

AllWest Environmental

PHASE II SUBSURFACE INVESTIGATION REPORT

2500-2550 Irving Street, San Francisco, California 94122



PREPARED FOR:

San Francisco Police Credit Union
2550 Irving Street
San Francisco, CA 94122

ALLWEST PROJECT 19061.23
June 21, 2019

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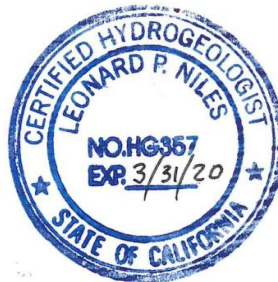


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I. EXECUTIVE SUMMARY

AllWest Environmental, Inc. has completed a Phase II subsurface investigation to characterize soil and soil vapor quality at the subject property referenced above (Figures 1 and 2). The purpose of this work was to evaluate the potential impact to site soils and soil vapor from historical land use activities as recommended in our February 8, 2019 *Phase I Environmental Site Assessment* report dated.

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

AllWest conducted a subsurface investigation at the subject property on May 21, 2019, consisting of the advancement of five soil borings (B-1 through B-5) in the exterior parking lot, driveway and landscaped areas and the installation of two temporary sub-slab Vapor Pin™ type probes (VP-1 & VP-2) inside the subject building. The soil borings were advanced by truck-mounted Geoprobe® direct push technology (DPT) methods to a total depth of 10 feet below ground surface (bgs). Groundwater was not encountered. The Vapor Pins™ were installed using portable electric drill methods. Soil boring and vapor pin locations are shown on Figure 2.

Three soil samples were collected from each boring at depth intervals of 1-1.5 feet, 4.5-5 feet and 9.5-10 feet (15 total samples). Two soil vapor samples were collected from probes VP-1 and VP-2. Five selected soil samples (collected from each of the borings at approximately 4.5-5 feet bgs) were analyzed for total petroleum hydrocarbons as diesel and motor oil (TPH-d and TPH-mo) with silica gel cleanup, total petroleum hydrocarbons as gasoline (TPH-g), volatile organic compounds (VOCs), polynuclear aromatics (PNAs) and polyaromatic hydrocarbons (PAHs), and LUFT-5 metals (cadmium, chromium, lead, nickel and zinc). The two soil vapor samples were analyzed for TPH-g, VOCs, and the leak detection gas helium.

No constituents of concern (COCs) were detected in any soil samples at concentrations exceeding applicable San Francisco Bay Regional Water Quality Control Board Environmental Screening Level (ESLs) and/or State of California Title 22 Total Threshold Limit Concentration (TTLC), Soluble Threshold Limit Concentration (STLC) or Toxic Characteristic Leaching Procedure (TCLP levels). PCE was detected in soil vapor samples collected from VP-1 and VP-2 inside the subject building at 530 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and $480 \mu\text{g}/\text{m}^3$ exceeding the applicable commercial/industrial SFRWQCB ESL of $67 \mu\text{g}/\text{m}^3$. None of the other analyzed constituents were detected above their respective laboratory detection limits.

A ground penetrating radar (GPR) scan of the western parking lot at 2550 Irving Street revealed no evidence of current or former underground storage tanks (USTs); however, a long, narrow anomaly was detected in the southwest corner that may be the former fuel dispenser island concrete slab.

AllWest recommends additional investigation at the subject property to delineate the extent and origin of PCE detected in soil vapor samples.

II. PROJECT BACKGROUND

A. Site Location and Description

The subject property, addressed as 2500-2500 Irving Street, is an irregularly-shaped parcel totaling approximately 0.44 acre, located in a mixed residential and commercial area in the Sunset district of San Francisco. The subject property is bound by 26th Avenue to the east, 27th Avenue to the west, Irving Street to the south and residential homes to the north. Access to the property is from Irving Street and/or 27th Avenue. The subject property is developed with a two-story approximately 18,561 square-foot office building and parking lot. The subject building is occupied by the San Francisco Police Credit Union (SFPCU). The subject property also includes two contiguous, rectangular undeveloped parcels, together comprising 0.12 acres, on the south side of Irving Street (employee parking lot parcels) between 26th and 27th Avenues at 2525 Irving Street. A site vicinity map is presented as Figure 1, and a site plan as Figure 2.

B. Site Geology and Hydrogeology

Based on a review of the USGS Note 36 California Geomorphic Provinces map, the property is located in the Coast Ranges geomorphic province of California. The coastline is uplifted, terraced and wave-cut. The Coast Ranges are composed of thick Mesozoic and Cenozoic sedimentary strata. The northern and southern ranges are separated by a depression containing the San Francisco Bay.

The northern Coast Ranges are dominated by the irregular, knobby landslide-topography of the Franciscan Complex. The eastern border is characterized by strike-ridges and valleys in Upper Mesozoic strata. In several areas, Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma and Clear Lake volcanic fields. The Coast Ranges is subparallel to the active San Andreas Fault. The San Andreas is more than 600 miles long, extending from Point Arena to the Gulf of California. West of the San Andreas is the Salinian Block, a granitic core extending from the southern extremity of the Coast Ranges to north of the Farallon Islands. Geologically, the area of the subject property is underlain by Mesozoic era Eugeosynclinal Deposits.

Soils encountered during the AllWest May 21, 2019 subsurface investigation in borings B-1, B-2, B-3 and B-5 consisted of fine to coarse-grained, well-graded sands from beneath surface pavement/ground surface to approximately 4 feet bgs, underlain by very fine to fine-grained poorly-graded sand to the maximum explored depth of approximately 10 feet bgs. Soils encountered in boring B-4 consisted of fine-grained poorly-graded sand to the maximum explored depth of approximately 10 feet bgs.

According to California's Groundwater Bulletin 118, the subject property is located in the San Francisco Bay Hydrologic Region and lies in the Merced Valley Groundwater Basin (Basin No. 2-035). The Merced Valley groundwater basin is located on the western portion of the San Francisco Peninsula and is one of five basins in the eastern part of San Francisco, each separated from the other by bedrock ridges (Phillips, et al. 1993).

According to the California Regional Water Quality Control Board (CRWQCB), San Francisco Bay Region *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*, Table 2-2, the subject property lies in the Westside A Groundwater Basin (Basin ID Number 2-35A), which has designated existing and potential beneficial uses including municipal, process, industrial and agricultural.

Based on data obtained through the Geotracker database, depth to ground water is expected to be approximately 33 to 40 feet below ground surface. The ground water flow direction is anticipated towards the north-northwest, making properties located to the south-southeast up-gradient.

Groundwater was not encountered during the AllWest May 21, 2019 subsurface investigation at the maximum explored depth of approximately 10 feet bgs.

The nearest significant surface water to the subject property are Elk Glen Lake and Mallard Lake in Golden Gate Park, approximately ¼ mile north-northwest. Stow Lake, also in Golden Gate Park, is approximately 1/3 mile northeast. The Pacific Ocean is approximately 1½ miles west.

C. Previous Site Investigations

AllWest performed a Phase I Environmental Site Assessment (ESA) at the subject property in January and February 2019. The ESA conclusions were presented in the AllWest report titled *Environmental Site Assessment, 2525 & 2550 Irving Street, San Francisco, CA 94122* dated February 8, 2019. AllWest's land use review for the property indicates the SFPCU employee parking lot parcels as undeveloped prior to paving and striping as a parking lot in the early-1960s.

The credit union parcel was undeveloped prior to construction of two commercial structures on the middle of the parcel circa 1927 with occupancies including a variety of stores/shops and a clothes cleaner. Another building was constructed on the credit union parcel between the late-1920 and 1932, housing an undertaker through at least the mid-1950s.

From at least 1940 to the mid-1960s, gas stations operated at the 26th (2500 Irving) and 27th Avenue (2550 Irving) corners of the credit union parcel. In 1965, the original, eastern portion of the existing building was constructed on the parcel, occupied by a mortuary/funeral chapel. By 1968, the building increased in size to the current configuration and the customer parking lot added. The mortuary operated at the parcel through the mid-1980s. In 1988, the SFPCU initiated occupancy on the credit union parcel.

Significant quantities of hazardous materials are not present at the subject property; hazardous waste is not generated. Previous operators of the two gas stations, clothes cleaner and mortuary/undertaker at the subject property are expected to have stored/used hazardous materials in their site operations, although no documentation was available to confirm these assertions. There is no documentation or visual evidence of existing underground storage tanks (USTs) at the subject property.

With the exception of one building permit for installation of a waste oil UST at the 2550 Irving Street gas station (27th Avenue corner) in 1941, no records were available related to UST installations or removals at either subject property gas station. Following cessation of gas station operations, a 1963 aerial photograph of the 2550 Irving Street gas station location showed the concrete slabs associated with the former building and pump island(s) remaining but the structures removed. Subsequently, this area of the property was paved for the customer parking lot. The former location of the 2500 Irving Street gas station was redeveloped with the existing building (AllWest, 2019).

The approximate location of the former service station buildings, concrete slabs and presumed former USTs on the subject property are shown in Figure 2.

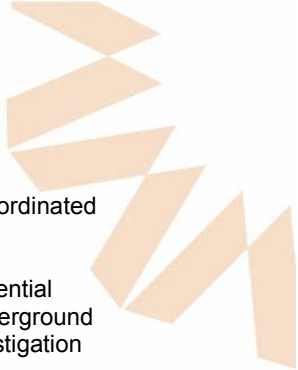
AllWest has identified Recognized Environmental Conditions (REC) at the property from its historical land use activities as two gas stations (1940 – 1963) and clothes cleaner (1928 – 1949). AllWest also identified a REC on the subject property from an off-site concern, the former operation of a dry cleaning facility on an up-gradient/adjoining property (2511 Irving Street) for nearly 75 years. Based on the period of time in operation, as well as operation into the 2010s, there is a moderate possibility a dry cleaning solvent release occurred. Based on the location of the site with respect to the subject property, there is a moderately-low likelihood that impacted ground water from the subject property has migrated beneath the subject property.

Although not considered RECs, AllWest identified a moderate likelihood that USTs remain present on the 2550 Irving Street portion (27th Avenue/Irving Street corner) of the parcel, because concrete slab foundations of the station remained present following demolition of the gas station structures prior to paving of the area as the existing parking lot, and no construction has been completed on that area of the subject property.

AllWest recommended further assessment be performed at the subject property (AllWest, 2019).

