REPORT
SOIL VAPOR SURVEY

PROPERTY AT
1020 TERRA BELLA AVENUE
MOUNTAIN VIEW, CALIFORNIA 94043

PROJECT NO. 103.22001

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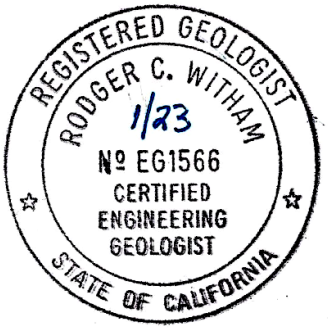

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1.0 INTRODUCTION

At the request of Terra Bella II LLC, Essel Environmental and Emergency Response (Essel) performed a soil vapor survey at the property located at 1020 Terra Bella Avenue in Mountain View, California (site). Essel understands that Terra Bella II LLC plans to redevelop the property with affordable housing and has requested the soil vapor survey following the findings of a September 2020 Phase I Environmental Site Assessment of the property (Essel, 2020). The purpose of the soil vapor survey was to evaluate the potential for vapor intrusion health risk into a future building at the site. The scope of work included advancing six small-diameter borings at the property to install temporary soil-vapor probes and collect soil-gas samples for laboratory analysis.

1.1 Site Location and Description

The Site is located on the northwestern corner of the intersection of Terra Bella Avenue and San Rafael Avenue in Mountain View. The irregularly-shaped property encompasses an area of approximately 20,473 square feet (0.47 acre) and is developed with a vacant residential-dwelling and an asphalt-paved parking lot. The single-story residential dwelling is located near the southern edge of the property and an unpaved area is located adjacent to the west of the building. The remaining portion of the site to the north of the dwelling is paved with asphalt. Several recreational vehicles are parked on this portion of the site and these motor homes are occupied by tenants.

Adjacent and immediate surrounding properties are commercial. A self-storage facility (Public Storage) is adjacent to the west and north of the site and further to the north is U.S. Highway 101. San Rafael Avenue bounds the eastern side of the site and beyond are buildings occupied by Falcon Roofing. Terra Bella Avenue bounds the southern side of the site and commercial businesses (Discount Glass, FujiFilm Wako Diagnostics, and Kodiak Robotics) are present on the south side of Terra Bella Avenue. Plate 1 shows the site location relative to surrounding physical and cultural features and Plate 2 shows the features at the site.

1.2 Previous Environmental Work

A number of environmental investigations and assessments were performed at the site between 2001 and 2017. Summaries of the work performed and the results of the investigations are provided in the following sections.

1.2.1 E_2C, Inc.

E_2C, Inc. (2001) performed a shallow soil and ground water investigation at the site in December 2001. E_2C, Inc. reported on the site history from 1980 to the early 1990s. In 1980, the site

contained a residence, a detached building, and the remaining portion of the site was covered with grass. Varsity Towing used the property to store towed vehicles in the mid- to late 1980s and circa 1990; an ambulance company used the property to store vehicles and equipment and to house ambulance crews. The site was reportedly paved in the early 1990s for the ambulance company operations.

On December 7, 2001, E_2C, Inc. advanced hydropunch borings HP-1 through HP-4 to depths of 12 to 14 feet below the ground surface to collect samples of soil and ground water. Ground water was encountered in the borings at 7½ to 10 feet below the ground surface under a confining clay unit and subsequently rose to 3½ to 7½ feet below grade in the borings. E_2C, Inc. collected one soil sample from each boring at 1 to 2 feet below grade and collected a ground-water sample from each boring. The soil and water samples were analyzed in a laboratory for total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd); volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl tertiary butyl ether (MTBE), which are components of gasoline; and the metals chromium, copper, lead, nickel, and zinc.

The laboratory analytical results showed that no TPHg, VOCs, BTEX, or MTBE were detected in the four shallow soil samples; TPHd was detected at low concentrations (11 and 14 milligrams per kilogram) in two of the four samples; and the five metals were detected in the four soil samples at naturally occurring (background) concentrations. The four ground-water samples did not contain detectable TPHg, BTEX, MTBE, or the five metals; a trace concentration of one VOC (1,1-dichloroethane, a cleaning/degreasing solvent) was detected in one water sample (southeastern boring HP-4) and TPHd was found at moderately high concentrations (180 to 850 micrograms per liter) in the four borings. E_2C, Inc. concluded that most of the detected compounds in the soil and ground-water samples were not at concentrations of concern and that the TPHd detected in the ground water may have originated from an off-site source. E_2C, Inc. did not recommend further investigation at the time. Plate 2 shows the approximate locations of borings HP-1 through HP-4.

1.2.2 Professional Service Industries, Inc.

Professional Service Industries, Inc. (PSI, 2014) performed a Phase I Environmental Site Assessment (ESA) of the site in November 2014. At the time of the assessment, the site contained two single-story buildings on the southern portion of the site and an asphalt paved area between, to the west, and to the north of the buildings. Saviano Company, a paving, grading, and sealcoating business that specializes in tennis courts, occupied the site at the time and, according to PSI, had operated on the property since 2000 or 2001. Saviano Company used the larger southernmost building as an office and the smaller second building for storage; PSI reported that the office building was a former residence, and the storage building was formerly a detached garage. Historical records indicated that the site was undeveloped land in 1939 and later contained several small structures, possibly residences, until the early 1970s. PSI reported that later the site was used to store equipment, was used by a towing company to store towed vehicles, was used for storing automobiles, and was in current use by the Saviano Company. PSI noted a variety of hazardous materials and petroleum products were associated with the Saviano Company operation and that housekeeping at the site was poor to fair; however, did not observe evidence of significant releases of these materials. PSI did not identify on-site or off-site

concerns during the ESA and found no recognized environmental conditions associated with the site.

1.2.3 Terraphase Engineering, Inc.

Terraphase Engineering, Inc. (Terraphase, 2017) performed a Phase I ESA and a limited subsurface investigation at the site in May and June 2017. At the time of the Phase I ESA, the unoccupied site contained a 1,029-square foot building formerly used as a residence and office; a 412-square-foot building formerly used as a detached garage and later for storage; and a 125-square-foot wooden shed used for storage. The remaining portion of the property was paved with asphalt and concrete or was landscaped. Historical records reviewed by Terraphase indicated that the site was agricultural (orchard) from at least 1939 through 1956 and that the buildings at the site in 2017 appear to have been constructed sometime between 1956 and 1963. City directory listings indicated the property was residential to at least 1975, was used by towing companies from at least 1986 until after 1991, and was occupied by the Saviano Company from circa 2000/2001 to 2014 of 2015.

Terraphase reviewed hazardous materials records from the City of Mountain View and Santa Clara County dating from 1993 through 2015 and relating to the Saviano Company. The Saviano Company handled hazardous materials and generated and disposed of hazardous wastes including flammable liquids and gases, thinners, solvents, paints, and petroleum products. Environmental records of nearby properties showed gasoline and diesel fuel releases that impacted the ground water occurred at a paving company located less than 600 feet south-southwest and upgradient (with respect to the direction of ground-water flow) from the site and that the fuel impact to the ground water had migrated off the paving company property toward the site. Environmental records also showed regional ground-water contamination by chlorinated solvents that Terraphase indicated also had the potential to affect the site. Terraphase concluded that the former release of gasoline and diesel fuel at the upgradient paving company had the potential to have migrated to the site and; therefore, was a recognized environmental condition. Terraphase also concluded that the chlorinated-solvent-contaminated ground water in the general area had the potential to impact the site and result in a vapor encroachment condition; and this potential was also a recognized environmental condition. Terraphase recommended that a limited subsurface investigation be performed to evaluate potential impact from on-site historical activities and from the identified off-site ground-water contamination.

Terraphase performed the limited subsurface investigation in May 2017. Borings SB-01 and SB-04 were advanced to depths of 15 and 10 feet below the ground surface, respectively and borings SB-2 and SB-3 were hand-augered to 1 foot below grade. In addition, temporary soil vapor probes SV-01 and SV-04 were installed to a depth of 5 feet below the ground surface adjacent to borings SB-01 and SB-04. The locations of the borings and vapor probes are shown on Plate 2.

Sediments encountered in the two deeper borings included sandy clay, clay, and silty sand and ground water was encountered in borings SB-01 and SB-04 at depths of 12 and 10 feet below the ground surface, respectively. Terraphase collected one soil sample from each boring at ½ to 1 foot below grade, collected grab ground-water samples from borings SB-01 and SB-04, and collected soil vapor samples from vapor probes SV-01 and SV-04. Soil samples were submitted to a laboratory and analyzed for total petroleum hydrocarbons as diesel (TPHd) and as motor oil

(TPHmo), VOCs, and the 17 inorganic metals and metalloids listed in Title 22 of the California Code of Regulations (Title 22 metals). The ground water and soil-vapor samples were analyzed for VOCs.

Terraphase reported that all detected concentrations in the soil samples were less than the health-risk-based residential environmental screening levels (ESLs) developed in 2016 by the San Francisco Bay Regional Water Quality Control Board and arsenic was at concentrations less than the regional background level. Trace concentrations of three volatile organic compounds, the previously detected cleaning/degreasing solvent 1,1-dichloroethane and also the petroleum fuel constituents 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected in northern boring SB-01. No VOCs were detected in central boring SB-04.

A number of VOCs were detected in soil vapor probes SV-01 and SV-04 with generally higher concentrations detected at northern vapor probe SV-01. Detected compounds included primarily petroleum fuel constituents BTEX, MTBE, naphthalene, heptane, hexane, cyclohexane, and the trimethylbenzenes; included the solvents methyl isobutyl ketone, methyl ethyl ketone, ethyl acetate, and acetone; and included carbon disulfide, which is used in the manufacture of rubber and plastics. Except for naphthalene, none of the detected compounds were greater than the corresponding ESLs for vapor intrusion risk that were current in 2017. Naphthalene was detected at a concentration slightly higher than the then-applicable ESL. Table 1 presents the results of analysis of the samples collected from vapor probes SV-01 and SV-04.

1.2.4 Essel

Essel (2020) performed a Phase I ESA of the site in September 2020. At the time of the assessment, the site was occupied by the southern single-story residential building (constructed in 1953) that was vacant and surrounded by temporary fencing. The portion of the site north of the building was reported to be an asphalt-paved parking lot that was used by recreational vehicles. Historical and client-provided records reviewed by Essel indicates the site was agricultural land, including orchard, from at least 1939 to circa 1950 and was residential from about 1953 through 1986. Towing companies used the site to store vehicles from 1986 to at least 1991 and the paving/grading/sealcoating Saviano Company operated at the site from 1993 to 2015. The Saviano Company stored, handled, and disposed of hazardous materials and wastes that included antifreeze, oils and auto fluids, paints, waste oil and waste antifreeze, thinner, kerosene, and grease.

Essel did not observe evidence of significant releases of hazardous materials or wastes on the site; however, noted that the 2017 subsurface investigation (Terraphase, 2017) detected concentrations of VOCs in soil vapor with the petroleum constituent naphthalene at a concentration greater than the applicable health-risk-based environmental screening level. Based on the findings of the 2017 subsurface investigation, Essel concluded that a vapor encroachment condition and, hence, a recognized environmental condition was present in connection with the site.

2.0 FIELD AND LABORATORY WORK

In view of the findings of the September 2020 Phase I ESA, Essel subsequently recommended performing a soil vapor survey to evaluate potential vapor intrusion risk for a future residential

development. Essel (2022) proposed a scope of work for the soil vapor survey in March 2022 and Terra Bella II LLC authorized the work on April 29, 2022. Field work for this investigation included advancing six borings, installing soil-vapor probes in the borings, and collecting soil-vapor samples for laboratory analysis. Laboratory work included analyzing the soil-vapor samples for volatile organic compounds. The following sections provide descriptions of the field and laboratory tasks performed.

2.1 Permit and Utility Clearance

A drilling permit is not required in Santa Clara County for borings that are less than 50 feet in depth. Essel notified USA North 811 of the planned subsurface investigation; this notification occurred more than 48 hours before drilling began. Essel also subcontracted with Ground Penetrating Radar Systems, Inc. (GPRS) to clear boring locations with respect to on-site subsurface utilities. On May 11, 2022, GPRS used electromagnetic and ground-penetrating radar equipment to identify and mark subsurface utilities and other obstructions at the site relative to the proposed boring locations.

2.2 Locations of Borings and Soil Vapor Probes

The borings for soil-vapor probes SV-1 through SV-6 were advanced at locations across the site to provide a representative characterization of the property. Vapor probes SV-1 through SV-4 were placed in the northern parking lot, vapor probe SV-5 was placed in the unpaved area near the southwestern corner of the site, and vapor probe SV-6 was placed a short distance to the north of the existing single-story residence. Plate 2 shows the locations of the six vapor probes relative to site features.

2.3 Drilling Borings and Classifying Soil

Environmental Control Associates (ECA), Inc. of Aptos, California (C-57 license number 695970) used a Geoprobe 5410, truck-mounted, direct-push drill rig to advance borings on May 11, 2022. The borings for soil vapor probes SV-1 through SV-6 were advanced to a total depth of 7 feet below the ground surface using a 2½-inch-outside-diameter, hollow steel rod. The drilling equipment was decontaminated between each boring by washing with soapy water and rinsing with clean tap water.

Continuous soil cores were collected from the borings using the hollow steel rod fitted with a 1¾-inch-outside-diameter by 4-foot-long, clear plastic sleeve. The plastic sleeve was removed from the core barrel after each sampling interval and replaced with a clean plastic sleeve for the next lower sampling interval. Soil cores contained in the plastic sleeves were examined to identify and describe the subsurface sediments. Laboratory analysis of soil samples was not part of the scope of work for this investigation.

Soil encountered during drilling was described and classified using the Unified Soil Classification System (USCS). Logs of borings for vapor probes SV-1 through SV-6 present descriptions of the sediments encountered in the boreholes. The USCS and boring logs are included in Appendix A (Plates A-1 through A-7).

2.4 Soil Vapor Probe Installation and Sampling

Temporary soil-vapor probes were constructed in the boreholes. Each temporary vapor probe consisted of a stone filter screen inserted into ¼-inch-diameter Teflon tubing. The filter screen was suspended at a depth of 6½ feet below the ground surface. The probes were completed by placing 6 inches of clean sand (Monterey #3) below and 6 inches of clean sand above the filter screen. Granular bentonite crumbles (Benseal) were placed on top of the sand in 1-foot-thick lifts; the first lift was placed dry and each succeeding lift was hydrated with clean water to provide an airtight seal above the sand and filter screen and around the tubing to the ground surface. The top end of the tubing was capped with a valve to prevent atmospheric air from entering the probe hole. The vapor probes were installed at least 2 hours before vapor sampling took place to allow subsurface conditions to equilibrate and the hydrated bentonite seal to set.

