corner of the subject site (Appendix A). Gness Concourse dissects the southwestern portion of the subject property. Fairgrounds Drive curves inside the southwestern corner of the subject property, around Kenilworth Park. In addition, there are multiple roads and paths throughout the subject property.

3.4.3 Water Supply

The subject site is connected to municipal water service. A water supply well is located at the subject site near the southern corner of the property and was reportedly installed in 1978 to a depth of approximately 250 feet bgs. Well construction details were not available at the time of publication of this Phase I ESA. EC&A understands that the water supply well is only used for irrigation purposes and that a back-flow prevention device has been installed.

3.4.4 Utilities

PG&E provides electricity to the subject site via overhead and underground lines; telephone and internet service are also provided to the site by overhead and underground lines. Natural gas provided by PG&E is available in the subject site vicinity via underground lines. EC&A did not observe any evidence of PCB-containing transformers on power poles onsite; however, old and rusty (age unknown) transformers were observed being stored on the ground in the southeastern

corner of the property. It is unknown whether their contents were drained prior to storing them at the subject site. EC&A did not identify any other aboveground or underground utilities present on the subject site.

The subject site is connected to the municipal sewer service.

3.5 Current Use of the Adjoining Properties

The current uses of the properties adjoining the subject property were identified through a windshield survey and by walking, to the extent feasible, adjacent properties.

The subject property is bordered by E. Washington Street to the northwest, Payran Street to the southwest, Kenilworth Drive to the northeast and industrial/automotive properties to the southeast. The properties to the northwest and southwest of the subject property, beyond E. Washington and Payran Streets, are primarily residential properties. To the northeast and southeast of the subject site, properties are primarily commercial and mixed-use.

4.0 USER-PROVIDED INFORMATION

4.1 Title Records, Environmental Liens, Activity and Use Limitations, Specialized Knowledge, Value Reduction for Environmental Issues, Commonly Known or Reasonably Ascertainable Information

The purpose of this section of the ESA Report is to identify tasks that will help identify the possibility of RECs in connection with the subject properties. In general, the tasks are:

- 1). Searches for Environmental Liens;
- 2). Valuation Reduction for Environmental Issues; and
- 3). Assessments of Specialized Knowledge.

These tasks do not require technical expertise and Environmental Professionals do not normally perform these tasks. These tasks are the responsibility of the Client and/or User. The User did not request EC&A to coordinate with a title company or title professional to undertake a review of Recorded Land Title Records and judicial records for environmental liens or AULs. However, the results of these tasks must be made available for the Environmental Professionals to review; if none are provided, they will be identified as “data gaps”. The Environmental Professional(s) are required to review these items in order to formulate an opinion regarding the obviousness of the presence or likely presence of contamination at the subject properties or identify them as missing “data gaps”.

Review of Title and Judicial Records for Environmental Liens or Activity and Use Limitations (AULs) is the responsibility of the user of the Phase I ESA Report; however, EDR performed a search for environmental liens and activity and use limitations under an Inquiry dated July 15, 2020 (Appendix C). The EDR lien search report states that no environmental liens or activity and use limitations were identified for the subject property.

The user indicated no knowledge of any environmental cleanup liens filed or recorded against the site or site activity and no knowledge of AULs that are in place on the site or that have been filed or recorded in a registry.

4.2 Valuation Reduction for Environmental Issues

An assessment of the relationship of the purchase price to the fair market value of the subject property, assuming there is no contamination on the site, is required under 40 CFR Part 312, Section 312.29 to maintain innocent landowner defense. The sections from the federal document are summarized below:

- 1). Persons to whom this part is applicable must consider whether the purchase price of the subject property reasonably reflects the fair market value of the property, assuming there is no contamination on the property; and
- 2). Persons who conclude that the purchase price of the subject property does not reasonably reflect fair market value, if the property were not contaminated, should consider whether or not the differential in purchase price and fair market value is due to the presence of releases or threatened releases of hazardous substances.

No current appraisal reports were provided to EC&A for review. However, anecdotal information gained during interviews indicates that there is no value reduction for environmental reasons.

4.3 Assessment of Specialized Knowledge

Assessments of any specialized knowledge or experience on the part of the purchaser or landowner is required by 40 CFR Part 312 Section 312.28 to maintain the innocent landowner defense. The sections from this document have been summarized below for clarity:

- 1). Persons to whom this part is applicable must take into account, their specialized knowledge of the site, the area surrounding the site, conditions of surrounding properties, and any other experience deemed relevant to the inquiry, for the purposes of identifying conditions indicative of releases or threatened releases at the site.
- 2). All appropriate inquiries are not complete unless the results of the inquiries take into account the relevant and applicable specialized knowledge and experience of the persons responsible for undertaking the inquiry.

The user indicated no specialized knowledge or experience that is material to RECs in connection with the subject property.

4.4 Reason for Performing Phase I

A Phase I ESA is typically performed to provide landowner liability protections (LLPs) under CERCLA; these protections include bona fide prospective purchaser liability protection, contiguous property owner liability protection, and innocent landowner defense from CERCLA liability. In addition to satisfying one of the requirements to qualify for an LLP to CERCLA liability, another reason for performing a Phase I ESA might include the need to understand potential environmental conditions that could materially impact the operation of the business associated with the parcel of commercial real estate. This ESA is being performed at the request

of the City of Petaluma and/or their assignees to evaluate whether past property uses have created any environmental or other nuisance conditions which would indicate a REC. It is EC&A's understanding that the property may be developed by others.

A copy of the ESA User Questionnaire completed by Allison Keaney, Chief Executive Officer of the Sonoma-Marin Fairgrounds & Event Center, is presented in Appendix D.

5.0 RECORDS REVIEW

5.1 Standard Environmental Records

The standard environmental records sources for ESAs as identified by ASTM E1527-13 were searched and pertinent records obtained, by a computer database search company, EDR of Milford, Connecticut. Computer database searches can be useful in identifying facilities that may have the potential to adversely impact a subject site. These searches provide a general overview of activities involving hazardous materials at facilities that are or were on or near a site. However, the data provided by these searches may not be precise or up to date. The state, federal and tribal databases were searched by EDR for properties with reported environmental issues, within radii specified by ASTM Standard E 1527-13. They were searched using geocoding information that identified the coordinates of the properties in the databases, or by verifying the physical street addresses of practically reviewable, non-geocoded "orphan" properties within the same zip code as the site. It should be noted that computerized geocoding technology used in the database search is based on available census data and is only accurate to approximately +/- 300 ft. The EDR Radius Report provides a list of unmapped sites for which inadequate location information was provided. EC&A has reviewed the list of unmapped sites to determine if these sites are within the requested search radius for the databases search. The only Orphan Property listed was *Union Oil, Wilson Street*. Wilson Street is approximately 1,750 feet downgradient of the subject property at its closest point, and therefore does not pose a threat of negative environmental impact to the subject property.

The results of the search performed for this site are reported in EDR's Radius Map Report with GeoCheck (Radius Report) dated July 14, 2020, with Inquiry Number 6120344.4s. A comprehensive listing of federal, state and local government environmental databases searched are presented in the report, which is provided in Appendix E. In some instances, to avoid an exhaustive discussion of the numerous sites identified by EDR, the facilities are discussed, but are not limited to, the following.

U.S. Federal Standard Databases

- United States Environmental Protection Agency (USEPA) National Priorities List (NPL, or Superfund) sites, Proposed NPL, Delisted NPL, and NPL Recovery (Superfund Liens).
- US EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and CERCLIS-NFRAP (No Further Remedial Action Planned).
- ERNS - Emergency Response Notification System.
- Resources Conservation and Recovery Act - Treatment Storage and Disposal Facilities (RCRA - TSDF) and RCRA large quantity and small quantity generators (LQG, SQG).
- CORRACTS - Corrective Action Report identifies hazardous waste handlers with RCRA corrective action activity.
- Federal institutional control/engineering control registries.

California State Standard Databases

- HIST CAL-SITES - California database of potential or confirmed hazardous substance release sites. This database has been replaced by Envirostor.
- ENVIROSTOR - California Environmental Protection Agency (CALEPA), Department of Toxic Substance Control, Site Mitigation and Brownfields Reuse Program, database of sites that have known contamination or sites with reason for further investigation.
- CHMIRS - California Hazardous Material Incident Report System (accidental releases or spills).
- SWF/LS - Solid Waste Information System, California Integrated Waste Management Board: This database consists of active, closed, and inactive Landfills and Disposal Sites.
- Toxic Pits - California State Water Resources Control Board: This database identifies pits and bodies of water suspected of containing hazardous substances where cleanup has not yet been completed. This program is also known as TPCA.
- WMUDS/SWAT - California State Water Resources Control Board database for tracking and inventory of waste management units (solid waste disposal sites), including Solid Waste Assessment Test (SWAT) program information.
- CORTESE - CALEPA, Office of Emergency Information: These sites are designated by the State Water Resources Control Board (LUST database), the Integrated Waste Management Board (SWF/LS database), and the Department of Toxic Substance Control (Cal-Sites database).
- LUST - California State Water Resources Control Board: The local RWQCB manages this database. It is an inventory of reported Leaking Underground Storage Tank (LUST) sites.
- UST - Active UST Facilities gathered from the local regulatory agencies.
- CA FID UST - The Facility Inventory Database (FID) contains a historical listing of active and inactive UST locations from the State Water Resources Control Board. Refer to local/county source for current data.
- HIST UST - The Hazardous Substance Storage Container Database is a historical listing of UST sites.

California State Databases (ASTM Supplemental)

- Dry Cleaners - A list of dry cleaner-related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaners' agents; linen supply; coin-operated laundries and cleaning; industrial launderers; laundry and garment services.
- SLIC - Local Regional Water Quality Control Board: This database is the Spills, Leaks Investigation and Cleanup (SLIC) and is classified as voluntarily cleanup status by the responsible party with RWQCB oversight.

5.1.1 Summary of Findings of EDR Database Search

Listed below are the relevant findings of the EDR database search within the minimum radius search distances of the property as specified by ASTM E1527-13, Section 8.2.1.

Subject Property

The subject property is listed on 16 of the databases searched by Environmental Data Resources, Inc. (EDR): LUST; Cortese; HIST CORTESE; CERS; RGA LUST; FINDS; HAZNET; HWTS; CIWQS; RCRA NonGen/NLR; ECHO; ENVIROSTOR; VCP; CERS HAZ WASTE; SWEEPS

UST and CA FID UST. Many of these listings are duplicates, databases that list information from other databases or information regarding the handling and disposal of hazardous waste (used oil, oil/water separator sludge, solvents, household waste, etc.). EC&A reviewed each listing; no violations were found. However, the two onsite LUST cases, 866 E. Washington Street and 301 Payran Street merit further discussion.

866 E. Washington Street

Two 550-gallon USTs for gasoline were removed from a storage building in the southern corner of the subject property in 1988. One of the USTs was in good condition; the older UST, located adjacent to the first, was badly corroded and did leak, as evidenced by soil and groundwater samples collected during tank removal activities. In 1991, soil borings were advanced in order to define the extent of the contamination, followed by over-excavation of the impacted area. The final excavation limits were roughly 35 feet long, 25 feet wide and 12.5 feet deep. All soil samples collected from the sidewalls and bottom of the excavation were non-detect for TPHg and BTEX. The excavated soil was aerated and subsequently disposed of onsite around the horse arena (northeastern portion of the subject property) in 1994. In 1993, one groundwater monitoring well was installed approximately 25 feet downgradient from the former UST location. The well was sampled quarterly for one year for TPHg and BTEX; all analytical results were non-detect. Based on two grab-groundwater samples that were collected at the time of the excavation, it is possible that relatively minor impacts to groundwater may exist in a small and localized area directly beneath the former location of the UST. The maximum concentrations detected in the grab-groundwater samples were 1,700 µg/L TPHg, 15 µg/L benzene (although this detection was attributed to slough from the excavation), and 6.8 µg/L total xylenes. The TPHg and benzene concentrations exceed the SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESLs for groundwater. The TPHg and benzene concentrations also exceed the SFBRWQCB's July 25, 2019 (Rev. 2) Groundwater Vapor Intrusion Human Health Risk Levels. As reported above, the groundwater impacts appear to be limited to the area directly below the former USTs location and it is likely that some biodegradation has occurred over time. However, given the groundwater concentrations at the time of collection, this constitutes a REC.

301 Payran Street

301 Payran Street is an open Leaking Underground Storage Tank (LUST) case regulated by the County of Sonoma Department of Health Services (CSDHS) because of a release of fuel hydrocarbons (FHCs) to soil and groundwater from an UST for gasoline formerly located at the site. 301 Payran Street is located on the southwestern edge of the subject property and was a fire station from 1957 to 1981.

In 1987 one 5,000-gallon gasoline UST was removed from the site. A leaking UST was removed many years (exact year unknown) before it was replaced by the UST removed in 1987 (VHC, 1988). Confirmation soil samples collected at the time of 1987 UST removal indicated TPHg concentrations of 15 milligrams per kilogram (mg/kg) in the south end and 92 mg/kg in the north end of the UST excavation (VHC, 1988a). Free-floating product was reportedly present on groundwater in the UST excavation. A groundwater sample collected from water in the open excavation on November 3, 1987 reported TPHg, benzene, toluene and xylenes at concentrations of 20,000 micrograms per liter (µg/L), 2700 µg/L, 840 µg/L, and 3700 µg/L, respectively.

Over-excavation of FHC-impacted soils was reportedly not conducted at the time of UST removal activities. However, EC&A understands that approximately 60 cubic yards of soils generated during UST removal activities were transported for disposal at Sonoma Central landfill in Petaluma, California in February 1988 (VHC, 1988c). Approximately 20,000 gallons of groundwater were reportedly pumped out of the open UST excavation, stored in an onsite frac tank, tested and subsequently disposed in the City sewer system.

Groundwater monitoring has been conducted at the site since 1987. Groundwater monitoring analytical data collected to date indicates that a significant impact to groundwater by FHCs has occurred at the site, with free phase floating product historically reported in both on- and off-site monitoring wells located on the fairgrounds portion of the subject site. Chemicals of concern (COC) in groundwater at this LUST site consist primarily of TPHg, BTEX, methyl-tert butyl ether (MTBE) and tert-butyl alcohol (TBA).

In February 2005, CIHS performed an air quality assessment at the 301 Payran Street site and site vicinity. Their March 24, 2005 report of the assessment concluded that indoor total volatile organic compound (TVOC) levels in the site building and buildings at the Live Oak Charter School were similar to those in ambient (outdoor) air, and that indoor air TVOC concentrations were within typical values and/or within the range that can be expected to be found in indoor air. CIHS reported benzene concentrations of 2.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in ambient air at the site and 1.9 $\mu\text{g}/\text{m}^3$ and 2.0 $\mu\text{g}/\text{m}^3$, respectively, in indoor air in the site building. The SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for benzene in indoor air is 0.097 $\mu\text{g}/\text{m}^3$. This is a VEC and constitutes a REC.

EC&A sampled ambient and indoor air at the 301 Payran Street site on September 22, 2016. Benzene was detected in ambient air at 0.46 $\mu\text{g}/\text{m}^3$ and in indoor air at 1.5 $\mu\text{g}/\text{m}^3$ and 0.65 $\mu\text{g}/\text{m}^3$, respectively. As stated above, the SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for benzene in indoor air is 0.097 $\mu\text{g}/\text{m}^3$. Naphthalene was also detected in indoor air at 18 $\mu\text{g}/\text{m}^3$. The SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for naphthalene in indoor air is 0.083 $\mu\text{g}/\text{m}^3$. This is also a VEC that constitutes a REC.

Several iterations of soil, groundwater and air quality investigations have been performed, a monitoring well groundwater program implemented, and a limited pump and treat groundwater treatment system installed at the site (March 1992). In 2004, a High Vacuum Dual Phase Extraction (HVDPE) pilot test was conducted at the site and in 2012-2013 two HVDPE remedial events were conducted at the Site. The pilot test and two HVDPE events resulted in the removal of 3,106 pounds, 73,722 pounds and 59,753 pounds, respectively, of vapor phase FHCs from the site, for a total of 136,600 pounds or 68.3 tons. For all three events, a total of 1,331,710 gallons of groundwater were extracted from the treatment area. Post-HVDPE groundwater monitoring was performed and indicated that FHCs remained in groundwater beneath and extending offsite to the east and southwest at concentrations well above regulatory screening levels. Free floating product was also reported to remain in several monitoring wells both on and offsite at that time.

In 2016-2017 a dedicated trailer-mounted HVDPE system was installed. The system has run from 2018 to July 2020 and has removed approximately 5,582 pounds of fuel hydrocarbons in the form of soil vapor (equivalent to 893 gallons of fuel). Analytical results from the June 2020

groundwater monitoring event indicate that FHC concentrations in groundwater have decreased substantially overall since the startup of the HVDPE system. A comparison of TPHg concentrations for the pre-HVDPE event in December 2016 with those from the June 2020 event using wells that have had at least two sample events after the startup of the HVDPE system show that total TPHg concentrations from these wells decreased from 143,100 µg/L to 40,240 µg/L. Total benzene concentrations decreased from 17,238 µg/L to 5,426 µg/L. However, elevated FHC concentrations remain in the core of the plume and in the vicinity of MW-8 in the southeastern lobe of the plume (Appendix A). As such, this constitutes a REC. The lateral extents of the impacted groundwater plume are illustrated on isoconcentration maps in Appendix A.

During the course of file reviews, EC&A encountered a letter dated February 4, 1992, from CES to the Division of Fairs and Expositions at the Department of Food and Agriculture regarding the LUST case at 866 E. Washington Street that mentions a surface spill at 301 Payran Street. The letter states “*We also know that a large surface spill of gasoline (over 1000 gallons) from the 301 Payran site, traveled a significant distance along a drainage ditch which runs in the direction of the Fair’s former UST site and contaminated soil from this spill still exists along the length of the ditch.*” EC&A was unable to locate any documentation regarding the alleged surface spill. This is a significant data gap and constitutes a REC.

Surrounding Properties

The EDR records search identified numerous offsite environmental regulated facilities within the requested search radii of the subject site. The nearest open LUST facility is the active fueling station at 801 E. Washington Street, approximately 60 feet to the west of the site (Appendix A). Groundwater monitoring has occurred since 1985 as a result of an unauthorized release of gasoline to the subsurface. Several remedial actions have taken place, including soil vapor extraction, groundwater extraction, installation of oxygen releasing compounds, soil excavation, dual-phase extraction, sulfate injection and currently, a fixed HVDPE system (currently being phased out). The plume has been defined and based on the non-detect analytical results from monitoring wells located adjacent to the subject, does not extend into the subject property.

The nearest open Cleanup Program Site (CPS) is located approximately 150 feet to the east of the subject property at 991 Lindberg Lane (aka 474 Kenilworth Drive). Given the distance from the subject property, the nature of the contaminants (total recoverable petroleum hydrocarbons [TRPH] and motor oil) and groundwater flow-direction, this CPS does not pose a threat of negative environmental impact to the subject property. This site has been eligible for closure as of 2018. Based on available information on GeoTracker, it appears that legally mandated electronic uploads of documents related to this facility have not been completed. Based on a letter from the SFBRWQCB dated June 26, 2020, there may also be a requirement for a Risk Management Plan.

The nearest closed LUST facility is located over approximately 350 feet to the east of the subject site, the Petaluma School Bus Yard at 993 Lindberg Lane. This site was closed in January 2018.

Petaluma School Bus Yard, 993 Lindberg Lane (Closed, 2018)

EC&A understands that in August 1987, two 6,000-gallon and one 1,000-gallon gasoline USTs were removed from the site and evidence of free product and hydrocarbon odors were noted in the UST pit. Approximately 450 cubic yards of FHC-impacted soils were subsequently over-

excavated and disposed offsite in 2005. Four groundwater monitoring wells were installed in 1991 and monitored over the course of approximately 16 years. Following the last monitoring event performed in June 2007, the environmental consultant, URS, concluded that FHC-impacts in groundwater were limited, stable and declining and recommended the site be considered for case closure. The State Water Resources Control Board (SWRCB) subsequently concurred with these conclusions and, in a Review Summary Report concluded that the site generally met criteria for closure under the Low Threat Closure Policy but directed preparation of a Risk Management Plan (RMP) to be implemented if site land uses change. The site was closed on January 16, 2018, with the caveat that the concentration in soil beneath the maintenance building was not quantified, and if the building is removed in the future, adequate mitigation measures to protect human health must be implemented according to the September 2017 Risk Management Plan. This closed LUST site is down-gradient of the subject property, and therefore does not pose a risk of environmental impact to the subject site.

Based on a review of available regulatory information, due to their distances and groundwater flow-directions relative to the site, the nature of their reported release and/or information obtained from a review of available regulatory files, there are no documented offsite facilities within EDR's specified search radius, which appear to represent a threat of adverse environmental impact to the subject property.

5.2 Additional Environmental Record Sources

To enhance and supplement the EDR report data base searches for active sites, local records and/or to enhance and supplement the EDR report data base searches for active sites, local records and/or additional state and tribal records were independently searched through their various websites. These records are reasonably ascertainable, and are sufficiently useful, accurate and complete in light of the objective of the records review. Other Environmental Records Sources contacted for information pertaining to the subject property were as follows:

- U.S. EPA (<http://www.epa.gov/region09>)
- California Environmental Protection Agency, Department of Toxic Substances Control (<http://www.calepa.gov/>) and (<http://www.envirostor.dtsc.ca.gov/public/>)
- City of Petaluma Fire Department – CUPA (<http://cityofpetaluma.net/firedept/hazmat.html>)
- County of Sonoma Department of Health Services – LOP LUST Oversight Agency (<http://lustop.sccgov.org/>)
- California State Water Resources Control Board (<http://geotracker.swrcb.ca.gov/>).
- San Francisco Bay Regional Water Quality Control Board (see GeoTracker, above)
- City of Petaluma Building & Planning Department – (<http://cityofpetaluma.net/cdd/index.html>)
- Petaluma Historical Library and Museum (<https://www.petalumamuseum.com>)

City of Petaluma Fire Department

The Unified Program is the consolidation of six state environmental programs into one program under the authority of a Certified Unified Protection Agency (CUPA); these can be a county, city,

or JPA (Joint Powers Authority). This program was established under the amendments to the California Health and Safety Code made by SB 1082 in 1994.

The six programs are the Hazardous Materials Business Plan/Emergency Response Plan, Hazardous Waste, Tiered Permitting, Underground Storage Tanks, Aboveground Storage Tanks (SPCC only) and the Uniform Fire Code Hazardous Materials Management Plan.

A CUPA is a local agency that has been certified by CAL EPA to implement the six state environmental programs with the local agency's jurisdiction. EC&A submitted a records review request to the PFD, which is the CUPA agency responsible for the following CUPA programs:

- Hazardous Materials Business Plans (HMBP);
- Hazardous Waste Generator;
- Underground Storage Tanks;
- Accidental Release Prevention;
- Aboveground Petroleum Storage Tanks; and
- The Uniform Fire Code as related to hazardous materials.

On August 3, 2020, EC&A received the requested files from the PFD. A review of the files generally corroborated information gleaned from other sources. The file contents and violations are summarized below.

- Hazardous waste disposal timeline requirements; labeling of 55-gallon drums containing used oil filters, diesel and waste oil and disposal and storage of automobile batteries, propane cylinders and old paint and pesticide containers.
- Secondary containment for waste drums.
- Driveway access limitations for the Petaluma Fire Department.
- Certifications of the Fairground's Hazardous Materials Business Plan (HMBP).
- Failing to meet building codes, including fire suppression devices and plumbing; needed electrical upgrades; removing sawdust, hay and other combustible materials when not in use; carnival ride inspections and required alterations (mainly electrical); and the need for fire-resistant building materials in some of the subject property buildings.

San Francisco Bay Regional Water Quality Control Board

The SFBRWQCB is the state-appointed regional agency responsible for overseeing LUST investigations and has jurisdiction of all matters related to water. The information included in the SFBRWQCB files is available on the State GeoTracker Database (GeoTracker), which EC&A did review, and detailed above in Section 5.1.1.

County of Sonoma Department of Health Services

The CSDHS is the Local Oversight Agency (LOP) responsible for overseeing LUST investigations. EC&A reviewed files from the online CSDHS portal for the facilities listed as 866 E. Washington Street, 301 Payran Street, 801 E. Washington Street, 991 Lindberg Lane (aka 474 Kenilworth Drive), 993 Lindberg Lane, 421 Payran Street and 431 Payran Street, the results of which are detailed above in Section 5.1.1.

City of Petaluma Building Department

EC&A reviewed available files from the City of Petaluma Building Department for the subject site. The only building permit file provided by EDR for 866 E. Washington Street was the installation of one illuminated sign in 2018. At 100 Fairgrounds Drive (western corner of the subject site where the Petaluma Regional Library is located), building permits reviewed by EC&A pertained to reroofing, additions and other building upgrades.

5.3 Physical Setting

The subject property is located in the incorporated Sonoma County city of Petaluma, California, approximately 500 ft west of Highway 101, and bordered by E. Washington Street to the northwest, Payran Street to the southwest, Kenilworth Drive to the northeast and industrial/automotive properties to the southeast. The Downtown Petaluma business district is located approximately 4500-ft to the west of the subject site. Topography at the subject site is relatively flat, with an approximate surface elevation of 20 ft above mean sea level (msl). The nearest surface water body is Washington Creek, located approximately 350 feet (ft) to the north of the subject site. Washington Creek (channelized) empties into the Petaluma River, located approximately 2,000 feet to the west and south of the subject site. Lynch Creek is approximately 0.4 miles to the west of the subject property. Lynch creek also drains into the Petaluma River. Based on regional topography, and historical groundwater flow data from past environmental monitoring conducted at regulated environmental facilities in the subject site vicinity, groundwater flow-direction beneath the site is expected to generally be southwesterly (although at 301 Payran Street on the southwestern side of the subject site has dual groundwater flow-direction due to the presence of fluvial subsurface channels consisting primarily of sand), and groundwater is expected to be present at seasonally fluctuating depths ranging from approximately 5 to 15 ft below ground surface (bgs). According to the EDR Radius Report, the subject site is not located within either the 100-year or 500-year regional flood zones (Detail Map, Appendix A).

5.3.1 Geologic and Regional Physiographic Conditions

The site is situated near the southwestern end of the Petaluma Valley, an approximately 40- square mile basin extending from Cotati to the San Pablo Bay and drained by the south-flowing Petaluma River. The basin is underlain at shallow depth by alluvial deposits of Quaternary age consisting of fine sands, silts, clays, coarse sands and gravels. On the east, the surficial alluvial deposits in the basin are underlain by consolidated clay and shale deposits of the Petaluma Formation, which was deposited by westward flowing rivers in the Pliocene-Miocene. To the west, the Petaluma Formation inter-tongues with the consolidated sedimentary marine deposits of the Wilson Grove Formation, a marine deposit of Pliocene-Miocene age consisting of fine- to coarse-grained sandstone with lesser amounts of silt and clay. The Pliocene-Miocene Sonoma Volcanics are present in a few areas. These formations are underlain at depth by basement rocks of the Mesozoic-age Franciscan subduction complex.

The nearest surface water bodies are Washington Creek, located approximately ¼-mile to the northwest, and Lynch Creek, located approximately ½-mile to the northwest. Both creeks empty into the Petaluma River, located approximately 2,300 feet to the south of the site. Groundwater in the basin has been designated beneficial for municipal and agricultural uses, and potentially beneficial for industrial uses. According to the California Department of Water Resources Bulletin

118-4 (Evaluation of Ground Water Resources, Sonoma County, Volume 3: Petaluma Valley, June 1982, Figure 14B), the site is located at the northeastern margin of an extensive area of elevated groundwater-salinity that has caused problems for agricultural use. Shallow groundwater beneath the site has been measured at depths of 3 to 12 ft bgs under natural conditions, with a generally southwesterly groundwater flow-direction. In the location of 301 Payran Street, groundwater flow-direction is both southwesterly and southeasterly due to the presence of fluvial subsurface channels consisting primarily of sand.

Based on a review of data from past investigative activities conducted at 301 Payran Street, shallow subsurface materials at the site have been characterized as consisting of various thicknesses of interbedded clayey to silty sand, fine- to coarse-grained sand, sandy gravel and gravel with interbeds of silty to sandy clay aquitard materials.

Past environmental consultants have identified two water-bearing zones beneath the 301 Payran Street site. A “shallow zone” was reportedly present between from 5 ft bgs down to 17 ft bgs, with an average thickness of 10 ft. A “deeper zone” was reportedly present at various depths below 29 ft bgs, with thickness varying from 4.5 to 10 ft. However, review of the logs of the deepest soil borings indicates that the “shallow zone” is an aggregate of fine- to coarse-grained sand layers and intervening aquitard beds.

Review of available boring logs indicates that a discrete deep sand was encountered in the following borings: GA-34 from 31.5 ft to the bottom of the boring at 38.5 ft bgs; DW-1 from 33 ft to the bottom of the boring at 35.5 ft bgs; DW-2 from 40.5 ft to the bottom of the boring at 45 ft bgs; and in MW-4 from 37.5 ft to 45.5 ft bgs (Appendix A). Figure 3 is an isopach map showing total-sand from 5-ft to 30-ft bgs. The map shows that a fluvial channel extends southeast from MW-18, underneath the Ellwood Community Center, to the vicinity of MW-17. Based on the log of MW-15, there appears to be a south-trending branch of the channel that extends along D Street. The northern channel margin is located immediately to the northeast of the former UST location, where there are several boring logs showing only clay (GA-31, GA-32, GA-33, GA-34, MW-2 and MW-7) (Appendix A).

At the closed LUST site at 866 E. Washington Street (southeastern most corner of the subject property), based on a June 16, 1993, technical report by Invictus Corporation, initial groundwater in the monitoring well boring was observed at a depth of approximately 16 ft bgs, where a sandy aquifer was encountered. According to their report, the silty clay overlying the aquifer has a high plasticity, appeared unsaturated and characterized it as impermeable in nature. Invictus Corporation also asserted that further evidence of the clay’s impermeable nature is the 10 feet of observed head in the aquifer onsite and the fact that no water was observed in the boring until the aquifer was pierced.

5.3.2 Soil Conditions

According to the EDR Radius Map Report, soils beneath the subject property are of the component name Clear Lake. Clear Lake soils are clays, with very slow infiltration rates, have a high water table, or are shallow to an impervious layer. See section 5.3.1 above for a detailed discussion of onsite soil conditions.

5.3.3 Groundwater Conditions

The primary water-bearing unit in the site vicinity is the Petaluma Formation which is comprised of continental and shallow marine to brackish-water deposits consisting of clay, shale and sandstone, with lesser amounts of conglomerate and nodular limestone. Occasional thick beds of diatomite are present. The Petaluma Formation yields moderate amounts of groundwater when an appreciable thickness of sand and gravel is penetrated.

The site is located in the Petaluma Valley groundwater basin. Groundwater in the basin has been designated beneficial for municipal and agricultural uses, and potentially beneficial for industrial uses. According to the California Department of Water Resources Bulletin 118-4 (Evaluation of Ground Water Resources, Sonoma County, Volume 3: Petaluma Valley, June 1982, Figure 14B), the site is located at the northeastern margin of an extensive area of elevated groundwater-salinity that has caused problems for agricultural use.

The nearest surface water body is Washington Creek, located approximately ¼-mile to the northwest. Washington Creek empties into the Petaluma River, located approximately 2,000 ft to the west and south of the subject site. Shallow groundwater beneath the subject site is expected to be present at seasonally fluctuating depths ranging from approximately 5 to 15 ft bgs, with an overall southwesterly groundwater flow direction. See section 5.3.1 above for a detailed discussion of groundwater beneath the subject property.

5.4 Results of Site History and Land-use Review

The following standard sources of historical data for properties and property use(s) were reviewed: Sanborn Fire Insurance Maps, city directories, city building permit databases, historical topographic maps, personal interviews, and historical aerial photographs.

5.4.1 Sanborn Fire Insurance Maps

The results of EDR's search for historic Sanborn Fire Insurance Maps (Sanborn maps) of the site and/or area indicates limited coverage for the subject site and the vicinity to the north of the subject property. The following is a summary of the Sanborn maps, ranging from 1894 to 1965, under EDR Inquiry Number 6120344.5, dated July 14, 2020.

- 1894: On the northwestern portion of the subject site along E. Washington Street an "Agricultural Pavilion" and hitching sheds are pictured. Parallel to the southwestern side of the subject property, a 1/2-mile-long box shed is depicted. In the western corner of the subject property, a dwelling and outbuilding are shown.
- 1906 and 1910: The dwelling is no longer shown, and two sheds on the northwestern portion of the subject site are depicted in addition to the box shed and agricultural pavilion.
- 1923: No details are presented on the subject property; the residential properties to the southwest and a portion of the properties to the northwest of the subject site are depicted and show sparsely spaced dwellings.
- 1949: No details are presented on the subject property; additional dwellings are depicted to the northwest and southwest of the subject site.

- 1959: A fire station (Fire Station No. 2) is depicted on the southwestern edge of the subject site, where East D Street meets the subject property, and a *Gas and Oil* facility is shown at 801 E. Washington Street.
- 1965: Other than a *Gas and Oil* facility shown at 732 E. Washington Street located on the southwestern corner of Payran and E. Washington Streets, the 1959 and 1965 maps remained largely unchanged.

5.4.2 City Directories

EDR performed a search of business directories including city, cross reference and telephone directories, if available, at approximately five-year intervals for the years spanning 1954 through 2017. The results of EDR's search that included the site and nearby area is provided in the City Directory Abstract, Inquiry Number 6120344.8, dated July 14, 2020. A copy of the Abstract is provided in Appendix F.

The 1954 listings indicate *Payran Kenilworth Park* at the corner of E. Washington and Payran Streets (no address assigned). The 1963 through 1981 directories list *Kenilworth Park* (with various minor name changes) at 820 E. Washington Street, on the western corner of the subject property. The 1967-2017 directories list a fueling station at 801 E. Washington Street (discussed above in section 5.1). The 1971-2017 directories list the Petaluma Municipal Swim Center (under various names, including *Petaluma City of Parks Recreation & Marina* in 2000, *Petaluma Swim Center* in 2010 and *City of Petaluma* in 2014-2017) at 900 E. Washington Street, where the swimming pool remains (northern corner of the subject property). The subject site property address 866 E. Washington Street was not identified in any of the directory listings.

5.4.3 Historical USGS Topographic Maps

EDR performed a search for historic United States Geological Survey (USGS) topographic quadrangle maps of the site and vicinity. The result of their investigation is documented in the EDR Historical Topographic Map Report dated July 13, 2020, Inquiry Number 6120344.7, which is provided in Appendix G. The historical topographic maps included in the report are portions of Petaluma, Petaluma River, Cotati, Glen Ellen, Santa Rosa and Petaluma Creek quadrangles dated 1914, 1916, 1942, 1944, 1953, 1954, 1968, 1973, 1980, 1981, and 2012. A review of these maps generally corroborated historical site information obtained from other sources. The 1914 map shows a large racetrack encompassing most of the subject site. The 1916, 1944 and 1973 maps do not show the subject property. The 1942 map depicts several structures on the southwestern edge of the subject property and a racetrack is not shown. The 1953 and 1954 maps show a somewhat smaller racetrack and the addition of what is now Gness Concourse, which dissects the southwestern portion of the subject site, as well as the addition of structures on the southeastern portion of the subject site. The 1968 map shows the subject property within City limits (it was outside City limits in previous maps) and depicts a smaller racetrack in what appears to be its current location and size; several additional structures are present. The 1980 map shows the addition of several buildings and the Petaluma Regional Library, located at what is now 100 Fairgrounds Drive. According to their website, this Library was opened in 1976, and "...the Petaluma Regional Library has an area of over 25,000 square feet and features an interior of

exposed heavy timber trusses and natural wood finished walls. The Library is constructed with brick-veneered walls and a copper roof. Several improvements have been made in recent years, including expansion of the Forum Room, creation of a bookstore that is operated by the Friends of the Petaluma Library, and upgrades to the adult restrooms.” The 2012 map is devoid of detail except streets.

5.4.4 Personal Interviews

ASTM E 1527-13 requires the Environmental Professional to interview past owners, operators and occupants likely to have material information about the Property, only if they have been identified, and the information likely to be obtained is not duplicative of information from other sources. In addition, if the property is demonstrably abandoned or deserted, the Environmental Professional is required to conduct interviews with neighboring owners or occupants. The subject property is not abandoned; therefore, interviews with neighboring owners or occupants were not warranted. During the preparation of this ESA, past owners of the subject property were identified as Harry Stover prior to 1910 (now deceased), and the City of Petaluma since that time. Since 1936, the Fourth District Agricultural Association has leased most of the subject property

Telephone, in-person or email interviews were conducted with the Petaluma Fire Department; City of Petaluma Building Department; Petaluma Historical Library and Museum; armyhistory.org; Sonoma County Assessor’s Office; the Sonoma County Department of Health Services; Matthew J. Seelinger, Chief Historian of The Army Historical Foundation; and Daniel M. Sebby, Chief Curator and Military Historian of the California Military Department.

Allison Keaney (CEO of the Sonoma-Marin Fairgrounds & Event Center), Michael Parks (Buildings and Grounds Committee), Martin Delatorre (Groundskeeper) and Michael Sellens (California Construction Authority) accompanied EC&A during the site reconnaissance on September 3, 2020. They provided information regarding the current uses of the property, as well as information regarding the onsite irrigation water-supply well, heating and cooling of the site buildings and utilities present. Rick Faeth, manager of the Petaluma Fairgrounds Speedway, showed EC&A two 500-gallon-capacity aboveground storage tanks (ASTs); one containing diesel and the other containing gasoline. Both fuel ASTs appeared to be in moderately good condition and are housed in a shed with concrete secondary containment. None of the people listed above were aware of any other present underground or aboveground fuel storage tanks being located at the subject site, or any negative environmental nuisance conditions associated with the subject property, except for 301 Payran Street.

The ESA User Questionnaire was completed by Allison Keaney on August 24, 2020.

5.4.5 Aerial Photographs

EDR provided historic aerial photographs of the site vicinity dated 1942, 1952, 1957, 1968, 1970, 1973, 1982, 1993, 2006, 2009, 2012 and 2016. The EDR Aerial Photo Decade Package was provided under Inquiry Number 6120344.6 dated July 13, 2020, and is in Appendix H.

1942: Seven structures are clearly visible inside the southwestern property boundary along with a wooded area in the central southwestern border of the subject site; additional structures may have been present and not visible in the photograph. This photo also shows the racetrack encompassing the vast majority of the subject site, as well as the beginnings of what is now Gness Concourse.

Land to the northeast, southeast and northwest of the subject site are generally agricultural, with some structures visible to the southeast of the subject site and agricultural and residential properties to the southwest.

1952: Eleven structures are clearly visible along the northwestern and southeastern property boundaries, and the racetrack is smaller in size, and there appears to be a smaller track within the larger one. The surrounding properties remain largely unchanged from the 1942 photo with the exception of more residential development to the southwest of the subject site.

1957: There appear to be 17 structures on the subject site in the 1957 photo including the grandstand that still exists today. The surrounding properties remain generally unchanged with the exception of the development of the property(s) bordering the northeastern edge of the subject site and infill development in the site vicinity. In addition, Highway 101 is now visible.

1968: The smaller racetrack is more prominent in this photo, indicating that the larger one may have been under construction at that time. Up to 20 structures are visible on the subject property in this photo and what appears to be the swimming pool in its current location, as well as a baseball diamond at Kenilworth Park (western corner of the subject site where the library is currently located). Additional infill development in the subject site vicinity is evident.

1970: This photo is poor in quality. It appears not to have changed significantly in comparison to the 1968 photo.

1973: This photo appears largely unchanged from the 1970 photo except there is now a baseball diamond on the property to the northeast of the subject site. The baseball diamond at Kenilworth Park remains. The smaller racetrack mentioned in the 1952 photo summary above is no longer surrounded by a visible outline of the larger one that once encompassed it.

1982: This photo is of poor quality. The baseball diamond in Kenilworth Park is now replaced by the Petaluma Regional Library (established in 1976), where it still stands. In addition, there are what appear to be two (smaller Little League) baseball diamonds adjacent to the property bordering the northeastern subject site property line, in addition to the baseball diamond first visible in the 1968 photo.

1993: This photo is of mediocre quality. Several additional structures are visible on the subject property. The surrounding properties remain generally unchanged from previous photos, although there is additional development on the property adjacent to the southeast subject property boundary.

2006: This photo remains largely unchanged from the 1993 photo; more infill development is shown in the site vicinity.

2009: Several additional structures are shown on the subject site, and the buildings shown on the property adjacent to the northeastern subject site property boundary (first visible in the 1957 photo) are no longer there. Additional infill development is shown in the general site vicinity.

2012: The most notable change between the 2009 and 2012 photos is the baseball diamonds to the northeast of the subject site are no longer there, and it is clear that that property is undergoing development.

2016: This photo remains largely unchanged from the 2012 photo except the property bordering the subject site to the northeast has now been developed with a commercial center.

5.4.6 Building Permit Report

EDR performed a review of building department records for the subject site and adjacent parcels from 1987 through 2020. The EDR Building Permit Report was provided under Inquiry Number 6120344.12 dated July 14, 2020, and is in Appendix I. The only return listed for the subject site was the installation of an illuminated sign (2018). In addition to the EDR building department records, EC&A acquired permit records from the City of Petaluma Building Division, ranging in date from 1974 to 1999. These files were, in general, for permits regarding reroofing, electrical upgrades, installation of landscaping elements such as fountains and divider strips, plumbing upgrades, installation of a transit shelter, ADA-compliance and lighting upgrades and fire suppression devices, among other upgrades and additions.

5.4.7 Synopsis of Previous and Current Environmental Investigations

866 E. Washington Street

Two 550-gallon USTs for gasoline were removed from a storage building in the southern corner of the subject property in 1988. One of the USTs was in good condition; the older UST, located adjacent to the first, was badly corroded and did leak, as evidenced by soil and groundwater samples collected during tank removal activities. In 1991, soil borings were advanced in order to define the extent of the contamination, followed by over-excavation of the impacted area. All soil samples collected from the sidewalls and bottom of the excavation were non-detect for TPHg and BTEX. In 1993, one groundwater monitoring well was installed approximately 25 feet downgradient from the former USTs location. The well was sampled quarterly for one year for TPHg and BTEX; all analytical results were non-detect. Based on two grab-groundwater samples that were collected at the time of the excavation, it is possible that relatively minor impacts to groundwater may exist in a small and localized area directly beneath the former location of the UST. The maximum concentrations detected in the grab-groundwater samples were 1,700 µg/L TPHg, 15 µg/L benzene (although this detection was attributed to slough from the excavation), and 6.8 µg/L total xylenes. The TPHg and benzene concentrations exceed the SFBRWQCB's July 25, 2019 (Rev. 2) ESLs. This constitutes a REC; however, as reported above, the groundwater impacts appear to be limited to the area directly below the former USTs location and it is likely that some natural biodegradation has occurred over time.

301 Payran Street

In 1987 one 5,000-gallon gasoline UST was removed from the site. A leaking UST was removed many years (exact year unknown) before it was replaced by the UST removed in 1987 (VHC, 1988).

Groundwater monitoring has been conducted at the site since 1987. Groundwater monitoring analytical data collected to date indicates that a significant impact to groundwater by FHCs has occurred at the site, with free phase floating product historically reported in both on- and off-site monitoring wells located on the fairgrounds portion of the subject site. Chemicals of concern

(COC) in groundwater at this LUST site consist primarily of TPHg, BTEX, methyl-tert butyl ether (MTBE) and tert-butyl alcohol (TBA).

In February 2005, CIHS, performed an air quality assessment at the 301 Payran Street site and site vicinity. CIHS reported benzene concentrations of $2.0 \mu\text{g}/\text{m}^3$ in ambient air at the site and $1.9 \mu\text{g}/\text{m}^3$ and $2.0 \mu\text{g}/\text{m}^3$, respectively, in indoor air in the site building. The SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for benzene in indoor air is $0.097 \mu\text{g}/\text{m}^3$. This is a VEC and constitutes a REC.

EC&A sampled ambient and indoor air at the 301 Payran Street site on September 22, 2016. Benzene was detected in ambient air at $0.46 \mu\text{g}/\text{m}^3$ and in indoor air at $1.5 \mu\text{g}/\text{m}^3$ and $0.65 \mu\text{g}/\text{m}^3$, respectively. As stated above, the SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for benzene in indoor air is $0.097 \mu\text{g}/\text{m}^3$. Naphthalene was also detected in indoor air at $18 \mu\text{g}/\text{m}^3$. The SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESL for naphthalene in indoor air is $0.083 \mu\text{g}/\text{m}^3$. This is also a VEC that constitutes a REC.

Several iterations of soil, groundwater and air quality investigations have been performed, a monitoring well groundwater program implemented, and a limited pump and treat groundwater treatment system installed at the site (March 1992). A pilot test and two HVDPE events resulted in the removal of a total of 136,600 pounds or 68.3 tons of FHCs and a total of 1,331,710 gallons of groundwater were extracted from the treatment area. Post-HVDPE groundwater monitoring was performed and indicated that FHCs remained in groundwater beneath and extending offsite to the east and southwest at concentrations well above regulatory screening levels. Free floating product was also reported to remain in several monitoring wells both on and offsite at that time.

In 2016-2017 a dedicated trailer-mounted HVDPE system was installed. The system has run from 2018 to the present and has removed approximately 5,582 pounds of fuel hydrocarbons in the form of soil vapor (equivalent to 893 gallons of fuel). Analytical results from the June 2020 groundwater monitoring event indicate that FHC concentrations in groundwater have decreased substantially overall since the startup of the HVDPE system. However, elevated FHC concentrations remain in the core of the plume and in the vicinity of MW-8 in the southeastern lobe of the plume (Appendix A). As such, this constitutes a REC. The lateral extents of the impacted groundwater plume are illustrated on isoconcentration maps in Appendix A.

During the course of file reviews, EC&A encountered a letter dated February 4, 1992, from Clemen Environmental Services (CES) to the Division of Fairs and Expositions at the Department of Food and Agriculture regarding the LUST case at 866 E. Washington Street that mentions a surface spill at 301 Payran Street. The letter states "*We also know that a large surface spill of gasoline (over 1000 gallons) from the 301 Payran site, traveled a significant distance along a drainage ditch which runs in the direction of the Fair's former UST site and contaminated soil from this spill still exists along the length of the ditch.*" EC&A was unable to locate any documentation regarding the alleged surface spill. This is a significant data gap and constitutes a REC.

5.4.8 Site and Vicinity Land Use History

Based on a review of available historical information, the subject site was likely developed for rural residential and agricultural purposes dating back to at least the mid-1800s.

Based on a review of available historical information, the subject site appears to have first been developed for agricultural use by at least 1894, as evidenced by a Sanborn map from that year. However, consistent with regional land use patterns, use of the subject site for rural residential and agricultural purposes likely dates to at least the mid-1800s. In 1910-1911, when the subject property was used as a stud farm for thoroughbred racehorses, the merchants and leaders of the City of Petaluma initiated a bond measure to purchase the land to serve as a municipal park and an asset for agricultural heritage. The subject property was known for its horse racing track. The park was used as a baseball park, for sporadic horse racing, for rodeos, as a public campground, and for private picnic and barbeques. The Fourth District Agricultural Association has been holding fairs at the subject property since 1936, except for the years of 1943-1945, when the military occupied the site during World War II.

EC&A was unable to obtain documents regarding the activities that the military conducted at the subject property during their occupation; however, the Chief Curator and Military Historian for the California Military Department, Sergeant Major Daniel M. Sebby, stated that he searched listings from the National Archives War Assets Administration files, and that the subject property was not listed. In addition, he stated that the lack of a listing leads him to believe that it was a permitted arrangement, as opposed to being formerly leased from the County or the Agricultural District. He also stated, *“Given that the closest installation, other than the Petaluma Bombing Range, was Hamilton Field and its sub-post, Hamilton Field Radio Range Station (later Black Point Communications Annex), I would assume that the fairground was a temporary housing area for one of these two installations.”*

Several structures (including hitching sheds, box stalls and an agricultural pavilion) are indicated at the subject site in Sanborn maps from 1894 to 1949, although the Sanborn maps of 1923 and 1949 are devoid of detail. The 1959 map shows the fire station located at 301 Payran Street but is devoid of any other structures on the subject property (poor coverage of the subject property through 1965). Over the years, many structures (exhibition halls, administrative offices, barns, stalls, a swimming pool, and other developments mainly revolving around agriculture and the annual fair) have been erected throughout the subject property.

Land use in the immediate site vicinity generally follows similar patterns as that of the subject site (excluding the residential parcels to the southwest of the subject site which are evident by 1923) with widespread large parcels in rural residential and agricultural use in at least the early 1940s (likely dating back to the mid-1800’s), continuing with these uses up through approximately the 1970s and 1980s. By the 2000’s most of the lands in the site vicinity were developed into their current uses and configurations.

6.0 SITE AND AREA RECONNAISSANCE

6.1 Methodology and Limiting Conditions

An EC&A Environmental Professional performed a reconnaissance of the subject property and area on August 3, 2020. The method used in conducting the site reconnaissance consisted of documenting observations while walking and/or driving portions of the subject property, and visual inspection of the interiors and exteriors of accessible areas of the site structures. EC&A also conducted a windshield survey of adjacent properties, to the extent practicable.

6.2 General Site Setting

The subject property is located in the incorporated Sonoma County city of Petaluma, California, approximately 500 ft west of Highway 101, and bordered by E. Washington Street to the northwest, Payran Street to the southwest, Kenilworth Drive to the northeast and industrial/automotive properties to the southeast. The Downtown Petaluma business district is located approximately 4500-ft to the west of the subject site. Topography at the subject site is relatively flat, with an approximate surface elevation of 20 ft above mean sea level (msl). The nearest surface water body is Washington Creek, located approximately 350 feet to the north of the subject site. Washington Creek (channelized) empties into the Petaluma River, located approximately 2,000 feet to the west and south of the subject site. Lynch Creek is approximately 0.4 miles to the west of the subject property. Lynch creek also drains into the Petaluma River. Based on regional topography, and historical groundwater flow data from past environmental monitoring conducted at regulated environmental facilities in the subject site vicinity, groundwater flow-direction beneath the site is expected to generally be southwesterly (although at 301 Payran Street on the western side of the subject site has a dual groundwater flow-direction due to the presence of fluvial subsurface channels consisting primarily of sand), and groundwater is expected to be present at seasonally fluctuating depths ranging from approximately 5 to 15 ft below ground surface (bgs). According to the EDR Radius Report, the subject site is not located within either the 100-year or 500-year regional flood zones (Detail Map, Appendix A).

6.3 Subject Property

On August 3, 2020, an EC&A Environmental Professional performed a reconnaissance of the subject site and nearby properties. The method used in conducting the site reconnaissance is outlined in Section 6.1 above. The following observations were made during the site reconnaissance.

6.3.1 Interior Surveys

In general, the interiors of site buildings were well-organized and good housekeeping practices were evident. Areas where vehicle maintenance occurs had cement floors and vehicle fluids were properly stored in 55-gallon drums with secondary containment. Flammable liquids were stored in metal cabinets with proper labeling. An aboveground tank for milk is in the bovine milking structure.

An inspection of the interior areas of the buildings at the subject site did not indicate any evidence of environmental or other significant negative conditions which would constitute a REC or other nuisance condition.

6.3.2 Exterior Surveys

The following table summarized issues on which the survey of exterior areas of the subject property focused.

EXTERIOR SURVEY		
Item	Noted	Location and Description
Storage Tanks	Yes	One aboveground water pressure tank adjacent to the irrigation well; two 500-gallon ASTs for diesel and gasoline in the racetrack area; multiple empty storage tanks in the paintball area; one milk pasteurizing and one milk storage AST
Unusual odors	No	N/A
Areas of asphalt patch or surface depressions	Yes	Asphalt patches – all reportedly asphalt repairs
Pits, ponds or lagoons	Yes	One ornamental pond
Solid Waste	Yes	Solid waste bins are located at the subject site; outdoor areas along the southeastern property border are used for storage, including wood, metal and old transformers of unknow contents or origin & buckets of hydraulic oil near the irrigation well
Containers not attributed to current use of the subject property	Yes	See Solid Waste above
Oil-containing equipment	Yes	Maintenance equipment (tractors, mowers, etc.)
Stained soil or pavement	Yes	Small areas of petroleum stained gravel and dirt surfaces were observed in areas where maintenance equipment is stored
Stressed vegetation	No	N/A
Fill material of unknown or questionable origin/stockpiles	No	N/A
Wastewater	No	N/A
Monitoring wells	No	N/A
Catch basin or dry wells	Yes	Catch basin for surface water drainage
Septic systems	No	N/A

EC&A did not observe any evidence of improper storage of hazardous materials or significant leaks or stains on the concrete, gravel or dirt surfaces, although EC&A was unable to observe the ground surface beneath the old transformers due to access issues. It is EC&A's understanding that the old transformers were removed from the site in the late 1980's, but were never properly disposed of and have sat on the ground since then. Based on their age, it is very likely that the transformers contain polychlorinated biphenyls (PCBs). During site reconnaissance, EC&A did not observe any oil/water separators; separator sludge was reportedly disposed of in the past according to environmental records. In addition, current staff had no knowledge of an oil/water separator even having been at the subject site; this is a data gap. It is EC&A's understanding that the buckets of hydraulic oil near the irrigation well will be disposed of by Safety-Kleen.

At the time of EC&A's site reconnaissance, EC&A did not observe any evidence of the use or storage of any hazardous materials, wastes or other harmful chemicals at any exterior areas of the subject property in such a way as to represent a threat of release to the environment, with the possible exception of the old transformers. EC&A paid particular attention to the exterior areas of the site buildings to see if there was any evidence of a previously unidentified historical UST or AST using information obtained from aerial photographs and other sources cited above, but did not observe any obvious evidence of depressions not due to general land subsidence, stained soils or ancillary structures which would be associated with a UST or AST or any other evidence of their presence, aside from the known fuel ASTs at the racetrack.

An inspection of the exterior areas of the site did not indicate any evidence of environmental or other significant negative conditions which would constitute a REC or other nuisance condition.

6.4 Adjacent Properties

EC&A conducted a windshield survey of adjacent properties, and to the extent feasible, walked adjacent parcels during the site reconnaissance. EC&A did not observe any obvious evidence of environmental or other significant negative conditions which would constitute a REC or other nuisance condition to the subject site from adjacent properties.

7.0 INTERVIEWS

7.1 Interviews with Site Managers and Affiliated Authorities

Allison Keaney (CEO of the Sonoma-Marin Fairgrounds & Event Center), Michael Parks (Buildings and Grounds Committee), Martin Delatorre (Groundskeeper) and Michael Sellens (California Construction Authority) accompanied EC&A during the site reconnaissance on September 3, 2020. They provided information regarding the current uses of the property, as well as information regarding the onsite irrigation water-supply well, heating and cooling of the site buildings and utilities present. Rick Faeth, manager of the Petaluma Fairgrounds Speedway, showed EC&A two 500-gallon-capacity aboveground storage tanks (ASTs); one containing diesel and the other containing gasoline. Both fuel ASTs appeared to be in moderately good condition and are housed in a shed with concrete secondary containment. None of the people listed above were aware of any other present underground or aboveground fuel storage tanks being located at the subject site, or any negative environmental nuisance conditions associated with the subject property, except for 301 Payran Street.

The ESA User Questionnaire was completed by Allison Keaney on August 24, 2020.

7.2 Interviews with Local Government Officials

Telephone, in-person or email interviews were conducted with the Petaluma Fire Department; City of Petaluma Building Department; Sonoma County Department of Health Services; and the Sonoma County Assessor's Office. The results of these interviews are discussed throughout this ESA.

7.3 Interviews with Others

Non-governmental interviews conducted as part of this Phase I ESA included Petaluma Historical Library and Museum; armyhistory.org; Matthew J. Seelinger, Chief Historian of The Army Historical Foundation; and Daniel M. Sebby, Chief Curator and Military Historian of the California Military Department.

8.0 FINDINGS

The subject site, consisting of two contiguous irregularly-shaped parcels (one trapezoidal and one roughly triangular) totaling approximately 63.5-acres of land, is known as 866 E. Washington Street located in Petaluma, California. Other addresses associated with the subject property include 482 Kenilworth Drive, 175 Fairgrounds Drive, 100 Gness Concourse, 100 and 175 Fairgrounds Drive, 100 Gness Drive and 301 Payran Street.

The subject property is listed on 16 of the databases searched by Environmental Data Resources, Inc. (EDR): LUST; Cortese; HIST CORTESE; CERS; RGA LUST; FINDS; HAZNET; HWTS; CIWQS; RCRA NonGen/NLR; ECHO; ENVIROSTOR; VCP; CERS HAZ WASTE; SWEEPS UST and CA FID UST. Many of these listings are duplicates, databases that list information from other databases or information regarding the handling and disposal of hazardous waste (used oil, oil/water separator sludge, solvents, household waste, etc.). EC&A reviewed each listing; no violations were found. However, the two onsite LUST (Leaking Underground Storage Tank) cases, 866 E. Washington Street and 301 Payran Street merit further discussion. See sections 5.1 and 5.2 above for additional details.

In summary, 301 Payran Street is an open LUST case and is currently undergoing remediation. The 866 E. Washington Street LUST case is closed and is related to two approximately 550-gallon gasoline USTs that were removed from the subject property.

866 E. Washington Street

Based on two grab-groundwater samples that were collected at the time of the excavation from beneath the former USTs location, maximum TPHg and benzene concentrations detected in the samples exceed the SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESLs for groundwater and the TPHg and benzene concentrations also exceed the SFBRWQCB's July 25, 2019 (Rev. 2) Groundwater Vapor Intrusion Human Health Risk Levels. As reported above, the groundwater impacts appear to be limited to the area directly below the former USTs location and it is likely that some biodegradation has occurred over time. However, given the groundwater concentrations at the time of collection, this constitutes a REC.

301 Payran Street

Two 550-gallon USTs for gasoline were removed from a storage building in the southern corner of the subject property in 1988. One of the USTs was in good condition; the older UST, located adjacent to the first, was badly corroded and did leak, as evidenced by soil and groundwater samples collected during tank removal activities. In 1991, soil borings were advanced in order to define the extent of the contamination, followed by over-excavation of the impacted area. All soil samples collected from the sidewalls and bottom of the excavation were non-detect for TPHg and

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PHASE II INVESTIGATION REPORT

**Sonoma-Marin Fairgrounds
866 East Washington Street
Petaluma, California**

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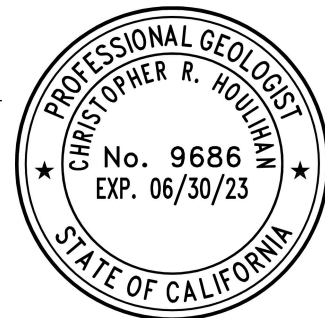


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April 26, 2022

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PHASE II INVESTIGATION REPORT

**Sonoma-Marin Fairgrounds
866 East Washington Street
Petaluma, California**

EXECUTIVE SUMMARY

This executive summary is provided solely for the purpose of overview. Any party who relies on this report must read the full report. The executive summary may omit details, any of which could be crucial to the proper understanding and risk assessment of the subject matter.

Edd Clark and Associates, Inc. (EC&A) conducted a Phase II Site Investigation at the Site referenced above (Figures 1, 2 and 3). The purpose of the investigation was to address Recognized Environmental Conditions (RECs) and significant data gaps identified in EC&A's September 28, 2020 *Phase I Environmental Site Assessment* (ESA) (EC&A, 2020), and to evaluate whether past or current activities at the Site have negatively impacted soil, groundwater or soil vapor beneath the Site. This work was performed in accordance with EC&A's March 9, 2021 *Site Assessment Work Plan* (EC&A, 2021a).

EC&A's *Phase I ESA* identified RECs associated with the Site, as well as significant data gaps not identified as RECs but that warranted further investigation. A REC is defined as "(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment" (ASTM, 2021).

The RECs identified are associated with:

- An open Leaking Underground Storage Tank (LUST) case at 301 Payran Street (Figure 3, Area A);
- a historic surface spill of gasoline at 301 Payran Street (Figure 3, Area A);
- former underground storage tanks (USTs) near the interior southeast corner of the maintenance yard building at 866 East Washington Street (Figure 3, Area B); and
- a suspected oil/water separator with an unknown location.

The significant data gaps are associated with:

- old transformers stored in the southeast corner of the maintenance yard property (Figure 3, Area B and Figure 4) because of the possibility that these transformers leaked polychlorinated biphenyls (PCBs), and
- the racetrack (Figure 3, Area C) because the surface is dirt and extensive auto-racing activity over a long period of time may have impacted the soil.

This Phase II Investigation addressed the RECs and significant data gaps by collecting and analyzing soil, soil vapor, indoor air, and/or groundwater samples in the locations of the RECs and significant data gaps. Results from the investigation were used to determine if further environmental work was necessary, and what types of land-use restrictions would apply to the areas of investigation.