III. PURPOSE AND SCOPE OF WORK

The purpose of AllWest's investigation was to scan for potential USTs and to characterize site soils and soil vapor. The investigation addresses RECs identified in our *Phase I Environmental Site Assessment* report dated February 8, 2019. The scope of work as performed included:

- 
- 1) Prepared site safety plan and organized and scheduled field activities, procured equipment and coordinated with utility locating, drilling and analytical laboratory subcontractors;
 - 2) Performed a ground penetrating radar (GPR) and electromagnetic (EM) survey to evaluate the potential presence of USTs and clear boring locations of underground utilities. Engaged the services of Underground Service Alert (USA) utility locator to locate and clear underground utilities within the proposed investigation area so the potential of accidental damage to underground utilities would be reduced.
 - 5) Retained the services of a C-57 licensed drilling contractor for the advancement by truck-mounted Geoprobe[®] direct push technology (DPT) rig of five continuously cored borings (B-1 through B-5) to a depth of 10 feet bgs. Boring locations are shown on Figure 2.
 - 6) Collected three soil samples from each of the borings at approximately 1-1.5 feet, 4.5-5 feet bgs and 9.5-10 feet bgs.
 - 7) Cored through the concrete floor slabs with an electric Rotohammer[™] drill and Installed two temporary sub-slab Vapor Pin[™] soil vapor probes (VP-1 and VP-2) inside the subject site building. Following installation by a minimum of 2 hours, collected one soil vapor sample from each temporary probe. Retained the soil vapor samples for analytical testing.
 - 9) At the completion of drilling and sampling activities, removed Geoprobe[®] drive casings and the temporary Vapor Pin[™] soil vapor probes, and backfilled each boring with a “neat” cement grout slurry and restored the interior floor slabs by backfilling with a concrete slurry.
 - 10) Maintained samples under chain-of-custody and transport the samples to a California State Water Resources Control Board (SWRCB) Environmental Laboratory Accreditation Program (ELAP) certified analytical laboratory for chemical analyses per SFHC Article 22A.
 - Analyzed five selected soil samples (one collected from each boring at 4.5-5 feet bgs) for total petroleum hydrocarbons as diesel and motor oil (TPH-d and TPH-mo) with silica gel cleanup, total petroleum hydrocarbons as gasoline (TPH-g), volatile organic compounds (VOCs), polynuclear aromatics (PNAs) and polyaromatic hydrocarbons (PAHs), and LUFT-5 metals (cadmium, chromium, lead, nickel and zinc).
 - Archived remaining soil samples for potential analysis pending receipt of initial analytical results.
 - Analyzed two soil vapor samples (VP-1 and VP-2) for TPH-g, VOCs, and the leak detection gas helium.
 - 11) Contained all soil spoils generated during the assessment onsite pending profiling for disposal.
 - 12) Reviewed sample data and compared analytical results to Tier 1 and 2 ESLs developed by the SFRWQCB, and to State of California Title 22 Total Threshold Limit Concentration (TTLc), Soluble Threshold Limit Concentration (STLC) and Toxic Characteristic Leaching Procedure (TCLP) levels.
 - 13) Prepared a written report describing the field activities, summarizing the laboratory data, presenting investigation findings, and providing conclusions and recommendations.

IV. INVESTIGATIVE ACTIVITIES

A. Health and Safety Plan

AllWest prepared a site specific health and safety plan prior to mobilizing to the site. A tailgate safety meeting was held prior to commencing work. All site personnel were required to review the health and safety plan.

B. Drilling and Permit Application

Prior to the start of subsurface activities, a drilling permit was obtained from San Francisco Department of Public Health (SFDPH) Environmental Health Branch (EHB) for the exploratory soil borings a minimum of 10 working days prior to field activities. Forty eight hours advance notice was given to the SFDPH EHB for inspection of soil sampling and grout sealing. The drilling permit is included in Appendix A.

C. Underground Utility and UST Inspection

To avoid damage to underground utility installations during the course of the subsurface investigation, AllWest contacted USA, an organization for public utility information, on the pending subsurface investigation. USA then notified public and private entities that maintain underground utilities within the site vicinity to locate and marked their installations for field identification.

An underground utility locator, Ground Penetrating Radar Systems, Inc., of San Francisco, California, was retained by AllWest on May 15, 2019 to conduct a magnetometer and ground penetrating radar (GPR) sweep investigation to locate marked and unmarked underground utilities in the vicinity of the proposed boring locations and evaluate the potential presence of USTs. No evidence of current or former USTs was detected by GPRS; however, a long, narrow anomaly was detected in the southwest portion of the parking lot, possibly the former fuel dispenser island slab.

D. Geoprobe® DPT Boring Advancement and Soil Sampling

On May 21, 2019, a State of California C-57 licensed drilling contractor (Environmental Control Associates, Inc. of Aptos, California) advanced five soil borings (B-1 through B-5) to a depth of approximately 10 feet bgs at the subject property with truck-mounted Geoprobe® direct push technology (DPT) methods. Boring locations are shown on Figure 2. Groundwater was not encountered in any of the borings.

Continuous DPT soil coring and sampling methods were conducted in general accordance with standard Geoprobe® DPT soil boring advancement and sampling procedures included in Appendix B, except as noted below.

AllWest collected three soil samples from each of the borings at approximately 1-1.5 feet, 4.5-5 feet bgs and 9.5-10 feet bgs (15 total samples). No obvious indications of soil contamination such as staining, odors or elevated organic vapor concentrations as measured by a photo-ionization detector (PID) were observed. Boring logs with sample interval locations and PID measurement data are included in Appendix C.

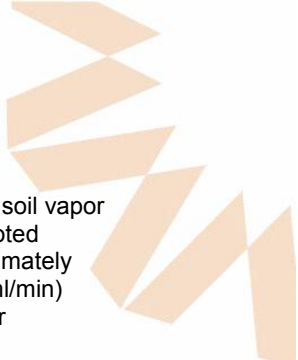
E. Temporary Soil Vapor Probe Installation

On May 21, 2019, the concrete floor slabs were cored using electric Rotohammer™ drilling equipment, and two temporary sub-slab Vapor Pins™ (VP-1 and VP-2) were installed within the subject site building by a C-57 licensed drilling contractor, ECA. Probe VP-1 was installed near the southeast corner of the subject building in the vicinity of the former gasoline service station at 2500 Irving Street. Probe VP-2 was installed in the stairwell located adjacent to the northern interior wall of the central portion of the building in the vicinity of the former cleaners at 2520 Irving Street. Sub-slab probe locations are shown on Figure 2.

Sub-slab soil vapor probe installations were in general accordance with the California Department of Toxic Substance Control (DTSC) *Advisory – Active Soil Gas Investigations*, July, 2015. AllWest allowed a minimum 2-hour equilibrium period between the Vapor Pin™ installation and soil vapor sampling activities to ensure compliance with the equilibrium times recommended in DTSC *Frequently Asked Questions, 2012 Advisory – Active Soil Gas Investigations (ASGI)*, March 2013. AllWest Vapor Pin™ sub-slab soil vapor probe installation and sampling procedures are included in Appendix D. The Vapor Pin™ probes were removed and floor slabs restored with concrete patch following completion of soil vapor sampling.

F. Soil Vapor Sampling

One soil vapor sample was collected from temporary vapor probes VP-1 and VP-2 on May 21, 2019. Soil vapor sampling procedures were performed in general accordance with the DTSC *Vapor Intrusion Guidance* (DTSC, October 2011) and the DTSC *Advisory – Active Soil Gas Investigations*, (DTSC, 2015). Soil gas samples were



collected in laboratory prepared 1-liter capacity SUMMA canisters in general accordance with standard soil vapor sampling procedures and the manifold system schematic diagram included in Appendix D, except as noted below. Prior to sample collection and following the manifold leak check, three system volumes (approximately 128 milliliters) of soil vapor were purged at a flow rate of approximately 150-200 milliliters per minute (ml/min) from each sub-slab gas probe using a dedicated 6-liter capacity SUMMA purge canister. The soil vapor sampling field logs are included in Appendix E.

G. Borehole Backfilling

At the completion of drilling and sampling activities and removal of all rods, probes, samplers, sleeves and other equipment, the borings were backfilled with a “neat” Portland Type I or II cement grout slurry to ground surface level. The asphalt area over the exterior parking lot borings, and concrete floor slab over the interior borings, were restored to match their previous condition as closely as possible.

H. Investigative Derived Waste Containment and Disposal

All investigative derived wastes, consisting of soil (unused sample intervals) were stored at the property in a 5-gallon bucket, awaiting test results to determine the proper disposal method. The location of the bucket containing soil cuttings is shown on Figure 2.

I. Sample Preservation, Storage, Handling and Chain-Of-Custody Procedures

To prevent the loss of constituents of interest, all soil samples were preserved by storing in an ice chest cooled to 4°C with crushed ice immediately after their collection and during transportation to the laboratory. After filling and closing the sample valve, all SUMMA canisters were removed from the manifold, labeled with sampling information, including initial and final vacuum pressures, placed in a dark container and transported under chain-of-custody to the analytical laboratory. The standard chain-of-custody protocols will be followed through all stages of sample handling.

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

V. ASSESSMENT FINDINGS AND DISCUSSION

A. Subsurface Conditions

Soil

Soils encountered during this subsurface investigation in borings B-1, B-2, B-3 and B-5 consisted of fine to coarse-grained, well-graded sands from beneath surface pavement/ground surface to approximately 4 feet bgs, underlain by very fine to fine-grained poorly-graded sand to the maximum explored depth of approximately 10 feet bgs. Soils encountered in boring B-4 consisted of fine-grained poorly-graded sand to the maximum explored depth of approximately 10 feet bgs. Boring logs are provided in Appendix C.

Groundwater

Groundwater was not encountered during this subsurface investigation.

B. Environmental Screening Levels

To assess if the identified COCs in soil pose a risk to human health and the environment, AllWest compared analytical data generated during this investigation to Environmental Screening Levels (ESLs) for residential and commercial/industrial land use. The ESLs are compiled by the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) in *User's Guide: Derivation and Application of Environmental Screening Levels (ESLs)*, Interim Final – January 24, 2019.

Tier 1 ESLs used in this investigation were established using the *Tier 1 ESL* summary table based on a generic conceptual model designed for use at most sites. The Tier 1 generic conceptual model input settings are: residential land use, groundwater use as a drinking water resource, MCL priority over risk-based levels, discharge to surface water, substantial vegetation level, and shallow soil exposure depth.

Tier 2 ESLs used in this investigation were established using *Table S-1 - Direct Exposure Human Health Risk Levels*, *Table S-2 – Terrestrial Habitat Levels*, *Table S-3 – Leaching to Groundwater Levels*, *Table S-4 - Gross Contamination Levels*, *Table S-5 - Odor Nuisance Levels*, and the site-specific Tier 2 Interactive Tool, *Table T2-1: Tier 2 ESL Input and Output* (RWQCB, 2019).

Under most circumstances, the presence of a chemical at a concentration below the corresponding ESL is presumed to not pose a significant risk to human health or the environment. The ESLs for the subject suite were established with the following assumptions: current commercial/industrial property use, a 'fine to coarse' soil type, deep groundwater (>10 feet bgs) which is a potential drinking water resource, and shallow direct exposure, soil depths (≤10 ft bgs). The SFPUC considers groundwater resources within the Westside A Groundwater Basin to be a beneficial resource for potential municipal or domestic use. The nearest surface water is Elk Glen Lake and Mallard Lake in Golden Gate Park, approximately ¼ mile north-northwest of the subject site. Therefore, aquatic habitat goal-derived ESLs are not applicable to the subject site.