The soil-vapor-probe purging and sampling system consisted of a 6-liter purging Summa canister, a 1-liter sampling Summa canister, and a manifold containing a valve, vacuum gauges, flow controller, and moisture filter. The laboratory had evacuated each Summa canister to a negative pressure (vacuum) of approximately 30 inches of mercury. The manifold assemblies were connected to the tubing of the soil probes, the 1-liter sampling canister, and the 6-liter purge canister with Swagelok fittings. Separate and cleaned manifolds were used in each purge and sample system. To check for possible leaks in the above-ground vapor sampling assembly, a shut-in test was performed by drawing a vacuum through the closed manifold assemblies using the purge canister. The shut-in tests were performed for a minimum period of 1 minute and no changes in vacuum were noted indicating the assemblies were airtight.

Following the shut-in test, the valves on the well tubing and purge canister ends of the manifold were opened and the valve on the 6-liter purging Summa canister was opened to purge the vapor probes. The vapor probes were purged at a controlled flow rate of 100 to 200 milliliters per minute and purging stopped when the downhole negative pressure in the vapor probe reached 5 inches of mercury. A limited volume of air, equivalent to at least the air in the probe tubing and the void space around the sand grains at the bottom of the probe (one volume), was purged from each vapor probe. The elevated downhole vacuum indicated vapor flow from a low permeability geologic unit.

After purging, the valves on the manifolds and purging canister were closed and a plastic container (i.e., shroud) was placed over the sampling assembly. As a leak check, the volatile compound 1,1-difluoroethane (1,1-DFA) was sprayed onto a tissue, which was placed inside the shroud to provide a tracer gas during sampling. The valves on the manifold and the 1-liter sampling Summa canister were then opened to begin sampling. Soil-vapor samples were collected at a controlled flow rate between 100 and 200 milliliters per minute. Sampling was completed when the vacuum gauges indicated that the downhole negative pressure in the vapor probe was at 15 inches of mercury. The downhole low-flow conditions prevented collection of a full liter at each vapor probe.

At the completion of sampling, the valve on each 1-liter sampling canister was closed and the manifold assembly was disconnected from the purging and sampling canisters. Essel prepared a Chain-of-Custody form for the vapor samples and this form accompanied the samples to the laboratory. A copy of the Chain-of-Custody form is included in Appendix B.

After sampling, the Teflon tubing of vapor probes SV-1 through SV-6 was removed from the boreholes. A few inches of the hydrated bentonite were also removed from the boreholes and concrete patch was placed in the holes to match the surface grade.

2.5 Laboratory Analyses

The six soil vapor samples were delivered to McCampbell Analytical, Inc. (McCampbell [Laboratory Certificate No. 1644]) in Pittsburg, California for analysis. McCampbell analyzed the samples for VOCs using United States Environmental Protection Agency (USEPA) Method TO-15.

3.0 RESULTS OF INVESTIGATION

3.1 Geology and Ground Water

The borings for soil vapor probes SV-1 through SV-4 and SV-6 were advanced in the paved drive and parking area of the site. This area is surfaced with 2- to 3-inch-thick asphalt overlying sand to silty sand fill that varies from 3 to 5 inches thick. In the soil core from vapor probe SV-4, fill/disturbed soil was observed to extend to a depth of 2¼ feet below the ground surface and earth materials included a shallow sand unit, an underlying high plasticity silty clay, a second thin sand layer and a 2-inch-thick layer of silty clay containing glass fragments. In the above-described borings and the boring for vapor probe SV-5, silty clay with minor amounts of sand and gravel was observed from the base of the fill materials to the 7-foot total depth of the borings. The stiff to hard, high plasticity clay was noted to be brownish black, grayish black, gray, dusky brown, brownish gray or olive gray in color. A zone of white irregular-shaped deposits and coatings on sand grains and gravel clasts was observed in the soil cores at variable depths between 3½ and 7 feet below the ground surface. Trace amounts of partly decomposed plant roots and small to minute shell fragments were also observed in the soil cores.

No ground water was encountered in the borings to the 7-foot depth. As noted in Sections 1.2.1 and 1.2.3, E_2C, Inc. encountered ground water in borings at 7½ to 10 feet below the ground surface in 2001 and Terraphase encountered ground water in borings at 10 to 12 feet below grade in 2017.

3.2 Results of Laboratory Analyses

Types and Concentrations of Contaminants

A total of 33 VOCs were variously detected in one or more of the six soil-vapor samples. Detected compounds included:

- the gasoline fuel constituents BTEX, MTBE, tert-amyl methyl ether, cyclohexane, ethanol, 4-ethyltoluene, heptane, hexane, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene; and
- the chlorinated solvents 1,1-dichloroethane, carbon tetrachloride, and vinyl chloride; and

- the non-chlorinated solvents acetone, ethyl acetate, 2-hexanone, 2-butanone (methyl ethyl ketone), 4-methyl-2-pentanone (methyl isobutyl ketone), methylene chloride, and tetrahydrofuran; and
- the refrigerant trichlorofluoromethane (Freon 11); and
- the water and sewage chlorination byproduct chloroform; and
- the combustion product acrolein, formed during burning of tobacco, wood, plastics, gasoline and diesel, and also used as a biocide in agricultural water; and
- the fumigant/herbicide/insecticide constituents bromomethane, chloromethane, 1,2-dibromoethane (ethylene dibromide, also an additive to leaded gasoline) and 1,3-dichlorobenzene; and
- various chemicals used to produce synthetic rubber, adhesives, plastics and resins, and coatings, such as paints and lacquers, including 1,3-butadiene, carbon disulfide, methyl methacrylate, styrene, and vinyl acetate.

A greater number of individual compounds were detected in vapor probes SV-1 (26), SV-2 (22), and SV-4 (20) located in the northern and western portions of the site and generally higher concentrations of compounds were detected in the samples from northern and western vapor probes SV-1 and SV-4. Anomalously high concentrations of ethylbenzene and xylenes, which ranged from 4,620 to 26,700 micrograms per cubic meter ($\mu g/m^3$), were found in vapor probe SV-5 located near the southwestern corner of the site. No other notably higher concentrations of VOCs were detected in the six soil vapor samples. The leak check tracer compound 1,1-DFA was not detected in the six soil vapor samples indicating little or no ambient air leakage (and consequent possible dilution of contaminant concentrations) into the sampling systems.

The types of VOCs detected in soil vapor samples from vapor probes SV-1 through SV-6 are largely the same as those detected by Terraphase in 2017. In addition, contaminant concentrations detected in Terraphase vapor probes SV-01 and SV-04 were generally equivalent to the corresponding contaminant concentrations detected in Essel vapor probes SV-1 and SV-3, which were in close proximity to the Terraphase vapor probes.

Comparison to Screening Levels

The detected VOC concentrations were compared to current corresponding environmental screening levels (ESLs) developed by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB, 2019) and, if not available, to corresponding screening levels (SLs) of the California Department of Toxic Substances Control (DTSC, 2020) or regional screening levels (RSLs) published by the USEPA (2021). The screening levels are the lowest concentrations of individual contaminants at which a potential vapor intrusion human health risk to occupants of residential properties might be present. The SFBRWQCB's ESLs are direct vapor intrusion screening levels. The DTSC's vapor intrusion SLs and the USEPA's vapor intrusion RSLs are calculated from the two agencies' ambient air SLs and RSLs using a factor of 0.03, which is the soil vapor to indoor air attenuation factor through concrete building foundations recommended by the California Environmental Protection Agency (2020).

Eight VOCs were detected at concentrations greater than the corresponding screening levels, with one or more of the eight VOCs present in each of the six vapor probes. These exceedances included benzene in five of the six vapor probes; ethylbenzene, vinyl chloride, and 1,3-butadiene in two vapor probes; and m,p-xylenes, o-xylenes, chloroform, and ethylene dibromide in one vapor probe. All other VOCs detected were less than the current corresponding screening levels. The screening levels published by the SFBRWQCB and the DTSC were revised downward in 2019 and 2020; therefore, in addition to naphthalene, benzene and ethylbenzene detected in Terraphase's vapor probes in 2017 are greater than one or both agencies' current screening levels. Table 1 presents the results of laboratory analysis of soil-vapor samples SV-1 through SV-6 and Terraphase soil-vapor samples SV-01 and SV-04. The table also presents the corresponding ESLs, SLs, and RSLs. Appendix B contains a copy of the laboratory analytical report for the samples collected from vapor probes SV-1 through SV-6.

4.0 FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

4.1 Findings

Following is a summary of the findings of this environmental investigation.

- Three Phase I ESAs were performed at the site in 2014, 2017, and 2020. Interpretation or availability of historical records resulted in differences in the reported timeline of site uses. Based on Essel's current review of the Phase I ESA reports and client-provided records, the site was agricultural land, including orchard, from at least 1939 to circa 1950 and was residential from about 1953 through 1986. Towing companies used the site to store vehicles from 1986 to at least 1991 and the paving/grading/sealcoating Saviano Company operated at the site from 1993 to 2015. The site was vacant from 2015 through at least 2017 and has been occupied by recreational vehicles with tenants since at least 2020. The present-day single-story building on the site is reported to have been constructed in 1953 as a residence and a second smaller structure that is not currently on the property was constructed at approximately the same time and was used as a detached garage.

    - Environmental records, dating from 1993 to 2015 indicate the Saviano Company stored, handled, and disposed of hazardous materials and wastes that included compressed gases, antifreeze, oils and auto fluids, paints, paint thinners, solvents, waste oil and waste antifreeze, kerosene, and grease. None of the Phase I ESAs noted on-site evidence of significant petroleum product or hazardous materials releases.

    - Two of the three Phase I ESAs concluded that a recognized environmental condition was present at the site and recommended subsurface investigations be performed.

- Investigations to evaluate contaminant impacts to soil and ground water were conducted in 2001 and 2017. Very low concentrations of diesel petroleum hydrocarbons were detected in the shallow soil, three volatile organic compounds (VOCs) were found at trace concentrations in the shallow ground water, and moderately high concentrations of diesel petroleum hydrocarbons, attributed potentially to an off-site source, were also

detected in the ground water. No other potential contaminants were detected at concentrations of concern.

- Investigation to assess subsurface soil-vapor concentrations was performed in May 2017 and several petroleum-fuel- and solvent-related VOCs were detected; however, only naphthalene, a gasoline and diesel fuel constituent, was found at a concentration greater than the then-current health-risk-based screening level.

- On May 11, 2022, Essel sampled soil-vapor probes SV-1 through SV-6, which were installed at locations spaced across the site. A variety of volatile organic chemicals that were/are constituents of petroleum fuels; fumigants, herbicides, or insecticides; paints, paint thinners, or paint strippers; solvent cleaners/degreasers, a refrigerant, a byproduct of chlorination of water or wastewater; and chemicals used to produce synthetic rubber, adhesives, plastics and resins, and coatings, such as paints and lacquers, were detected in the six vapor probes. Many of the compounds and concentrations detected by Essel in 2022 are the same compounds and approximately equivalent concentrations detected by Terraphase in 2017.

    - Generally, a greater number of compounds and higher concentrations of the compounds were detected in northern and western vapor probes SV-1, SV-2, and SV-4 and in northern Terraphase vapor probe SV-01 relative to the more southerly located vapor probes.

    - During the current investigation, unusually high concentrations of ethylbenzene and xylenes were detected in the vapor sample collected from southwestern vapor probe SV-5. No other VOCs were detected in the six soil-vapor probes at anomalously high concentrations.

    - Eight VOCs, including benzene, ethylbenzene, m,p-xylenes, o-xylenes, 1,3-butadiene, chloroform, ethylene dibromide, and vinyl chloride, were found in one or more of the six (SV-1 through SV-6) soil-vapor samples at concentrations greater than corresponding threshold concentrations (screening levels) at which a potential vapor-intrusion human-health risk may be present in a future residential building on the site.

- Based on boring logs available from the 2001, 2017, and the current investigation, earth materials underlying the site consist of silty clay from the base of the pavement to 7½ to 10 feet below the ground surface, and silt or silty sand beneath the clay to the maximum depth explored of 15 feet below grade. Ground water in 2001 was 7½ to 10 feet below grade and in 2017 was 10 to 12 feet below grade.

4.2 Conclusions and Recommendations

Essel has reviewed reports of previous Phase I ESAs and subsurface environmental investigations and recently performed a soil vapor survey at the property at 1020 Terra Bella Avenue in Mountain View, California. The results of the earlier assessments and investigations suggest little contaminant impact to soil underlying the site, minimal impact to ground water by volatile organic compounds, and a modest impact to the ground water by diesel petroleum hydrocarbons.

Essel concludes that the contaminants detected in soil and ground water do not present a potential risk to human health or the environment. The results of the 2017 and current soil-vapor investigations suggest a potential vapor intrusion health risk might be present to occupants of a future residential building, although the presence of low permeability clay from the ground surface to at least 7½ feet below grade might inhibit movement of significant vapors to the ground surface and into a future building. The types of volatile organic compounds detected in the 2017 and current soil-vapor surveys are consistent with the products and wastes used at the site by the Saviano Company and possibly earlier agricultural use. Some of the compounds detected in the soil vapor are also typically present in soil vapor in urban environments.

In view of the presence of several VOCs in soil vapor at concentrations that pose a potential vapor intrusion health risk to future residential occupants, Essel makes the following recommendations, which are based on the assumption that the site will be developed with a multi-family residential structure.

- Collect indoor and outdoor air samples within and adjacent to the existing single-story building to evaluate the approximate indoor air impact from subsurface VOCs in a future building. Although the foundation of the residence might not be the same as a future building, the data can be used to assess the need for a vapor barrier or mitigation system for a future structure.

- Consider and plan for installation of a vapor barrier or vapor barrier/vapor venting system beneath the future building, pending the results of the indoor/outdoor air sampling.

- Prepare a site management plan for the planned redevelopment. This plan would address health and safety measures to be taken during construction; additional characterization of soil, as needed, to be disposed off-site; dust control measures, air monitoring as might be required or desired; and contingency measures to be taken if unanticipated subsurface conditions, such as wells, septic tanks, underground storage tanks, buried debris or building materials, or fill are encountered.

Limitations to this investigation are included in Appendix C.