Recognized Environmental Conditions

301 Payran Street Leaking Underground Storage Tank Case

The LUST case at 301 Payran Street (Area A) was identified as a REC because of elevated petroleum hydrocarbon concentrations in groundwater, soil vapor and indoor air. The LUST case at this property is currently being regulated by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), and environmental work at this property is ongoing. Based on the most current analytical data (EC&A, 2022), this property meets California State Water Resources Control Board (SWRCB) *Low-Threat Underground Storage Tank Closure Policy* (LTCP) (SWRCB, 2012) media-specific criteria for direct contact and outdoor air exposure, and for petroleum vapor intrusion into indoor air, but does not meet LTCP media-specific criteria for groundwater. The adjoining parcel within the LUST case area of investigation (i.e., Area A), currently the location of the Live Oak Charter School, does not meet LTCP media-specific criteria for direct contact and outdoor air exposure (EC&A, 2022). In summary, the LUST case at 301 Payran Street does not meet LTCP closure criteria.

The LTCP was created by the by the SWRCB to establish consistent statewide case closure criteria for petroleum UST sites. The LTCP became effective in in August 2012. Based on a March 4, 2022 teleconference with SFBRWQCB, the City of Petaluma and EC&A, the SFBRWQCB caseworker for 301 Payran Street reported that

- the site could possibly meet LTCP Groundwater Media Specific Criteria Scenario #4;
- the soil vapor wells at Live Oak Charter School should be resampled before the end of March 2022;
- limited excavation of impacted soil at the Live Oak Charter School may be necessary, and
- an updated sensitive receptor survey to identify domestic water wells near the site should be conducted.

SFBRWQCB is currently evaluating whether additional groundwater monitoring is required. The soil vapor wells at the Live Oak Charter School were re-sampled on March 14, 2022; a report on this sampling event is forthcoming.

Gasoline Spill

The September 28, 2020 *Phase I ESA* identified the lack of information regarding a reported surface spill of gasoline at 301 Payran Street (Area A) as a significant data gap constituting a REC. EC&A advanced soil borings S-7, S-8 and S-9 in the area of the suspected spill on June 10, 2021. S-7 and S-8 were advanced to 32 feet below ground surface (bgs); S-9 was advanced to a depth of 24 feet bgs. Soil and grab-groundwater samples were collected from the borings and analyzed for total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene and total xylenes (BTEX) and naphthalene. Grab-groundwater samples were additionally analyzed for the volatile organic compound (VOC) solvent tetrachloroethene (PCE). No constituents of concern (COC) were detected in any of the soil or grab-groundwater samples above laboratory reporting limits (LRL).

Maintenance Yard

To address the REC posed by the former USTs (Area B), on June 10, 2021 EC&A oversaw the advancement of one soil boring B-1 in the vicinity of the former USTs to a depth of 24 feet bgs, with soil and grab-groundwater samples collected; and the installation of three Vapor Pin™ sub-slab probes VP-1, VP-2 and VP-3 in the concrete floor slab of the maintenance building interior, at the locations shown on Figures 3 and 4. Sub-slab soil vapor samples were initially collected from the probes on June 11, 2021. A groundwater sample was also collected from the onsite irrigation well on July 6, 2021.

Soil and groundwater samples were analyzed for TPH-g, BTEX, MTBE, and naphthalene; groundwater samples were additionally analyzed for PCE. No COC were detected in the soil samples above LRL. Benzene and PCE were detected in the grab-groundwater sample collected from boring B-1 at respective concentrations of 0.21 micrograms per liter ($\mu\text{g/L}$) and 0.33 $\mu\text{g/L}$. No COC were detected above LRL in the water sample from the irrigation well.

Sub-slab soil vapor samples were analyzed for TPH-g, BTEX, naphthalene, the fuel oxygenate methyl tertiary butyl ether (MTBE) and PCE. PCE was detected in the June samples in all three sub-slab probes at a maximum concentration of 870 micrograms per cubic meter ($\mu\text{g/m}^3$) in VP-1, exceeding the SFBRWQCB Tier 1 Environmental Screening Level (ESL) of 15 $\mu\text{g/m}^3$ for PCE. The leak check compound isopropyl alcohol (IPA) was detected in all three samples at a maximum concentration of 27,000 $\mu\text{g/m}^3$, indicating leaks in the sample chains; therefore, analytical results from this sampling event may not be representative of actual sub-slab soil vapor conditions.

Because of the suspect results in the June event, EC&A conducted a second sub-slab soil vapor sampling event on December 1, 2021, along with indoor air quality (IAQ) sampling in the maintenance building. PCE was detected in all three sub-slab probes during the December event at a maximum concentration of 18 $\mu\text{g/m}^3$ in VP-1. Only VP-1 exceeded the SFBRWQCB Tier 1 (Residential) ESL of 15 $\mu\text{g/m}^3$. Benzene, ethylbenzene, naphthalene and PCE were detected in the IAQ samples at maximum respective concentrations of 0.97 $\mu\text{g/m}^3$, 1.0 $\mu\text{g/m}^3$, 0.18 $\mu\text{g/m}^3$, and 0.078 $\mu\text{g/m}^3$. Benzene exceeded its Tier 1 (Residential) ESL of 0.097 $\mu\text{g/m}^3$ and its commercial/industrial land use ESL of 0.42 $\mu\text{g/m}^3$ in all three IAQ samples; naphthalene exceeded its Tier 1 ESL of 0.083 $\mu\text{g/m}^3$ in samples IA-2 and IA-3, but did not exceed its commercial/industrial land use ESL of 0.36 $\mu\text{g/m}^3$ in any of the samples. In the outdoor ambient

air sample collected concurrently with IAQ samples, benzene concentrations also exceeded Tier I and commercial/industrial land use ESLs.

Significant Data Gaps

Transformers

The transformers in the maintenance yard were reportedly removed on April 23, 2021. EC&A did not observe any soil staining in the area of the former transformers. EC&A collected two shallow soil samples (approximately 6 inches bgs) in the vicinity of the former transformers on July 6, 2021 and had them analyzed for PCBs. PCBs were not detected in these soil samples above LRL.

Removal of the transformers on April 23, 2021, inspection of surficial soil, and collection of soil samples from beneath the transformers following their removal eliminated this data gap as a potential environmental concern. Surficial soil staining was not observed, and COC were not detected in soil samples.

Racetrack

EC&A oversaw the collection of 29 shallow soil samples in the racetrack and adjoining parking areas on July 6, 2021. The samples were analyzed for petroleum hydrocarbon constituents; selected samples were additionally analyzed for LUFT 5 metals (cadmium, chromium, lead, nickel, zinc). Only nickel in one shallow soil sample collected from the racetrack staging area (SS-16) exceeded the SFBRWQCB Tier 1 (Residential) ESL for nickel.

Conclusions

Soil and groundwater analytical data from the June 2021 exploratory soil borings (Area A) indicated no impact to soil and/or groundwater in the purported area of the spill near the drainage ditch adjacent to the northern property line of 301 Payran Street. The analytical results from these soil borings indicate that the reported spill did not impact this area, but possibly impacted areas that have already been investigated as part of the 301 Payran Street LUST case investigation.

Soil and groundwater samples collected in Area B demonstrated that the former USTs at the maintenance yard did not result in significant petroleum hydrocarbon impacts to soil and groundwater. Sub-slab soil vapor samples collected beneath the maintenance building slab floor were non-detect for the analyzed petroleum hydrocarbons. Additionally, COC were not detected in the irrigation well located in the maintenance yard.

However, during the December 2021 sub-slab soil gas sampling event, the solvent PCE was detected in one sub-slab vapor sample exceeding the SFBRWQCB Tier 1 Environmental Screening Level (ESL) of 15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for PCE. Tier 1 ESLs are the most conservative, and allow for any type of land use, including residential. None of the sub-slab soil vapor samples collected during the December 2021 event exceeded PCE's commercial/industrial land use ESL of $67 \mu\text{g}/\text{m}^3$. Analytical results from IAQ samples collected inside the maintenance building on December 1, 2021 did not exceed respective Tier 1 (residential) ESLs for all analytes except for benzene in all three samples and naphthalene in two samples. Benzene concentrations also exceeded the commercial/industrial land-use ESL in all three samples; naphthalene concentrations did not exceed the commercial/industrial land-use ESL.

Soil sample analytical results collected from the area of the former transformers and from the racetrack and surrounding area eliminated these data gaps as a potential environmental concern. Only nickel in one shallow soil sample collected from the racetrack staging area exceeded the SFBRWQCB Tier 1 ESL for nickel. Based on available data and current ESLs, this area meets all land-use standards.

Recommendations

The City of Petaluma should continue attempting to locate documents related to the reported surface spill of gasoline at 301 Payran Street. Newly unearthed information may warrant additional investigation and/or cleanup.

Based on the soil vapor and IAQ results in the Maintenance Yard (Area B), if the land use for this portion of the property were to be converted from commercial/industrial to residential, further investigation and remediation and/or mitigation should be conducted.

The purported oil/water separator could not be located. If discovered, it should be removed, and soil samples collected from beneath it.

EC&A recommends the preparation of a Soil and Groundwater Management Plan (SGMP) should development involving significant soil disturbance occur at the Site, given the size of the property and its varied history of use, and to account for possible undiscovered contamination. A SGMP provides a plan to protect worker safety and manage contamination in the event impacted soil and/or groundwater is encountered during construction or other soil disturbance activities.

PROJECT BACKGROUND

Site Description and Location

The Site is located in the City of Petaluma, Sonoma County, California, approximately 500 feet west of Highway 101, and is bordered by East Washington Street to the northwest, Payran Street to the southwest, Kenilworth Drive to the northeast, and industrial and automotive properties to the southeast. Topography at the Site is relatively flat, with an approximate surface elevation of 20 feet above mean sea level (msl). According to an EDR Radius Map Report dated July 14, 2020, the Site is not located within either the 100-year or 500-year flood zones.

Land use in the immediate Site vicinity is primarily commercial and light industrial, with residential and mixed-use properties to the west.

The Site consists of two parcels (Sonoma County Assessor's Parcel Numbers 007-031-004 and 007-031-005) totaling approximately 63.5 acres. Other addresses on the Site include 482 Kenilworth Drive, 175 Fairgrounds Drive, 100 Gness Concourse, 100 and 175 Fairgrounds Drive, 100 Gness Drive and 301 Payran Street.

The property is developed with parking lots, racetrack and grandstand, carnival area, horse arena, exhibit halls, banquet rooms, administrative and maintenance buildings, restrooms, and barns and stalls for livestock. Kenilworth Park and the Petaluma Regional Library are located on the western corner of the Site; a swimming pool is located on the northern corner.

Site Geology and Hydrogeology

The Site is situated near the southwestern end of the Petaluma Valley, an approximately 40-square-mile basin extending from Cotati to the San Pablo Bay and drained by the south-flowing Petaluma River. The basin is underlain at shallow depth by alluvial deposits of Quaternary age consisting of fine sands, silts, clays, coarse sands and gravels. On the east, the surficial alluvial deposits in the basin are underlain by consolidated clay and shale deposits of the Petaluma Formation, which was deposited by westward flowing rivers in the Pliocene-Miocene.

To the west, the Petaluma Formation inter-tongues with the consolidated sedimentary marine deposits of the Wilson Grove Formation, a marine deposit of Pliocene-Miocene age consisting of fine- to coarse-grained sandstone with lesser amounts of silt and clay. The Pliocene-Miocene Sonoma Volcanics are present in a few areas. These formations are underlain at depth by basement rocks of the Mesozoic-age Franciscan subduction complex.

Based on a review of data from past investigative activities conducted at 301 Payran Street, shallow subsurface materials at the Site consist of interbedded clayey to silty sand, fine to coarse-grained sand, sandy gravel and gravel with interbeds of silty to sandy clay.

Based on regional topography, and historical groundwater-flow data from past environmental monitoring conducted at regulated environmental facilities in the Site vicinity, groundwater-flow direction beneath the Site is generally southwesterly. Groundwater was expected to be present at seasonally fluctuating depths ranging from approximately 5 feet to 15 feet below ground surface (bgs).

Site Use History

Based on a review of available historical information, the Site appears to have first been developed for agricultural use by 1894, as evidenced by a Sanborn map from that year. Consistent with regional land-use patterns, use of the Site for rural residential and agricultural purposes likely dates to at least the mid-1800s.

In 1910-1911, when the Site was used as a stud farm for thoroughbred racehorses, the merchants and leaders of the City of Petaluma initiated a bond measure to purchase the land to serve as a municipal park and an asset for agricultural heritage. The park was used as a baseball park, for horse racing and rodeos, as a public campground, and for private picnics and barbeques.

Kenilworth Park (as the Site was named at the time) served as a temporary home for the Protestant Orphan Asylum of San Francisco following the 1906 earthquake. The Fourth District Agricultural Association has been leasing the majority of the Site and hosting fairs, and agricultural shows and activities since 1936, except for the years 1943-1945, when the military occupied the Site during World War II.

Summary of Phase I ESA Findings and Recommendations

EC&A's September 28, 2020 *Phase I Environmental Site Assessment* identified five Recognized Environmental Conditions (RECs) associated with the Site. The areas of interest are referenced as Area A, Area B and Area C, shown on Figure 3.

1. Groundwater containing petroleum hydrocarbon concentrations exceeding San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Tier 1 Environmental Screening Levels (ESLs) for groundwater (SFBRWQCB, 2019a) at the open Leaking Underground Storage Tank (LUST) case at 301 Payran Street (Area A) and beneath the former underground storage tank (UST) near the southeast corner of the subject site (Area B) is a REC. The LUST facility at 301 Payran Street (Area A) underwent active remediation until July 2020;
2. Soil vapor containing petroleum hydrocarbon concentrations exceeding SFBRWQCB's July 25, 2019 (Rev. 2) Tier 1 ESLs for soil vapor at and near the open LUST case at 301 Payran Street is a REC (Area A);
3. The lack of Site data regarding a historic surface spill of gasoline at 301 Payran Street (Area A) is a significant data gap that constitutes a REC;
4. Indoor air containing concentrations of petroleum hydrocarbons exceeding SFBRWQCB's July 25, 2019 indoor air ESLs inside the building at 301 Payran Street and the adjacent Live Oak Charter School constitutes a REC (Area A). EC&A conducted a shallow soil and soil vapor investigation in this area of the Site in October 2020 (EC&A, 2021b), and another investigation in July and August 2021 (EC&A, 2022); and
5. The lack of information regarding a suspected oil/water separator is a significant data gap that constitutes a REC. The location of this oil/water separator is unknown; however, should information regarding this REC ever become available, it should be further investigated.

Additionally, EC&A's September 28, 2020 *Phase I ESA* (EC&A, 2020) identified a significant data gap associated with old transformers stored in the southeast corner of the property (Area B).

Although not a REC, the racetrack (Area C) is a significant data gap because the racetrack surface is dirt and extensive auto racing activity over a long period of time may have impacted the soil. Based on the findings and conclusions presented in the September 28, 2020 *Phase I ESA*, EC&A recommended the following:

- Collection of soil and groundwater samples from the drainage ditch to the northeast of 301 Payran Street, the site of the historic surface gasoline spill (Area A);
- Collection of soil and groundwater samples in the vicinity of the former UST location (Area B) in order to assess possible petroleum hydrocarbon impacts;
- Collection of sub-slab soil vapor samples from the maintenance shop interior, where the former USTs were located (Area B). If concentrations exceed regulatory screening levels, indoor air quality (IAQ) samples and an outdoor ambient air (OAA) sample should be collected;

- Proper disposal of transformers stored at the Site in a timely manner; collection of shallow soil samples from beneath the transformers once the transformers are removed (Area B); and
- Collection of shallow soil samples from the dirt racetrack for petroleum constituent analysis and for metals analysis, primarily lead (Area C).

During a February 5, 2021, meeting between EC&A and City of Petaluma (City) personnel, the City requested the collection of additional shallow soil samples in the staging area of the racetrack and Parking Lot B (Area C, Figure 3).

Following the receipt of the June 11, 2021 soil vapor results from the maintenance building interior, EC&A recommended re-sampling soil vapor and adding the solvent tetrachloroethene (PCE) to the list of analytes and collecting IAQ samples from the maintenance yard building. The sub-slab soil vapor samples EC&A personnel collected on June 11, 2021 were likely not representative of actual soil vapor conditions because faulty laboratory sampling equipment resulted in excessively high concentrations of leak check compound, indicating possible leaks in the sampling train.

Additionally, during discussions with the analytical laboratory regarding the sample results, the analytical laboratory informed EC&A that PCE was detected in all three soil vapor samples. PCE was not on the original list of analytes because the purpose of installing and sampling the sub-slab probes was to assess whether petroleum hydrocarbons were present in sub-slab soil vapor beneath the maintenance yard building. At the request of EC&A, the analytical laboratory added PCE to the analytical laboratory report for the June 11, 2021 sample event.

EC&A also recommend collecting IAQ samples to assess whether petroleum hydrocarbon and/or PCE vapors are intruding into indoor air at the maintenance shop.

The City of Petaluma approved EC&A's recommended scope of work as presented in EC&A's August 25, 2021 Change Order/Add Services Request.

PURPOSE AND SCOPE OF WORK

This Phase II assessment was performed as a follow up to EC&A's findings in our *Phase I ESA* (EC&A, 2020) to evaluate whether past or current activities at the Site have negatively impacted soil, groundwater or soil vapor beneath the Site.

Work completed during this Phase II assessment included the following activities:

1. Prepared a written work plan (EC&A, 2021) for conducting a soil, soil vapor and groundwater assessment investigation including shallow soil sampling at the Site.
2. Prepared a site-specific health and safety plan (HASP);

3. Obtained soil boring permits from County of Sonoma Department of Health Services (CSDHS);
4. Engaged the services of USA North 811 and a private underground utility locator to locate and clear underground utilities within the proposed investigation area so that the potential of accidental damage to underground utilities would be reduced during subsurface investigation activities. Notified CSDHS, property owners and Site occupants five days prior to commencing Site activities;
5. Retained the services of a C-57 licensed drilling contractor for the advancement by direct-push method of four soil borings (S-7, S-8, S-9 and B-1) and to hand-auger surface soil for shallow soil sample collection. Collected soil and groundwater samples from the four soil borings; collected 31 shallow soil samples from between 0.5 and 1 foot bgs; installed and sampled three sub-slab Vapor Pins[®]; resampled the Vapor Pins[®]; collected three IAQ samples and one OAA sample, and collected a groundwater sample from the onsite irrigation well. Retained soil, soil vapor and groundwater samples for chemical analysis;
6. Collected one composite soil sample from the waste soil for disposal profiling;
7. Backfilled the exploratory soil borings with a “neat” cement-grout slurry tremied into the borehole through a PVC pipe. The level of grout was checked to determine if any settling had occurred and was “topped off” as required. Restored concrete or asphalt surfaces as appropriate;
8. Maintained all samples under chain of custody and transported them to a SWRCB Environmental Laboratory Accreditation Program- (ELAP-) certified analytical laboratory for chemical analyses.
9. Stored all investigative-derived waste (IDW) soil cuttings generated during the assessment in a 55-gallon drum at the Site pending analytical results; and
10. Prepared a written *Phase II Investigation Report* describing field activities, summarizing laboratory data, presenting investigation findings, and providing conclusions and recommendations.

INVESTIGATIVE ACTIVITIES

Health and Safety Plan

EC&A prepared the Site-specific HASP prior to mobilizing to the Site. A tailgate safety meeting was held prior to commencing work. All site personnel were required to review the HASP.

Permits and Notification

EC&A obtained two drilling permits: one for three soil borings at 100 Gness Concourse (Live Oak Charter School – Area A) and one for one soil boring at 866 E. Washington Street (the maintenance

garage area – Area B) from CSDHS (Appendix A). CSDHS, property owners and onsite personnel were notified at least five days prior to commencing field activities.

Underground Utility Inspection

To avoid damage to underground utility installations during the course of the subsurface investigation, EC&A contacted USA North 811, an organization for public utility information, on the pending subsurface investigation. USA North 811 then notified public and private entities that maintain underground utilities within the Site vicinity to locate and mark their installations for field identification.

On May 4, 2021, a private underground utility locator, Subtronic, Inc. of Martinez, California, was also employed by EC&A to conduct a magnetometer and ground penetrating radar (GPR) sweep investigation to locate marked and unmarked underground utilities in the vicinity of the proposed boring and Vapor Pin[®] locations.

Soil Boring Advancement

On June 10, 2021, EC&A oversaw the advancement of exploratory soil borings S-7, S-8 and S-9 in Area A, and boring B-1 in Area B. Borings S-7 and S-8 were each advanced to a depth of 32 feet bgs; S-9 was advanced to a depth of 24 feet bgs. These borings were intended to assess whether a reported surface gasoline spill near the drainage ditch adjacent to the northern border of 301 Payran Street impacted soil and/or groundwater in the drainage ditch. Boring B-1 was intended to assess possible petroleum hydrocarbon impacts to soil and/or groundwater in the vicinity of the location of the former UST. Boring locations are shown on Figure 3.

Cascade Environmental (Cascade) of Richmond, California, a C-57 licensed drilling contractor, provided drilling services using Geoprobe[®] direct push technology (DPT). Drilling was performed under the technical direction of EC&A staff who classified the soils encountered, assisted in obtaining soil and groundwater samples, and field-screened the breathing zone and soil samples for organic vapors with a photo-ionization detector (PID). Field activities were performed under the supervision of a California-licensed Professional Geologist (PG).

Soil Boring Sample Collection

Prior to soil boring advancement, the boring locations were hand-augered to approximately three feet bgs in order to minimize the possibility of damaging unmarked underground utilities. In borings S-7, S-8 and S-9 (Area A), soil samples were collected for chemical analysis from depths of 4 and 8 feet bgs. In boring B-1 (Area B), soil samples were collected for chemical analysis from depths of 8 and 12 feet bgs.

Soil core sampling was accomplished using a nominal 4-foot long, 2-inch-outside-diameter (OD) stainless steel drive probe and extension rods. The drive probe was equipped with nominal 1.5-inch inside diameter (ID) clear plastic polyvinyl chloride (PVC) tubes that line the interior of the probe. The probe and insert tubes were together hydraulically driven using a percussion hammer in four-foot intervals.

After each drive interval, the drive probe and rods were retrieved to the surface. The PVC tube containing subsurface soil was then removed and the drive probe cleaned, equipped with a new

PVC tube, and reinserted into the boring with extension rods as required. The apparatus was then driven following the above procedure until the subsequent desired depth was obtained.

The PVC tubes and soil were inspected after each drive interval with lithologic and relevant drilling observations recorded. Soil samples were screened for organic vapors using a PID by taking readings of headspace vapor concentrations of the soil inside a Ziploc[®] plastic bag. The soils contained in the sample liners were classified according to the Unified Soil Classification System (USCS) and recorded on boring logs (Appendix B), along with PID readings and other relevant observations.

The liners were sealed with Teflon sheets and plastic end caps, labeled, and sealed in Ziploc[®] plastic bags. Sample containers were placed in an ice chest cooled to four degrees Celsius (°C) with crushed ice for temporary storage and transportation to the analytical laboratory. Standard chain of custody protocol was maintained for all media from the time of collection to arrival at the laboratory.

Grab-Groundwater Sample Collection

A grab-groundwater sample was collected from each of the exploratory soil borings as soon as possible after drilling was complete. Groundwater samples were collected by lowering a clean, disposable bailer through new, temporary slotted well screen placed into the boring. Groundwater was transferred from the bailer into appropriate laboratory-supplied sample containers and placed in an iced cooler for transport to the analytical laboratory.

Borehole Backfilling

Following sample collection from the exploratory soil borings, the borings were backfilled to within three to six inches of the ground surface by tremie grouting through PVC piping with cement-bentonite grout. The upper three inches of the borings were filled with asphalt.

Equipment Decontamination

In order to minimize the possibility of cross-contamination, all downhole drilling and sampling equipment was properly cleaned prior to use. Sampling equipment was washed in a low-phosphorous soap solution and double rinsed with tap water before samples were collected.

Vapor Pin[®] Installation and Construction

On June 10, 2021, Cascade cored through the concrete floor slab of the maintenance building (Area B) and approximately one to two inches into the backfill material beneath the slab using a power-operated Roto-Hammer with a 5/8-inch-diameter bit. The concrete slab borings were completed as semi-permanent sub-slab soil vapor probes (VP-1, VP-2 and VP-3) using Cox-Colvin & Associates, Inc. Vapor Pin[®] sampling devices inserted into the boreholes within the floor slab. Vapor Pin[®] sub-slab probe locations are shown on Figure 3.

Sub-slab soil vapor probe installation was in general accordance with the DTSC *Advisory – Active Soil Gas Investigations* (DTSC, 2015a). A typical Vapor Pin[®] construction and SUMMA[®] canister construction diagram is included as Figure 5. The manufacturer's standard operating procedures for Vapor Pin[®] installation and removal are included in Appendix C.

Soil Vapor Sample Collection

Soil vapor sampling was performed in general accordance with the DTSC *Advisory – Active Soil Gas Investigations* (DTSC, 2015a). Soil vapor samples were collected by EC&A personnel from the Vapor Pin[®] sub-slab probes on June 11, 2021, and December 1, 2021.

Significant precipitation (greater than 0.5 inch) did not occur within the previous five days prior to vapor sample collection.

EC&A collected soil vapor samples from the Vapor Pin[®] sub-slab probes in laboratory-prepared 1-liter capacity stainless steel SUMMA[®] canisters. Prior to soil vapor purging and sample collection, a vacuum leak shut-in test of the flow-controller/gauge manifold assembly was performed for a minimum of two minutes, with a maximum allowable vacuum drop of 0.2 inches of mercury (in Hg). If there is any observable loss of vacuum, the fittings are adjusted until the vacuum in the sample train does not noticeably dissipate.

Prior to sampling, purge volumes were calculated for each Vapor Pin[®]. Three sample system volumes typically equal approximately 50 milliliters (mL) to 200 mL from each sub-slab Vapor Pin[®] probe, depending upon slab thickness, void interval, and length of tubing affixed to the Vapor Pin[®]. Approximately 100 mL to 200 mL were purged from each Vapor Pin[®]. Vacuum gauge pressure and purge times were recorded on field logs (Appendix D).

During the June 11, 2021 sampling event, a sampling shroud was placed over the Vapor Pin[®] and sampling train, and a paper towel soaked with 70% IPA was placed under the shroud as a liquid leak check compound. Samples are analyzed for the liquid leak check compound to evaluate potential leaks of ambient air into the sample through the sample train connections or breakthrough around the seal of the Vapor Pin[®].

While collecting the sample in the field, a PID was used to ensure that the concentration of liquid leak check compound remained relatively constant under the shroud during sample collection. When using a liquid leak check compound, a vapor sample is considered representative if the concentration of the leak check compound is not greater than or equal to 10 times the reporting limit for the target analyte(s). The reporting limit for the target analytes is determined by the analytical laboratory based on practical quantitation limits for each sample.

During the December 1, 2021, sampling event, a gaseous leak check compound (helium) was used. A sampling shroud provided by MAI was placed over the Vapor Pin[®] and sampling train, and helium was pumped into the shroud through a connection on the exterior of the shroud. Helium concentrations during sampling were monitored with a Divesoft[®] helium/oxygen analyzer and the concentration of helium was maintained at approximately 20% inside the shroud. Samples are analyzed for the gaseous leak check compound to evaluate potential leaks of ambient air into the sample through the sample train connections or breakthrough around the seal of the Vapor Pin[®].

When using a gaseous leak check compound (helium), a vapor sample is considered representative if the concentration of the gaseous leak check compound in the sample is less than or equal to five percent of the leak check compound concentration in the shroud during sampling.

Following purging, flow rates of approximately 150 milliliters per minute (mL/min) to 200 mL/min were used to fill the 1-liter SUMMA[®] soil vapor sample canisters. The canisters were filled to approximately 90-95% of capacity (two inches of Hg remaining). All pertinent field observations, pressures, times and readings were recorded on field logs (Appendix D).

Duplicate soil vapor samples were collected from sub-slab vapor probes VP-1 and VP-2 during the June 10, 2021, sampling event and from VP-1 during the December 1, 2021 sampling event. Duplicate samples were placed on hold by the analytical laboratory to be analyzed if analytical results appeared anomalous or indicate a significant leak.

Shallow Soil Sample Collection

On July 6, 2021, shallow soil samples SS-1 through SS-29 were collected from the racetrack parking lot, racetrack entryway and race track (Area C) to assess whether activities associated with the race track adversely impacted shallow soil. Shallow soil samples SS-30 and SS-31 were collected from the location where the former PG&E transformers were stored in the southeast corner of the Maintenance Yard (Area B) to assess whether shallow soil has been impacted from the storage of the transformers.

All of the shallow soil sample locations were hand-augered by Clear Heart Drilling, Inc. (CHD) of Santa Rosa, California, to an approximate depth of six inches bgs. Samples were collected from between 6 inches and 1 foot bgs using a slide hammer. A new, clean, 2-inch by 6-inch stainless steel sample tube was inserted into the bottom of the slide hammer and hammered into soil until the tube was full. The slide hammer was then removed and the sample tube extricated, labeled, sealed with Teflon sheets and plastic end caps and sealed in Ziploc[®] plastic bags. All sample containers were placed in an ice chest cooled to 4°C with crushed ice for temporary storage and transportation to the analytical laboratory. Standard chain of custody protocol was maintained from the time of sample collection to arrival at the analytical laboratory.

Water Well Sample Collection

On July 6, 2021, EC&A collected groundwater sample WW-1 from the irrigation well in the maintenance yard (Area B). The sample was collected from the spigot nearest to the well head after allowing the water to flow for approximately five minutes. Groundwater was collected directly into appropriate laboratory-supplied sample containers and placed in an iced cooler for transport under chain-of-custody control to the analytical laboratory.

Indoor and Outdoor Ambient Air Sample Collection

Three IAQ samples (IA-1, IA-2, and IA-3) were collected from the maintenance building interior on December 1, 2021. Prior to setting up the indoor air sampling equipment, indoor air was field screened for VOCs with a PID; the PID did not measure any detectable concentrations of VOCs. Additionally, the interior of the site building was observed for any stored chemicals that could contribute to adverse indoor air quality. Multiple gas-powered pieces of maintenance equipment were observed within a bay near VP-2, toward the southern edge of the maintenance building. A Building Survey Form is included with the field logs in Appendix D.

Three 6-liter SUMMA[®] canisters were placed inside the site building approximately six feet off the floor in the locations shown on Figure 4. During the eight-hour duration of the IAQ sample

collection, only EC&A personnel were present inside the maintenance building. The building has no HVAC system to aid in ventilation. To measure background levels of COC, outdoor ambient air sample OAA-1 was collected in a 6-liter SUMMA[®] canister located approximately 35 feet from the northeast corner of the maintenance building, approximately eight feet above the ground surface (Figure 4). SUMMA[®] canisters and sampling equipment were supplied by MAI.

Each SUMMA[®] canister was fitted with a calibrated flow controller set to sample air at a pre-determined rate over an approximate eight-hour period to coincide with worker/customer exposure in commercial tenant spaces. Initial and final pressure readings were collected from each of the SUMMA[®] canisters. Upon completion of IAQ and OAA sampling, the SUMMA[®] canisters were transported under chain-of-custody control to the analytical laboratory. Field logs recording initial and final vacuums and pressures as wells as start and finish times are included as Appendix D.

Investigative Derived Waste Containment and Disposal

Soil cuttings from the soil borings were contained in a secured 55-gallon drum which was temporarily placed near the maintenance shop pending analytical results. On November 30, 2021, InStrat Inc., of Davis California, removed and disposed one drum of soil from the Site. Disposal documentation is included in Appendix E.

QUALITY ASSURANCE / QUALITY CONTROL PROGRAM

Sample Preservation, Storage and Handling

To prevent the loss of constituents of interest, soil and groundwater samples were stored within an iced cooler in separate Zip-lock[®] plastic bags to avoid cross contamination. After filling and closing the sample valve, SUMMA[®] canisters were removed from the sampling manifolds, labeled with sampling information, and placed in a dark container for transport to the analytical laboratory.

Chain-of-Custody Program

All samples collected for this project were transported under chain of custody protocol. The chain of custody program allows for the tracing of possession and handling of individual samples from the time of field collection through laboratory analysis. The document includes the signature of the collector, date and time of collection, sample number, number and type of sample containers including preservatives, parameters requested for analysis, signatures of persons and inclusive dates involved in the chain of possession. Upon delivery to the laboratory the document also includes the name of the person(s) receiving the samples, and date and time samples were received.

ANALYTICAL METHODS

Soil and soil vapor samples selected for analysis were analyzed by SWRCB Environmental ELAP-certified independent analytical laboratories. McCampbell Analytical Inc. (MAI) of Pittsburg, California, performed soil and groundwater analysis. Soil vapor analysis was performed by Alpha Analytical Laboratories, Inc. (AALI) of Petaluma, California as well as by MAI.

All soil samples except SS-30 and SS-31 were analyzed for TPH-g by Analytical Method SW8015B, and for BTEX, MTBE and naphthalene by Analytical Method SW8260B. All shallow soil samples except SS-30 and SS-31 were also analyzed for TPH-d and TPH-mo by Analytical Method SW8015Bm.

Shallow soil samples SS-16 through SS-29 were additionally analyzed for LUFT 5 Metals (cadmium, chromium, lead, nickel and zinc) by Analytical Method SW6020. Shallow soil samples SS-30 and SS-31 were only analyzed for mineral oil by Analytical Method SW8015Bm (reported as TPH-mo) and for PCBs (Aroclor1016, Aroclor1221, Aroclor1232, Aroclor1242, Aroclor1248, Aroclor1254, Aroclor1260 and Total PCBs) by Analytical Method SW8082.

For disposal profiling, one composite soil sample was collected from waste soil and analyzed for TPH-g, BTEX, MTBE, and naphthalene by Analytical Method SW8260B and total lead by Analytical Method SW6020.

Groundwater samples from the soil borings and the irrigation well were analyzed for TPH-g by Analytical Method SW8015Bm and full-scan VOCs by Analytical Method SW8260B.

Soil vapor samples collected on June 11, 2021 were analyzed for TPH-g, BTEX, MTBE, naphthalene and the leak check compound IPA by Analytical Method TO-15 and for percent oxygen by Analytical Method ASTM D Method 1946-90. Soil vapor samples collected on December 1, 2021, were analyzed for TPH-g, BTEX, MTBE, naphthalene, PCE, trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC) by Method TO-15, and for leak detection compound helium by Method ASTM D 1946.

IAQ and OAA samples were analyzed for TPH-g, BTEX, MTBE, naphthalene, PCE, TCE, cis-1,2-DCE, and VC by Method TO-15.

ASSESSMENT FINDINGS

Soil

Area A – Live Oak Charter School

No COC were detected above LRL in soil samples obtained from exploratory soil borings S-7, S-8, and S-9, advanced adjacent to the northern property line of 301 Payran Street.

Area B – Maintenance Yard

The City of Petaluma reported that the transformers were removed on April 23, 2021. Following removal of the transformers, EC&A did not observe any evidence of soil staining in this location. Shallow soil samples SS-30 and SS-31 collected from beneath the location of the former transformers did not report concentrations above LRLs for all analytes.

Soil samples collected from exploratory soil boring B-1 advanced in the location of the former UST did not report concentrations above LRLs limits for all analytes.

The waste-soil drum sample contained total lead concentrations of 6.5 milligrams per kilogram (mg/kg); concentrations of all other analytes were below LRLs.

Soil boring soil and drum sample analytical results are summarized on Table 1. Laboratory analytical reports and chain of custody documentation are included in Appendix F.

Area C – Racetrack and Parking Lots

TPH-g, BTEX, MTBE and naphthalene were not detected above LRLs in any of the shallow soil samples collected from the racetrack area and Parking Lot B (Figure 3). TPH-d was detected in 11 of the 29 shallow soil samples from Area C, at concentrations ranging from 1.0 mg/kg (SS-12) to 31 mg/kg (SS-24). All of the TPH-d detections were characterized by the laboratory as “oil range compounds are detected” and “diesel range compounds are significant, no recognizable pattern”. TPH-mo was detected in all but 10 of the Area C soil samples at concentrations ranging from 5.3 mg/kg (SS-4) to 110 mg/kg (SS-24). Shallow soil petroleum hydrocarbon analytical results are summarized on Table 1. Laboratory analytical reports and chain of custody documentation are included in Appendix F.

Of the 14 shallow soil samples collected from the racetrack area and analyzed for LUFT 5 metals, concentrations of cadmium were not detected above LRLs. Chromium was detected in all 14 samples at a maximum concentration of 87 mg/kg (SS-16). Lead was detected in all 14 samples at a maximum concentration of 29 mg/kg (SS-17). Nickel was detected in all 14 samples at a maximum concentration of 98 mg/kg (SS-16). Zinc was detected in all 14 samples at a maximum concentration of 83 mg/kg (SS-29). LUFT 5 Metal analytical results are summarized on Table 2. Laboratory analytical reports and chain of custody documentation are included in Appendix F.

Waste Soil (Drill Cuttings)

The waste-soil drum sample contained total lead concentrations of 6.5 mg/kg; concentrations of all other analytes were below LRLs. Analytical results for the waste soil drum sample are summarized on Table 1. Laboratory analytical reports and chain of custody documentation are included in Appendix F.

Groundwater

COCs were not detected above LRL in the grab-groundwater samples collected from soil borings S-7, S-8 and S-9 (Area A).

Benzene and PCE were detected in the groundwater sample collected from boring B-1 (Area B) at respective concentrations of 0.21 micrograms per liter ($\mu\text{g/L}$) and 0.33 $\mu\text{g/L}$.

The water sample collected from the irrigation well in the maintenance yard (WW-1) was non-detect (ND) for all analytes. Groundwater analytical results are summarized on Table 3. Laboratory analytical reports and chain of custody documentation are included in Appendix F.

Soil Vapor

June 11, 2021 Sample Event

Except for concentrations of total xylenes in all three samples ranging from 13 micrograms per cubic meter ($\mu\text{g/m}^3$) to 63 $\mu\text{g/m}^3$, petroleum hydrocarbons were not detected in the vapor samples.

The total xylenes concentrations were reported as “J-flag” results by the analytical laboratory, indicating the reported concentrations were an estimated value because the value is less than the laboratory reporting limit /minimum level of quantitation, but greater than the method detection limit (MDL).

Although TPH-g, benzene and naphthalene results did not exceed LRLs, the LRLs for these COC were elevated. PCE concentrations were detected in all three samples at concentrations ranging from 500 $\mu\text{g}/\text{m}^3$ to 870 $\mu\text{g}/\text{m}^3$.

Concentrations of the liquid leak check compound IPA were reported at 15,000, 22,000, and 27,000 $\mu\text{g}/\text{m}^3$ in VP-1, VP-2, and VP-3 respectively.

December 1, 2021 Sample Event

For all three sub-slab soil gas samples collected on December 1, 2021, concentrations of TPH-g, benzene, ethylbenzene, total xylenes, naphthalene, and MTBE were not reported above their respective LRLs. Toluene was detected at a concentration of 2.5 $\mu\text{g}/\text{m}^3$ in VP-1. PCE was detected in VP-1, VP-2 and VP-3 at respective concentrations of 18 $\mu\text{g}/\text{m}^3$, 12 $\mu\text{g}/\text{m}^3$ and 6.2 $\mu\text{g}/\text{m}^3$.

Concentrations of leak check compound helium were reported as a percentage of the total volume of the sample using a LRL of 0.050 percent (%). The concentration of helium in sample VP-1 was 0.12%; helium concentrations in VP-2 and VP-3 were less than 0.50 %. Soil vapor analytical results are summarized on Table 4. Laboratory analytical reports and chain of custody documentation are included in Appendix F.

Indoor/Outdoor Air Quality

Concentrations of TPH-g exceeding the laboratory reporting limit of 36 $\mu\text{g}/\text{m}^3$ were only detected in sample IA-2 ($\mu\text{g}/\text{m}^3$). Benzene was detected in all three IAQ samples at concentrations ranging from 0.64 $\mu\text{g}/\text{m}^3$ to 1.6 $\mu\text{g}/\text{m}^3$. Toluene was detected in all three IAQ samples at concentrations ranging from 1.1 $\mu\text{g}/\text{m}^3$ to 11 $\mu\text{g}/\text{m}^3$. Ethylbenzene was detected in all three IAQ samples at concentrations ranging from 0.19 $\mu\text{g}/\text{cm}^3$ to 1.0 $\mu\text{g}/\text{cm}^3$. Total xylenes were detected in all three IAQ samples at concentrations ranging from 0.64 $\mu\text{g}/\text{m}^3$ to 4.9 $\mu\text{g}/\text{m}^3$. Naphthalene was detected in all three IAQ samples at concentrations ranging from 0.061 $\mu\text{g}/\text{m}^3$ to 0.18 $\mu\text{g}/\text{m}^3$. MTBE concentrations were not detected above the LRL of ND<0.19 $\mu\text{g}/\text{m}^3$ in all three samples. PCE was detected in all three IAQ samples ranging from 0.031 $\mu\text{g}/\text{m}^3$ (J-flag estimated value) to 0.078 $\mu\text{g}/\text{m}^3$.

In outdoor ambient air sample OAA-1, benzene, toluene, ethylbenzene, total xylenes, naphthalene and PCE were detected at respective concentrations of 0.64 $\mu\text{g}/\text{m}^3$, 1.1 $\mu\text{g}/\text{m}^3$, 0.19 $\mu\text{g}/\text{m}^3$ (J-flag estimated value), 0.64 $\mu\text{g}/\text{m}^3$ (J-flag estimated value), 0.061 $\mu\text{g}/\text{m}^3$ and 0.035 $\mu\text{g}/\text{m}^3$ (J-flag estimated value).

IAQ and OAA analytical results are summarized on Table 5. Laboratory analytical reports and chain of custody documentation are included in Appendix F.

DISCUSSION

Soil (Areas B and C)

Area B

Shallow soil samples collected from beneath the location of the former transformers did not report concentrations above LRLs for all analytes, indicating the transformers did not leak fluid to surficial soil.

Soil samples collected from exploratory soil boring B-1 advanced in the location of the former UST did not report concentrations above LRLs for all analytes, indicating that there was not an impact to soil from the former UST.

Area C

The only petroleum hydrocarbon detections in soil were TPH-d and TPH-mo in shallow soil samples collected from Area C (Parking Lot B and the racetrack area). The maximum concentrations of TPH-d and TPH-mo were 31 mg/kg and 110 mg/kg, respectively, both in sample SS-24, which was collected from the racetrack (Figure 3). These results do not exceed the SFBRWQCB Tier 1 ESLs for TPH-d and TPH-mo of 260 mg/kg and 1,600 mg/kg, respectively (SFBRWQCB, 2019a). Tier 1 ESLs are selected based on conservative default Conceptual Site Model (CSM) scenario conditions. This scenario is designed to protect sites for unrestricted land and water use, shallow soil contamination, shallow groundwater, and permeable soil (SFBRWQCB, 2019b).

Only the shallow soil samples collected from the racetrack and staging areas were analyzed for LUFT 5 Metals (cadmium, chromium, lead, nickel and zinc). Cadmium was not detected in any of the samples. The maximum concentration of chromium (total chromium) detected was 87 mg/kg in sample SS-16 (racetrack staging area); the Tier 1 ESL for chromium is 160 mg/kg. The maximum concentration of lead detected was 29 mg/kg in sample SS-17 (staging area); the Tier 1 ESL for lead is 32 mg/kg. The maximum nickel concentration was 98 mg/kg in sample SS-16 (staging area); the Tier 1 ESL for nickel is 86 mg/kg; the commercial/industrial land use ESL is 64,000 mg/kg. Zinc was detected at a maximum concentration of 83 mg/kg in sample SS-29 from the racetrack; the Tier 1 ESL for zinc is 340 mg/kg.

Groundwater (Areas A and B)

The grab-groundwater samples collected from soil borings S-7, S-8 and S-9 (Area A, drainage ditch adjacent to 301 Payran Street) were non-detect (ND) for all analytes. The grab-groundwater sample from boring B-1 (Area B, near the former USTs) had detections of benzene at a concentration of 0.21 µg/L and PCE at a concentration of 0.33 µg/L. These concentrations do not exceed the Tier 1 ESLs for benzene and PCE of 0.42 µg/L and 0.64 µg/L, respectively. All other analytes were ND in groundwater from B-1.

COC were not detected above LRL in the sample WW-1 collected from the irrigation well in the maintenance yard.

Sub-Slab Soil Vapor (Area B)

June 11, 2021 Sample Event

During the June 2021 soil vapor sampling event, the only petroleum hydrocarbons detected in sub-slab soil vapor were total xylenes in all three sub-slab soil vapor samples. Total xylenes were detected at a maximum concentration of $63 \mu\text{g}/\text{m}^3$ in VP-2, located near the center of the maintenance shop (Figure 3, Area B). None of the soil vapor sample results for total xylenes exceeded the SFBRWQCB Tier 1 ESL for total xylenes in soil vapor of $3,500 \mu\text{g}/\text{m}^3$.

PCE was detected at concentrations of $870 \mu\text{g}/\text{m}^3$, $850 \mu\text{g}/\text{m}^3$, and $500 \mu\text{g}/\text{m}^3$ in VP-1, VP-2, and VP-3, respectively. The ESL for PCE for commercial/industrial land use (cancer risk) is $67 \mu\text{g}/\text{m}^3$.

The leak check compound IPA was detected in all three soil vapor samples at concentrations of $15,000 \mu\text{g}/\text{m}^3$, $22,000 \mu\text{g}/\text{m}^3$ and $27,000 \mu\text{g}/\text{m}^3$ for VP-1, VP-2 and VP-3, respectively. In general, a soil vapor sample is considered representative if the concentration of the leak check compound is not greater than or equal to 10 times the reporting limit for the target analyte(s). IPA concentrations were greater than 10% of the target analyte reporting limits for all of the target analytes, with the exception of TPH-g in all three sub-slab soil gas samples. This indicates the analytical results for those COC with elevated IPA concentrations may not be representative of actual soil vapor conditions.

December 1, 2021 Soil Vapor Sample Event

For all three vapor samples, concentrations of TPH-g, benzene, ethylbenzene, total xylenes, naphthalene, and MTBE were not reported above their respective LRLs. The LRLs for these COC were all below their respective Tier 1 ESLs.

Except for PCE in VP-1 ($18 \mu\text{g}/\text{m}^3$), PCE concentrations in soil vapor samples did not exceed the Tier 1 ESL of $15 \mu\text{g}/\text{m}^3$. PCE concentrations in this sample did not exceed the commercial/industrial land use ESL of $67 \mu\text{g}/\text{m}^3$.

Analytical results for leak check compound helium indicate that sub-slab soil vapor samples collected on December 1, 2020 were representative of actual soil vapor conditions.

Indoor Air Quality and Outdoor Ambient Air Sampling (Area B)

Analytical results from IAQ samples collected inside the maintenance building did not exceed their respective Tier 1 ESLs for all analytes except benzene in all three samples and naphthalene in samples IA-2 and IA-3. The Tier 1 ESLs for benzene and naphthalene are $0.097 \mu\text{g}/\text{m}^3$ and $0.083 \mu\text{g}/\text{m}^3$, respectively. Benzene also exceeded its commercial/industrial ESL of $0.42 \mu\text{g}/\text{m}^3$ in all three samples; naphthalene did not exceed its commercial/industrial ESL of $0.36 \mu\text{g}/\text{m}^3$.

Benzene concentrations in the outdoor ambient air sample OAA-1 also exceeded Tier 1 and commercial/industrial ESLs. The similarity between outdoor and indoor air benzene concentrations indicates a significant portion of benzene in indoor air may be attributable to outdoor air. Except for benzene, concentrations of detected COCs were lower in outdoor air than in indoor air.

CONCLUSIONS

Area A – 301 Payran Street LUST Case (former Joseph Ellwood Community Center)

The September 28, 2020 Phase I ESA identified an open LUST case at 301 Payran Street as a REC because of petroleum hydrocarbon concentration in groundwater, soil vapor and indoor air. This property is currently regulated by the SFBRWQCB. Based on the most current analytical data, this property (the former Joseph Ellwood Community Center) meets SWRCB LTCP media-specific criteria for direct contact and outdoor air exposure, and for petroleum vapor intrusion into indoor air. However, the adjoining portion of the Live Oak Charter School within the area of investigation does not meet LTCP media-specific criteria for direct contact and outdoor air exposure, based on the results of the October 2020 shallow soil assessment.

Based on the results of soil vapor samples collected in August 2021, the adjoining portion of the Live Oak Charter School within the area of investigation meets residential LTCP media-specific criteria for vapor intrusion into indoor air. However, in October 2020, benzene and ethylbenzene concentrations in vapor well VW-2 exceeded both residential and commercial LTCP criteria. To confirm that soil vapor concentrations of COC do not exceed LTCP media-specific criteria for vapor intrusion into indoor air, a soil vapor sampling event for the five vapor wells at the Live Oak Charter School was conducted on March 14, 2022. A report of this sampling event is forthcoming.

The petroleum hydrocarbon plume in groundwater is stable with overall decreasing concentrations in the source area. TPH-g and benzene concentrations in most of the site groundwater monitoring wells have fluctuated erratically, and the hydrocarbon concentration gradient in the source area (the former UST location) and both downgradient lobes of the plume are anomalous (EC&A, 2022).

The LTCP was created by the by the State Water Resources Control Board to establish consistent statewide case closure criteria for petroleum UST sites. The LTCP became effective in in August 2012. Base on a March 4, 2022 teleconference with SFBRWQCB, the City of Petaluma and EC&A, the SFBRWQCB caseworker for 301 Payran Street reported that

- the site could possibly meet LTCP Groundwater Media Specific Criteria Scenario #4;
- the soil vapor wells at Live Oak Charter School should be resampled before the end of March 2022;
- limited excavation of impacted soil at the Live Oak Charter School may be necessary, and
- an updated Sensitive Receptor Survey to identify any domestic water wells near the site should be conducted.

SFBRWQCB is currently evaluating whether additional groundwater monitoring is required.

Area A – Live Oak Charter School

EC&A's September 28, 2020 *Phase I ESA* identified the lack of information regarding a reported surface spill of gasoline at 301 Payran Street as a significant data gap that constitutes a REC.

Analytical data from exploratory soil borings S-7, S-8 and S-9 indicate no impact to soil and/or groundwater in the purported area of the spill near the drainage ditch adjacent to the northern property line of 301 Payran Street. Analytical results from these soil borings indicate the reported spill did not impact this area, and that the reported spill likely impacted areas that have been investigated as part of the LUST case investigation at 301 Payran Street.

The distribution of COC in groundwater and in soil and soil vapor in the Live Oak Charter School area appears inconsistent with a scenario of a release originating only from the former UST at the 301 Payran Street parcel. The area of the Live Oak Charter School has been thoroughly investigated as part of the release from the former UST at 301 Payran Street; EC&A does not recommend further investigation of the Live Oak Charter School area at this time.

Area B – Maintenance Yard

Based on the *Phase I ESA*, EC&A recommended the collection of soil and groundwater samples in the vicinity of the former UST location at the maintenance yard to assess possible petroleum hydrocarbon impacts. Soil and groundwater sample analytical results do not indicate petroleum hydrocarbon impacts to soil and/or groundwater. Additionally, COC were not detected in the irrigation well located in the maintenance yard.

Based on the Phase I, EC&A recommended the proper disposal of transformers stored at the maintenance yard and the collection of shallow soil samples from beneath the transformers once removed. The City of Petaluma reported that the transformers were removed on April 23, 2021. Following removal of the transformers, EC&A did not observe any surficial soil staining, and COC were not detected in surficial soil samples collected in the location where the transformers were stored. Based on EC&A's observations and soil sample results, the transformers did not adversely impact shallow soil.

Based on findings and conclusions presented in the September 28, 2020 *Phase I ESA*, EC&A recommended the collection of sub-slab soil vapor samples from the maintenance shop interior, where the former UST located, and if concentrations exceed regulatory screening levels, the collection of IAQ samples and an OAA sample. Results from the December 1, 2021 sub-slab soil vapor and IAQ sampling event demonstrated that except for PCE in VP-1, PCE concentrations in soil vapor samples did not exceed the Tier 1 (residential) ESL for PCE, and no sample results exceeded the commercial/industrial land use ESL of 67 $\mu\text{g}/\text{m}^3$. PCE was reported at 18 $\mu\text{g}/\text{L}$ in the sub-slab soil gas sample collected from VP-1; the Tier I ESL is 15 $\mu\text{g}/\text{L}$. Given that the Tier 1 ESL was only slightly exceeded in VP-1, additional soil vapor sampling may demonstrate compliance with Tier 1 ESLs.

Benzene analytical results in IAQ samples collected inside the maintenance building exceeded benzene's commercial/industrial land use ESL. However, OAA benzene concentrations also exceeded the commercial/industrial land use ESL, indicating a significant portion of indoor air benzene concentrations may be attributable to outdoor air. Additionally, based on a comparison of soil vapor analytical results with IAQ analytical results, the detections in indoor air are likely from the use of chemicals associated with maintenance yard operations.

It is EC&A's professional opinion that, based on available data and current ESLs, this area meets commercial/industrial land use standards. If the land use for this property were to be converted from commercial/industrial to residential, further investigation and remediation and/or mitigation should be conducted.

Area C – Racetrack

Only nickel in shallow soil sample SS16 collected from the racetrack staging area exceeded SFBRWQCB Tier 1 ESLs. Given that only one sample slightly exceed the Tier 1 ESL for nickel of 86 mg/kg, it is EC&A's professional opinion that, based on the available data and current ESLs, this area meets both residential and commercial/industrial land use standards.

RECOMMENDATIONS

The City of Petaluma should continue attempting to locate documents related to the reported surface spill at 301 Payran Street. Although this Phase II investigation did not find impacts to soil and/or groundwater in the purported area of the spill near the drainage ditch adjacent to the northern property line of 301 Payran Street, and investigation related to the LUST case at 301 Payran Street has investigated areas where the spill may have occurred, new information may warrant additional investigation and/or cleanup.

Efforts should be made to locate the oil/water separator location (or former location). If it is discovered, it should be removed, and soil samples should be collected beneath it. If impacts to soil are above Tier I ESLs, soil should be removed until soil samples do not exceed Tier I ESLs

If land use changes at the maintenance yard (Area B), the Vapor Pin™ sub-slab probes and indoor air in the maintenance building should be resampled.

If development involving significant soil disturbance occurs at the Site, a *Site Management Plan* (SMP) should be prepared. A SMP provides guidance to protect worker safety and manage contaminated materials in the event that impacted soil, soil vapor and/or groundwater is encountered during construction or other soil disturbance activities.

LIMITATIONS

The conclusions presented in this document are professional opinions based on the data presented in this document, including data generated by others. Whereas EC&A does not guarantee the accuracy of information supplied by third parties, we reserve the right to use this information in formulating our professional opinions. They are intended only for the indicated purpose and project site. Conclusions and recommendations presented herein apply to site conditions existing at the time of our study. Changes in the conditions of the site property can occur with time because of natural processes or the works of man on the site or adjacent properties. Changes in applicable standards can also occur as the result of legislation or from the broadening of knowledge. Accordingly, the findings of this document may be invalidated, wholly or in part, by changes beyond our control.