Since the majority of the subject property is either asphalt paved or occupied by a building with a concrete floor slab, with a minor amount of landscaped area, the minimally vegetated area terrestrial habitat goal-derived ESLs are applicable to the subject site.

AllWest also compared soil sample analytical data for metals with background concentrations for the San Francisco Bay Area as summarized by Lawrence Berkeley National Laboratory (LBNL), *Analysis of Background Distributions of Metals in the Soil at Lawrence Berkeley National Laboratory, Table 3: Summary Statistics for Background Data Sets After Removal of Outliers*, April, 2009 (LBNL, 2009); and Duverge, Dylan Jacques, San Francisco State University, *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region*, December 2011 (Duverge, 2011).

C. Soil Sample Analytical Data and Screening Levels

All soil samples selected for analysis were analyzed by a State of California certified independent analytical laboratory, McCampbell Analytical, Inc. of Pittsburg, California. All samples were analyzed on standard 5-day turn-around time. Analytical methods were in general accordance with those specified in SFHC Article 22A.

- Three soil samples were collected from each of the borings at approximately 1-1.5 feet, 4.5-5 feet bgs and 9.5-10 feet bgs (15 total samples).
- Five soil samples, one collected from each boring at 4.5-5 feet bgs, were analyzed for total petroleum hydrocarbons as diesel and motor oil (TPH-d and TPH-mo) with silica gel cleanup, total petroleum hydrocarbons as gasoline (TPH-g), volatile organic compounds (VOCs), polynuclear aromatics (PNAs) and polyaromatic hydrocarbons (PAHs), and LUFT-5 metals (cadmium, chromium, lead, nickel and zinc). The remaining soil samples were held at the laboratory pending receipt of initial analytical results.

The following constituents of concern (COCs) were detected in soil sample analyses at concentrations exceeding regulatory agency screening levels:

- TPH-mo was detected in B-1 (4.5-5) at concentrations exceeding the applicable SFRWQCB Tier 1 ESL of 100 milligrams per kilogram (mg/Kg) for residential land use odor/nuisance.

- Lead was detected in B-3 (4.5-5) at concentrations exceeding the applicable SFRWQCB Tier 1 ESL of 39 mg/Kg for terrestrial habitat .
- No other COCs were detected in any other soil samples at concentrations exceeding applicable SFRWQCB Tier 1 residential ESLs or CCR Title 22 TTLC, STLC or TCLP hazardous waste criteria.
- None of the detected COCs exceeded Tier 2 residential or commercial/industrial ESLs for direct exposure human health risk.

Soil sample analytical results are summarized in Tables 1 and 2. Laboratory analytical reports are included in Appendix F.

D. Soil Vapor Analytical Data and Screening Levels

All soil vapor sample analysis was performed by a State of California certified independent analytical laboratory, Eurofins/CalScience, Inc. (ECI) of Garden Grove, California on standard 5-day turn-around time.

- TPH-g was detected in VP-1 and VP-2 at concentrations of 530 and 480, which exceeds the applicable SFRWQCB commercial/industrial ESL of 67 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for vapor intrusion human health risk.
- No other COCs were detected in the soil vapor samples at concentrations exceeding applicable SFRWQCB commercial/industrial ESLs.

Soil vapor sample analytical results are summarized in Table 3. Laboratory analytical reports are included in Appendix F.

E. Analytical Laboratory QA/QC

A review of laboratory internal quality assurance/quality control (QA/QC) report indicates the method blank and sample spike data for all analyses were within the laboratory recovery limits. The samples were also analyzed within the acceptable EPA holding times. The data from McCampbell Analytical and Eurofins/CalScience are considered to be of good quality. Laboratory QA/QC reports and chain-of-custody records are included in Appendix F.

VI. CONCLUSIONS AND RECOMMENDATIONS

AllWest's subsurface assessment identified TPH-mo concentrations in soil sample B-1 (4.5-5) and lead concentrations in B-3 (4.5-5) exceeding Tier 1 ESLs, but not Tier 2 ESLs for direct exposure human health risk. PCE was detected in VP-1 and VP-2 inside the subject credit union building exceeding applicable SFRWQCB ESLs for commercial/industrial vapor intrusion human health risk.

AllWest recommends additional investigation at the subject property to delineate the extent and origin of PCE in soil vapor, soil and groundwater.

VII. LIMITATIONS

The work described in this report was performed in accordance with the Environmental Consulting Agreement between San Francisco Police Credit Union (Client) and AllWest Environmental, Inc, dated April 15 2019. AllWest has prepared this report for the exclusive use of the Client for this particular project and in accordance with generally accepted practices at the time of the work. No other warranties, certifications or representations, either expressed or implied are made as to the professional advice offered. The services provided for the Client were limited to their specific requirements; the limited scope allows for AllWest to form no more than an opinion of the actual site

conditions. No matter how much research and sampling may be performed, the only way to know about the actual composition and condition of the subsurface of a site is through excavation.

The conclusions and recommendations contained in this report are made based on observed conditions existing at the site, laboratory test results of the submitted samples, and interpretation of a limited data set. It must be recognized that changes can occur in subsurface conditions due to site use or other reasons. Furthermore, the distribution of chemical concentrations in the subsurface can vary spatially and over time. The results of chemical analysis are valid as of the date and at the sampling location only. AllWest is not responsible for the accuracy of the test data from an independent laboratory, or for any analyte quantities falling below the recognized standard detection limits or for the method utilized by the independent laboratories.

Background information that AllWest has used in preparing this report, including but not limited to previous field measurements, analytical results, site plans, and other data, has been furnished to AllWest by the Client, its previous consultants, and/or third parties. AllWest has relied on this information as furnished. AllWest is not responsible, for nor has it confirmed, the accuracy of this information.

VIII. REFERENCES

AllWest Environmental, Inc. (AllWest), *Environmental Site Assessment, 2525 & 2550 Irving Street, San Francisco, California 94122*, February 8, 2019.

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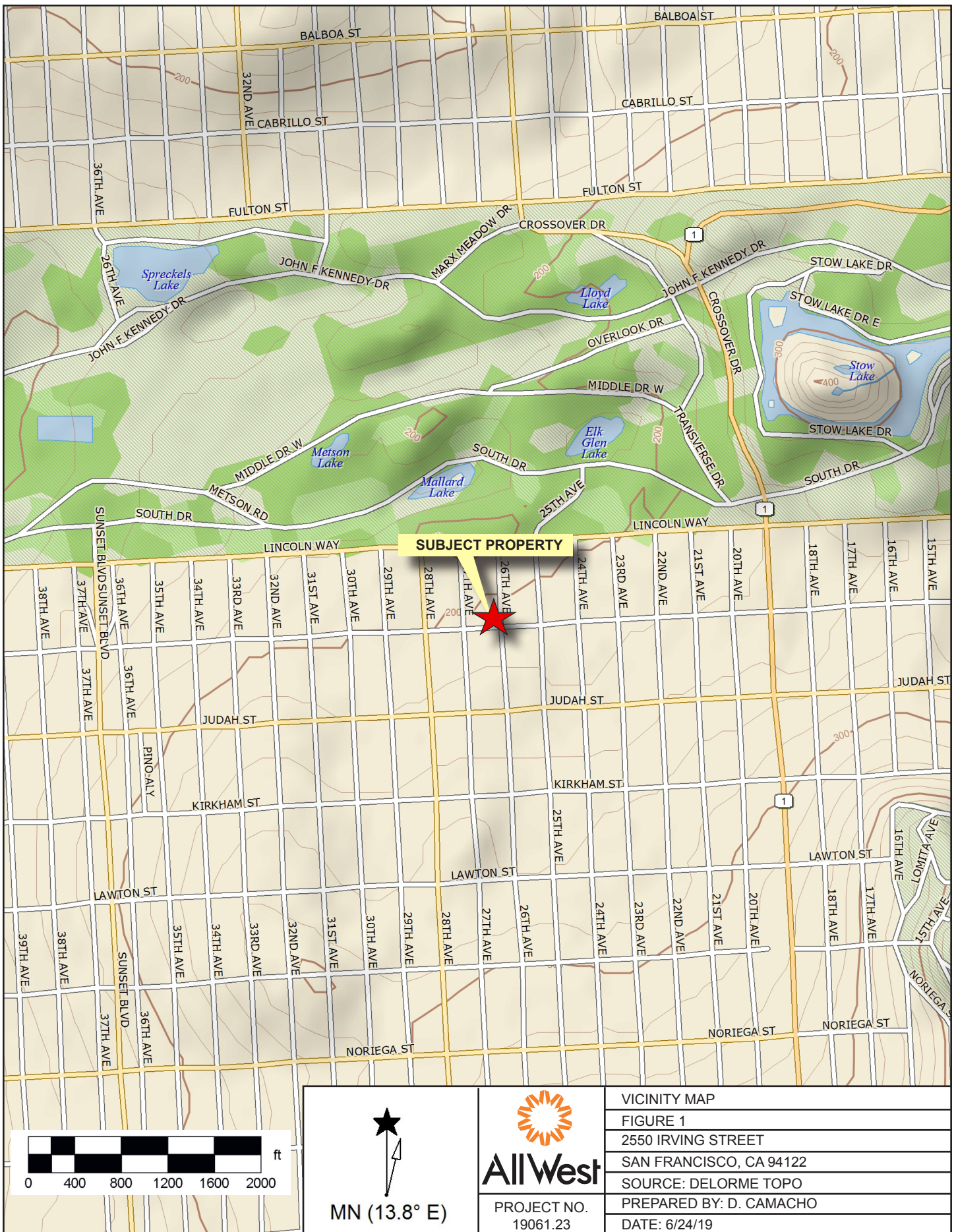
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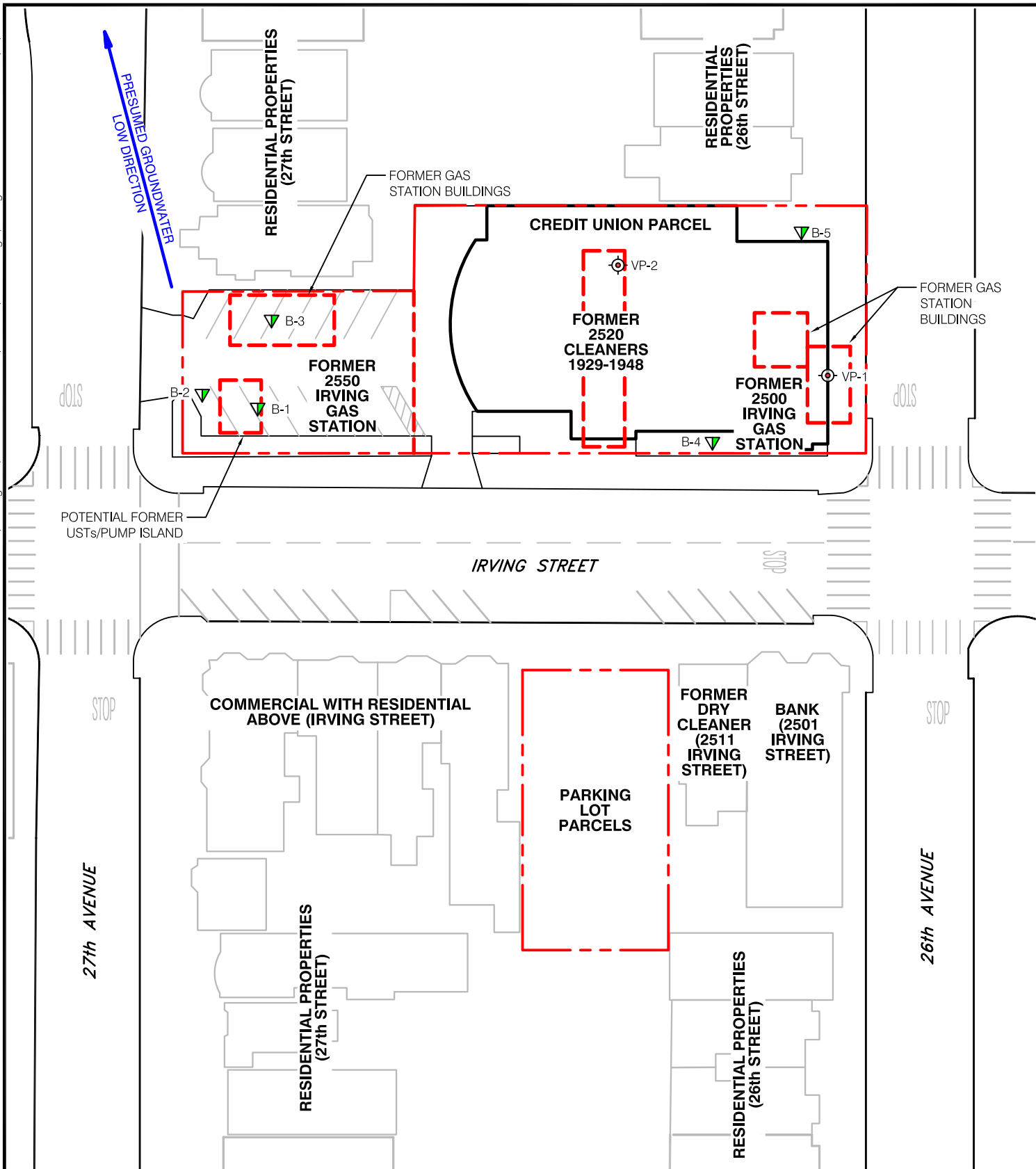
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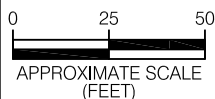
FIGURES