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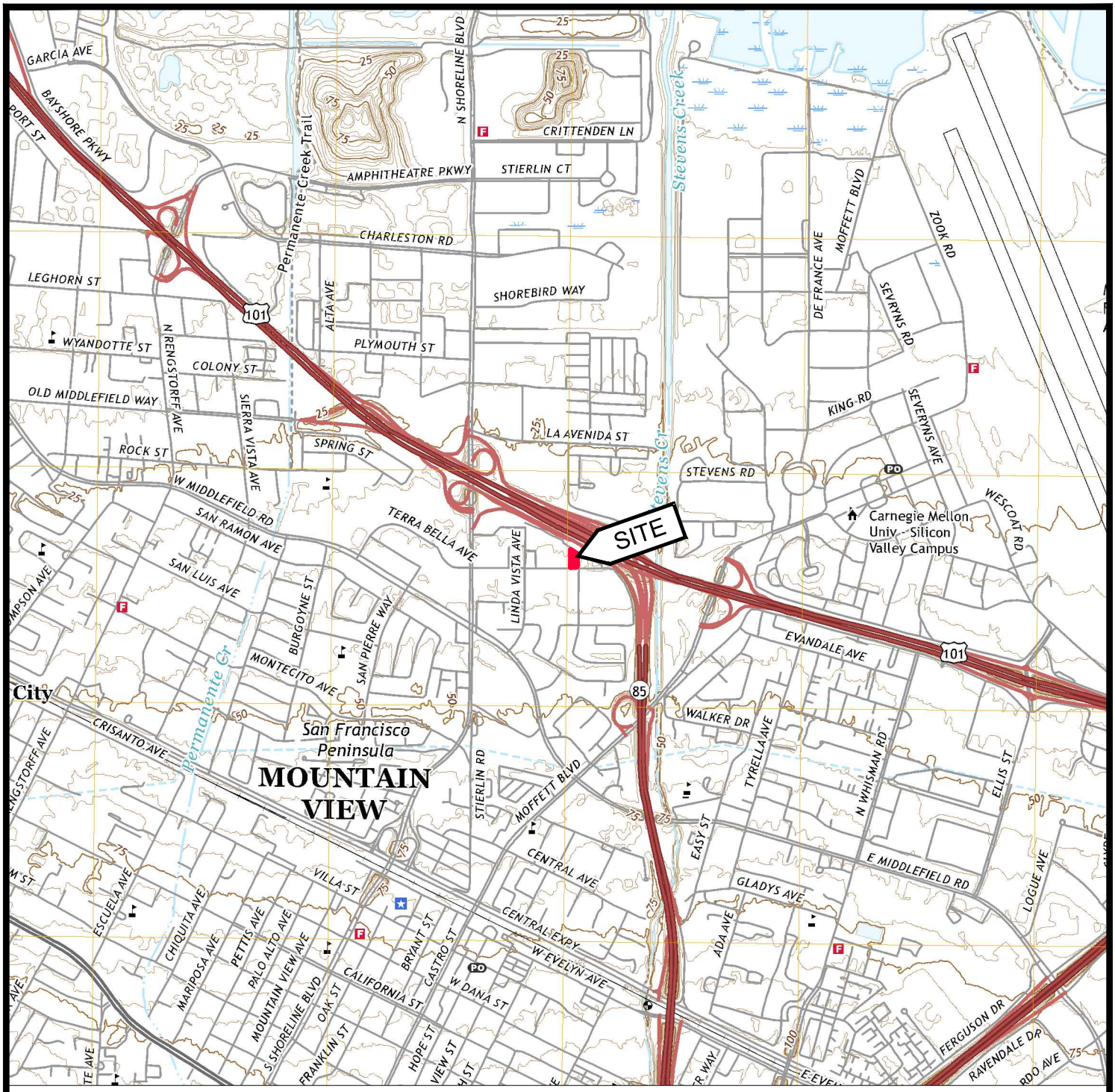
TABLE 1
Concentrations of Volatile Organic Compounds in Soil-Vapor Samples
1020 Terra Bella Avenue
Mountain View, California 94043

Soil Vapor Probe	SV-01	SV-04	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	SFBRWQCB Vapor Intrusion ESL (Residential)	DTSC or USEPA Vapor Intrusion SL or RSL (Residential)
Date Sampled	5/12/2017	5/12/2017	5/11/2022	5/11/2022	5/11/2022	5/11/2022	5/11/2022	5/11/2022		
Sample Number	SV-01	SV-04	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6		
Depth of Sample (feet)	5	5	6½	6½	6½	6½	6½	6½		
Analyte	Terraphase Engineering		Essel Environmental & Emergency Response							
Benzene	31	20	74.6	11.9	51.7	12.3	<26.0	4.01	3.2	3.2
Toluene	28	19	34.0	9.33	20.0	11.9	60.8	4.84	10,000	10,000
Ethylbenzene	40	<9.4	65.3	9.50	6.32 J	32.6	6,680	9.92	37	367
m,p-Xylene	78	20	256	37	13.6 J	159	26,700	43.4	3,500	3,500
o-Xylene	12	<9.4	111	12.7	4.80 J	57.1	4,620	14.2	3,500	3,500
Total xylenes	90	29.4	367	49.7	18.4 J	216	31,300	57.6	3,500	3,500
Methyl tertiary butyl ether (MTBE)	9.8	<7.8	<19.0	<2.80	<10.0	<7.30	<31.0	<3.20	360	367
tert-Amyl methyl ether (TAME)	--	--	18.6 J	<3.10	<11.0	<8.10	<35.0	3.19 J	--	--
Cyclohexane	64	160	108 J	26.3	105	20.0 J	<300	7.21 J	--	33,000
Ethanol	--	--	40.9 J	77.8 J	97.7 J	19.4 J	<1,600	79.5 J	--	--
4-Ethyltoluene	170	<11	22.8 J	<3.60	<13.0	6.25 J	<41.0	<4.20	--	--
Heptane	120	240	124 J	44.0	180	32.5	39.1 J	12.1 J	--	14,000
Hexane	140	360	399	159	544	54.9 J	<300	30.7	--	24,000
Naphthalene	45	<45	<27.0	<3.90	<14.0	<10.0	<44.0	<4.50	2.8	2.8
1,2,4-Trimethylbenzene	1,200	<11	71.0	<3.60	<13.0	8.26 J	<41.0	<4.20	--	2,100
1,3,5-Trimethylbenzene	520	<11	41.3	1.19 J	<13.0	4.34 J	<41.0	<4.20	--	2,100
1,1-Dichloroethane	<8.3	<8.7	<20.0	1.41 J	2.94 J	3.77 J	<33.0	<3.40	58	60
Tetrachloroethene	<14	<15	<35.0	<5.10	<19.0	<13.0	<58.0	<5.90	15	15
Trichloroethene	<11	<12	<28.0	<4.10	<15.0	<11.0	<46.0	<4.70	16	16
Vinyl chloride	<5.3	<5.5	3.54	<0.380	1.89	<1.00	<4.30	<0.440	0.32	0.32
Acetone	630	45	<610	<87.0	111 J	77.2 J	115 J	<100	1,100,000	--
Acrolein	<19	<20	20.9 J	<8.40	<31.0	<22.0	<95.0	<9.70	--	0.70
Bromomethane	<8.0	<8.4	14.2 J	1.24 J	5.76 J	3.29 J	<31.0	<3.20	170	170
1,3-Butadiene	<4.6	<4.8	95.1	39.9	<5.90	<4.20	<18.0	<1.80	--	0.6
2-Butanone (methyl ethyl ketone)	150	<21	44.6 J	24.7	<80.0	82.9	<250	6.92 J	170,000	173,000
Carbon disulfide	180	20	42.0	40.8	33.8	102	26.8	10.2	--	24,000
Carbon tetrachloride	<13	<14	<13.0	0.421 J	<6.90	0.814 J	<21.0	0.426 J	16	16
Chloroform	<10	<11	6.79 J	1.32 J	<13.0	<9.60	<41.0	<4.20	4.1	4.0
Chloromethane	<4.3	<4.5	23.6	<1.50	<5.30	<3.80	<16.0	<1.70	3,100	3,100
1,2-Dibromoethane (ethylene dibromide)	<16	<17	<0.790	<0.110	<0.420	<0.300	1.07 J	<0.130	0.16	0.16
Ethyl acetate	13	<7.8	<19.0	<2.80	<10.0	<7.30	<31.0	<3.20	--	2,400
1,3-Dichlorobenzene	57	36	<30.0	<4.40	<16.0	<12.0	<49.0	<5.00	--	--
Freon 11 (trichlorofluoromethane)	<12	<12	<29.0	1.24 J	<15.0	<11.0	<48.0	1.42 J	--	43,000
2-Hexanone	<8.4	<8.8	<21.0	7.36	<11.0	<8.10	<35.0	<3.50	--	1,000
Methylene chloride	<7.2	<7.5	<89.0	2.41 J	<47.0	<34.0	<140	2.07 J	34	33
Methyl methacrylate	--	--	71.9	<3.10	30.1	<8.10	<35.0	<3.50	--	24,000
4-Methyl-2-pentanone (MIBK)	12	10	20.7 J	14.8	<11.0	25.1	<35.0	10.6	100,000	103,000
Styrene	<8.8	<9.2	13.6 J	1.10 J	10.2 J	3.04 J	237	<3.70	31,000	31,000
Tetrahydrofuran	<6.1	<6.4	230	<4.40	<16.0	<12.0	<49.0	<5.00	--	--
Vinyl acetate	<7.3	<8.6	116 J	<26.0	<96.0	<69.0	<300	<30.0	--	7,000
1,1-Difluoroethane (leak check tracer)	--	--	<280	<41.0	<150	<110	<460	<47.0	--	1,400,000

Concentrations and screening levels are in micrograms per cubic meter (µg/m3).
Detectable concentrations are in bold face font and shaded gray. Concentrations equal to or greater than the corresponding vapor intrusion screening levels are in bold face font and shaded yellow.
All other volatile organic compounds included in the TO-15 analysis and not shown were not detected.
J = indicates an estimated concentration between the reporting limit and the method detection limit.
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
DTSC = Department of Toxic Substances Control
USEPA = United States Environmental Protection Agency
ESL = Environmental Screening Level
SL = Screening Level
RSL = Regional Screening Level
MIBK = methyl isobutyl ketone
< = less than the laboratory reporting limit shown.
-- = not analyzed, not available.
Vapor Intrusion Environmental Screening Levels from San Francisco Bay Regional Water Quality Control Board, July 2019 (Rev. 2).
Vapor Intrusion Screening Levels from California Department of Toxic Substances Control, June 2020.
Vapor Intrusion Regional Screening Levels from United States Environmental Protection Agency, November 2021.
DTSC SLs and USEPA RSLs calculated using the residential indoor air screening level divided by an attenuation factor of 0.03.



Scale: 0 2000 feet 4000 feet

SOURCE: USGS 7 1/2–MINUTE QUADRANGLE
MOUNTAIN VIEW, CALIFORNIA, 2018

N

PROJECT NO.	DRAWN BY	REPORT DATE		PLATE
103.22001	EC	June 2022	Site Vicinity 1020 TERRA BELLA AVENUE MOUNTAIN VIEW, CALIFORNIA 94043	1

Essel Environmental & Emergency Response
1035 22nd Avenue, Unit 9
Oakland, California 94606
1–800–595–7616

SOURCE: GOOGLE EARTH SEPTEMBER 4, 2020

EXPLANATION

- APPROXIMATE PROPERTY BOUNDARY
- HP-4 — SOIL BORING LOCATION (E_2C, INC., 2001)
- SB-04/GGW-04 — SOIL BORING/GROUND WATER SAMPLING LOCATION (TERRAPHASE ENGINEERING, 2017)
- SV-04 — SOIL VAPOR PROBE LOCATION (TERRAPHASE ENGINEERING, 2017)
- SV-6 — SOIL VAPOR PROBE LOCATION (ESSEL, 2022)

N

Scale: 0 40 feet 80 feet

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Site Plan

1020 TERRA BELLA AVENUE
MOUNTAIN VIEW, CALIFORNIA 94043

PLATE 2

APPENDIX A

LOGS OF BORINGS

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		LTR	DESCRIPTION
Coarse-grained soils	Gravel and gravelly soils	GW	Well-graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels or gravel-sand 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 sand 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, sand-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 silt-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

Depth through which sampler is driven

Relatively undisturbed sample retained for analysis

No sample recovered

Static water level observed in well

Initial water level observed in boring

PID Photoionization Detector (readings in ppm)

Sand pack

Bentonite

Neat cement

Caved or backfilled native soil

Blank PVC

Machine-slotted PVC

Concrete

BLOWS REPRESENT THE NUMBER OF BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES TO DRIVE THE SAMPLER THROUGH EACH 6 INCHES OF AN 18-INCH PENETRATION. THE INTERVAL LENGTH IS SHOWN WHERE LESS THAN 6 INCHES WAS PENETRATED WITH THE MAXIMUM 50 BLOWS.

DASHED LINES SEPARATING UNITS ON THE LOG REPRESENT APPROXIMATE BOUNDARIES ONLY. ACTUAL BOUNDARIES MAY BE GRADUAL. LOGS REPRESENT SUBSURFACE CONDITIONS AT THE BORING LOCATION AT THE TIME OF DRILLING ONLY.

NAMES AND NUMERICAL DESIGNATIONS OF COLORS ARE FROM THE ROCK-COLOR CHART (GEOLOGICAL SOCIETY OF AMERICA, 1984)

PERCENT BY WEIGHT DESIGNATION

TRACE	0-5 PERCENT
SOME	5-15 PERCENT
WITH	15-30 PERCENT
-Y (EX., SANDY)	30-45 PERCENT
AND	45-50 PERCENT

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UNIFIED SOIL CLASSIFICATION SYSTEM AND SYMBOL KEY
1020 TERRA BELLA AVENUE
MOUNTAIN VIEW, CALIFORNIA 94043

FIGURE
A-1

Total depth of boring: 7 feet
Diameter of boring: 2 1/2 inches
Date drilled: 05/11/2022
Drilling Company: Environmental Control Associates
Driller: Brad Pyle
Drilling method: Direct push
Sample diameter: 1 3/4 inches
Field Geologist: Rodger Witham

Tubing diameter: 1/4 inch
Tubing material: Teflon
Slot size: NA
Sand size: No. 3 Monterey
Tubing from 0 feet to 6 1/2 feet
Perforated casing from NA to NA
Annular seal from NA to NA
Bentonite plug from 0 feet to 6 feet
Sand pack from 6 feet to 7 feet

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Asphalt.	
			SW	Fine– to coarse–grained sand (FILL), with gravel up to 1 inch in maximum dimension, olive gray (5Y 3/2), damp, loose.	
			CH	Silty clay, some fine– to coarse–grained sand, some gravel up to ⅞ inch in maximum dimension, brownish black (5YR 2/1), damp, high plasticity, very stiff.	
1				Color change to moderate brown (5YR 3/4) at 1 foot.	
				Color change to grayish black (N2) at 1 foot 7 inches.	
2				Some dark greenish–gray (5G 4/1) mottling between 2 feet and 3 feet 3 inches, partly decomposed plant root at 2 feet 2 inches.	
3				Trace fine– to coarse–grained sand, no gravel at 3 feet.	
4				Color change to medium gray (N5) at 4 feet 2 inches, trace white (N9) weathered sand grains and gravel clasts and irregular white deposits, hard.	
				Moderately abundant white (N9) weathered sand, gravel, and irregular deposits at 4 feet 8 inches to 5 feet 7 inches, trace white weathering deposits below 5 feet 7 inches.	
5				Moderately abundant dark yellowish–orange (10YR 6/6) staining from 5 to 7 feet.	
6				Some fine– to coarse–grained sand, trace gravel at 6 feet 8 inches.	
7				Total Depth = 7 feet. No ground water encountered.	
8					
9					
10					

PROJECT NO.	DRAWN BY	REPORT DATE
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Log of Boring for
Vapor Probe SV-1
1020 TERRA BELLA AVENUE
MOUNTAIN VIEW, CALIFORNIA 94043