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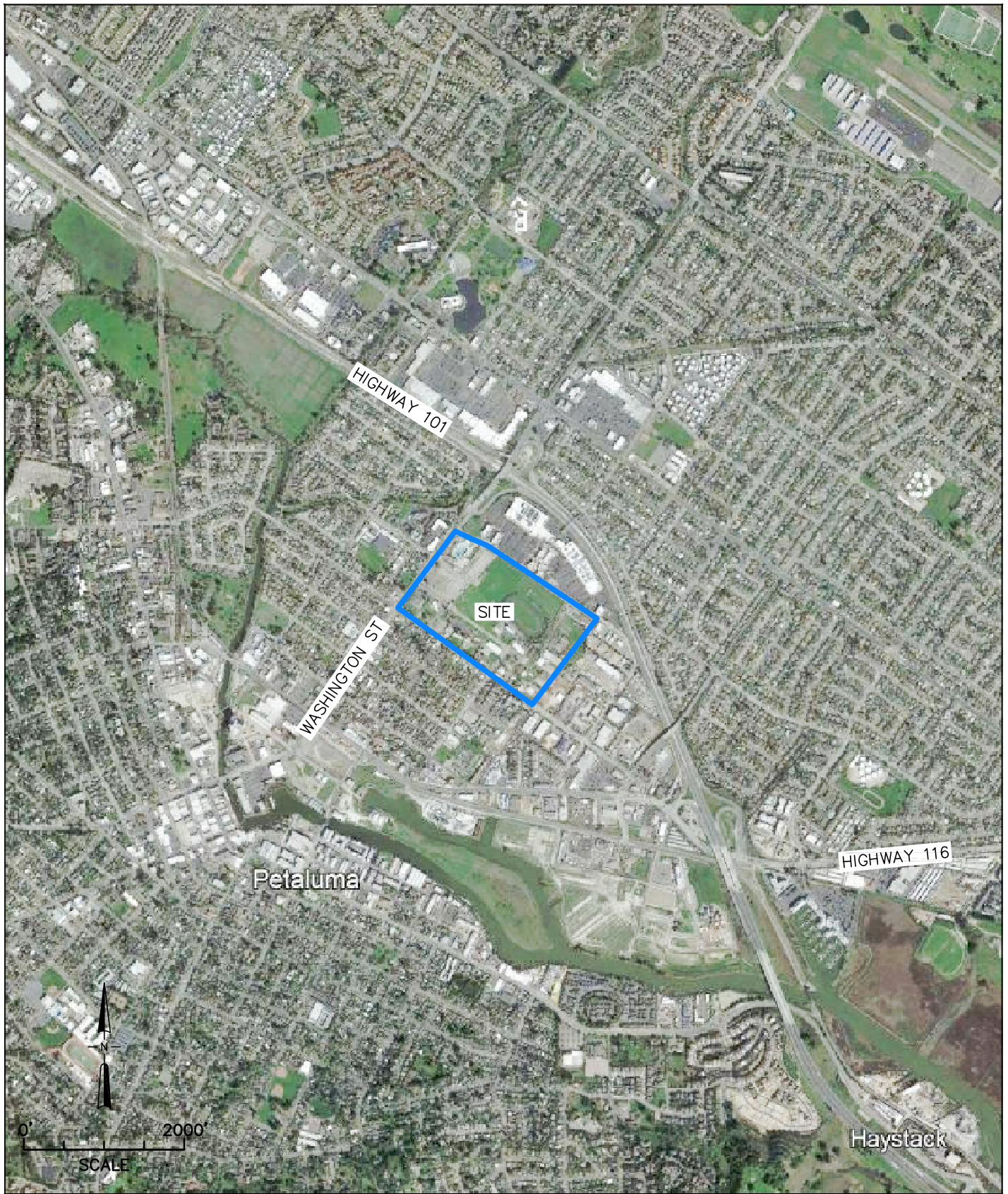
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Figures



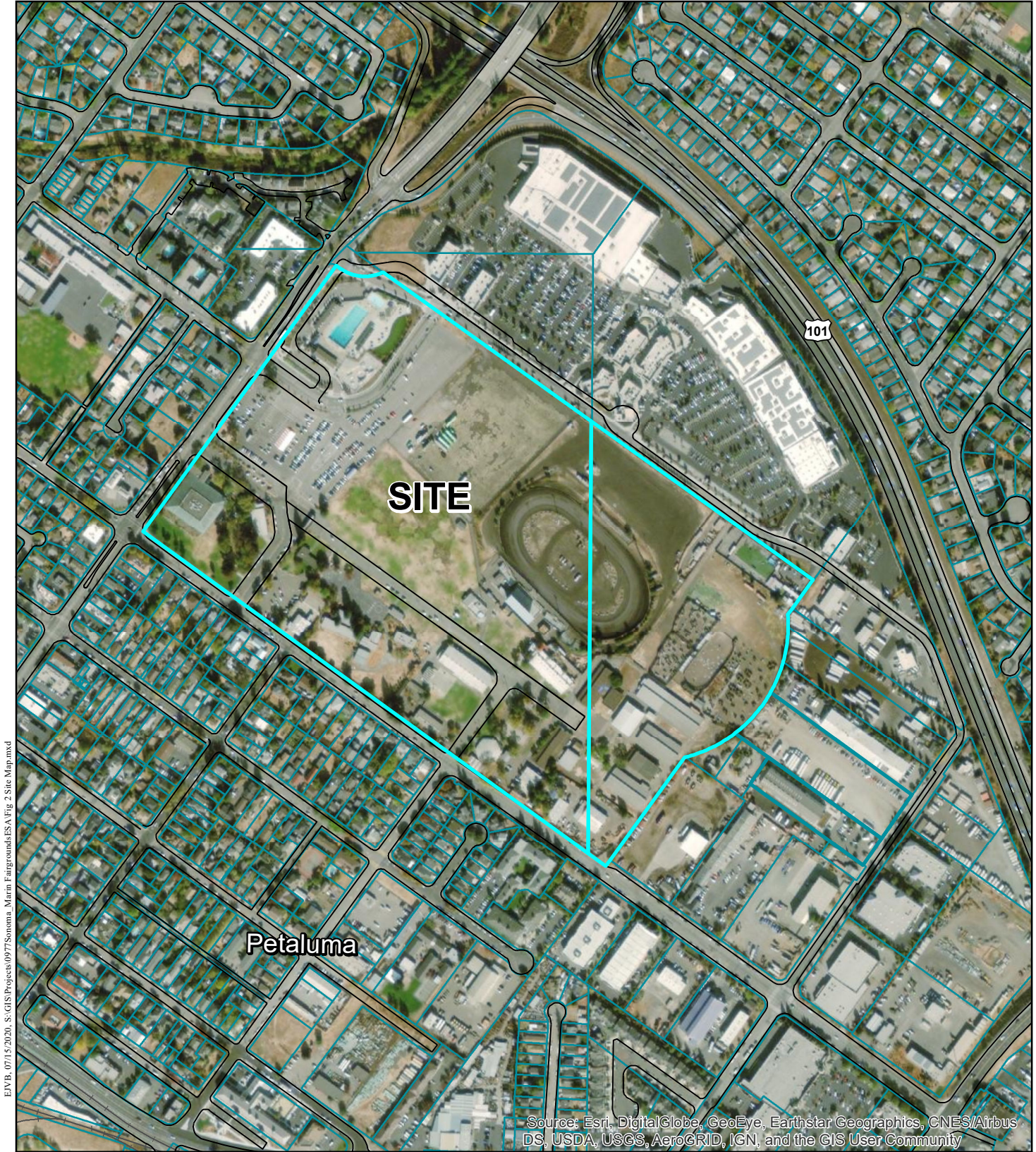
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SITE LOCATION MAP
 SONOMA-MARIN FAIRGROUNDS
 866 E. WASHINGTON STREET
 PETALUMA, CALIFORNIA

FIGURE

1

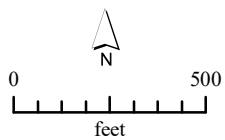
JOB# 0977,002.20	REVIEWED BY EC&A, MARK TENNYSON	DATE DECEMBER 2021	REVISED DATE	PAGE 1	OF 1
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SITE VICINITY MAP

APNs: 007-031-004/911-000-033 & 911-000-100/007-031-005
 Sonoma-Marín Fairgrounds
 866 E. Washington Street
 Petaluma, California

FIGURE
2



Job Number	0977,001.20	Reviewed By	EC&A, EJVb
Date	July 2020	Revised Date	



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SITE MAP - AREA B

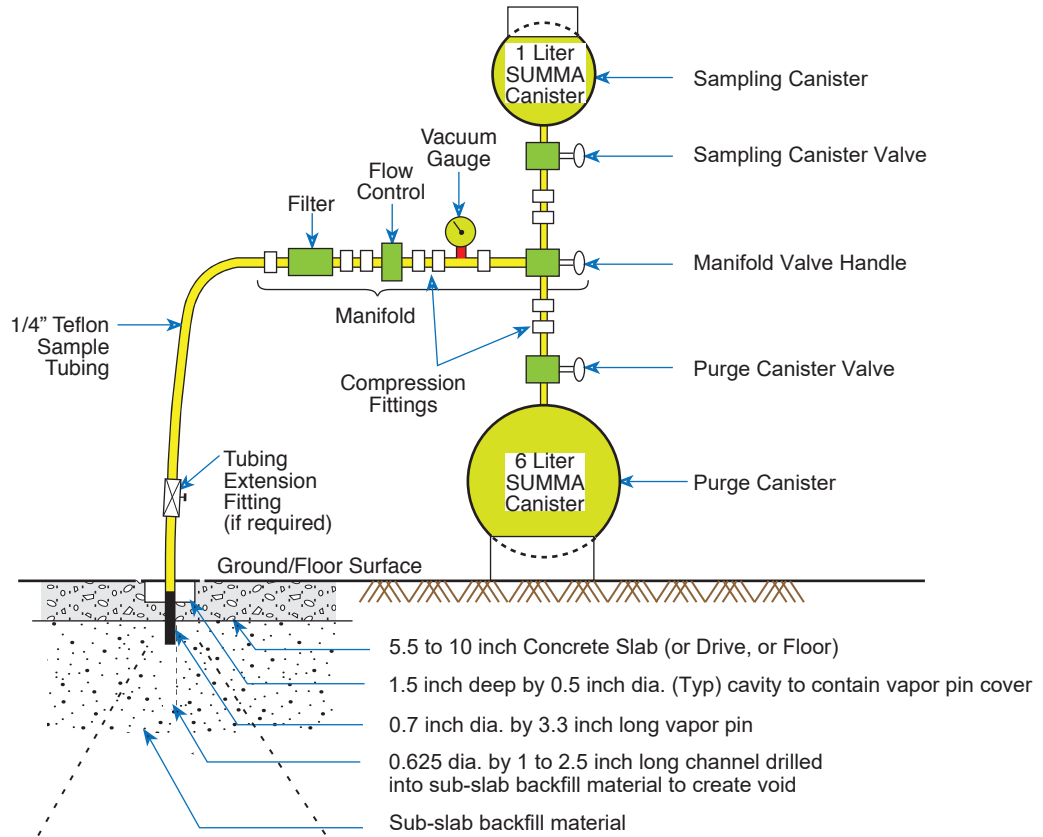
SONOMA-MARIN FAIRGROUNDS
 866 E. WASHINGTON STREET
 PETALUMA, CALIFORNIA

FIGURE

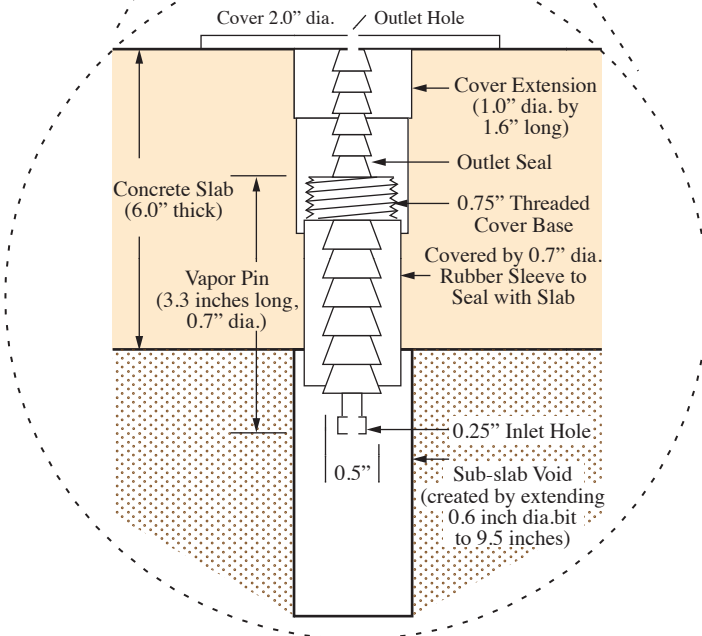
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 FIGURE

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NOT TO SCALE



DETAIL--Blowup of Vapor Pin Installation

JOB NUMBER	0977,002,20	REVIEWED BY	EC&A, EJ VandenBosch	DATE	Aug2021	REVISED	08/11/2021
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Tables

**Table 1: Summary of Petroleum Hydrocarbon Soil Sample Analytical Results
Sonoma-Marin Fairgrounds, 866 East Washington Street, Petaluma, California
EC&A Job No. 0977,002.20**

Sample ID	Date	TPH-g	TPH-d	TPH-mo	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	Naphthalene	Total PCBs
		milligrams per kilogram (mg/kg)									
Soil Boring Samples											
S-7d4.0	6/10/21	ND<1.0	---	---	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
S-7d8.0	6/10/21	ND<1.0	---	---	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
S-8d4.0	6/10/21	ND<1.0	---	---	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
S-8d8.0	6/10/21	ND<1.0	---	---	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
S-9d4.0	6/10/21	ND<1.0	---	---	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
S-9d8.0	6/10/21	ND<1.0	---	---	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
B-1d8.0	6/10/21	ND<1.0	---	---	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
B-1d12.0	6/10/21	ND<1.0	---	---	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
Soil Drum*	6/10/21	ND<1.0	---	---	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
Shallow Soil Samples											
SS-1	07/06/21	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-2	07/06/21	ND<1.0	ND<1.0	8.5 ^{e7}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-3	07/06/21	ND<1.0	ND<1.0	6.3 ^{e7}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-4	07/06/21	ND<1.0	ND<1.0	5.3 ^{e7}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-5	07/06/21	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-6	07/06/21	ND<1.0	ND<1.0	7.5 ^{e7}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-7	07/06/21	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-8	07/06/21	ND<1.0	ND<1.0	7.5 ^{e7}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-9	07/06/21	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-10	07/06/21	ND<1.0	ND<1.0	7.8 ^{e7}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-11	07/06/21	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-12	07/06/21	ND<1.0	1.0 ^{e7, e2}	9.6 ^{e7, e2}	<0.0050 ^{c16}	<0.0050 ^{c16}	<0.0050 ^{c16}	<0.0050 ^{c16}	<0.0050 ^{c16}	<0.0050 ^{c16}	---
SS-13	07/06/21	ND<1.0	1.1 ^{e7, e2}	5.8 ^{e7, e2}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-14	07/06/21	ND<1.0	ND<1.0	5.9 ^{e7}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-15	07/06/21	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-16	07/06/21	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---

**Table 1: Summary of Petroleum Hydrocarbon Soil Sample Analytical Results
Sonoma-Marin Fairgrounds, 866 East Washington Street, Petaluma, California
EC&A Job No. 0977,002.20**

Sample ID	Date	TPH-g	TPH-d	TPH-mo	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	Naphthalene	Total PCBs
		milligrams per kilogram (mg/kg)									
SS-17	07/06/21	ND<1.0	12 ^{e7, e2}	46 ^{e7, e2}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-18	07/06/21	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-19	07/06/21	ND<1.0	ND<1.0	14 ^{e7}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-20	07/06/21	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-21	07/06/21	ND<1.0	ND<1.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-22	07/06/21	ND<1.0	3.0 ^{e7, e2}	12 ^{e7, e2}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-23	07/06/21	ND<1.0	7.0 ^{e7, e2}	75 ^{e7, e2}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-24	07/06/21	ND<1.0	31 ^{e7, e2}	110 ^{e7, e2}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-25	07/06/21	ND<1.0	17 ^{e7, e2}	46 ^{e7, e2}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-26	07/06/21	ND<1.0	15 ^{e7, e2}	42 ^{e7, e2}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-27	07/06/21	ND<1.0	17 ^{e7, e2}	47 ^{e7, e2}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-28	07/06/21	ND<1.0	10 ^{e7, e2}	30 ^{e7, e2}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-29	07/06/21	ND<1.0	15 ^{e7, e2}	49 ^{e7, e2}	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	---
SS-30 **	07/06/21	---	---	---	---	---	---	---	---	---	ND<0.050
SS-31 **	07/06/21	---	---	---	---	---	---	---	---	---	ND<0.050
Tier 1 ESLs⁽¹⁾		100	260	1,600	0.025	3.2	0.43	2.1	0.028	0.042	0.23

Notes:

MTBE: Methyl Tert Butyl Ether

TPH-g: Total petroleum hydrocarbons as gasoline

TPH-d: Total petroleum hydrocarbons as diesel

TPH-mo: Total petroleum hydrocarbons as motor oil

mg/kg: Milligrams per kilogram

(1) = San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Tier 1 Environmental Screening Levels (ESLs), July 2019 (Rev. 2). Based on a generic conceptual site model designed for use at most sites.

---: Not analyzed

NE: Not established

**Table 1: Summary of Petroleum Hydrocarbon Soil Sample Analytical Results
 Sonoma-Marin Fairgrounds, 866 East Washington Street, Petaluma, California
 EC&A Job No. 0977,002.20**

Sample ID	Date	TPH-g	TPH-d	TPH-mo	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	Naphthalene	Total PCBs
milligrams per kilogram (mg/kg)											

*: Waste soil sample - total lead was detected at a concentration of 6.5 mg/kg

** : These samples were additionally tested for mineral oil by Analytical Method SW8015. Both sample concentrations of mineral oil were not detected above laboratory reporting limits of 5.0 mg/kg

Lab qualifiers:

c16: The internal standard recovery is below the lower limit. The target analyte(s) were Not Detected (ND); therefore, the data is reportable.

e2: Diesel range compounds are significant, no recognizable pattern

e7: Oil range compounds are detected

**Table 2: Summary of LUFT 5 Metal Soil Sample Analytical Results
Sonoma-Marin Fairgrounds
866 East Washington Street, Petaluma, California
EC&A Job No. 0977,002.20**

Sample ID	Date	Cadmium	Chromium *	Lead	Nickel	Zinc
		milligrams per kilogram (mg/kg)				
SS-16	07/06/21	ND<0.50	87	9.7	98	58
SS-17	07/06/21	ND<0.50	56	29	69	57
SS-18	07/06/21	ND<0.50	53	10	53	43
SS-19	07/06/21	ND<0.50	65	20	59	49
SS-20	07/06/21	ND<0.50	57	11	77	47
SS-21	07/06/21	ND<0.50	62	16	54	48
SS-22	07/06/21	ND<0.50	67	18	73	65
SS-23	07/06/21	ND<0.50	53	22	50	67
SS-24	07/06/21	ND<0.50	64	21	65	71
SS-25	07/06/21	ND<0.50	60	24	59	68
SS-26	07/06/21	ND<0.50	60	24	62	68
SS-27	07/06/21	ND<0.50	64	21	67	66
SS-28	07/06/21	ND<0.50	67	23	66	69
SS-29	07/06/21	ND<0.50	65	24	67	83
Tier 1 ESLs (1)		1.9	160	32	86	340
Residential ESLs (2)		910	NE	82	15,000	23,000
Commercial ESLs (3)		4,000	NE	380	64,000	350,000

Notes:

LUFT 5: Leaking Underground Fuel Tank metals

mg/kg: Milligrams per kilogram

Bold Text: Exceeds Tier 1 ESLs

(1): San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Tier 1 ESLs, July 2019 (Rev. 2). Based on a generic conceptual site model designed for use at most sites.

(2): SFBRWQCB ESLs, Direct Exposure Human Health Risk Levels (Table S-1) for Residential Shallow Soil Exposure, Cancer Hazard (When Established), July 2019 (Rev. 2).

(3): SFBRWQCB ESLs, Direct Exposure Human Health Risk Levels (DEHRL) (Table S-1) for Commercial/Industrial Shallow Soil Exposure, Cancer Hazard (When Established), July 2019 (Rev. 2)

*: Results for Chromium are Reported as Total Chromium

**Table 3: Summary of Groundwater Sample Analytical Results
Sonoma-Marin Fairgrounds
866 East Washington Street, Petaluma, California
EC&A Job No. 0977,002.20**

Sample ID	Date	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Naphthalene	PCE
		micrograms per Liter (µg/L)							
Soil Boring Grab-Groundwater Samples									
S-7W	6/10/21	ND<50	ND<0.20	ND<50	ND<50	ND<50	ND<50	ND<0.30	ND<0.20
S-8W	6/10/21	ND<50	ND<0.20	ND<50	ND<50	ND<50	ND<50	ND<0.30	ND<0.20
S-9W	6/10/21	ND<50	ND<0.20	ND<50	ND<50	ND<50	ND<50	ND<0.30	ND<0.20
B-1W	6/10/21	ND<50	0.21	ND<50	ND<50	ND<50	ND<50	ND<0.30	0.33
Onsite Irrigation Well Sample									
WW-1	07/06/21	ND<50	ND<0.20	ND<50	ND<50	ND<50	ND<50	ND<0.30	ND<0.20
Tier 1 ESLs (1)		100	0.42	40	3.5	20	5.0	0.17	0.64
MCL Priority (2)		760	1.0	40	30	20	5.0	0.17	5.0
Residential ESLs (3)		NE	0.42	1,200	3.5	390	450	4.6	0.64
Commercial/Industrial ESLs (4)		NE	1.8	4,900	15	1,600	2,000	20	2.8

Notes:

µg/L: Micrograms per Liter

MTBE: Methyl Tert Butyl Ether

PCE: Tetrachloroethene

TPH-g: Total petroleum hydrocarbons as gasoline

NE: Not Established

Samples analyzed by Analytical Methods SW8021B and SW8260B. Analytes not listed above were not detected above laboratory reporting limits.

(1) San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Environmental Screening Levels (ESLs), Tier 1 ESLs, July 2019 (Rev. 2). Based on a generic conceptual site model designed for use at most sites.

(2) SFBRWQCB ESLs, Summary of Groundwater ESLs, Direct Exposure Human Health Risk Levels (Table GW-1), Maximum Contaminant Level (MCL) Priority, July 2019 (Rev. 2). "MCL Priority" lists all available MCL values. If no MCL values are available, the lower of the cancer and noncancer tapwater direct exposure levels is listed.

(3) SFBRWQCB ESLs, Groundwater Vapor Intrusion Human Health Risk Levels (Table GW-3) for Residential Properties, Cancer Risk (when established; Non-Cancer Hazard if Cancer Risk ESL not established), July 2019 (Rev. 2).

(4) SFBRWQCB ESLs, Groundwater Vapor Intrusion Human Health Risk Levels (Table GW-3) for Commercial/Industrial Properties, Cancer Risk (when established; Non-Cancer Hazard if Cancer Risk ESL not established), July 2019 (Rev. 2).

**Table 4: Sub-Slab Soil Vapor Analytical Results - Maintenance Building
Sonoma-Marin Fairgrounds
866 East Washington Street, Petaluma, CA
EC&A Job No. 0977,002.20**

Sample Number	Sample Date	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Naphthalene	MTBE	PCE	Oxygen	IPA Leak Check	Helium Leak Check
		µg/m ³									%	µg/m ³
VP-1	06/11/21	ND<26,000 ^{a2}	ND<58 ^{a2}	ND<69 ^{a2}	ND<80 ^{a2}	61 ^J	ND<99 ^{a2}	ND<69 ^{a2}	870	24	15,000	NA
VP-1	12/01/21	ND<720	ND<1.6	2.5	ND<2.2	ND<2.2	ND<2.7	ND<1.9	18	NA	NA	0.12
VP-2	06/11/21	ND<27,000 ^{a2}	ND<60 ^{a2}	ND<71 ^{a2}	ND<82 ^{a2}	63 ^J	ND<100 ^{a2}	ND<71 ^{a2}	850	22	22,000	NA
VP-2	12/01/21	ND<720	ND<1.6	ND<1.6	ND<2.2	ND<2.2	ND<2.7	ND<1.9	12	NA	NA	ND<0.050
VP-3	06/11/21	ND<23,000 ^{a2}	ND<52 ^{a2}	ND<62 ^{a2}	ND<60 ^{a2}	13 ^J	ND<87 ^{a2}	ND<62 ^{a2}	500	23	27,000	NA
VP-3	12/01/21	ND<720	ND<1.6	ND<1.9	ND<2.2	ND<2.2	ND<2.7	ND<1.9	6.2	NA	NA	ND<0.050
SFBRWQCB Tier 1 ESLs ¹		3,300	3.2	10,000	37	3,500	2.8	360	15	NE	NE	NE
SFBRWQCB Residential ESLs ²		20,000	3.2	10,000	37	3,500	2.8	360	15	NE	NE	NE
SFBRWQCB Commercial/Industrial ESLs ³		83,000	14	44,000	160	15,000	12	1,600	67	NE	NE	NE

Notes:

- a2 Sample diluted due to cluttered chromatogram
- bgs below ground surface
- IPA Isopropyl Alcohol
- J Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
- MTBE Methyl Tert Butyl Ether
- NA Not Analyzed
- ND Not detected at or below listed laboratory reporting limit
- NE Not Established
- PCE Tetrachloroethene
- TPH-g Total Petroleum Hydrocarbons as Gasoline
- µg/m³ Micrograms per cubic meter
- 1: San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Tier 1 Environmental Screening Levels (ESLs), July 2019 (Rev. 2). Based on a generic conceptual site model designed for use at most sites.
- 2: SFBRWQCB ESLs, Table SG-1: Subslab Soil Gas and Exterior Soil Gas Vapor Intrusion Human Health Risk Screening Levels (Volatile Chemicals Only), Residential Vapor Intrusion (VI) Human Health Risk Screening Levels, July 2019 (Rev. 2).
- 3: SFBRWQCB ESLs, Table SG-1: Subslab Soil Gas and Exterior Soil Gas Vapor Intrusion Human Health Risk Screening Levels (Volatile Chemicals Only), Commercial/Industrial Vapor Intrusion (VI) Human Health Risk Screening Levels, July 2019 (Rev. 2).
- Bold Font** Detected values exceed Residential regulatory screening levels

Table 5: Indoor Air Quality and Outdoor Ambient Air Analytical Results
Sonoma-Marin Fairgrounds, 866 East Washington Street, Petaluma, California
EC&A Job No. 0977,002.20

Sample Number	Sample Date	TPH-g (µg/m ³)	Benzene (µg/m ³)	Toluene (µg/m ³)	Ethylbenzene (µg/m ³)	Total Xylenes (µg/m ³)	Naphthalene (µg/m ³)	MTBE (µg/m ³)	PCE (µg/m ³)
OAA-1	12/01/21	ND <36	0.64	1.1	0.19 ^J	0.64 ^J	0.061	ND <0.19	0.035 ^J
IA-1	12/01/21	ND <36	0.65	2.0	0.26	1.0	0.055	ND <0.19	0.031 ^J
IA-2	12/01/21	42	1.6	11	1.0	4.9	0.18	ND <0.19	0.031 ^J
IA-3	12/01/21	ND <36	0.97	3.5	0.43	1.9	0.095	ND <0.19	0.078
SFBRWQCB Tier 1 ESLs¹		100	0.097	310	1.1	100	0.083	11	0.46
SFBRWQCB ESLs, Residential²		600	0.097	310	1.1	100	0.083	11	0.46
SFBRWQCB ESLs, Commercial/Industrial³		2,500	0.42	1,300	4.9	440	0.36	47	2.0

Notes:

J Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.

µg/m³ Micrograms per cubic meter

MTBE Methyl Tert Butyl Ether

ND Not detected at or below the listed laboratory reporting limit

PCE Tetrachloroethene

TPH-g Total Petroleum Hydrocarbons as Gasoline

Bold Font Detected values exceed Residential regulatory screening levels

1 San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Tier 1 Environmental Screening Levels (ESLs), July 2019 (Rev. 2). Based on a generic conceptual site model designed for use at most sites.

2 SFBRWQCB ESLs, Table IA-1: Indoor Air Direct Exposure Human Health Risk Levels (Volatile Chemicals Only), Residential Direct Exposure Risk Levels, Final Screening Level, July 2019 (Rev. 2)

3

SFBRWQCB ESLs, Table IA-1: Indoor Air Direct Exposure Human Health Risk Levels (Volatile Chemicals Only), Commercial/Industrial Direct Exposure Risk Levels, Final Screening Level, July 2019 (Rev. 2)

Appendix A

Permits

COUNTY OF SONOMA — DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH & SAFETY
625 5th Street, Santa Rosa, CA 95404
Phone (707) 565-6565 Fax (707) 565-6525 www.sonoma-county.org

ENTERED
JC

<i>For Office Use Only</i>	
Amount Paid	<u>\$460.-</u>
Receipt Number	PE <u>1416</u>
Payment Date	Rev. Code
Site ID#	<u>FA0021388</u>
Permit #	<u>SR0018007</u>

APPLICATION FOR DRILLING PERMIT
for Regional Board Lead/Environmental Assessment/LOP Lead

Permit Type:

- Monitoring Well
 Borings
 Destruct
 Environmental Assessment
 Well Type: Remediation Well
 Extraction Well
 Soil Vapor
 Other _____

On-Site Well _____ ID # _____ # Off-Site Well _____ ID # _____

On-Site Boring 1 ID # B-1 # Off-Site Boring _____ ID # _____

Submit legal right-of-entry/off-site well address/encroachment permit

Site Address 866 E. Washington St., Petaluma AP# 007-031-004

Facility Name Sonoma-Marin Fairgrounds

Site Owner City of Petaluma Phone 707-778-4367

Street 11 English St. City Petaluma State CA Zip 94952

Responsible Party same as owner Phone _____

Street _____ City _____ State _____ Zip _____

Consultant Edd Clark & Assoc., Inc. License#/Type 661915 / A-HAZ Phone 707-792-9500

Street Po Box 3039 City Rohnert Park State CA Zip 94958

License #/Type 661915 / A-HAZ Email ettej@edclarkandassociates.com

Drilling Contractor Cascade Drilling Phone 916-638-1169

Street 3000 Duluth St. City West Sacramento State CA Zip 95691

C-57 License 1058336

Disposal method for soil cuttings Drum

Disposal method for development water N/A

Drilling method Direct Push

Method of drill equipment rinsate containment and disposal Drum

If destroying a well, abandonment method N/A

Submit plot plan of wells in relation to all sewer or septic lines. N/A

- Is well to be constructed within:** 100 feet of a septic tank or leach field? Yes No
 50 feet of any sanitary sewer line? Yes No
 25 feet of any private sanitary sewer line? Yes No

In addition, all monitoring wells must include an **identification system** affixed to the interior surface:

- 1) Well identification
- 2) Well type
- 3) Well depth
- 4) Well casing diameter
- 5) Perforated intervals

Well identification number and well type shall be **affixed** to the **exterior surface** security structure.

<i>For Office Use Only</i>	
Address	866 E Washington St. Petaluma
Site ID#	FA0021388
Permit #	SR0018007

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone (707) 565-6565, 48 hours in advance, to notify the Environmental Health Specialist when completing or destroying a well. I will furnish the Director of Environmental Health and the owner a legible copy of the State Water Well Driller's Report within 15 days; and a copy of the Summary Report, including sample results, should be received by the Department of Health Services, Environmental Health and Safety Section within 90 days in order to obtain final approval on this well permit. I acknowledge that the application will become a permit **only** after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

Signature of Well Driller—*no proxies (Wet Signature Required)* _____ Date 5/18/21
[Handwritten Signature]

Insurance Carrier Ace American Expiration Date 11/1/2021

Once all wells/borings are installed, submit a Well Driller's Log and/or Summary Report to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

Conditions of permit:

- * Provide 48 hour notice prior to drilling.
- * Tremie grout with neat cement
- * Submit a final report within 90 days of completing work.



FOR OFFICE USE ONLY – ENVIRONMENTAL HEALTH & SAFETY
 Permit approved by Sarah Marshall Digitally signed by Sarah Marshall Date: 2021.06.07 11:36:05 -07'00' _____ Date ____/____/____

Constr. approved by _____ Observed? Yes No Well # _____ Date ____/____/____

RWQCB/LOP approval _____ Date ____/____/____

COUNTY OF SONOMA — DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH & SAFETY
625 5th Street. Santa Rosa. CA 95404
Phone (707) 565-6565 Fax (707) 565-6525 www.sonoma-county.org

ENTERED
JC

For Office Use Only	
Amount Paid	\$700.-
Receipt Number	PE 1416
Payment Date	Rev. Code
Site ID#	FA0021400
Permit #	SR0018014

APPLICATION FOR DRILLING PERMIT
for Regional Board Lead/Environmental Assessment/LOP Lead

Permit Type:

Monitoring Well Borings Destruct Environmental Assessment

Well Type: Remediation Well Extraction Well Soil Vapor
 Other _____

On-Site Well _____ ID # _____ # Off-Site Well _____ ID # _____

On-Site Boring 3 ID # S-7, S-8 & S-9 # Off-Site Boring _____ ID # _____

Submit legal right-of-entry/off-site well address/encroachment permit

Site Address 100 Gross Concourse, Petaluma, CA AP# 007-031-004

Facility Name Live Oak Charter School

Site Owner City of Petaluma Phone 707-778-4367

Street 11 English Street City Petaluma State CA Zip 94952

Responsible Party City of Petaluma Phone _____

Street same as above City _____ State _____ Zip _____

Consultant Edd Clark & Assoc., Inc. License#/Type 661915 Phone 707-792-9500

Street PO Box 3039 City Rohnert Park State CA Zip 94927

License #/Type A-Haz/661915 Email ettajonv@edclarkandassociates.com

Drilling Contractor Cascade Drilling Phone 916-638-1169

Street 3000 Duluth St. City West Sacramento State CA Zip 95691

C-57 License 1058336

Disposal method for soil cuttings Drum

Disposal method for development water _____

Drilling method Direct Push

Method of drill equipment rinsate containment and disposal Drum

If destroying a well, abandonment method _____

Submit plot plan of wells in relation to all sewer or septic lines. N/A

- Is well to be constructed within:** 100 feet of a septic tank or leach field? Yes No
- 50 feet of any sanitary sewer line? Yes No
- 25 feet of any private sanitary sewer line? Yes No

In addition, all monitoring wells must include an **identification system** affixed to the interior surface:

- 1) Well identification
- 2) Well type
- 3) Well depth
- 4) Well casing diameter
- 5) Perforated intervals

Well identification number and well type shall be **affixed** to the **exterior surface** security structure.

SM

For Office Use Only

Address 100 Gnos Concourse, Petaluma

Site ID# FA0021400

Permit # SR0018014

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone (707) 565-6565, 48 hours in advance, to notify the Environmental Health Specialist when completing or destroying a well. I will furnish the Director of Environmental Health and the owner a legible copy of the State Water Well Driller's Report within 15 days; and a copy of the Summary Report, including sample results, should be received by the Department of Health Services, Environmental Health and Safety Section within 90 days in order to obtain final approval on this well permit. I acknowledge that the application will become a permit *only* after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

Signature of Well Driller *[Handwritten Signature]* Date 5/25/21
(Wet Signature Required)

Insurance Carrier Ace American Expiration Date 11/1/2021

Once all wells/borings are installed, submit a Well Driller's Log and/or Summary Report to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

Conditions of permit:

- * Provide 48 hour notice prior to drilling
- * Tremie grout with neat cement
- * Submit a final report within 90 days of completing work



FOR OFFICE USE ONLY - ENVIRONMENTAL HEALTH & SAFETY

Permit approved by _____ Date ___/___/___

Constr. approved by _____ Observed? Yes No Well # _____ Date ___/___/___

RWQCB/LOP approval _____ Date ___/___/___

Appendix B

Boring Logs

BORING LOCATION 866 E. WASHINGTON ST (MAINTENANCE BUILDING)		ELEVATION AND DATUM GROUND SURFACE		BORING NO. B-1	
DRILLING AGENCY CASCADE DRILLING		DRILLER JOSE CARCANZA		DATE STARTED 6/10/2021 DATE FINISHED 6/10/2021	
DRILLING EQUIPMENT TRACK		COMPLETION WELL DEPTH 24'		SAMPLER ACETATE LINERS/GRAB	
DRILLING METHOD DPT		BORING DIA. 2"		TYPE OF SAMPLE SOIL & WATER	
SIZE AND TYPE OF CASING		FROM TO		NUMBER OF SAMPLE 6 & 1	
TYPE OF PERFORATION		FROM TO		WATER FIRST 20' COMPL. 8.25' 24 HRS	
SIZE AND TYPE OF PACK		FROM TO		CORE BARREL 1.75" LENGTH 4.0'	
TYPE OF SEAL		FROM TO		LOGGED BY EJV / MAT CHECKED BY CRH	
NO.1		FROM TO		COMMENTS HAND AUGER TO 3' BGS	
NO.2		FROM TO			

DEPTH (FEET)	SAMPLES	SAMPLE ID	TIME (HR)	PID (PPM)	BLOWS/0.5'	MATERIAL DESCRIPTION	USCS	WELL CONSTRUCTION
1						ASPHALT SURFACE (3") UNDERLAIN BY 5" BASE ROCK		
2								
3						CLAY W/ SAND (CH), MOIST, BLACK, MEDIUM-HIGH PLASTICITY	CH	
4		B-1d4.0	1404		0.7			
5								
6						CLAY (CL) W/ SAND, MOIST, GRAY, LOW PLASTICITY		
7								
8		B-1d8.0	1405		0	CLAY (CL), GRAYISH BROWN, STIFF		
9								
10						CLAY W/ SAND (CL) GRADES INTO SANDY CLAY, GRAYISH BROWN	CL	
11								
12		B-1d12.0	1407		0			
13								
14						CLAYEY SAND (SC), YELLOWISH BROWN, FINE TO MEDIUM SUBROUNDED TO ROUNDED SAND, MOIST, MEDIUM DENSE	SC	
15								
16		B-1d16.0	1409		0	SANDY CLAY (CL), BLUEISH GRAY, MOIST, STIFF, FINE SAND, TRACE ROUNDED COARSE SAND	CL	
17								
18						CLAYEY SAND (SC), YELLOWISH BROWN, MOIST TO WET, LOOSE, FINE SAND	SC	
19								
20		B-1d20.0	1411		0			
21								
22						POORLY GRADED SAND (SP), FINE TO MEDIUM GRAIN SAND, YELLOWISH BROWN, SATURATED	SP	
23								
24		B-1d24.0	1415		0			
25						BORING TERMINATED AT 24 FEET BGS		
26								
27								
28								

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BORING LOG OF B-1
SONOMA-MARIN FAIRGROUNDS
866 E. WASHINGTON STREET
PETALUMA, CALIFORNIA

JOB# 0977,002.20	REVIEWED BY CRH	DATE AUGUST 2021	REVISED DATE	PAGE OF 1 1
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BORING LOCATION 866 E. WASHINGTON ST (MAINTENANCE BUILDING)		ELEVATION AND DATUM GROUND SURFACE		BORING NO. S-7	
DRILLING AGENCY CASCADE DRILLING		DRILLER JOSE CARCANZA		DATE STARTED 6/10/2021 DATE FINISHED 6/10/2021	
DRILLING EQUIPMENT TRACK		COMPLETION WELL DEPTH 32'		SAMPLER ACETATE LINERS/GRAB	
DRILLING METHOD DPT		BORING DIA. 2"		TYPE OF SAMPLE SOIL & WATER	
SIZE AND TYPE OF CASING		FROM TO		NUMBER OF SAMPLE 6 & 1	
TYPE OF PERFORATION		FROM TO		WATER FIRST 28' COMPL. 23' 24 HRS	
SIZE AND TYPE OF PACK		FROM TO		CORE BARREL 1.75" LENGTH 4.0'	
TYPE OF SEAL		FROM TO		LOGGED BY EJV & MAT CHECKED BY CRH	
NO.1		FROM TO		COMMENTS HAND AUGER TO 3' BGS	
NO.2		FROM TO			

DEPTH (FEET)	SAMPLES	SAMPLE ID	TIME (HR)	PID (PPM)	BLOWS/0.5'	MATERIAL DESCRIPTION	USCS	WELL CONSTRUCTION
1						ASPHALT SURFACE (3") UNDERLAIN BY 5" BASE ROCK		
2								
3						SILTY CLAY W/ SAND (CL), MOIST, DARK GRAY TO BROWN	CL	
4		S-7d4.0	0910		0			
5						CLAYEY SAND (SC), COARSE SAND LENSE (~8"), GRAYISH BROWN, MOIST	SC	
6								
7								
8		S-7d8.0	0911		0.4			
9						LEAN CLAY (CL), GRAY, MOIST	CL	
10								
11								
12		S-7d12.0	0913					
13								
14								
15						GRADES INTO CLAYEY SAND (SC), OLIVE GRAY, WET, FINE TO MEDIUM SAND, TRACE SMALL GRAVEL	SC	
16		S-7d16.0	0916		0.3			
17								
18						LEAN CLAY (CL), OLIVE W/ GRAY MOTTLING, MOIST	CL	
19								
20		S-7d20.0	0919		0.5			
21						FAT CLAY (CH), GREENISH GRAY, W/ OLIVE MOTTLING, MEDIUM TO HIGH PLASTICITY, MOIST	CH	
22								
23						CLAY WITH SILT (CH)	CH	
24								
25								
26								
27						SANDY CLAY (CL), VERY FINE SAND, GREENISH GRAY, MOIST	CL	
28								

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BORING LOG OF S-7
SONOMA-MARIN FAIRGROUNDS
866 E. WASHINGTON STREET
PETALUMA, CALIFORNIA

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DEPTH (FEET)	SAMPLES	SAMPLE ID	TIME (HR)	PID (PPM)	BLOWS/0.5'	MATERIAL DESCRIPTION	USCS	WELL CONSTRUCTION
28		S-7Q28.0	0954	0		CLAYEY SAND (SC), FINE SAND, MOIST TO WET, SATURATED AT 28 FT BGS. GRADES TO SAND W/ CLAY, WELL GRADED VERY FINE TO VERY COARSE SAND, OLIVE GRAY	CL	
29							SC	
30								
31						SANDY CLAY (CL), OLIVE, WET TO SATURATED	CL	
32						BORING TERMINATED AT 32 FEET BGS		
33								
34								
35								
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39								
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BORING LOG OF S-7
 SONOMA-MARIN FAIRGROUNDS
 866 E. WASHINGTON STREET
 PETALUMA, CALIFORNIA

JOB#	0977,002.20	REVIEWED BY	CRH	DATE	AUGUST 2021	REVISED DATE		PAGE	2	OF	2
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BORING LOCATION 866 E. WASHINGTON ST (MAINTENANCE BUILDING)		ELEVATION AND DATUM GROUND SURFACE		BORING NO. S-8	
DRILLING AGENCY CASCADE DRILLING		DRILLER JOSE CARCANZA		DATE STARTED 6/10/2021 DATE FINISHED 6/10/2021	
DRILLING EQUIPMENT TRACK		COMPLETION WELL DEPTH 32'		SAMPLER ACETATE LINERS/GRAB	
DRILLING METHOD DPT		BORING DIA. 2"		TYPE OF SAMPLE SOIL & WATER NUMBER OF SAMPLE 8 & 1	
SIZE AND TYPE OF CASING		FROM TO		WATER FIRST LEVEL 23' COMPL. 8.3' 24 HRS	
TYPE OF PERFORATION		FROM TO		CORE BARREL 1.75" LENGTH 4.0'	
SIZE AND TYPE OF PACK		FROM TO		LOGGED BY EJVB & MAT CHECKED BY CRH	
TYPE OF SEAL	NO.1	FROM	TO	COMMENTS HAND AUGER TO 3' BGS	
	NO.2	FROM	TO		

DEPTH (FEET)	SAMPLES	SAMPLE ID	TIME (HR)	PID (PPM)	BLOWS/0.5'	MATERIAL DESCRIPTION	USCS	WELL CONSTRUCTION
1						ASPHALT SURFACE (3") UNDERLAIN BY 5" BASE ROCK		
2						CLAY W/ SAND (CL), MOIST	CL	
3								
4		S-8d4.0	1037		0.1	CLAYEY SAND (SC), LIGHT OLIVE BROWN W/ MULTI COLOR MOTTLING, DRY	SC	
5								
6								
7								
8		S-8d8.0	1039		0.6	CLAY W/ SAND (CL), LIGHT YELLOWISH BROWN, MEDIUM PLASTICITY, MOIST	CL	
9								
10								
11								
12		S-8d12.0	1041		0.6	CLAYEY SAND (SC), FINE SAND	SC	
13								
14								
15								
16		S-8d16.0	1043		0.6	POORLY GRADED SAND (SP) LENSE, GRAYISH BROWN, SATURATED	SP	
17								
18								
19								
20		S-8d20.0	1045		0.1	LEAN CLAY (CL), OLIVE GRAY, MOIST	CL	
21								
22								
23								
24		S-8d24.0	1046		0.6	CLAYEY SAND (SC), FINE TO MEDIUM SAND, WET TO SATURATED	SC	
25								
26								
27								
28		S-8d28.0	1049		0.3	CLAY W/ SAND (CL), GRAY, TRACE GRAVEL, COARSE SAND & WOOD, MOIST, CLAYEY SAND (SC), VERY FINE GRAIN, GRAY, MOIST TO WET INCREASE IN GRAIN SIZE TO MEDIUM COARSE, MOIST TO WET	CL SC	

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BORING LOG OF S-8
SONOMA-MARIN FAIRGROUNDS
866 E. WASHINGTON STREET
PETALUMA, CALIFORNIA

JOB# 0977,002.20	REVIEWED BY CRH	DATE AUGUST 2021	REVISED DATE	PAGE OF 1 2
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DEPTH (FEET)	SAMPLES	SAMPLE ID	TIME (HR)	PID (PPM)	BLOWS/0.5'	MATERIAL DESCRIPTION	USCS	WELL CONSTRUCTION
28		S-8d28.0	10:49		0.3	CLAYEY SAND (SC), VERY FINE GRAIN, MOIST TO WET DECREASE IN GRAIN SIZE	SC	
29								
30								
31		S-8d32.0	10:51		0.4	INCREASE IN GRAIN SIZE FINE TO MED, MOIST TO WET		
32						BORING TERMINATED AT 32 FEET BGS		
33								
34								
35								
36								
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39								
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41								
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BORING LOG OF S-8
 SONOMA-MARIN FAIRGROUNDS
 866 E. WASHINGTON STREET
 PETALUMA, CALIFORNIA

JOB#	0977,002.20	REVIEWED BY	CRH	DATE	AUGUST 2021	REVISED DATE		PAGE	2	OF	2
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BORING LOCATION 866 E. WASHINGTON ST (MAINTENANCE BUILDING)		ELEVATION AND DATUM GROUND SURFACE		BORING NO. S-9	
DRILLING AGENCY CASCADE DRILLING		DRILLER JOSE CARCANZA		DATE STARTED 6/10/2021	
DATE FINISHED 6/10/2021		COMPLETION WELL DEPTH 24'		SAMPLER ACETATE LINERS/GRAB	
DRILLING EQUIPMENT TRACK		TYPE OF SAMPLE SOIL & WATER		NUMBER OF SAMPLE 6 & 1	
DRILLING METHOD DPT		BORING DIA. 2"		WATER LEVEL FIRST 20' COMPL. 8.8' 24 HRS	
SIZE AND TYPE OF CASING FROM TO		CORE BARREL 1.75"		LENGTH 4.0'	
TYPE OF PERFORATION FROM TO		LOGGED BY EJVB & MAT		CHECKED BY CRH	
SIZE AND TYPE OF PACK FROM TO		COMMENTS HAND AUGER TO 3' BGS			
TYPE OF SEAL NO.1 FROM TO					
NO.2 FROM TO					

DEPTH (FEET)	SAMPLES	SAMPLE ID	TIME (HR)	PID (PPM)	BLOWS/0.5'	MATERIAL DESCRIPTION	USCS	WELL CONSTRUCTION
1						ASPHALT SURFACE (3") UNDERLAIN BY 5" BASE ROCK		
2						LEAN CLAY (CL), GREENISH BLACK, MOIST		
3								
4	█	S-9d4.0	1143	0		CLAY W/ SAND LENSE, DRY TO MOIST		
5						CLAY (CL), OLIVE, MOIST		
6								
7								
8	█	S-9d8.0	1145	0		SOME GRAY MOTTLING		
9								
10								
11								
12	█	S-9d12.0	1148	0.1		STIFF CLAY (CL), SAME MOTTLING, LOW PLASTICITY, MOIST		
13								
14								
15								
16	█	S-9d16.0	1153	0.3				
17								
18								
19								
20	█	S-9d20.0	1155	0.3		GRADES INTO LEAN CLAY W/ SAND GRADING INTO SANDY CLAY (CL), FINE SAND, MOIST		
21								
22						CLAYEY SAND (SC), FINE TO MED SAND, VERY DARK GRAY, SOME WOOD FIBERS, TRACE SMALL GRAVEL, SATURATED		
23						STIFF CLAY (CL), DARK GREENISH GRAY, MOIST		
24								
25						BORING TERMINATED AT 24 FEET BGS		
26								
27								
28								

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BORING LOG OF S-9
SONOMA-MARIN FAIRGROUNDS
866 E. WASHINGTON STREET
PETALUMA, CALIFORNIA

JOB# 0977,002.20	REVIEWED BY CRH	DATE AUGUST 2021	REVISED DATE	PAGE OF 1 1
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MAJOR DIVISIONS	LETTER	HATCHING	TYPICAL NAMES
COARSE-GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	WELL-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GP	POORLY GRADED GRAVELS OR GRAVELSAND MIXTURES, LITTLE OR NO FINES
		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
		GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS	SW	WELL-GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES
		SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES
		SM	SILTY SANDS, SAND-SILT MIXTURES
		SC	CLAYEY SANDS, SANDY-CLAY MIXTURES
FINE-GRAINED SOILS	SILTS AND CLAYS LL<50	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LL≥50	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
		OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	

- | | | | |
|-------------|---|--------------|---|
| | NO SOIL SAMPLE ATTEMPTED | (2.5YR 6/2) | SOIL COLOR ACCORDING TO MUNSSELL SOIL COLOR CHARTS (2000 EDITION) |
| | SAMPLE OBSERVED BUT NOT RETAINED | (GLE Y-1 N4) | |
| | NO RECOVERY IN SAMPLER | | MEASURED GROUNDWATER LEVEL |
| | SAMPLE SUBMITTED FOR LABORATORY ANALYSIS, ID FOR RETAINED SAMPLE = DEPTH TO TOP (FT BGS) | | FIRST ENCOUNTERED SATURATED SOIL |
| 21 | BLOWS/0.5 FOOT: BLOWS REQUIRED TO DRIVE SAMPLER ONE-HALF FOOT USING HAMMER WEIGHT OF 140 POUNDS FALLING 30 INCHES | | DEFINED BOUNDARY BETWEEN LITHOLOGIC UNITS |
| 80 (5") | BLOWS COUNT AS INDICATED, IF LESS THAN ONE-HALF FT | | OBSERVED GRADATIONAL BOUNDARY BETWEEN LITHOLOGIC UNITS |
| TD: 21.5 FT | TERMINATE DRILLING DEPTH (FT BGS) | | APPROXIMATED BOUNDARY BETWEEN LITHOLOGIC UNITS |
| | SANDPACK AND/OR SLOUGH, WELL COMPLETION TO TD | | ESTIMATED GRADATIONAL BOUNDARY BETWEEN LITHOLOGIC UNITS |

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UNIFIED SOIL CLASSIFICATION SYSTEM
LOG SYMBOLS

JOB#	REVIEWED BY EC&A	DATE AUGUST 2021	REVISED DATE	PAGE OF
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Appendix C

Vapor Pin[®] Manufacturer Standard Operating Procedures



Standard Operating Procedure Installation and Extraction of the Vapor Pin® Sampling Device

Updated January 28, 2021

Scope:

This standard operating procedure describes the installation and extraction of the VAPOR PIN® sampling device for use in sub-slab soil-gas sampling.

Purpose:

The purpose of this procedure is to assure good quality control in field operations and uniformity between field personnel in the use of the VAPOR PIN® sampling device for the collection of sub-slab soil-gas samples or pressure readings.

Equipment Needed:

- Assembled VAPOR PIN® sampling device [VAPOR PIN® sampling device and silicone sleeve (Figure 1)]; Because of sharp edges, gloves are recommended for sleeve installation;
- Hammer drill;
- 5/8-inch (16mm) diameter hammer bit (hole must be 5/8-inch (16mm) diameter to ensure seal. It is recommended that you use the drill guide). (Hilti™ TE-YX 5/8" x 22" (400 mm) #00206514 or equivalent);
- 1½-inch (38mm) diameter hammer bit (Hilti™ TE-YX 1½" x 23" #00293032 or equivalent) for flush mount applications;
- ¾-inch (19mm) diameter bottle brush;
- Wet/Dry vacuum with HEPA filter (optional);
- VAPOR PIN® sampling device installation/extraction tool;

- Dead blow hammer;
- VAPOR PIN® sampling device flush mount cover, if desired;
- VAPOR PIN® sampling device drilling guide, if desired;
- VAPOR PIN® sampling device protective cap; and
- VOC-free hole patching material (hydraulic cement) and putty knife or trowel for repairing the hole following the extraction of the VAPOR PIN® sampling device.



Figure 1. Assembled VAPOR PIN® sampling device

Installation Procedure:

- 1) Check for buried obstacles (pipes, electrical lines, etc.) prior to proceeding.
- 2) Set up wet/dry vacuum to collect drill cuttings.
- 3) If a flush mount installation is required, drill a 1½-inch (38mm) diameter hole at least 1¾-inches (45mm) into the slab. Use of a VAPOR PIN® sampling device drilling guide is recommended.

VAPOR PIN® sampling device protected under US Patent # 8,220,347 B2 and other US and International Patents

- 4) Drill a 5/8-inch (16mm) diameter hole through the slab and approximately 1-inch (25mm) into the underlying soil to form a void. Hole **must** be 5/8-inch (16mm) in diameter to ensure seal. It is recommended that you use the drill guide.
- 5) Remove the drill bit, brush the hole with the bottle brush, and remove the loose cuttings with the vacuum.
- 6) Place the lower end of VAPOR PIN® sampling device assembly into the drilled hole. Place the small hole located in the handle of the installation/extraction tool over the vapor pin to protect the barb fitting, and tap the vapor pin into place using a dead blow hammer (Figure 2). Make sure the installation/extraction tool is aligned parallel to the vapor pin to avoid damaging the barb fitting.



Figure 2. Installing the VAPOR PIN®

During installation, the silicone sleeve will form a slight bulge between the slab and the VAPOR PIN® sampling device shoulder. Place the protective cap on VAPOR PIN® sampling device to prevent vapor loss prior to sampling (Figure 3).



Figure 3. Installed VAPOR PIN® sampling device

- 7) For flush mount installations, cover the vapor pin with a flush mount cover, using either the plastic cover or the optional stainless-steel Secure Cover (Figure 4).



Figure 4. [Secure Cover](#) Installed

- 8) Allow 20 minutes or more (consult applicable guidance for your situation) for the sub-slab soil-gas conditions to re-equilibrate prior to sampling.
- 9) Remove protective cap and connect sample tubing to the barb fitting of the VAPOR PIN® sampling device. This connection can be made using a short

piece of Tygon™ tubing to join the VAPOR PIN® sampling device with the Nylaflow tubing (Figure 5). Put the Nylaflow tubing as close to the VAPOR PIN® sampling device as possible to minimize contact between soil gas and Tygon™ tubing.



Figure 5. VAPOR PIN® sampling device sample connection

10) Conduct leak tests in accordance with applicable guidance. If the method of leak testing is not specified, an alternative can be the use of a water dam and vacuum pump, as described in SOP Leak Testing the VAPOR PIN® sampling device via Mechanical Means (Figure 6). For flush-mount installations, distilled water can be poured directly into the 1 1/2 inch (38mm) hole.



Figure 6. Water dam used for leak detection

11) Collect sub-slab soil gas sample or pressure reading. When finished, replace the protective cap and flush mount cover until the next event. If the sampling is complete, extract the VAPOR PIN® sampling device.

Extraction Procedure:

- 1) Remove the protective cap, and thread the installation/extraction tool onto the barrel of the VAPOR PIN® sampling device (Figure 7). Turn the tool clockwise continuously, don't stop turning, the VAPOR PIN® sampling device will feed into the bottom of the installation/extraction tool and will extract from the hole like a wine cork, DO NOT PULL.
- 2) Fill the void with hydraulic cement and smooth with a trowel or putty knife.



Figure 7. Removing the VAPOR PIN® sampling device

- Prior to reuse, remove the silicone sleeve and protective cap and discard. Decontaminate the VAPOR PIN®

sampling device in a hot water and Alconox® wash, then heat in an oven to a temperature of 265° F (130° C) for 15 to 30 minutes. For both steps, STAINLESS – ½ hour, BRASS 8 minutes

- 3) Replacement parts and supplies are available online.

Appendix D

Field Logs

SOIL GAS VAPOR FIELD LOG

Project No.: 0977	Date: 6/11/21	Project Name: Sonoma-Marin Fairgrounds
Vapor Probe No.: VP-1	Summa Serial No.: 4288	Flow Regulator Serial No.: 8
Regulatory Agencies: NCRWQCB		
Hole Diameter: 5/8"	Total Depth: 8 ft ^{11.0 m}	Dry Bentonite Thickness: —
Probe Diameter: Vapor Pin	Line Length: 1 ft	Purge Volume: ~100 mL (= 1/2")
Tracer compound: IPA	Flow regulator (ml/min): 150-200	Leak Test: <input checked="" type="radio"/> Pass <input type="radio"/> Fail
Laboratory Name: Alpha Analytical		
Laboratory Analytical Method: TD-15		

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
1217	3 min	30"	Start Purge
1220		30"	End Purge
1222		30"	Start Sample
1235	13 min	2"	End Sample
1240		30"	Start Sample (Dup)
			End Sample (Dup)

REMARKS

~ 8" from former VST location

PID: 151.0 - 97.0 - 102.0

Summa # 4300 = Dup

~~PID (Dup) = 88.0 mT~~

Sampler:

SOIL GAS VAPOR FIELD LOG

Project No.: 0977	Date: 6/11/21	Project Name: Sonoma-Marin Fairgrounds
Vapor Probe No.: VP-1DUP	Summa Serial No.: 4300	Flow Regulator Serial No.: 8
Regulatory Agencies: NCRWQCB		
Hole Diameter: 5/8"	Total Depth: 8 ft ^{11 MT}	Dry Bentonite Thickness: —
Probe Diameter: vapor pin	Line Length: 1 ft	Purge Volume: ~ 100 mL (already purged)
Tracer compound: IPA	Flow regulator (ml/min): 150-200	Leak Test: <u>Pass</u> Fail
Laboratory Name: Alpha Analytical		
Laboratory Analytical Method: TO-15		

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
1240		30+ "	Start DUP Sample
1253	13	2"	End DUP Sample

REMARKS

~ 8" From former UST Location

PID = 88.0 - 113.0 - 125.0

Sampler:

SOIL GAS VAPOR FIELD LOG

Project No.: 0977	Date: 6/11/21	Project Name: Sonoma-Marin Fairgrounds
Vapor Probe No.: VP-2	Summa Serial No.: 4293	Flow Regulator Serial No.: 1A
Regulatory Agencies: NCRWQCB		
Hole Diameter: 5/8"	Total Depth: 8"	Dry Bentonite Thickness: —
Probe Diameter: Vapor pin	Line Length: 1'	Purge Volume: ~100 mL - 200 mL MT
Tracer compound: IPA	Flow regulator (ml/min): 150-200	Leak Test: <input checked="" type="radio"/> Pass <input type="radio"/> Fail
Laboratory Name: Alpha Analytical		
Laboratory Analytical Method: TO-15		

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
1314		27"	Start Purge
1316	2 min	26"	End Purge
1316		28"	Start Sample
1324	8 min		End Sample

REMARKS

Located in workshop on southern isle

PID: 96-115-181-101

Sampler:

SOIL GAS VAPOR FIELD LOG

Project No.: 0977	Date: 6/11/21	Project Name: Sonoma-Marin Fairgrounds
Vapor Probe No.: VP-2dup	Summa Serial No.: 4292	Flow Regulator Serial No.: 1A
Regulatory Agencies: NCRWQCB		
Hole Diameter: 5/8"	Total Depth: 8"	Dry Bentonite Thickness: _____
Probe Diameter: Vapor Pin	Line Length: 1'	Purge Volume: _____ Already Purged MT
Tracer compound: IPA	Flow regulator (ml/min): 150-200	Leak Test: <input checked="" type="radio"/> Pass <input type="radio"/> Fail
Laboratory Name: Alpha Analytical		
Laboratory Analytical Method: TO-15		

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
1324		28"	Start Sample
1334	8 min.	2"	End Sample

REMARKS

PID: 175-200-161

Duplicate sample

Sampler:

SOIL GAS VAPOR FIELD LOG

Project No.: 0977	Date: 6/11/21	Project Name: Sonoma-Marin Fairgrounds
Vapor Probe No.: VP-3	Summa Serial No.: 4278	Flow Regulator Serial No.: 18A
Regulatory Agencies: NCRWQCB 4294		
Hole Diameter: 5/8"	Total Depth: 8"	Dry Bentonite Thickness: —
Probe Diameter: Vapor Pin	Line Length: 1'	Purge Volume: ~100 mL - 200 mL MT
Tracer compound: IPA	Flow regulator (ml/min): 150-200	Leak Test: <u>Pass</u> Fail
Laboratory Name: Alpha Analytical		
Laboratory Analytical Method: TO-15		

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
1354		29"	Start Purge
1356	2 min	28"	End Purge
1356		30+	Start Sample
1406	10 min	21"	End Sample

Located in 2nd bay
 - storage room on N side @ rear, next to refrigerator

REMARKS

PID: 70-88-34

Sampler:

INDOOR / AMBIENT AIR SAMPLING FIELD LOG

Project No.: 0977,022.20		Project Name: Petaluma Fairgrounds	
Date: 12/1/21		Site Location: 100 Gross Concourse, Petaluma, CA	
Sample ID No.: OAA-1	Canister Type: SUMMA	Serial No.: R6449	
Regulatory Agencies:		Contractor:	
Indoor <input type="checkbox"/> Outdoor <input checked="" type="checkbox"/>	Building Name/Location: Maintenance Building		
Initial Vacuum ("Hg): -30	Final Vacuum ("Hg): -1.5" Hg	Canister Volume (L): 6	
Sampling Interval (hours): 8	Flow Regulator (mL/min): 11.4	Flow Regulator Serial No.: 4233-1972	
Laboratory Name and Location: McCampbell Analytical, Pittsburg, CA			
Laboratory Analytical Method: TO-15			

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
0838		-30" Hg	Start Sample
1618	7hr 40min	-1.5" Hg	End Sample

REMARKS

Canister 43" approx 8' approx N of Maintenance Building

Sampler: Mark Tennyson

INDOOR / AMBIENT AIR SAMPLING FIELD LOG

Project No.: 977	Project Name: Pet. Fairgrounds		
Date: 12/1/21	Site Location: 100 Gross Concourse, Petaluma, CA 94952		
Sample ID No.: IA-1	Canister Type: Summit	Serial No.: R2233-2673	
Regulatory Agencies:		Contractor:	
Indoor <input checked="" type="checkbox"/> Outdoor <input type="checkbox"/>	Building Name/Location: Maintenance Bldg		
Initial Vacuum ("Hg): -30	Final Vacuum ("Hg): -2.0	Canister Volume (L): 6	
Sampling Interval (hours): 8	Flow Regulator (mL/min): 11.4	Flow Regulator Serial No.: 6782-523	
Laboratory Name and Location: McCampbell Analytical, Pittsburgh, PA			
Laboratory Analytical Method: TO-15			

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
0843		-30" Hg	Start Sample
1643	8 hrs	-2.0" Hg	End Sample

REMARKS

Canister # "5" App 8' in air near (w/10' N of VPI) near center of room in western most bay.

Sampler: Mark Tennyson

INDOOR / AMBIENT AIR SAMPLING FIELD LOG

Project No.: 977	Project Name: Petaluma Fairgrounds		
Date: 12/1/21	Site Location: 100 Gross Concrete, Petaluma, CA 94952		
Sample ID No.: IA-2	Canister Type: Summa	Serial No.: R6445	
Regulatory Agencies:		Contractor:	
Indoor <input checked="" type="checkbox"/> Outdoor <input type="checkbox"/>	Building Name/Location:		
Initial Vacuum ("Hg): +30" Hg	Final Vacuum ("Hg): -3	Canister Volume (L): 6	
Sampling Interval (hours): 8	Flow Regulator (mL/min): 11.4	Flow Regulator Serial No.: 3410-1988	
Laboratory Name and Location: McCampbell Analytical, Pittsburgh, CA			
Laboratory Analytical Method: TO-15			

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
0849		+30" Hg	Start Sample
1649	8 hrs	-3.0" Hg	End Sample

REMARKS

Canister # "7" located approx 25' North of VP-2 ~ 6' ays

Sampler: Mark Tennysen

INDOOR / AMBIENT AIR SAMPLING FIELD LOG

Project No.: 0977	Project Name: Petaluma Fairgrounds		
Date: 12/1/21	Site Location: 100 Gross Concourse, Petaluma, CA		
Sample ID No.: IA-3	Canister Type: SUMMA	Serial No.: R6446	
Regulatory Agencies:		Contractor:	
Indoor <input checked="" type="checkbox"/> Outdoor <input type="checkbox"/>	Building Name/Location: Maintenance Building		
Initial Vacuum ("Hg): -27	Final Vacuum ("Hg): -2.0	Canister Volume (L): 6	
Sampling Interval (hours): 8	Flow Regulator (mL/min): 11.4	Flow Regulator Serial No.: 9363-646	
Laboratory Name and Location: McCampbell Analytical			
Laboratory Analytical Method: TO-15			

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
0853		-27" Hg	Start Sample
1634	7 hr 39 41 min	-2.0" Hg	End Sample

REMARKS

Apx 8' aqs in central bay ~ 10-15' West Vp-3. Canister "1"

Sampler: Mark Tennyson

SOIL GAS VAPOR FIELD LOG

Project No.: 0977	Date: 12/01/21	Project Name: City of Petaluma
Vapor Probe No.: VP-1	Summa Serial No.: R19432574	Flow Regulator Serial No.: 317-MAN316T-991
Regulatory Agencies:		
Hole Diameter: Vapor Pin	Total Depth: 8"	Dry Bentonite Thickness: NA
Probe Diameter: Vapor Pin	Line Length: 1'	Purge Volume: 100 mL
Tracer compound: Helium	Flow regulator (ml/min):	Leak Test: Pass Fail
Laboratory Name: McCampbell Analytical, Inc.		
Laboratory Analytical Method: TO-15		

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
1134		-29	well pressure start purge
1134		-28.5	end purge
1157		-29	start sample
1159		-18	end sample
1203		-1	end sample

REMARKS

He Care Purg Sample: 19.5/21 @ middle / 21 @ end

Note: He/O₂ Sensor displays error message, O₂ sensor not working. GW returns to ECA to retrieve another He/O₂ sensor, works.