LEGEND

- B-5  Geoprobe Boring to 10-Foot bgs (AllWest, 5/21/19)
- VP-2  Sub-Slab Vapor Pin (AllWest, 5/21/19)
-  Approximate Property Boundaries



AllWest

PROJECT NO.
19061.23

FIGURE 2

BORING AND SOIL VAPOR PROBE LOCATIONS

2500-2525 Irving Street

San Francisco, California

SOURCE: AllWest

DRAWN BY: CM

(06/11/2019)

TABLES

TABLE 1
SUMMARY OF SOIL ANALYTICAL DATA
2500-2550 Irving Street
San Francisco, California
AllWest Project No. 19061.23

Sample Name and Depth in feet bgs	Date Sampled	TPH-g (C6-C12)	TPH-d (C10-C23)	TPH-mo (C18-C36)	Cadmium	Chromium	Lead	Nickle	Zinc	VOCs	PAHs & PNAs
		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
B-1 (4.5-5)	5/21/2019	ND (<1.0)	13	210	ND (<0.25)	44	9.0	24	28	ND (varies)	ND (varies)
B-2 (4.5-5)	5/21/2019	ND (<1.0)	3.6	70	ND (<0.25)	57	4.6	26	24	ND (varies)	ND (varies)
B-3 (4.5-5)	5/21/2019	ND (<1.0)	1.1	19	ND (<0.25)	49	39	26	68	ND (varies)	ND (varies)
B-4 (4.5-5)	5/21/2019	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.25)	57	10	30	45	ND (varies)	ND (varies)
B-5 (4.5-5)	5/21/2019	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.25)	45	2.5	24	21	ND (varies)	ND (varies)
SFRWQCB Tier 1 ESLs		100 (Res-ON)	260 (Res-DE)	100 (Res-ON)	1.9 (TH)	160 (TH)	32 (TH)	86 (CW-DE)	340 (TH)	Varies or NE	Varies or NE
SFRWQCB Tier 2 Commercial/Industrial ESLs		500 (Com-ON)	1,000 (Com-ON)	500 (Com-ON)	1,100 (Com-DE)	1,800,000 (Com-DE)	320 (Com-DE)	11,000 (Com-DE)	350,000 (Com-DE)	Varies or NE	Varies or NE
SFRWQCB Tier 2 Construction Worker ESLs		500 (CW-ON)	1,000 (CW-ON)	500 (CW-ON)	51 (CW-DE)	530,000 (CW-DE)	180 (CW-DE)	86 (CW-DE)	110,000 (CW-DE)	Varies or NE	Varies or NE
Title 22 TTLC (mg/kg)		NE	NE	NE	100	2,500	1,000	2,000	5,000	Varies or NE	Varies or NE
Title 22 STLC (mg/L)		NE	NE	NE	1.0	5.0 (Cr III & total)	5.0	20	250	Varies or NE	Varies or NE
Title 22 TCLP (mg/L)		NE	NE	NE	1.0	5.0	5.0	NE	NE	Varies or NE	Varies or NE

Notes: All samples analyzed at McCampbell Analytical, Inc., Pittsburg, California.
All results are reported in milligrams per kilogram (mg/kg)
bgs = below ground surface
VOCs - Volatile Organic Compounds, analytical method SW8260B
TPH-g - Total Petroleum Hydrocarbons as Gasoline, analytical method SW8260B
TPH-d - Total Petroleum Hydrocarbons as Diesel, analytical method SW8015 without Silica Gel cleanup
TPH-mo - Total Petroleum Hydrocarbons as Motor Oil, analytical method SW8015 without Silica Gel cleanup
ND - Not Detected above laboratory reporting limit (listed in paranthesis)
NA - Not Analyzed

TABLE 1
SUMMARY OF SOIL ANALYTICAL DATA
2500-2550 Irving Street
San Francisco, California
AllWest Project No. 19061.23

NE - Not Established

PAHs = Polyaromatic hydrocarbons

PNAs = Polynuclear aromatics

SFRWQCB ESLs = San Francisco Bay Regional Water Quality Control Board (), *User's Guide: Derivation and Application of Environmental Screening Levels (ESLs)*, Tier 1 Environmental Screening Levels (ESLs), January 23, 2019. Based on a generic conceptual site model designated for use at most sites. See User's Guide Chapter 2. Input settings are: Land Use = Residential; Groundwater Use = Drinking Water Resource; MCL Priority over Risk-Based Levels = Yes; Intact Building Slab = Yes; Groundwater Depth = Shallow; Soil Type = Sand Scenario; Soil Exposure Depth = Shallow. Tier 2 ESLs from *Table S-1 - Direct Exposure Human Health Risk Levels*, *Table S-2 - Terrestrial Habitat Levels*, *Table S-3 - Leaching to Groundwater*, *Table S-4 - Gross Contamination Levels*, and *Table S-5 - Odor Nuisance Levels*.

Res-DE = Residential Direct Exposure Human Health Risk Levels

Com-DE = Commercial/Industrial Direct Exposure Human Health Risk Levels

CW-DE = Construction Worker / Any Site Use Direct Exposure Human Health Risk Levels

Res-ON = Residential Odor Nuisance Levels

Com-ON = Residential Odor Nuisance Levels

CW-ON = Residential Odor Nuisance Levels

Concentrations exceeding the applicable ESLs are indicated in **bold font**

TTLC - Total Threshold Limit Concentration value for hazardous waste established by State of California Code of Regulations Title 22, Chapter 11, Article 3, Tables II and III.

STLC - Soluble Threshold Limit Concentration value for hazardous waste established by State of California Code of Regulations Title 22, Chapter 11, Article 3, Tables II and III.

TCLP - Toxicity Characteristic Leaching Procedure value for hazardous waste established by State of California Code of Regulations Title 22, Chapter 11, Article 3, Tables II and III.

Table 2
Soil Vapor Analytical Data Summary
 2500-2550 Irving Street
 San Francisco, California
 AllWest Project 19061.23

Probe & Sample ID Number	Date	Depth (feet bgs)	Probe Type	Acetone µg/m ³	Benzene µg/m ³	2-Butanone (MEK) µg/m ³	Chloroform µg/m ³	Dichlorodifluoromethane µg/m ³	Isopropanol µg/m ³	Toluene µg/m ³	Tetrachloroethene (PCE) µg/m ³	TPH-g µg/m ³
VP-1	5/21/2019	0.5	TSS	56	ND (<3.6)	ND (<10)	8.6	ND (<9.7)	46	ND (<4.3)	530	ND (<9,300)
VP-2	5/21/2019	0.5	TSS	57	ND (<1.6)	9.5	ND (<2.4)	ND (<4.3)	27	3.6	480	ND (<9,300)
SFRWQCB ESL	Commercial Soil Gas			1,000,000 (ON)	14 (DE)	730,000 (DE)	18 (DE)	NL	NL	44,000 (DE)	67 (DE)	330 (ON)

Notes:

Laboratory analyses by Eurofins Calscience, Garden Grove, CA

µg/m³ = micrograms per cubic meter

TPH-g = total petroleum hydrocarbons as gasoline, analytical method TO-3M

VOCs = volatile organic compounds, analytical method TO-15 SIM

DE = Direct Exposure

ON = Odor Nuisance

PCE = perchloroethylene / tetrachloroethene

MEK = Methyl Ethyl Ketone (2-Butanone)

ND = Not detected above the listed reporting limit

NL = Not listed

Bold Font = Detected values exceed regulatory screening levels.

TSS = Temporary Sub-Slab Vapor Pin

SFRWQCB ESLs = San Francisco Regional Water Quality Control Board, *User's Guide: Derivation and Application of Environmental Screening Levels (ESLs), Tier 2 ESLs from Table SG-1 - Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels, Commercial/Industrial*, and *Table SG-2 - Subslab/Soil Gas Vapor Intrusion: Odor Nuisance Levels*, Interim Final - January 23, 2019.