PLATE
A-2

Total depth of boring: 7 feet
Diameter of boring: 2 1/2 inches
Date drilled: 05/11/2022
Drilling Company: Environmental Control Associates
Driller: Brad Pyle
Drilling method: Direct push
Sample diameter: 1 3/4 inches
Field Geologist: Rodger Witham

Tubing diameter: 1/4 inch
Tubing material: Teflon
Slot size: NA
Sand size: No. 3 Monterey
Tubing from 0 feet to 6 1/2 feet
Perforated casing from NA to NA
Annular seal from NA to NA
Bentonite plug from 0 feet to 6 feet
Sand pack from 6 feet to 7 feet

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Asphalt.	
			SM	Fine– to coarse–grained sand (FILL), some silt, some gravel up to 1¼ inches in maximum dimension, yellowish gray (5Y 8/1), damp, loose, metal fragment at 5 inches.	
			CH	Silty clay, some fine– to coarse–grained sand, some gravel up to 1¼ inches in maximum dimension, dusky brown (5YR 2/2), damp, high plasticity, very stiff.	
1				Moderately abundant dark yellowish–orange (10YR 6/6) staining at 1 foot 6 inches to 1 foot 9 inches.	
2				Trace fine– to coarse–grained sand, trace gravel at 2 feet, dusky yellowish–brown (10YR 2/2), trace minute to small shell fragments, hard.	
3				Color change to brownish black (5YR 2/1) at 2 feet 8 inches.	
4				Color change to medium dark gray (N4) at 4 feet, trace irregular white (N9) weathering deposits increasing downward to moderately abundant deposits at 4½ feet and below.	
5				Moderately abundant dark yellowish–orange (10YR 6/6) staining at 5 to 7 feet.	
6				With fine– to coarse–grained sand, some gravel up to ½ inch in maximum dimension at 6 feet 9 inches, brownish black (5YR 2/1), moist.	
7				Total Depth = 7 feet. No ground water encountered.	
8					
9					
10					

PROJECT NO.	DRAWN BY	REPORT DATE
103.22001	EC	June 2022

Essel Environmental & Emergency Response
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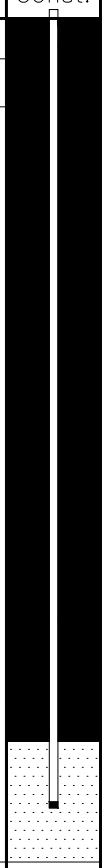
Log of Boring for
Vapor Probe SV-2
1020 TERRA BELLA AVENUE
MOUNTAIN VIEW, CALIFORNIA 94043

PLATE
A-3

Total depth of boring: 7 feet
Diameter of boring: 2 1/2 inches
Date drilled: 05/11/2022
Drilling Company: Environmental Control Associates
Driller: Brad Pyle
Drilling method: Direct push
Sample diameter: 1 3/4 inches
Field Geologist: Rodger Witham

Tubing diameter: 1/4 inch
Tubing material: Teflon
Slot size: NA
Sand size: No. 3 Monterey
Tubing from 0 feet to 6 1/2 feet
Perforated casing from NA to NA
Annular seal from NA to NA
Bentonite plug from 0 feet to 6 feet
Sand pack from 6 feet to 7 feet

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Asphalt.	
			SM	Silty fine– to coarse–grained sand (FILL), with gravel up to ¾ inch in maximum dimension, medium gray (N5), dry, loose.	
1			CH	Silty clay, some fine– to coarse–grained sand, brownish black (5YR 2/1), some dark bluish–gray (5B 4/1) mottling, damp, high plasticity, very stiff, trace partly decayed plant roots. Trace sand at 1 foot 5 inches, no dark bluish–gray mottling, hard.	
2					
3					
4				Color change to olive gray (5Y 4/1) at 4 feet, some medium– to coarse–grained sand and gravel up to 1 inch in maximum dimension from 4 to 7 feet, moderately abundant to abundant white (N9) weathered sand grains and gravel clasts and irregular white deposits.	
5				Sparse, increasing downward to moderately abundant dark yellowish–orange (10YR 6/6) staining from 5 feet 4 inches to 7 feet.	
6				Color change to brownish black (5YR 2/1) at 6 feet.	
7				Total Depth = 7 feet. No ground water encountered.	
8					
9					
10					



PROJECT NO.	DRAWN BY	REPORT DATE
103.22001	EC	June 2022

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Log of Boring for
Vapor Probe SV-3
1020 TERRA BELLA AVENUE
MOUNTAIN VIEW, CALIFORNIA 94043

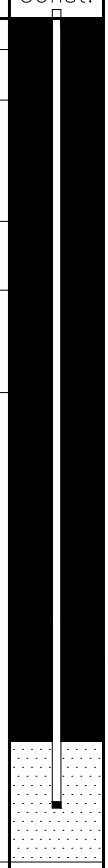
PLATE
A-4

Total depth of boring: 7 feet
Diameter of boring: 2 1/2 inches
Date drilled: 05/11/2022
Drilling Company: Environmental Control Associates
Driller: Brad Pyle
Drilling method: Direct push
Sample diameter: 1 3/4 inches
Field Geologist: Rodger Witham

Tubing diameter: 1/4 inch
Tubing material: Teflon
Slot size: NA
Sand size: No. 3 Monterey
Tubing from 0 feet to 6 1/2 feet
Perforated casing from NA to NA
Annular seal from NA to NA
Bentonite plug from 0 feet to 6 feet
Sand pack from 6 feet to 7 feet

Depth	Sample No.	PID in PPM	USCS Code	Description
				Asphalt.
			SW	Fine– to coarse–grained sand (FILL), with gravel up to ½ inch in maximum dimension, olive gray (5Y 3/2), damp, loose.
1			CH	Silty clay (FILL), some fine– to medium–grained sand, trace coarse–grained sand and gravel up to ⅝ inch in maximum dimension, brownish black (5YR 2/1), trace white (N9) weathered sand and gravel, trace dark yellowish–orange (10YR 6/6) and moderate reddish–brown (10R 4/6) staining, damp, high plasticity, hard.
2			SW	Fine– to coarse–grained sand (FILL), some gravel up to ¾ inch in maximum dimension, olive gray (5Y 3/2), damp, loose.
			CH	Abundant white (N9) weathered sand and gravel at 2 feet to 2 feet 1 inch.
3			CH	Silty clay (FILL), some medium– to coarse–grained sand and gravel up to ⅜ inch in maximum dimension, brownish black (5YR 2/1), some white (N9) weathered sand and gravel, damp, high plasticity, hard. Glass fragment at 2 feet 2 inches. Base of fill at 2 feet 3 inches.
4				Silty clay, trace fine– to medium–grained sand, brownish black (5YR 2/1), damp, high plasticity, hard, trace minute white (N9) shell fragments, trace partly decomposed plant rootlets.
5				Color change to brownish gray (5YR 4/1) at 4 feet 2 inches, moderately abundant white (N9) weathered sand grains, gravel clasts, and irregular deposits, moderately abundant dark yellowish–orange (10YR 6/6) and moderate reddish–brown (10R 4/6) staining in small irregular patches.
6				
7				Trace gravel clasts up to 1 inch in maximum dimension at 6 feet 8 inches to 7 feet.
8				Total Depth = 7 feet. No ground water encountered.
9				
10				

Well Const.



PROJECT NO.	DRAWN BY	REPORT DATE
103.22001	EC	June 2022

Essel Environmental & Emergency Response
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Log of Boring for Vapor Probe SV-4
1020 TERRA BELLA AVENUE
MOUNTAIN VIEW, CALIFORNIA 94043

PLATE
A-5

Total depth of boring: 7 feet
Diameter of boring: 2 1/2 inches
Date drilled: 05/11/2022
Drilling Company: Environmental Control Associates
Driller: Brad Pyle
Drilling method: Direct push
Sample diameter: 1 3/4 inches
Field Geologist: Rodger Witham

Tubing diameter: 1/4 inch
Tubing material: Teflon
Slot size: NA
Sand size: No. 3 Monterey
Tubing from 0 feet to 6 1/2 feet
Perforated casing from NA to NA
Annular seal from NA to NA
Bentonite plug from 0 feet to 6 feet
Sand pack from 6 feet to 7 feet

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
1			CL/CH	Silty clay, with fine– to medium–grained sand, trace coarse–grained sand, trace gravel up to ⅜ inch in maximum dimension, dusky brown (5YR 2/2), damp, medium plasticity, very stiff, trace minute shell fragments.	
2				Fine– to coarse–grained sandy clay at 1 foot 6 inches to 1 foot 8 inches, trace gravel up to ¾ inch in maximum dimension.	
3				Decreasing sand content downward to trace fine– to medium–grained sand at 2 feet 6 inches. Yellowish–gray (5Y 8/1) mottling at 2 feet 6 inches to 2 feet 8 inches. Color change to brownish black (5YR 2/1) at 2 feet 8 inches, high plasticity, partly decomposed plant root at 2 feet 9 inches.	
4				Color change to medium dark gray (N4) at 4 feet 2 inches, moderately abundant dark yellowish–orange (10YR 6/6) staining, some irregular white (N9) deposits decreasing downward to trace white deposits at 7 feet.	
5					
6				Increase in sand content from trace fine– to medium–grained sand to some fine– to coarse–grained sand between 6 and 7 feet.	
7				Total Depth = 7 feet. No ground water encountered.	
8					
9					
10					

PROJECT NO.	DRAWN BY	REPORT DATE
103.22001	EC	June 2022

Essel Environmental & Emergency Response
1035 22nd Avenue, Unit 9
Oakland, California 94606
1–800–595–7616

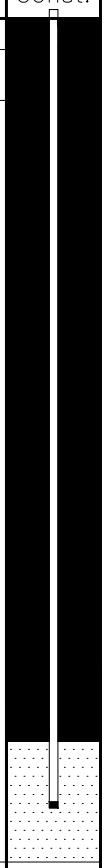
Log of Boring for
Vapor Probe SV-5
1020 TERRA BELLA AVENUE
MOUNTAIN VIEW, CALIFORNIA 94043

PLATE
A-6

Total depth of boring: 7 feet
Diameter of boring: 2 1/2 inches
Date drilled: 05/11/2022
Drilling Company: Environmental Control Associates
Driller: Brad Pyle
Drilling method: Direct push
Sample diameter: 1 3/4 inches
Field Geologist: Rodger Witham

Tubing diameter: 1/4 inch
Tubing material: Teflon
Slot size: NA
Sand size: No. 3 Monterey
Tubing from 0 feet to 6 1/2 feet
Perforated casing from NA to NA
Annular seal from NA to NA
Bentonite plug from 0 feet to 6 feet
Sand pack from 6 feet to 7 feet

Depth	Sample No.	PID in PPM	USCS Code	Description	Well Const.
				Asphalt.	
			SW	Fine– to coarse–grained sand (FILL), with gravel up to ¾ inch in maximum dimension, light olive gray (5Y 5/2), damp, loose.	
			CH	Silty clay, trace fine–grained sand, olive gray (5Y 3/2) and brownish black (5YR 2/1) mottled, damp, high plasticity, very stiff to hard, trace minute shell fragments.	
1				Trace olive gray (5Y 3/2) mottling at 1 foot.	
2					
3				Color change to brownish gray (5YR 4/1) at 3 feet.	
				Trace medium– to coarse–grained sand at 3 feet 7 inches, increase to some medium– to coarse–grained sand from 4 to 5 feet.	
4				Moderately abundant white (N9) weathered sand grains and gravel clasts and irregular white deposits from 3 feet 7 inches to 5 feet 4 inches.	
				Partly decomposed plant root at 4½ to 5 feet.	
5				Some dark yellowish–orange (10YR 6/6) staining at 5 feet downward.	
				Trace weathered gravel clasts up to ½ inch in maximum dimension at 5 feet 8 inches to 7 feet.	
6				Color change to dusky brown (5YR 2/2) at 6 feet.	
				Some fine– to coarse–grained sand at 6½ to 7 feet.	
7				Total Depth = 7 feet. No ground water encountered.	
8					
9					
10					



PROJECT NO.	DRAWN BY	REPORT DATE
103.22001	EC	June 2022

Essel Environmental & Emergency Response
1035 22nd Avenue, Unit 9
Oakland, California 94606
1–800–595–7616

Log of Boring for
Vapor Probe SV-6
1020 TERRA BELLA AVENUE
MOUNTAIN VIEW, CALIFORNIA 94043

PLATE
A-7

APPENDIX B

CHAIN-OF-CUSTODY FORM
AND
LABORATORY ANALYTICAL REPORT
FOR
SOIL-VAPOR SAMPLES

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2205675

Report Created for: Essel Environmental Consulting

1035 22nd Avenue, Suite 9
Oakland, CA 94606

Project Contact: Rodger Witham
Project P.O.: 103.22001
Project: 103.22001; 1020 Terra Bella

Project Received: 05/11/2022

Analytical Report reviewed & approved for release on 05/18/2022 by:

Christine Askari
Project Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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

Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting **WorkOrder:** 2205675

Project: 103.22001; 1020 Terra Bella

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
NA	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)

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Glossary of Terms & Qualifier Definitions

Client: Essel Environmental Consulting **WorkOrder:** 2205675
Project: 103.22001; 1020 Terra Bella

Analytical Qualifiers

B	Analyte detected in the associated Method Blank at a concentration greater than 1/10 the reported sample result.
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.

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Case Narrative

Client: Essel Environmental Consulting
Project: 103.22001; 1020 Terra Bella

Work Order: 2205675
May 18, 2022

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.

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Case Narrative

Client: Essel Environmental Consulting
Project: 103.22001; 1020 Terra Bella

Work Order: 2205675
May 18, 2022

Qualitative Leak Check compound narrative for TO15 analysis:

1,1-Difluoroethane is not a formal method analyte, and does not have a calibration curve relating response to concentration. Therefore, an estimated concentration must be based on a calibrated compound response. Typically, the chosen proxy compound has similar chemical properties and similar retention times.

For Work Order 2205675, the value for 1,1-Difluoroethane is estimated value based on the dichlorodifluoromethane calibration. Although they do not share identical chemical properties, dichlorodifluoromethane has been chosen because it is the lightest fluorinated compound on the list of calibrated analytes, and has the same chromatographic retention time as 1,1-Difluoroethane.