Sampler: MAT

SOIL GAS VAPOR FIELD LOG

Project No.: 0977	Date: 12/01/21	Project Name: City of Petaluma
Vapor Probe No.: VP-1 DUP	Summa Serial No.: R0879-2507	Flow Regulator Serial No.: MAN 316T-991
Regulatory Agencies:		
Hole Diameter:	Total Depth:	Dry Bentonite Thickness:
Probe Diameter:	Line Length:	Purge Volume:
Tracer compound: Helium	Flow regulator (ml/min):	Leak Test: <u>Pass</u> Fail
Laboratory Name:		
Laboratory Analytical Method:		

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
1213		-29	start sample
1220		-1	end sample

REMARKS

Helium = 19% | 21% | 21%

Sampler:

SOIL GAS VAPOR FIELD LOG

Project No.: 0977	Date: 12/01/21	Project Name: City of Petaluma
Vapor Probe No.: VP-2	Summa Serial No.: 20895-2523	Flow Regulator Serial No.: MAN 316-1222
Regulatory Agencies:		
Hole Diameter: Vapor Probe	Total Depth: 8"	Dry Bentonite Thickness: NA
Probe Diameter: Vapor Probe	Line Length: 1.0'	Purge Volume: 100 mL (1/2")
Tracer compound: Helium	Flow regulator (ml/min):	Leak Test: <input checked="" type="radio"/> Pass <input type="radio"/> Fail
Laboratory Name: McCampbell Analytical, Pittsburg, CA		
Laboratory Analytical Method: To-15		

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
1305		-29	Start purge
1305		-27.5	end purge
1315		-27.5	Start Sample
1320		-2.0	End Sample

REMARKS

Borehole integrity test passed = 0.0% helium

He Conc Dirty Sample: 28% @ Beginning / 21% in middle of sample / 21% @ end of Sample

Note: He/O₂ sensor displays O₂ sensor error message (second sensor to display this error message). Seems to be reading Helium content properly, proceed w/ sampling.

Sampler: MAT

SOIL GAS VAPOR FIELD LOG

Project No.: 0977	Date: 12/1/21	Project Name:
Vapor Probe No.: VP-3	Summa Serial No.: R146-2577	Flow Regulator Serial No.: MAN 316-1219
Regulatory Agencies:		
Hole Diameter: Vapor Probe	Total Depth: 8.0'	Dry Bentonite Thickness: NA
Probe Diameter: Vapor Probe	Line Length: 1.0'	Purge Volume: 100 mL (1/2" Itg)
Tracer compound: Helium	Flow regulator (ml/min): 150 -200	Leak Test: <u>Pass</u> Fail
Laboratory Name: McCampbell Analytical, Pittsburgh		
Laboratory Analytical Method: TO-15		

SAMPLE COLLECTION

Start Time	Time Elapsed	Pressure	Remarks
1414		-20	Start Purge
1414		-19.5	End Purge
1419		-29.0	Start Sample
1424		-1.0	End Sample

REMARKS

~~MAN 316-1219 had major leak near purge port and T-Value. Removed manifold and attached MAN 316-1463. Major leak = Audible leak.~~
 -Removed manifold MAN 316-1219 and checked all connectors. Two were loose; Tightened, re-assembled and passed leak test.

He Conc During Sampling: 22 @ begin / 22 @ middle @ -15 / 19.5 @ end

Note: Using He/O₂ sensor display O₂ sensor error message not working. Seems to be reading helium concentration properly.

Sampler: MATT

Building Survey Form

Type in or select answers from drop-down lists in the righthand column.

Upload answers to GeoTracker database for criteria marked with an asterisks (*).
See Table 1 in the *Guidance on Uploading Vapor Intrusion Information into GeoTracker*
(Attachment 4 of Supplemental Vapor Intrusion Guidance) for a description of Building
Design Type input choices.

Person Conducting Survey	Input
Name: <i>Mark Tennyson</i>	
Company: <i>Edd Clark and Associates</i>	
Phone Number: <i>707-217-7040</i>	
Email: <i>Mark.T@EddClarkandAssociates.com</i>	

Building Contact Information	Input
Name: <i>Martin</i>	
Contact Title: <i>Maintenance Foreman</i>	-
Phone Number: <i>707-953-0612</i>	
Email: <i>Unknown</i>	
Building Occupant Interviewed? <i>No</i>	-

Building Information	Input
Date of Building Survey (dd/mm/yy):	<i>12/1/21</i>
*Building Name:	<i>Maintenance Building</i>
*Building Address (Street, City):	<i>100 Gross Concourse, Petaluma, CA 94952</i>
Coordinates for Center of Building (Latitude, Longitude; decimal degrees to 0.00000):	<i>38.239128, -122.626561</i>
*Building Location Onsite/Offsite with respect to Site/Facility:	- <i>On Site</i>
*Year Built (yyyy; approximate if unsure):	<i>Unknown</i>
*Building Occupants:	- <i>None. Temporary maintenance workers</i>

Building Survey Form

Building Dimensions	Input
*Building Footprint Area (within enclosed space; square feet [Ft ²]):	Use Google Earth (6,930 Ft ² approximate)
Building Dimensions (at grade; feet by feet):	Use Google Earth (7,580 Ft ² or ~ 102' x 74')
*Ceiling Height of Ground Floor (Feet):	15'-17'
*Number of Floors (excluding the basement):	1

Building Design	Input
*Building Design Type:	- Wood Framed Building w/ Corrugated tile
Has the design been modified?	- No
*Foundation Type:	- Slab on grade
*Building Vapor Intrusion Mitigation System:	- None
*Heating, Ventilation, & Air Conditioning (HVAC) System:	- 1, gas powered overhead heater
Type of Energy Used in Building?	- Electricity / Natural Gas
Energy Primarily Used For?	- Illumination / Heating
Number of Units for Multi-Unit Buildings:	4 NA
Number of Rooms (average per unit for multi-unit buildings):	4
Number of Exterior Doors:	4 11 10 total
Number of Elevators:	0
Number of Active Exhaust Fans (e.g., kitchen/bathroom):	None
Chimney or Other Vertical Draft Source?	- None; lots of open spaces near doors/windows

Building Slab	Input
Slab Thickness (inches; approximate if unsure):	~ 6"-8"
Large Slab Penetrations (> 1 Foot Diameter):	- None / CH or CL and SC per logs
Soil Type 0 to 3 Feet Below Building:	-
Evidence of moisture intrusion from Below Slab?	- No

Building Survey Form

Building Windows	Input
Number of Windows:	10
Weather Sealed Windows and Exterior Doors?	- No
Average Area of Window Open to Outside Air (Feet ²):	8-10 ft ²
Ventilation During Sampling:	- Lots of openings around old windows and doors, building is naturally well vented

Building Crawl Space	Input
Crawl Space Height (Feet):	None
Number Crawl Space Vents:	None
Average Area per Crawl Space Vent (Feet ²):	None
Evidence of moisture intrusion into Crawl Space from Soil?	- None

Building Basement	Input
Basement Height (Feet):	<div style="font-size: 4em; color: blue;">X</div> <div style="font-size: 2em; color: blue; margin-top: 10px;">NA</div>
Basement Footprint Area (Feet ²):	
Basement Wall Area Below Ground Surface (Feet ²):	
Exposed Basement above grade?	
Vents or Windows above-grade in exposed basement?	
Unfinished Basement?	
Evidence of moisture intrusion into Basement from Soil?	

Building Survey Form

Factors Potentially Influencing Indoor Air Quality	Input
Is there an attached garage?	- No
Is there smoking in the building?	- No
Is there new carpet or furniture?	- No
Have clothes or drapes been recently dry cleaned?	- No
Has painting or staining been done within the last six months?	- No
Has the building been recently remodeled?	- No
Has the building ever had a fire?	- No
Is there a hobby or craft area in the building?	- No
Are cleaning solvents stored in the building (e.g., spot cleaner, gun cleaner)?	- Household cleaning products / paint / oil wood sealant / PSP / Disinfectants
Is there a fuel oil tank on the property?	- No
Is there a septic tank on the property?	- Unknown
Has the building been fumigated or sprayed for pests recently?	- No
Historically the building was primarily used for?	- Equipment/supply storage / Maintenance equipment storage (Tractors/leaf blowers etc)
Do current building occupants use solvents at another location (e.g., work, hobby)?	- Unknown

Meteorological Conditions	Input
Weather:	Sunny / Clear
Outdoor Temperature - High (°F):	~ 70°F
Outdoor Temperature - Low (°F):	~ 39°F
Indoor Temperature (°F):	Unknown ~ 60°F
Barometric Pressure Reading (mmHg):	Unknown
Wind Direction:	- W-NW SW
Average Wind Speed (mph):	0-5
HVAC Setting for Current Season:	- N/A

(End of Form)

Indoor Air Source Screen Form

This form should be used while conducting field screening (Step 3A.3, Supplemental Vapor Intrusion Guidance). An Indoor Air Source Screen Survey of indoor air will help identify potential sources of vapor forming chemicals (VFCs) and/or potential subsurface vapor entry points. Common screening tools, such as, Photoionization Detector (PID), Gas Chromatography-Photoionization Detector (GC-PID), Gas Chromatography-Mass Spectrometry (GC-MS), or Gas Chromatography-Electron Capture Detector (GC-ECD), should be used to detect the presence of VFCs in the air.

Use this form to document the room/area and location where the measurement was recorded during the Indoor Air Source Screen Survey, the field instrument type used, and the instrument reading and units. If a consumer product is identified and surrounding air tested, the location and the volatile ingredients of the product should be noted. (If the item(s) may be contributing VFCs to the indoor air, the items should be removed in advance of indoor air sampling.) This survey should be used to support the development of a conceptual understanding of how vapor intrusion may be occurring at the building and used in selecting sample locations for evaluating spatial distribution of VFCs in indoor air.

Site Information	Input
Building Address:	100 Grose Avenue, Petaluma, CA 94952
Site/Facility Name:	Maintenance Bldg
Screening Event Date:	12/1/21
Screening Event Time:	0900
Event Weather Conditions:	Sunny/Clear/Calm w-NW wind 0-5 mph
Name of Person(s) Conducting Sampling:	Mark Tennyson
Company Conducting Sampling:	Edd Clark and Associates
Field Instrument Type ¹ (List All):	Mmi Rae lite PPM PID
Instrument Calibration Date:	3/4/21

1 - Photoionization Detector (PID), Gas Chromatography-Photoionization Detector (GC-PID), Gas Chromatography-Mass Spectrometry (GC-MS), Gas Chromatography-Electron Capture Detector (GC-ECD), etc.

Appendix E

Waste Disposal Documentation

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. <i>N/A</i>	Manifest Document No. <i>11464</i>	2. Page 1 of <i>1</i>
3. Generator's Name and Mailing Address <i>Joseph Ellwood 301 Payson St. Petaluma CA</i>		Edd Clark & Associates		
4. Generator's Phone ()	5. Transporter 1 Company Name <i>In Street Inc.</i>		6. US EPA ID Number	
7. Transporter 2 Company Name		8. US EPA ID Number		A. State Transporter's ID
9. Designated Facility Name and Site Address <i>INSTRAT, INC. 1105 C, AIRPORT RD. RIO VISTA, CA 94571</i>		10. US EPA ID Number <i>2110G39</i>		B. Transporter 1 Phone <i>(707) 374-3834</i>
				C. State Transporter's ID
				D. Transporter 2 Phone
				E. State Facility's ID
				F. Facility's Phone <i>(707) 374-3834</i>

11. WASTE DESCRIPTION	12. Containers		13. Total Quantity	14. Unit Wt./Vol.
	No.	Type		
a. <i>Drill Cuttings</i>	<i>2</i>	<i>DRM</i>	<i>1,000</i>	<i>Lbs</i>
b. <i>MONITORING WELL PARGE WATER</i>	<i>6</i>	<i>DRM</i>	<i>310</i>	<i>gal</i>
c.				
d.				
G. Additional Descriptions for Materials Listed Above		H. Handling Codes for Wastes Listed Above		

15. Special Handling Instructions and Additional Information
Yes Co

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name	Signature	Date
		Month Day Year

17. Transporter 1 Acknowledgement of Receipt of Materials		Date
Printed/Typed Name <i>Jason Novak</i>	Signature <i>[Signature]</i>	Month Day Year <i>11 30 21</i>

18. Transporter 2 Acknowledgement of Receipt of Materials		Date
Printed/Typed Name	Signature	Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.		Date
Printed/Typed Name <i>Francisco Pineda</i>	Signature <i>[Signature]</i>	Month Day Year <i>11 30 21</i>

NON-HAZARDOUS WASTE GENERATOR

Appendix F

Laboratory Analytical Reports and Chain of Custody Documentation



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2106958

Report Created for: Edd Clark & Associates, Inc.

320 Professional Center Ste. 215
Rohnert Park, CA 94928

Project Contact: EJ VandenBosch

Project P.O.: 0977

Project: 0977; Sonoma-Marine Fairgrounds

Project Received: 06/15/2021

Analytical Report reviewed & approved for release on 06/24/2021 by:

Yen Cao

Project 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 a case narrative.





Glossary of Terms & Qualifier Definitions

Client: Edd Clark & Associates, Inc.
Project: 0977; Sonoma-Marin Fairgrounds
WorkOrder: 2106958

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
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
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
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
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: Edd Clark & Associates, Inc.
Project: 0977; Sonoma-Marín Fairgrounds
WorkOrder: 2106958

Analytical Qualifiers

J Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.

Quality Control Qualifiers

F2 LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-7W	2106958-026B	Water	06/10/2021 10:10	GC38 06192129.D	223897

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	40	1	06/19/2021 23:26
tert-Amyl methyl ether (TAME)	ND	0.50	1	06/19/2021 23:26
Benzene	ND	0.20	1	06/19/2021 23:26
Bromobenzene	ND	0.50	1	06/19/2021 23:26
Bromochloromethane	ND	0.50	1	06/19/2021 23:26
Bromodichloromethane	ND	0.050	1	06/19/2021 23:26
Bromoform	ND	0.50	1	06/19/2021 23:26
Bromomethane	ND	0.50	1	06/19/2021 23:26
2-Butanone (MEK)	ND	5.0	1	06/19/2021 23:26
t-Butyl alcohol (TBA)	ND	5.0	1	06/19/2021 23:26
n-Butyl benzene	ND	0.50	1	06/19/2021 23:26
sec-Butyl benzene	ND	0.50	1	06/19/2021 23:26
tert-Butyl benzene	ND	0.50	1	06/19/2021 23:26
Carbon Disulfide	ND	0.50	1	06/19/2021 23:26
Carbon Tetrachloride	ND	0.050	1	06/19/2021 23:26
Chlorobenzene	ND	0.50	1	06/19/2021 23:26
Chloroethane	ND	0.50	1	06/19/2021 23:26
Chloroform	ND	0.10	1	06/19/2021 23:26
Chloromethane	ND	0.50	1	06/19/2021 23:26
2-Chlorotoluene	ND	0.50	1	06/19/2021 23:26
4-Chlorotoluene	ND	0.50	1	06/19/2021 23:26
Dibromochloromethane	ND	0.15	1	06/19/2021 23:26
1,2-Dibromo-3-chloropropane	ND	0.020	1	06/19/2021 23:26
1,2-Dibromoethane (EDB)	ND	0.040	1	06/19/2021 23:26
Dibromomethane	ND	0.50	1	06/19/2021 23:26
1,2-Dichlorobenzene	ND	0.50	1	06/19/2021 23:26
1,3-Dichlorobenzene	ND	0.50	1	06/19/2021 23:26
1,4-Dichlorobenzene	ND	0.50	1	06/19/2021 23:26
Dichlorodifluoromethane	ND	0.50	1	06/19/2021 23:26
1,1-Dichloroethane	ND	0.50	1	06/19/2021 23:26
1,2-Dichloroethane (1,2-DCA)	ND	0.020	1	06/19/2021 23:26
1,1-Dichloroethene	ND	0.010	1	06/19/2021 23:26
cis-1,2-Dichloroethene	ND	0.50	1	06/19/2021 23:26
trans-1,2-Dichloroethene	ND	0.50	1	06/19/2021 23:26
1,2-Dichloropropane	ND	0.20	1	06/19/2021 23:26
1,3-Dichloropropane	ND	0.50	1	06/19/2021 23:26
2,2-Dichloropropane	ND	0.50	1	06/19/2021 23:26

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-7W	2106958-026B	Water	06/10/2021 10:10	GC38 06192129.D	223897

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	06/19/2021 23:26
cis-1,3-Dichloropropene	ND	0.50	1	06/19/2021 23:26
trans-1,3-Dichloropropene	ND	0.50	1	06/19/2021 23:26
Diisopropyl ether (DIPE)	ND	0.50	1	06/19/2021 23:26
Ethylbenzene	ND	0.50	1	06/19/2021 23:26
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	06/19/2021 23:26
Freon 113	ND	0.50	1	06/19/2021 23:26
Hexachlorobutadiene	ND	0.50	1	06/19/2021 23:26
Hexachloroethane	ND	0.20	1	06/19/2021 23:26
2-Hexanone	ND	0.50	1	06/19/2021 23:26
Isopropylbenzene	ND	0.50	1	06/19/2021 23:26
4-Isopropyl toluene	ND	0.50	1	06/19/2021 23:26
Methyl-t-butyl ether (MTBE)	ND	0.50	1	06/19/2021 23:26
Methylene chloride	ND	2.0	1	06/19/2021 23:26
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	06/19/2021 23:26
Naphthalene	ND	0.30	1	06/19/2021 23:26
n-Propyl benzene	ND	0.50	1	06/19/2021 23:26
Styrene	ND	2.0	1	06/19/2021 23:26
1,1,1,2-Tetrachloroethane	ND	0.50	1	06/19/2021 23:26
1,1,2,2-Tetrachloroethane	ND	0.020	1	06/19/2021 23:26
Tetrachloroethene	ND	0.20	1	06/19/2021 23:26
Toluene	ND	0.50	1	06/19/2021 23:26
1,2,3-Trichlorobenzene	ND	0.50	1	06/19/2021 23:26
1,2,4-Trichlorobenzene	ND	0.50	1	06/19/2021 23:26
1,1,1-Trichloroethane	ND	0.50	1	06/19/2021 23:26
1,1,2-Trichloroethane	ND	0.20	1	06/19/2021 23:26
Trichloroethene	ND	0.50	1	06/19/2021 23:26
Trichlorofluoromethane	ND	0.50	1	06/19/2021 23:26
1,2,3-Trichloropropane	ND	0.0050	1	06/19/2021 23:26
1,2,4-Trimethylbenzene	ND	0.50	1	06/19/2021 23:26
1,3,5-Trimethylbenzene	ND	0.50	1	06/19/2021 23:26
Vinyl Chloride	ND	0.0050	1	06/19/2021 23:26
m,p-Xylene	ND	0.50	1	06/19/2021 23:26
o-Xylene	ND	0.50	1	06/19/2021 23:26
Xylenes, Total	ND	0.50	1	06/19/2021 23:26

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-7W	2106958-026B	Water	06/10/2021 10:10	GC38 06192129.D	223897

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	74		70-130	06/19/2021 23:26
Toluene-d8	90		70-130	06/19/2021 23:26
4-BFB	83		70-130	06/19/2021 23:26

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Received: 06/15/2021 11:15

Extraction Method: SW5030B

Date Prepared: 06/19/2021-06/23/2021

Analytical Method: SW8260B

Project: 0977; Sonoma-Marin Fairgrounds

Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8W	2106958-027B	Water	06/10/2021 11:30	GC38 06192130.D	223897

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	40	1	06/20/2021 00:04
tert-Amyl methyl ether (TAME)	ND	0.50	1	06/20/2021 00:04
Benzene	ND	0.20	1	06/20/2021 00:04
Bromobenzene	ND	0.50	1	06/20/2021 00:04
Bromochloromethane	ND	0.50	1	06/20/2021 00:04
Bromodichloromethane	ND	0.050	1	06/20/2021 00:04
Bromoform	ND	0.50	1	06/20/2021 00:04
Bromomethane	ND	0.50	1	06/20/2021 00:04
2-Butanone (MEK)	ND	5.0	1	06/20/2021 00:04
t-Butyl alcohol (TBA)	ND	5.0	1	06/20/2021 00:04
n-Butyl benzene	ND	0.50	1	06/20/2021 00:04
sec-Butyl benzene	ND	0.50	1	06/20/2021 00:04
tert-Butyl benzene	ND	0.50	1	06/20/2021 00:04
Carbon Disulfide	ND	0.50	1	06/20/2021 00:04
Carbon Tetrachloride	ND	0.050	1	06/20/2021 00:04
Chlorobenzene	ND	0.50	1	06/20/2021 00:04
Chloroethane	ND	0.50	1	06/20/2021 00:04
Chloroform	ND	0.10	1	06/20/2021 00:04
Chloromethane	ND	0.50	1	06/20/2021 00:04
2-Chlorotoluene	ND	0.50	1	06/20/2021 00:04
4-Chlorotoluene	ND	0.50	1	06/20/2021 00:04
Dibromochloromethane	ND	0.15	1	06/20/2021 00:04
1,2-Dibromo-3-chloropropane	ND	0.020	1	06/20/2021 00:04
1,2-Dibromoethane (EDB)	ND	0.040	1	06/20/2021 00:04
Dibromomethane	ND	0.50	1	06/20/2021 00:04
1,2-Dichlorobenzene	ND	0.50	1	06/20/2021 00:04
1,3-Dichlorobenzene	ND	0.50	1	06/20/2021 00:04
1,4-Dichlorobenzene	ND	0.50	1	06/20/2021 00:04
Dichlorodifluoromethane	ND	0.50	1	06/20/2021 00:04
1,1-Dichloroethane	ND	0.50	1	06/20/2021 00:04
1,2-Dichloroethane (1,2-DCA)	ND	0.020	1	06/20/2021 00:04
1,1-Dichloroethene	ND	0.010	1	06/20/2021 00:04
cis-1,2-Dichloroethene	ND	0.50	1	06/20/2021 00:04
trans-1,2-Dichloroethene	ND	0.50	1	06/20/2021 00:04
1,2-Dichloropropane	ND	0.20	1	06/20/2021 00:04
1,3-Dichloropropane	ND	0.50	1	06/20/2021 00:04
2,2-Dichloropropane	ND	0.50	1	06/20/2021 00:04

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8W	2106958-027B	Water	06/10/2021 11:30	GC38 06192130.D	223897

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	06/20/2021 00:04
cis-1,3-Dichloropropene	ND	0.50	1	06/20/2021 00:04
trans-1,3-Dichloropropene	ND	0.50	1	06/20/2021 00:04
Diisopropyl ether (DIPE)	ND	0.50	1	06/20/2021 00:04
Ethylbenzene	ND	0.50	1	06/20/2021 00:04
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	06/20/2021 00:04
Freon 113	ND	0.50	1	06/20/2021 00:04
Hexachlorobutadiene	ND	0.50	1	06/20/2021 00:04
Hexachloroethane	ND	0.20	1	06/20/2021 00:04
2-Hexanone	ND	0.50	1	06/20/2021 00:04
Isopropylbenzene	ND	0.50	1	06/20/2021 00:04
4-Isopropyl toluene	ND	0.50	1	06/20/2021 00:04
Methyl-t-butyl ether (MTBE)	ND	0.50	1	06/20/2021 00:04
Methylene chloride	ND	2.0	1	06/20/2021 00:04
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	06/20/2021 00:04
Naphthalene	ND	0.30	1	06/20/2021 00:04
n-Propyl benzene	ND	0.50	1	06/20/2021 00:04
Styrene	ND	2.0	1	06/20/2021 00:04
1,1,1,2-Tetrachloroethane	ND	0.50	1	06/20/2021 00:04
1,1,2,2-Tetrachloroethane	ND	0.020	1	06/20/2021 00:04
Tetrachloroethene	ND	0.20	1	06/20/2021 00:04
Toluene	ND	0.50	1	06/20/2021 00:04
1,2,3-Trichlorobenzene	ND	0.50	1	06/20/2021 00:04
1,2,4-Trichlorobenzene	ND	0.50	1	06/20/2021 00:04
1,1,1-Trichloroethane	ND	0.50	1	06/20/2021 00:04
1,1,2-Trichloroethane	ND	0.20	1	06/20/2021 00:04
Trichloroethene	ND	0.50	1	06/20/2021 00:04
Trichlorofluoromethane	ND	0.50	1	06/20/2021 00:04
1,2,3-Trichloropropane	ND	0.0050	1	06/20/2021 00:04
1,2,4-Trimethylbenzene	ND	0.50	1	06/20/2021 00:04
1,3,5-Trimethylbenzene	ND	0.50	1	06/20/2021 00:04
Vinyl Chloride	ND	0.0050	1	06/20/2021 00:04
m,p-Xylene	ND	0.50	1	06/20/2021 00:04
o-Xylene	ND	0.50	1	06/20/2021 00:04
Xylenes, Total	ND	0.50	1	06/20/2021 00:04

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8W	2106958-027B	Water	06/10/2021 11:30	GC38 06192130.D	223897

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	75		70-130	06/20/2021 00:04
Toluene-d8	90		70-130	06/20/2021 00:04
4-BFB	83		70-130	06/20/2021 00:04

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
S-9W	2106958-028B	Water	06/10/2021 12:40		GC38 06192131.D	223897
Analytes	Result	RL	DF	Date Analyzed		
Acetone	ND	40	1	06/20/2021 00:42		
tert-Amyl methyl ether (TAME)	ND	0.50	1	06/20/2021 00:42		
Benzene	ND	0.20	1	06/20/2021 00:42		
Bromobenzene	ND	0.50	1	06/20/2021 00:42		
Bromochloromethane	ND	0.50	1	06/20/2021 00:42		
Bromodichloromethane	ND	0.050	1	06/20/2021 00:42		
Bromoform	ND	0.50	1	06/20/2021 00:42		
Bromomethane	ND	0.50	1	06/20/2021 00:42		
2-Butanone (MEK)	ND	5.0	1	06/20/2021 00:42		
t-Butyl alcohol (TBA)	ND	5.0	1	06/20/2021 00:42		
n-Butyl benzene	ND	0.50	1	06/20/2021 00:42		
sec-Butyl benzene	ND	0.50	1	06/20/2021 00:42		
tert-Butyl benzene	ND	0.50	1	06/20/2021 00:42		
Carbon Disulfide	ND	0.50	1	06/20/2021 00:42		
Carbon Tetrachloride	ND	0.050	1	06/20/2021 00:42		
Chlorobenzene	ND	0.50	1	06/20/2021 00:42		
Chloroethane	ND	0.50	1	06/20/2021 00:42		
Chloroform	ND	0.10	1	06/20/2021 00:42		
Chloromethane	ND	0.50	1	06/20/2021 00:42		
2-Chlorotoluene	ND	0.50	1	06/20/2021 00:42		
4-Chlorotoluene	ND	0.50	1	06/20/2021 00:42		
Dibromochloromethane	ND	0.15	1	06/20/2021 00:42		
1,2-Dibromo-3-chloropropane	ND	0.020	1	06/20/2021 00:42		
1,2-Dibromoethane (EDB)	ND	0.040	1	06/20/2021 00:42		
Dibromomethane	ND	0.50	1	06/20/2021 00:42		
1,2-Dichlorobenzene	ND	0.50	1	06/20/2021 00:42		
1,3-Dichlorobenzene	ND	0.50	1	06/20/2021 00:42		
1,4-Dichlorobenzene	ND	0.50	1	06/20/2021 00:42		
Dichlorodifluoromethane	ND	0.50	1	06/20/2021 00:42		
1,1-Dichloroethane	ND	0.50	1	06/20/2021 00:42		
1,2-Dichloroethane (1,2-DCA)	ND	0.020	1	06/20/2021 00:42		
1,1-Dichloroethene	ND	0.010	1	06/20/2021 00:42		
cis-1,2-Dichloroethene	ND	0.50	1	06/20/2021 00:42		
trans-1,2-Dichloroethene	ND	0.50	1	06/20/2021 00:42		
1,2-Dichloropropane	ND	0.20	1	06/20/2021 00:42		
1,3-Dichloropropane	ND	0.50	1	06/20/2021 00:42		
2,2-Dichloropropane	ND	0.50	1	06/20/2021 00:42		

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9W	2106958-028B	Water	06/10/2021 12:40	GC38 06192131.D	223897

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	06/20/2021 00:42
cis-1,3-Dichloropropene	ND	0.50	1	06/20/2021 00:42
trans-1,3-Dichloropropene	ND	0.50	1	06/20/2021 00:42
Diisopropyl ether (DIPE)	ND	0.50	1	06/20/2021 00:42
Ethylbenzene	ND	0.50	1	06/20/2021 00:42
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	06/20/2021 00:42
Freon 113	ND	0.50	1	06/20/2021 00:42
Hexachlorobutadiene	ND	0.50	1	06/20/2021 00:42
Hexachloroethane	ND	0.20	1	06/20/2021 00:42
2-Hexanone	ND	0.50	1	06/20/2021 00:42
Isopropylbenzene	ND	0.50	1	06/20/2021 00:42
4-Isopropyl toluene	ND	0.50	1	06/20/2021 00:42
Methyl-t-butyl ether (MTBE)	ND	0.50	1	06/20/2021 00:42
Methylene chloride	ND	2.0	1	06/20/2021 00:42
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	06/20/2021 00:42
Naphthalene	ND	0.30	1	06/20/2021 00:42
n-Propyl benzene	ND	0.50	1	06/20/2021 00:42
Styrene	ND	2.0	1	06/20/2021 00:42
1,1,1,2-Tetrachloroethane	ND	0.50	1	06/20/2021 00:42
1,1,2,2-Tetrachloroethane	ND	0.020	1	06/20/2021 00:42
Tetrachloroethene	ND	0.20	1	06/20/2021 00:42
Toluene	ND	0.50	1	06/20/2021 00:42
1,2,3-Trichlorobenzene	ND	0.50	1	06/20/2021 00:42
1,2,4-Trichlorobenzene	ND	0.50	1	06/20/2021 00:42
1,1,1-Trichloroethane	ND	0.50	1	06/20/2021 00:42
1,1,2-Trichloroethane	ND	0.20	1	06/20/2021 00:42
Trichloroethene	ND	0.50	1	06/20/2021 00:42
Trichlorofluoromethane	ND	0.50	1	06/20/2021 00:42
1,2,3-Trichloropropane	ND	0.0050	1	06/20/2021 00:42
1,2,4-Trimethylbenzene	ND	0.50	1	06/20/2021 00:42
1,3,5-Trimethylbenzene	ND	0.50	1	06/20/2021 00:42
Vinyl Chloride	ND	0.0050	1	06/20/2021 00:42
m,p-Xylene	ND	0.50	1	06/20/2021 00:42
o-Xylene	ND	0.50	1	06/20/2021 00:42
Xylenes, Total	ND	0.50	1	06/20/2021 00:42

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9W	2106958-028B	Water	06/10/2021 12:40	GC38 06192131.D	223897

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	74	70-130		06/20/2021 00:42
Toluene-d8	90	70-130		06/20/2021 00:42
4-BFB	85	70-130		06/20/2021 00:42

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-1W	2106958-029B	Water	06/10/2021 15:30		GC16 06222129.D	224077
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>		<u>Date Analyzed</u>
Acetone	ND		40	1		06/23/2021 02:25
tert-Amyl methyl ether (TAME)	ND		0.50	1		06/23/2021 02:25
Benzene	0.21		0.20	1		06/23/2021 02:25
Bromobenzene	ND		0.50	1		06/23/2021 02:25
Bromochloromethane	ND		0.50	1		06/23/2021 02:25
Bromodichloromethane	ND		0.050	1		06/23/2021 02:25
Bromoform	ND		0.50	1		06/23/2021 02:25
Bromomethane	ND		0.50	1		06/23/2021 02:25
2-Butanone (MEK)	ND		5.0	1		06/23/2021 02:25
t-Butyl alcohol (TBA)	ND		5.0	1		06/23/2021 02:25
n-Butyl benzene	ND		0.50	1		06/23/2021 02:25
sec-Butyl benzene	ND		0.50	1		06/23/2021 02:25
tert-Butyl benzene	ND		0.50	1		06/23/2021 02:25
Carbon Disulfide	ND		0.50	1		06/23/2021 02:25
Carbon Tetrachloride	ND		0.050	1		06/23/2021 02:25
Chlorobenzene	ND		0.50	1		06/23/2021 02:25
Chloroethane	ND		0.50	1		06/23/2021 02:25
Chloroform	ND		0.10	1		06/23/2021 02:25
Chloromethane	ND		0.50	1		06/23/2021 02:25
2-Chlorotoluene	ND		0.50	1		06/23/2021 02:25
4-Chlorotoluene	ND		0.50	1		06/23/2021 02:25
Dibromochloromethane	ND		0.15	1		06/23/2021 02:25
1,2-Dibromo-3-chloropropane	ND		0.020	1		06/23/2021 02:25
1,2-Dibromoethane (EDB)	ND		0.040	1		06/23/2021 02:25
Dibromomethane	ND		0.50	1		06/23/2021 02:25
1,2-Dichlorobenzene	ND		0.50	1		06/23/2021 02:25
1,3-Dichlorobenzene	ND		0.50	1		06/23/2021 02:25
1,4-Dichlorobenzene	ND		0.50	1		06/23/2021 02:25
Dichlorodifluoromethane	ND		0.50	1		06/23/2021 02:25
1,1-Dichloroethane	ND		0.50	1		06/23/2021 02:25
1,2-Dichloroethane (1,2-DCA)	ND		0.020	1		06/23/2021 02:25
1,1-Dichloroethene	ND		0.010	1		06/23/2021 02:25
cis-1,2-Dichloroethene	ND		0.50	1		06/23/2021 02:25
trans-1,2-Dichloroethene	ND		0.50	1		06/23/2021 02:25
1,2-Dichloropropane	ND		0.20	1		06/23/2021 02:25
1,3-Dichloropropane	ND		0.50	1		06/23/2021 02:25
2,2-Dichloropropane	ND		0.50	1		06/23/2021 02:25

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Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1W	2106958-029B	Water	06/10/2021 15:30	GC16 06222129.D	224077

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	06/23/2021 02:25
cis-1,3-Dichloropropene	ND	0.50	1	06/23/2021 02:25
trans-1,3-Dichloropropene	ND	0.50	1	06/23/2021 02:25
Diisopropyl ether (DIPE)	ND	0.50	1	06/23/2021 02:25
Ethylbenzene	ND	0.50	1	06/23/2021 02:25
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	06/23/2021 02:25
Freon 113	ND	0.50	1	06/23/2021 02:25
Hexachlorobutadiene	ND	0.50	1	06/23/2021 02:25
Hexachloroethane	ND	0.20	1	06/23/2021 02:25
2-Hexanone	ND	0.50	1	06/23/2021 02:25
Isopropylbenzene	ND	0.50	1	06/23/2021 02:25
4-Isopropyl toluene	ND	0.50	1	06/23/2021 02:25
Methyl-t-butyl ether (MTBE)	ND	0.50	1	06/23/2021 02:25
Methylene chloride	ND	2.0	1	06/23/2021 02:25
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	06/23/2021 02:25
Naphthalene	ND	0.30	1	06/23/2021 02:25
n-Propyl benzene	ND	0.50	1	06/23/2021 02:25
Styrene	ND	2.0	1	06/23/2021 02:25
1,1,1,2-Tetrachloroethane	ND	0.50	1	06/23/2021 02:25
1,1,2,2-Tetrachloroethane	ND	0.020	1	06/23/2021 02:25
Tetrachloroethene	0.33	0.20	1	06/23/2021 02:25
Toluene	ND	0.50	1	06/23/2021 02:25
1,2,3-Trichlorobenzene	ND	0.50	1	06/23/2021 02:25
1,2,4-Trichlorobenzene	ND	0.50	1	06/23/2021 02:25
1,1,1-Trichloroethane	ND	0.50	1	06/23/2021 02:25
1,1,2-Trichloroethane	ND	0.20	1	06/23/2021 02:25
Trichloroethene	ND	0.50	1	06/23/2021 02:25
Trichlorofluoromethane	ND	0.50	1	06/23/2021 02:25
1,2,3-Trichloropropane	ND	0.0050	1	06/23/2021 02:25
1,2,4-Trimethylbenzene	ND	0.50	1	06/23/2021 02:25
1,3,5-Trimethylbenzene	ND	0.50	1	06/23/2021 02:25
Vinyl Chloride	ND	0.0050	1	06/23/2021 02:25
m,p-Xylene	ND	0.50	1	06/23/2021 02:25
o-Xylene	ND	0.50	1	06/23/2021 02:25
Xylenes, Total	ND	0.50	1	06/23/2021 02:25

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/19/2021-06/23/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1W	2106958-029B	Water	06/10/2021 15:30	GC16 06222129.D	224077

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	104		70-130	06/23/2021 02:25
Toluene-d8	107		70-130	06/23/2021 02:25
4-BFB	108		70-130	06/23/2021 02:25

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Received: 06/15/2021 11:15

Extraction Method: SW5030B

Date Prepared: 06/15/2021

Analytical Method: SW8260B

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-7d4.0	2106958-001A	Soil	06/10/2021 09:10	GC16 06172120.D	223491

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	06/17/2021 22:57
Ethylbenzene	ND	0.0050	1	06/17/2021 22:57
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/17/2021 22:57
Naphthalene	ND	0.0050	1	06/17/2021 22:57
Toluene	ND	0.0050	1	06/17/2021 22:57
m,p-Xylene	ND	0.0050	1	06/17/2021 22:57
o-Xylene	ND	0.0050	1	06/17/2021 22:57
Xylenes, Total	ND	0.0050	1	06/17/2021 22:57

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	111	70-140	06/17/2021 22:57
Toluene-d8	104	70-140	06/17/2021 22:57
4-BFB	114	70-140	06/17/2021 22:57
Benzene-d6	116	50-140	06/17/2021 22:57
Ethylbenzene-d10	116	50-140	06/17/2021 22:57
1,2-DCB-d4	92	40-140	06/17/2021 22:57

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/15/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-7d8.0	2106958-002A	Soil	06/10/2021 09:11	GC16 06172121.D	223491

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	06/17/2021 23:42
Ethylbenzene	ND	0.0050	1	06/17/2021 23:42
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/17/2021 23:42
Naphthalene	ND	0.0050	1	06/17/2021 23:42
Toluene	ND	0.0050	1	06/17/2021 23:42
m,p-Xylene	ND	0.0050	1	06/17/2021 23:42
o-Xylene	ND	0.0050	1	06/17/2021 23:42
Xylenes, Total	ND	0.0050	1	06/17/2021 23:42

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	114	70-140	06/17/2021 23:42
Toluene-d8	102	70-140	06/17/2021 23:42
4-BFB	112	70-140	06/17/2021 23:42
Benzene-d6	110	50-140	06/17/2021 23:42
Ethylbenzene-d10	107	50-140	06/17/2021 23:42
1,2-DCB-d4	91	40-140	06/17/2021 23:42

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/15/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8d4.0	2106958-007A	Soil	06/10/2021 10:37	GC16 06172122.D	223491

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	06/18/2021 00:25
Ethylbenzene	ND	0.0050	1	06/18/2021 00:25
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/18/2021 00:25
Naphthalene	ND	0.0050	1	06/18/2021 00:25
Toluene	ND	0.0050	1	06/18/2021 00:25
m,p-Xylene	ND	0.0050	1	06/18/2021 00:25
o-Xylene	ND	0.0050	1	06/18/2021 00:25
Xylenes, Total	ND	0.0050	1	06/18/2021 00:25

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	113	70-140	06/18/2021 00:25
Toluene-d8	100	70-140	06/18/2021 00:25
4-BFB	114	70-140	06/18/2021 00:25
Benzene-d6	111	50-140	06/18/2021 00:25
Ethylbenzene-d10	111	50-140	06/18/2021 00:25
1,2-DCB-d4	89	40-140	06/18/2021 00:25

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/15/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8d8.0	2106958-008A	Soil	06/10/2021 10:39	GC16 06172123.D	223491

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	06/18/2021 01:08
Ethylbenzene	ND	0.0050	1	06/18/2021 01:08
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/18/2021 01:08
Naphthalene	ND	0.0050	1	06/18/2021 01:08
Toluene	ND	0.0050	1	06/18/2021 01:08
m,p-Xylene	ND	0.0050	1	06/18/2021 01:08
o-Xylene	ND	0.0050	1	06/18/2021 01:08
Xylenes, Total	ND	0.0050	1	06/18/2021 01:08

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	111	70-140	06/18/2021 01:08
Toluene-d8	102	70-140	06/18/2021 01:08
4-BFB	113	70-140	06/18/2021 01:08
Benzene-d6	113	50-140	06/18/2021 01:08
Ethylbenzene-d10	114	50-140	06/18/2021 01:08
1,2-DCB-d4	90	40-140	06/18/2021 01:08

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/15/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9d4.0	2106958-015A	Soil	06/10/2021 11:43	GC16 06172124.D	223491

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	06/18/2021 01:52
Ethylbenzene	ND	0.0050	1	06/18/2021 01:52
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/18/2021 01:52
Naphthalene	ND	0.0050	1	06/18/2021 01:52
Toluene	ND	0.0050	1	06/18/2021 01:52
m,p-Xylene	ND	0.0050	1	06/18/2021 01:52
o-Xylene	ND	0.0050	1	06/18/2021 01:52
Xylenes, Total	ND	0.0050	1	06/18/2021 01:52

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	114	70-140	06/18/2021 01:52
Toluene-d8	105	70-140	06/18/2021 01:52
4-BFB	117	70-140	06/18/2021 01:52
Benzene-d6	115	50-140	06/18/2021 01:52
Ethylbenzene-d10	117	50-140	06/18/2021 01:52
1,2-DCB-d4	95	40-140	06/18/2021 01:52

Analyst(s): KF



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/15/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9d8.0	2106958-016A	Soil	06/10/2021 11:45	GC38 06182123.D	223491

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	06/18/2021 22:35
Ethylbenzene	ND	0.0050	1	06/18/2021 22:35
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/18/2021 22:35
Naphthalene	ND	0.0050	1	06/18/2021 22:35
Toluene	ND	0.0050	1	06/18/2021 22:35
m,p-Xylene	ND	0.0050	1	06/18/2021 22:35
o-Xylene	ND	0.0050	1	06/18/2021 22:35
Xylenes, Total	ND	0.0050	1	06/18/2021 22:35

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	76	70-140	06/18/2021 22:35
Toluene-d8	92	70-140	06/18/2021 22:35
4-BFB	102	70-140	06/18/2021 22:35
Benzene-d6	88	50-140	06/18/2021 22:35
Ethylbenzene-d10	100	50-140	06/18/2021 22:35
1,2-DCB-d4	85	40-140	06/18/2021 22:35

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Received: 06/15/2021 11:15

Extraction Method: SW5030B

Date Prepared: 06/15/2021

Analytical Method: SW8260B

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1d8.0	2106958-021A	Soil	06/10/2021 14:05	GC38 06182124.D	223491

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	06/18/2021 23:14
Ethylbenzene	ND	0.0050	1	06/18/2021 23:14
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/18/2021 23:14
Naphthalene	ND	0.0050	1	06/18/2021 23:14
Toluene	ND	0.0050	1	06/18/2021 23:14
m,p-Xylene	ND	0.0050	1	06/18/2021 23:14
o-Xylene	ND	0.0050	1	06/18/2021 23:14
Xylenes, Total	ND	0.0050	1	06/18/2021 23:14

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	76	70-140	06/18/2021 23:14
Toluene-d8	94	70-140	06/18/2021 23:14
4-BFB	101	70-140	06/18/2021 23:14
Benzene-d6	88	50-140	06/18/2021 23:14
Ethylbenzene-d10	102	50-140	06/18/2021 23:14
1,2-DCB-d4	85	40-140	06/18/2021 23:14

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/15/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1d12.0	2106958-022A	Soil	06/10/2021 14:07	GC38 06182125.D	223491

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	06/18/2021 23:53
Ethylbenzene	ND	0.0050	1	06/18/2021 23:53
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/18/2021 23:53
Naphthalene	ND	0.0050	1	06/18/2021 23:53
Toluene	ND	0.0050	1	06/18/2021 23:53
m,p-Xylene	ND	0.0050	1	06/18/2021 23:53
o-Xylene	ND	0.0050	1	06/18/2021 23:53
Xylenes, Total	ND	0.0050	1	06/18/2021 23:53

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	77	70-140	06/18/2021 23:53
Toluene-d8	92	70-140	06/18/2021 23:53
4-BFB	99	70-140	06/18/2021 23:53
Benzene-d6	84	50-140	06/18/2021 23:53
Ethylbenzene-d10	96	50-140	06/18/2021 23:53
1,2-DCB-d4	80	40-140	06/18/2021 23:53

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Received: 06/15/2021 11:15

Extraction Method: SW5030B

Date Prepared: 06/15/2021

Analytical Method: SW8260B

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Soil Drum	2106958-030A	Soil	06/10/2021 15:40	GC38 06182126.D	223491

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	06/19/2021 00:31
Ethylbenzene	ND	0.0050	1	06/19/2021 00:31
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	06/19/2021 00:31
Naphthalene	ND	0.0050	1	06/19/2021 00:31
Toluene	ND	0.0050	1	06/19/2021 00:31
m,p-Xylene	ND	0.0050	1	06/19/2021 00:31
o-Xylene	ND	0.0050	1	06/19/2021 00:31
Xylenes, Total	ND	0.0050	1	06/19/2021 00:31

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	75	70-140	06/19/2021 00:31
Toluene-d8	93	70-140	06/19/2021 00:31
4-BFB	103	70-140	06/19/2021 00:31
Benzene-d6	87	50-140	06/19/2021 00:31
Ethylbenzene-d10	101	50-140	06/19/2021 00:31
1,2-DCB-d4	85	40-140	06/19/2021 00:31

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Received: 06/15/2021 11:15

Extraction Method: SW5035

Date Prepared: 06/15/2021

Analytical Method: SW8021B/8015Bm

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-7d4.0	2106958-001A	Soil	06/10/2021 09:10	GC7 06172123.D	223558

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	06/17/2021 19:57
MTBE	---	0.050	1	06/17/2021 19:57
Benzene	---	0.0050	1	06/17/2021 19:57
Toluene	---	0.0050	1	06/17/2021 19:57
Ethylbenzene	---	0.0050	1	06/17/2021 19:57
m,p-Xylene	---	0.010	1	06/17/2021 19:57
o-Xylene	---	0.0050	1	06/17/2021 19:57
Xylenes	---	0.0050	1	06/17/2021 19:57

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	89	62-126	06/17/2021 19:57

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-7d8.0	2106958-002A	Soil	06/10/2021 09:11	GC19 06222106.D	223558

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	06/22/2021 11:30
MTBE	---	0.050	1	06/22/2021 11:30
Benzene	---	0.0050	1	06/22/2021 11:30
Toluene	---	0.0050	1	06/22/2021 11:30
Ethylbenzene	---	0.0050	1	06/22/2021 11:30
m,p-Xylene	---	0.010	1	06/22/2021 11:30
o-Xylene	---	0.0050	1	06/22/2021 11:30
Xylenes	---	0.0050	1	06/22/2021 11:30

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	77	62-126	06/22/2021 11:30

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Received: 06/15/2021 11:15

Extraction Method: SW5035

Date Prepared: 06/15/2021

Analytical Method: SW8021B/8015Bm

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8d4.0	2106958-007A	Soil	06/10/2021 10:37	GC19 06222107.D	223558

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	06/22/2021 12:02
MTBE	---	0.050	1	06/22/2021 12:02
Benzene	---	0.0050	1	06/22/2021 12:02
Toluene	---	0.0050	1	06/22/2021 12:02
Ethylbenzene	---	0.0050	1	06/22/2021 12:02
m,p-Xylene	---	0.010	1	06/22/2021 12:02
o-Xylene	---	0.0050	1	06/22/2021 12:02
Xylenes	---	0.0050	1	06/22/2021 12:02

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	103	62-126	06/22/2021 12:02

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8d8.0	2106958-008A	Soil	06/10/2021 10:39	GC19 06222109.D	223558

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	06/22/2021 13:30
MTBE	---	0.050	1	06/22/2021 13:30
Benzene	---	0.0050	1	06/22/2021 13:30
Toluene	---	0.0050	1	06/22/2021 13:30
Ethylbenzene	---	0.0050	1	06/22/2021 13:30
m,p-Xylene	---	0.010	1	06/22/2021 13:30
o-Xylene	---	0.0050	1	06/22/2021 13:30
Xylenes	---	0.0050	1	06/22/2021 13:30

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	70	62-126	06/22/2021 13:30

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Received: 06/15/2021 11:15

Extraction Method: SW5035

Date Prepared: 06/15/2021

Analytical Method: SW8021B/8015Bm

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9d4.0	2106958-015A	Soil	06/10/2021 11:43	GC19 06222110.D	223558

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	06/22/2021 14:01
MTBE	---	0.050	1	06/22/2021 14:01
Benzene	---	0.0050	1	06/22/2021 14:01
Toluene	---	0.0050	1	06/22/2021 14:01
Ethylbenzene	---	0.0050	1	06/22/2021 14:01
m,p-Xylene	---	0.010	1	06/22/2021 14:01
o-Xylene	---	0.0050	1	06/22/2021 14:01
Xylenes	---	0.0050	1	06/22/2021 14:01

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	87	62-126	06/22/2021 14:01

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9d8.0	2106958-016A	Soil	06/10/2021 11:45	GC7 06222106.D	223558

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	06/22/2021 11:31
MTBE	---	0.050	1	06/22/2021 11:31
Benzene	---	0.0050	1	06/22/2021 11:31
Toluene	---	0.0050	1	06/22/2021 11:31
Ethylbenzene	---	0.0050	1	06/22/2021 11:31
m,p-Xylene	---	0.010	1	06/22/2021 11:31
o-Xylene	---	0.0050	1	06/22/2021 11:31
Xylenes	---	0.0050	1	06/22/2021 11:31

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	83	62-126	06/22/2021 11:31

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Received: 06/15/2021 11:15

Extraction Method: SW5035

Date Prepared: 06/15/2021

Analytical Method: SW8021B/8015Bm

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1d8.0	2106958-021A	Soil	06/10/2021 14:05	GC7 06222107.D	223558

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	06/22/2021 12:01
MTBE	---	0.050	1	06/22/2021 12:01
Benzene	---	0.0050	1	06/22/2021 12:01
Toluene	---	0.0050	1	06/22/2021 12:01
Ethylbenzene	---	0.0050	1	06/22/2021 12:01
m,p-Xylene	---	0.010	1	06/22/2021 12:01
o-Xylene	---	0.0050	1	06/22/2021 12:01
Xylenes	---	0.0050	1	06/22/2021 12:01

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	84	62-126	06/22/2021 12:01

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1d12.0	2106958-022A	Soil	06/10/2021 14:07	GC7 06222108.D	223558

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	06/22/2021 12:31
MTBE	---	0.050	1	06/22/2021 12:31
Benzene	---	0.0050	1	06/22/2021 12:31
Toluene	---	0.0050	1	06/22/2021 12:31
Ethylbenzene	---	0.0050	1	06/22/2021 12:31
m,p-Xylene	---	0.010	1	06/22/2021 12:31
o-Xylene	---	0.0050	1	06/22/2021 12:31
Xylenes	---	0.0050	1	06/22/2021 12:31

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	85	62-126	06/22/2021 12:31

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2106958
Date Received: 06/15/2021 11:15	Extraction Method: SW5035
Date Prepared: 06/15/2021	Analytical Method: SW8021B/8015Bm
Project: 0977; Sonoma-Marin Fairgrounds	Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Soil Drum	2106958-030A	Soil	06/10/2021 15:40	GC7 06222110.D	223558
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g) (C6-C12)	ND		1.0	1	06/22/2021 13:31
MTBE	---		0.050	1	06/22/2021 13:31
Benzene	---		0.0050	1	06/22/2021 13:31
Toluene	---		0.0050	1	06/22/2021 13:31
Ethylbenzene	---		0.0050	1	06/22/2021 13:31
m,p-Xylene	---		0.010	1	06/22/2021 13:31
o-Xylene	---		0.0050	1	06/22/2021 13:31
Xylenes	---		0.0050	1	06/22/2021 13:31
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
2-Fluorotoluene	86		62-126		06/22/2021 13:31
<u>Analyst(s):</u> TD					



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Received: 06/15/2021 11:15

Extraction Method: SW5030B

Date Prepared: 06/16/2021-06/17/2021

Analytical Method: SW8021B/8015Bm

Project: 0977; Sonoma-Marin Fairgrounds

Unit: µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-7W	2106958-026A	Water	06/10/2021 10:10	GC7 06172122.D	223684

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	06/17/2021 19:25
MTBE	---	1.0	1	06/17/2021 19:25
Benzene	---	0.50	1	06/17/2021 19:25
Toluene	---	0.50	1	06/17/2021 19:25
Ethylbenzene	---	0.50	1	06/17/2021 19:25
m,p-Xylene	---	1.0	1	06/17/2021 19:25
o-Xylene	---	0.50	1	06/17/2021 19:25
Xylenes	---	0.50	1	06/17/2021 19:25

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	102	76-115	06/17/2021 19:25

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-8W	2106958-027A	Water	06/10/2021 11:30	GC12 06162113.D	223684

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	06/16/2021 17:22
MTBE	---	1.0	1	06/16/2021 17:22
Benzene	---	0.50	1	06/16/2021 17:22
Toluene	---	0.50	1	06/16/2021 17:22
Ethylbenzene	---	0.50	1	06/16/2021 17:22
m,p-Xylene	---	1.0	1	06/16/2021 17:22
o-Xylene	---	0.50	1	06/16/2021 17:22
Xylenes	---	0.50	1	06/16/2021 17:22

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	100	76-115	06/16/2021 17:22

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Received: 06/15/2021 11:15

Extraction Method: SW5030B

Date Prepared: 06/16/2021-06/17/2021

Analytical Method: SW8021B/8015Bm

Project: 0977; Sonoma-Marin Fairgrounds

Unit: µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
S-9W	2106958-028A	Water	06/10/2021 12:40	GC12 06162109.D	223684

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	06/16/2021 15:01
MTBE	---	1.0	1	06/16/2021 15:01
Benzene	---	0.50	1	06/16/2021 15:01
Toluene	---	0.50	1	06/16/2021 15:01
Ethylbenzene	---	0.50	1	06/16/2021 15:01
m,p-Xylene	---	1.0	1	06/16/2021 15:01
o-Xylene	---	0.50	1	06/16/2021 15:01
Xylenes	---	0.50	1	06/16/2021 15:01

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	97	76-115	06/16/2021 15:01

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1W	2106958-029A	Water	06/10/2021 15:30	GC12 06162111.D	223684

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	06/16/2021 16:12
MTBE	---	1.0	1	06/16/2021 16:12
Benzene	---	0.50	1	06/16/2021 16:12
Toluene	---	0.50	1	06/16/2021 16:12
Ethylbenzene	---	0.50	1	06/16/2021 16:12
m,p-Xylene	---	1.0	1	06/16/2021 16:12
o-Xylene	---	0.50	1	06/16/2021 16:12
Xylenes	---	0.50	1	06/16/2021 16:12

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	101	76-115	06/16/2021 16:12

Analyst(s): TD



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 06/15/2021 11:15
Date Prepared: 06/23/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2106958
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Soil Drum	2106958-030A	Soil	06/10/2021 15:40	ICP-MS5 148SMPL.d	224173

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Lead	6.5	0.50	1	06/24/2021 12:19

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
Terbium	102	70-130	06/24/2021 12:19

Analyst(s): WV



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 06/19/2021
Date Analyzed: 06/19/2021
Instrument: GC38
Matrix: Water
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
BatchID: 223897
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-223897

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	6.30	40.0	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.130	0.500	-	-	-
Benzene	ND	0.120	0.200	-	-	-
Bromobenzene	ND	0.130	0.500	-	-	-
Bromochloromethane	ND	0.110	0.500	-	-	-
Bromodichloromethane	ND	0.0250	0.0500	-	-	-
Bromoform	ND	0.310	0.500	-	-	-
Bromomethane	ND	0.180	0.500	-	-	-
2-Butanone (MEK)	ND	1.50	5.00	-	-	-
t-Butyl alcohol (TBA)	ND	2.50	5.00	-	-	-
n-Butyl benzene	ND	0.230	0.500	-	-	-
sec-Butyl benzene	ND	0.170	0.500	-	-	-
tert-Butyl benzene	ND	0.130	0.500	-	-	-
Carbon Disulfide	ND	0.180	0.500	-	-	-
Carbon Tetrachloride	ND	0.0280	0.0500	-	-	-
Chlorobenzene	ND	0.110	0.500	-	-	-
Chloroethane	ND	0.200	0.500	-	-	-
Chloroform	ND	0.0910	0.100	-	-	-
Chloromethane	ND	0.280	0.500	-	-	-
2-Chlorotoluene	ND	0.230	0.500	-	-	-
4-Chlorotoluene	ND	0.120	0.500	-	-	-
Dibromochloromethane	ND	0.0260	0.150	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0100	0.0200	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0210	0.0400	-	-	-
Dibromomethane	ND	0.120	0.500	-	-	-
1,2-Dichlorobenzene	ND	0.160	0.500	-	-	-
1,3-Dichlorobenzene	ND	0.120	0.500	-	-	-
1,4-Dichlorobenzene	ND	0.0930	0.500	-	-	-
Dichlorodifluoromethane	ND	0.290	0.500	-	-	-
1,1-Dichloroethane	ND	0.150	0.500	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0110	0.0200	-	-	-
1,1-Dichloroethene	ND	0.00940	0.0100	-	-	-
cis-1,2-Dichloroethene	ND	0.0930	0.500	-	-	-
trans-1,2-Dichloroethene	ND	0.110	0.500	-	-	-
1,2-Dichloropropane	ND	0.0190	0.200	-	-	-
1,3-Dichloropropane	ND	0.170	0.500	-	-	-
2,2-Dichloropropane	ND	0.220	0.500	-	-	-
1,1-Dichloropropene	ND	0.0850	0.500	-	-	-

(Cont.)



Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	2106958
Date Prepared:	06/19/2021	BatchID:	223897
Date Analyzed:	06/19/2021	Extraction Method:	SW5030B
Instrument:	GC38	Analytical Method:	SW8260B
Matrix:	Water	Unit:	µg/L
Project:	0977; Sonoma-Marín Fairgrounds	Sample ID:	MB/LCS/LCSD-223897

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.210	0.500	-	-	-
trans-1,3-Dichloropropene	ND	0.280	0.500	-	-	-
Diisopropyl ether (DIPE)	ND	0.120	0.500	-	-	-
Ethylbenzene	ND	0.140	0.500	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.160	0.500	-	-	-
Freon 113	ND	0.130	0.500	-	-	-
Hexachlorobutadiene	0.236,J	0.150	0.500	-	-	-
Hexachloroethane	0.0652,J	0.0590	0.200	-	-	-
2-Hexanone	ND	0.320	0.500	-	-	-
Isopropylbenzene	ND	0.160	0.500	-	-	-
4-Isopropyl toluene	ND	0.150	0.500	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.160	0.500	-	-	-
Methylene chloride	ND	0.740	2.00	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.440	0.500	-	-	-
Naphthalene	ND	0.150	0.300	-	-	-
n-Propyl benzene	ND	0.120	0.500	-	-	-
Styrene	ND	0.280	2.00	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.160	0.500	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.0110	0.0200	-	-	-
Tetrachloroethene	ND	0.160	0.200	-	-	-
Toluene	ND	0.170	0.500	-	-	-
1,2,3-Trichlorobenzene	ND	0.240	0.500	-	-	-
1,2,4-Trichlorobenzene	ND	0.220	0.500	-	-	-
1,1,1-Trichloroethane	ND	0.110	0.500	-	-	-
1,1,2-Trichloroethane	ND	0.110	0.200	-	-	-
Trichloroethene	ND	0.250	0.500	-	-	-
Trichlorofluoromethane	ND	0.140	0.500	-	-	-
1,2,3-Trichloropropane	ND	0.00450	0.00500	-	-	-
1,2,4-Trimethylbenzene	ND	0.180	0.500	-	-	-
1,3,5-Trimethylbenzene	ND	0.160	0.500	-	-	-
Vinyl Chloride	ND	0.00430	0.00500	-	-	-
m,p-Xylene	ND	0.250	0.500	-	-	-
o-Xylene	ND	0.130	0.500	-	-	-

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc. Date Prepared: 06/19/2021 Date Analyzed: 06/19/2021 Instrument: GC38 Matrix: Water Project: 0977; Sonoma-Marín Fairgrounds	WorkOrder: 2106958 BatchID: 223897 Extraction Method: SW5030B Analytical Method: SW8260B Unit: µg/L Sample ID: MB/LCS/LCSD-223897
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QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	18.5			25	74	70-130
Toluene-d8	22.7			25	91	70-130
4-BFB	2.08			2.5	83	70-130



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 06/19/2021
Date Analyzed: 06/19/2021
Instrument: GC38
Matrix: Water
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2106958
BatchID: 223897
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-223897

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	36.3	34.2	40	91	85	60-130	6.14	20
tert-Amyl methyl ether (TAME)	3.11	2.94	4	78	73	60-130	5.69	20
Benzene	3.03	2.94	4	76	73	60-130	3.24	20
Bromobenzene	3.29	3.16	4	82	79	60-130	4.04	20
Bromochloromethane	3.35	3.09	4	84	77	60-130	8.10	20
Bromodichloromethane	3.19	3.00	4	80	75	60-130	6.29	20
Bromoform	3.34	3.11	4	84	78	50-130	7.06	20
Bromomethane	7.67	7.37	4	192,F2	184,F2	50-130	3.99	20
2-Butanone (MEK)	14.8	13.6	16	92	85	60-130	8.50	20
t-Butyl alcohol (TBA)	12.1	11.2	16	76	70	50-130	7.57	20
n-Butyl benzene	3.14	3.29	4	79	82	60-130	4.61	20
sec-Butyl benzene	3.32	3.24	4	83	81	60-130	2.48	20
tert-Butyl benzene	3.00	2.94	4	75	74	60-130	1.94	20
Carbon Disulfide	2.61	2.56	4	65	64	60-130	2.12	20
Carbon Tetrachloride	2.66	2.60	4	67	65	60-130	2.49	20
Chlorobenzene	3.35	3.26	4	84	82	60-130	2.77	20
Chloroethane	2.70	2.69	4	67	67	60-140	0.379	20
Chloroform	3.14	3.01	4	78	75	60-130	4.20	20
Chloromethane	3.40	3.29	4	85	82	50-130	3.30	20
2-Chlorotoluene	3.30	3.24	4	83	81	60-130	1.84	20
4-Chlorotoluene	3.20	3.11	4	80	78	60-130	2.88	20
Dibromochloromethane	3.29	3.10	4	82	77	50-130	6.14	20
1,2-Dibromo-3-chloropropane	1.83	1.69	2	92	85	50-130	8.13	20
1,2-Dibromoethane (EDB)	1.89	1.78	2	95	89	60-130	6.06	20
Dibromomethane	3.47	3.21	4	87	80	60-130	7.85	20
1,2-Dichlorobenzene	3.27	3.17	4	82	79	60-130	3.05	20
1,3-Dichlorobenzene	3.39	3.29	4	85	82	60-130	2.81	20
1,4-Dichlorobenzene	3.38	3.26	4	85	82	60-130	3.68	20
Dichlorodifluoromethane	1.77	1.62	4	44	41	40-140	8.66	20
1,1-Dichloroethane	2.97	2.86	4	74	72	50-130	3.44	20
1,2-Dichloroethane (1,2-DCA)	3.25	3.05	4	81	76	60-130	6.36	20
1,1-Dichloroethene	2.81	2.72	4	70	68	60-130	3.16	20
cis-1,2-Dichloroethene	3.01	2.89	4	75	72	60-130	3.89	20
trans-1,2-Dichloroethene	2.74	2.68	4	68	67	60-130	2.07	20
1,2-Dichloropropane	3.18	3.03	4	79	76	60-130	4.79	20
1,3-Dichloropropane	4.00	3.81	4	100	95	60-130	5.04	20
2,2-Dichloropropane	2.79	2.68	4	70	67	60-130	3.91	20
1,1-Dichloropropene	2.89	2.82	4	72	70	60-130	2.49	20

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Prepared: 06/19/2021

BatchID: 223897

Date Analyzed: 06/19/2021

Extraction Method: SW5030B

Instrument: GC38

Analytical Method: SW8260B

Matrix: Water

Unit: µg/L

Project: 0977; Sonoma-Marín Fairgrounds

Sample ID: MB/LCS/LCSD-223897

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	3.51	3.36	4	88	84	60-130	4.44	20
trans-1,3-Dichloropropene	3.52	3.33	4	88	83	60-130	5.54	20
Diisopropyl ether (DIPE)	3.16	2.99	4	79	75	60-130	5.63	20
Ethylbenzene	3.20	3.12	4	80	78	60-130	2.25	20
Ethyl tert-butyl ether (ETBE)	3.15	2.94	4	79	73	60-130	6.94	20
Freon 113	2.65	2.57	4	66	64	60-130	2.89	20
Hexachlorobutadiene	2.90	2.84	4	72	71	60-130	1.92	20
Hexachloroethane	2.76	2.74	4	69	68	50-130	0.941	20
2-Hexanone	4.04	3.71	4	101	93	50-130	8.62	20
Isopropylbenzene	3.13	3.17	4	78	79	60-130	1.37	20
4-Isopropyl toluene	3.19	3.15	4	80	79	60-130	1.27	20
Methyl-t-butyl ether (MTBE)	3.18	2.95	4	80	74	60-130	7.61	20
Methylene chloride	3.02	2.89	4	76	72	50-130	4.48	20
4-Methyl-2-pentanone (MIBK)	3.75	3.50	4	94	88	50-130	6.71	20
Naphthalene	3.84	3.68	4	96	92	60-130	4.38	20
n-Propyl benzene	3.09	3.10	4	77	78	60-130	0.319	20
Styrene	3.38	3.27	4	85	82	60-130	3.30	20
1,1,1,2-Tetrachloroethane	3.32	3.18	4	83	79	60-130	4.49	20
1,1,2,2-Tetrachloroethane	4.09	3.86	4	102	97	60-130	5.65	20
Tetrachloroethene	3.07	3.01	4	77	75	60-130	1.98	20
Toluene	3.20	3.14	4	80	78	60-130	1.90	20
1,2,3-Trichlorobenzene	3.60	3.40	4	90	85	60-130	5.64	20
1,2,4-Trichlorobenzene	3.36	3.28	4	84	82	60-130	2.46	20
1,1,1-Trichloroethane	2.75	2.65	4	69	66	60-130	3.84	20
1,1,2-Trichloroethane	3.75	3.57	4	94	89	60-130	4.93	20
Trichloroethene	2.87	2.78	4	72	70	60-130	2.97	20
Trichlorofluoromethane	2.66	2.41	4	66	60	60-130	9.72	20
1,2,3-Trichloropropane	1.82	1.74	2	91	87	60-130	4.97	20
1,2,4-Trimethylbenzene	3.16	3.12	4	79	78	60-130	1.15	20
1,3,5-Trimethylbenzene	3.25	3.21	4	81	80	60-130	1.22	20
Vinyl Chloride	1.59	1.56	2	80	78	60-130	2.10	20
m,p-Xylene	6.39	6.26	8	80	78	60-130	2.00	20
o-Xylene	3.34	3.27	4	84	82	60-130	2.07	20

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2106958
Date Prepared: 06/19/2021	BatchID: 223897
Date Analyzed: 06/19/2021	Extraction Method: SW5030B
Instrument: GC38	Analytical Method: SW8260B
Matrix: Water	Unit: µg/L
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-223897

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	18.0	18.9	25	72	75	70-130	4.94	20
Toluene-d8	22.1	22.6	25	88	90	70-130	2.06	20
4-BFB	2.12	2.12	2.5	85	85	70-130	0.0904	20



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2106958
Date Prepared: 06/22/2021	BatchID: 224077
Date Analyzed: 06/22/2021	Extraction Method: SW5030B
Instrument: GC16	Analytical Method: SW8260B
Matrix: Water	Unit: µg/L
Project: 0977; Sonoma-Marin Fairgrounds	Sample ID: MB/LCS/LCSD-224077

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	6.30	40.0	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.130	0.500	-	-	-
Benzene	ND	0.120	0.200	-	-	-
Bromobenzene	ND	0.130	0.500	-	-	-
Bromochloromethane	ND	0.110	0.500	-	-	-
Bromodichloromethane	ND	0.0250	0.0500	-	-	-
Bromoform	ND	0.310	0.500	-	-	-
Bromomethane	ND	0.180	0.500	-	-	-
2-Butanone (MEK)	ND	1.50	5.00	-	-	-
t-Butyl alcohol (TBA)	ND	2.50	5.00	-	-	-
n-Butyl benzene	ND	0.230	0.500	-	-	-
sec-Butyl benzene	ND	0.170	0.500	-	-	-
tert-Butyl benzene	ND	0.130	0.500	-	-	-
Carbon Disulfide	ND	0.180	0.500	-	-	-
Carbon Tetrachloride	ND	0.0280	0.0500	-	-	-
Chlorobenzene	ND	0.110	0.500	-	-	-
Chloroethane	ND	0.200	0.500	-	-	-
Chloroform	ND	0.0910	0.100	-	-	-
Chloromethane	ND	0.280	0.500	-	-	-
2-Chlorotoluene	ND	0.230	0.500	-	-	-
4-Chlorotoluene	ND	0.120	0.500	-	-	-
Dibromochloromethane	ND	0.0260	0.150	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0100	0.0200	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0210	0.0400	-	-	-
Dibromomethane	ND	0.120	0.500	-	-	-
1,2-Dichlorobenzene	ND	0.160	0.500	-	-	-
1,3-Dichlorobenzene	ND	0.120	0.500	-	-	-
1,4-Dichlorobenzene	ND	0.0930	0.500	-	-	-
Dichlorodifluoromethane	ND	0.290	0.500	-	-	-
1,1-Dichloroethane	ND	0.150	0.500	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0110	0.0200	-	-	-
1,1-Dichloroethene	ND	0.00940	0.0100	-	-	-
cis-1,2-Dichloroethene	ND	0.0930	0.500	-	-	-
trans-1,2-Dichloroethene	ND	0.110	0.500	-	-	-
1,2-Dichloropropane	ND	0.0190	0.200	-	-	-
1,3-Dichloropropane	ND	0.170	0.500	-	-	-
2,2-Dichloropropane	ND	0.220	0.500	-	-	-
1,1-Dichloropropene	ND	0.0850	0.500	-	-	-

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Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	2106958
Date Prepared:	06/22/2021	BatchID:	224077
Date Analyzed:	06/22/2021	Extraction Method:	SW5030B
Instrument:	GC16	Analytical Method:	SW8260B
Matrix:	Water	Unit:	µg/L
Project:	0977; Sonoma-Marín Fairgrounds	Sample ID:	MB/LCS/LCSD-224077

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.210	0.500	-	-	-
trans-1,3-Dichloropropene	ND	0.280	0.500	-	-	-
Diisopropyl ether (DIPE)	ND	0.120	0.500	-	-	-
Ethylbenzene	ND	0.140	0.500	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.160	0.500	-	-	-
Freon 113	ND	0.130	0.500	-	-	-
Hexachlorobutadiene	ND	0.150	0.500	-	-	-
Hexachloroethane	ND	0.0590	0.200	-	-	-
2-Hexanone	ND	0.320	0.500	-	-	-
Isopropylbenzene	ND	0.160	0.500	-	-	-
4-Isopropyl toluene	ND	0.150	0.500	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.160	0.500	-	-	-
Methylene chloride	ND	0.740	2.00	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.440	0.500	-	-	-
Naphthalene	ND	0.150	0.300	-	-	-
n-Propyl benzene	ND	0.120	0.500	-	-	-
Styrene	ND	0.280	2.00	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.160	0.500	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.0110	0.0200	-	-	-
Tetrachloroethene	ND	0.160	0.200	-	-	-
Toluene	ND	0.170	0.500	-	-	-
1,2,3-Trichlorobenzene	ND	0.240	0.500	-	-	-
1,2,4-Trichlorobenzene	ND	0.220	0.500	-	-	-
1,1,1-Trichloroethane	ND	0.110	0.500	-	-	-
1,1,2-Trichloroethane	ND	0.110	0.200	-	-	-
Trichloroethene	ND	0.250	0.500	-	-	-
Trichlorofluoromethane	ND	0.140	0.500	-	-	-
1,2,3-Trichloropropane	ND	0.00450	0.00500	-	-	-
1,2,4-Trimethylbenzene	ND	0.180	0.500	-	-	-
1,3,5-Trimethylbenzene	ND	0.160	0.500	-	-	-
Vinyl Chloride	ND	0.00430	0.00500	-	-	-
m,p-Xylene	ND	0.250	0.500	-	-	-
o-Xylene	ND	0.130	0.500	-	-	-

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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2106958
Date Prepared: 06/22/2021	BatchID: 224077
Date Analyzed: 06/22/2021	Extraction Method: SW5030B
Instrument: GC16	Analytical Method: SW8260B
Matrix: Water	Unit: µg/L
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-224077

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	25.9			25	104	70-130
Toluene-d8	25.9			25	104	70-130
4-BFB	2.58			2.5	103	70-130



Quality Control Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2106958

Date Prepared: 06/22/2021

BatchID: 224077

Date Analyzed: 06/22/2021

Extraction Method: SW5030B

Instrument: GC16

Analytical Method: SW8260B

Matrix: Water

Unit: µg/L

Project: 0977; Sonoma-Marín Fairgrounds

Sample ID: MB/LCS/LCSD-224077

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	40.6	43.0	40	101	107	60-130	5.62	20
tert-Amyl methyl ether (TAME)	3.89	4.26	4	97	106	60-130	9.00	20
Benzene	4.22	4.57	4	106	114	60-130	7.98	20
Bromobenzene	4.60	5.21	4	115	130	60-130	12.4	20
Bromochloromethane	4.58	4.89	4	115	122	60-130	6.36	20
Bromodichloromethane	3.67	4.02	4	92	100	60-130	8.93	20
Bromoform	4.21	4.53	4	105	113	50-130	7.48	20
Bromomethane	3.94	4.36	4	99	109	50-130	10.1	20
2-Butanone (MEK)	17.3	19.3	16	108	120	60-130	10.6	20
t-Butyl alcohol (TBA)	14.4	15.8	16	90	99	50-130	8.96	20
n-Butyl benzene	4.80	5.16	4	120	129	60-130	7.28	20
sec-Butyl benzene	4.48	4.74	4	112	119	60-130	5.69	20
tert-Butyl benzene	4.19	4.46	4	105	112	60-130	6.45	20
Carbon Disulfide	3.98	4.33	4	100	108	60-130	8.29	20
Carbon Tetrachloride	3.43	3.76	4	86	94	60-130	9.41	20
Chlorobenzene	4.66	4.99	4	116	125	60-130	6.80	20
Chloroethane	3.41	3.71	4	85	93	60-140	8.23	20
Chloroform	3.77	4.08	4	94	102	60-130	8.03	20
Chloromethane	4.02	4.38	4	100	109	50-130	8.58	20
2-Chlorotoluene	4.41	4.72	4	110	118	60-130	6.91	20
4-Chlorotoluene	4.69	5.10	4	117	128	60-130	8.52	20
Dibromochloromethane	4.14	4.33	4	103	108	50-130	4.57	20
1,2-Dibromo-3-chloropropane	2.20	2.49	2	110	124	50-130	12.4	20
1,2-Dibromoethane (EDB)	2.35	2.37	2	118	118	60-130	0.528	20
Dibromomethane	4.23	4.59	4	106	115	60-130	8.33	20
1,2-Dichlorobenzene	5.03	5.51	4	126	138,F2	60-130	9.08	20
1,3-Dichlorobenzene	4.63	5.02	4	116	126	60-130	8.01	20
1,4-Dichlorobenzene	4.65	5.09	4	116	127	60-130	8.93	20
Dichlorodifluoromethane	3.20	2.82	4	80	71	40-140	12.6	20
1,1-Dichloroethane	3.89	4.23	4	97	106	50-130	8.35	20
1,2-Dichloroethane (1,2-DCA)	3.73	4.05	4	93	101	60-130	8.24	20
1,1-Dichloroethene	4.27	4.63	4	107	116	60-130	8.18	20
cis-1,2-Dichloroethene	4.23	4.60	4	106	115	60-130	8.24	20
trans-1,2-Dichloroethene	4.25	4.62	4	106	115	60-130	8.28	20
1,2-Dichloropropane	3.91	4.24	4	98	106	60-130	8.12	20
1,3-Dichloropropane	4.15	4.38	4	104	110	60-130	5.58	20
2,2-Dichloropropane	3.88	4.18	4	97	104	60-130	7.34	20
1,1-Dichloropropene	3.96	4.35	4	99	109	60-130	9.43	20

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Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 06/22/2021
Date Analyzed: 06/22/2021
Instrument: GC16
Matrix: Water
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2106958
BatchID: 224077
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-224077

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	4.12	4.29	4	103	107	60-130	4.07	20
trans-1,3-Dichloropropene	3.92	4.13	4	98	103	60-130	5.25	20
Diisopropyl ether (DIPE)	4.04	4.36	4	101	109	60-130	7.68	20
Ethylbenzene	4.35	4.56	4	109	114	60-130	4.82	20
Ethyl tert-butyl ether (ETBE)	3.83	4.17	4	96	104	60-130	8.48	20
Freon 113	4.16	4.52	4	104	113	60-130	8.33	20
Hexachlorobutadiene	4.74	5.13	4	119	128	60-130	7.99	20
Hexachloroethane	3.76	4.09	4	94	102	50-130	8.51	20
2-Hexanone	3.92	4.41	4	98	110	50-130	11.8	20
Isopropylbenzene	4.52	4.90	4	113	123	60-130	8.12	20
4-Isopropyl toluene	4.39	4.66	4	110	116	60-130	5.97	20
Methyl-t-butyl ether (MTBE)	3.79	4.13	4	95	103	60-130	8.60	20
Methylene chloride	4.17	4.47	4	104	112	50-130	7.08	20
4-Methyl-2-pentanone (MIBK)	4.09	4.47	4	102	112	50-130	8.95	20
Naphthalene	4.95	5.73	4	124	143,F2	60-130	14.6	20
n-Propyl benzene	4.62	4.83	4	115	121	60-130	4.43	20
Styrene	4.16	4.34	4	104	109	60-130	4.14	20
1,1,1,2-Tetrachloroethane	4.14	4.42	4	104	110	60-130	6.42	20
1,1,2,2-Tetrachloroethane	4.20	4.81	4	105	120	60-130	13.4	20
Tetrachloroethene	4.54	4.75	4	114	119	60-130	4.37	20
Toluene	4.08	4.36	4	102	109	60-130	6.58	20
1,2,3-Trichlorobenzene	4.67	5.19	4	117	130	60-130	10.6	20
1,2,4-Trichlorobenzene	4.88	5.43	4	122	136,F2	60-130	10.8	20
1,1,1-Trichloroethane	3.73	4.08	4	93	102	60-130	8.94	20
1,1,2-Trichloroethane	4.56	4.81	4	114	120	60-130	5.34	20
Trichloroethene	4.70	5.12	4	118	128	60-130	8.47	20
Trichlorofluoromethane	3.84	4.17	4	96	104	60-130	8.22	20
1,2,3-Trichloropropane	2.25	2.44	2	112	122	60-130	8.38	20
1,2,4-Trimethylbenzene	4.38	4.72	4	109	118	60-130	7.39	20
1,3,5-Trimethylbenzene	4.30	4.60	4	107	115	60-130	6.83	20
Vinyl Chloride	1.84	1.87	2	92	93	60-130	1.53	20
m,p-Xylene	8.94	9.10	8	112	114	60-130	1.83	20
o-Xylene	4.32	4.37	4	108	109	60-130	1.22	20

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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2106958
Date Prepared: 06/22/2021	BatchID: 224077
Date Analyzed: 06/22/2021	Extraction Method: SW5030B
Instrument: GC16	Analytical Method: SW8260B
Matrix: Water	Unit: µg/L
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-224077

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	25.5	25.8	25	102	103	70-130	1.03	20
Toluene-d8	26.3	26.2	25	105	105	70-130	0.368	20
4-BFB	2.54	2.63	2.5	102	105	70-130	3.41	20



Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	2106958
Date Prepared:	06/15/2021	BatchID:	223491
Date Analyzed:	06/16/2021	Extraction Method:	SW5030B
Instrument:	GC16	Analytical Method:	SW8260B
Matrix:	Soil	Unit:	mg/kg
Project:	0977; Sonoma-Marin Fairgrounds	Sample ID:	MB/LCS/LCSD-223491

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Benzene	0.00100,J	0.000870	0.00500	-	-	-
Ethylbenzene	ND	0.00110	0.00500	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.00140	0.00500	-	-	-
Naphthalene	ND	0.00220	0.00500	-	-	-
Toluene	ND	0.00120	0.00500	-	-	-
m,p-Xylene	ND	0.00250	0.00500	-	-	-
o-Xylene	ND	0.00120	0.00500	-	-	-

Surrogate Recovery

Dibromofluoromethane	0.136			0.125	109	70-140
Toluene-d8	0.132			0.125	106	70-140
4-BFB	0.0147			0.0125	118	70-140
Benzene-d6	0.114			0.1	114	70-140
Ethylbenzene-d10	0.119			0.1	119	70-140
1,2-DCB-d4	0.0882			0.1	88	70-140

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Benzene	0.0199	0.0217	0.020	100	108	60-140	8.55	20
Ethylbenzene	0.0219	0.0236	0.020	110	118	60-140	7.51	20
Methyl-t-butyl ether (MTBE)	0.0183	0.0205	0.020	91	103	50-140	11.4	20
Naphthalene	0.0129	0.0139	0.020	65	69	30-140	7.07	20
Toluene	0.0211	0.0225	0.020	105	112	60-140	6.43	20
m,p-Xylene	0.0436	0.0468	0.040	109	117	60-140	6.98	20
o-Xylene	0.0194	0.0212	0.020	97	106	60-140	8.91	20

Surrogate Recovery

Dibromofluoromethane	0.137	0.136	0.12	109	109	70-140	0.201	20
Toluene-d8	0.131	0.134	0.12	105	107	70-140	1.99	20
4-BFB	0.0145	0.0149	0.012	116	119	70-140	2.29	20
Benzene-d6	0.108	0.114	0.10	108	114	70-140	5.40	20
Ethylbenzene-d10	0.115	0.121	0.10	115	121	70-140	5.21	20
1,2-DCB-d4	0.0910	0.0964	0.10	91	96	70-140	5.78	20



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2106958
Date Prepared: 06/15/2021	BatchID: 223558
Date Analyzed: 06/17/2021 - 06/18/2021	Extraction Method: SW5035
Instrument: GC7	Analytical Method: SW8021B/8015Bm
Matrix: Soil	Unit: mg/Kg
Project: 0977; Sonoma-Marin Fairgrounds	Sample ID: MB/LCS/LCSD-223558 2106958-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	0.610	1.00	-	-	-
MTBE	ND	0.00340	0.0500	-	-	-
Benzene	ND	0.00190	0.00500	-	-	-
Toluene	ND	0.00240	0.00500	-	-	-
Ethylbenzene	ND	0.00170	0.00500	-	-	-
m,p-Xylene	ND	0.00260	0.0100	-	-	-
o-Xylene	ND	0.000910	0.00500	-	-	-

Surrogate Recovery

2-Fluorotoluene	0.0890		0.1	89	75-134
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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2106958
Date Prepared: 06/15/2021	BatchID: 223558
Date Analyzed: 06/17/2021 - 06/18/2021	Extraction Method: SW5035
Instrument: GC7	Analytical Method: SW8021B/8015Bm
Matrix: Soil	Unit: mg/Kg
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-223558 2106958-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.654	0.603	0.60	109	101	82-118	8.11	20
MTBE	0.102	0.109	0.10	102	109	61-119	7.07	20
Benzene	0.0943	0.0948	0.10	94	95	77-128	0.456	20
Toluene	0.100	0.100	0.10	100	100	74-132	0.134	20
Ethylbenzene	0.102	0.103	0.10	102	103	84-127	1.04	20
m,p-Xylene	0.220	0.220	0.20	110	110	80-120	0.158	20
o-Xylene	0.103	0.104	0.10	103	104	80-120	0.913	20

Surrogate Recovery

2-Fluorotoluene	0.0985	0.0990	0.10	99	99	75-134	0.514	20
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Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	1	0.559	0.601	0.60	ND	93	100	58-129	7.23	20
MTBE	1	0.0952	0.102	0.10	ND	95	102	47-118	7.24	20
Benzene	1	0.0788	0.0822	0.10	ND	79	82	55-129	4.16	20
Toluene	1	0.0888	0.0878	0.10	ND	89	88	56-130	1.18	20
Ethylbenzene	1	0.0898	0.0901	0.10	ND	90	90	63-129	0.249	20
m,p-Xylene	1	0.194	0.198	0.20	ND	97	99	80-120	2.43	20
o-Xylene	1	0.0914	0.0924	0.10	ND	91	92	80-120	1.07	20

Surrogate Recovery

2-Fluorotoluene	1	0.0822	0.0856	0.10		82	86	62-126	4.14	20
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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2106958
Date Prepared: 06/16/2021	BatchID: 223684
Date Analyzed: 06/16/2021	Extraction Method: SW5030B
Instrument: GC12	Analytical Method: SW8021B/8015Bm
Matrix: Water	Unit: µg/L
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-223684

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	20.0	50.0	-	-	-
MTBE	ND	0.490	1.00	-	-	-
Benzene	ND	0.120	0.500	-	-	-
Toluene	ND	0.110	0.500	-	-	-
Ethylbenzene	ND	0.0950	0.500	-	-	-
m,p-Xylene	ND	0.140	1.00	-	-	-
o-Xylene	ND	0.0740	0.500	-	-	-

Surrogate Recovery

aaa-TFT	9.80	10	98	74-117
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	49.4	49.3	60	82	82	78-116	0.0957	20
MTBE	10.5	9.87	10	105	99	72-122	5.79	20
Benzene	10.1	9.76	10	101	98	81-123	3.58	20
Toluene	10.8	10.4	10	108	104	83-129	3.65	20
Ethylbenzene	10.4	10.1	10	104	101	88-126	3.21	20
m,p-Xylene	20.0	19.4	20	100	97	80-120	3.47	20
o-Xylene	9.81	9.45	10	98	95	80-120	3.67	20

Surrogate Recovery

aaa-TFT	10.1	10.2	10	101	102	74-117	0.500	20
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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2106958
Date Prepared: 06/23/2021	BatchID: 224173
Date Analyzed: 06/24/2021	Extraction Method: SW3050B
Instrument: ICP-MS5	Analytical Method: SW6020
Matrix: Soil	Unit: mg/kg
Project: 0977; Sonoma-Marin Fairgrounds	Sample ID: MB/LCS/LCSD-224173

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Lead	ND	0.140	0.500	-	-	-
Surrogate Recovery						
Terbium	490			500	98	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	49.5	49.7	50	99	99	75-125	0.530	20
Surrogate Recovery								
Terbium	509	510	500	102	102	70-130	0.230	20

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 2106958

ClientCode: ECAR

- WaterTrax
 WriteOn
 EDF
 EQuIS
 Dry-Weight
 Email
 HardCopy
 ThirdParty
 J-flag
 Detection Summary
 Excel

Report to:
EJ VandenBosch
Edd Clark & Associates, Inc.
320 Professional Center Ste. 215
Rohnert Park, CA 94928
(707) 792-9500 FAX: (707) 792-9504

Email: EttaJonV@eddcarkandassociates.com
cc/3rd Party:
PO:
Project: 0977; Sonoma-Marin Fairgrounds

Bill to:
Accounts Payable
Edd Clark & Associates, Inc.
320 Professional Center Ste.215
Rohnert Park, CA 94928
info@eddcarkandassociates.com; Acco

Requested TAT: 5 days;

Date Received: 06/15/2021
Date Logged: 06/15/2021

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
2106958-001	S-7d4.0	Soil	6/10/2021 09:10	<input type="checkbox"/>		A	A			A						
2106958-002	S-7d8.0	Soil	6/10/2021 09:11	<input type="checkbox"/>		A	A			A						
2106958-003	S-7d12.0	Soil	6/10/2021 09:13	<input checked="" type="checkbox"/>						A	A					
2106958-004	S-7d16.0	Soil	6/10/2021 09:16	<input checked="" type="checkbox"/>						A	A					
2106958-005	S-7d20.0	Soil	6/10/2021 09:19	<input checked="" type="checkbox"/>						A	A					
2106958-006	S-7d28.0	Soil	6/10/2021 09:54	<input checked="" type="checkbox"/>						A	A					
2106958-007	S-8d4.0	Soil	6/10/2021 10:37	<input type="checkbox"/>		A	A			A						
2106958-008	S-8d8.0	Soil	6/10/2021 10:39	<input type="checkbox"/>		A	A			A						
2106958-009	S-8d12.0	Soil	6/10/2021 10:41	<input checked="" type="checkbox"/>						A	A					
2106958-010	S-8d16.0	Soil	6/10/2021 10:43	<input checked="" type="checkbox"/>						A	A					
2106958-011	S-8d20.0	Soil	6/10/2021 10:45	<input checked="" type="checkbox"/>						A	A					
2106958-012	S-8d24.0	Soil	6/10/2021 10:46	<input checked="" type="checkbox"/>						A	A					
2106958-013	S-8d28.0	Soil	6/10/2021 10:49	<input checked="" type="checkbox"/>						A	A					
2106958-014	S-8d32.0	Soil	6/10/2021 10:51	<input checked="" type="checkbox"/>						A	A					
2106958-015	S-9d4.0	Soil	6/10/2021 11:43	<input type="checkbox"/>		A	A			A						

Test Legend:

1	8260B_W	2	8260VOC_S	3	G-MBTEX_S	4	G-MBTEX_W
5	PBMS_TTLC_S	6	PRDisposal Fee	7	PRHOLD	8	
9		10		11		12	

Project Manager: Angela Rydelius

Prepared by: Nancy Palacios

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.

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 2106958

ClientCode: ECAR

- WaterTrax
 WriteOn
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 J-flag
 Detection Summary
 Excel

Report to:

EJ VandenBosch
Edd Clark & Associates, Inc.
320 Professional Center Ste. 215
Rohnert Park, CA 94928
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Email: EttaJonV@eddcclarkandassociates.com
cc/3rd Party:
PO:
Project: 0977; Sonoma-Marin Fairgrounds

Bill to:

Accounts Payable
Edd Clark & Associates, Inc.
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info@eddcclarkandassociates.com; Acco

Requested TAT: 5 days;

Date Received: 06/15/2021

Date Logged: 06/15/2021

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
2106958-016	S-9d8.0	Soil	6/10/2021 11:45	<input type="checkbox"/>		A	A			A						
2106958-017	S-9d12.0	Soil	6/10/2021 11:48	<input checked="" type="checkbox"/>						A	A					
2106958-018	S-9d16.0	Soil	6/10/2021 11:53	<input checked="" type="checkbox"/>						A	A					
2106958-019	S-9d20.0	Soil	6/10/2021 11:55	<input checked="" type="checkbox"/>						A	A					
2106958-020	B-1d4.0	Soil	6/10/2021 14:04	<input checked="" type="checkbox"/>						A	A					
2106958-021	B-1d8.0	Soil	6/10/2021 14:05	<input type="checkbox"/>		A	A			A						
2106958-022	B-1d12.0	Soil	6/10/2021 14:07	<input type="checkbox"/>		A	A			A						
2106958-023	B-1d16.0	Soil	6/10/2021 14:09	<input checked="" type="checkbox"/>						A	A					
2106958-024	B-1d20.0	Soil	6/10/2021 14:11	<input checked="" type="checkbox"/>						A	A					
2106958-025	B-1d24.0	Soil	6/10/2021 14:15	<input checked="" type="checkbox"/>						A	A					
2106958-026	S-7W	Water	6/10/2021 10:10	<input type="checkbox"/>	B			A		A						
2106958-027	S-8W	Water	6/10/2021 11:30	<input type="checkbox"/>	B			A		A						
2106958-028	S-9W	Water	6/10/2021 12:40	<input type="checkbox"/>	B			A		A						
2106958-029	B-1W	Water	6/10/2021 15:30	<input type="checkbox"/>	B			A		A						
2106958-030	Soil Drum	Soil	6/10/2021 15:40	<input type="checkbox"/>		A	A			A	A					

Test Legend:

1	8260B_W	2	8260VOC_S	3	G-MBTEX_S	4	G-MBTEX_W
5	PBMS_TTLC_S	6	PRDisposal Fee	7	PRHOLD	8	
9		10		11		12	

Project Manager: Angela Rydelius

Prepared by: Nancy Palacios

Comments:

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



WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977; Sonoma-Marin Fairgrounds

Work Order: 2106958

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@edclarkandassociates.com

Comments:

Date Logged: 6/15/2021

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
001A	S-7d4.0	Soil	SW8021B/8015Bm (G/MBTEX)	1	Acetate Liner	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 9:10	5 days	6/22/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	6/22/2021		<input type="checkbox"/>	
002A	S-7d8.0	Soil	SW8021B/8015Bm (G/MBTEX)	1	Acetate Liner	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 9:11	5 days	6/22/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	6/22/2021		<input type="checkbox"/>	
007A	S-8d4.0	Soil	SW8021B/8015Bm (G/MBTEX)	1	Acetate Liner	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 10:37	5 days	6/22/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	6/22/2021		<input type="checkbox"/>	
008A	S-8d8.0	Soil	SW8021B/8015Bm (G/MBTEX)	1	Acetate Liner	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 10:39	5 days	6/22/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	6/22/2021		<input type="checkbox"/>	
015A	S-9d4.0	Soil	SW8021B/8015Bm (G/MBTEX)	1	Acetate Liner	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 11:43	5 days	6/22/2021		<input type="checkbox"/>	

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

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



WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977; Sonoma-Marin Fairgrounds

Work Order: 2106958

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@edclarkandassociates.com

Comments:

Date Logged: 6/15/2021

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
015A	S-9d4.0	Soil	SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>	1	Acetate Liner	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 11:43	5 days	6/22/2021		<input type="checkbox"/>	
016A	S-9d8.0	Soil	SW8021B/8015Bm (G/MBTEX) SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>	1	Acetate Liner	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 11:45	5 days 5 days	6/22/2021 6/22/2021		<input type="checkbox"/>	<input type="checkbox"/>
021A	B-1d8.0	Soil	SW8021B/8015Bm (G/MBTEX) SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>	1	Acetate Liner	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 14:05	5 days 5 days	6/22/2021 6/22/2021		<input type="checkbox"/>	<input type="checkbox"/>
022A	B-1d12.0	Soil	SW8021B/8015Bm (G/MBTEX) SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>	1	Acetate Liner	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 14:07	5 days 5 days	6/22/2021 6/22/2021		<input type="checkbox"/>	<input type="checkbox"/>
026A	S-7W	Water	SW8021B/8015Bm (G/MBTEX)	1	VOA w/ HCl	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 10:10	5 days	6/22/2021	Present	<input type="checkbox"/>	
026B	S-7W	Water	SW8260B (VOCs)	1	VOA w/ HCl	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 10:10	5 days	6/22/2021	Present	<input type="checkbox"/>	
				2	aVOA, Unpres	<input type="checkbox"/>	<input type="checkbox"/>				Present	<input type="checkbox"/>	

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

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WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977; Sonoma-Marin Fairgrounds

Work Order: 2106958

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@edclarkandassociates.com

Comments:


Date Logged: 6/15/2021

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
027A	S-8W	Water	SW8021B/8015Bm (G/MBTEX)	1	VOA w/ HCl	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 11:30	5 days	6/22/2021	Present	<input type="checkbox"/>	
027B	S-8W	Water	SW8260B (VOCs)	1	VOA w/ HCl	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 11:30	5 days	6/22/2021	Present	<input type="checkbox"/>	
				2	aVOA, Unpres	<input type="checkbox"/>	<input type="checkbox"/>				Present	<input type="checkbox"/>	
028A	S-9W	Water	SW8021B/8015Bm (G/MBTEX)	1	VOA w/ HCl	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 12:40	5 days	6/22/2021	Present	<input type="checkbox"/>	
028B	S-9W	Water	SW8260B (VOCs)	1	VOA w/ HCl	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 12:40	5 days	6/22/2021	Present	<input type="checkbox"/>	
				2	aVOA, Unpres	<input type="checkbox"/>	<input type="checkbox"/>				Present	<input type="checkbox"/>	
029A	B-1W	Water	SW8021B/8015Bm (G/MBTEX)	1	VOA w/ HCl	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 15:30	5 days	6/22/2021	Present	<input type="checkbox"/>	
029B	B-1W	Water	SW8260B (VOCs)	1	VOA w/ HCl	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 15:30	5 days	6/22/2021	Present	<input type="checkbox"/>	
				2	aVOA, Unpres	<input type="checkbox"/>	<input type="checkbox"/>				Present	<input type="checkbox"/>	
030A	Soil Drum	Soil	SW6020 (Lead)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	6/10/2021 15:40	5 days	6/22/2021		<input type="checkbox"/>	
			SW8021B/8015Bm (G/MBTEX)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	6/22/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	6/22/2021		<input type="checkbox"/>	

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

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 McCAMPBELL ANALYTICAL, INC. 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701 Telephone: (877) 252-9262 / Fax: (925) 252-9269 www.mccampbell.com main@mccampbell.com						CHAIN OF CUSTODY RECORD																			
						Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD <input checked="" type="radio"/>		Quote #											
						J-Flag / MDL		ESL		Cleanup Approved			Dry Weight		Bottle Order #										
						Delivery Format: PDF <input checked="" type="radio"/>		GeoTracker EDF			EDD		Write On (DW)			Detect Summary									
Report To: EJ VandenBosch Bill To: accounting@edclarkandassociates.com						Analysis Requested																			
Company: Edd Clark & Associates						TPH-g (8015) BTEX, MTBE (8260) Naphthalene (8260) TPH-multi scan (8015) LUFT 5 Metals (6020) PCB (8082) Mineral Oil (8015) Full scan VOCs (8260)																			
Email: ettajonv@edclarkandassociates.com; markt@edclarkandassociates.com																									
Alt Email: johnc@edclarkandassociates.com Tele: (707) 792-9500																									
Project Name: Sonoma-Marin Fairgrounds Project #: 0977																									
Project Location: 866 E. Washington St, Petaluma PO # 0977																									
Sampler Signature: <i>Mark Jay</i>																									
SAMPLE ID		Sampling		#Containers	Matrix		Preservative																		
Location / Field Point		Date	Time																						
S-7d4.0		6/10/21	0910	1	SOIL		7	X	X	X															
S-7d8.0			0911					X	X	X															
S-7d12.0			0913				HOLD																		
S-7d16.0			0916				"																		
S-7d20.0			0919				"																		
S-7d28.0			0954				"																		
S-8d4.0			1037				X	X	X																
S-8d8.0			1039				X	X	X																
S-8d12.0			1041				HOLD																		
S-8d16.0			1043				"																		
MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate \$250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.																									
* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.												Comments / Instructions													
Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.												Need ESL Reporting Limits													
Relinquished By / Company Name				Date		Time		Received By / Company Name														Date		Time	
<i>Mark Jay</i>				6/14/21		1530		<i>Nancy Palacios</i>														6-15-21		0900	
				6-15-21		1115																6/15/21		1115	
Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other																									
Preservative Code: 1=4°C 2=HCl 3=H ₂ SO ₄ 4=HNO ₃ 5=NaOH 6=ZnOAc/NaOH 7=None												Temp _____ °C Initials _____													



McCAMPBELL ANALYTICAL, INC.
 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
 Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD									
Turn Around Time: 1 Day Rush			2 Day Rush		3 Day Rush		STD <input checked="" type="radio"/>	Quote #	
J-Flag / MDL		ESL		Cleanup Approved			Dry Weight		Bottle Order #
Delivery Format: PDF <input checked="" type="radio"/>		GeoTracker EDF			EDD		Write On (DW)		Detect Summary

Report To: EJ VandenBosch Bill To: accounting@edclarkandassociates.com
 Company: Edd Clark & Associates
 Email: ettajonv@edclarkandassociates.com; markt@edclarkandassociates.com
 Alt Email: johnc@edclarkandassociates.com Tele: (707) 792-9500
 Project Name: Sonoma-Marin Fairgrounds Project #: 0977
 Project Location: 866 E. Washington St, Petaluma PO # 0977
 Sampler Signature: *[Signature]*

Analysis Requested

SAMPLE ID Location / Field Point	Sampling		#Containers	Matrix	Preservative	TPH-g (8015)	BTEX, MTBE (8260)	Naphthalene (8260)	TPH-multi scan (8015)	LUFT 5 Metals (6020)	PCB (8082)	Mineral Oil (8015)	Full scan VOCs (8260)							
	Date	Time																		
S-8d20.0	6/10/21	1045	1	SOIL	7	HOLD														
S-8d24.0		1046				HOLD														
S-8d28.0		1049				"														
S-8d32.0		1051				"														
S-9d4.0		1143				X	X	X												
S-9d8.0		1145				X	X	X												
S-9d12.0		1148				HOLD														
S-9d16.0		1153				"														
S-9d20.0		1155				"														
B-1d4.0		1404				"														

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* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.							Comments / Instructions <i>Need ESL Reporting Limits</i>
Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.							
Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time		
<i>[Signature]</i>	6/14/21	1530	<i>[Signature]</i>	6-15-21	0900		
	6-15-21	1115	Nancy Palacios	6-15-21	1115		

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
 Preservative Code: 1=4°C 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None Temp _____ °C Initials _____



Sample Receipt Checklist

Client Name: **Edd Clark & Associates, Inc.**
 Project: **0977; Sonoma-Marin Fairgrounds**

Date and Time Received: **6/15/2021 11:15**
 Date Logged: **6/15/2021**

WorkOrder No: **2106958** Matrix: Soil/Water
 Carrier: Bernie Cummins (MAI Courier)

Received by: **Nancy Palacios**
 Logged by: **Nancy Palacios**

Chain of Custody (COC) Information

- | | | | |
|---|---|-----------------------------|--|
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample IDs noted by Client on COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Date and Time of collection noted by Client on COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sampler's name noted on COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| COC agrees with Quote? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Sample Receipt Information

- | | | | |
|--|---|-----------------------------|--|
| Custody seals intact on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper containers/bottles? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |

Sample Preservation and Hold Time (HT) Information

- | | | | |
|---|---|-----------------------------|-----------------------------|
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| Samples Received on Ice? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |

(Ice Type: WET ICE)

- | | | | |
|--|---|-----------------------------|--|
| Sample/Temp Blank temperature | | Temp: 2.4°C | NA <input type="checkbox"/> |
| ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Sample labels checked for correct preservation? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

UCMR Samples:

- | | | | |
|--|------------------------------|-----------------------------|--|
| pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Free Chlorine tested and acceptable upon receipt (<0.1mg/L)? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2107216

Report Created for: Edd Clark & Associates, Inc.

320 Professional Center Ste. 215
Rohnert Park, CA 94928

Project Contact: EJ VandenBosch

Project P.O.: 0977

Project: 0977; Sonoma-Marín Fairgrounds

Project Received: 07/07/2021

Analytical Report reviewed & approved for release on 07/15/2021 by:

Yen Cao

Project 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 a case narrative.





Glossary of Terms & Qualifier Definitions

Client: Edd Clark & Associates, Inc.
Project: 0977; Sonoma-Marin Fairgrounds
WorkOrder: 2107216

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
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
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
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
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: Edd Clark & Associates, Inc.
Project: 0977; Sonoma-Marín Fairgrounds
WorkOrder: 2107216

Analytical Qualifiers

J Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
c16 The internal standard recovery is below the lower limit. The target analyte(s) were Not Detected (ND); therefore, the data is reportable.
e2 Diesel range compounds are detected; no recognizable pattern.
e7 Oil range compounds are detected.

Quality Control Qualifiers

F2 LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.
F10 MS/MSD outside control limits. Physical or chemical interferences exist due to sample matrix.



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8082
Unit: mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-30	2107216-030A	Soil	07/06/2021 14:12	GC40 07082143.d	224980

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.050	1	07/08/2021 18:48
Aroclor1221	ND	0.050	1	07/08/2021 18:48
Aroclor1232	ND	0.050	1	07/08/2021 18:48
Aroclor1242	ND	0.050	1	07/08/2021 18:48
Aroclor1248	ND	0.050	1	07/08/2021 18:48
Aroclor1254	ND	0.050	1	07/08/2021 18:48
Aroclor1260	ND	0.050	1	07/08/2021 18:48
PCBs, total	ND	0.050	1	07/08/2021 18:48

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	94	60-130	07/08/2021 18:48

Analyst(s): CN

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-31	2107216-031A	Soil	07/06/2021 14:17	GC40 07082144.d	224980

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.050	1	07/08/2021 19:02
Aroclor1221	ND	0.050	1	07/08/2021 19:02
Aroclor1232	ND	0.050	1	07/08/2021 19:02
Aroclor1242	ND	0.050	1	07/08/2021 19:02
Aroclor1248	ND	0.050	1	07/08/2021 19:02
Aroclor1254	ND	0.050	1	07/08/2021 19:02
Aroclor1260	ND	0.050	1	07/08/2021 19:02
PCBs, total	ND	0.050	1	07/08/2021 19:02

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	94	60-130	07/08/2021 19:02

Analyst(s): CN



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/14/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
WW-1	2107216-032B	Water	07/06/2021 14:25	GC16 07142112.D	225536

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	40	1	07/14/2021 15:18
tert-Amyl methyl ether (TAME)	ND	0.50	1	07/14/2021 15:18
Benzene	ND	0.20	1	07/14/2021 15:18
Bromobenzene	ND	0.50	1	07/14/2021 15:18
Bromochloromethane	ND	0.50	1	07/14/2021 15:18
Bromodichloromethane	ND	0.050	1	07/14/2021 15:18
Bromoform	ND	0.50	1	07/14/2021 15:18
Bromomethane	ND	0.50	1	07/14/2021 15:18
2-Butanone (MEK)	ND	5.0	1	07/14/2021 15:18
t-Butyl alcohol (TBA)	ND	5.0	1	07/14/2021 15:18
n-Butyl benzene	ND	0.50	1	07/14/2021 15:18
sec-Butyl benzene	ND	0.50	1	07/14/2021 15:18
tert-Butyl benzene	ND	0.50	1	07/14/2021 15:18
Carbon Disulfide	ND	0.50	1	07/14/2021 15:18
Carbon Tetrachloride	ND	0.050	1	07/14/2021 15:18
Chlorobenzene	ND	0.50	1	07/14/2021 15:18
Chloroethane	ND	0.50	1	07/14/2021 15:18
Chloroform	ND	0.10	1	07/14/2021 15:18
Chloromethane	ND	0.50	1	07/14/2021 15:18
2-Chlorotoluene	ND	0.50	1	07/14/2021 15:18
4-Chlorotoluene	ND	0.50	1	07/14/2021 15:18
Dibromochloromethane	ND	0.15	1	07/14/2021 15:18
1,2-Dibromo-3-chloropropane	ND	0.020	1	07/14/2021 15:18
1,2-Dibromoethane (EDB)	ND	0.040	1	07/14/2021 15:18
Dibromomethane	ND	0.50	1	07/14/2021 15:18
1,2-Dichlorobenzene	ND	0.50	1	07/14/2021 15:18
1,3-Dichlorobenzene	ND	0.50	1	07/14/2021 15:18
1,4-Dichlorobenzene	ND	0.50	1	07/14/2021 15:18
Dichlorodifluoromethane	ND	0.50	1	07/14/2021 15:18
1,1-Dichloroethane	ND	0.50	1	07/14/2021 15:18
1,2-Dichloroethane (1,2-DCA)	ND	0.020	1	07/14/2021 15:18
1,1-Dichloroethene	ND	0.010	1	07/14/2021 15:18
cis-1,2-Dichloroethene	ND	0.50	1	07/14/2021 15:18
trans-1,2-Dichloroethene	ND	0.50	1	07/14/2021 15:18
1,2-Dichloropropane	ND	0.20	1	07/14/2021 15:18
1,3-Dichloropropane	ND	0.50	1	07/14/2021 15:18
2,2-Dichloropropane	ND	0.50	1	07/14/2021 15:18

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/14/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
WW-1	2107216-032B	Water	07/06/2021 14:25	GC16 07142112.D	225536

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	07/14/2021 15:18
cis-1,3-Dichloropropene	ND	0.50	1	07/14/2021 15:18
trans-1,3-Dichloropropene	ND	0.50	1	07/14/2021 15:18
Diisopropyl ether (DIPE)	ND	0.50	1	07/14/2021 15:18
Ethylbenzene	ND	0.50	1	07/14/2021 15:18
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	07/14/2021 15:18
Freon 113	ND	0.50	1	07/14/2021 15:18
Hexachlorobutadiene	ND	0.50	1	07/14/2021 15:18
Hexachloroethane	ND	0.20	1	07/14/2021 15:18
2-Hexanone	ND	0.50	1	07/14/2021 15:18
Isopropylbenzene	ND	0.50	1	07/14/2021 15:18
4-Isopropyl toluene	ND	0.50	1	07/14/2021 15:18
Methyl-t-butyl ether (MTBE)	ND	0.50	1	07/14/2021 15:18
Methylene chloride	ND	2.0	1	07/14/2021 15:18
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	07/14/2021 15:18
Naphthalene	ND	0.30	1	07/14/2021 15:18
n-Propyl benzene	ND	0.50	1	07/14/2021 15:18
Styrene	ND	2.0	1	07/14/2021 15:18
1,1,1,2-Tetrachloroethane	ND	0.50	1	07/14/2021 15:18
1,1,2,2-Tetrachloroethane	ND	0.020	1	07/14/2021 15:18
Tetrachloroethene	ND	0.20	1	07/14/2021 15:18
Toluene	ND	0.50	1	07/14/2021 15:18
1,2,3-Trichlorobenzene	ND	0.50	1	07/14/2021 15:18
1,2,4-Trichlorobenzene	ND	0.50	1	07/14/2021 15:18
1,1,1-Trichloroethane	ND	0.50	1	07/14/2021 15:18
1,1,2-Trichloroethane	ND	0.20	1	07/14/2021 15:18
Trichloroethene	ND	0.50	1	07/14/2021 15:18
Trichlorofluoromethane	ND	0.50	1	07/14/2021 15:18
1,2,3-Trichloropropane	ND	0.0050	1	07/14/2021 15:18
1,2,4-Trimethylbenzene	ND	0.50	1	07/14/2021 15:18
1,3,5-Trimethylbenzene	ND	0.50	1	07/14/2021 15:18
Vinyl Chloride	ND	0.0050	1	07/14/2021 15:18
m,p-Xylene	ND	0.50	1	07/14/2021 15:18
o-Xylene	ND	0.50	1	07/14/2021 15:18
Xylenes, Total	ND	0.50	1	07/14/2021 15:18

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/14/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
WW-1	2107216-032B	Water	07/06/2021 14:25	GC16 07142112.D	225536

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	105	70-130		07/14/2021 15:18
Toluene-d8	112	70-130		07/14/2021 15:18
4-BFB	90	70-130		07/14/2021 15:18

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	2107216-001A	Soil	07/06/2021 08:39	GC38 07142110.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/14/2021 15:38
Ethylbenzene	ND	0.0050	1	07/14/2021 15:38
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/14/2021 15:38
Naphthalene	ND	0.0050	1	07/14/2021 15:38
Toluene	ND	0.0050	1	07/14/2021 15:38
m,p-Xylene	ND	0.0050	1	07/14/2021 15:38
o-Xylene	ND	0.0050	1	07/14/2021 15:38
Xylenes, Total	ND	0.0050	1	07/14/2021 15:38

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	103	70-140	07/14/2021 15:38
Toluene-d8	122	70-140	07/14/2021 15:38
4-BFB	108	70-140	07/14/2021 15:38
Benzene-d6	90	50-140	07/14/2021 15:38
Ethylbenzene-d10	110	50-140	07/14/2021 15:38
1,2-DCB-d4	73	40-140	07/14/2021 15:38

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2	2107216-002A	Soil	07/06/2021 08:45	GC38 07142111.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/14/2021 16:16
Ethylbenzene	ND	0.0050	1	07/14/2021 16:16
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/14/2021 16:16
Naphthalene	ND	0.0050	1	07/14/2021 16:16
Toluene	ND	0.0050	1	07/14/2021 16:16
m,p-Xylene	ND	0.0050	1	07/14/2021 16:16
o-Xylene	ND	0.0050	1	07/14/2021 16:16
Xylenes, Total	ND	0.0050	1	07/14/2021 16:16

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	104	70-140	07/14/2021 16:16
Toluene-d8	119	70-140	07/14/2021 16:16
4-BFB	107	70-140	07/14/2021 16:16
Benzene-d6	88	50-140	07/14/2021 16:16
Ethylbenzene-d10	105	50-140	07/14/2021 16:16
1,2-DCB-d4	70	40-140	07/14/2021 16:16

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3	2107216-003A	Soil	07/06/2021 08:49	GC38 07142112.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/14/2021 16:54
Ethylbenzene	ND	0.0050	1	07/14/2021 16:54
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/14/2021 16:54
Naphthalene	ND	0.0050	1	07/14/2021 16:54
Toluene	ND	0.0050	1	07/14/2021 16:54
m,p-Xylene	ND	0.0050	1	07/14/2021 16:54
o-Xylene	ND	0.0050	1	07/14/2021 16:54
Xylenes, Total	ND	0.0050	1	07/14/2021 16:54

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/14/2021 16:54
Toluene-d8	121	70-140	07/14/2021 16:54
4-BFB	106	70-140	07/14/2021 16:54
Benzene-d6	93	50-140	07/14/2021 16:54
Ethylbenzene-d10	109	50-140	07/14/2021 16:54
1,2-DCB-d4	73	40-140	07/14/2021 16:54

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-4	2107216-004A	Soil	07/06/2021 08:55	GC38 07142113.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/14/2021 17:32
Ethylbenzene	ND	0.0050	1	07/14/2021 17:32
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/14/2021 17:32
Naphthalene	ND	0.0050	1	07/14/2021 17:32
Toluene	ND	0.0050	1	07/14/2021 17:32
m,p-Xylene	ND	0.0050	1	07/14/2021 17:32
o-Xylene	ND	0.0050	1	07/14/2021 17:32
Xylenes, Total	ND	0.0050	1	07/14/2021 17:32

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/14/2021 17:32
Toluene-d8	119	70-140	07/14/2021 17:32
4-BFB	100	70-140	07/14/2021 17:32
Benzene-d6	88	50-140	07/14/2021 17:32
Ethylbenzene-d10	103	50-140	07/14/2021 17:32
1,2-DCB-d4	69	40-140	07/14/2021 17:32

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2107216

Date Received: 07/07/2021 10:40

Extraction Method: SW5030B

Date Prepared: 07/07/2021

Analytical Method: SW8260B

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-5	2107216-005A	Soil	07/06/2021 09:01	GC38 07142114.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/14/2021 18:10
Ethylbenzene	ND	0.0050	1	07/14/2021 18:10
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/14/2021 18:10
Naphthalene	ND	0.0050	1	07/14/2021 18:10
Toluene	ND	0.0050	1	07/14/2021 18:10
m,p-Xylene	ND	0.0050	1	07/14/2021 18:10
o-Xylene	ND	0.0050	1	07/14/2021 18:10
Xylenes, Total	ND	0.0050	1	07/14/2021 18:10

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/14/2021 18:10
Toluene-d8	118	70-140	07/14/2021 18:10
4-BFB	107	70-140	07/14/2021 18:10
Benzene-d6	86	50-140	07/14/2021 18:10
Ethylbenzene-d10	103	50-140	07/14/2021 18:10
1,2-DCB-d4	66	40-140	07/14/2021 18:10

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-6	2107216-006A	Soil	07/06/2021 09:55	GC38 07142118.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/14/2021 20:52
Ethylbenzene	ND	0.0050	1	07/14/2021 20:52
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/14/2021 20:52
Naphthalene	ND	0.0050	1	07/14/2021 20:52
Toluene	ND	0.0050	1	07/14/2021 20:52
m,p-Xylene	ND	0.0050	1	07/14/2021 20:52
o-Xylene	ND	0.0050	1	07/14/2021 20:52
Xylenes, Total	ND	0.0050	1	07/14/2021 20:52

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	106	70-140	07/14/2021 20:52
Toluene-d8	121	70-140	07/14/2021 20:52
4-BFB	106	70-140	07/14/2021 20:52
Benzene-d6	87	50-140	07/14/2021 20:52
Ethylbenzene-d10	102	50-140	07/14/2021 20:52
1,2-DCB-d4	69	40-140	07/14/2021 20:52

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-7	2107216-007A	Soil	07/06/2021 09:12	GC38 07142119.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/14/2021 21:30
Ethylbenzene	ND	0.0050	1	07/14/2021 21:30
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/14/2021 21:30
Naphthalene	ND	0.0050	1	07/14/2021 21:30
Toluene	ND	0.0050	1	07/14/2021 21:30
m,p-Xylene	ND	0.0050	1	07/14/2021 21:30
o-Xylene	ND	0.0050	1	07/14/2021 21:30
Xylenes, Total	ND	0.0050	1	07/14/2021 21:30

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/14/2021 21:30
Toluene-d8	122	70-140	07/14/2021 21:30
4-BFB	114	70-140	07/14/2021 21:30
Benzene-d6	95	50-140	07/14/2021 21:30
Ethylbenzene-d10	115	50-140	07/14/2021 21:30
1,2-DCB-d4	77	40-140	07/14/2021 21:30

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2107216

Date Received: 07/07/2021 10:40

Extraction Method: SW5030B

Date Prepared: 07/07/2021

Analytical Method: SW8260B

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-8	2107216-008A	Soil	07/06/2021 09:06	GC38 07142120.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/14/2021 22:08
Ethylbenzene	ND	0.0050	1	07/14/2021 22:08
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/14/2021 22:08
Naphthalene	ND	0.0050	1	07/14/2021 22:08
Toluene	ND	0.0050	1	07/14/2021 22:08
m,p-Xylene	ND	0.0050	1	07/14/2021 22:08
o-Xylene	ND	0.0050	1	07/14/2021 22:08
Xylenes, Total	ND	0.0050	1	07/14/2021 22:08

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	106	70-140	07/14/2021 22:08
Toluene-d8	121	70-140	07/14/2021 22:08
4-BFB	109	70-140	07/14/2021 22:08
Benzene-d6	86	50-140	07/14/2021 22:08
Ethylbenzene-d10	101	50-140	07/14/2021 22:08
1,2-DCB-d4	70	40-140	07/14/2021 22:08

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-9	2107216-009A	Soil	07/06/2021 10:00	GC38 07142121.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/14/2021 22:46
Ethylbenzene	ND	0.0050	1	07/14/2021 22:46
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/14/2021 22:46
Naphthalene	ND	0.0050	1	07/14/2021 22:46
Toluene	ND	0.0050	1	07/14/2021 22:46
m,p-Xylene	ND	0.0050	1	07/14/2021 22:46
o-Xylene	ND	0.0050	1	07/14/2021 22:46
Xylenes, Total	ND	0.0050	1	07/14/2021 22:46

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/14/2021 22:46
Toluene-d8	123	70-140	07/14/2021 22:46
4-BFB	107	70-140	07/14/2021 22:46
Benzene-d6	93	50-140	07/14/2021 22:46
Ethylbenzene-d10	111	50-140	07/14/2021 22:46
1,2-DCB-d4	74	40-140	07/14/2021 22:46

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2107216

Date Received: 07/07/2021 10:40

Extraction Method: SW5030B

Date Prepared: 07/07/2021

Analytical Method: SW8260B

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-10	2107216-010A	Soil	07/06/2021 09:58	GC38 07142122.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/14/2021 23:24
Ethylbenzene	ND	0.0050	1	07/14/2021 23:24
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/14/2021 23:24
Naphthalene	ND	0.0050	1	07/14/2021 23:24
Toluene	ND	0.0050	1	07/14/2021 23:24
m,p-Xylene	ND	0.0050	1	07/14/2021 23:24
o-Xylene	ND	0.0050	1	07/14/2021 23:24
Xylenes, Total	ND	0.0050	1	07/14/2021 23:24

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	106	70-140	07/14/2021 23:24
Toluene-d8	122	70-140	07/14/2021 23:24
4-BFB	114	70-140	07/14/2021 23:24
Benzene-d6	88	50-140	07/14/2021 23:24
Ethylbenzene-d10	103	50-140	07/14/2021 23:24
1,2-DCB-d4	73	40-140	07/14/2021 23:24

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-11	2107216-011A	Soil	07/06/2021 10:13	GC38 07142123.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 00:02
Ethylbenzene	ND	0.0050	1	07/15/2021 00:02
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 00:02
Naphthalene	ND	0.0050	1	07/15/2021 00:02
Toluene	ND	0.0050	1	07/15/2021 00:02
m,p-Xylene	ND	0.0050	1	07/15/2021 00:02
o-Xylene	ND	0.0050	1	07/15/2021 00:02
Xylenes, Total	ND	0.0050	1	07/15/2021 00:02

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	107	70-140	07/15/2021 00:02
Toluene-d8	122	70-140	07/15/2021 00:02
4-BFB	111	70-140	07/15/2021 00:02
Benzene-d6	89	50-140	07/15/2021 00:02
Ethylbenzene-d10	104	50-140	07/15/2021 00:02
1,2-DCB-d4	70	40-140	07/15/2021 00:02

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-12	2107216-012A	Soil	07/06/2021 10:42	GC38 07142124.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 00:40
Ethylbenzene	ND	0.0050	1	07/15/2021 00:40
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 00:40
Naphthalene	ND	0.0050	1	07/15/2021 00:40
Toluene	ND	0.0050	1	07/15/2021 00:40
m,p-Xylene	ND	0.0050	1	07/15/2021 00:40
o-Xylene	ND	0.0050	1	07/15/2021 00:40
Xylenes, Total	ND	0.0050	1	07/15/2021 00:40

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	106	70-140	07/15/2021 00:40
Toluene-d8	121	70-140	07/15/2021 00:40
4-BFB	111	70-140	07/15/2021 00:40
Benzene-d6	96	50-140	07/15/2021 00:40
Ethylbenzene-d10	113	50-140	07/15/2021 00:40
1,2-DCB-d4	79	40-140	07/15/2021 00:40

Analyst(s): TW

Analytical Comments: c16



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-13	2107216-013A	Soil	07/06/2021 10:47	GC38 07142125.D	224927

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 01:18
Ethylbenzene	ND	0.0050	1	07/15/2021 01:18
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 01:18
Naphthalene	ND	0.0050	1	07/15/2021 01:18
Toluene	ND	0.0050	1	07/15/2021 01:18
m,p-Xylene	ND	0.0050	1	07/15/2021 01:18
o-Xylene	ND	0.0050	1	07/15/2021 01:18
Xylenes, Total	ND	0.0050	1	07/15/2021 01:18