APPENDIX A



WTR MAY 01 2019

City and County of San Francisco
DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH**Application for Monitoring Well
Construction/Destruction or Soil Borings**Application Date: 04/25/2019 Start Date: 05/15/2019 Completion Date: 05/15/2019Job Address/Location: 2550 IRVING STREET**To be completed by Owner, Consultant or Driller**

Property Owner SF POLICE CREDIT UNION	Well Owner (If Different)	Consultant/Engineer & Geologist Name AllWest Environmental & Leonard Niles
Address 2550 IRVING STREET	Address	Address 2141 Mission Street
City, State, Zip SAN FRANCISCO, CA, 94122	City, State, Zip	City, State, Zip San Francisco, CA 94105
Telephone Number (800) 222-1391	Telephone Number	Telephone Number (415) 391-2510
Fax Number	Fax Number	Fax Number Email sam/leonard@allwest1.com

Please indicate Type and Number of Proposed Wells/Borings**Geotechnical Investigation:**

- ☐ Exploratory Wells/borings
☐ Cathodic Wells
☐ Cone Penetrometer Test
☐ Shallow Anodes
☐ Other: _____

Environmental Investigation:

- ☒ Exploratory borings
☐ Water/Vapor Extraction Wells
☐ Hydropunch
☐ LOP Workplan

Monitoring Wells Construction:

- ☐ Chemical Leaks
☐ Compliance Well
☐ Baseline Study
☐ Well Destruction
☐ LOP Workplan

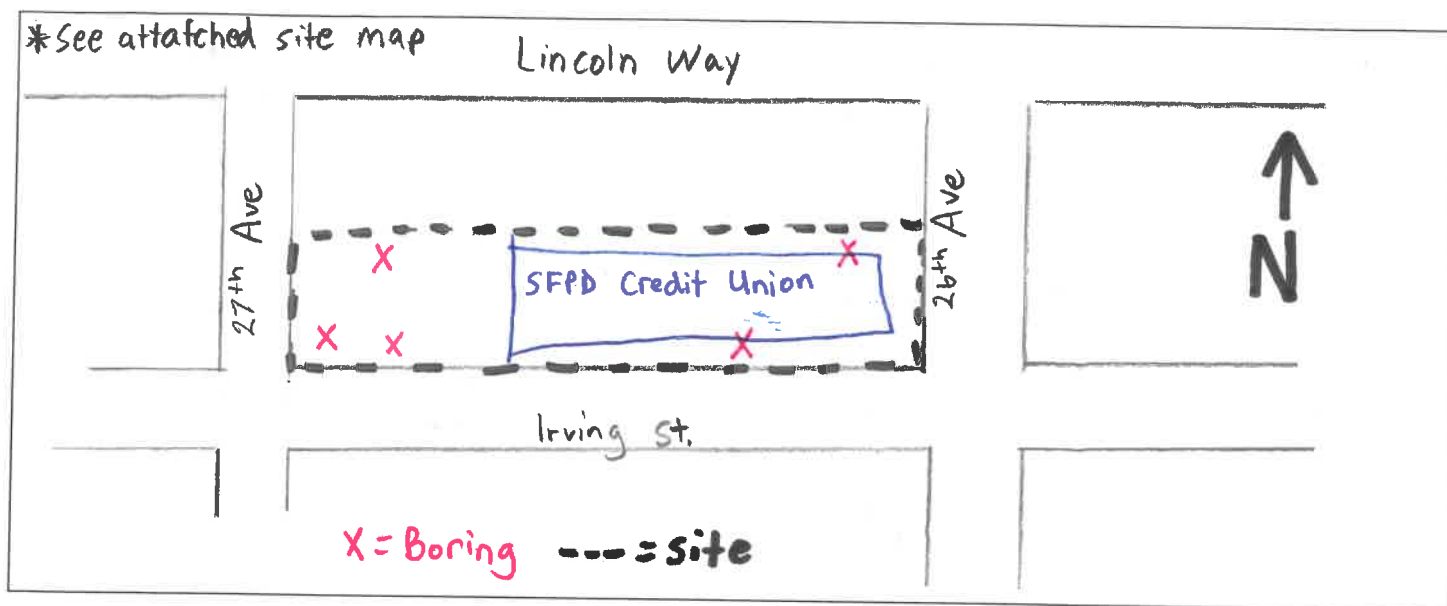
Topographic Features – Well to be constructed:

- ☐ In a Public Sidewalk ☐ In a Public Road ☒ On Private Property ☐ On City Property

Construction Specifications:Diameter of Well Casing: NAAnnular Seal Depth: NAGauge of Casing: NAAnnular Seal Material: NACasing Depth: NAOther Information: NA**Destruction Specifications:** Well Diameter: NA Approximate Depth: NAMaterials and Procedures to be Used: Five 2.5" diameter geoprobe DPT borings will be advanced to 10' bgsGrouted by neat cement slurry through tremie pipe to 10' bgs. Restore asphalt.**Well Location:** On the following site plan accurately draw the well location. (Recommend Assessor's Map)

1. Sketch well location to scale, show dimensions to nearest foot.
2. Show a minimum of two dimensions at right angles. Dimensions shall be from the centerline of the closest named street, road or highway.
3. Show location of any existing wells.

LOC ID: 3445


Certification by Well Owner/Agent or Driller/Agent:

I certify the information above is correct to the best of my knowledge. I certify that the well will be constructed in compliance with the conditions of this permit, the San Francisco Health Code and, if applicable, the Hazardous Materials Permit and Disclosure Ordinance of the City/County. It is my responsibility as the responsible party to notify the Department of any changes in the purpose of the well that is indicated on this application form.

If proposed well is to meet compliance with a Hazardous Materials Permit & Disclosure Ordinance, has the Hazardous Materials Unified Program been contacted? ☐ Yes ☐ No

Environmental Control Associates, Inc.

Name and Address of Well/Drilling Company

Leonard H. Niles

04/25/2019

Date

Signature of Responsible Professional
(Wet signature; No substitution of Signature
will be accepted)

695970 ✓

C-57 Driller's License Number

P.G. 5774 / C.H.G. 357 ✓

Civil Engineer Registration Number or
Engineering Geologist Certificate Number

Email to whom the approved Application should be sent: sam/leonard@allwest1.com

Based on information on the application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to commence the described project. Permission to start may be withheld until a field check verifies all statements made on application by Permittee and is also subject to any "General" and "Special" conditions attached.

For Department of Public Health Office Use Only

Project Number: 7261

Issue Date: WTR MAY 02 2019

Number of Wells: zero (0)

Number of Soil Borings: Five (5)

This project to construct/destroy is approved ☒

This project to construct/destroy is disapproved ☐

E. Samano
Inspector



**SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH BRANCH**

1390 Market Street, Suite 210, San Francisco, CA 94102

www.sfdph.org/dph/EH/

Phone: (415) 252-3800 Fax: (415) 252-3842

WATER PROGRAM

Date: 5/2/2019

Receipt Number: **WTR7261**

Received From: AllWest Environmental, Inc.

Depositor Address: 2141 Mission St.

San Francisco, CA 94105

Fee Type	Sub-Object No.	Amount	Check #
Application Fee	20110	\$376.00	18680
Deposit	63540	\$454.00	18680
TOTAL PAYMENT		\$830.00	

Project Number: 7261

Project Location: 2550 Irving St.

San Francisco, CA 94122

Payment Received by: Eurich Santiago

HD/Program: Water GF

Notes:

Environmental borings (5)

APPENDIX B



STANDARD GEOPROBE™ DPT SAMPLING PROCEDURES

Soil Sampling

Direct push technology (DPT) soil core sampling using Geoprobe™ or similar methods is accomplished using a nominal 4-foot long, 2-inch outside diameter (OD) stainless steel core barrel drive probe and extension rods. The drive probe is equipped with nominal 1 ½-inch inside diameter (ID) clear PVC plastic tubes that line the interior of the probe. The probe and insert tubes are together hydraulically driven using a percussion hammer in 4-foot intervals to the specified depth. After each drive interval the drive probe and rods are retrieved to the surface. The PVC tube containing subsurface soil is then removed. Selected soil sample intervals can be cut from the 4-foot PVC tube for possible analytical or geotechnical testing, or other purposes.

The drive probe is then cleaned, equipped with a new PVC tube and reinserted into the boring with extension rods as required. The apparatus is then driven following the above procedure until the desired depth is obtained. The PVC tubes and recovered soil are inspected after each drive interval with lithologic and relevant drilling observations recorded. Soil samples are screened for organic vapors using an organic vapor meter (OVM), photo-ionization detector (PID) or other appropriate device. OVM/PID readings, soil staining and other relevant observations are recorded. The soils contained in the sample liners are then classified according to the Uniform Soil Classification System and recorded on the soil boring logs.

Sample liners selected for laboratory analyses are sealed with Teflon™ sheets, plastic end caps, and silicon tape. Samples can also be collected from inside the liner using an EnCore™ type sampler per EPA Method 5035. The sealed sample liner is then labeled, sealed in a plastic bag, and placed in an ice chest cooled to 4°C with crushed ice for temporary field storage and transportation. The standard chain-of-custody protocol is maintained for all soil samples from the time of collection to arrival at the laboratory.

Groundwater Sampling

Groundwater sampling is performed after the completion of soil sampling and when the boring has reached its desired depth. The steel probe and rods are then removed from the boring and new, nominal 1-inch diameter PVC solid and perforated temporary casing is lowered into the borehole. Alternatively, a retractable screen sampling device such as a Hydropunch™ can be driven to the desired depth and pulled back to expose the screened interval. Depth to water is then measured using an electronic groundwater sounding probe. Groundwater samples are collected using a stainless steel bailer, disposable polyethylene bailer, or check valve or peristaltic pump with disposable Teflon™ or polyethylene sample tubing.

After the retrieval of the bailer, groundwater contained in the bailer (or discharged from sample tubing) is decanted into laboratory provided containers. The containers are then sealed with Teflon™ coated caps with no headspace, labeled, and placed in an ice chest for field storage and transportation to a state certified analytical laboratory. The standard chain-of-custody protocols are followed from sample collection to delivery to the laboratory. A new bailer (or sample tubing) is used for each groundwater sampling location to avoid cross contamination.