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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)
2205675-001A	2005-2632	0.24	-30.5	-22.75	4.76	-20.2	24.04
2205675-002A	2001-2628	0.24	-29	-18.25	8.3	-13.0	24.11
2205675-003A	2038-2662	0.24	-29.5	-17	9.04	-11.5	24.15
2205675-004A	1943-2574	0.25	-29	-17.5	6.27	-17.2	24.12
2205675-005A	2044-2668	0.26	-30.5	-16.7	7.33	-15.0	24.1
2205675-006A	2000-2627	0.27	-30.5	-21.25	7.25	-15.2	24.34

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Analytical Report

Client: Essel Environmental Consulting
Date Received: 05/11/2022 18:05
Date Prepared: 05/13/2022
Project: 103.22001; 1020 Terra Bella

WorkOrder: 2205675
Extraction Method: TO15
Analytical Method: TO15
Unit: µg/m³

Leak Check Compound

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-1	2205675-001A	SoilGas	05/11/2022 11:40	GC29 05122228.D	245511

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
4.76	24.04	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
1,1-Difluoroethane as Dichlorodifluoromethane	ND	280	280	4	05/13/2022 10:48

Surrogates	REC (%)	Limits	
1,2-DCA-d4	94	70-130	05/13/2022 10:48

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-2	2205675-002A	SoilGas	05/11/2022 12:19	GC29 05122218.D	245511

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
8.30	24.11	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
1,1-Difluoroethane as Dichlorodifluoromethane	ND	41.0	41.0	1	05/13/2022 03:38

Surrogates	REC (%)	Limits	
1,2-DCA-d4	92	70-130	05/13/2022 03:38

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	2205675-003A	SoilGas	05/11/2022 12:48	GC29 05122229.D	245511

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
9.04	24.15	JEM

Analytes	Result	MDL	RL	DF	Date Analyzed
1,1-Difluoroethane as Dichlorodifluoromethane	ND	150	150	4	05/13/2022 11:32

Surrogates	REC (%)	Limits	
1,2-DCA-d4	95	70-130	05/13/2022 11:32

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Leak Check Compound

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	**2205675-004A**	**SoilGas**	**05/11/2022 13:16**	**GC29 05122219.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
6.27	**24.12**	**JEM**

Analytes	Result	MDL	RL	DF	Date Analyzed
1,1-Difluoroethane as Dichlorodifluoromethane	ND	110	110	2	05/13/2022 04:21

Surrogates	REC (%)	Limits	
1,2-DCA-d4	93	70-130	05/13/2022 04:21

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5	**2205675-005A**	**SoilGas**	**05/11/2022 13:56**	**GC29 05122223.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
7.33	**24.10**	**JEM**

Analytes	Result	MDL	RL	DF	Date Analyzed
1,1-Difluoroethane as Dichlorodifluoromethane	ND	460	460	10	05/13/2022 07:13

Surrogates	REC (%)	Limits	
1,2-DCA-d4	95	70-130	05/13/2022 07:13

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-6	**2205675-006A**	**SoilGas**	**05/11/2022 14:24**	**GC29 05122217.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
7.25	**24.34**	**JEM**

Analytes	Result	MDL	RL	DF	Date Analyzed
1,1-Difluoroethane as Dichlorodifluoromethane	ND	47.0	47.0	1	05/13/2022 02:54

Surrogates	REC (%)	Limits	
1,2-DCA-d4	93	70-130	05/13/2022 02:54

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-1	2205675-001A	SoilGas	05/11/2022 11:40	GC29 05122228.D	245511

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
4.76	24.04	JEM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Acetone	ND		43.0	610	4	05/13/2022 10:48
Acrolein	**20.9**	J	11.0	59.0	4	05/13/2022 10:48
Acrylonitrile	ND		6.70	11.0	4	05/13/2022 10:48
tert-Amyl methyl ether (TAME)	**18.6**	JB	13.0	21.0	4	05/13/2022 10:48
Benzene	**74.6**		8.00	16.0	4	05/13/2022 10:48
Benzyl chloride	ND		17.0	27.0	4	05/13/2022 10:48
Bromodichloromethane	ND		1.30	14.0	4	05/13/2022 10:48
Bromoform	ND		11.0	54.0	4	05/13/2022 10:48
Bromomethane	**14.2**	J	4.10	19.0	4	05/13/2022 10:48
1,3-Butadiene	**95.1**		9.90	11.0	4	05/13/2022 10:48
2-Butanone (MEK)	**44.6**	J	20.0	150	4	05/13/2022 10:48
t-Butyl alcohol (TBA)	ND		19.0	160	4	05/13/2022 10:48
Carbon Disulfide	**42.0**		11.0	16.0	4	05/13/2022 10:48
Carbon Tetrachloride	ND		1.90	13.0	4	05/13/2022 10:48
Chlorobenzene	ND		6.00	24.0	4	05/13/2022 10:48
Chloroethane	ND		3.50	13.0	4	05/13/2022 10:48
Chloroform	**6.79**	J	5.90	25.0	4	05/13/2022 10:48
Chloromethane	**23.6**		5.30	10.0	4	05/13/2022 10:48
Cyclohexane	**108**	J	16.0	180	4	05/13/2022 10:48
Dibromochloromethane	ND		11.0	44.0	4	05/13/2022 10:48
1,2-Dibromo-3-chloropropane	ND		0.750	1.20	4	05/13/2022 10:48
1,2-Dibromoethane (EDB)	ND		0.250	0.790	4	05/13/2022 10:48
1,2-Dichlorobenzene	ND		9.60	30.0	4	05/13/2022 10:48
1,3-Dichlorobenzene	ND		9.50	30.0	4	05/13/2022 10:48
1,4-Dichlorobenzene	ND		9.80	30.0	4	05/13/2022 10:48
Dichlorodifluoromethane	ND		5.70	25.0	4	05/13/2022 10:48
1,1-Dichloroethane	ND		5.10	20.0	4	05/13/2022 10:48
1,2-Dichloroethane (1,2-DCA)	ND		5.90	20.0	4	05/13/2022 10:48
1,1-Dichloroethene	ND		4.00	20.0	4	05/13/2022 10:48
cis-1,2-Dichloroethene	ND		4.30	20.0	4	05/13/2022 10:48
trans-1,2-Dichloroethene	ND		4.50	20.0	4	05/13/2022 10:48
1,2-Dichloropropane	ND		6.00	24.0	4	05/13/2022 10:48
cis-1,3-Dichloropropene	ND		7.20	23.0	4	05/13/2022 10:48
trans-1,3-Dichloropropene	ND		8.70	23.0	4	05/13/2022 10:48

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-1	2205675-001A	SoilGas	05/11/2022 11:40	GC29 05122228.D	245511

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
4.76	24.04	JEM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		18.0	36.0	4	05/13/2022 10:48
Diisopropyl ether (DIPE)	ND		5.60	21.0	4	05/13/2022 10:48
1,4-Dioxane	ND		7.20	19.0	4	05/13/2022 10:48
Ethanol	**40.9**	J	38.0	960	4	05/13/2022 10:48
Ethyl acetate	ND		6.40	19.0	4	05/13/2022 10:48
Ethyl tert-butyl ether (ETBE)	ND		6.90	21.0	4	05/13/2022 10:48
Ethylbenzene	**65.3**		5.20	22.0	4	05/13/2022 10:48
4-Ethyltoluene	**22.8**	J	6.20	25.0	4	05/13/2022 10:48
Freon 113	ND		10.0	39.0	4	05/13/2022 10:48
Heptane	**124**	J	24.0	210	4	05/13/2022 10:48
Hexachlorobutadiene	ND		3.80	22.0	4	05/13/2022 10:48
Hexachloroethane	ND		27.0	49.0	4	05/13/2022 10:48
Hexane	**399**		22.0	180	4	05/13/2022 10:48
2-Hexanone	ND		16.0	21.0	4	05/13/2022 10:48
4-Methyl-2-pentanone (MIBK)	**20.7**	J	9.50	21.0	4	05/13/2022 10:48
Methyl-t-butyl ether (MTBE)	ND		4.30	19.0	4	05/13/2022 10:48
Methylene chloride	ND		8.30	89.0	4	05/13/2022 10:48
Methyl methacrylate	**71.9**		6.60	21.0	4	05/13/2022 10:48
Naphthalene	ND		19.0	27.0	4	05/13/2022 10:48
Styrene	**13.6**	J	6.30	22.0	4	05/13/2022 10:48
1,1,1,2-Tetrachloroethane	ND		12.0	35.0	4	05/13/2022 10:48
1,1,2,2-Tetrachloroethane	ND		1.00	7.10	4	05/13/2022 10:48
Tetrachloroethene	ND		11.0	35.0	4	05/13/2022 10:48
Tetrahydrofuran	**230**		8.30	30.0	4	05/13/2022 10:48
Toluene	**34.0**		9.00	19.0	4	05/13/2022 10:48
1,2,4-Trichlorobenzene	ND		27.0	38.0	4	05/13/2022 10:48
1,1,1-Trichloroethane	ND		7.20	28.0	4	05/13/2022 10:48
1,1,2-Trichloroethane	ND		8.60	28.0	4	05/13/2022 10:48
Trichloroethene	ND		7.00	28.0	4	05/13/2022 10:48
1,2,3-Trichloropropane	ND		9.00	31.0	4	05/13/2022 10:48
Trichlorofluoromethane	ND		7.90	29.0	4	05/13/2022 10:48
1,2,4-Trimethylbenzene	**71.0**		12.0	25.0	4	05/13/2022 10:48
1,3,5-Trimethylbenzene	**41.3**		7.40	25.0	4	05/13/2022 10:48
Vinyl Acetate	**116**	J	11.0	180	4	05/13/2022 10:48

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-1	**2205675-001A**	**SoilGas**	**05/11/2022 11:40**	**GC29 05122228.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
4.76	**24.04**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Vinyl Chloride	**3.54**		1.40	2.60	4	05/13/2022 10:48
m,p-Xylene	**256**		11.0	44.0	4	05/13/2022 10:48
o-Xylene	**111**		3.90	22.0	4	05/13/2022 10:48
Xylenes, Total	**367**		NA	22.0	4	05/13/2022 10:48

Surrogates	REC (%)	Limits	
1,2-DCA-d4	94	70-130	05/13/2022 10:48
Toluene-d8	90	70-130	05/13/2022 10:48
4-BFB	105	70-130	05/13/2022 10:48

(Cont.)

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-2	2205675-002A	SoilGas	05/11/2022 12:19	GC29 05122218.D	245511

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
8.30	24.11	JEM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Acetone	ND		6.20	87.0	1	05/13/2022 03:38
Acrolein	ND		1.60	8.40	1	05/13/2022 03:38
Acrylonitrile	ND		0.960	1.60	1	05/13/2022 03:38
tert-Amyl methyl ether (TAME)	ND		1.90	3.10	1	05/13/2022 03:38
Benzene	**11.9**		1.10	2.30	1	05/13/2022 03:38
Benzyl chloride	ND		2.50	3.90	1	05/13/2022 03:38
Bromodichloromethane	ND		0.190	2.00	1	05/13/2022 03:38
Bromoform	ND		1.60	7.70	1	05/13/2022 03:38
Bromomethane	**1.24**	J	0.600	2.80	1	05/13/2022 03:38
1,3-Butadiene	**39.9**		1.40	1.60	1	05/13/2022 03:38
2-Butanone (MEK)	**24.7**		2.90	22.0	1	05/13/2022 03:38
t-Butyl alcohol (TBA)	ND		2.80	23.0	1	05/13/2022 03:38
Carbon Disulfide	**40.8**		1.60	2.30	1	05/13/2022 03:38
Carbon Tetrachloride	**0.421**	J	0.280	1.90	1	05/13/2022 03:38
Chlorobenzene	ND		0.860	3.50	1	05/13/2022 03:38
Chloroethane	ND		0.510	1.90	1	05/13/2022 03:38
Chloroform	**1.32**	J	0.840	3.60	1	05/13/2022 03:38
Chloromethane	ND		0.760	1.50	1	05/13/2022 03:38
Cyclohexane	**26.3**		2.30	26.0	1	05/13/2022 03:38
Dibromochloromethane	ND		1.60	6.40	1	05/13/2022 03:38
1,2-Dibromo-3-chloropropane	ND		0.110	0.170	1	05/13/2022 03:38
1,2-Dibromoethane (EDB)	ND		0.0360	0.110	1	05/13/2022 03:38
1,2-Dichlorobenzene	ND		1.40	4.40	1	05/13/2022 03:38
1,3-Dichlorobenzene	ND		1.40	4.40	1	05/13/2022 03:38
1,4-Dichlorobenzene	ND		1.40	4.40	1	05/13/2022 03:38
Dichlorodifluoromethane	ND		0.810	3.60	1	05/13/2022 03:38
1,1-Dichloroethane	**1.41**	J	0.730	2.90	1	05/13/2022 03:38
1,2-Dichloroethane (1,2-DCA)	ND		0.840	2.90	1	05/13/2022 03:38
1,1-Dichloroethene	ND		0.580	2.90	1	05/13/2022 03:38
cis-1,2-Dichloroethene	ND		0.620	2.90	1	05/13/2022 03:38
trans-1,2-Dichloroethene	ND		0.650	2.90	1	05/13/2022 03:38
1,2-Dichloropropane	ND		0.860	3.50	1	05/13/2022 03:38
cis-1,3-Dichloropropene	ND		1.00	3.30	1	05/13/2022 03:38
trans-1,3-Dichloropropene	ND		1.20	3.30	1	05/13/2022 03:38

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-2	**2205675-002A**	**SoilGas**	**05/11/2022 12:19**	**GC29 05122218.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
8.30	**24.11**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		2.60	5.20	1	05/13/2022 03:38
Diisopropyl ether (DIPE)	ND		0.800	3.10	1	05/13/2022 03:38
1,4-Dioxane	ND		1.00	2.80	1	05/13/2022 03:38
Ethanol	**77.8**	J	5.50	140	1	05/13/2022 03:38
Ethyl acetate	ND		0.920	2.80	1	05/13/2022 03:38
Ethyl tert-butyl ether (ETBE)	ND		0.990	3.10	1	05/13/2022 03:38
Ethylbenzene	**9.50**		0.740	3.20	1	05/13/2022 03:38
4-Ethyltoluene	ND		0.890	3.60	1	05/13/2022 03:38
Freon 113	ND		1.50	5.70	1	05/13/2022 03:38
Heptane	**44.0**		3.50	31.0	1	05/13/2022 03:38
Hexachlorobutadiene	ND		0.550	3.20	1	05/13/2022 03:38
Hexachloroethane	ND		3.90	7.10	1	05/13/2022 03:38
Hexane	**159**		3.20	26.0	1	05/13/2022 03:38
2-Hexanone	**7.36**		2.30	3.10	1	05/13/2022 03:38
4-Methyl-2-pentanone (MIBK)	**14.8**		1.40	3.10	1	05/13/2022 03:38
Methyl-t-butyl ether (MTBE)	ND		0.620	2.80	1	05/13/2022 03:38
Methylene chloride	**2.41**	J	1.20	13.0	1	05/13/2022 03:38
Methyl methacrylate	ND		0.940	3.10	1	05/13/2022 03:38
Naphthalene	ND		2.80	3.90	1	05/13/2022 03:38
Styrene	**1.10**	J	0.900	3.20	1	05/13/2022 03:38
1,1,1,2-Tetrachloroethane	ND		1.70	5.10	1	05/13/2022 03:38
1,1,2,2-Tetrachloroethane	ND		0.150	1.00	1	05/13/2022 03:38
Tetrachloroethene	ND		1.60	5.10	1	05/13/2022 03:38
Tetrahydrofuran	ND		1.20	4.40	1	05/13/2022 03:38
Toluene	**9.33**		1.30	2.80	1	05/13/2022 03:38
1,2,4-Trichlorobenzene	ND		3.90	5.50	1	05/13/2022 03:38
1,1,1-Trichloroethane	ND		1.00	4.10	1	05/13/2022 03:38
1,1,2-Trichloroethane	ND		1.20	4.10	1	05/13/2022 03:38
Trichloroethene	ND		1.00	4.10	1	05/13/2022 03:38
1,2,3-Trichloropropane	ND		1.30	4.50	1	05/13/2022 03:38
Trichlorofluoromethane	**1.24**	J	1.10	4.20	1	05/13/2022 03:38
1,2,4-Trimethylbenzene	ND		1.70	3.60	1	05/13/2022 03:38
1,3,5-Trimethylbenzene	**1.19**	J	1.10	3.60	1	05/13/2022 03:38
Vinyl Acetate	ND		1.60	26.0	1	05/13/2022 03:38