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/15/2021 01:18
Toluene-d8	123	70-140	07/15/2021 01:18
4-BFB	106	70-140	07/15/2021 01:18
Benzene-d6	93	50-140	07/15/2021 01:18
Ethylbenzene-d10	112	50-140	07/15/2021 01:18
1,2-DCB-d4	76	40-140	07/15/2021 01:18

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-14	2107216-014A	Soil	07/06/2021 10:36	GC38 07142126.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 01:56
Ethylbenzene	ND	0.0050	1	07/15/2021 01:56
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 01:56
Naphthalene	ND	0.0050	1	07/15/2021 01:56
Toluene	ND	0.0050	1	07/15/2021 01:56
m,p-Xylene	ND	0.0050	1	07/15/2021 01:56
o-Xylene	ND	0.0050	1	07/15/2021 01:56
Xylenes, Total	ND	0.0050	1	07/15/2021 01:56

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/15/2021 01:56
Toluene-d8	121	70-140	07/15/2021 01:56
4-BFB	108	70-140	07/15/2021 01:56
Benzene-d6	87	50-140	07/15/2021 01:56
Ethylbenzene-d10	103	50-140	07/15/2021 01:56
1,2-DCB-d4	71	40-140	07/15/2021 01:56

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-15	2107216-015A	Soil	07/06/2021 10:25	GC38 07142127.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 02:34
Ethylbenzene	ND	0.0050	1	07/15/2021 02:34
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 02:34
Naphthalene	ND	0.0050	1	07/15/2021 02:34
Toluene	ND	0.0050	1	07/15/2021 02:34
m,p-Xylene	ND	0.0050	1	07/15/2021 02:34
o-Xylene	ND	0.0050	1	07/15/2021 02:34
Xylenes, Total	ND	0.0050	1	07/15/2021 02:34

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/15/2021 02:34
Toluene-d8	122	70-140	07/15/2021 02:34
4-BFB	107	70-140	07/15/2021 02:34
Benzene-d6	89	50-140	07/15/2021 02:34
Ethylbenzene-d10	106	50-140	07/15/2021 02:34
1,2-DCB-d4	70	40-140	07/15/2021 02:34

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2107216

Date Received: 07/07/2021 10:40

Extraction Method: SW5030B

Date Prepared: 07/07/2021

Analytical Method: SW8260B

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-16	2107216-016A	Soil	07/06/2021 11:13	GC38 07142128.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 03:12
Ethylbenzene	ND	0.0050	1	07/15/2021 03:12
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 03:12
Naphthalene	ND	0.0050	1	07/15/2021 03:12
Toluene	ND	0.0050	1	07/15/2021 03:12
m,p-Xylene	ND	0.0050	1	07/15/2021 03:12
o-Xylene	ND	0.0050	1	07/15/2021 03:12
Xylenes, Total	ND	0.0050	1	07/15/2021 03:12

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/15/2021 03:12
Toluene-d8	121	70-140	07/15/2021 03:12
4-BFB	110	70-140	07/15/2021 03:12
Benzene-d6	86	50-140	07/15/2021 03:12
Ethylbenzene-d10	103	50-140	07/15/2021 03:12
1,2-DCB-d4	70	40-140	07/15/2021 03:12

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-17	2107216-017A	Soil	07/06/2021 11:27	GC38 07142129.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 03:49
Ethylbenzene	ND	0.0050	1	07/15/2021 03:49
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 03:49
Naphthalene	ND	0.0050	1	07/15/2021 03:49
Toluene	ND	0.0050	1	07/15/2021 03:49
m,p-Xylene	ND	0.0050	1	07/15/2021 03:49
o-Xylene	ND	0.0050	1	07/15/2021 03:49
Xylenes, Total	ND	0.0050	1	07/15/2021 03:49

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/15/2021 03:49
Toluene-d8	121	70-140	07/15/2021 03:49
4-BFB	108	70-140	07/15/2021 03:49
Benzene-d6	91	50-140	07/15/2021 03:49
Ethylbenzene-d10	108	50-140	07/15/2021 03:49
1,2-DCB-d4	72	40-140	07/15/2021 03:49

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-18	2107216-018A	Soil	07/06/2021 11:31	GC38 07142130.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 04:27
Ethylbenzene	ND	0.0050	1	07/15/2021 04:27
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 04:27
Naphthalene	ND	0.0050	1	07/15/2021 04:27
Toluene	ND	0.0050	1	07/15/2021 04:27
m,p-Xylene	ND	0.0050	1	07/15/2021 04:27
o-Xylene	ND	0.0050	1	07/15/2021 04:27
Xylenes, Total	ND	0.0050	1	07/15/2021 04:27

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/15/2021 04:27
Toluene-d8	122	70-140	07/15/2021 04:27
4-BFB	110	70-140	07/15/2021 04:27
Benzene-d6	89	50-140	07/15/2021 04:27
Ethylbenzene-d10	107	50-140	07/15/2021 04:27
1,2-DCB-d4	74	40-140	07/15/2021 04:27

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-19	2107216-019A	Soil	07/06/2021 11:38	GC38 07142131.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 05:05
Ethylbenzene	ND	0.0050	1	07/15/2021 05:05
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 05:05
Naphthalene	ND	0.0050	1	07/15/2021 05:05
Toluene	ND	0.0050	1	07/15/2021 05:05
m,p-Xylene	ND	0.0050	1	07/15/2021 05:05
o-Xylene	ND	0.0050	1	07/15/2021 05:05
Xylenes, Total	ND	0.0050	1	07/15/2021 05:05

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	104	70-140	07/15/2021 05:05
Toluene-d8	121	70-140	07/15/2021 05:05
4-BFB	107	70-140	07/15/2021 05:05
Benzene-d6	92	50-140	07/15/2021 05:05
Ethylbenzene-d10	109	50-140	07/15/2021 05:05
1,2-DCB-d4	73	40-140	07/15/2021 05:05

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-20	2107216-020A	Soil	07/06/2021 11:52	GC38 07142132.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 05:43
Ethylbenzene	ND	0.0050	1	07/15/2021 05:43
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 05:43
Naphthalene	ND	0.0050	1	07/15/2021 05:43
Toluene	ND	0.0050	1	07/15/2021 05:43
m,p-Xylene	ND	0.0050	1	07/15/2021 05:43
o-Xylene	ND	0.0050	1	07/15/2021 05:43
Xylenes, Total	ND	0.0050	1	07/15/2021 05:43

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	106	70-140	07/15/2021 05:43
Toluene-d8	123	70-140	07/15/2021 05:43
4-BFB	114	70-140	07/15/2021 05:43
Benzene-d6	88	50-140	07/15/2021 05:43
Ethylbenzene-d10	104	50-140	07/15/2021 05:43
1,2-DCB-d4	71	40-140	07/15/2021 05:43

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2107216

Date Received: 07/07/2021 10:40

Extraction Method: SW5030B

Date Prepared: 07/07/2021

Analytical Method: SW8260B

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-21	2107216-021A	Soil	07/06/2021 11:59	GC38 07142133.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 06:21
Ethylbenzene	ND	0.0050	1	07/15/2021 06:21
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 06:21
Naphthalene	ND	0.0050	1	07/15/2021 06:21
Toluene	ND	0.0050	1	07/15/2021 06:21
m,p-Xylene	ND	0.0050	1	07/15/2021 06:21
o-Xylene	ND	0.0050	1	07/15/2021 06:21
Xylenes, Total	ND	0.0050	1	07/15/2021 06:21

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-140	07/15/2021 06:21
Toluene-d8	121	70-140	07/15/2021 06:21
4-BFB	109	70-140	07/15/2021 06:21
Benzene-d6	89	50-140	07/15/2021 06:21
Ethylbenzene-d10	106	50-140	07/15/2021 06:21
1,2-DCB-d4	70	40-140	07/15/2021 06:21

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-22	2107216-022A	Soil	07/06/2021 12:11	GC18 07142126.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 00:55
Ethylbenzene	ND	0.0050	1	07/15/2021 00:55
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 00:55
Naphthalene	ND	0.0050	1	07/15/2021 00:55
Toluene	ND	0.0050	1	07/15/2021 00:55
m,p-Xylene	ND	0.0050	1	07/15/2021 00:55
o-Xylene	ND	0.0050	1	07/15/2021 00:55
Xylenes, Total	ND	0.0050	1	07/15/2021 00:55

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	96	70-140	07/15/2021 00:55
Toluene-d8	113	70-140	07/15/2021 00:55
4-BFB	118	70-140	07/15/2021 00:55
Benzene-d6	86	50-140	07/15/2021 00:55
Ethylbenzene-d10	98	50-140	07/15/2021 00:55
1,2-DCB-d4	70	40-140	07/15/2021 00:55

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-23	2107216-023A	Soil	07/06/2021 11:45	GC18 07142127.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 01:35
Ethylbenzene	ND	0.0050	1	07/15/2021 01:35
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 01:35
Naphthalene	ND	0.0050	1	07/15/2021 01:35
Toluene	ND	0.0050	1	07/15/2021 01:35
m,p-Xylene	ND	0.0050	1	07/15/2021 01:35
o-Xylene	ND	0.0050	1	07/15/2021 01:35
Xylenes, Total	ND	0.0050	1	07/15/2021 01:35

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	96	70-140	07/15/2021 01:35
Toluene-d8	113	70-140	07/15/2021 01:35
4-BFB	117	70-140	07/15/2021 01:35
Benzene-d6	84	50-140	07/15/2021 01:35
Ethylbenzene-d10	98	50-140	07/15/2021 01:35
1,2-DCB-d4	70	40-140	07/15/2021 01:35

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-24	2107216-024A	Soil	07/06/2021 13:38	GC18 07142128.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 02:14
Ethylbenzene	ND	0.0050	1	07/15/2021 02:14
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 02:14
Naphthalene	ND	0.0050	1	07/15/2021 02:14
Toluene	ND	0.0050	1	07/15/2021 02:14
m,p-Xylene	ND	0.0050	1	07/15/2021 02:14
o-Xylene	ND	0.0050	1	07/15/2021 02:14
Xylenes, Total	ND	0.0050	1	07/15/2021 02:14

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	95	70-140	07/15/2021 02:14
Toluene-d8	111	70-140	07/15/2021 02:14
4-BFB	111	70-140	07/15/2021 02:14
Benzene-d6	80	50-140	07/15/2021 02:14
Ethylbenzene-d10	90	50-140	07/15/2021 02:14
1,2-DCB-d4	65	40-140	07/15/2021 02:14

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-25	2107216-025A	Soil	07/06/2021 13:32	GC18 07142129.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 02:54
Ethylbenzene	ND	0.0050	1	07/15/2021 02:54
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 02:54
Naphthalene	ND	0.0050	1	07/15/2021 02:54
Toluene	ND	0.0050	1	07/15/2021 02:54
m,p-Xylene	ND	0.0050	1	07/15/2021 02:54
o-Xylene	ND	0.0050	1	07/15/2021 02:54
Xylenes, Total	ND	0.0050	1	07/15/2021 02:54

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	96	70-140	07/15/2021 02:54
Toluene-d8	112	70-140	07/15/2021 02:54
4-BFB	113	70-140	07/15/2021 02:54
Benzene-d6	81	50-140	07/15/2021 02:54
Ethylbenzene-d10	93	50-140	07/15/2021 02:54
1,2-DCB-d4	67	40-140	07/15/2021 02:54

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-26	2107216-026A	Soil	07/06/2021 13:22	GC18 07142130.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 03:33
Ethylbenzene	ND	0.0050	1	07/15/2021 03:33
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 03:33
Naphthalene	ND	0.0050	1	07/15/2021 03:33
Toluene	ND	0.0050	1	07/15/2021 03:33
m,p-Xylene	ND	0.0050	1	07/15/2021 03:33
o-Xylene	ND	0.0050	1	07/15/2021 03:33
Xylenes, Total	ND	0.0050	1	07/15/2021 03:33

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	95	70-140	07/15/2021 03:33
Toluene-d8	112	70-140	07/15/2021 03:33
4-BFB	112	70-140	07/15/2021 03:33
Benzene-d6	84	50-140	07/15/2021 03:33
Ethylbenzene-d10	96	50-140	07/15/2021 03:33
1,2-DCB-d4	69	40-140	07/15/2021 03:33

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-27	2107216-027A	Soil	07/06/2021 13:10	GC18 07142131.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 04:13
Ethylbenzene	ND	0.0050	1	07/15/2021 04:13
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 04:13
Naphthalene	ND	0.0050	1	07/15/2021 04:13
Toluene	ND	0.0050	1	07/15/2021 04:13
m,p-Xylene	ND	0.0050	1	07/15/2021 04:13
o-Xylene	ND	0.0050	1	07/15/2021 04:13
Xylenes, Total	ND	0.0050	1	07/15/2021 04:13

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	96	70-140	07/15/2021 04:13
Toluene-d8	113	70-140	07/15/2021 04:13
4-BFB	114	70-140	07/15/2021 04:13
Benzene-d6	81	50-140	07/15/2021 04:13
Ethylbenzene-d10	91	50-140	07/15/2021 04:13
1,2-DCB-d4	65	40-140	07/15/2021 04:13

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-28	2107216-028A	Soil	07/06/2021 13:16	GC18 07142132.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 04:53
Ethylbenzene	ND	0.0050	1	07/15/2021 04:53
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 04:53
Naphthalene	ND	0.0050	1	07/15/2021 04:53
Toluene	ND	0.0050	1	07/15/2021 04:53
m,p-Xylene	ND	0.0050	1	07/15/2021 04:53
o-Xylene	ND	0.0050	1	07/15/2021 04:53
Xylenes, Total	ND	0.0050	1	07/15/2021 04:53

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	96	70-140	07/15/2021 04:53
Toluene-d8	113	70-140	07/15/2021 04:53
4-BFB	112	70-140	07/15/2021 04:53
Benzene-d6	78	50-140	07/15/2021 04:53
Ethylbenzene-d10	89	50-140	07/15/2021 04:53
1,2-DCB-d4	65	40-140	07/15/2021 04:53

Analyst(s): LT



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-29	2107216-029A	Soil	07/06/2021 13:49	GC16 07142129.D	224996

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	07/15/2021 03:10
Ethylbenzene	ND	0.0050	1	07/15/2021 03:10
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/15/2021 03:10
Naphthalene	ND	0.0050	1	07/15/2021 03:10
Toluene	ND	0.0050	1	07/15/2021 03:10
m,p-Xylene	ND	0.0050	1	07/15/2021 03:10
o-Xylene	ND	0.0050	1	07/15/2021 03:10
Xylenes, Total	ND	0.0050	1	07/15/2021 03:10

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	104	70-140	07/15/2021 03:10
Toluene-d8	121	70-140	07/15/2021 03:10
4-BFB	104	70-140	07/15/2021 03:10
Benzene-d6	91	50-140	07/15/2021 03:10
Ethylbenzene-d10	103	50-140	07/15/2021 03:10
1,2-DCB-d4	84	40-140	07/15/2021 03:10

Analyst(s): TW



Analytical Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Received: 07/07/2021 10:40	Extraction Method: SW5035
Date Prepared: 07/07/2021	Analytical Method: SW8021B/8015Bm
Project: 0977; Sonoma-Marin Fairgrounds	Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	2107216-001A	Soil	07/06/2021 08:39	GC3 07082129.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/08/2021 23:40
MTBE	---	0.050	1	07/08/2021 23:40
Benzene	---	0.0050	1	07/08/2021 23:40
Toluene	---	0.0050	1	07/08/2021 23:40
Ethylbenzene	---	0.0050	1	07/08/2021 23:40
m,p-Xylene	---	0.010	1	07/08/2021 23:40
o-Xylene	---	0.0050	1	07/08/2021 23:40
Xylenes	---	0.0050	1	07/08/2021 23:40

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	87	62-126	07/08/2021 23:40

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2	2107216-002A	Soil	07/06/2021 08:45	GC3 07082130.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 00:12
MTBE	---	0.050	1	07/09/2021 00:12
Benzene	---	0.0050	1	07/09/2021 00:12
Toluene	---	0.0050	1	07/09/2021 00:12
Ethylbenzene	---	0.0050	1	07/09/2021 00:12
m,p-Xylene	---	0.010	1	07/09/2021 00:12
o-Xylene	---	0.0050	1	07/09/2021 00:12
Xylenes	---	0.0050	1	07/09/2021 00:12

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	90	62-126	07/09/2021 00:12

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Received: 07/07/2021 10:40	Extraction Method: SW5035
Date Prepared: 07/07/2021	Analytical Method: SW8021B/8015Bm
Project: 0977; Sonoma-Marin Fairgrounds	Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3	2107216-003A	Soil	07/06/2021 08:49	GC3 07082131.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 00:44
MTBE	---	0.050	1	07/09/2021 00:44
Benzene	---	0.0050	1	07/09/2021 00:44
Toluene	---	0.0050	1	07/09/2021 00:44
Ethylbenzene	---	0.0050	1	07/09/2021 00:44
m,p-Xylene	---	0.010	1	07/09/2021 00:44
o-Xylene	---	0.0050	1	07/09/2021 00:44
Xylenes	---	0.0050	1	07/09/2021 00:44

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	89	62-126	07/09/2021 00:44

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-4	2107216-004A	Soil	07/06/2021 08:55	GC3 07082132.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 01:15
MTBE	---	0.050	1	07/09/2021 01:15
Benzene	---	0.0050	1	07/09/2021 01:15
Toluene	---	0.0050	1	07/09/2021 01:15
Ethylbenzene	---	0.0050	1	07/09/2021 01:15
m,p-Xylene	---	0.010	1	07/09/2021 01:15
o-Xylene	---	0.0050	1	07/09/2021 01:15
Xylenes	---	0.0050	1	07/09/2021 01:15

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	85	62-126	07/09/2021 01:15

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-5	2107216-005A	Soil	07/06/2021 09:01	GC7 07082128.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/08/2021 22:53
MTBE	---	0.050	1	07/08/2021 22:53
Benzene	---	0.0050	1	07/08/2021 22:53
Toluene	---	0.0050	1	07/08/2021 22:53
Ethylbenzene	---	0.0050	1	07/08/2021 22:53
m,p-Xylene	---	0.010	1	07/08/2021 22:53
o-Xylene	---	0.0050	1	07/08/2021 22:53
Xylenes	---	0.0050	1	07/08/2021 22:53

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	113	62-126	07/08/2021 22:53

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-6	2107216-006A	Soil	07/06/2021 09:55	GC7 07082130.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/08/2021 23:56
MTBE	---	0.050	1	07/08/2021 23:56
Benzene	---	0.0050	1	07/08/2021 23:56
Toluene	---	0.0050	1	07/08/2021 23:56
Ethylbenzene	---	0.0050	1	07/08/2021 23:56
m,p-Xylene	---	0.010	1	07/08/2021 23:56
o-Xylene	---	0.0050	1	07/08/2021 23:56
Xylenes	---	0.0050	1	07/08/2021 23:56

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	90	62-126	07/08/2021 23:56

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Received: 07/07/2021 10:40	Extraction Method: SW5035
Date Prepared: 07/07/2021	Analytical Method: SW8021B/8015Bm
Project: 0977; Sonoma-Marin Fairgrounds	Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-7	2107216-007A	Soil	07/06/2021 09:12	GC7 07082131.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 00:27
MTBE	---	0.050	1	07/09/2021 00:27
Benzene	---	0.0050	1	07/09/2021 00:27
Toluene	---	0.0050	1	07/09/2021 00:27
Ethylbenzene	---	0.0050	1	07/09/2021 00:27
m,p-Xylene	---	0.010	1	07/09/2021 00:27
o-Xylene	---	0.0050	1	07/09/2021 00:27
Xylenes	---	0.0050	1	07/09/2021 00:27

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	89	62-126	07/09/2021 00:27

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-8	2107216-008A	Soil	07/06/2021 09:06	GC7 07082132.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 00:57
MTBE	---	0.050	1	07/09/2021 00:57
Benzene	---	0.0050	1	07/09/2021 00:57
Toluene	---	0.0050	1	07/09/2021 00:57
Ethylbenzene	---	0.0050	1	07/09/2021 00:57
m,p-Xylene	---	0.010	1	07/09/2021 00:57
o-Xylene	---	0.0050	1	07/09/2021 00:57
Xylenes	---	0.0050	1	07/09/2021 00:57

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	85	62-126	07/09/2021 00:57

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-9	2107216-009A	Soil	07/06/2021 10:00	GC7 07082133.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 01:28
MTBE	---	0.050	1	07/09/2021 01:28
Benzene	---	0.0050	1	07/09/2021 01:28
Toluene	---	0.0050	1	07/09/2021 01:28
Ethylbenzene	---	0.0050	1	07/09/2021 01:28
m,p-Xylene	---	0.010	1	07/09/2021 01:28
o-Xylene	---	0.0050	1	07/09/2021 01:28
Xylenes	---	0.0050	1	07/09/2021 01:28

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	86	62-126	07/09/2021 01:28

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-10	2107216-010A	Soil	07/06/2021 09:58	GC7 07082135.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 02:29
MTBE	---	0.050	1	07/09/2021 02:29
Benzene	---	0.0050	1	07/09/2021 02:29
Toluene	---	0.0050	1	07/09/2021 02:29
Ethylbenzene	---	0.0050	1	07/09/2021 02:29
m,p-Xylene	---	0.010	1	07/09/2021 02:29
o-Xylene	---	0.0050	1	07/09/2021 02:29
Xylenes	---	0.0050	1	07/09/2021 02:29

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	97	62-126	07/09/2021 02:29

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-11	2107216-011A	Soil	07/06/2021 10:13	GC7 07082136.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 02:59
MTBE	---	0.050	1	07/09/2021 02:59
Benzene	---	0.0050	1	07/09/2021 02:59
Toluene	---	0.0050	1	07/09/2021 02:59
Ethylbenzene	---	0.0050	1	07/09/2021 02:59
m,p-Xylene	---	0.010	1	07/09/2021 02:59
o-Xylene	---	0.0050	1	07/09/2021 02:59
Xylenes	---	0.0050	1	07/09/2021 02:59

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	86	62-126	07/09/2021 02:59

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-12	2107216-012A	Soil	07/06/2021 10:42	GC7 07082137.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 03:30
MTBE	---	0.050	1	07/09/2021 03:30
Benzene	---	0.0050	1	07/09/2021 03:30
Toluene	---	0.0050	1	07/09/2021 03:30
Ethylbenzene	---	0.0050	1	07/09/2021 03:30
m,p-Xylene	---	0.010	1	07/09/2021 03:30
o-Xylene	---	0.0050	1	07/09/2021 03:30
Xylenes	---	0.0050	1	07/09/2021 03:30

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	86	62-126	07/09/2021 03:30

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Received: 07/07/2021 10:40	Extraction Method: SW5035
Date Prepared: 07/07/2021	Analytical Method: SW8021B/8015Bm
Project: 0977; Sonoma-Marin Fairgrounds	Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-13	2107216-013A	Soil	07/06/2021 10:47	GC7 07082138.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 04:00
MTBE	---	0.050	1	07/09/2021 04:00
Benzene	---	0.0050	1	07/09/2021 04:00
Toluene	---	0.0050	1	07/09/2021 04:00
Ethylbenzene	---	0.0050	1	07/09/2021 04:00
m,p-Xylene	---	0.010	1	07/09/2021 04:00
o-Xylene	---	0.0050	1	07/09/2021 04:00
Xylenes	---	0.0050	1	07/09/2021 04:00

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	88	62-126	07/09/2021 04:00

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-14	2107216-014A	Soil	07/06/2021 10:36	GC19 07092110.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 12:32
MTBE	---	0.050	1	07/09/2021 12:32
Benzene	---	0.0050	1	07/09/2021 12:32
Toluene	---	0.0050	1	07/09/2021 12:32
Ethylbenzene	---	0.0050	1	07/09/2021 12:32
m,p-Xylene	---	0.010	1	07/09/2021 12:32
o-Xylene	---	0.0050	1	07/09/2021 12:32
Xylenes	---	0.0050	1	07/09/2021 12:32

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	80	62-126	07/09/2021 12:32

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-15	2107216-015A	Soil	07/06/2021 10:25	GC19 07092112.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 13:40
MTBE	---	0.050	1	07/09/2021 13:40
Benzene	---	0.0050	1	07/09/2021 13:40
Toluene	---	0.0050	1	07/09/2021 13:40
Ethylbenzene	---	0.0050	1	07/09/2021 13:40
m,p-Xylene	---	0.010	1	07/09/2021 13:40
o-Xylene	---	0.0050	1	07/09/2021 13:40
Xylenes	---	0.0050	1	07/09/2021 13:40

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	80	62-126	07/09/2021 13:40

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-16	2107216-016A	Soil	07/06/2021 11:13	GC19 07092114.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 14:49
MTBE	---	0.050	1	07/09/2021 14:49
Benzene	---	0.0050	1	07/09/2021 14:49
Toluene	---	0.0050	1	07/09/2021 14:49
Ethylbenzene	---	0.0050	1	07/09/2021 14:49
m,p-Xylene	---	0.010	1	07/09/2021 14:49
o-Xylene	---	0.0050	1	07/09/2021 14:49
Xylenes	---	0.0050	1	07/09/2021 14:49

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	76	62-126	07/09/2021 14:49

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-17	2107216-017A	Soil	07/06/2021 11:27	GC19 07092115.D	224976

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 16:34
MTBE	---	0.050	1	07/09/2021 16:34
Benzene	---	0.0050	1	07/09/2021 16:34
Toluene	---	0.0050	1	07/09/2021 16:34
Ethylbenzene	---	0.0050	1	07/09/2021 16:34
m,p-Xylene	---	0.010	1	07/09/2021 16:34
o-Xylene	---	0.0050	1	07/09/2021 16:34
Xylenes	---	0.0050	1	07/09/2021 16:34

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	71	62-126	07/09/2021 16:34

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-18	2107216-018A	Soil	07/06/2021 11:31	GC7 07092117.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 18:30
MTBE	---	0.050	1	07/09/2021 18:30
Benzene	---	0.0050	1	07/09/2021 18:30
Toluene	---	0.0050	1	07/09/2021 18:30
Ethylbenzene	---	0.0050	1	07/09/2021 18:30
m,p-Xylene	---	0.010	1	07/09/2021 18:30
o-Xylene	---	0.0050	1	07/09/2021 18:30
Xylenes	---	0.0050	1	07/09/2021 18:30

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	80	62-126	07/09/2021 18:30

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Received: 07/07/2021 10:40	Extraction Method: SW5035
Date Prepared: 07/07/2021	Analytical Method: SW8021B/8015Bm
Project: 0977; Sonoma-Marin Fairgrounds	Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-19	2107216-019A	Soil	07/06/2021 11:38	GC7 07092118.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 19:15
MTBE	---	0.050	1	07/09/2021 19:15
Benzene	---	0.0050	1	07/09/2021 19:15
Toluene	---	0.0050	1	07/09/2021 19:15
Ethylbenzene	---	0.0050	1	07/09/2021 19:15
m,p-Xylene	---	0.010	1	07/09/2021 19:15
o-Xylene	---	0.0050	1	07/09/2021 19:15
Xylenes	---	0.0050	1	07/09/2021 19:15

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	85	62-126	07/09/2021 19:15

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-20	2107216-020A	Soil	07/06/2021 11:52	GC7 07092122.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 21:34
MTBE	---	0.050	1	07/09/2021 21:34
Benzene	---	0.0050	1	07/09/2021 21:34
Toluene	---	0.0050	1	07/09/2021 21:34
Ethylbenzene	---	0.0050	1	07/09/2021 21:34
m,p-Xylene	---	0.010	1	07/09/2021 21:34
o-Xylene	---	0.0050	1	07/09/2021 21:34
Xylenes	---	0.0050	1	07/09/2021 21:34

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	81	62-126	07/09/2021 21:34

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-21	2107216-021A	Soil	07/06/2021 11:59	GC7 07092123.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 22:06
MTBE	---	0.050	1	07/09/2021 22:06
Benzene	---	0.0050	1	07/09/2021 22:06
Toluene	---	0.0050	1	07/09/2021 22:06
Ethylbenzene	---	0.0050	1	07/09/2021 22:06
m,p-Xylene	---	0.010	1	07/09/2021 22:06
o-Xylene	---	0.0050	1	07/09/2021 22:06
Xylenes	---	0.0050	1	07/09/2021 22:06

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	83	62-126	07/09/2021 22:06

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-22	2107216-022A	Soil	07/06/2021 12:11	GC7 07092124.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 22:38
MTBE	---	0.050	1	07/09/2021 22:38
Benzene	---	0.0050	1	07/09/2021 22:38
Toluene	---	0.0050	1	07/09/2021 22:38
Ethylbenzene	---	0.0050	1	07/09/2021 22:38
m,p-Xylene	---	0.010	1	07/09/2021 22:38
o-Xylene	---	0.0050	1	07/09/2021 22:38
Xylenes	---	0.0050	1	07/09/2021 22:38

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	81	62-126	07/09/2021 22:38

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-23	2107216-023A	Soil	07/06/2021 11:45	GC7 07092125.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/09/2021 23:09
MTBE	---	0.050	1	07/09/2021 23:09
Benzene	---	0.0050	1	07/09/2021 23:09
Toluene	---	0.0050	1	07/09/2021 23:09
Ethylbenzene	---	0.0050	1	07/09/2021 23:09
m,p-Xylene	---	0.010	1	07/09/2021 23:09
o-Xylene	---	0.0050	1	07/09/2021 23:09
Xylenes	---	0.0050	1	07/09/2021 23:09

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	84	62-126	07/09/2021 23:09

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-24	2107216-024A	Soil	07/06/2021 13:38	GC7 07092128.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/10/2021 00:41
MTBE	---	0.050	1	07/10/2021 00:41
Benzene	---	0.0050	1	07/10/2021 00:41
Toluene	---	0.0050	1	07/10/2021 00:41
Ethylbenzene	---	0.0050	1	07/10/2021 00:41
m,p-Xylene	---	0.010	1	07/10/2021 00:41
o-Xylene	---	0.0050	1	07/10/2021 00:41
Xylenes	---	0.0050	1	07/10/2021 00:41

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	119	62-126	07/10/2021 00:41

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-25	2107216-025A	Soil	07/06/2021 13:32	GC7 07092130.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/10/2021 01:42
MTBE	---	0.050	1	07/10/2021 01:42
Benzene	---	0.0050	1	07/10/2021 01:42
Toluene	---	0.0050	1	07/10/2021 01:42
Ethylbenzene	---	0.0050	1	07/10/2021 01:42
m,p-Xylene	---	0.010	1	07/10/2021 01:42
o-Xylene	---	0.0050	1	07/10/2021 01:42
Xylenes	---	0.0050	1	07/10/2021 01:42

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	80	62-126	07/10/2021 01:42

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-26	2107216-026A	Soil	07/06/2021 13:22	GC7 07092131.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/10/2021 02:12
MTBE	---	0.050	1	07/10/2021 02:12
Benzene	---	0.0050	1	07/10/2021 02:12
Toluene	---	0.0050	1	07/10/2021 02:12
Ethylbenzene	---	0.0050	1	07/10/2021 02:12
m,p-Xylene	---	0.010	1	07/10/2021 02:12
o-Xylene	---	0.0050	1	07/10/2021 02:12
Xylenes	---	0.0050	1	07/10/2021 02:12

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	78	62-126	07/10/2021 02:12

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-27	2107216-027A	Soil	07/06/2021 13:10	GC7 07092132.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/10/2021 02:43
MTBE	---	0.050	1	07/10/2021 02:43
Benzene	---	0.0050	1	07/10/2021 02:43
Toluene	---	0.0050	1	07/10/2021 02:43
Ethylbenzene	---	0.0050	1	07/10/2021 02:43
m,p-Xylene	---	0.010	1	07/10/2021 02:43
o-Xylene	---	0.0050	1	07/10/2021 02:43
Xylenes	---	0.0050	1	07/10/2021 02:43

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	75	62-126	07/10/2021 02:43

Analyst(s): TD

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-28	2107216-028A	Soil	07/06/2021 13:16	GC7 07082125.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/08/2021 21:19
MTBE	---	0.050	1	07/08/2021 21:19
Benzene	---	0.0050	1	07/08/2021 21:19
Toluene	---	0.0050	1	07/08/2021 21:19
Ethylbenzene	---	0.0050	1	07/08/2021 21:19
m,p-Xylene	---	0.010	1	07/08/2021 21:19
o-Xylene	---	0.0050	1	07/08/2021 21:19
Xylenes	---	0.0050	1	07/08/2021 21:19

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	79	62-126	07/08/2021 21:19

Analyst(s): TD

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2107216

Date Received: 07/07/2021 10:40

Extraction Method: SW5035

Date Prepared: 07/07/2021

Analytical Method: SW8021B/8015Bm

Project: 0977; Sonoma-Marin Fairgrounds

Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-29	2107216-029A	Soil	07/06/2021 13:49	GC7 07092133.D	224993

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	07/10/2021 03:13
MTBE	---	0.050	1	07/10/2021 03:13
Benzene	---	0.0050	1	07/10/2021 03:13
Toluene	---	0.0050	1	07/10/2021 03:13
Ethylbenzene	---	0.0050	1	07/10/2021 03:13
m,p-Xylene	---	0.010	1	07/10/2021 03:13
o-Xylene	---	0.0050	1	07/10/2021 03:13
Xylenes	---	0.0050	1	07/10/2021 03:13

Surrogates	REC (%)	Limits	
2-Fluorotoluene	78	62-126	07/10/2021 03:13

Analyst(s): TD



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/08/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
WW-1	2107216-032A	Water	07/06/2021 14:25	GC12 07082115.D	225154

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	07/08/2021 18:07
MTBE	---	1.0	1	07/08/2021 18:07
Benzene	---	0.50	1	07/08/2021 18:07
Toluene	---	0.50	1	07/08/2021 18:07
Ethylbenzene	---	0.50	1	07/08/2021 18:07
m,p-Xylene	---	1.0	1	07/08/2021 18:07
o-Xylene	---	0.50	1	07/08/2021 18:07
Xylenes	---	0.50	1	07/08/2021 18:07

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	95	76-115	07/08/2021 18:07

Analyst(s): TD



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-16	2107216-016A	Soil	07/06/2021 11:13	ICP-MS5 153SMPL.d	224979

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 12:38
Chromium	87	0.50	1	07/08/2021 12:38
Lead	9.7	0.50	1	07/08/2021 12:38
Nickel	98	0.50	1	07/08/2021 12:38
Zinc	58	5.0	1	07/08/2021 12:38

Surrogates	REC (%)	Limits
Terbium	118	70-130

Analyst(s): AL

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-17	2107216-017A	Soil	07/06/2021 11:27	ICP-MS5 154SMPL.d	224979

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 12:41
Chromium	56	0.50	1	07/08/2021 12:41
Lead	29	0.50	1	07/08/2021 12:41
Nickel	69	0.50	1	07/08/2021 12:41
Zinc	57	5.0	1	07/08/2021 12:41

Surrogates	REC (%)	Limits
Terbium	109	70-130

Analyst(s): AL



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-18	2107216-018A	Soil	07/06/2021 11:31	ICP-MS5 157SMPL.d	224979

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 12:51
Chromium	53	0.50	1	07/08/2021 12:51
Lead	10	0.50	1	07/08/2021 12:51
Nickel	53	0.50	1	07/08/2021 12:51
Zinc	43	5.0	1	07/08/2021 12:51

Surrogates	REC (%)	Limits
Terbium	110	70-130

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-19	2107216-019A	Soil	07/06/2021 11:38	ICP-MS5 158SMPL.d	224979

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 12:55
Chromium	65	0.50	1	07/08/2021 12:55
Lead	20	0.50	1	07/08/2021 12:55
Nickel	59	0.50	1	07/08/2021 12:55
Zinc	49	5.0	1	07/08/2021 12:55

Surrogates	REC (%)	Limits
Terbium	111	70-130

Analyst(s): WV



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-20	2107216-020A	Soil	07/06/2021 11:52	ICP-MS5 159SMPL.d	224979

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 12:58
Chromium	57	0.50	1	07/08/2021 12:58
Lead	11	0.50	1	07/08/2021 12:58
Nickel	77	0.50	1	07/08/2021 12:58
Zinc	47	5.0	1	07/08/2021 12:58

Surrogates	REC (%)	Limits
Terbium	115	70-130

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-21	2107216-021A	Soil	07/06/2021 11:59	ICP-MS5 160SMPL.d	224979

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 13:02
Chromium	62	0.50	1	07/08/2021 13:02
Lead	16	0.50	1	07/08/2021 13:02
Nickel	54	0.50	1	07/08/2021 13:02
Zinc	48	5.0	1	07/08/2021 13:02

Surrogates	REC (%)	Limits
Terbium	108	70-130

Analyst(s): WV



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-22	2107216-022A	Soil	07/06/2021 12:11	ICP-MS5 161SMPL.d	224979

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 13:05
Chromium	67	0.50	1	07/08/2021 13:05
Lead	18	0.50	1	07/08/2021 13:05
Nickel	73	0.50	1	07/08/2021 13:05
Zinc	65	5.0	1	07/08/2021 13:05

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	107	70-130	07/08/2021 13:05

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-23	2107216-023A	Soil	07/06/2021 11:45	ICP-MS5 162SMPL.d	224979

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 13:08
Chromium	53	0.50	1	07/08/2021 13:08
Lead	22	0.50	1	07/08/2021 13:08
Nickel	50	0.50	1	07/08/2021 13:08
Zinc	67	5.0	1	07/08/2021 13:08

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	112	70-130	07/08/2021 13:08

Analyst(s): WV



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-24	2107216-024A	Soil	07/06/2021 13:38	ICP-MS5 163SMPL.d	224979

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 13:12
Chromium	64	0.50	1	07/08/2021 13:12
Lead	21	0.50	1	07/08/2021 13:12
Nickel	65	0.50	1	07/08/2021 13:12
Zinc	71	5.0	1	07/08/2021 13:12

Surrogates	REC (%)	Limits
Terbium	111	70-130

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-25	2107216-025A	Soil	07/06/2021 13:32	ICP-MS5 114SMPL.d	224998

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 10:25
Chromium	60	0.50	1	07/08/2021 10:25
Lead	24	0.50	1	07/08/2021 10:25
Nickel	59	0.50	1	07/08/2021 10:25
Zinc	68	5.0	1	07/08/2021 10:25

Surrogates	REC (%)	Limits
Terbium	108	70-130

Analyst(s): AL



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-26	2107216-026A	Soil	07/06/2021 13:22	ICP-MS5 164SMPL.d	224998

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 13:15
Chromium	60	0.50	1	07/08/2021 13:15
Lead	24	0.50	1	07/08/2021 13:15
Nickel	62	0.50	1	07/08/2021 13:15
Zinc	68	5.0	1	07/08/2021 13:15

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	105	70-130	07/08/2021 13:15

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-27	2107216-027A	Soil	07/06/2021 13:10	ICP-MS5 165SMPL.d	224998

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 13:19
Chromium	64	0.50	1	07/08/2021 13:19
Lead	21	0.50	1	07/08/2021 13:19
Nickel	67	0.50	1	07/08/2021 13:19
Zinc	66	5.0	1	07/08/2021 13:19

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	108	70-130	07/08/2021 13:19

Analyst(s): WV



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-28	2107216-028A	Soil	07/06/2021 13:16	ICP-MS5 166SMPL.d	224998

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 13:22
Chromium	67	0.50	1	07/08/2021 13:22
Lead	23	0.50	1	07/08/2021 13:22
Nickel	66	0.50	1	07/08/2021 13:22
Zinc	69	5.0	1	07/08/2021 13:22

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	107	70-130	07/08/2021 13:22

Analyst(s): WV

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-29	2107216-029A	Soil	07/06/2021 13:49	ICP-MS5 169SMPL.d	224998

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.50	1	07/08/2021 13:32
Chromium	65	0.50	1	07/08/2021 13:32
Lead	24	0.50	1	07/08/2021 13:32
Nickel	67	0.50	1	07/08/2021 13:32
Zinc	83	5.0	1	07/08/2021 13:32

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	108	70-130	07/08/2021 13:32

Analyst(s): MIG



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	2107216-001A	Soil	07/06/2021 08:39	GC9a 07072138.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/07/2021 21:35
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/07/2021 21:35

Surrogates	REC (%)	Limits	Date Analyzed
C9	82	70-130	07/07/2021 21:35

Analyst(s): JIS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2	2107216-002A	Soil	07/06/2021 08:45	GC9b 07072153.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/08/2021 02:45
TPH-Motor Oil (C18-C36)	8.5	5.0	1	07/08/2021 02:45

Surrogates	REC (%)	Limits	Date Analyzed
C9	84	70-130	07/08/2021 02:45

Analyst(s): JIS

Analytical Comments: e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3	2107216-003A	Soil	07/06/2021 08:49	GC9a 07072146.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/08/2021 00:10
TPH-Motor Oil (C18-C36)	6.3	5.0	1	07/08/2021 00:10

Surrogates	REC (%)	Limits	Date Analyzed
C9	82	70-130	07/08/2021 00:10

Analyst(s): JIS

Analytical Comments: e7

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-4	2107216-004A	Soil	07/06/2021 08:55	GC9a 07072154.D	224975
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)		ND	1.0	1	07/08/2021 02:45
TPH-Motor Oil (C18-C36)		5.3	5.0	1	07/08/2021 02:45
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
C9		82	70-130		07/08/2021 02:45
<u>Analyst(s):</u> JIS			<u>Analytical Comments:</u> e7		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-5	2107216-005A	Soil	07/06/2021 09:01	GC9b 07072141.D	224975
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)		ND	1.0	1	07/07/2021 22:53
TPH-Motor Oil (C18-C36)		ND	5.0	1	07/07/2021 22:53
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
C9		84	70-130		07/07/2021 22:53
<u>Analyst(s):</u> JIS					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-6	2107216-006A	Soil	07/06/2021 09:55	GC9a 07072150.D	224975
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)		ND	1.0	1	07/08/2021 01:28
TPH-Motor Oil (C18-C36)		7.5	5.0	1	07/08/2021 01:28
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
C9		82	70-130		07/08/2021 01:28
<u>Analyst(s):</u> JIS			<u>Analytical Comments:</u> e7		

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-7	2107216-007A	Soil	07/06/2021 09:12	GC9b 07072129.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/07/2021 18:59
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/07/2021 18:59

Surrogates	REC (%)	Limits	Date Analyzed
C9	84	70-130	07/07/2021 18:59

Analyst(s): JIS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-8	2107216-008A	Soil	07/06/2021 09:06	GC9b 07072133.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/07/2021 20:17
TPH-Motor Oil (C18-C36)	7.5	5.0	1	07/07/2021 20:17

Surrogates	REC (%)	Limits	Date Analyzed
C9	84	70-130	07/07/2021 20:17

Analyst(s): JIS

Analytical Comments: e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-9	2107216-009A	Soil	07/06/2021 10:00	GC9a 07072142.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/07/2021 22:53
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/07/2021 22:53

Surrogates	REC (%)	Limits	Date Analyzed
C9	82	70-130	07/07/2021 22:53

Analyst(s): JIS

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-10	2107216-010A	Soil	07/06/2021 09:58	GC9b 07072137.D	224975
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	07/07/2021 21:35
TPH-Motor Oil (C18-C36)	7.8		5.0	1	07/07/2021 21:35
<u>Surrogates</u>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	84		70-130		07/07/2021 21:35
<u>Analyst(s):</u> JIS			<u>Analytical Comments:</u> e7		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-11	2107216-011A	Soil	07/06/2021 10:13	GC9b 07072149.D	224975
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	07/08/2021 01:28
TPH-Motor Oil (C18-C36)	ND		5.0	1	07/08/2021 01:28
<u>Surrogates</u>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	84		70-130		07/08/2021 01:28
<u>Analyst(s):</u> JIS					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-12	2107216-012A	Soil	07/06/2021 10:42	GC9b 07072145.D	224975
<u>Analytes</u>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	1.0		1.0	1	07/08/2021 00:10
TPH-Motor Oil (C18-C36)	9.6		5.0	1	07/08/2021 00:10
<u>Surrogates</u>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	84		70-130		07/08/2021 00:10
<u>Analyst(s):</u> JIS			<u>Analytical Comments:</u> e7,e2		

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-13	2107216-013A	Soil	07/06/2021 10:47	GC6B 07082131.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.1	1.0	1	07/08/2021 19:53
TPH-Motor Oil (C18-C36)	5.8	5.0	1	07/08/2021 19:53

Surrogates	REC (%)	Limits	Date Analyzed
C9	87	70-130	07/08/2021 19:53

Analyst(s): JIS

Analytical Comments: e7,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-14	2107216-014A	Soil	07/06/2021 10:36	GC39A 07082158.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/09/2021 05:19
TPH-Motor Oil (C18-C36)	5.9	5.0	1	07/09/2021 05:19

Surrogates	REC (%)	Limits	Date Analyzed
C9	84	70-130	07/09/2021 05:19

Analyst(s): JIS

Analytical Comments: e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-15	2107216-015A	Soil	07/06/2021 10:25	GC39B 07082153.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/09/2021 04:00
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/09/2021 04:00

Surrogates	REC (%)	Limits	Date Analyzed
C9	91	70-130	07/09/2021 04:00

Analyst(s): JIS

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-16	2107216-016A	Soil	07/06/2021 11:13	GC6B 07082127.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/08/2021 18:24
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/08/2021 18:24

Surrogates	REC (%)	Limits	Date Analyzed
C9	86	70-130	07/08/2021 18:24

Analyst(s): JIS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-17	2107216-017A	Soil	07/06/2021 11:27	GC6A 07102186.D	224975

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	12	2.0	2	07/11/2021 18:23
TPH-Motor Oil (C18-C36)	46	10	2	07/11/2021 18:23

Surrogates	REC (%)	Limits	Date Analyzed
C9	93	70-130	07/11/2021 18:23

Analyst(s): JIS

Analytical Comments: e7,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-18	2107216-018A	Soil	07/06/2021 11:31	GC39A 07082154.D	224992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/09/2021 04:00
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/09/2021 04:00

Surrogates	REC (%)	Limits	Date Analyzed
C9	84	70-130	07/09/2021 04:00

Analyst(s): JIS

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-19	2107216-019A	Soil	07/06/2021 11:38	GC6A 07082136.D	224992
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)		ND	1.0	1	07/08/2021 21:17
TPH-Motor Oil (C18-C36)		14	5.0	1	07/08/2021 21:17
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
C9		94	70-130		07/08/2021 21:17
<u>Analyst(s):</u> JIS			<u>Analytical Comments:</u> e7		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-20	2107216-020A	Soil	07/06/2021 11:52	GC39A 07082136.D	224992
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)		ND	1.0	1	07/08/2021 22:00
TPH-Motor Oil (C18-C36)		ND	5.0	1	07/08/2021 22:00
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
C9		84	70-130		07/08/2021 22:00
<u>Analyst(s):</u> JIS					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-21	2107216-021A	Soil	07/06/2021 11:59	GC39A 07082162.D	224992
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)		ND	1.0	1	07/09/2021 06:37
TPH-Motor Oil (C18-C36)		ND	5.0	1	07/09/2021 06:37
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
C9		83	70-130		07/09/2021 06:37
<u>Analyst(s):</u> JIS					

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-22	2107216-022A	Soil	07/06/2021 12:11	GC39A 07082166.D	224992
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)		3.0	1.0	1	07/09/2021 07:55
TPH-Motor Oil (C18-C36)		12	5.0	1	07/09/2021 07:55
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
C9		84	70-130		07/09/2021 07:55
<u>Analyst(s):</u> JIS			<u>Analytical Comments:</u> e7,e2		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-23	2107216-023A	Soil	07/06/2021 11:45	GC6B 07082157.D	224992
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)		7.0	5.0	5	07/09/2021 04:37
TPH-Motor Oil (C18-C36)		75	25	5	07/09/2021 04:37
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
C9		84	70-130		07/09/2021 04:37
<u>Analyst(s):</u> JIS			<u>Analytical Comments:</u> e7,e2		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-24	2107216-024A	Soil	07/06/2021 13:38	GC6B 07082163.D	224992
<u>Analytes</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)		31	1.0	1	07/09/2021 06:34
TPH-Motor Oil (C18-C36)		110	5.0	1	07/09/2021 06:34
<u>Surrogates</u>		<u>REC (%)</u>	<u>Limits</u>		
C9		86	70-130		07/09/2021 06:34
<u>Analyst(s):</u> JIS			<u>Analytical Comments:</u> e7,e2		

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-25	2107216-025A	Soil	07/06/2021 13:32	GC6B 07102157.D	224992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	17	2.0	2	07/11/2021 08:49
TPH-Motor Oil (C18-C36)	46	10	2	07/11/2021 08:49

Surrogates	REC (%)	Limits	Date Analyzed
C9	84	70-130	07/11/2021 08:49

Analyst(s): JIS Analytical Comments: e7,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-26	2107216-026A	Soil	07/06/2021 13:22	GC6B 07082135.D	224992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	15	1.0	1	07/08/2021 21:17
TPH-Motor Oil (C18-C36)	42	5.0	1	07/08/2021 21:17

Surrogates	REC (%)	Limits	Date Analyzed
C9	86	70-130	07/08/2021 21:17

Analyst(s): JIS Analytical Comments: e7,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-27	2107216-027A	Soil	07/06/2021 13:10	GC6B 07082123.D	224992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	17	1.0	1	07/08/2021 16:52
TPH-Motor Oil (C18-C36)	47	5.0	1	07/08/2021 16:52

Surrogates	REC (%)	Limits	Date Analyzed
C9	86	70-130	07/08/2021 16:52

Analyst(s): JIS Analytical Comments: e7,e2

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-28	2107216-028A	Soil	07/06/2021 13:16	GC6A 07102164.D	224992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	10	1.0	1	07/11/2021 10:47
TPH-Motor Oil (C18-C36)	30	5.0	1	07/11/2021 10:47

Surrogates	REC (%)	Limits	Date Analyzed
C9	91	70-130	07/11/2021 10:47

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-29	2107216-029A	Soil	07/06/2021 13:49	GC6A 07082126.D	224992

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	15	1.0	1	07/08/2021 17:38
TPH-Motor Oil (C18-C36)	49	5.0	1	07/08/2021 17:38

Surrogates	REC (%)	Limits	Date Analyzed
C9	95	70-130	07/08/2021 17:38

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



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 07/07/2021 10:40
Date Prepared: 07/07/2021
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-30	2107216-030A	Soil	07/06/2021 14:12	GC6B 07082145.D	224992

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/09/2021 00:41

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	
C9	87	70-130	07/09/2021 00:41

Analyst(s): JIS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-31	2107216-031A	Soil	07/06/2021 14:17	GC6B 07082151.D	224992

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/09/2021 02:40

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	
C9	86	70-130	07/09/2021 02:40

Analyst(s): JIS



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/07/2021	BatchID: 224980
Date Analyzed: 07/08/2021 - 07/09/2021	Extraction Method: SW3550B
Instrument: GC40	Analytical Method: SW8082
Matrix: Soil	Unit: mg/kg
Project: 0977; Sonoma-Marin Fairgrounds	Sample ID: MB/LCS/LCSD-224980

QC Summary Report for SW8082

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Aroclor1016	ND	0.00510	0.0500	-	-	-
Aroclor1221	ND	0.0110	0.0500	-	-	-
Aroclor1232	ND	0.00630	0.0500	-	-	-
Aroclor1242	ND	0.00670	0.0500	-	-	-
Aroclor1248	ND	0.00400	0.0500	-	-	-
Aroclor1254	ND	0.00680	0.0500	-	-	-
Aroclor1260	ND	0.00610	0.0500	-	-	-

Surrogate Recovery

Decachlorobiphenyl	0.0522	0.05	104	70-130
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aroclor1016	0.149	0.144	0.15	99	96	70-130	2.76	20
Aroclor1260	0.156	0.151	0.15	104	101	70-130	3.25	20

Surrogate Recovery

Decachlorobiphenyl	0.0530	0.0523	0.050	106	105	70-130	1.37	20
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Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	2107216
Date Prepared:	07/14/2021	BatchID:	225536
Date Analyzed:	07/14/2021	Extraction Method:	SW5030B
Instrument:	GC16	Analytical Method:	SW8260B
Matrix:	Water	Unit:	µg/L
Project:	0977; Sonoma-Marín Fairgrounds	Sample ID:	MB/LCS/LCSD-225536

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	6.30	40.0	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.130	0.500	-	-	-
Benzene	ND	0.120	0.200	-	-	-
Bromobenzene	ND	0.130	0.500	-	-	-
Bromochloromethane	ND	0.110	0.500	-	-	-
Bromodichloromethane	ND	0.0250	0.0500	-	-	-
Bromoform	ND	0.310	0.500	-	-	-
Bromomethane	ND	0.180	0.500	-	-	-
2-Butanone (MEK)	ND	1.50	5.00	-	-	-
t-Butyl alcohol (TBA)	ND	2.50	5.00	-	-	-
n-Butyl benzene	ND	0.230	0.500	-	-	-
sec-Butyl benzene	ND	0.170	0.500	-	-	-
tert-Butyl benzene	ND	0.130	0.500	-	-	-
Carbon Disulfide	ND	0.180	0.500	-	-	-
Carbon Tetrachloride	ND	0.0280	0.0500	-	-	-
Chlorobenzene	ND	0.110	0.500	-	-	-
Chloroethane	ND	0.200	0.500	-	-	-
Chloroform	ND	0.0910	0.100	-	-	-
Chloromethane	ND	0.280	0.500	-	-	-
2-Chlorotoluene	ND	0.230	0.500	-	-	-
4-Chlorotoluene	ND	0.120	0.500	-	-	-
Dibromochloromethane	ND	0.0260	0.150	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0100	0.0200	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0210	0.0400	-	-	-
Dibromomethane	ND	0.120	0.500	-	-	-
1,2-Dichlorobenzene	ND	0.160	0.500	-	-	-
1,3-Dichlorobenzene	ND	0.120	0.500	-	-	-
1,4-Dichlorobenzene	ND	0.0930	0.500	-	-	-
Dichlorodifluoromethane	ND	0.290	0.500	-	-	-
1,1-Dichloroethane	ND	0.150	0.500	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0110	0.0200	-	-	-
1,1-Dichloroethene	ND	0.00940	0.0100	-	-	-
cis-1,2-Dichloroethene	ND	0.0930	0.500	-	-	-
trans-1,2-Dichloroethene	ND	0.110	0.500	-	-	-
1,2-Dichloropropane	ND	0.0190	0.200	-	-	-
1,3-Dichloropropane	ND	0.170	0.500	-	-	-
2,2-Dichloropropane	ND	0.220	0.500	-	-	-
1,1-Dichloropropene	ND	0.0850	0.500	-	-	-

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2107216

Date Prepared: 07/14/2021

BatchID: 225536

Date Analyzed: 07/14/2021

Extraction Method: SW5030B

Instrument: GC16

Analytical Method: SW8260B

Matrix: Water

Unit: µg/L

Project: 0977; Sonoma-Marín Fairgrounds

Sample ID: MB/LCS/LCSD-225536

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.210	0.500	-	-	-
trans-1,3-Dichloropropene	ND	0.280	0.500	-	-	-
Diisopropyl ether (DIPE)	ND	0.120	0.500	-	-	-
Ethylbenzene	ND	0.140	0.500	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.160	0.500	-	-	-
Freon 113	ND	0.130	0.500	-	-	-
Hexachlorobutadiene	ND	0.150	0.500	-	-	-
Hexachloroethane	ND	0.0590	0.200	-	-	-
2-Hexanone	ND	0.320	0.500	-	-	-
Isopropylbenzene	ND	0.160	0.500	-	-	-
4-Isopropyl toluene	ND	0.150	0.500	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.160	0.500	-	-	-
Methylene chloride	ND	0.740	2.00	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.440	0.500	-	-	-
Naphthalene	ND	0.150	0.300	-	-	-
n-Propyl benzene	ND	0.120	0.500	-	-	-
Styrene	ND	0.280	2.00	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.160	0.500	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.0110	0.0200	-	-	-
Tetrachloroethene	ND	0.160	0.200	-	-	-
Toluene	ND	0.170	0.500	-	-	-
1,2,3-Trichlorobenzene	ND	0.240	0.500	-	-	-
1,2,4-Trichlorobenzene	ND	0.220	0.500	-	-	-
1,1,1-Trichloroethane	ND	0.110	0.500	-	-	-
1,1,2-Trichloroethane	ND	0.110	0.200	-	-	-
Trichloroethene	ND	0.250	0.500	-	-	-
Trichlorofluoromethane	ND	0.140	0.500	-	-	-
1,2,3-Trichloropropane	ND	0.00450	0.00500	-	-	-
1,2,4-Trimethylbenzene	ND	0.180	0.500	-	-	-
1,3,5-Trimethylbenzene	ND	0.160	0.500	-	-	-
Vinyl Chloride	ND	0.00430	0.00500	-	-	-
m,p-Xylene	ND	0.250	0.500	-	-	-
o-Xylene	ND	0.130	0.500	-	-	-

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/14/2021	BatchID: 225536
Date Analyzed: 07/14/2021	Extraction Method: SW5030B
Instrument: GC16	Analytical Method: SW8260B
Matrix: Water	Unit: µg/L
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-225536

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	26.4			25	105	70-130
Toluene-d8	28.0			25	112	70-130
4-BFB	2.53			2.5	101	70-130



Quality Control Report

Client: Edd Clark & Associates, Inc.