APPENDIX C



AllWest

AllWest Environmental
2141 Mission Street, Suite 100
San Francisco, CA 94110
Telephone: 415.391.2510

BORING NUMBER B-1

PAGE 1 OF 1

CLIENT	SFPolice Credit Union	PROJECT NAME	Irving-SF Sub
PROJECT NUMBER	19061.23	PROJECT LOCATION	2500-2550 Irving, San Francisco
DATE STARTED	5/21/19	COMPLETED	5/21/19
DRILLING CONTRACTOR	ECA	GROUND ELEVATION	
DRILLING METHOD	Direct Push Technology	HOLE SIZE	2"
LOGGED BY	Sam Calloway	GROUND WATER LEVELS:	
CHECKED BY	Leonard Niles, PG, CHG	AT TIME OF DRILLING	---
NOTES	Borehole grouted with neat Portland cement	AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data
0						
0.2			SW		Approximately 2" asphalt	
2.5	UD B-1@1-1.5	100	SP		(SW) Tan to brown, fine to coarse grained sand, well graded, no plasticity	PID = 0
5			SP		(SP) Brown, fine-grained sand, no plasticity	
6.0	UD B-1@4.5-5	100	SP		(SP) Same as above interval	PID = 0
10						
10.0	UD B-1@9.5-10	100			Bottom of borehole at 10.0 feet.	PID = 0



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San Francisco, CA 94110
Telephone: 415.391.2510

BORING NUMBER B-2

PAGE 1 OF 1

CLIENT	SFPolice Credit Union	PROJECT NAME	Irving-SF Sub
PROJECT NUMBER	19061.23	PROJECT LOCATION	2500-2550 Irving, San Francisco
DATE STARTED	5/21/19	COMPLETED	5/21/19
DRILLING CONTRACTOR	ECA	GROUND ELEVATION	
DRILLING METHOD	Direct Push Technology	HOLE SIZE	2"
LOGGED BY	Sam Calloway	GROUND WATER LEVELS:	
CHECKED BY	Leonard Niles, PG, CHG	AT TIME OF DRILLING	---
NOTES	Borehole grouted with neat Portland cement	AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data
0						
			SW		0.2 / Approximately 2" asphalt (SW) Brown, coarse grained sand, well graded, no plasticity	
	UD B-2@1- 1.5	100	SP		2.5 (SP) Brown to light brown, very fine grained sand, no plasticity	PID = 0
5						
	UD B- 2@4.5- 5	100	SP		6.0 (SP) Same as above interval	PID = 0
10						
	UD B- 2@9.5- 10	100			10.0 Bottom of borehole at 10.0 feet.	PID = 0

CLIENT SFPolice Credit Union

PROJECT NAME Irving-SF Sub

PROJECT NUMBER 19061.23

PROJECT LOCATION 2500-2550 Irving, San Francisco

DATE STARTED 5/21/19

COMPLETED 5/21/19

GROUND ELEVATION

HOLE SIZE 2"

DRILLING CONTRACTOR ECA

GROUND WATER LEVELS:

DRILLING METHOD Direct Push Technology

AT TIME OF DRILLING ---




LOGGED BY Sam Calloway

CHECKED BY Leonard Niles, PG, CHG

AT END OF DRILLING ---

NOTES Borehole grouted with neat Portland cement

AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data
0						
			SW		0.2 / Approximately 2" asphalt (SW) Brown, coarse to fine grained sand with minor gravel, no plasticity	
	UD B-3@1- 1.5	100	SP		2.5 / (SP) Brown to tan, fine grained sand, low plasticity	PID = 0
5						
	UD B- 3@4.5- 5	100	SP		6.0 / (SP) Same as above interval	PID = 0
10						
	UD B- 3@9.5- 10	100			Bottom of borehole at 10.0 feet.	PID = 0



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2141 Mission Street, Suite 100
San Francisco, CA 94110
Telephone: 415.391.2510

BORING NUMBER B-4

PAGE 1 OF 1

CLIENT	SFPolice Credit Union	PROJECT NAME	Irving-SF Sub
PROJECT NUMBER	19061.23	PROJECT LOCATION	2500-2550 Irving, San Francisco
DATE STARTED	5/21/19	COMPLETED	5/21/19
DRILLING CONTRACTOR	ECA	GROUND ELEVATION	
DRILLING METHOD	Direct Push Technology	HOLE SIZE	2"
LOGGED BY	Sam Calloway	CHECKED BY	Leonard Niles, PG, CHG
NOTES	Borehole grouted with neat Portland cement		
GROUND WATER LEVELS:		AT TIME OF DRILLING	---
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data
0						
			SP		0.2 / Approximately 2" asphalt (SP) Brown, fine grained, poorly graded sand, no plasticity	
	UD B-4@1- 1.5	100	SP		2.5 (SP) Same as above interval	PID = 0
5			SP			
	UD B- 4@4.5- 5	100	SP		6.0 (SP) Same as above interval	PID = 0
10						
	UD B- 4@9.5- 10				10.0 Bottom of borehole at 10.0 feet.	PID = 0

GENERAL BH / TP / WELL - GINT STD US.GDT - 6/27/19 10:32 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\19061.23 2550 IRVING SF.GPJ



AllWest

AllWest Environmental
2141 Mission Street, Suite 100
San Francisco, CA 94110
Telephone: 415.391.2510


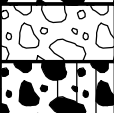
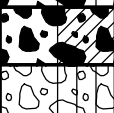

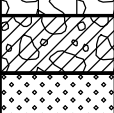
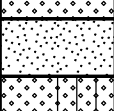
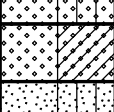
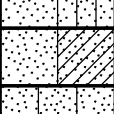
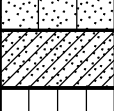
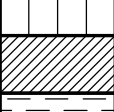

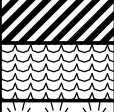
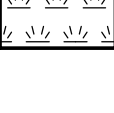
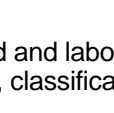
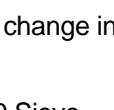
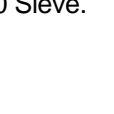

BORING NUMBER B-5

PAGE 1 OF 1

CLIENT	SFPolice Credit Union	PROJECT NAME	Irving-SF Sub
PROJECT NUMBER	19061.23	PROJECT LOCATION	2500-2550 Irving, San Francisco
DATE STARTED	5/21/19	COMPLETED	5/21/19
DRILLING CONTRACTOR	ECA	GROUND ELEVATION	
DRILLING METHOD	Direct Push Technology	HOLE SIZE	2"
LOGGED BY	Sam Calloway	GROUND WATER LEVELS:	
CHECKED BY	Leonard Niles, PG, CHG	AT TIME OF DRILLING	---
NOTES	Borehole grouted with neat Portland cement	AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data
0						
			SW		0.2 / Approximately 2" asphalt (SW) Brown to dark brown/black, coarse grained sand, well graded, low plasticity	
	UD B-5@1- 1.5	100	SP		2.5 (SP) Same as above interval	PID = 0
5			SP		6.0 (SP) Same as above interval	PID = 0
	UD B- 5@4.5- 5	100	SP		10.0 Bottom of borehole at 10.0 feet.	PID = 0
10						
	UD B- 5@9.5- 10	100				

UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2488

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION <u>RETAINED</u> ON NO. 4 SIEVE	GRAVEL WITH <u>* 5% FINES</u>		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION <u>PASSING</u> ON NO. 4 SIEVE	SAND WITH <u>* 5% FINES</u>		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT <u>LESS</u> THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT <u>GREATER</u> THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

NOTES:

- 1) Sample descriptions are based on visual field and laboratory observations using classification methods of ASTM D2488. Where laboratory data are available, classifications are in accordance with ASTM D2487.
- 2) Solid lines between soil descriptions indicate change in interpreted geologic unit. Dashed lines indicate stratigraphic change within the unit.
- 3) Fines are material passing the U.S. Std. #200 Sieve.

APPENDIX D



STANDARD GEOPROBE® AND VAPOR PIN™ SOIL VAPOR PROBE INSTALLATION AND SAMPLING PROCEDURES

Geoprobe® DPT PRT Temporary Soil Vapor Probe Advancement

The Geoprobe® Direct Push Technology (DPT) Post Run Tubing (PRT) soil vapor sampling process involves driving into the subsurface a disposable Geoprobe® DPT sampling probe with expendable tip and a PRT adapter that are connected to 4-foot sections of Geoprobe® 1.25-inch inside diameter (ID) extension rods. The PRT adapter has a reverse-thread adapter at the upper end to allow the connection of flexible soil vapor sampling tubing with a PRT tubing adaptor after the installation (post-run) of the tip. The entire sampling assembly, the sampling tip, PRT adapter, and the Geoprobe® extension rods, is driven into the subsurface by a truck-mounted hydraulic percussion hammer. The sampler is driven to the desired depth as additional rods are connected. At the desired sampling depth, typically 5 feet below ground surface (bgs) a sufficient length of disposable flexible 0.25-inch OD polyethylene, Nylaflo™ or Teflon™ sample tubing is first lowered through the center of the extension rod and connected to the PRT adapter. Only Teflon™ sample tubing is to be used if naphthalene analysis is intended. The extension rod is then retracted 3 to 4 inches to create a small void around the PRT adapter and the expendable sampling tip for extracting a soil vapor sample from that location. Bentonite chips will be used to fill the annular space between the probe and the subgrade material to the ground surface. The bentonite will then be hydrated with distilled water. The temporary Geoprobe® PRT soil vapor probe will be sampled at least 2 hours following driving of the probe, to allow vapor conditions to equalize in subsurface materials and the bentonite surface seal to hydrate in general accordance with guidelines presented in the CalEPA Department of Toxic Substance Control (DTSC) *Advisory – Active Soil Gas Investigations*, July, 2015.

Geoprobe® DPT Borehole Advancement and Temporary Soil Vapor Probe Installation

Alternatively, borings can be advanced using truck-mounted or limited access Geoprobe® DPT continuous coring equipment using a nominal 4-foot long, 2-inch OD stainless steel core barrel drive sampler and extension rods. The drive probe will be equipped with nominal 1 ½-inch inside diameter (ID) clear PETG plastic tubes that line the interior of the probe. Continuous soil sample cores are recovered for potential lithologic characterization and laboratory analysis. Alternatively, borings can be advanced using truck-mounted or limited access Geoprobe® DPT equipment, or a hand-operated slide hammer, to drive 1-inch outside diameter (OD) rods and probes with expendable steel tips without recovering soil cores. After the probes or core barrels are advanced to the specified depth, typically 5.5 feet bgs, the probes and drive rods are removed, leaving the borehole open with the expendable probe tip (if used) at the bottom.

Plastic or stainless steel soil vapor probes, ½-inch diameter by 2-inches long and tipped with porous plastic membranes, are then inserted to the bottom of the 1-inch diameter boreholes at 5 feet bgs. The probe tips are attached to 7-foot lengths of flexible 0.25-inch OD polyethylene, Nylaflo™ or Teflon™ tubing extending to the top of the floor slab. Only Teflon™ sample tubing is to be used if naphthalene analysis is intended. A 1-foot interval of fine sand filter pack is placed in the borehole annulus around the probe, typically from approximately 4.5 to 5.5 feet bgs. A 1-foot interval of the annular space above the filter pack is then filled with non-hydrated granular bentonite. Hydrated granular bentonite or bentonite chips are then used to fill the annular space above the non-hydrated granular bentonite to the top of the floor slab or surface pavement. The bentonite is allowed to hydrate and borehole conditions to equalize for 2 hours prior to sampling activities, per DTSC vapor sampling guidelines. Temporary soil vapor probe installation procedures will be performed in general accordance with guidelines presented in the DTSC *Advisory – Active Soil Gas Investigations*, July, 2015.



Vapor Pin™ Sub-Slab Soil Vapor Probe Installation

The Cox-Colvin Vapor Pin™ semi-permanent sub-slab soil vapor probes are emplaced as follows: For a flush-mount installation, a 1 ½-inch diameter countersunk hole is drilled at least 1 ¾ inches into the concrete floor slab using a portable electric drill. A 5/8-inch diameter hole is then drilled below the countersunk hole through the concrete floor slab using a portable electric drill, and approximately 1-inch into the underlying soil to form a void. The concrete corings are removed using a brush or vacuum. Place the lower end of Vapor Pin™ assembly into the drilled hole. Place the small hole located in the handle of the extraction/installation tool over the Vapor Pin™ to protect the barb fitting and cap, and tap the Vapor Pin™ into place using a dead blow hammer. Make sure the extraction/installation tool is aligned parallel to the Vapor Pin™ to avoid damaging the barb fitting.