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-2	**2205675-002A**	**SoilGas**	**05/11/2022 12:19**	**GC29 05122218.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
8.30	**24.11**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Vinyl Chloride	ND		0.200	0.380	1	05/13/2022 03:38
m,p-Xylene	**37.0**		1.60	6.40	1	05/13/2022 03:38
o-Xylene	**12.7**		0.570	3.20	1	05/13/2022 03:38
Xylenes, Total	**49.7**		NA	3.20	1	05/13/2022 03:38

Surrogates	REC (%)	Limits	
1,2-DCA-d4	92	70-130	05/13/2022 03:38
Toluene-d8	93	70-130	05/13/2022 03:38
4-BFB	94	70-130	05/13/2022 03:38

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	2205675-003A	SoilGas	05/11/2022 12:48	GC29 05122229.D	245511

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
9.04	24.15	JEM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Acetone	**111**	J	23.0	320	4	05/13/2022 11:32
Acrolein	ND		5.90	31.0	4	05/13/2022 11:32
Acrylonitrile	ND		3.50	5.90	4	05/13/2022 11:32
tert-Amyl methyl ether (TAME)	ND		6.90	11.0	4	05/13/2022 11:32
Benzene	**51.7**		4.20	8.50	4	05/13/2022 11:32
Benzyl chloride	ND		9.10	14.0	4	05/13/2022 11:32
Bromodichloromethane	ND		0.690	7.50	4	05/13/2022 11:32
Bromoform	ND		5.90	28.0	4	05/13/2022 11:32
Bromomethane	**5.76**	J	2.20	10.0	4	05/13/2022 11:32
1,3-Butadiene	ND		5.20	5.90	4	05/13/2022 11:32
2-Butanone (MEK)	ND		11.0	80.0	4	05/13/2022 11:32
t-Butyl alcohol (TBA)	ND		10.0	85.0	4	05/13/2022 11:32
Carbon Disulfide	**33.8**		5.90	8.50	4	05/13/2022 11:32
Carbon Tetrachloride	ND		1.00	6.90	4	05/13/2022 11:32
Chlorobenzene	ND		3.20	13.0	4	05/13/2022 11:32
Chloroethane	ND		1.90	6.90	4	05/13/2022 11:32
Chloroform	ND		3.10	13.0	4	05/13/2022 11:32
Chloromethane	ND		2.80	5.30	4	05/13/2022 11:32
Cyclohexane	**105**		8.50	96.0	4	05/13/2022 11:32
Dibromochloromethane	ND		5.90	24.0	4	05/13/2022 11:32
1,2-Dibromo-3-chloropropane	ND		0.400	0.640	4	05/13/2022 11:32
1,2-Dibromoethane (EDB)	ND		0.130	0.420	4	05/13/2022 11:32
1,2-Dichlorobenzene	ND		5.10	16.0	4	05/13/2022 11:32
1,3-Dichlorobenzene	ND		5.00	16.0	4	05/13/2022 11:32
1,4-Dichlorobenzene	ND		5.20	16.0	4	05/13/2022 11:32
Dichlorodifluoromethane	ND		3.00	13.0	4	05/13/2022 11:32
1,1-Dichloroethane	**2.94**	J	2.70	11.0	4	05/13/2022 11:32
1,2-Dichloroethane (1,2-DCA)	ND		3.10	11.0	4	05/13/2022 11:32
1,1-Dichloroethene	ND		2.10	11.0	4	05/13/2022 11:32
cis-1,2-Dichloroethene	ND		2.30	11.0	4	05/13/2022 11:32
trans-1,2-Dichloroethene	ND		2.40	11.0	4	05/13/2022 11:32
1,2-Dichloropropane	ND		3.20	13.0	4	05/13/2022 11:32
cis-1,3-Dichloropropene	ND		3.80	12.0	4	05/13/2022 11:32
trans-1,3-Dichloropropene	ND		4.60	12.0	4	05/13/2022 11:32

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	2205675-003A	SoilGas	05/11/2022 12:48	GC29 05122229.D	245511

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
9.04	24.15	JEM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		9.60	19.0	4	05/13/2022 11:32
Diisopropyl ether (DIPE)	ND		2.90	11.0	4	05/13/2022 11:32
1,4-Dioxane	ND		3.80	10.0	4	05/13/2022 11:32
Ethanol	**97.7**	J	20.0	510	4	05/13/2022 11:32
Ethyl acetate	ND		3.40	10.0	4	05/13/2022 11:32
Ethyl tert-butyl ether (ETBE)	ND		3.60	11.0	4	05/13/2022 11:32
Ethylbenzene	**6.32**	J	2.70	12.0	4	05/13/2022 11:32
4-Ethyltoluene	ND		3.30	13.0	4	05/13/2022 11:32
Freon 113	ND		5.30	21.0	4	05/13/2022 11:32
Heptane	**180**		13.0	110	4	05/13/2022 11:32
Hexachlorobutadiene	ND		2.00	12.0	4	05/13/2022 11:32
Hexachloroethane	ND		14.0	26.0	4	05/13/2022 11:32
Hexane	**544**		12.0	96.0	4	05/13/2022 11:32
2-Hexanone	ND		8.50	11.0	4	05/13/2022 11:32
4-Methyl-2-pentanone (MIBK)	ND		5.00	11.0	4	05/13/2022 11:32
Methyl-t-butyl ether (MTBE)	ND		2.30	10.0	4	05/13/2022 11:32
Methylene chloride	ND		4.40	47.0	4	05/13/2022 11:32
Methyl methacrylate	**30.1**		3.50	11.0	4	05/13/2022 11:32
Naphthalene	ND		10.0	14.0	4	05/13/2022 11:32
Styrene	**10.2**	J	3.30	12.0	4	05/13/2022 11:32
1,1,1,2-Tetrachloroethane	ND		6.40	19.0	4	05/13/2022 11:32
1,1,2,2-Tetrachloroethane	ND		0.530	3.70	4	05/13/2022 11:32
Tetrachloroethene	ND		5.90	19.0	4	05/13/2022 11:32
Tetrahydrofuran	ND		4.40	16.0	4	05/13/2022 11:32
Toluene	**20.0**		4.80	10.0	4	05/13/2022 11:32
1,2,4-Trichlorobenzene	ND		14.0	20.0	4	05/13/2022 11:32
1,1,1-Trichloroethane	ND		3.80	15.0	4	05/13/2022 11:32
1,1,2-Trichloroethane	ND		4.50	15.0	4	05/13/2022 11:32
Trichloroethene	ND		3.70	15.0	4	05/13/2022 11:32
1,2,3-Trichloropropane	ND		4.80	17.0	4	05/13/2022 11:32
Trichlorofluoromethane	ND		4.20	15.0	4	05/13/2022 11:32
1,2,4-Trimethylbenzene	ND		6.40	13.0	4	05/13/2022 11:32
1,3,5-Trimethylbenzene	ND		3.90	13.0	4	05/13/2022 11:32
Vinyl Acetate	ND		5.90	96.0	4	05/13/2022 11:32

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3	**2205675-003A**	**SoilGas**	**05/11/2022 12:48**	**GC29 05122229.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
9.04	**24.15**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Vinyl Chloride	**1.89**		0.750	1.40	4	05/13/2022 11:32
m,p-Xylene	**13.6**	J	5.90	24.0	4	05/13/2022 11:32
o-Xylene	**4.80**	J	2.10	12.0	4	05/13/2022 11:32
Xylenes, Total	**18.4**	J	NA	12.0	4	05/13/2022 11:32

Surrogates	REC (%)	Limits	
1,2-DCA-d4	95	70-130	05/13/2022 11:32
Toluene-d8	96	70-130	05/13/2022 11:32
4-BFB	91	70-130	05/13/2022 11:32

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	2205675-004A	SoilGas	05/11/2022 13:16	GC29 05122219.D	245511

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
6.27	24.12	JEM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Acetone	**77.2**	J	17.0	230	2	05/13/2022 04:21
Acrolein	ND		4.20	22.0	2	05/13/2022 04:21
Acrylonitrile	ND		2.50	4.20	2	05/13/2022 04:21
tert-Amyl methyl ether (TAME)	ND		5.00	8.10	2	05/13/2022 04:21
Benzene	**12.3**		3.00	6.20	2	05/13/2022 04:21
Benzyl chloride	ND		6.50	10.0	2	05/13/2022 04:21
Bromodichloromethane	ND		0.500	5.40	2	05/13/2022 04:21
Bromoform	ND		4.20	20.0	2	05/13/2022 04:21
Bromomethane	**3.29**	J	1.60	7.30	2	05/13/2022 04:21
1,3-Butadiene	ND		3.80	4.20	2	05/13/2022 04:21
2-Butanone (MEK)	**82.9**		7.70	58.0	2	05/13/2022 04:21
t-Butyl alcohol (TBA)	ND		7.30	62.0	2	05/13/2022 04:21
Carbon Disulfide	**102**		4.20	6.20	2	05/13/2022 04:21
Carbon Tetrachloride	**0.814**	J	0.730	5.00	2	05/13/2022 04:21
Chlorobenzene	ND		2.30	9.20	2	05/13/2022 04:21
Chloroethane	ND		1.30	5.00	2	05/13/2022 04:21
Chloroform	ND		2.20	9.60	2	05/13/2022 04:21
Chloromethane	ND		2.00	3.80	2	05/13/2022 04:21
Cyclohexane	**20.0**	J	6.20	69.0	2	05/13/2022 04:21
Dibromochloromethane	ND		4.20	17.0	2	05/13/2022 04:21
1,2-Dibromo-3-chloropropane	ND		0.280	0.460	2	05/13/2022 04:21
1,2-Dibromoethane (EDB)	ND		0.0960	0.300	2	05/13/2022 04:21
1,2-Dichlorobenzene	ND		3.70	12.0	2	05/13/2022 04:21
1,3-Dichlorobenzene	ND		3.60	12.0	2	05/13/2022 04:21
1,4-Dichlorobenzene	ND		3.70	12.0	2	05/13/2022 04:21
Dichlorodifluoromethane	ND		2.20	9.60	2	05/13/2022 04:21
1,1-Dichloroethane	**3.77**	J	1.90	7.70	2	05/13/2022 04:21
1,2-Dichloroethane (1,2-DCA)	ND		2.20	7.70	2	05/13/2022 04:21
1,1-Dichloroethene	ND		1.50	7.70	2	05/13/2022 04:21
cis-1,2-Dichloroethene	ND		1.70	7.70	2	05/13/2022 04:21
trans-1,2-Dichloroethene	ND		1.70	7.70	2	05/13/2022 04:21
1,2-Dichloropropane	ND		2.30	9.20	2	05/13/2022 04:21
cis-1,3-Dichloropropene	ND		2.70	8.80	2	05/13/2022 04:21
trans-1,3-Dichloropropene	ND		3.30	8.80	2	05/13/2022 04:21

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	**2205675-004A**	**SoilGas**	**05/11/2022 13:16**	**GC29 05122219.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
6.27	**24.12**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		6.90	14.0	2	05/13/2022 04:21
Diisopropyl ether (DIPE)	ND		2.10	8.10	2	05/13/2022 04:21
1,4-Dioxane	ND		2.70	7.30	2	05/13/2022 04:21
Ethanol	**19.4**	J	15.0	370	2	05/13/2022 04:21
Ethyl acetate	ND		2.40	7.30	2	05/13/2022 04:21
Ethyl tert-butyl ether (ETBE)	ND		2.60	8.10	2	05/13/2022 04:21
Ethylbenzene	**32.6**		2.00	8.50	2	05/13/2022 04:21
4-Ethyltoluene	**6.25**	J	2.30	9.60	2	05/13/2022 04:21
Freon 113	ND		3.80	15.0	2	05/13/2022 04:21
Heptane	**32.5**	J	9.20	81.0	2	05/13/2022 04:21
Hexachlorobutadiene	ND		1.50	8.50	2	05/13/2022 04:21
Hexachloroethane	ND		10.0	19.0	2	05/13/2022 04:21
Hexane	**54.9**	J	8.50	69.0	2	05/13/2022 04:21
2-Hexanone	ND		6.20	8.10	2	05/13/2022 04:21
4-Methyl-2-pentanone (MIBK)	**25.1**		3.60	8.10	2	05/13/2022 04:21
Methyl-t-butyl ether (MTBE)	ND		1.70	7.30	2	05/13/2022 04:21
Methylene chloride	ND		3.20	34.0	2	05/13/2022 04:21
Methyl methacrylate	ND		2.50	8.10	2	05/13/2022 04:21
Naphthalene	ND		7.30	10.0	2	05/13/2022 04:21
Styrene	**3.04**	J	2.40	8.50	2	05/13/2022 04:21
1,1,1,2-Tetrachloroethane	ND		4.60	13.0	2	05/13/2022 04:21
1,1,2,2-Tetrachloroethane	ND		0.380	2.70	2	05/13/2022 04:21
Tetrachloroethene	ND		4.20	13.0	2	05/13/2022 04:21
Tetrahydrofuran	ND		3.20	12.0	2	05/13/2022 04:21
Toluene	**11.9**		3.40	7.30	2	05/13/2022 04:21
1,2,4-Trichlorobenzene	ND		10.0	15.0	2	05/13/2022 04:21
1,1,1-Trichloroethane	ND		2.70	11.0	2	05/13/2022 04:21
1,1,2-Trichloroethane	ND		3.30	11.0	2	05/13/2022 04:21
Trichloroethene	ND		2.70	11.0	2	05/13/2022 04:21
1,2,3-Trichloropropane	ND		3.40	12.0	2	05/13/2022 04:21
Trichlorofluoromethane	ND		3.00	11.0	2	05/13/2022 04:21
1,2,4-Trimethylbenzene	**8.26**	J	4.60	9.60	2	05/13/2022 04:21
1,3,5-Trimethylbenzene	**4.34**	J	2.80	9.60	2	05/13/2022 04:21
Vinyl Acetate	ND		4.20	69.0	2	05/13/2022 04:21