WorkOrder: 2107216

Date Prepared: 07/14/2021

BatchID: 225536

Date Analyzed: 07/14/2021

Extraction Method: SW5030B

Instrument: GC16

Analytical Method: SW8260B

Matrix: Water

Unit: µg/L

Project: 0977; Sonoma-Marín Fairgrounds

Sample ID: MB/LCS/LCSD-225536

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	34.9	37.6	40	87	94	60-130	7.49	20
tert-Amyl methyl ether (TAME)	3.35	3.56	4	84	89	60-130	6.13	20
Benzene	4.15	4.32	4	104	108	60-130	4.02	20
Bromobenzene	3.62	3.98	4	90	99	60-130	9.55	20
Bromochloromethane	3.75	3.85	4	94	96	60-130	2.50	20
Bromodichloromethane	3.29	3.47	4	82	87	60-130	5.30	20
Bromoform	2.71	3.00	4	68	75	50-130	10.2	20
Bromomethane	5.95	6.26	4	149,F2	157,F2	50-130	5.03	20
2-Butanone (MEK)	14.7	15.7	16	92	98	60-130	6.98	20
t-Butyl alcohol (TBA)	11.7	12.7	16	73	79	50-130	8.23	20
n-Butyl benzene	4.24	4.59	4	106	115	60-130	7.82	20
sec-Butyl benzene	3.85	4.12	4	96	103	60-130	6.77	20
tert-Butyl benzene	3.34	3.61	4	84	90	60-130	7.60	20
Carbon Disulfide	4.45	4.66	4	111	116	60-130	4.63	20
Carbon Tetrachloride	3.21	3.36	4	80	84	60-130	4.69	20
Chlorobenzene	3.98	4.18	4	100	105	60-130	4.85	20
Chloroethane	5.04	5.27	4	126	132	60-140	4.40	20
Chloroform	3.58	3.73	4	90	93	60-130	4.13	20
Chloromethane	6.39	6.59	4	160,F2	165,F2	50-130	3.05	20
2-Chlorotoluene	3.83	4.13	4	96	103	60-130	7.49	20
4-Chlorotoluene	4.01	4.29	4	100	107	60-130	6.64	20
Dibromochloromethane	3.16	3.43	4	79	86	50-130	8.22	20
1,2-Dibromo-3-chloropropane	1.64	1.90	2	82	95	50-130	15.1	20
1,2-Dibromoethane (EDB)	1.70	1.82	2	85	91	60-130	6.82	20
Dibromomethane	3.57	3.74	4	89	94	60-130	4.57	20
1,2-Dichlorobenzene	4.18	4.60	4	105	115	60-130	9.42	20
1,3-Dichlorobenzene	4.08	4.38	4	102	110	60-130	7.04	20
1,4-Dichlorobenzene	3.96	4.36	4	99	109	60-130	9.69	20
Dichlorodifluoromethane	6.76	6.97	4	169,F2	174,F2	40-140	3.08	20
1,1-Dichloroethane	4.12	4.24	4	103	106	50-130	3.03	20
1,2-Dichloroethane (1,2-DCA)	3.57	3.72	4	89	93	60-130	4.16	20
1,1-Dichloroethene	4.13	4.33	4	103	108	60-130	4.68	20
cis-1,2-Dichloroethene	3.88	4.10	4	97	103	60-130	5.46	20
trans-1,2-Dichloroethene	4.13	4.27	4	103	107	60-130	3.51	20
1,2-Dichloropropane	3.84	4.02	4	96	101	60-130	4.60	20
1,3-Dichloropropane	3.71	3.95	4	93	99	60-130	6.30	20
2,2-Dichloropropane	3.91	3.99	4	98	100	60-130	2.17	20
1,1-Dichloropropene	3.96	4.20	4	99	105	60-130	5.94	20

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 07/14/2021
Date Analyzed: 07/14/2021
Instrument: GC16
Matrix: Water
Project: 0977; Sonoma-Marín Fairgrounds

WorkOrder: 2107216
BatchID: 225536
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-225536

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	3.78	3.97	4	95	99	60-130	4.87	20
trans-1,3-Dichloropropene	3.52	3.75	4	88	94	60-130	6.19	20
Diisopropyl ether (DIPE)	4.29	4.49	4	107	112	60-130	4.56	20
Ethylbenzene	3.90	4.07	4	97	102	60-130	4.26	20
Ethyl tert-butyl ether (ETBE)	3.76	3.92	4	94	98	60-130	4.06	20
Freon 113	4.14	4.35	4	104	109	60-130	4.78	20
Hexachlorobutadiene	3.88	4.27	4	97	107	60-130	9.51	20
Hexachloroethane	3.06	3.30	4	77	82	50-130	7.39	20
2-Hexanone	2.98	3.28	4	75	82	50-130	9.32	20
Isopropylbenzene	4.09	4.34	4	102	109	60-130	6.10	20
4-Isopropyl toluene	3.62	3.85	4	90	96	60-130	6.35	20
Methyl-t-butyl ether (MTBE)	3.31	3.51	4	83	88	60-130	5.75	20
Methylene chloride	3.84	4.00	4	96	100	50-130	3.94	20
4-Methyl-2-pentanone (MIBK)	3.35	3.70	4	84	92	50-130	9.91	20
Naphthalene	4.49	5.18	4	112	129	60-130	14.2	20
n-Propyl benzene	3.78	4.04	4	95	101	60-130	6.54	20
Styrene	3.25	3.53	4	81	88	60-130	8.22	20
1,1,1,2-Tetrachloroethane	3.37	3.62	4	84	91	60-130	7.09	20
1,1,2,2-Tetrachloroethane	3.42	3.75	4	86	94	60-130	9.11	20
Tetrachloroethene	3.74	3.95	4	93	99	60-130	5.66	20
Toluene	3.94	4.10	4	99	102	60-130	3.85	20
1,2,3-Trichlorobenzene	4.01	4.58	4	100	115	60-130	13.3	20
1,2,4-Trichlorobenzene	4.53	4.84	4	113	121	60-130	6.76	20
1,1,1-Trichloroethane	3.66	3.81	4	92	95	60-130	3.95	20
1,1,2-Trichloroethane	4.00	4.15	4	100	104	60-130	3.63	20
Trichloroethene	3.99	4.07	4	100	102	60-130	2.07	20
Trichlorofluoromethane	4.09	4.28	4	102	107	60-130	4.67	20
1,2,3-Trichloropropane	1.61	1.75	2	80	87	60-130	8.29	20
1,2,4-Trimethylbenzene	3.84	4.04	4	96	101	60-130	5.23	20
1,3,5-Trimethylbenzene	3.97	4.14	4	99	103	60-130	4.12	20
Vinyl Chloride	2.60	2.71	2	130	136,F2	60-130	4.39	20
m,p-Xylene	7.35	7.75	8	92	97	60-130	5.33	20
o-Xylene	3.76	4.01	4	94	100	60-130	6.38	20

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/14/2021	BatchID: 225536
Date Analyzed: 07/14/2021	Extraction Method: SW5030B
Instrument: GC16	Analytical Method: SW8260B
Matrix: Water	Unit: µg/L
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-225536

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	25.8	25.9	25	103	104	70-130	0.431	20
Toluene-d8	27.4	27.7	25	110	111	70-130	1.00	20
4-BFB	2.49	2.52	2.5	100	101	70-130	1.22	20



Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	2107216
Date Prepared:	07/06/2021	BatchID:	224927
Date Analyzed:	07/13/2021 - 07/14/2021	Extraction Method:	SW5030B
Instrument:	GC16, GC18	Analytical Method:	SW8260B
Matrix:	Soil	Unit:	mg/kg
Project:	0977; Sonoma-Marín Fairgrounds	Sample ID:	MB/LCS/LCSD-224927

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Benzene	ND	0.000870	0.00500	-	-	-
Ethylbenzene	ND	0.00110	0.00500	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.00140	0.00500	-	-	-
Naphthalene	ND	0.00220	0.00500	-	-	-
Toluene	ND	0.00120	0.00500	-	-	-
m,p-Xylene	ND	0.00250	0.00500	-	-	-
o-Xylene	ND	0.00120	0.00500	-	-	-

Surrogate Recovery

Dibromofluoromethane	0.128			0.125	102	70-140
Toluene-d8	0.148			0.125	118	70-140
4-BFB	0.0139			0.0125	111	70-140
Benzene-d6	0.0960			0.1	96	70-140
Ethylbenzene-d10	0.122			0.1	122	70-140
1,2-DCB-d4	0.0897			0.1	90	70-140

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Benzene	0.0149	0.0154	0.020	75	77	60-140	2.86	20
Ethylbenzene	0.0159	0.0161	0.020	79	81	60-140	1.68	20
Methyl-t-butyl ether (MTBE)	0.0145	0.0146	0.020	73	73	50-140	0.261	20
Naphthalene	0.00859	0.00822	0.020	43	41	30-140	4.51	20
Toluene	0.0162	0.0166	0.020	81	83	60-140	2.42	20
m,p-Xylene	0.0305	0.0310	0.040	76	78	60-140	1.49	20
o-Xylene	0.0146	0.0149	0.020	73	74	60-140	1.86	20

Surrogate Recovery

Dibromofluoromethane	0.119	0.120	0.12	95	96	70-140	0.963	20
Toluene-d8	0.147	0.146	0.12	117	117	70-140	0.285	20
4-BFB	0.0143	0.0145	0.012	114	116	70-140	1.36	20
Benzene-d6	0.0911	0.0918	0.10	91	92	70-140	0.753	20
Ethylbenzene-d10	0.110	0.110	0.10	110	110	70-140	0.0595	20
1,2-DCB-d4	0.0740	0.0749	0.10	74	75	70-140	1.23	20

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/07/2021	BatchID: 224996
Date Analyzed: 07/14/2021	Extraction Method: SW5030B
Instrument: GC38	Analytical Method: SW8260B
Matrix: Soil	Unit: mg/kg
Project: 0977; Sonoma-Marin Fairgrounds	Sample ID: MB/LCS/LCSD-224996

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Benzene	ND	0.000870	0.00500	-	-	-
Ethylbenzene	ND	0.00110	0.00500	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.00140	0.00500	-	-	-
Naphthalene	ND	0.00220	0.00500	-	-	-
Toluene	ND	0.00120	0.00500	-	-	-
m,p-Xylene	ND	0.00250	0.00500	-	-	-
o-Xylene	ND	0.00120	0.00500	-	-	-

Surrogate Recovery

Dibromofluoromethane	0.129	0.125	103	70-140
Toluene-d8	0.148	0.125	119	70-140
4-BFB	0.0134	0.0125	107	70-140
Benzene-d6	0.100	0.1	100	70-140
Ethylbenzene-d10	0.114	0.1	114	70-140
1,2-DCB-d4	0.0736	0.1	74	70-140

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Benzene	0.0146	0.0140	0.020	73	70	60-140	4.24	20
Ethylbenzene	0.0161	0.0149	0.020	80	75	60-140	7.44	20
Methyl-t-butyl ether (MTBE)	0.0130	0.0127	0.020	65	63	50-140	2.08	20
Naphthalene	0.00787	0.00717	0.020	39	36	30-140	9.35	20
Toluene	0.0161	0.0148	0.020	80	74	60-140	8.50	20
m,p-Xylene	0.0298	0.0276	0.040	74	69	60-140	7.57	20
o-Xylene	0.0144	0.0136	0.020	72	68	60-140	6.16	20

Surrogate Recovery

Dibromofluoromethane	0.130	0.130	0.12	104	104	70-140	0.411	20
Toluene-d8	0.154	0.150	0.12	123	120	70-140	2.24	20
4-BFB	0.0136	0.0132	0.012	109	105	70-140	3.50	20
Benzene-d6	0.0947	0.0904	0.10	95	90	70-140	4.63	20
Ethylbenzene-d10	0.115	0.107	0.10	115	107	70-140	6.92	20
1,2-DCB-d4	0.0749	0.0701	0.10	75	70	70-140	6.70	20



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/07/2021	BatchID: 224976
Date Analyzed: 07/08/2021 - 07/09/2021	Extraction Method: SW5035
Instrument: GC7	Analytical Method: SW8021B/8015Bm
Matrix: Soil	Unit: mg/Kg
Project: 0977; Sonoma-Marin Fairgrounds	Sample ID: MB/LCS/LCSD-224976

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	0.610	1.00	-	-	-
MTBE	ND	0.00340	0.0500	-	-	-
Benzene	ND	0.00190	0.00500	-	-	-
Toluene	ND	0.00240	0.00500	-	-	-
Ethylbenzene	ND	0.00170	0.00500	-	-	-
m,p-Xylene	ND	0.00260	0.0100	-	-	-
o-Xylene	ND	0.000910	0.00500	-	-	-

Surrogate Recovery

2-Fluorotoluene	0.0896		0.1	90	75-134
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.676	0.688	0.60	113	115	82-118	1.78	20
MTBE	0.0976	0.0999	0.10	98	100	61-119	2.33	20
Benzene	0.0923	0.0936	0.10	92	94	77-128	1.38	20
Toluene	0.0954	0.102	0.10	95	102	74-132	7.17	20
Ethylbenzene	0.101	0.103	0.10	101	103	84-127	2.20	20
m,p-Xylene	0.218	0.222	0.20	109	111	80-120	1.63	20
o-Xylene	0.102	0.106	0.10	102	106	80-120	3.76	20

Surrogate Recovery

2-Fluorotoluene	0.0909	0.0910	0.10	91	91	75-134	0.114	20
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Quality Control Report

Client: Edd Clark & Associates, Inc. Date Prepared: 07/07/2021 Date Analyzed: 07/08/2021 - 07/09/2021 Instrument: GC3, GC7 Matrix: Soil Project: 0977; Sonoma-Marin Fairgrounds	WorkOrder: 2107216 BatchID: 224993 Extraction Method: SW5035 Analytical Method: SW8021B/8015Bm Unit: mg/Kg Sample ID: MB/LCS/LCSD-224993 2107216-028AMS/MSD
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QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	0.610	1.00	-	-	-
MTBE	ND	0.00340	0.0500	-	-	-
Benzene	ND	0.00190	0.00500	-	-	-
Toluene	ND	0.00240	0.00500	-	-	-
Ethylbenzene	ND	0.00170	0.00500	-	-	-
m,p-Xylene	ND	0.00260	0.0100	-	-	-
o-Xylene	ND	0.000910	0.00500	-	-	-
Surrogate Recovery						
2-Fluorotoluene	0.0953			0.1	95	75-134



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/07/2021	BatchID: 224993
Date Analyzed: 07/08/2021 - 07/09/2021	Extraction Method: SW5035
Instrument: GC3, GC7	Analytical Method: SW8021B/8015Bm
Matrix: Soil	Unit: mg/Kg
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-224993 2107216-028AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.613	0.588	0.60	102	98	82-118	4.16	20
MTBE	0.101	0.102	0.10	101	102	61-119	0.853	20
Benzene	0.111	0.109	0.10	111	109	77-128	1.70	20
Toluene	0.110	0.106	0.10	110	106	74-132	3.05	20
Ethylbenzene	0.108	0.107	0.10	108	107	84-127	1.21	20
m,p-Xylene	0.224	0.220	0.20	112	110	80-120	1.42	20
o-Xylene	0.109	0.111	0.10	109	111	80-120	1.45	20

Surrogate Recovery

2-Fluorotoluene	0.0978	0.0955	0.10	98	95	75-134	2.41	20
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Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	1	0.601	0.583	0.60	ND	100	97	58-129	3.06	20
MTBE	1	0.0919	0.0925	0.10	ND	92	93	47-118	0.697	20
Benzene	1	0.0814	0.0800	0.10	ND	81	80	55-129	1.73	20
Toluene	1	0.0896	0.0866	0.10	ND	90	87	56-130	3.39	20
Ethylbenzene	1	0.0905	0.0902	0.10	ND	90	90	63-129	0.251	20
m,p-Xylene	1	0.185	0.184	0.20	ND	90	90	80-120	0.602	20
o-Xylene	1	0.0898	0.0899	0.10	ND	90	90	80-120	0.0442	20

Surrogate Recovery

2-Fluorotoluene	1	0.0752	0.0744	0.10		75	74	62-126	1.17	20
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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/08/2021	BatchID: 225154
Date Analyzed: 07/08/2021	Extraction Method: SW5030B
Instrument: GC12	Analytical Method: SW8021B/8015Bm
Matrix: Water	Unit: µg/L
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-225154

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	20.0	50.0	-	-	-
MTBE	ND	0.490	1.00	-	-	-
Benzene	ND	0.120	0.500	-	-	-
Toluene	ND	0.110	0.500	-	-	-
Ethylbenzene	ND	0.0950	0.500	-	-	-
m,p-Xylene	ND	0.140	1.00	-	-	-
o-Xylene	ND	0.0740	0.500	-	-	-

Surrogate Recovery

aaa-TFT	9.56	10	96	74-117
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	51.6	48.7	60	86	81	78-116	5.84	20
MTBE	10.0	8.61	10	100	86	72-122	15.5	20
Benzene	9.54	9.40	10	95	94	81-123	1.46	20
Toluene	10.4	10.2	10	104	102	83-129	2.82	20
Ethylbenzene	10.3	9.99	10	103	100	88-126	2.81	20
m,p-Xylene	19.9	19.4	20	100	97	80-120	2.57	20
o-Xylene	9.70	9.49	10	97	95	80-120	2.22	20

Surrogate Recovery

aaa-TFT	9.77	9.96	10	98	100	74-117	1.90	20
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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/07/2021	BatchID: 224979
Date Analyzed: 07/08/2021	Extraction Method: SW3050B
Instrument: ICP-MS4	Analytical Method: SW6020
Matrix: Soil	Unit: mg/kg
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-224979

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Cadmium	ND	0.0940	0.500	-	-	-
Chromium	ND	0.130	0.500	-	-	-
Lead	ND	0.140	0.500	-	-	-
Nickel	ND	0.170	0.500	-	-	-
Zinc	ND	3.00	5.00	-	-	-
Surrogate Recovery						
Terbium	562			500	112	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Cadmium	49.6	50.7	50	99	101	75-125	2.17	20
Chromium	49.5	52.0	50	99	104	75-125	4.79	20
Lead	49.3	50.6	50	99	101	75-125	2.68	20
Nickel	50.1	51.8	50	100	104	75-125	3.43	20
Zinc	514	528	500	103	106	75-125	2.67	20
Surrogate Recovery								
Terbium	546	564	500	109	113	70-130	3.20	20

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Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/07/2021	BatchID: 224998
Date Analyzed: 07/08/2021	Extraction Method: SW3050B
Instrument: ICP-MS5	Analytical Method: SW6020
Matrix: Soil	Unit: mg/kg
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-224998 2107216-025AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Cadmium	ND	0.0940	0.500	-	-	-
Chromium	ND	0.130	0.500	-	-	-
Lead	ND	0.140	0.500	-	-	-
Nickel	ND	0.170	0.500	-	-	-
Zinc	ND	3.00	5.00	-	-	-
Surrogate Recovery						
Terbium	560			500	112	70-130



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 07/07/2021
Date Analyzed: 07/08/2021
Instrument: ICP-MS5
Matrix: Soil
Project: 0977; Sonoma-Marin Fairgrounds

WorkOrder: 2107216
BatchID: 224998
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/kg
Sample ID: MB/LCS/LCSD-224998
 2107216-025AMS/MSD

QC Summary Report for Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Cadmium	52.7	49.4	50	105	99	75-125	7.59	20
Chromium	53.5	50.2	50	107	101	75-125	4.36	20
Lead	52.2	49.6	50	104	99	75-125	5.61	20
Nickel	54.6	50.9	50	109	102	75-125	5.72	20
Zinc	551	521	500	110	104	75-125	5.22	20

Surrogate Recovery

Terbium	574	541	500	115	108	70-130	6.67	20
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Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Cadmium	1	50.2	51.0	50	ND	100	101	75-125	1.50	20
Chromium	1	114	117	50	60.27	107	113	75-125	2.91	20
Lead	1	72.6	74.6	50	23.61	98	102	75-125	2.78	20
Nickel	1	112	122	50	58.88	107	127,F10	75-125	8.54	20
Zinc	1	580	598	500	67.91	102	106	75-125	3.07	20

Surrogate Recovery

Terbium	1	542	563	500		108	113	70-130	3.75	20
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Analyte	DLT Result	DLTRef Val	%D	%D Limit
Cadmium	ND<2.50	ND	-	-
Chromium	69.0	60.27	14.5	20
Lead	23.7	23.61	0.381	20
Nickel	59.6	58.88	1.22	20
Zinc	68.9	67.91	1.46	-

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/07/2021	BatchID: 224975
Date Analyzed: 07/08/2021 - 07/09/2021	Extraction Method: SW3550B
Instrument: GC6A, GC6B	Analytical Method: SW8015B
Matrix: Soil	Unit: mg/Kg
Project: 0977; Sonoma-Marin Fairgrounds	Sample ID: MB/LCS/LCSD-224975

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	0.750	1.00	-	-	-
TPH-Motor Oil (C18-C36)	ND	3.90	5.00	-	-	-
Surrogate Recovery						
C9	21.5			25	86	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	37.8	37.9	40	95	95	70-130	0.232	20
Surrogate Recovery								
C9	21.3	21.4	25	85	86	70-130	0.270	20

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/07/2021	BatchID: 224992
Date Analyzed: 07/08/2021	Extraction Method: SW3550B
Instrument: GC6A	Analytical Method: SW8015B
Matrix: Soil	Unit: mg/Kg
Project: 0977; Sonoma-Marin Fairgrounds	Sample ID: MB/LCS/LCSD-224992 2107216-029AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	0.750	1.00	-	-	-
TPH-Motor Oil (C18-C36)	ND	3.90	5.00	-	-	-
Surrogate Recovery						
C9	22.8			25	91	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	35.5	35.3	40	89	88	70-130	0.539	20
Surrogate Recovery								
C9	22.8	22.8	25	91	91	70-130	0.0202	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	1	51.5	47.6	40	15.28	91	81	70-130	7.89	20
Surrogate Recovery										
C9	1	23.5	23.5	25		94	94	70-130	0.0324	20



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2107216
Date Prepared: 07/07/2021	BatchID: 224992
Date Analyzed: 07/08/2021	Extraction Method: SW3550B
Instrument: GC6A	Analytical Method: SW8015B
Matrix: Soil	Unit: mg/Kg
Project: 0977; Sonoma-Marín Fairgrounds	Sample ID: MB/LCS/LCSD-224992 2107216-029AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	0.750	1.00	-	-	-
TPH-Motor Oil (C18-C36)	ND	3.90	5.00	-	-	-
Surrogate Recovery						
C9	22.8			25	91	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	35.5	35.3	40	89	88	70-130	0.539	20
Surrogate Recovery								
C9	22.8	22.8	25	91	91	70-130	0.0202	20

1534 Willow Pass Rd
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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 2107216

ClientCode: ECAR

- WaterTrax
 WriteOn
 EDF
 EQUIS
 Dry-Weight
 Email
 HardCopy
 ThirdParty
 J-flag
 Detection Summary
 Excel

Report to:

EJ VandenBosch
Edd Clark & Associates, Inc.
320 Professional Center Ste. 215
Rohnert Park, CA 94928
(707) 792-9500 FAX: (707) 792-9504

Email: EttaJonV@eddcclarkandassociates.com
cc/3rd Party: MarkT@Eddclarkandassociates.com; John
PO: 0977
Project: 0977; Sonoma-Marin Fairgrounds

Bill to:

Accounts Payable
Edd Clark & Associates, Inc.
320 Professional Center Ste.215
Rohnert Park, CA 94928
info@eddcclarkandassociates.com; Acco

Requested TAT: 5 days;

Date Received: 07/07/2021

Date Logged: 07/07/2021

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
2107216-001	SS-1	Soil	7/6/2021 08:39	<input type="checkbox"/>			A	A			A	A				
2107216-002	SS-2	Soil	7/6/2021 08:45	<input type="checkbox"/>			A	A			A	A				
2107216-003	SS-3	Soil	7/6/2021 08:49	<input type="checkbox"/>			A	A			A	A				
2107216-004	SS-4	Soil	7/6/2021 08:55	<input type="checkbox"/>			A	A			A	A				
2107216-005	SS-5	Soil	7/6/2021 09:01	<input type="checkbox"/>			A	A			A	A				
2107216-006	SS-6	Soil	7/6/2021 09:55	<input type="checkbox"/>			A	A			A	A				
2107216-007	SS-7	Soil	7/6/2021 09:12	<input type="checkbox"/>			A	A			A	A				
2107216-008	SS-8	Soil	7/6/2021 09:06	<input type="checkbox"/>			A	A			A	A				
2107216-009	SS-9	Soil	7/6/2021 10:00	<input type="checkbox"/>			A	A			A	A				
2107216-010	SS-10	Soil	7/6/2021 09:58	<input type="checkbox"/>			A	A			A	A				
2107216-011	SS-11	Soil	7/6/2021 10:13	<input type="checkbox"/>			A	A			A	A				
2107216-012	SS-12	Soil	7/6/2021 10:42	<input type="checkbox"/>			A	A			A	A				
2107216-013	SS-13	Soil	7/6/2021 10:47	<input type="checkbox"/>			A	A			A	A				
2107216-014	SS-14	Soil	7/6/2021 10:36	<input type="checkbox"/>			A	A			A	A				
2107216-015	SS-15	Soil	7/6/2021 10:25	<input type="checkbox"/>			A	A			A	A				

Test Legend:

1	8082_PCB_S	2	8260B_W	3	8260VOC_S	4	G-MBTEX_S
5	G-MBTEX_W	6	LUFTMS_6020_TTLC_S	7	PRDisposal Fee	8	TPH(DMO)_S
9	TPH_S	10		11		12	

Project Manager: Angela Rydelius

Prepared by: Cassandra Gallegos

The following SamplIDs: 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 contain testgroup Multi Range_S.

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.

1534 Willow Pass Rd
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CHAIN-OF-CUSTODY RECORD

WorkOrder: 2107216

ClientCode: ECAR

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Report to:

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cc/3rd Party: MarkT@Eddclarkandassociates.com; John
PO: 0977
Project: 0977; Sonoma-Marin Fairgrounds

Bill to:

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info@eddcclarkandassociates.com; Acco

Requested TAT: 5 days;

Date Received: 07/07/2021

Date Logged: 07/07/2021

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
2107216-016	SS-16	Soil	7/6/2021 11:13	<input type="checkbox"/>			A	A		A	A	A				
2107216-017	SS-17	Soil	7/6/2021 11:27	<input type="checkbox"/>			A	A		A	A	A				
2107216-018	SS-18	Soil	7/6/2021 11:31	<input type="checkbox"/>			A	A		A	A	A				
2107216-019	SS-19	Soil	7/6/2021 11:38	<input type="checkbox"/>			A	A		A	A	A				
2107216-020	SS-20	Soil	7/6/2021 11:52	<input type="checkbox"/>			A	A		A	A	A				
2107216-021	SS-21	Soil	7/6/2021 11:59	<input type="checkbox"/>			A	A		A	A	A				
2107216-022	SS-22	Soil	7/6/2021 12:11	<input type="checkbox"/>			A	A		A	A	A				
2107216-023	SS-23	Soil	7/6/2021 11:45	<input type="checkbox"/>			A	A		A	A	A				
2107216-024	SS-24	Soil	7/6/2021 13:38	<input type="checkbox"/>			A	A		A	A	A				
2107216-025	SS-25	Soil	7/6/2021 13:32	<input type="checkbox"/>			A	A		A	A	A				
2107216-026	SS-26	Soil	7/6/2021 13:22	<input type="checkbox"/>			A	A		A	A	A				
2107216-027	SS-27	Soil	7/6/2021 13:10	<input type="checkbox"/>			A	A		A	A	A				
2107216-028	SS-28	Soil	7/6/2021 13:16	<input type="checkbox"/>			A	A		A	A	A				
2107216-029	SS-29	Soil	7/6/2021 13:49	<input type="checkbox"/>			A	A		A	A	A				
2107216-030	SS-30	Soil	7/6/2021 14:12	<input type="checkbox"/>	A						A		A			

Test Legend:

1	8082_PCB_S	2	8260B_W	3	8260VOC_S	4	G-MBTEX_S
5	G-MBTEX_W	6	LUFTMS_6020_TTLC_S	7	PRDisposal Fee	8	TPH(DMO)_S
9	TPH_S	10		11		12	

Project Manager: Angela Rydelius

Prepared by: Cassandra Gallegos

The following SamplIDs: 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 contain testgroup Multi Range_S.

Comments:

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CHAIN-OF-CUSTODY RECORD

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Rohnert Park, CA 94928
info@eddcclarkandassociates.com; Acco

Requested TAT: 5 days;

Date Received: 07/07/2021

Date Logged: 07/07/2021

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	
2107216-031	SS-31	Soil	7/6/2021 14:17	<input type="checkbox"/>	A							A		A			
2107216-032	WW-1	Water	7/6/2021 14:25	<input type="checkbox"/>		B			A		A						

Test Legend:

1	8082_PCB_S	2	8260B_W	3	8260VOC_S	4	G-MBTEX_S
5	G-MBTEX_W	6	LUFTMS_6020_TTLC_S	7	PRDisposal Fee	8	TPH(DMO)_S
9	TPH_S	10		11		12	

Project Manager: Angela Rydelius

Prepared by: Cassandra Gallegos

The following SamplIDs: 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 contain testgroup Multi Range_S.

Comments:

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WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977; Sonoma-Marin Fairgrounds

Work Order: 2107216

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@eddcclarkandassociates.com

Comments:

Date Logged: 7/7/2021

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LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
001A	SS-1	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 8:39	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
002A	SS-2	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 8:45	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
003A	SS-3	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 8:49	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
004A	SS-4	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 8:55	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	

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

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WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977; Sonoma-Marin Fairgrounds

Work Order: 2107216

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@eddcclarkandassociates.com

Comments:

Date Logged: 7/7/2021

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LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
005A	SS-5	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 9:01	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
006A	SS-6	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 9:55	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
007A	SS-7	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 9:12	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
008A	SS-8	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 9:06	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	

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WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977; Sonoma-Marin Fairgrounds

Work Order: 2107216

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@eddcclarkandassociates.com

Comments:

Date Logged: 7/7/2021

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LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
009A	SS-9	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 10:00	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
010A	SS-10	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 9:58	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
011A	SS-11	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 10:13	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
012A	SS-12	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 10:42	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	

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Project: 0977; Sonoma-Marin Fairgrounds

Work Order: 2107216

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@eddclarkandassociates.com

Comments:

Date Logged: 7/7/2021

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LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
013A	SS-13	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 10:47	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
014A	SS-14	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 10:36	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
015A	SS-15	Soil	Multi-Range TPH	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 10:25	5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
016A	SS-16	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 11:13	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	

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Comments:

Date Logged: 7/7/2021

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LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
016A	SS-16	Soil	SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 11:13	5 days	7/14/2021		<input type="checkbox"/>	
017A	SS-17	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 11:27	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
018A	SS-18	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 11:31	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
019A	SS-19	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 11:38	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	

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

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WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977; Sonoma-Marin Fairgrounds

Work Order: 2107216

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@edclarkandassociates.com

Comments:

Date Logged: 7/7/2021

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LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
019A	SS-19	Soil	SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 11:38	5 days	7/14/2021		<input type="checkbox"/>	
020A	SS-20	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 11:52	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
021A	SS-21	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 11:59	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
022A	SS-22	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 12:11	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	

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WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977; Sonoma-Marin Fairgrounds

Work Order: 2107216

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@edclarkandassociates.com

Comments:

Date Logged: 7/7/2021

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LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
022A	SS-22	Soil	SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 12:11	5 days	7/14/2021		<input type="checkbox"/>	
023A	SS-23	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 11:45	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
024A	SS-24	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 13:38	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
025A	SS-25	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 13:32	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	

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

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WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977; Sonoma-Marin Fairgrounds

Work Order: 2107216

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@eddclarkandassociates.com

Comments:

Date Logged: 7/7/2021

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LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
025A	SS-25	Soil	SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 13:32	5 days	7/14/2021		<input type="checkbox"/>	
026A	SS-26	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 13:22	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
027A	SS-27	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 13:10	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
028A	SS-28	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 13:16	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	

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WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977; Sonoma-Marín Fairgrounds

Work Order: 2107216

Client Contact: EJ VandenBosch

QC Level: LEVEL 2

Contact's Email: EttaJonV@eddcclarkandassociates.com

Comments:

Date Logged: 7/7/2021

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LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
028A	SS-28	Soil	SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 13:16	5 days	7/14/2021		<input type="checkbox"/>	
029A	SS-29	Soil	SW6020 (LUFT)	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 13:49	5 days	7/14/2021		<input type="checkbox"/>	
			Multi-Range TPH			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
			SW8260B (VOCs) <Benzene, Ethylbenzene, m,p-Xylene, Methyl-t-butyl ether (MTBE), Naphthalene, o-Xylene, Toluene, Xylenes, Total>			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
030A	SS-30	Soil	SW8015B (TEPHs) <TPH-Motor Oil (C18-C36)>	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 14:12	5 days	7/14/2021		<input type="checkbox"/>	
			SW8082 (PCBs Only)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
031A	SS-31	Soil	SW8015B (TEPHs) <TPH-Motor Oil (C18-C36)>	1	Stainless Steel tube 2"x6"	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 14:17	5 days	7/14/2021		<input type="checkbox"/>	
			SW8082 (PCBs Only)			<input type="checkbox"/>	<input type="checkbox"/>		5 days	7/14/2021		<input type="checkbox"/>	
032A	WW-1	Water	SW8021B/8015Bm (G/MBTEX)	1	VOA w/ HCl	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 14:25	5 days	7/14/2021	None	<input type="checkbox"/>	
032B	WW-1	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	<input type="checkbox"/>	7/6/2021 14:25	5 days	7/14/2021	None	<input type="checkbox"/>	
				3	aVOA, Unpres	<input type="checkbox"/>	<input type="checkbox"/>					None	<input type="checkbox"/>

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McCAMPBELL ANALYTICAL, INC.
 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
 Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD									
Turn Around Time: 1 Day Rush			2 Day Rush		3 Day Rush		STD <input checked="" type="checkbox"/>	Quote #	
J-Flag / MDL		ESL		Cleanup Approved			Dry Weight		Bottle Order #
Delivery Format: PDF <input checked="" type="checkbox"/>		GeoTracker EDF			EDD		Write On (DW)		Detect Summary

Report To: EJ VandenBosch Bill To: accounting@edclarkandassociates.com

Analysis Requested

Company: Edd Clark & Associates
 Email: ettajonv@edclarkandassociates; markt@edclarkandassociates.com
 Alt Email: johnc@edclarkandassociates.com Tele: (707) 792-9500
 Project Name: Sonoma-Marin Fairgrounds Project #: 0977
 Project Location: 866 E. Washington St, Petaluma PO # 0977
 Sampler Signature: *Ettajon VandenBosch*

TPH-g (8015)	BTEX, MTBE (8260)	Naphthalene (8260)	TPH-g, -d & -mo (8015)	LUFT 5 Metals (6020)	PCB (8082)	Mineral Oil (8015)	Full scan VOCs (8260)														
--------------	-------------------	--------------------	------------------------	----------------------	------------	--------------------	-----------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SAMPLE ID Location / Field Point	Sampling		#Containers	Matrix	Preservative
	Date	Time			
SS-11	7/6/21	1013	1	Soil	7
SS-12		1042			
SS-13		1047			
SS-14		1036			
SS-15		1025			
SS-16		1113			
SS-17		1127			
SS-18		1131			
SS-19		1138			
SS-20		1152			

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate \$250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.						Comments / Instructions		
Relinquished By / Company Name		Date	Time	Received By / Company Name			Date	Time
<i>Ettajon VandenBosch</i>		7/6/21	1535	<i>[Signature]</i>			7.7.21	0900
		7.7.21	1040	<i>[Signature]</i>		7.7.21	1040	

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
 Preservative Code: 1=4°C 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None
 Temp _____ °C Initials _____



Sample Receipt Checklist

Client Name: **Edd Clark & Associates, Inc.**
Project: **0977; Sonoma-Marin Fairgrounds**

Date and Time Received: **7/7/2021 10:40**
Date Logged: **7/7/2021**

WorkOrder No: **2107216** Matrix: Soil/Water
Carrier: Bernie Cummins (MAI Courier)

Received by: **Cassandra Gallegos**
Logged by: **Cassandra Gallegos**

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
- COC agrees with Quote? Yes No NA

Sample Receipt Information

- Custody seals intact on shipping container/cooler? Yes No NA
- Custody seals intact on sample bottles? 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 NA
- Samples Received on Ice? Yes No

(Ice Type: WET ICE)

- Sample/Temp Blank temperature Temp: 2.3°C NA
- ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)? Yes No NA
- Sample labels checked for correct preservation? Yes No
- pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)? Yes No NA

UCMR Samples:

- pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)? Yes No NA
- Free Chlorine tested and acceptable upon receipt (<0.1mg/L)? Yes No NA

Comments:



Alpha

Alpha Analytical Laboratories, Inc.

email: clientservices@alpha-labs.com

Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

18 August 2021

Edd Clark & Associates, Inc.

Attn: EJ

P.O. Box 3039

Rohnert Park, CA 94927

RE: Sonoma-Marin Fairgrounds

Work Order: 21F1743

Enclosed are the results of analyses for samples received by the laboratory on 06/11/21 14:49. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Leslie M. Quinn For Stephen F. McWeeney

Lab Manager



Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Edd Clark & Associates, Inc.
P.O. Box 3039
Rohnert Park, CA 94927

Project Manager: EJ
Project: Sonoma-Marin Fairgrounds
Project Number: 866 E. Washington St.

Reported:
08/18/21 16:05

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VP-1	21F1743-01	Air	06/11/21 12:35	06/11/21 14:49
VP-1 dup	21F1743-02	Air	06/11/21 12:53	06/11/21 14:49
VP-2	21F1743-03	Air	06/11/21 13:24	06/11/21 14:49
VP-2 dup	21F1743-04	Air	06/11/21 13:34	06/11/21 14:49
VP-3	21F1743-05	Air	06/11/21 14:06	06/11/21 14:49

This represents an amended copy of the original report.
PCE reported per client request.



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2106836 **Amended:** 08/17/2021

Revision: 1

Report Created for: Alpha Analytical Laboratories

262 Rickenbacker Circle
Livermore, CA 94551

Project Contact: Stephen McWeeney

Project P.O.:

Project: 21F1743

Project Received: 06/14/2021

Analytical Report reviewed & approved for release on 07/09/2021 by:

Jennifer Lagerbom

Project 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 a case narrative.





Glossary of Terms & Qualifier Definitions

Client: Alpha Analytical Laboratories
Project: 21F1743
WorkOrder: 2106836

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
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
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
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
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: Alpha Analytical Laboratories

Project: 21F1743

WorkOrder: 2106836

Analytical Qualifiers

J Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
a2 Sample diluted due to cluttered chromatogram.

Quality Control Qualifiers

F2 LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.



Analytical Report

Client: Alpha Analytical Laboratories
Date Received: 06/14/2021 13:20
Date Prepared: 07/08/2021
Project: 21F1743

WorkOrder: 2106836
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: %

Atmospheric Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-1	2106836-001A	SoilGas	06/11/2021 12:35	GC26 0707210609.D	225108

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.51	21.21	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
Oxygen	24	0.039	0.58	2	07/08/2021 11:26

VP-2	2106836-002A	SoilGas	06/11/2021 13:24	GC26 0707210610.D	225108
------	--------------	---------	------------------	-------------------	--------

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.54	20.25	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
Oxygen	22	0.040	0.60	2	07/08/2021 11:58

VP-3	2106836-003A	SoilGas	06/11/2021 14:06	GC26 0707210611.D	225108
------	--------------	---------	------------------	-------------------	--------

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
15.50	20.09	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
Oxygen	23	0.035	0.52	2	07/08/2021 12:19



Analytical Report

Client: Alpha Analytical Laboratories
Date Received: 06/14/2021 13:20
Date Prepared: 06/17/2021
Project: 21F1743

WorkOrder: 2106836
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TPH gas

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-1	2106836-001A	SoilGas	06/11/2021 12:35	GC24 06162120.D	223978

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.51	21.21	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
TPH(g)	ND	26,000	26,000	50	06/17/2021 06:07

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	105	70-130	06/17/2021 06:07

Analytical Comments: a2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-2	2106836-002A	SoilGas	06/11/2021 13:24	GC24 06162117.D	223978

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.54	20.25	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
TPH(g)	ND	27,000	27,000	50	06/17/2021 04:09

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	104	70-130	06/17/2021 04:09

Analytical Comments: a2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-3	2106836-003A	SoilGas	06/11/2021 14:06	GC24 06162123.D	223978

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
15.50	20.09	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
TPH(g)	ND	23,000	23,000	50	06/17/2021 08:05

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	105	70-130	06/17/2021 08:05

Analytical Comments: a2



Analytical Report

Client: Alpha Analytical Laboratories
Date Received: 06/14/2021 13:20
Date Prepared: 06/17/2021
Project: 21F1743

WorkOrder: 2106836
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Leak Check Compound

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-1	2106836-001A	SoilGas	06/11/2021 12:35	GC24 06162118.D	223978

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.51	21.21	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
Isopropyl Alcohol	15,000	230	7300	200	06/17/2021 04:48

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	98	70-130	06/17/2021 04:48

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-2	2106836-002A	SoilGas	06/11/2021 13:24	GC24 06162115.D	223978

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.54	20.25	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
Isopropyl Alcohol	22,000	240	7500	200	06/17/2021 02:50

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	97	70-130	06/17/2021 02:50

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-3	2106836-003A	SoilGas	06/11/2021 14:06	GC24 06162121.D	223978

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
15.50	20.09	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
Isopropyl Alcohol	27,000	210	6500	200	06/17/2021 06:46

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	97	70-130	06/17/2021 06:46



Analytical Report

Client: Alpha Analytical Laboratories
Date Received: 06/14/2021 13:20
Date Prepared: 06/17/2021
Project: 21F1743

WorkOrder: 2106836
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-1	2106836-001A	SoilGas	06/11/2021 12:35	GC24 06162120.D	223978

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.51	21.21	JEM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Benzene	ND		29	58	50	06/17/2021 06:07
Ethylbenzene	ND		19	80	50	06/17/2021 06:07
Methyl-t-butyl ether (MTBE)	ND		16	69	50	06/17/2021 06:07
Naphthalene	ND		69	99	50	06/17/2021 06:07
Tetrachloroethene	870		40	130	50	06/17/2021 06:07
Toluene	ND		33	69	50	06/17/2021 06:07
m,p-Xylene	44	J	40	160	50	06/17/2021 06:07
o-Xylene	17	J	14	80	50	06/17/2021 06:07
Xylenes, Total	61	J	NA	80	50	06/17/2021 06:07

Surrogates	REC (%)	Limits
1,2-DCA-d4	103	70-130
Toluene-d8	102	70-130
4-BFB	101	70-130

Analytical Comments: a2



Analytical Report

Client: Alpha Analytical Laboratories
Date Received: 06/14/2021 13:20
Date Prepared: 06/17/2021
Project: 21F1743

WorkOrder: 2106836
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-2	2106836-002A	SoilGas	06/11/2021 13:24	GC24 06162117.D	223978

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.54	20.25	JEM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Benzene	ND		30	60	50	06/17/2021 04:09
Ethylbenzene	ND		19	82	50	06/17/2021 04:09
Methyl-t-butyl ether (MTBE)	ND		16	71	50	06/17/2021 04:09
Naphthalene	ND		71	100	50	06/17/2021 04:09
Tetrachloroethene	850		41	130	50	06/17/2021 04:09
Toluene	ND		33	71	50	06/17/2021 04:09
m,p-Xylene	44	J	41	160	50	06/17/2021 04:09
o-Xylene	19	J	15	82	50	06/17/2021 04:09
Xylenes, Total	63	J	NA	82	50	06/17/2021 04:09

Surrogates	REC (%)	Limits
1,2-DCA-d4	102	70-130
Toluene-d8	103	70-130
4-BFB	101	70-130

Analytical Comments: a2



Analytical Report

Client: Alpha Analytical Laboratories
Date Received: 06/14/2021 13:20
Date Prepared: 06/17/2021
Project: 21F1743

WorkOrder: 2106836
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-3	2106836-003A	SoilGas	06/11/2021 14:06	GC24 06162123.D	223978

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
15.50	20.09	JEM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Benzene	ND		26	52	50	06/17/2021 08:05
Ethylbenzene	ND		17	71	50	06/17/2021 08:05
Methyl-t-butyl ether (MTBE)	ND		14	62	50	06/17/2021 08:05
Naphthalene	ND		62	87	50	06/17/2021 08:05
Tetrachloroethene	500		36	110	50	06/17/2021 08:05
Toluene	ND		29	62	50	06/17/2021 08:05
m,p-Xylene	ND		36	140	50	06/17/2021 08:05
o-Xylene	13	J	13	71	50	06/17/2021 08:05
Xylenes, Total	13	J	NA	71	50	06/17/2021 08:05

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	102	70-130	06/17/2021 08:05
Toluene-d8	102	70-130	06/17/2021 08:05
4-BFB	99	70-130	06/17/2021 08:05

Analytical Comments: a2



Quality Control Report

Client: Alpha Analytical Laboratories
Date Prepared: 07/07/2021
Date Analyzed: 07/07/2021
Instrument: GC26
Matrix: SoilGas
Project: 21F1743

WorkOrder: 2106836
BatchID: 225108
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: %
Sample ID: MB/LCS/LCSD-225108

QC Summary Report for ASTM D1946-90

Analyte	MB Result	MDL	RL			
Oxygen	ND	0.0270	0.400	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Oxygen	3.96	3.98	4.2	94	95	70-130	0.404	20



Quality Control Report

Client: Alpha Analytical Laboratories
Date Prepared: 06/16/2021 - 06/17/2021
Date Analyzed: 06/16/2021 - 06/17/2021
Instrument: GC24
Matrix: Soilgas
Project: 21F1743

WorkOrder: 2106836
BatchID: 223978
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-223978

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g)	ND	720	720	-	-	-
Surrogate Recovery						
1,2-DCA-d4	1040			1000	104	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(g)	10,600	10,000	9000	118	111	70-130	5.42	20
Surrogate Recovery								
1,2-DCA-d4	1030	1030	1000	103	103	60-140	0.589	30



Quality Control Report

Client: Alpha Analytical Laboratories
Date Prepared: 06/16/2021 - 06/17/2021
Date Analyzed: 06/16/2021 - 06/17/2021
Instrument: GC24
Matrix: SoilGas
Project: 21F1743

WorkOrder: 2106836
BatchID: 223978
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-223978

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	4.30	60.0	-	-	-
Acrolein	ND	1.10	5.80	-	-	-
Acrylonitrile	ND	0.660	1.10	-	-	-
tert-Amyl methyl ether (TAME)	ND	1.30	2.10	-	-	-
Benzene	ND	0.790	1.60	-	-	-
Benzyl chloride	ND	1.70	2.70	-	-	-
Bromodichloromethane	ND	0.130	1.40	-	-	-
Bromoform	ND	1.10	5.30	-	-	-
Bromomethane	ND	0.410	1.90	-	-	-
1,3-Butadiene	ND	0.980	1.10	-	-	-
2-Butanone (MEK)	ND	2.00	15.0	-	-	-
t-Butyl alcohol (TBA)	ND	1.90	16.0	-	-	-
Carbon Disulfide	ND	1.10	1.60	-	-	-
Carbon Tetrachloride	ND	0.190	1.30	-	-	-
Chlorobenzene	ND	0.590	2.40	-	-	-
Chloroethane	ND	0.350	1.30	-	-	-
Chloroform	ND	0.580	2.50	-	-	-
Chloromethane	ND	0.520	1.00	-	-	-
Cyclohexane	ND	1.60	18.0	-	-	-
Dibromochloromethane	ND	1.10	4.40	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0740	0.120	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0250	0.0780	-	-	-
1,2-Dichlorobenzene	ND	0.950	3.00	-	-	-
1,3-Dichlorobenzene	ND	0.940	3.00	-	-	-
1,4-Dichlorobenzene	ND	0.970	3.00	-	-	-
Dichlorodifluoromethane	ND	0.560	2.50	-	-	-
1,1-Dichloroethane	ND	0.500	2.00	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.580	2.00	-	-	-
1,1-Dichloroethene	ND	0.400	2.00	-	-	-
cis-1,2-Dichloroethene	ND	0.430	2.00	-	-	-
trans-1,2-Dichloroethene	ND	0.450	2.00	-	-	-
1,2-Dichloropropane	ND	0.590	2.40	-	-	-
cis-1,3-Dichloropropene	ND	0.710	2.30	-	-	-
trans-1,3-Dichloropropene	ND	0.860	2.30	-	-	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.80	3.60	-	-	-
Diisopropyl ether (DIPE)	ND	0.550	2.10	-	-	-
1,4-Dioxane	ND	0.710	1.90	-	-	-
Ethanol	ND	3.80	95.0	-	-	-

(Cont.)



Quality Control Report

Client: Alpha Analytical Laboratories
Date Prepared: 06/16/2021 - 06/17/2021
Date Analyzed: 06/16/2021 - 06/17/2021
Instrument: GC24
Matrix: SoilGas
Project: 21F1743

WorkOrder: 2106836
BatchID: 223978
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-223978

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Ethyl acetate	ND	0.630	1.90	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.680	2.10	-	-	-
Ethylbenzene	ND	0.510	2.20	-	-	-
4-Ethyltoluene	ND	0.610	2.50	-	-	-
Freon 113	ND	1.00	3.90	-	-	-
Heptane	ND	2.40	21.0	-	-	-
Hexachlorobutadiene	ND	0.380	2.20	-	-	-
Hexachloroethane	ND	2.70	4.90	-	-	-
Hexane	ND	2.20	18.0	-	-	-
2-Hexanone	ND	1.60	2.10	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.940	2.10	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.430	1.90	-	-	-
Methylene chloride	ND	0.820	8.80	-	-	-
Methyl methacrylate	ND	0.650	2.10	-	-	-
Naphthalene	ND	1.90	2.70	-	-	-
Styrene	ND	0.620	2.20	-	-	-
1,1,1,2-Tetrachloroethane	ND	1.20	3.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.100	0.700	-	-	-
Tetrachloroethene	ND	1.10	3.50	-	-	-
Tetrahydrofuran	ND	0.820	3.00	-	-	-
Toluene	ND	0.890	1.90	-	-	-
1,2,4-Trichlorobenzene	ND	2.70	3.80	-	-	-
1,1,1-Trichloroethane	ND	0.710	2.80	-	-	-
1,1,2-Trichloroethane	ND	0.850	2.80	-	-	-
Trichloroethene	ND	0.690	2.80	-	-	-
1,2,3-Trichloropropane	ND	0.890	3.10	-	-	-
Trichlorofluoromethane	ND	0.780	2.90	-	-	-
1,2,4-Trimethylbenzene	ND	1.20	2.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.730	2.50	-	-	-
Vinyl Acetate	ND	1.10	18.0	-	-	-
Vinyl Chloride	ND	0.140	0.260	-	-	-
m,p-Xylene	ND	1.10	4.40	-	-	-
o-Xylene	ND	0.390	2.20	-	-	-

(Cont.)



Quality Control Report

Client: Alpha Analytical Laboratories
Date Prepared: 06/16/2021 - 06/17/2021
Date Analyzed: 06/16/2021 - 06/17/2021
Instrument: GC24
Matrix: SoilGas
Project: 21F1743

WorkOrder: 2106836
BatchID: 223978
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-223978

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
1,2-DCA-d4	1020			1000	102	70-130
Toluene-d8	1040			1000	103	70-130
4-BFB	993			1000	99	70-130



Quality Control Report

Client: Alpha Analytical Laboratories
Date Prepared: 06/16/2021 - 06/17/2021
Date Analyzed: 06/16/2021 - 06/17/2021
Instrument: GC24
Matrix: SoilGas
Project: 21F1743

WorkOrder: 2106836
BatchID: 223978
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-223978

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	12.6	12.8	12	105	106	60-140	1.29	25
Acrolein	11.3	12.1	11.6	97	105	60-140	7.30	25
Acrylonitrile	9.16	11.0	11	83	100	60-140	17.8	25
tert-Amyl methyl ether (TAME)	17.6	17.4	21	84	83	60-140	1.60	25
Benzene	16.2	16.2	16	101	101	60-140	0.0903	25
Benzyl chloride	25.0	26.4	26.6	94	99	60-140	5.59	25
Bromodichloromethane	30.5	30.6	35	87	87	60-140	0.248	25
Bromoform	46.0	46.7	52.6	87	89	60-140	1.55	25
Bromomethane	23.4	23.7	19.6	119	121	60-140	1.46	25
1,3-Butadiene	12.6	13.0	11	115	118	60-140	3.17	25
2-Butanone (MEK)	15.0	15.2	15	100	102	60-140	1.67	25
t-Butyl alcohol (TBA)	17.3	17.3	15.6	111	111	60-140	0.0104	25
Carbon Disulfide	15.6	16.2	16	98	101	60-140	3.35	25
Carbon Tetrachloride	26.7	27.0	32	83	84	60-140	1.09	25
Chlorobenzene	20.8	21.0	23.6	88	89	60-140	0.940	25
Chloroethane	13.2	13.4	13.6	97	99	60-140	1.44	25
Chloroform	21.9	22.1	24.6	89	90	60-140	0.793	25
Chloromethane	11.2	11.0	10.6	105	104	60-140	1.06	25
Cyclohexane	17.6	17.4	17.6	100	99	60-140	1.37	25
Dibromochloromethane	36.8	37.7	43.6	84	86	60-140	2.36	25
1,2-Dibromo-3-chloropropane	44.5	45.2	49	91	92	60-140	1.50	25
1,2-Dibromoethane (EDB)	32.5	33.4	39	83	86	60-140	2.81	25
1,2-Dichlorobenzene	33.3	30.9	30.6	109	101	60-140	7.46	25
1,3-Dichlorobenzene	31.7	32.6	30.6	104	107	60-140	2.88	25
1,4-Dichlorobenzene	32.2	32.7	30.6	105	107	60-140	1.63	25
Dichlorodifluoromethane	22.9	22.8	25	92	91	60-140	0.399	25
1,1-Dichloroethane	19.3	19.3	20.6	94	94	60-140	0.295	25
1,2-Dichloroethane (1,2-DCA)	20.8	21.0	20.6	101	102	60-140	0.975	25
1,1-Dichloroethene	18.6	18.6	20	93	93	60-140	0.371	25
cis-1,2-Dichloroethene	18.4	18.7	20	92	94	60-140	1.69	25
trans-1,2-Dichloroethene	19.7	19.2	20	98	96	60-140	2.77	25
1,2-Dichloropropane	23.7	23.8	23.6	100	101	60-140	0.257	25
cis-1,3-Dichloropropene	20.0	20.4	23	87	89	60-140	2.18	25
trans-1,3-Dichloropropene	20.8	21.5	23	91	93	60-140	2.98	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	34.8	34.3	35.6	98	96	60-140	1.41	25
Diisopropyl ether (DIPE)	19.5	19.5	21	93	93	60-140	0.128	25
1,4-Dioxane	19.7	20.1	18.6	106	108	60-140	1.91	25
Ethanol	11.4	11.5	9.6	119	120	60-140	0.607	25

(Cont.)



Quality Control Report

Client: Alpha Analytical Laboratories
Date Prepared: 06/16/2021 - 06/17/2021
Date Analyzed: 06/16/2021 - 06/17/2021
Instrument: GC24
Matrix: SoilGas
Project: 21F1743

WorkOrder: 2106836
BatchID: 223978
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-223978

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Ethyl acetate	19.0	19.1	18.6	102	103	60-140	1.02	25
Ethyl tert-butyl ether (ETBE)	19.2	19.1	21	91	91	60-140	0.449	25
Ethylbenzene	20.2	20.6	22	92	94	60-140	2.17	25
4-Ethyltoluene	28.8	29.3	25	115	117	60-140	1.79	25
Freon 113	36.5	36.7	39	94	94	60-140	0.558	25
Heptane	20.0	20.2	21	95	96	60-140	1.34	25
Hexachlorobutadiene	55.0	56.7	54	102	105	60-140	3.10	25
Hexachloroethane	39.9	40.7	49.2	81	83	60-140	1.87	25
Hexane	19.0	19.2	18	106	106	60-140	0.823	25
2-Hexanone	22.2	23.6	21	106	112	60-140	6.26	25
4-Methyl-2-pentanone (MIBK)	21.4	21.6	21	102	103	60-140	0.608	25
Methyl-t-butyl ether (MTBE)	16.5	16.5	18.6	89	89	60-140	0.227	25
Methylene chloride	16.4	16.5	17.6	93	94	60-140	0.227	25
Methyl methacrylate	20.2	20.5	20.8	97	99	60-140	1.93	25
Naphthalene	53.2	53.8	26.5	201,F2	203,F2	60-140	1.24	25
Styrene	21.7	21.9	21.6	101	101	60-140	0.795	25
1,1,1,2-Tetrachloroethane	28.3	28.9	35	81	83	60-140	1.93	25
1,1,2,2-Tetrachloroethane	30.6	30.8	35	87	88	60-140	0.438	25
Tetrachloroethene	34.4	35.5	34.4	100	103	60-140	3.04	25
Tetrahydrofuran	15.5	15.1	15	103	101	60-140	2.61	25
Toluene	17.8	17.9	19	94	94	60-140	0.637	25
1,2,4-Trichlorobenzene	62.2	64.6	37.6	165,F2	172,F2	60-140	3.73	25
1,1,1-Trichloroethane	25.6	25.5	27.6	93	92	60-140	0.355	25
1,1,2-Trichloroethane	24.2	24.6	27.6	88	89	60-140	1.63	25
Trichloroethene	24.4	24.5	27.6	88	89	60-140	0.202	25
1,2,3-Trichloropropane	28.7	29.4	30.64	94	96	60-140	2.30	25
Trichlorofluoromethane	25.5	25.5	28.6	89	89	60-140	0.0431	25
1,2,4-Trimethylbenzene	29.1	28.9	25	117	115	60-140	0.925	25
1,3,5-Trimethylbenzene	28.1	27.1	25	112	108	60-140	3.57	25
Vinyl Acetate	18.1	18.1	18	100	101	60-140	0.291	25
Vinyl Chloride	14.1	14.5	13	108	111	60-140	2.83	25
m,p-Xylene	40.4	40.1	44	92	91	60-140	0.938	25
o-Xylene	21.3	21.6	22	97	98	60-140	1.63	25

(Cont.)



Quality Control Report

Client: Alpha Analytical Laboratories
Date Prepared: 06/16/2021 - 06/17/2021
Date Analyzed: 06/16/2021 - 06/17/2021
Instrument: GC24
Matrix: SoilGas
Project: 21F1743

WorkOrder: 2106836
BatchID: 223978
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-223978

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
1,2-DCA-d4	1040	1020	1000	104	102	70-130	1.61	25
Toluene-d8	985	995	1000	99	100	70-130	0.999	25
4-BFB	1070	1070	1000	107	107	70-130	0.604	25

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



CHAIN-OF-CUSTODY RECORD

WorkOrder: 2106836

ClientCode: ALPU

QuoteID: 212235

- WaterTrax
 WriteOn
 EDF
 EQUIS
 Dry-Weight
 Email
 HardCopy
 ThirdParty
 J-flag
 Detection Summary
 Excel

Report to:
Stephen McWeeney
Alpha Analytical Laboratories
262 Rickenbacker Circle
Livermore, CA 94551
(650) 464-3237 FAX: (707) 468-5267

Email: sspeaks@alpha-labs.com; robbie@alpha-l
cc/3rd Party:
PO:
Project: 21F1743

Bill to:
Accounts Payable
Alpha Analytical Laboratories
262 Rickenbacker Circle
Livermore, CA 94551

Requested TAT: 5 days;

Date Received: 06/14/2021
Date Logged: 06/14/2021

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
2106836-001	VP-1	SoilGas	6/11/2021 12:35	<input type="checkbox"/>	A	A	A	A								
2106836-002	VP-2	SoilGas	6/11/2021 13:24	<input type="checkbox"/>	A	A	A	A								
2106836-003	VP-3	SoilGas	6/11/2021 14:06	<input type="checkbox"/>	A	A	A	A								

Test Legend:

1	ATMOSPHERICGAS_SG(%)	2	TO15_Scan-SIM_SOIL(UG/M3)	3	TO15GAS_Scan-SIM_SOIL(UG/M3)	4	TO15-LC_SOIL(UG/M3)
5		6		7		8	
9		10		11		12	

Project Manager: Christine Askari

Prepared by: Valerie Alfaro

The following SamplIDs: 001A, 002A, 003A contain testgroup TO15+GAS_SG.

Comments:

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



WORK ORDER SUMMARY

Client Name: ALPHA ANALYTICAL LABORATORIES

Project: 21F1743

Work Order: 2106836

Client Contact: Stephen McWeeney

QC Level: LEVEL 2

Contact's Email: sspeaks@alpha-labs.com; robbie@alpha-labs.com;
lquinn@alpha-labs.com; stephen@alpha-labs.com

Comments:

Date Logged: 6/14/2021

WaterTrax WriteOn EDF Excel EQulS Email HardCopy ThirdParty J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
001A	VP-1	SoilGas	VOCs and TPHgas by TO15 for Soil Vapor ASTM D1946-90 (O2) <Oxygen>	1	1L Summa	<input type="checkbox"/>	<input type="checkbox"/>	6/11/2021 12:35	5 days	6/21/2021		<input type="checkbox"/>	
002A	VP-2	SoilGas	VOCs and TPHgas by TO15 for Soil Vapor ASTM D1946-90 (O2) <Oxygen>	1	1L Summa	<input type="checkbox"/>	<input type="checkbox"/>	6/11/2021 13:24	5 days	6/21/2021		<input type="checkbox"/>	
003A	VP-3	SoilGas	VOCs and TPHgas by TO15 for Soil Vapor ASTM D1946-90 (O2) <Oxygen>	1	1L Summa	<input type="checkbox"/>	<input type="checkbox"/>	6/11/2021 14:06	5 days	6/21/2021		<input type="checkbox"/>	

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

2106836

SUBCONTRACT ORDER
Alpha Analytical Laboratories, Inc.
21F1743

SENDING LABORATORY:

Alpha Analytical Laboratories, Inc.
208 Mason St.
Ukiah, CA 95482
Phone: (707)468-0401
Fax: (707)468-5267
Project Manager: Stephen F. McWeeney

RECEIVING LABORATORY:

McC Campbell Analytical / Alpha Quote # 212235
1534 Willow Pass Rd.
Pittsburg, CA 94565
Phone : (925) 252-9262
Fax: (925) 252-9269
Terms: Net 30

Analysis	Due	Expires	Comments
----------	-----	---------	----------

21F1743-01 VP-1 [Air] Sampled 06/11/21 12:35

NB TO-15 SG1 Gas/BTEX +Naphthalene	06/18/21 15:00 <i>21</i>	07/11/21 12:35	Add MTBE, 70% IPA Leak Check <i>* Oxygen</i>
<i>Containers Supplied:</i>			
<i>Summa Cannister - 1L (A)</i>			

21F1743-03 VP-2 [Air] Sampled 06/11/21 13:24

NB TO-15 SG1 Gas/BTEX +Naphthalene	06/18/21 15:00 <i>21</i>	07/11/21 13:24	Add MTBE, 70% IPA Leak Check <i>* Oxygen</i>
<i>Containers Supplied:</i>			
<i>Summa Cannister - 1L (A)</i>			

21F1743-05 VP-3 [Air] Sampled 06/11/21 14:06

NB TO-15 SG1 Gas/BTEX +Naphthalene	06/18/21 15:00 <i>21</i>	07/11/21 14:06	Add MTBE, 70% IPA Leak Check <i>* Oxygen</i>
<i>Containers Supplied:</i>			
<i>Summa Cannister - 1L (A)</i>			

Report to State

System Name: _____ Employed by: _____
 User ID: _____ Sampler: _____
 System Number: _____

Standard TAT
** added per email request 6/14/21*

<i>Alb...</i>	<i>6/14/21</i>	<i>C Mason</i>	<i>6/14/21</i>	<i>1045</i>
Released By	Date	Received By	Date	
<i>C Mason</i>	<i>6/14/21</i>	<i>Valia...</i>	<i>6/14/21</i>	<i>1320</i>
Released By	Date	Received By	Date	
Released By	Date	Received By	Date	
Released By	Date	Received By	Date	



Sample Receipt Checklist

Client Name: **Alpha Analytical Laboratories**
Project: **21F1743**

Date and Time Received: **6/14/2021 13:20**

Date Logged: **6/14/2021**

Received by: **Valerie Alfaro**

Logged by: **Valerie Alfaro**

WorkOrder No: **2106836** Matrix: SoilGas
Carrier: Laurie Moore (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

- Custody seals intact on shipping container/cooler? Yes No NA
- Custody seals intact on sample bottles? 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 NA
- Samples Received on Ice? Yes No
- Sample/Temp Blank temperature Temp: NA
- ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)? Yes No NA
- Sample labels checked for correct preservation? Yes No
- pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)? Yes No NA
- UCMR Samples:
- pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)? Yes No NA
- Free Chlorine tested and acceptable upon receipt (<0.1mg/L)? Yes No NA

Comments:



Analytical Sciences
 P.O. Box 750336, Petaluma, CA 94975-0336
 110 Liberty Street, Petaluma, CA 94952
 (707) 769-3128
 Fax (707) 769-8093

CHAIN OF CUSTODY

Lab Project Number: 21E1743
 Client's Project Name: Sonoma-Marin Fairgrounds
 Client's Project Number: 866 E. Washington St.