For flush mount installations, unscrew the threaded coupling from the installation/extraction handle and use the hole in the end of the tool to assist with the installation. During installation, the silicone sleeve will form a slight bulge between the slab and the Vapor Pin™ shoulder. Place the protective plastic cap on the Vapor Pin™ barbed fitting to prevent vapor loss prior to sampling. For flush mount installations, cover the Vapor Pin™ with a threaded metal flush mount cover. Allow 2 hours or more (per DTSC sub-slab vapor sampling guidelines) for the sub-slab soil-gas conditions to equilibrate prior to sampling.

Soil Vapor Sampling via Summa Canister

Soil vapor sampling procedures will be similar for Geoprobe® PRT and continuously cored temporary soil vapor probes, and semi-permanent sub-slab soil vapor probes, and will be in general accordance with *DTSC Advisory – Active Soil Gas Investigations*, July 2015. Soil vapor sampling will not be performed if significant precipitation (greater than ½ inch in a 24 hour period) has occurred within the previous five days. The soil vapor probe Teflon™ sample tubing will be connected to the sample manifold system via threaded SwageLok™ connectors.

AllWest will collect soil vapor samples in laboratory prepared 1-liter capacity SUMMA canisters. Prior to vapor purging and sample collection, a vacuum leak shut-in test of the flow-controller/gauge manifold assembly will be performed for a minimum of 1 minute, with a no allowable observed vacuum drop of 0.2 inches of mercury (in Hg). If any noticeable vacuum drop is observed, the manifold fittings will be tightened or manifold replaced and the shut-in test redone. Vacuum gauge sensitivity will register a minimum of 0.5 inches of mercury (in Hg). The sampling system configuration is shown in the attached schematic diagram.

Prior to sample collection, approximately 3 sampling system volumes of soil vapor will be purged at a flow rate of approximately 150-200 milliliters per minute (ml/min) from each vapor probe using a dedicated 6-liter capacity SUMMA purge canister (approximately 200 ml per in Hg vacuum). A 3-way valve (with the handle mounted outside the leak detection shroud) will be opened to divert the flow of purged soil vapor from the probe to the purge Summa canister, after opening the purge Summa valve.

Typical sampling system volumes for Geoprobe® installed soil vapor probes are 4.5 ml/foot for ¼-inch OD/0.17-inch ID tubing, and 200 ml/foot for a 2-inch diameter borehole with sand filter pack (minus tubing volume). Assuming a 2-inch diameter borehole with a 1 foot sand filter pack interval, the typical system volume would be approximately 235 ml for a 5-feet bgs temporary probe, including 6 feet of tubing



above grade. Therefore, 3 system volumes would typically be approximately 705 milliliters (ml) depending on tubing length and borehole diameter, depth and filter pack interval.

Typical sampling system volumes for sub-slab Vapor Pin™ probes are 4.5 ml/feet for 1/4-inch OD/0.17-inch ID tubing and 0.17-inch ID Vapor Pin™ probe, and approximately 60 ml/feet for a 5/8-inch diameter borehole within the concrete floor slab. Assuming a 5/8-inch diameter borehole with a 3-inch deep void space in the floor slab below the Vapor Pin™ probe, the typical system volume would be approximately 43 ml including 5 feet of tubing and manifold above grade. Therefore, 3 system volumes would typically be approximately 128 ml depending on sample tubing and manifold length, borehole diameter, and floor slab borehole void depth below the installed Vapor Pin™ probe.

Alternatively, for large purge volumes due to larger diameter and deeper boreholes, an electric battery-powered vacuum pump may be used for purging. The vacuum pump is located outside of the leak detection shroud and connected to the flow-controller/gauge manifold assembly inside the shroud by 1/4-inch OD/0.17-inch ID Teflon tubing passing through a 2-way valve (with the handle mounted outside the leak detection shroud). During the purging operation, the valve is opened to allow soil vapor to be purged by the pump. The pump is equipped with a variable rate flow controller, in addition to the flow regulator on the manifold, and the flow rate is set at 150-200 ml/min. The purge volume is determined by the purge time multiplied by the flow rate. When the required soil vapor volume has been purged, the 2-way valve is closed to isolate the pump from the sampling manifold, and the pump turned off.

During purging and sampling, a leak detection test is conducted using helium as a leak tracer inside an airtight plastic shroud covering the entire sampling apparatus, as recommended in the DTSC *Advisory – Active Soil Gas Investigations* (DTSC Appendix C, 2015). The leak detection shroud configuration is shown in the attached schematic diagram. The helium concentration within the shroud is monitored with a helium gas detection meter with a minimum precision of 0.1% to keep the ambient concentration at approximately 10% to 20% (or at least two orders of magnitude above the minimum meter detection limit). The helium tracer gas will be infused into the shroud at the required concentration at least 5 minutes prior to purging and sample collection. The ambient helium concentration within the shroud will be maintained throughout the purge and sample periods to within $\pm 10\%$ of the target concentration.

Depending upon helium availability, other leak detection gases such as isopropyl alcohol (IPA) or difluoroethane (DFA, commonly known as DustOff) may be substituted. Ambient concentrations of IPA within the shroud or purged soil vapor will be measured with a photo-ionization detector (PID); DFA concentrations are not measurable with a PID. The same volume of IPA (typically a cotton ball soaked with 5 milliliters of IPA) or DFA (typically a 5-second aerosol can discharge) will be used for each sample to maintain consistent ambient concentrations within the shroud.

Immediately following purging of 3 sampling system volumes of soil vapor, the 3-way and purge Summa valves will be closed, the sample Summa valve opened, and additional helium added to the shroud to bring the ambient concentration back up to within $\pm 10\%$ of the target concentration. The 3-way valve will then be turned to divert soil vapor from the probe to the sample Summa canister. Flow rates of approximately 150-200 ml/min are used to fill the sample canisters. The canisters are filled to approximate 80% of capacity (approximately 5 inches of mercury vacuum remaining), at which point first the 3-way valve, then the sample Summa valve are closed. All pertinent field observations, pressure, times and readings are recorded.



To verify helium detection (or PID if used) meter accuracy, one (1) ambient air sample per day may be collected using a 1-liter SUMMA canister with a 150-200 ml/min flow restrictor inside the leak detection shroud during the sampling of one probe to measure ambient helium (or IPA or DFA if used as leak detection agents instead) concentrations inside the shroud.

After filling the sample Summa canister and closing the sample valve, a leak test of the probe seal will be conducted by using the 3-way valve to divert the flow of purged soil vapor from the probe to the helium detection meter via a monitoring port on the outside of the shroud. If the measured purged soil vapor helium concentration is less than 5% of the ambient shroud concentration, the soil vapor probe seal is presumed to be acceptable (per DTSC Appendix C, 2015). If the measured purged soil vapor helium concentration is greater than 5% of the ambient shroud concentration, the soil vapor probe seal is presumed to be defective, and the probe should be reinstalled and re-sampled.

Following sampling and leak test activities, all SUMMA canisters are removed from the manifold, labeled with sampling information, including initial and final vacuum pressures, placed in a dark container and transported under chain-of-custody to the analytical laboratory. The analytical laboratory will record the final SUMMA canister vacuum upon receipt.

Soil Vapor Sampling via Tenax™ Sorbent Tubes

For collecting soil vapor samples in sorbent tubes for analysis by EPA Method TO-17, the sampling manifold setup, shut-in leak checks, system purging and leak detect shroud setup are similar to that using Summa canisters. However, instead of using Summa canisters for sample collection, samples are collected in stainless steel sample tubes filled with Tenax™ sorbent material. The sorbent tubes are attached with Swagelock™ fittings to the sample manifold downstream from the gauges, filters, flow restrictors, and purge canister or pump, and within the leak detection shroud. In areas of suspected high contaminant concentrations, two (2) Tenax™ sorbent tubes may be placed in series to prevent contaminant breakthrough. A vacuum pump, 100 ml syringe or second SUMMA sample purge canister is attached to the downstream end of the Tenax™ sorbent tubes. If the sample manifold train is too large to fit in the leak detection shroud, the pump, syringe or second sample purge SUMMA may be located outside the shroud with the sample train tubing passing through the shroud wall.

A cotton ball saturated with approximately 5 ml isopropyl alcohol (IPA) and placed inside the shroud will be used as the leak detection gas agent. A photo-ionization detector (PID) is used to monitor IPA concentrations within the leak detection shroud, or purged soil vapor through access ports in the shroud via the 3-way valve. The 3-way valve is used to divert purged soil vapor to either the purge Summa canister during purging, or to the purged soil vapor monitoring port following purging for probe seal leak detection by monitoring IPA concentrations with a PID, as described in the Summa canister sampling section.

Flow rates of approximately 50 to 100 ml/min are used to fill the sorbent tubes with a total sample volume of approximately 1 to 4 liters, depending on the desired laboratory detection limits. The sampling system vacuum should not exceed 100 inches of water (or 7.4 in Hg). All pertinent field observations, pressure, times, and ambient and soil vapor IPA (PID) concentration readings are recorded. After the desired sample volume is withdrawn through the sorbent tubes, the tubes are removed from the manifold, capped with Swagelock™ caps, wrapped in aluminum foil, placed in a sealed plastic tube container, labeled with sampling information, placed in an ice chest cooled to 4°C with crushed ice, and transported under chain-of-custody to the analytical laboratory.