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4	**2205675-004A**	**SoilGas**	**05/11/2022 13:16**	**GC29 05122219.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
6.27	**24.12**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Vinyl Chloride	ND		0.540	1.00	2	05/13/2022 04:21
m,p-Xylene	**159**		4.20	17.0	2	05/13/2022 04:21
o-Xylene	**57.1**		1.50	8.50	2	05/13/2022 04:21
Xylenes, Total	**216**		NA	8.50	2	05/13/2022 04:21

Surrogates	REC (%)	Limits	
1,2-DCA-d4	93	70-130	05/13/2022 04:21
Toluene-d8	96	70-130	05/13/2022 04:21
4-BFB	93	70-130	05/13/2022 04:21

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5	2205675-005A	SoilGas	05/11/2022 13:56	GC29 05122223.D	245511

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
7.33	24.10	JEM

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Acetone	**115**	J	71.0	990	10	05/13/2022 07:13
Acrolein	ND		18.0	95.0	10	05/13/2022 07:13
Acrylonitrile	ND		11.0	18.0	10	05/13/2022 07:13
tert-Amyl methyl ether (TAME)	ND		21.0	35.0	10	05/13/2022 07:13
Benzene	ND		13.0	26.0	10	05/13/2022 07:13
Benzyl chloride	ND		28.0	44.0	10	05/13/2022 07:13
Bromodichloromethane	ND		2.10	23.0	10	05/13/2022 07:13
Bromoform	ND		18.0	87.0	10	05/13/2022 07:13
Bromomethane	ND		6.70	31.0	10	05/13/2022 07:13
1,3-Butadiene	ND		16.0	18.0	10	05/13/2022 07:13
2-Butanone (MEK)	ND		33.0	250	10	05/13/2022 07:13
t-Butyl alcohol (TBA)	ND		31.0	260	10	05/13/2022 07:13
Carbon Disulfide	**26.8**		18.0	26.0	10	05/13/2022 07:13
Carbon Tetrachloride	ND		3.10	21.0	10	05/13/2022 07:13
Chlorobenzene	ND		9.70	39.0	10	05/13/2022 07:13
Chloroethane	ND		5.80	21.0	10	05/13/2022 07:13
Chloroform	ND		9.50	41.0	10	05/13/2022 07:13
Chloromethane	ND		8.50	16.0	10	05/13/2022 07:13
Cyclohexane	ND		26.0	300	10	05/13/2022 07:13
Dibromochloromethane	ND		18.0	72.0	10	05/13/2022 07:13
1,2-Dibromo-3-chloropropane	ND		1.20	2.00	10	05/13/2022 07:13
1,2-Dibromoethane (EDB)	**1.07**	J	0.410	1.30	10	05/13/2022 07:13
1,2-Dichlorobenzene	ND		16.0	49.0	10	05/13/2022 07:13
1,3-Dichlorobenzene	ND		15.0	49.0	10	05/13/2022 07:13
1,4-Dichlorobenzene	ND		16.0	49.0	10	05/13/2022 07:13
Dichlorodifluoromethane	ND		9.20	41.0	10	05/13/2022 07:13
1,1-Dichloroethane	ND		8.20	33.0	10	05/13/2022 07:13
1,2-Dichloroethane (1,2-DCA)	ND		9.50	33.0	10	05/13/2022 07:13
1,1-Dichloroethene	ND		6.60	33.0	10	05/13/2022 07:13
cis-1,2-Dichloroethene	ND		7.10	33.0	10	05/13/2022 07:13
trans-1,2-Dichloroethene	ND		7.40	33.0	10	05/13/2022 07:13
1,2-Dichloropropane	ND		9.70	39.0	10	05/13/2022 07:13
cis-1,3-Dichloropropene	ND		12.0	38.0	10	05/13/2022 07:13
trans-1,3-Dichloropropene	ND		14.0	38.0	10	05/13/2022 07:13

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5	**2205675-005A**	**SoilGas**	**05/11/2022 13:56**	**GC29 05122223.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
7.33	**24.10**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		30.0	59.0	10	05/13/2022 07:13
Diisopropyl ether (DIPE)	ND		9.00	35.0	10	05/13/2022 07:13
1,4-Dioxane	ND		12.0	31.0	10	05/13/2022 07:13
Ethanol	ND		62.0	1600	10	05/13/2022 07:13
Ethyl acetate	ND		10.0	31.0	10	05/13/2022 07:13
Ethyl tert-butyl ether (ETBE)	ND		11.0	35.0	10	05/13/2022 07:13
Ethylbenzene	**6680**		8.40	36.0	10	05/13/2022 07:13
4-Ethyltoluene	ND		10.0	41.0	10	05/13/2022 07:13
Freon 113	ND		16.0	64.0	10	05/13/2022 07:13
Heptane	**39.1**	J	39.0	350	10	05/13/2022 07:13
Hexachlorobutadiene	ND		6.20	36.0	10	05/13/2022 07:13
Hexachloroethane	ND		44.0	81.0	10	05/13/2022 07:13
Hexane	ND		36.0	300	10	05/13/2022 07:13
2-Hexanone	ND		26.0	35.0	10	05/13/2022 07:13
4-Methyl-2-pentanone (MIBK)	ND		15.0	35.0	10	05/13/2022 07:13
Methyl-t-butyl ether (MTBE)	ND		7.10	31.0	10	05/13/2022 07:13
Methylene chloride	ND		13.0	140	10	05/13/2022 07:13
Methyl methacrylate	ND		11.0	35.0	10	05/13/2022 07:13
Naphthalene	ND		31.0	44.0	10	05/13/2022 07:13
Styrene	**237**		10.0	36.0	10	05/13/2022 07:13
1,1,1,2-Tetrachloroethane	ND		20.0	58.0	10	05/13/2022 07:13
1,1,2,2-Tetrachloroethane	ND		1.60	12.0	10	05/13/2022 07:13
Tetrachloroethene	ND		18.0	58.0	10	05/13/2022 07:13
Tetrahydrofuran	ND		13.0	49.0	10	05/13/2022 07:13
Toluene	**60.8**		15.0	31.0	10	05/13/2022 07:13
1,2,4-Trichlorobenzene	ND		44.0	62.0	10	05/13/2022 07:13
1,1,1-Trichloroethane	ND		12.0	46.0	10	05/13/2022 07:13
1,1,2-Trichloroethane	ND		14.0	46.0	10	05/13/2022 07:13
Trichloroethene	ND		11.0	46.0	10	05/13/2022 07:13
1,2,3-Trichloropropane	ND		15.0	51.0	10	05/13/2022 07:13
Trichlorofluoromethane	ND		13.0	48.0	10	05/13/2022 07:13
1,2,4-Trimethylbenzene	ND		20.0	41.0	10	05/13/2022 07:13
1,3,5-Trimethylbenzene	ND		12.0	41.0	10	05/13/2022 07:13
Vinyl Acetate	ND		18.0	300	10	05/13/2022 07:13

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5	**2205675-005A**	**SoilGas**	**05/11/2022 13:56**	**GC29 05122223.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
7.33	**24.10**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Vinyl Chloride	ND		2.30	4.30	10	05/13/2022 07:13
m,p-Xylene	**26,700**		36.0	140	20	05/13/2022 06:30
o-Xylene	**4620**		6.40	36.0	10	05/13/2022 07:13
Xylenes, Total	**31,300**		NA	36.0	10	05/13/2022 07:13

Surrogates	REC (%)	Limits	
1,2-DCA-d4	95	70-130	05/13/2022 07:13
Toluene-d8	84	70-130	05/13/2022 07:13
4-BFB	111	70-130	05/13/2022 07:13

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-6	**2205675-006A**	**SoilGas**	**05/11/2022 14:24**	**GC29 05122217.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
7.25	**24.34**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Acetone	ND		7.20	100	1	05/13/2022 02:54
Acrolein	ND		1.80	9.70	1	05/13/2022 02:54
Acrylonitrile	ND		1.10	1.80	1	05/13/2022 02:54
tert-Amyl methyl ether (TAME)	**3.19**	JB	2.20	3.50	1	05/13/2022 02:54
Benzene	**4.01**		1.30	2.70	1	05/13/2022 02:54
Benzyl chloride	ND		2.90	4.50	1	05/13/2022 02:54
Bromodichloromethane	ND		0.220	2.40	1	05/13/2022 02:54
Bromoform	ND		1.80	8.90	1	05/13/2022 02:54
Bromomethane	ND		0.690	3.20	1	05/13/2022 02:54
1,3-Butadiene	ND		1.60	1.80	1	05/13/2022 02:54
2-Butanone (MEK)	**6.92**	J	3.40	25.0	1	05/13/2022 02:54
t-Butyl alcohol (TBA)	ND		3.20	27.0	1	05/13/2022 02:54
Carbon Disulfide	**10.2**		1.80	2.70	1	05/13/2022 02:54
Carbon Tetrachloride	**0.426**	J	0.320	2.20	1	05/13/2022 02:54
Chlorobenzene	ND		0.990	4.00	1	05/13/2022 02:54
Chloroethane	ND		0.590	2.20	1	05/13/2022 02:54
Chloroform	ND		0.970	4.20	1	05/13/2022 02:54
Chloromethane	ND		0.870	1.70	1	05/13/2022 02:54
Cyclohexane	**7.21**	J	2.70	30.0	1	05/13/2022 02:54
Dibromochloromethane	ND		1.80	7.40	1	05/13/2022 02:54
1,2-Dibromo-3-chloropropane	ND		0.120	0.200	1	05/13/2022 02:54
1,2-Dibromoethane (EDB)	ND		0.0420	0.130	1	05/13/2022 02:54
1,2-Dichlorobenzene	ND		1.60	5.00	1	05/13/2022 02:54
1,3-Dichlorobenzene	ND		1.60	5.00	1	05/13/2022 02:54
1,4-Dichlorobenzene	ND		1.60	5.00	1	05/13/2022 02:54
Dichlorodifluoromethane	ND		0.940	4.20	1	05/13/2022 02:54
1,1-Dichloroethane	ND		0.840	3.40	1	05/13/2022 02:54
1,2-Dichloroethane (1,2-DCA)	ND		0.970	3.40	1	05/13/2022 02:54
1,1-Dichloroethene	ND		0.670	3.40	1	05/13/2022 02:54
cis-1,2-Dichloroethene	ND		0.720	3.40	1	05/13/2022 02:54
trans-1,2-Dichloroethene	ND		0.760	3.40	1	05/13/2022 02:54
1,2-Dichloropropane	ND		0.990	4.00	1	05/13/2022 02:54
cis-1,3-Dichloropropene	ND		1.20	3.90	1	05/13/2022 02:54
trans-1,3-Dichloropropene	ND		1.40	3.90	1	05/13/2022 02:54

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-6	**2205675-006A**	**SoilGas**	**05/11/2022 14:24**	**GC29 05122217.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
7.25	**24.34**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		3.00	6.00	1	05/13/2022 02:54
Diisopropyl ether (DIPE)	ND		0.920	3.50	1	05/13/2022 02:54
1,4-Dioxane	ND		1.20	3.20	1	05/13/2022 02:54
Ethanol	**79.5**	J	6.40	160	1	05/13/2022 02:54
Ethyl acetate	ND		1.10	3.20	1	05/13/2022 02:54
Ethyl tert-butyl ether (ETBE)	ND		1.10	3.50	1	05/13/2022 02:54
Ethylbenzene	**9.92**		0.860	3.70	1	05/13/2022 02:54
4-Ethyltoluene	ND		1.00	4.20	1	05/13/2022 02:54
Freon 113	ND		1.70	6.50	1	05/13/2022 02:54
Heptane	**12.1**	J	4.00	35.0	1	05/13/2022 02:54
Hexachlorobutadiene	ND		0.640	3.70	1	05/13/2022 02:54
Hexachloroethane	ND		4.50	8.20	1	05/13/2022 02:54
Hexane	**30.7**		3.70	30.0	1	05/13/2022 02:54
2-Hexanone	ND		2.70	3.50	1	05/13/2022 02:54
4-Methyl-2-pentanone (MIBK)	**10.6**		1.60	3.50	1	05/13/2022 02:54
Methyl-t-butyl ether (MTBE)	ND		0.720	3.20	1	05/13/2022 02:54
Methylene chloride	**2.07**	J	1.40	15.0	1	05/13/2022 02:54
Methyl methacrylate	ND		1.10	3.50	1	05/13/2022 02:54
Naphthalene	ND		3.20	4.50	1	05/13/2022 02:54
Styrene	ND		1.00	3.70	1	05/13/2022 02:54
1,1,1,2-Tetrachloroethane	ND		2.00	5.90	1	05/13/2022 02:54
1,1,2,2-Tetrachloroethane	ND		0.170	1.20	1	05/13/2022 02:54
Tetrachloroethene	ND		1.80	5.90	1	05/13/2022 02:54
Tetrahydrofuran	ND		1.40	5.00	1	05/13/2022 02:54
Toluene	**4.84**		1.50	3.20	1	05/13/2022 02:54
1,2,4-Trichlorobenzene	ND		4.50	6.40	1	05/13/2022 02:54
1,1,1-Trichloroethane	ND		1.20	4.70	1	05/13/2022 02:54
1,1,2-Trichloroethane	ND		1.40	4.70	1	05/13/2022 02:54
Trichloroethene	ND		1.20	4.70	1	05/13/2022 02:54
1,2,3-Trichloropropane	ND		1.50	5.20	1	05/13/2022 02:54
Trichlorofluoromethane	**1.42**	J	1.30	4.90	1	05/13/2022 02:54
1,2,4-Trimethylbenzene	ND		2.00	4.20	1	05/13/2022 02:54
1,3,5-Trimethylbenzene	ND		1.20	4.20	1	05/13/2022 02:54
Vinyl Acetate	ND		1.80	30.0	1	05/13/2022 02:54

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Analytical Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Received:	05/11/2022 18:05	**Extraction Method:**	TO15
Date Prepared:	05/13/2022	**Analytical Method:**	TO15
Project:	103.22001; 1020 Terra Bella	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-6	**2205675-006A**	**SoilGas**	**05/11/2022 14:24**	**GC29 05122217.D**	**245511**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
7.25	**24.34**	**JEM**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Vinyl Chloride	ND		0.240	0.440	1	05/13/2022 02:54
m,p-Xylene	**43.4**		1.80	7.40	1	05/13/2022 02:54
o-Xylene	**14.2**		0.650	3.70	1	05/13/2022 02:54
Xylenes, Total	**57.6**		NA	3.70	1	05/13/2022 02:54

Surrogates	REC (%)	Limits	
1,2-DCA-d4	93	70-130	05/13/2022 02:54
Toluene-d8	96	70-130	05/13/2022 02:54
4-BFB	91	70-130	05/13/2022 02:54

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Prepared:	05/12/2022	**BatchID:**	245511
Date Analyzed:	05/12/2022	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	103.22001; 1020 Terra Bella	**Sample ID:**	MB/LCS/LCSD-245511

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)	1.87,J	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.)