CLIENT INFORMATION

Company Name: Edd Clark & Assoc., Inc.
 Address: POB 3039
Rohnert Park, CA 94927
 Contact: EJ VandenBosch
 Phone #: (707) 291-8774
 Fax #: (707) 792-9504
 e-mail: ettajonv@eddcclarkandassociates.com

TURNAROUND TIME (check one)

Same Day _____
 48 Hours _____
 5 Days Normal _____

same charge as normal

GeoTracker Required Yes (No)
 GeoTracker Number: _____

Item	Client Sample ID	Date	Matrix	Canister ID #	Regulator ID #	Sample Start Time	Sample End Time	ANALYSIS			Lab Sample #	
								TPH-g, BTEX, MTBE	Naphthalene, IPA	TO-15		
1	VP-1	6/11/21	Air	4288	0	1222	1235	X	X	X		
2	VP-1 dup			4300	0	1240	1253	X	X	X		
3	VP-2			4293	1A	1310	1324	X	X	X		
4	VP-2 dup			4292	1A	1326	1334	X	X	X		
5	VP-3			4294	18A	1356	1406	X	X	X		
6												
7												
8												
9												
10												

Need ERLs Comments

← HOLD

← HOLD

SIGNATURES

Relinquished By: Ettajon VandenBosch Signature
 Date: 6/11/21 Time: 1449
 Sampled By: Ettajon VandenBosch Signature
 Date: 6/11/21 Time: 1449
 Received By: [Signature] Signature
 Date: 6/11/21 Time: 1449



Analytical Sciences
 P.O. Box 750336, Petaluma, CA 94975-0336
 110 Liberty Street, Petaluma, CA 94952
 (707) 769-3128
 Fax (707) 769-8093

CHAIN OF CUSTODY

Lab Project Number: 21E1743
 Client's Project Name: Sonoma-Marin Fairgrounds
 Client's Project Number: 866 E. Washington St.

CLIENT INFORMATION

Company Name: Edd Clark & Assoc., Inc.
 Address: POB 3039
Rohnert Park, CA 94927
 Contact: EJ Vandenberg
 Phone #: (707) 291-8774
 Fax #: (707) 792-9504
 e-mail: ettajonv@edclarkandassociates.com

GeoTracker Required Yes (No)
 GeoTracker Number:

TURNAROUND TIME (check one)

Same Day _____
 48 Hours _____ 24 Hours _____
 5 Days Normal _____
same change as normal

Page 1 of 1

Item	Client Sample ID	Date	Matrix	Canister ID #	Regulator ID #	Sample Start Time	Sample End Time	ANALYSIS				Lab Sample #	
								TPH-g, BTEX, MTBE	Naphthalene, IPA	TO-15	Percent Oxygen		
1	VP-1	6/11/21	Air	4288	0	12:22	12:35	X	X	X	X		
2	VP-1 dup			4300	0	12:40	12:53	X	X	X	X		
3	VP-2			4293	1A	13:10	13:24	X	X	X	X		
4	VP-2 dup			4292	1A	13:20	13:34	X	X	X	X		
5	VP-3			4294	1BA	13:50	14:06	X	X	X	X		
6													
7													
8													
9													
10													

SIGNATURES

Relinquished By: Ettajon Vandenberg Signature Date: 6/11/21 Time: 1449

Received By: [Signature] Signature Date: 6/11/21 Time: 1449

Sampled By: Ettajon Vandenberg Signature Date: 6/11/21 Time: 1449



Analytical Sciences
 P.O. Box 750336, Petaluma, CA 94975-0336
 110 Liberty Street, Petaluma, CA 94952
 (707) 769-3128
 Fax (707) 769-8093

CHAIN OF CUSTODY

Lab Project Number: 21E1743
 Client's Project Name: Sonoma-Marin Fairgrounds
 Client's Project Number: 866 E. Washington St.

CLIENT INFORMATION

Company Name: Edd Clark & Assoc., Inc.
 Address: POB 3039
Rohnert Park, CA 94927
 Contact: EJ VandenBosch
 Phone #: (707) 291-8774
 Fax #: (707) 792-9504
 e-mail: efajonv@eddcclarkandassociates.com

GeoTracker Required Yes No
 GeoTracker Number:

TURNAROUND TIME (check one)

Same Day _____ 24 Hours _____
 48 Hours _____ 5 Days Normal _____
same charge as normal

Page 1 of 1

Item	Client Sample ID	Date	Matrix	Canister ID #	Regulator ID #	Sample Start Time	Sample End Time	ANALYSIS				Lab Sample #	
								TPH-9, BTEX, MTBE	Naphthalene, IPA	TO-15	% Oxygen		Need ERLs Comments
1	VP-1	6/11/21	Air	4288	0	1222	1235	X	X	X	X		
2	VP-1 dup			4300	0	1240	1253	X	X	X	X		
3	VP-2			4293	1A	1310	1324	X	X	X	X		← HOLD
4	VP-2 dup			4292	1A	1326	1334	X	X	X	X		← HOLD
5	VP-3			4294	18A	1356	1406	X	X	X	X		* Add % Oxygen
6													
7													
8													
9													
10													

SIGNATURES

Relinquished By: EJ VandenBosch Signature
 Sampled By: EJ VandenBosch Signature
 Date: 6/11/21 Date
 Time: 1449 Time
 Received By: [Signature] Signature
 Date: 6/11/21 Date
 Time: 1449 Time



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2112259

Report Created for: Edd Clark & Associates, Inc.

320 Professional Center Ste. 215
Rohnert Park, CA 94928

Project Contact: Mark Tennyson

Project P.O.: 0977,002.20

Project: 0977,002.20; City of Petaluma

Project Received: 12/03/2021

Analytical Report reviewed & approved for release on 12/10/2021 by:

Christine Askari
Project 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 a case narrative.





Glossary of Terms & Qualifier Definitions

Client: Edd Clark & Associates, Inc.
Project: 0977,002.20; City of Petaluma
WorkOrder: 2112259

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
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
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
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
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: Edd Clark & Associates, Inc.
Project: 0977,002.20; City of Petaluma
WorkOrder: 2112259

Analytical Qualifiers

J Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.

Quality Control Qualifiers

F2 LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.
F3 The surrogate standard recovery and/or RPD is outside of acceptance limits.



McC Campbell 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

Case Narrative

Client: Edd Clark & Associates, Inc.
Project: 0977,002.20; City of Petaluma

Work Order: 2112259
December 10, 2021

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.



Summary of Sample Pressure Report

Lab ID	Canister ID	Lab Prep Vacuum (psia)	Field Initial Vacuum (inHg)	Field Final Vacuum (inHg)	Lab Received Vacuum (psia)	Lab Received Vacuum (inHg)	Lab Final Vacuum / Pressure (psia)
2112259-001A	1943-2574	0.27	-29	-1	14.2	-1.02	28.34
2112259-002A	0879-2507	0.26	-29	-1	N/A	N/A	N/A
2112259-003A	0895-2523	0.28	-27.5	-2	13.59	-2.26	27.13
2112259-004A	1946-2577	0.26	-29	-1	14	-1.43	28.07
2112259-005A	6449-429	0.27	-30	-1.5	13.86	-1.71	13.86
2112259-006A	2233-2673	0.26	-30	-2	14.23	-0.96	14.23
2112259-007A	6445-426	0.26	-30	-3	14.14	-1.14	14.14
2112259-008A	6446-427	0.27	-27	-2	14.77	0.14	14.77



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/08/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: %

Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-1	2112259-001A	SoilGas	12/01/2021 12:03	GC26 1208210205.D	235329

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.20	28.34	JEM

Analytes	Result	RL	DF	Date Analyzed
Helium	0.12	0.050	1	12/08/2021 15:08

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-2	2112259-003A	SoilGas	12/01/2021 13:20	GC26 1208210206.D	235329

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.59	27.13	JEM

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	12/08/2021 15:21

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-3	2112259-004A	SoilGas	12/01/2021 14:24	GC26 1208210207.D	235329

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.00	28.07	JEM

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	12/08/2021 15:34



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/08/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TPH gas

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OAA-1	2112259-005A	Ambient Air	12/01/2021 16:18	GC29 12072127.D	235212

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.86	13.86	TW

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	36	1	12/08/2021 18:35
Surrogates	REC (%)	Limits		
1,2-DCA-d4	99	70-130		12/08/2021 18:35

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-1	2112259-006A	Indoor Air	12/01/2021 16:43	GC29 12072128.D	235212

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.23	14.23	TW

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	36	1	12/08/2021 19:33
Surrogates	REC (%)	Limits		
1,2-DCA-d4	101	70-130		12/08/2021 19:33

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-2	2112259-007A	Indoor Air	12/01/2021 16:49	GC29 12072129.D	235212

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.14	14.14	TW

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	42	36	1	12/08/2021 20:32
Surrogates	REC (%)	Limits		
1,2-DCA-d4	102	70-130		12/08/2021 20:32

(Cont.)



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/08/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TPH gas

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-3	2112259-008A	Indoor Air	12/01/2021 16:34	GC29 12072130.D	235212

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.77	14.77	TW

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	36	1	12/08/2021 21:30

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	101	70-130	12/08/2021 21:30



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/10/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

TPH gas

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-1	2112259-001A	SoilGas	12/01/2021 12:03	GC29 12092135.D	235300

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.20	28.34	TW

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	720	1	12/10/2021 15:10

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	103	70-130	12/10/2021 15:10

VP-2	2112259-003A	SoilGas	12/01/2021 13:20	GC29 12092136.D	235300
------	--------------	---------	------------------	-----------------	--------

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.59	27.13	TW

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	720	1	12/10/2021 15:53

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	101	70-130	12/10/2021 15:53

VP-3	2112259-004A	SoilGas	12/01/2021 14:24	GC29 12092128.D	235300
------	--------------	---------	------------------	-----------------	--------

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.00	28.07	TW

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	720	1	12/10/2021 10:11

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	104	70-130	12/10/2021 10:11



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/08/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
OAA-1	2112259-005A	Ambient Air	12/01/2021 16:18	GC29 12072127.D	235212

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.86	13.86	TW

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Benzene	0.64		0.049	0.16	1	12/08/2021 18:35
cis-1,2-Dichloroethene	ND		0.039	0.20	1	12/08/2021 18:35
Ethylbenzene	0.19	J	0.033	0.22	1	12/08/2021 18:35
Methyl-t-butyl ether (MTBE)	ND		0.035	0.19	1	12/08/2021 18:35
Naphthalene	0.061		0.038	0.050	1	12/08/2021 18:35
Tetrachloroethene	0.035	J	0.016	0.069	1	12/08/2021 18:35
Toluene	1.1		0.10	0.19	1	12/08/2021 18:35
Trichloroethene	ND		0.012	0.055	1	12/08/2021 18:35
Vinyl Chloride	ND		0.0041	0.0070	1	12/08/2021 18:35
m,p-Xylene	0.46		0.086	0.44	1	12/08/2021 18:35
o-Xylene	0.18	J	0.035	0.22	1	12/08/2021 18:35
Xylenes, Total	0.64	J	NA	0.44	1	12/08/2021 18:35
Surrogates	REC (%)	Limits				
1,2-DCA-d4	96		70-130			12/08/2021 18:35
Toluene-d8	99		70-130			12/08/2021 18:35
4-BFB	92		70-130			12/08/2021 18:35



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/08/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-1	2112259-006A	Indoor Air	12/01/2021 16:43	GC29 12072128.D	235212

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.23	14.23	TW

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Benzene	0.65		0.049	0.16	1	12/08/2021 19:33
cis-1,2-Dichloroethene	ND		0.039	0.20	1	12/08/2021 19:33
Ethylbenzene	0.26		0.033	0.22	1	12/08/2021 19:33
Methyl-t-butyl ether (MTBE)	ND		0.035	0.19	1	12/08/2021 19:33
Naphthalene	0.055		0.038	0.050	1	12/08/2021 19:33
Tetrachloroethene	0.031	J	0.016	0.069	1	12/08/2021 19:33
Toluene	2.0		0.10	0.19	1	12/08/2021 19:33
Trichloroethene	ND		0.012	0.055	1	12/08/2021 19:33
Vinyl Chloride	ND		0.0041	0.0070	1	12/08/2021 19:33
m,p-Xylene	0.74		0.086	0.44	1	12/08/2021 19:33
o-Xylene	0.28		0.035	0.22	1	12/08/2021 19:33
Xylenes, Total	1.0		NA	0.44	1	12/08/2021 19:33
Surrogates	REC (%)	Limits				
1,2-DCA-d4	97		70-130			12/08/2021 19:33
Toluene-d8	99		70-130			12/08/2021 19:33
4-BFB	92		70-130			12/08/2021 19:33



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/08/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-2	2112259-007A	Indoor Air	12/01/2021 16:49	GC29 12072129.D	235212

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.14	14.14	TW

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Benzene	1.6		0.049	0.16	1	12/08/2021 20:32
cis-1,2-Dichloroethene	ND		0.039	0.20	1	12/08/2021 20:32
Ethylbenzene	1.0		0.033	0.22	1	12/08/2021 20:32
Methyl-t-butyl ether (MTBE)	ND		0.035	0.19	1	12/08/2021 20:32
Naphthalene	0.18		0.038	0.050	1	12/08/2021 20:32
Tetrachloroethene	0.031	J	0.016	0.069	1	12/08/2021 20:32
Toluene	11		0.10	0.19	1	12/08/2021 20:32
Trichloroethene	ND		0.012	0.055	1	12/08/2021 20:32
Vinyl Chloride	ND		0.0041	0.0070	1	12/08/2021 20:32
m,p-Xylene	3.7		0.086	0.44	1	12/08/2021 20:32
o-Xylene	1.2		0.035	0.22	1	12/08/2021 20:32
Xylenes, Total	4.9		NA	0.44	1	12/08/2021 20:32
Surrogates	REC (%)			Limits		
1,2-DCA-d4	100			70-130		12/08/2021 20:32
Toluene-d8	99			70-130		12/08/2021 20:32
4-BFB	93			70-130		12/08/2021 20:32



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/08/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
IA-3	2112259-008A	Indoor Air	12/01/2021 16:34	GC29 12072130.D	235212

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.77	14.77	TW

Analytes	Result	MDL	RL	DF	Date Analyzed
Benzene	0.97	0.049	0.16	1	12/08/2021 21:30
cis-1,2-Dichloroethene	ND	0.039	0.20	1	12/08/2021 21:30
Ethylbenzene	0.43	0.033	0.22	1	12/08/2021 21:30
Methyl-t-butyl ether (MTBE)	ND	0.035	0.19	1	12/08/2021 21:30
Naphthalene	0.095	0.038	0.050	1	12/08/2021 21:30
Tetrachloroethene	0.078	0.016	0.069	1	12/08/2021 21:30
Toluene	3.5	0.10	0.19	1	12/08/2021 21:30
Trichloroethene	ND	0.012	0.055	1	12/08/2021 21:30
Vinyl Chloride	ND	0.0041	0.0070	1	12/08/2021 21:30
m,p-Xylene	1.4	0.086	0.44	1	12/08/2021 21:30
o-Xylene	0.48	0.035	0.22	1	12/08/2021 21:30
Xylenes, Total	1.9	NA	0.44	1	12/08/2021 21:30
Surrogates	REC (%)	Limits			
1,2-DCA-d4	98	70-130			12/08/2021 21:30
Toluene-d8	98	70-130			12/08/2021 21:30
4-BFB	93	70-130			12/08/2021 21:30



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/10/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-1	2112259-001A	SoilGas	12/01/2021 12:03	GC29 12092135.D	235300

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.20	28.34	TW

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	1.6	1	12/10/2021 15:10
cis-1,2-Dichloroethene	ND	2.0	1	12/10/2021 15:10
Ethylbenzene	ND	2.2	1	12/10/2021 15:10
Methyl-t-butyl ether (MTBE)	ND	1.9	1	12/10/2021 15:10
Naphthalene	ND	2.7	1	12/10/2021 15:10
Tetrachloroethene	18	3.5	1	12/10/2021 15:10
Toluene	2.5	1.9	1	12/10/2021 15:10
Trichloroethene	ND	2.8	1	12/10/2021 15:10
Vinyl Chloride	ND	0.26	1	12/10/2021 15:10
m,p-Xylene	ND	4.4	1	12/10/2021 15:10
o-Xylene	ND	2.2	1	12/10/2021 15:10
Xylenes, Total	ND	2.2	1	12/10/2021 15:10
Surrogates	REC (%)	Limits		Date Analyzed
1,2-DCA-d4	101	70-130		12/10/2021 15:10
Toluene-d8	97	70-130		12/10/2021 15:10
4-BFB	89	70-130		12/10/2021 15:10



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/10/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-2	2112259-003A	SoilGas	12/01/2021 13:20	GC29 12092136.D	235300

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.59	27.13	TW

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	1.6	1	12/10/2021 15:53
cis-1,2-Dichloroethene	ND	2.0	1	12/10/2021 15:53
Ethylbenzene	ND	2.2	1	12/10/2021 15:53
Methyl-t-butyl ether (MTBE)	ND	1.9	1	12/10/2021 15:53
Naphthalene	ND	2.7	1	12/10/2021 15:53
Tetrachloroethene	12	3.5	1	12/10/2021 15:53
Toluene	ND	1.9	1	12/10/2021 15:53
Trichloroethene	ND	2.8	1	12/10/2021 15:53
Vinyl Chloride	ND	0.26	1	12/10/2021 15:53
m,p-Xylene	ND	4.4	1	12/10/2021 15:53
o-Xylene	ND	2.2	1	12/10/2021 15:53
Xylenes, Total	ND	2.2	1	12/10/2021 15:53
Surrogates	REC (%)	Limits		
1,2-DCA-d4	98	70-130		12/10/2021 15:53
Toluene-d8	94	70-130		12/10/2021 15:53
4-BFB	94	70-130		12/10/2021 15:53



Analytical Report

Client: Edd Clark & Associates, Inc.
Date Received: 12/03/2021 11:05
Date Prepared: 12/10/2021
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VP-3	2112259-004A	SoilGas	12/01/2021 14:24	GC29 12092128.D	235300

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.00	28.07	TW

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	1.6	1	12/10/2021 10:11
cis-1,2-Dichloroethene	ND	2.0	1	12/10/2021 10:11
Ethylbenzene	ND	2.2	1	12/10/2021 10:11
Methyl-t-butyl ether (MTBE)	ND	1.9	1	12/10/2021 10:11
Naphthalene	ND	2.7	1	12/10/2021 10:11
Tetrachloroethene	6.2	3.5	1	12/10/2021 10:11
Toluene	ND	1.9	1	12/10/2021 10:11
Trichloroethene	ND	2.8	1	12/10/2021 10:11
Vinyl Chloride	ND	0.26	1	12/10/2021 10:11
m,p-Xylene	ND	4.4	1	12/10/2021 10:11
o-Xylene	ND	2.2	1	12/10/2021 10:11
Xylenes, Total	ND	2.2	1	12/10/2021 10:11
Surrogates	REC (%)	Limits		
1,2-DCA-d4	101	70-130		12/10/2021 10:11
Toluene-d8	99	70-130		12/10/2021 10:11
4-BFB	93	70-130		12/10/2021 10:11



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/08/2021
Date Analyzed: 12/08/2021
Instrument: GC26
Matrix: Soilgas
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235329
Extraction Method: ASTM D 1946-90
Analytical Method: ASTM D 1946-90
Unit: %
Sample ID: MB/LCS/LCSD-235329

QC Summary Report for ASTM D1946-90

Analyte	MB Result	MDL	RL			
Helium	ND	0.0500	0.0500	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Helium	0.237	0.238	0.20	118	119	60-140	0.656	20



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/08/2021
Date Analyzed: 12/08/2021
Instrument: GC29
Matrix: Indoor Air
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235212
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-235212

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g)	2.13,J	0.200	36.0	-	-	-
Surrogate Recovery						
1,2-DCA-d4	98.7			100	99	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(g)	879	879	900	98	98	60-140	0.0170	20
Surrogate Recovery								
1,2-DCA-d4	103	102	100	103	102	60-140	0.735,F	0



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/09/2021 - 12/10/2021
Date Analyzed: 12/09/2021 - 12/10/2021
Instrument: GC29
Matrix: Soilgas
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235300
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-235300

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g)	ND	720	720	-	-	-
Surrogate Recovery						
1,2-DCA-d4	993			1000	99	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(g)	9360	9360	9000	104	104	70-130	0.0443	20
Surrogate Recovery								
1,2-DCA-d4	1020	1020	1000	102	102	60-140	0.724	30



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/08/2021
Date Analyzed: 12/08/2021
Instrument: GC29
Matrix: Indoor Air
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235212
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-235212

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	0.540	1.20	-	-	-
Acrolein	ND	0.0410	0.120	-	-	-
Acrylonitrile	ND	0.0790	0.110	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.140	0.210	-	-	-
Benzene	ND	0.0490	0.160	-	-	-
Benzyl chloride	ND	0.220	0.270	-	-	-
Bromoform	ND	0.120	0.530	-	-	-
Bromomethane	ND	0.0390	0.190	-	-	-
1,3-Butadiene	ND	0.0890	0.110	-	-	-
2-Butanone (MEK)	ND	0.130	1.50	-	-	-
t-Butyl alcohol (TBA)	ND	0.0990	1.50	-	-	-
Carbon Disulfide	ND	0.150	1.60	-	-	-
Carbon Tetrachloride	ND	0.00240	0.00600	-	-	-
Chlorobenzene	ND	0.0310	0.240	-	-	-
Chloroethane	ND	0.0340	0.140	-	-	-
Chloroform	ND	0.00450	0.0120	-	-	-
Chloromethane	ND	0.0290	0.110	-	-	-
Cyclohexane	ND	0.0820	1.80	-	-	-
Dibromochloromethane	ND	0.140	0.440	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.00750	0.0100	-	-	-
1,2-Dibromoethane (EDB)	0.00350,J	0.00200	0.00400	-	-	-
1,2-Dichlorobenzene	ND	0.120	0.310	-	-	-
1,3-Dichlorobenzene	ND	0.130	0.310	-	-	-
1,4-Dichlorobenzene	ND	0.0140	0.0150	-	-	-
Dichlorodifluoromethane	ND	0.0430	0.250	-	-	-
1,1-Dichloroethane	ND	0.0330	0.210	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.00290	0.00400	-	-	-
1,1-Dichloroethene	ND	0.0410	0.200	-	-	-
cis-1,2-Dichloroethene	ND	0.0390	0.200	-	-	-
trans-1,2-Dichloroethene	ND	0.0330	0.200	-	-	-
1,2-Dichloropropane	0.00425,J	0.000830	0.00500	-	-	-
cis-1,3-Dichloropropene	ND	0.00910	0.0460	-	-	-
trans-1,3-Dichloropropene	ND	0.00990	0.0460	-	-	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.110	0.360	-	-	-
Diisopropyl ether (DIPE)	ND	0.0410	0.210	-	-	-
1,4-Dioxane	ND	0.00880	0.00900	-	-	-
Ethyl acetate	ND	0.0710	0.190	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0700	0.210	-	-	-

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/08/2021
Date Analyzed: 12/08/2021
Instrument: GC29
Matrix: Indoor Air
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235212
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-235212

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Ethylbenzene	ND	0.0330	0.220	-	-	-
4-Ethyltoluene	ND	0.0730	0.250	-	-	-
Freon 113	ND	0.0740	0.390	-	-	-
Heptane	ND	0.230	2.10	-	-	-
Hexachlorobutadiene	ND	0.0370	0.110	-	-	-
Hexachloroethane	ND	0.160	0.490	-	-	-
Hexane	ND	0.160	1.80	-	-	-
2-Hexanone	ND	0.290	0.630	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.100	0.210	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0350	0.190	-	-	-
Methylene chloride	ND	0.170	0.880	-	-	-
Methyl methacrylate	ND	0.0900	0.210	-	-	-
Naphthalene	ND	0.0380	0.0500	-	-	-
Styrene	ND	0.0850	0.220	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.00310	0.00700	-	-	-
1,1,1,2-Tetrachloroethane	0.00280,J	0.00220	0.00700	-	-	-
Tetrachloroethene	ND	0.0160	0.0690	-	-	-
Tetrahydrofuran	ND	0.0850	0.150	-	-	-
Toluene	ND	0.100	0.190	-	-	-
1,2,4-Trichlorobenzene	ND	0.330	0.380	-	-	-
1,1,1-Trichloroethane	ND	0.0330	0.280	-	-	-
1,1,2-Trichloroethane	ND	0.00180	0.00600	-	-	-
Trichloroethene	ND	0.0120	0.0550	-	-	-
1,2,3-Trichloropropane	ND	0.0310	0.310	-	-	-
Trichlorofluoromethane	ND	0.0590	0.290	-	-	-
1,2,4-Trimethylbenzene	ND	0.0580	0.250	-	-	-
1,3,5-Trimethylbenzene	ND	0.0700	0.250	-	-	-
Vinyl Acetate	ND	0.240	1.80	-	-	-
Vinyl Chloride	ND	0.00410	0.00700	-	-	-
m,p-Xylene	ND	0.0860	0.440	-	-	-
o-Xylene	ND	0.0350	0.220	-	-	-

Surrogate Recovery

1,2-DCA-d4	96.0			100	96	70-130
Toluene-d8	100			100	101	70-130
4-BFB	91.3			100	91	70-130

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/08/2021
Date Analyzed: 12/08/2021
Instrument: GC29
Matrix: Indoor Air
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235212
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-235212

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	1.67	2.02	1.2	139	168,F2	60-140	18.8	30
Acrolein	1.11	1.14	1.16	96	99	60-140	2.83	30
Acrylonitrile	1.30	1.43	1.1	118	130	60-140	9.79	30
tert-Amyl methyl ether (TAME)	2.04	2.24	2.1	97	107	60-140	9.24	30
Benzene	1.47	1.51	1.6	92	94	60-140	2.87	30
Benzyl chloride	1.89	1.98	2.65	71	75	60-140	4.66	30
Bromoform	4.05	4.34	5.25	77	83	60-140	6.79	30
Bromomethane	1.66	1.96	1.95	85	100	60-140	16.4	30
1,3-Butadiene	1.85	1.59	1.1	168,F2	145,F2	60-140	15.0	30
2-Butanone (MEK)	1.39	1.51	1.5	93	101	60-140	8.45	30
t-Butyl alcohol (TBA)	2.35	2.66	1.55	152,F2	172,F2	60-140	12.6	30
Carbon Disulfide	1.40	1.48	1.6	88	93	60-140	5.37	30
Carbon Tetrachloride	2.94	3.15	3.2	92	98	60-140	6.85	30
Chlorobenzene	2.14	2.22	2.35	91	94	60-140	3.59	30
Chloroethane	1.24	1.37	1.35	92	101	60-140	9.77	30
Chloroform	2.33	2.56	2.45	95	105	60-140	9.45	30
Chloromethane	1.06	1.07	1.05	101	102	60-140	1.08	30
Cyclohexane	1.65	1.59	1.75	94	91	60-140	3.46	30
Dibromochloromethane	3.60	3.83	4.35	83	88	60-140	6.33	30
1,2-Dibromo-3-chloropropane	5.46	5.79	4.9	111	118	60-140	5.75	30
1,2-Dibromoethane (EDB)	3.98	4.24	3.9	102	109	60-140	6.52	30
1,2-Dichlorobenzene	2.72	2.93	3.05	89	96	60-140	7.58	30
1,3-Dichlorobenzene	2.80	2.96	3.05	92	97	60-140	5.37	30
1,4-Dichlorobenzene	2.78	2.95	3.05	91	97	60-140	5.80	30
Dichlorodifluoromethane	2.13	2.21	2.5	85	88	60-140	3.86	30
1,1-Dichloroethane	1.86	2.03	2.05	91	99	60-140	8.84	30
1,2-Dichloroethane (1,2-DCA)	1.98	2.08	2.05	96	101	60-140	5.22	30
1,1-Dichloroethene	2.09	1.91	2	104	96	60-140	8.92	30
cis-1,2-Dichloroethene	1.86	1.92	2	93	96	60-140	3.24	30
trans-1,2-Dichloroethene	1.80	1.84	2	90	92	60-140	2.11	30
1,2-Dichloropropane	2.30	2.48	2.35	98	105	60-140	7.46	30
cis-1,3-Dichloropropene	2.14	2.33	2.3	93	101	60-140	8.61	30
trans-1,3-Dichloropropene	2.15	2.35	2.3	93	102	60-140	9.05	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.74	3.90	3.55	105	110	60-140	4.12	30
Diisopropyl ether (DIPE)	2.25	2.36	2.1	107	113	60-140	4.77	30
1,4-Dioxane	1.76	1.83	1.85	95	99	60-140	3.96	30
Ethyl acetate	1.84	1.94	1.85	100	105	60-140	5.29	30
Ethyl tert-butyl ether (ETBE)	2.08	2.29	2.1	99	109	60-140	9.28	30

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/08/2021
Date Analyzed: 12/08/2021
Instrument: GC29
Matrix: Indoor Air
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235212
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-235212

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Ethylbenzene	1.93	2.04	2.2	88	93	60-140	5.63	30
4-Ethyltoluene	2.17	2.29	2.5	87	92	60-140	5.47	30
Freon 113	3.54	3.62	3.9	91	93	60-140	2.00	30
Heptane	1.89	1.94	2.1	90	93	60-140	2.77	30
Hexachlorobutadiene	4.58	4.77	5.4	85	88	60-140	4.03	30
Hexachloroethane	2.54	2.68	4.92	52,F2	55,F2	60-140	5.69	25
Hexane	1.67	1.74	1.8	93	96	60-140	3.83	30
2-Hexanone	2.13	2.20	2.1	101	105	60-140	3.13	30
4-Methyl-2-pentanone (MIBK)	1.82	1.97	2.1	87	94	60-140	8.05	30
Methyl-t-butyl ether (MTBE)	1.59	1.70	1.85	86	92	60-140	6.61	30
Methylene chloride	1.60	1.73	1.75	92	99	60-140	7.48	30
Methyl methacrylate	1.83	1.90	2.08	88	91	60-140	3.46	30
Naphthalene	2.39	2.48	2.65	90	93	60-140	3.65	30
Styrene	1.84	1.95	2.15	85	91	60-140	5.91	30
1,1,1,2-Tetrachloroethane	3.71	3.97	3.5	106	113	60-140	6.93	30
1,1,2,2-Tetrachloroethane	3.47	3.72	3.5	99	106	60-140	6.83	30
Tetrachloroethene	3.40	3.45	3.45	99	100	60-140	1.42	30
Tetrahydrofuran	1.34	1.43	1.5	89	96	60-140	6.98	30
Toluene	1.73	1.76	1.9	91	93	60-140	1.87	30
1,2,4-Trichlorobenzene	3.32	3.46	3.75	88	92	60-140	4.11	30
1,1,1-Trichloroethane	2.29	2.50	2.75	83	91	60-140	8.41	30
1,1,2-Trichloroethane	2.90	3.03	2.75	106	110	60-140	4.27	30
Trichloroethene	2.91	2.80	2.75	106	102	60-140	3.69	30
1,2,3-Trichloropropane	3.15	3.32	3.06	103	108	60-140	5.26	25
Trichlorofluoromethane	2.46	2.63	2.85	86	92	60-140	6.64	30
1,2,4-Trimethylbenzene	2.11	2.22	2.5	85	89	60-140	4.90	30
1,3,5-Trimethylbenzene	2.05	2.18	2.5	82	87	60-140	6.05	30
Vinyl Acetate	1.52	1.63	1.8	85	90	60-140	6.66	30
Vinyl Chloride	1.79	1.70	1.3	138	131	60-140	4.90	30
m,p-Xylene	3.76	4.00	4.4	85	91	60-140	6.18	30
o-Xylene	1.84	1.98	2.2	84	90	60-140	7.13	30

Surrogate Recovery

1,2-DCA-d4	103	102	100	103	102	70-130	0.289	30
Toluene-d8	101	101	100	101	101	70-130	0.0981	30
4-BFB	95.1	94.5	100	95	95	70-130	0.628	30



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/09/2021 - 12/10/2021
Date Analyzed: 12/09/2021 - 12/10/2021
Instrument: GC29
Matrix: SoilGas
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235300
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-235300

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	6.14,J	4.30	60.0	-	-	-
Acrolein	ND	1.10	5.80	-	-	-
Acrylonitrile	ND	0.660	1.10	-	-	-
tert-Amyl methyl ether (TAME)	ND	1.30	2.10	-	-	-
Benzene	ND	0.790	1.60	-	-	-
Benzyl chloride	ND	1.70	2.70	-	-	-
Bromodichloromethane	ND	0.130	1.40	-	-	-
Bromoform	ND	1.10	5.30	-	-	-
Bromomethane	ND	0.410	1.90	-	-	-
1,3-Butadiene	ND	0.980	1.10	-	-	-
2-Butanone (MEK)	ND	2.00	15.0	-	-	-
t-Butyl alcohol (TBA)	ND	1.90	16.0	-	-	-
Carbon Disulfide	ND	1.10	1.60	-	-	-
Carbon Tetrachloride	ND	0.190	1.30	-	-	-
Chlorobenzene	ND	0.590	2.40	-	-	-
Chloroethane	ND	0.350	1.30	-	-	-
Chloroform	ND	0.580	2.50	-	-	-
Chloromethane	ND	0.520	1.00	-	-	-
Cyclohexane	ND	1.60	18.0	-	-	-
Dibromochloromethane	ND	1.10	4.40	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0740	0.120	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0250	0.0780	-	-	-
1,2-Dichlorobenzene	ND	0.950	3.00	-	-	-
1,3-Dichlorobenzene	ND	0.940	3.00	-	-	-
1,4-Dichlorobenzene	ND	0.970	3.00	-	-	-
Dichlorodifluoromethane	ND	0.560	2.50	-	-	-
1,1-Dichloroethane	ND	0.500	2.00	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.580	2.00	-	-	-
1,1-Dichloroethene	ND	0.400	2.00	-	-	-
cis-1,2-Dichloroethene	ND	0.430	2.00	-	-	-
trans-1,2-Dichloroethene	ND	0.450	2.00	-	-	-
1,2-Dichloropropane	ND	0.590	2.40	-	-	-
cis-1,3-Dichloropropene	ND	0.710	2.30	-	-	-
trans-1,3-Dichloropropene	ND	0.860	2.30	-	-	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.80	3.60	-	-	-
Diisopropyl ether (DIPE)	ND	0.550	2.10	-	-	-
1,4-Dioxane	ND	0.710	1.90	-	-	-
Ethanol	ND	3.80	95.0	-	-	-

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Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/09/2021 - 12/10/2021
Date Analyzed: 12/09/2021 - 12/10/2021
Instrument: GC29
Matrix: SoilGas
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235300
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-235300

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Ethyl acetate	ND	0.630	1.90	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.680	2.10	-	-	-
Ethylbenzene	ND	0.510	2.20	-	-	-
4-Ethyltoluene	ND	0.610	2.50	-	-	-
Freon 113	ND	1.00	3.90	-	-	-
Heptane	ND	2.40	21.0	-	-	-
Hexachlorobutadiene	ND	0.380	2.20	-	-	-
Hexachloroethane	ND	2.70	4.90	-	-	-
Hexane	ND	2.20	18.0	-	-	-
2-Hexanone	ND	1.60	2.10	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.940	2.10	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.430	1.90	-	-	-
Methylene chloride	ND	0.820	8.80	-	-	-
Methyl methacrylate	ND	0.650	2.10	-	-	-
Naphthalene	ND	1.90	2.70	-	-	-
Styrene	ND	0.620	2.20	-	-	-
1,1,1,2-Tetrachloroethane	ND	1.20	3.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.100	0.700	-	-	-
Tetrachloroethene	ND	1.10	3.50	-	-	-
Tetrahydrofuran	ND	0.820	3.00	-	-	-
Toluene	ND	0.890	1.90	-	-	-
1,2,4-Trichlorobenzene	ND	2.70	3.80	-	-	-
1,1,1-Trichloroethane	ND	0.710	2.80	-	-	-
1,1,2-Trichloroethane	ND	0.850	2.80	-	-	-
Trichloroethene	ND	0.690	2.80	-	-	-
1,2,3-Trichloropropane	ND	0.890	3.10	-	-	-
Trichlorofluoromethane	ND	0.780	2.90	-	-	-
1,2,4-Trimethylbenzene	ND	1.20	2.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.730	2.50	-	-	-
Vinyl Acetate	ND	1.10	18.0	-	-	-
Vinyl Chloride	ND	0.140	0.260	-	-	-
m,p-Xylene	ND	1.10	4.40	-	-	-
o-Xylene	ND	0.390	2.20	-	-	-

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Quality Control Report

Client:	Edd Clark & Associates, Inc.	WorkOrder:	2112259
Date Prepared:	12/09/2021 - 12/10/2021	BatchID:	235300
Date Analyzed:	12/09/2021 - 12/10/2021	Extraction Method:	TO15
Instrument:	GC29	Analytical Method:	TO15
Matrix:	SoilGas	Unit:	µg/m ³
Project:	0977,002.20; City of Petaluma	Sample ID:	MB/LCS/LCSD-235300

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
1,2-DCA-d4	961			1000	96	70-130
Toluene-d8	1000			1000	101	70-130
4-BFB	893			1000	89	70-130



Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/09/2021 - 12/10/2021
Date Analyzed: 12/09/2021 - 12/10/2021
Instrument: GC29
Matrix: SoilGas
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235300
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-235300

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	21.1	21.5	12	176,F2	179,F2	60-140	1.97	25
Acrolein	11.0	11.8	11.6	95	102	60-140	7.39	25
Acrylonitrile	13.5	13.4	11	122	121	60-140	0.910	25
tert-Amyl methyl ether (TAME)	21.3	21.4	21	101	102	60-140	0.788	25
Benzene	15.3	15.2	16	96	95	60-140	0.958	25
Benzyl chloride	22.6	22.7	26.6	85	85	60-140	0.454	25
Bromodichloromethane	38.4	38.2	35	110	109	60-140	0.651	25
Bromoform	47.0	45.9	52.6	89	87	60-140	2.28	25
Bromomethane	18.3	18.5	19.6	93	94	60-140	1.12	25
1,3-Butadiene	18.8	20.9	11	171,F2	190,F2	60-140	10.8	25
2-Butanone (MEK)	15.5	15.5	15	103	103	60-140	0.260	25
t-Butyl alcohol (TBA)	21.4	20.7	15.6	137	133	60-140	2.97	25
Carbon Disulfide	15.3	15.0	16	96	94	60-140	2.12	25
Carbon Tetrachloride	33.5	33.3	32	105	104	60-140	0.739	25
Chlorobenzene	22.5	22.5	23.6	95	95	60-140	0.142	25
Chloroethane	13.6	13.7	13.6	100	100	60-140	0.233	25
Chloroform	26.1	25.7	24.6	106	105	60-140	1.32	25
Chloromethane	11.2	11.5	10.6	106	109	60-140	2.91	25
Cyclohexane	16.6	16.3	17.6	94	93	60-140	1.75	25
Dibromochloromethane	40.4	40.2	43.6	93	92	60-140	0.394	25
1,2-Dibromo-3-chloropropane	62.7	62.3	49	128	127	60-140	0.646	25
1,2-Dibromoethane (EDB)	44.7	44.4	39	115	114	60-140	0.683	25
1,2-Dichlorobenzene	30.2	29.8	30.6	99	97	60-140	1.30	25
1,3-Dichlorobenzene	30.5	30.5	30.6	100	100	60-140	0.0471	25
1,4-Dichlorobenzene	30.6	30.4	30.6	100	99	60-140	0.458	25
Dichlorodifluoromethane	22.8	23.3	25	91	93	60-140	2.34	25
1,1-Dichloroethane	20.4	20.1	20.6	99	98	60-140	1.54	25
1,2-Dichloroethane (1,2-DCA)	20.9	20.7	20.6	102	100	60-140	1.10	25
1,1-Dichloroethene	19.3	19.2	20	97	96	60-140	0.790	25
cis-1,2-Dichloroethene	19.2	19.0	20	96	95	60-140	0.818	25
trans-1,2-Dichloroethene	19.0	18.8	20	95	94	60-140	0.814	25
1,2-Dichloropropane	25.2	25.0	23.6	107	106	60-140	1.00	25
cis-1,3-Dichloropropene	24.6	23.7	23	107	103	60-140	3.69	25
trans-1,3-Dichloropropene	23.9	23.8	23	104	103	60-140	0.435	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	40.0	40.8	35.6	112	115	60-140	1.97	25
Diisopropyl ether (DIPE)	22.9	23.0	21	109	110	60-140	0.453	25
1,4-Dioxane	21.1	21.2	18.6	114	114	60-140	0.156	25
Ethanol	10.2	10.5	9.6	106	109	60-140	2.70	25

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Quality Control Report

Client: Edd Clark & Associates, Inc.
Date Prepared: 12/09/2021 - 12/10/2021
Date Analyzed: 12/09/2021 - 12/10/2021
Instrument: GC29
Matrix: SoilGas
Project: 0977,002.20; City of Petaluma

WorkOrder: 2112259
BatchID: 235300
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³
Sample ID: MB/LCS/LCSD-235300

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Ethyl acetate	20.3	20.3	18.6	109	109	60-140	0.399	25
Ethyl tert-butyl ether (ETBE)	21.9	21.7	21	104	103	60-140	0.928	25
Ethylbenzene	20.7	20.7	22	94	94	60-140	0.0335	25
4-Ethyltoluene	23.6	23.2	25	94	93	60-140	1.44	25
Freon 113	36.9	36.6	39	95	94	60-140	0.894	25
Heptane	20.0	19.6	21	95	93	60-140	1.88	25
Hexachlorobutadiene	53.0	52.4	54	98	97	60-140	1.15	25
Hexachloroethane	41.5	42.0	49.2	84	85	60-140	1.10	25
Hexane	17.3	17.5	18	96	97	60-140	1.10	25
2-Hexanone	24.4	24.8	21	116	118	60-140	1.43	25
4-Methyl-2-pentanone (MIBK)	20.9	20.3	21	99	97	60-140	2.66	25
Methyl-t-butyl ether (MTBE)	17.4	17.2	18.6	94	92	60-140	1.63	25
Methylene chloride	17.1	17.0	17.6	97	96	60-140	0.951	25
Methyl methacrylate	19.8	19.6	20.8	95	94	60-140	0.778	25
Naphthalene	25.9	25.7	26.5	98	97	60-140	0.671	25
Styrene	20.2	20.0	21.6	93	92	60-140	1.08	25
1,1,1,2-Tetrachloroethane	39.3	39.1	35	112	112	60-140	0.297	25
1,1,2,2-Tetrachloroethane	39.7	39.3	35	113	112	60-140	0.893	25
Tetrachloroethene	31.3	30.9	34.4	91	90	60-140	1.31	25
Tetrahydrofuran	15.0	14.8	15	100	99	60-140	1.29	25
Toluene	17.9	17.8	19	94	94	60-140	0.516	25
1,2,4-Trichlorobenzene	36.5	36.0	37.6	97	96	60-140	1.24	25
1,1,1-Trichloroethane	25.0	24.5	27.6	91	89	60-140	1.94	25
1,1,2-Trichloroethane	31.2	31.0	27.6	113	112	60-140	0.802	25
Trichloroethene	27.6	27.2	27.6	100	99	60-140	1.20	25
1,2,3-Trichloropropane	32.3	32.0	30.64	105	104	60-140	1.05	25
Trichlorofluoromethane	26.4	26.6	28.6	92	93	60-140	0.811	25
1,2,4-Trimethylbenzene	22.8	22.7	25	91	91	60-140	0.315	25
1,3,5-Trimethylbenzene	22.3	22.0	25	89	88	60-140	1.14	25
Vinyl Acetate	17.1	17.6	18	95	98	60-140	2.79	25
Vinyl Chloride	17.1	17.3	13	131	133	60-140	1.30	25
m,p-Xylene	40.7	40.5	44	92	92	60-140	0.576	25
o-Xylene	20.3	19.8	22	92	90	60-140	2.26	25

(Cont.)



Quality Control Report

Client: Edd Clark & Associates, Inc.	WorkOrder: 2112259
Date Prepared: 12/09/2021 - 12/10/2021	BatchID: 235300
Date Analyzed: 12/09/2021 - 12/10/2021	Extraction Method: TO15
Instrument: GC29	Analytical Method: TO15
Matrix: SoilGas	Unit: µg/m ³
Project: 0977,002.20; City of Petaluma	Sample ID: MB/LCS/LCSD-235300

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
1,2-DCA-d4	1020	1010	1000	102	101	70-130	1.09	25
Toluene-d8	1020	1010	1000	102	101	70-130	0.164	25
4-BFB	920	912	1000	92	91	70-130	0.830	25



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 2112259

ClientCode: ECAR

- WaterTrax
 CLIP
 EDF
 EQuIS
 Dry-Weight
 Email
 HardCopy
 ThirdParty
 J-flag
 Detection Summary
 Excel

Report to:

Mark Tennyson
Edd Clark & Associates, Inc.
320 Professional Center Ste. 215
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(707) 792-9500 FAX: (707) 792-9504

Email: MarkT@Eddclarkandassociates.com
cc/3rd Party: GretchenW@Eddclarkandassociates.com;
PO: 0977,002.20
Project: 0977,002.20; City of Petaluma

Bill to:

Accounts Payable
Edd Clark & Associates, Inc.
320 Professional Center Ste.215
Rohnert Park, CA 94928
Accounting@Eddclarkandassociates.co

Requested TAT: 5 days;

Date Received: 12/03/2021

Date Logged: 12/06/2021

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	
2112259-001	VP-1	SoilGas	12/1/2021 12:03	<input type="checkbox"/>	A							A		A			
2112259-002	VP-1 (DUP)	SoilGas	12/1/2021 12:20	<input checked="" type="checkbox"/>		A	A	A	A								
2112259-003	VP-2	SoilGas	12/1/2021 13:20	<input type="checkbox"/>	A							A		A			
2112259-004	VP-3	SoilGas	12/1/2021 14:24	<input type="checkbox"/>	A							A		A			
2112259-005	OAA-1	Ambient Air	12/1/2021 16:18	<input type="checkbox"/>							A		A				
2112259-006	IA-1	Indoor Air	12/1/2021 16:43	<input type="checkbox"/>							A		A				
2112259-007	IA-2	Indoor Air	12/1/2021 16:49	<input type="checkbox"/>							A		A				
2112259-008	IA-3	Indoor Air	12/1/2021 16:34	<input type="checkbox"/>							A		A				

Test Legend:

1	HELIUM_LC_SOILGAS(%)	2	PRCHARGES	3	PRDisposal Fee	4	PRHOLD
5	PRSUMAHOLD	6	TO15_SCAN-SIM_Indoor(ug/m3) [J]	7	TO15_Scan-SIM_SOIL(UG/M3)	8	TO15GAS_SCAN-SIM_INDOOR(UG/M3)
9	TO15GAS_Scan-SIM_SOIL(UG/M3)	10		11		12	

Prepared by: Valerie Alfaro

The following SampIDs: 005A, 006A, 007A, 008A contain testgroup TO15+GAS_Indoor.; The following SampIDs: 001A, 003A, 004A contain testgroup TO15He+GAS_SG(ug/m3).

Comments:

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



WORK ORDER SUMMARY

Client Name: EDD CLARK & ASSOCIATES, INC.

Project: 0977,002.20; City of Petaluma

Work Order: 2112259

Client Contact: Mark Tennyson

QC Level: LEVEL 2

Contact's Email: MarkT@Eddclarkandassociates.com

Comments:


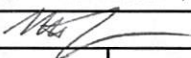
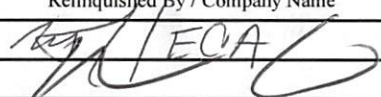
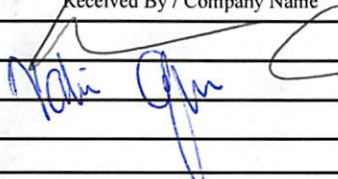
Date Logged: 12/6/2021

WaterTrax WriteOn EDF Excel EQUIS Email HardCopy ThirdParty J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	SubOut
001A	VP-1	SoilGas	TO15 + Gas w/ Helium	1	1L Summa	<input type="checkbox"/>	<input type="checkbox"/>	12/1/2021 12:03	5 days	12/10/2021		<input type="checkbox"/>	
003A	VP-2	SoilGas	TO15 + Gas w/ Helium	1	1L Summa	<input type="checkbox"/>	<input type="checkbox"/>	12/1/2021 13:20	5 days	12/10/2021		<input type="checkbox"/>	
004A	VP-3	SoilGas	TO15 + Gas w/ Helium	1	1L Summa	<input type="checkbox"/>	<input type="checkbox"/>	12/1/2021 14:24	5 days	12/10/2021		<input type="checkbox"/>	
005A	OAA-1	Ambient Air	TO15 + TPHgas for Indoor Air	1	6L Summa	<input type="checkbox"/>	<input type="checkbox"/>	12/1/2021 16:18	5 days	12/10/2021		<input type="checkbox"/>	
006A	IA-1	Indoor Air	TO15 + TPHgas for Indoor Air	1	6L Summa	<input type="checkbox"/>	<input type="checkbox"/>	12/1/2021 16:43	5 days	12/10/2021		<input type="checkbox"/>	
007A	IA-2	Indoor Air	TO15 + TPHgas for Indoor Air	1	6L Summa	<input type="checkbox"/>	<input type="checkbox"/>	12/1/2021 16:49	5 days	12/10/2021		<input type="checkbox"/>	
008A	IA-3	Indoor Air	TO15 + TPHgas for Indoor Air	1	6L Summa	<input type="checkbox"/>	<input type="checkbox"/>	12/1/2021 16:34	5 days	12/10/2021		<input type="checkbox"/>	

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

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

 McCAMPBELL ANALYTICAL, INC. 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701 Telephone: (877) 252-9262 / Fax: (925) 252-9269 www.mccampbell.com main@mccampbell.com						CHAIN OF CUSTODY RECORD									
						1 Day Rush		2 Day Rush		3 Day Rush		STD <input checked="" type="radio"/>		Quote #	
J-Flag / MDL				ESL		Bottle Order #									
Delivery Format: PDF <input checked="" type="radio"/>		GeoTracker EDF		EDD		Detect Summary									
Report To: markt@edclarkandassociates.com Bill To: accounting@edclarkandassociates.com						Analysis Requested						Helium Shroud SN#			
Company: Edd Clark and Associates						VOCs TO-15 (µg/m³) - See Notes VOCs TO-17 (µg/m³) - See Notes TPH(g) (µg/m³) TPH(ss) (µg/m³) LEED: (inc. 4PCH, Formaldehyde, CO, Total VOCs) Fixed Gas (CO₂, Methane, Ethane, Ethylene, Acetylene, Propane, CO) % Fixed Gas: (O₂ or N₂) % APH: Aliphatic and/or Aromatic (circle one) µg/m³						Leak Check Default is IPA			
Email: MarkT@EddClarkandAssociates.com												<input checked="" type="radio"/> Helium Leak Check %		IPA µg/m3	
Alt Email: GretchenW@Eddclarkandassociates.com Tele: 707 792 9500												1,1-difluoroethane µg/m3		Other (Specify)	
Project Name: City of Petaluma Project#: 0977,002.20															
Project Location: 100 Gness Concourse, Petaluma, CA 94952 PO # 0977,002.20															
Sampler Signature 						Matrix		Field Canister (in Hg) Pressure / Vacuum							
SAMPLE ID Location / Field Point		Sampling Start		Sampling End		Canister SN#		Sample Kit / Manifold #		Soilgas	Indoor Air	Outdoor Air	Initial		Final
		Date	Time	Date	Time										
VP-1		12/1/21	1157	12/1/21	1203	R1943-2574	MAN316T-991	<input checked="" type="radio"/>					-29	-1	
VP-1 (DUP)		12/1/21	1213	12/1/21	1220	R0897-2507	MAN316T-991	<input checked="" type="radio"/>					-29	-1	
VP-2		12/1/21	1315	12/1/21	1320	R0895-2523	MAN316-1222	<input checked="" type="radio"/>					-27.5	-2	
VP-3		12/1/21	1418	12/1/21	1424	R1946-2577	MAN316-1219	<input checked="" type="radio"/>					-29	-1	
OAA-1		12/1/21	0838	12/1/21	1618	R6449-429	4233-1972	<input checked="" type="radio"/>			<input checked="" type="radio"/>		-30	-1.5	
IA-1		12/1/21	0843	12/1/21	1643	R2233-2673	6782-523	<input checked="" type="radio"/>		<input checked="" type="radio"/>			-30	-2	
IA-2		12/1/21	0849	12/1/21	1649	R6445-426	3410-1988	<input checked="" type="radio"/>		<input checked="" type="radio"/>			-30	-3	
IA-3		12/1/21	0853	12/1/21	1634	R6446-427	9363-646	<input checked="" type="radio"/>		<input checked="" type="radio"/>			-27	-2	
Air media provided for sampling by McCampbell Analytical, Inc. is subject to terms listed in the MAI General Media Agreement										Final Reporting Units					
Client will be charged \$56 for each unused Summa canister.										nL/L	ug/L	<input checked="" type="radio"/> ug/m3	uL/L		
Relinquished By / Company Name			Date		Time		Received By / Company Name			Date		Time		Comments / Instructions Analytes to be reported are TPH-g, BTEX, MTBE, Napthalene, PCE, TCE, cis-1,2 DCE, and vinyl chloride. Sample OAA-1 is an outdoor ambient air sample. VP-1 (DUP) is a duplicate sample and should be placed on HOLD.	
 ECA			12.3.21		0830					12.3.21		0830			
			12.3.21		1105					12/3/21		1105			



Sample Receipt Checklist

Client Name: **Edd Clark & Associates, Inc.**
 Project: **0977,002.20; City of Petaluma**

Date and Time Received: **12/3/2021 11:05**

Date Logged: **12/6/2021**

Received by: **Valerie Alfaro**

Logged by: **Valerie Alfaro**

WorkOrder No: **2112259** Matrix: Ambient Air/Indoor Air/SoilGas
 Carrier: Bernie Cummins (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
COC agrees with Quote?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Samples Received on Ice?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

Sample/Temp Blank temperature Temp: NA

ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)? Yes No NA

Sample labels checked for correct preservation? Yes No

pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)? Yes No NA

UCMR Samples:

pH tested and acceptable upon receipt (200.7: ≤2; 533: 6 - 8; 537.1: 6 - 8)? Yes No NA

Free Chlorine tested and acceptable upon receipt (<0.1mg/L) [not applicable to 200.7]? Yes No NA

 Comments:

Summary of Environmental Work Conducted at 301 Payran Street

Drafted by Edd Clark & Associates

June 2022

Summary of Environmental Work

301 Payran Street (the Site) is part of the Fairgrounds property. Edd Clark and Associates, Inc. (EC&A) was retained by the City of Petaluma in August 2016 to provide environmental consulting services for 301 Payran Street, and in July 2020 to provide environmental services for the Fairgrounds.

The Site is currently being regulated by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) as a Leaking Underground Storage Tank (LUST) Case No. 49-0037 because of a release of fuel hydrocarbons (FHCs) from a 5,000-gallon gasoline underground storage tank (UST) that was removed in 1987. Prior to June 30, 2021, Sonoma County Department of Health Services, Local Oversight Program (LOP) provide regulatory agency services for the LUST case. Documents and regulatory agency correspondence associated with environmental work conducted for the former UST at the Site from 1987 to the present are posted on the California State Water Resources Control Board (SWRCB) GeoTracker Data Base site. This information can be accessed by the following link:

https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0609700807

The Site was occupied by the City of Petaluma Fire Station No. 2 from 1950 to 1981; the gasoline UST was used by the Fire Station. The Site, which became known as the Joseph Ellwood Community Center, was occupied by COTS Petaluma Kitchen from approximately 1988 to 2010 and is currently occupied by Rebuilding Together.

Following the removal of the UST in 1987, multiple investigations to identify the extent of soil and groundwater contamination at the Site and at the adjacent Live Oak Charter School property were conducted by various environmental consultants. Over the course of the project, 38 groundwater monitoring and/or extraction wells, 63 exploratory soil borings, five soil vapor wells and three sub-slab soil vapor pins were installed in the area of investigation.

The primary constituents of concern (COC) in soil, soil vapor and groundwater at the Site are those associated with gasoline: total petroleum hydrocarbons as gasoline (TPH-g), benzene, ethylbenzene, toluene and xylenes (BTEX) and naphthalene. Of these COC, the SFBRWQCB is most concerned with benzene, ethylbenzene and naphthalene.

Groundwater samples were periodically collected from project monitoring wells from November 1990 to May 2021. Indoor air quality (IAQ) and outdoor ambient air samples were collected from the Site building and/or from adjacent Live Oak Charter School classrooms in 2004, 2005, 2016 and 2021. Soil vapor samples were collected from vapor wells and/or vapor pins in 2020, 2021 and 2022.

To remediate FHC-impacted soil and groundwater, three high vacuum dual phase extraction (HVDPE) events using mobile HVDPE equipment were conducted at the Site from July 2004 to

September 2013. A dedicated HVDPE remediation system operated at the Site from February 2018 to July 2020. A total of 2,101,630 gallons of FHC-impacted groundwater and a total of 133,163 pounds (66.58 tons) of vapor phase FHCs have been removed from the vicinity of the former UST.

Closure Criteria

LUST cases are evaluated for case closure using the SWRCB *Low-Threat Underground Storage Tank Closure Policy* (LTCP). The LTCP was created by the SWRCB to establish consistent statewide case closure criteria for petroleum UST sites, and is a risk assessment based on concentrations of benzene, ethylbenzene and naphthalene in soil, soil vapor and groundwater, plume length, and plume proximity to water-supply wells. The LTCP consists of General Criteria and the three following Media Specific Criteria: Groundwater, Direct Contact and Outdoor Air Exposure, and Petroleum Vapor Intrusion to Indoor Air

The SFBRWCB periodically evaluates a site's compliance with closure criteria in the form of a LTCP Checklist. The SFBRWQCB's most recently prepared a Checklist in May 2022; this Checklist indicates the site does not meet LTCP closure criteria.

Summary of Current Site Compliance with LTCP Closure Criteria

General Criteria

The Site does not meet General Criteria because an updated Conceptual Site Model (CSM) is needed, and additional secondary source (impacted soil and/or groundwater) removal may be needed.

Current Groundwater Conditions and Compliance with LTCP Groundwater Criteria

Shallow groundwater beneath the Site has been measured at depths of 3 feet to 12 feet below ground surface (bgs) with a southeasterly to southwesterly groundwater flow direction. The FHC plume in groundwater consists of a southwestern and a southeastern lobe. The two lobes appear to follow fluvial (stream) channels. The southwest lobe extends approximately 175 feet down D Street from the Site's southwestern edge; the southeast lobe extends approximately 310 feet from the Site's southeastern edge

Groundwater was most recently sampled at the Site in May 2021. Analytical results indicate the FHC plume in groundwater is stable, with overall decreasing concentrations in the source area (the location of the former UST). In May 2021, the maximum benzene, ethylbenzene and naphthalene concentrations detected were 730 micrograms per liter ($\mu\text{g/L}$), 840 $\mu\text{g/L}$ and 330 $\mu\text{g/L}$, respectively.

Currently, the site does not comply with LTCP Groundwater Criteria because of the length of the plume and proximity to water supply wells.

Current Soil Conditions and Compliance with LTCP Direct Contact/Outdoor Air Exposure Criteria

Based on a review of analytical results from the September and October 2020 shallow soil assessment, the Site property meets LTCP media-specific criteria for direct contact and outdoor air exposure. However, the adjoining portion of the Live Oak Charter School within the area of investigation does not meet this Criteria.

Current Soil Vapor Conditions and Compliance with LTCP Vapor Intrusion to Indoor Air Criteria
Based on a review of analytical results from the September and October 2020 and March 2022 soil vapor assessments, the Site property meets LTCP media-specific criteria for petroleum vapor intrusion to indoor air. However, the adjoining portion of the Live Oak Charter School within the area of investigation does not meet this Criteria.

Proposed Work to Move the Site Towards Closure

The SFBRWQCB periodically prepares a Path to Closure Plan, which lists the steps necessary to obtain site closure for each LUST Case. The most recent Plan for the Site (May 11, 2022) reports the following steps to obtain closure for the Site:

General Criteria

- Prepare an updated CSM. The Updated CSM should include an update to the sensitive receptor survey (SRS) performed in January 2000, and recent groundwater and soil vapor analytical results
- Determine whether secondary source material (impacted soil and/or groundwater) is related to an off-Site source, and if not, propose a plan to remove secondary source material.

Groundwater Media-Specific Criteria

- Conduct additional groundwater monitoring events to assess if the plume is stable and/or shrinking
- Update previous SRS to determine whether well(s) still exist within 250 feet of the plume boundary.

Direct Contact/Outdoor Air Exposure Criteria

- Collection of additional soil samples, limited soil removal and/or a site-specific risk assessment may be needed

Petroleum Vapor Intrusion to Indoor Air

- Conduct additional soil vapor sampling events using the vapor wells at the Live Oak Charter School and site-specific risk assessment in areas that may reasonably be expected to see structures placed in the future.

Schedule

EC&A is currently working with the City of Petaluma and SFBRWQCB to schedule and perform the work necessary to obtain closure for the Site.