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Prepared:	05/12/2022	**BatchID:**	245511
Date Analyzed:	05/12/2022	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	103.22001; 1020 Terra Bella	**Sample ID:**	MB/LCS/LCSD-245511

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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Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	103.22001; 1020 Terra Bella	**Sample ID:**	MB/LCS/LCSD-245511

QC Summary Report for TO15

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
1,2-DCA-d4	942			1000	94	70-130
Toluene-d8	991			1000	99	70-130
4-BFB	884			1000	88	70-130

(Cont.)

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Quality Control Report

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Date Analyzed:	05/12/2022	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	103.22001; 1020 Terra Bella	**Sample ID:**	MB/LCS/LCSD-245511

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	15.3	15.6	12	127	130	60-140	1.96	25
Acrolein	9.01	8.81	11.6	78	76	60-140	2.26	25
Acrylonitrile	10.7	11.4	11	97	104	60-140	6.92	25
tert-Amyl methyl ether (TAME)	20.0	20.4	21	95	97	60-140	2.09	25
Benzene	13.3	13.4	16	83	84	60-140	1.09	25
Benzyl chloride	17.0	17.2	26.6	64	65	60-140	1.39	25
Bromodichloromethane	30.4	30.6	35	87	87	60-140	0.746	25
Bromoform	44.2	43.7	52.6	84	83	60-140	1.17	25
Bromomethane	16.8	15.8	19.6	86	81	60-140	5.95	25
1,3-Butadiene	11.3	15.1	11	102	137	60-140	29.1,F2	25
2-Butanone (MEK)	11.9	12.0	15	80	80	60-140	1.01	25
t-Butyl alcohol (TBA)	22.2	22.6	15.6	142,F2	145,F2	60-140	1.90	25
Carbon Disulfide	12.5	13.0	16	78	81	60-140	3.71	25
Carbon Tetrachloride	26.7	26.9	32	83	84	60-140	0.973	25
Chlorobenzene	20.4	20.2	23.6	86	86	60-140	0.664	25
Chloroethane	11.0	10.9	13.6	81	80	60-140	1.28	25
Chloroform	21.2	21.5	24.6	86	87	60-140	0.952	25
Chloromethane	8.49	8.74	10.6	80	82	60-140	2.85	25
Cyclohexane	16.9	17.3	17.6	96	98	60-140	2.44	25
Dibromochloromethane	37.2	37.0	43.6	85	85	60-140	0.717	25
1,2-Dibromo-3-chloropropane	51.1	51.8	49	104	106	60-140	1.32	25
1,2-Dibromoethane (EDB)	35.2	35.1	39	90	90	60-140	0.124	25
1,2-Dichlorobenzene	27.0	27.8	30.6	88	91	60-140	2.80	25
1,3-Dichlorobenzene	26.6	26.4	30.6	87	86	60-140	0.603	25
1,4-Dichlorobenzene	28.3	28.4	30.6	92	93	60-140	0.276	25
Dichlorodifluoromethane	22.7	22.6	25	91	90	60-140	0.273	25
1,1-Dichloroethane	16.9	16.6	20.6	82	81	60-140	1.57	25
1,2-Dichloroethane (1,2-DCA)	18.5	18.4	20.6	90	89	60-140	0.268	25
1,1-Dichloroethene	16.0	16.3	20	80	81	60-140	1.57	25
cis-1,2-Dichloroethene	16.6	16.2	20	83	81	60-140	2.09	25
trans-1,2-Dichloroethene	16.5	16.5	20	83	83	60-140	0.198	25
1,2-Dichloropropane	22.1	22.2	23.6	94	94	60-140	0.484	25
cis-1,3-Dichloropropene	20.4	20.3	23	89	88	60-140	0.646	25
trans-1,3-Dichloropropene	19.9	19.7	23	86	86	60-140	0.721	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	28.9	30.0	35.6	81	84	60-140	3.70	25
Diisopropyl ether (DIPE)	21.6	22.0	21	103	105	60-140	1.81	25
1,4-Dioxane	16.0	16.1	18.6	86	86	60-140	0.742	25
Ethanol	6.53	7.06	9.6	68	74	60-140	7.78	25

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Quality Control Report

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Date Prepared:	05/12/2022	**BatchID:**	245511
Date Analyzed:	05/12/2022	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	103.22001; 1020 Terra Bella	**Sample ID:**	MB/LCS/LCSD-245511

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Ethyl acetate	16.4	15.9	18.6	88	86	60-140	3.23	25
Ethyl tert-butyl ether (ETBE)	20.7	20.9	21	99	99	60-140	0.604	25
Ethylbenzene	18.7	18.8	22	85	86	60-140	0.496	25
4-Ethyltoluene	22.4	22.4	25	90	90	60-140	0.0268	25
Freon 113	31.6	32.7	39	81	84	60-140	3.61	25
Heptane	18.2	18.4	21	87	88	60-140	1.53	25
Hexachlorobutadiene	39.4	40.0	54	73	74	60-140	1.51	25
Hexachloroethane	40.5	40.5	49.2	82	82	60-140	0.115	25
Hexane	16.8	17.0	18	94	94	60-140	0.784	25
2-Hexanone	18.8	18.5	21	90	88	60-140	1.63	25
4-Methyl-2-pentanone (MIBK)	18.4	18.4	21	88	88	60-140	0.181	25
Methyl-t-butyl ether (MTBE)	14.2	14.6	18.6	76	79	60-140	2.91	25
Methylene chloride	14.4	14.3	17.6	82	81	60-140	1.13	25
Methyl methacrylate	16.2	16.4	20.8	78	79	60-140	1.43	25
Naphthalene	22.4	22.8	26.5	84	86	60-140	2.16	25
Styrene	18.9	18.9	21.6	88	88	60-140	0.0441	25
1,1,1,2-Tetrachloroethane	42.1	42.0	35	120	120	60-140	0.289	25
1,1,2,2-Tetrachloroethane	31.0	31.0	35	89	89	60-140	0.00883	25
Tetrachloroethene	31.9	31.7	34.4	93	92	60-140	0.481	25
Tetrahydrofuran	13.5	14.1	15	90	94	60-140	4.21	25
Toluene	16.5	16.3	19	87	86	60-140	1.39	25
1,2,4-Trichlorobenzene	31.8	32.7	37.6	85	87	60-140	2.89	25
1,1,1-Trichloroethane	22.3	21.8	27.6	81	79	60-140	2.24	25
1,1,2-Trichloroethane	24.5	24.4	27.6	89	89	60-140	0.358	25
Trichloroethene	26.4	26.6	27.6	95	96	60-140	0.915	25
1,2,3-Trichloropropane	33.2	32.0	30.64	108	104	60-140	3.63	25
Trichlorofluoromethane	23.7	23.3	28.6	83	81	60-140	1.50	25
1,2,4-Trimethylbenzene	21.7	21.7	25	87	87	60-140	0.226	25
1,3,5-Trimethylbenzene	20.8	21.1	25	83	84	60-140	1.15	25
Vinyl Acetate	14.3	14.4	18	79	80	60-140	0.791	25
Vinyl Chloride	12.2	12.9	13	94	99	60-140	5.11	25
m,p-Xylene	37.0	37.6	44	84	85	60-140	1.50	25
o-Xylene	18.2	18.4	22	82	84	60-140	1.23	25

(Cont.)

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Quality Control Report

Client:	Essel Environmental Consulting	**WorkOrder:**	2205675
Date Prepared:	05/12/2022	**BatchID:**	245511
Date Analyzed:	05/12/2022	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	103.22001; 1020 Terra Bella	**Sample ID:**	MB/LCS/LCSD-245511

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	926	917	1000	93	92	70-130	0.974	25
Toluene-d8	984	979	1000	98	98	70-130	0.515	25
4-BFB	925	925	1000	92	93	70-130	0.0285	25

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 2205675 **ClientCode: ESL**

☐ WaterTrax ☐ CLIP ☐ EDF ☑ EQuIS ☑ Dry-Weight ☐ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag
☑ Detection Summary ☐ Excel

Report to:
Rodger Witham
Essel Environmental Consulting
1035 22nd Avenue, Suite 9
Oakland, CA 94606
510 366 8054 FAX: 510-380-6610

Email: rodger@esseltek.com
cc/3rd Party:
PO: 103.22001
Project: 103.22001; 1020 Terra Bella

Bill to:
Nik Lahiri
Essel Environmental Consulting
1035 22nd Avenue, Suite 9
Oakland, CA 94606
nlahiri@esseltek.com; accountspayable

Requested TAT: **5 days;**

Date Received: **05/11/2022**
Date Logged: **05/12/2022**

Lab ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
2205675-001	SV-1	SoilGas	5/11/2022 11:40	☐	A	A										
2205675-002	SV-2	SoilGas	5/11/2022 12:19	☐	A	A										
2205675-003	SV-3	SoilGas	5/11/2022 12:48	☐	A	A										
2205675-004	SV-4	SoilGas	5/11/2022 13:16	☐	A	A										
2205675-005	SV-5	SoilGas	5/11/2022 13:56	☐	A	A										
2205675-006	SV-6	SoilGas	5/11/2022 14:24	☐	A	A										

Test Legend:

1	TO15_Scan-SIM_SOIL(UG/M3)	2	TO15-LC_SOIL(UG/M3)	3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Valerie Alfaro

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A contain testgroup TO15_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.

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WORK ORDER SUMMARY

Client Name: ESSEL ENVIRONMENTAL CONSULTING **Project:** 103.22001; 1020 Terra Bella **Work Order:** 2205675
Client Contact: Rodger Witham **QC Level:** LEVEL 2
Contact's Email: rodger@esseltek.com **Comments:** **Date Logged:** 5/12/2022

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	U**	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	Sub Out
001A	SV-1	SoilGas	TO15 for Soil Vapor (Scan-SIM)	1	1L Summa	☐	☐	☐	5/11/2022 11:40	5 days	5/18/2022		☐	☐
002A	SV-2	SoilGas	TO15 for Soil Vapor (Scan-SIM)	1	1L Summa	☐	☐	☐	5/11/2022 12:19	5 days	5/18/2022		☐	☐
003A	SV-3	SoilGas	TO15 for Soil Vapor (Scan-SIM)	1	1L Summa	☐	☐	☐	5/11/2022 12:48	5 days	5/18/2022		☐	☐
004A	SV-4	SoilGas	TO15 for Soil Vapor (Scan-SIM)	1	1L Summa	☐	☐	☐	5/11/2022 13:16	5 days	5/18/2022		☐	☐
005A	SV-5	SoilGas	TO15 for Soil Vapor (Scan-SIM)	1	1L Summa	☐	☐	☐	5/11/2022 13:56	5 days	5/18/2022		☐	☐
006A	SV-6	SoilGas	TO15 for Soil Vapor (Scan-SIM)	1	1L Summa	☐	☐	☐	5/11/2022 14:24	5 days	5/18/2022		☐	☐

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.

U = An unpreserved container was received for a method that suggests a preservation in order to extend hold time for analysis.**

Summa COC

MAI Work Order # 2205675

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CHAIN OF CUSTODY RECORD

1 Day Rush		2 Day Rush		3 Day Rush		STD	X	Quote #			
J-Flag / MDL	X	ESL		Bottle Order #							
Delivery Format:	PDF	X	GeoTracker EDF		EDD		Detect Summary				

Report To: Rodger Witham Bill To: Accounts Payable
Company: Essel Environmental
Email: rodger@essdtek.com
Alt Email: Tele: (510) 366-8054
Project Name: 1020 Terra Bella Project#: 103.22001
Project Location: Terra Bella Ave., Mt. View PO # 103.22001
Sampler Signature Rodger C. Witham

SAMPLE ID Location / Field Point	Sampling Start Date	Sampling Start Time	Sampling End Date	Sampling End Time	Canister SN#	Sample Kit / Manifold #	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, Total VOCs) µg/m3	Fixed Gas (CO_2, Methane, Ethane, Ethylene, Acetylene, Propane, CO) %	Fixed Gas: (O_2 or N_2) %	APH: Aliphatic and/or Aromatic (circle one) µg/m³	Matrix: Soilgas	Matrix: Indoor Air	Field Canister (in Hg) Pressure / Vacuum: Initial	Field Canister (in Hg) Pressure / Vacuum: Final
SV-1	5/11/22	11:37	5/11/22	11:40	2085-2632	316-1328	X								X		-30.5	-22.75
SV-2	5/11/22	12:10	5/11/22	12:19	2001-2628	316-1318	X								X		-29.0	-18.25
SV-3	5/11/22	12:44	5/11/22	12:48	2038-2662	316-684	X								X		-29.5	-17.0
SV-4	5/11/22	13:11	5/11/22	13:16	1943-2574	316-1474	X								X		-29.0	-17.5
SV-5	5/11/22	13:50	5/11/22	13:56	2044-2668	316-1380	X								X		-30.5	-16.7
SV-6	5/11/22	14:20	5/11/22	14:24	2000-2627	316-1361	X								X		-30.5	-21.25

Air media provided for sampling by McCampbell Analytical, Inc. is subject to terms listed in the MAI General Media Agreement
Client will be charged $56 for each unused Summa canister.

Final Reporting Units: nL/L | ug/L | ug/m3 | uL/L

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time	Comments / Instructions
Rodger C. Witham ESSEL Env.	5/11/2022	6:05 p.m.		5.11.22	18:05	Report RL and MDL

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McCampbell Analytical, Inc.
"When Quality Counts"

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

Sample Receipt Checklist

Client Name:	**Essel Environmental Consulting**	Date and Time Received:	**5/11/2022 18:05**
Project:	**103.22001; 1020 Terra Bella**	Date Logged:	**5/12/2022**
		Received by:	Adrianna Cardoza
WorkOrder №:	**2205675** Matrix: SoilGas	Logged by:	Valerie Alfaro
Carrier:	Client Drop-In		

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 (200.7: ≤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:

APPENDIX C

LIMITATIONS

LIMITATIONS

The environmental investigation described in this report has been conducted in accordance with current regulatory guidance and the standards of environmental and geological practice performed in the general project area. No warranty, expressed or implied, is made regarding the professional opinions presented in the report.

Essel Environmental & Emergency Response's descriptions, conclusions, and recommendations in the report, with respect to environmental conditions, are based on a limited number of sampling points and chemical analyses. Field observations made during the investigation and the samples collected and submitted for testing are considered to be representative of the area evaluated. Subsurface soil and ground-water conditions; however, may vary between and beyond sampling or observation points. Additional work, including further subsurface investigation, can reduce the inherent uncertainties associated with this type of investigation.

The interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. Chemical testing was conducted by an analytical laboratory that is certified by the state of California to perform the analyses requested for this investigation. Essel Environmental & Emergency Response is not associated with the laboratory that performed the analyses and claims no responsibility for any inaccuracy in laboratory results.

This document is intended to be used in its entirety. No portion of the document, by itself, is designed to completely represent every aspect of the project. Essel Environmental & Emergency Response should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report, furthermore, is intended for the exclusive use by the client. Any use of the contents of this report by parties other than the client is undertaken at those parties' sole risk.