Soil Gas Probe Emplacement Methods

Figure 1
Permanent/Semi-permanent
Gas Probe
Construction

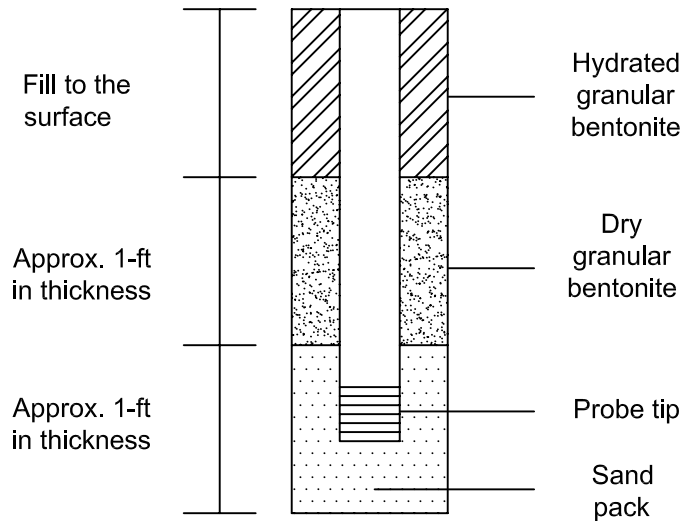
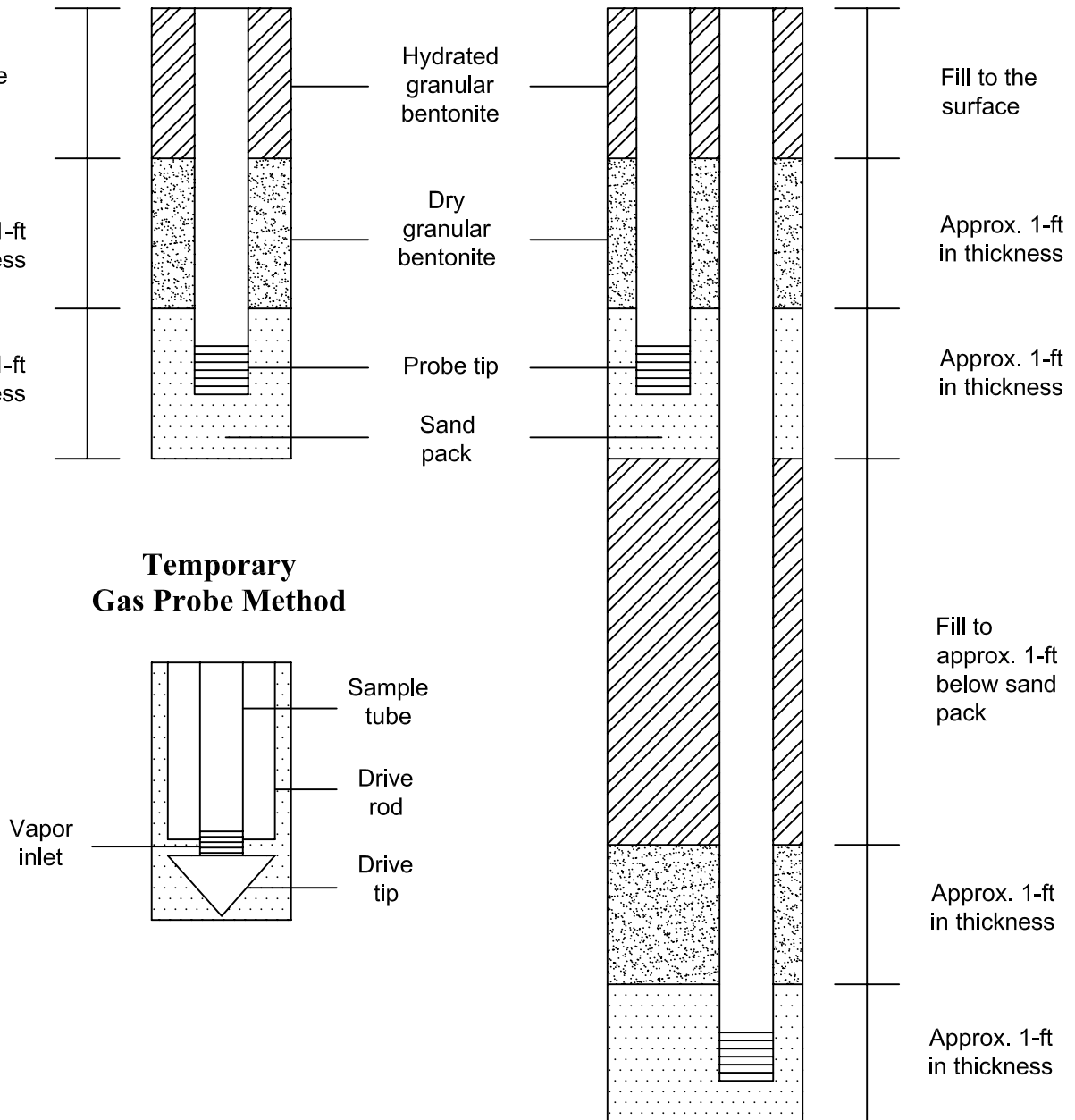
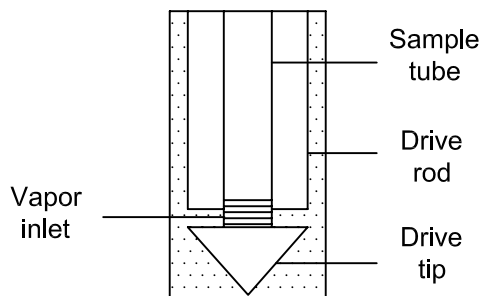


Figure 2
Multi-depth
Gas Probe
Construction



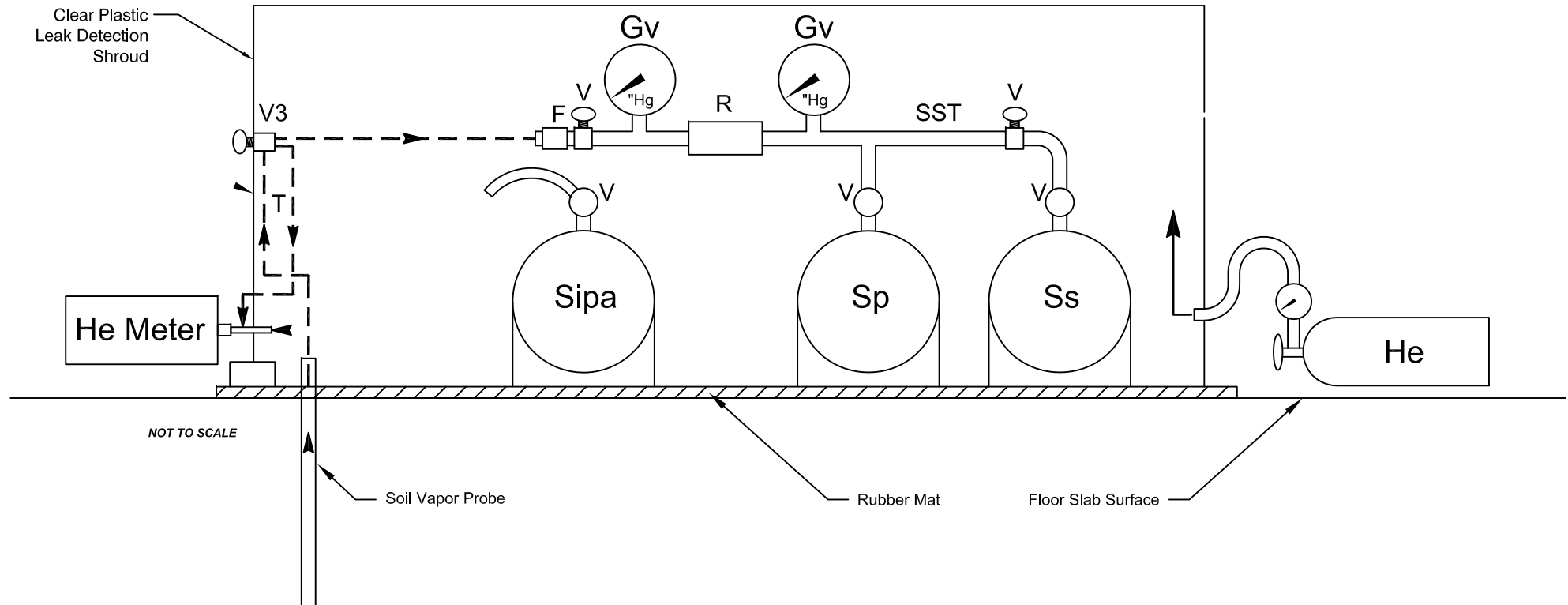
Temporary
Gas Probe Method



Sub-Slab Cox-Colvin Vapor Pin[®] Installation Sectional View



General Soil Gas Sampling Manifold Schematic with Leak Detection Shroud



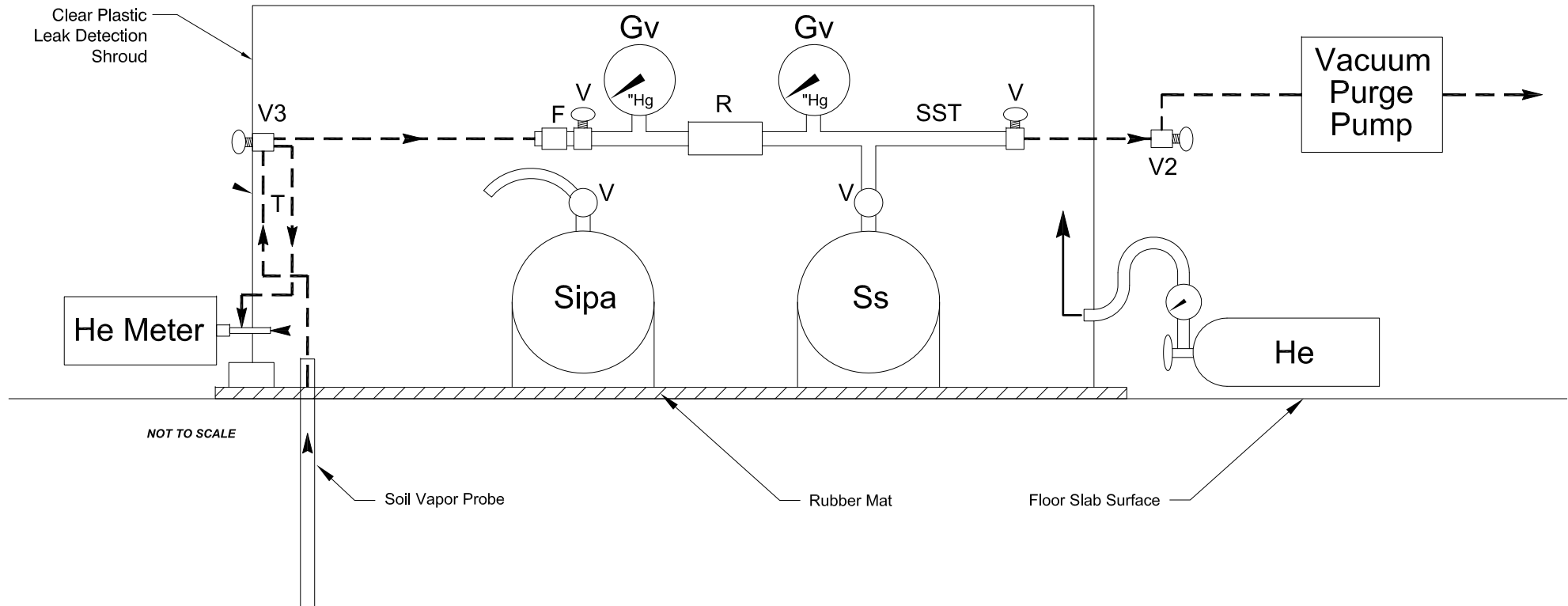
LEGEND

F	=	Filter
V	=	Valve
V3	=	Valve - 3-Way
Gp	=	Pressure Gauge
R	=	Flow Regulator
Gv	=	Vacuum Gauge
Sp	=	Purge Summa Canister
Ss	=	Sample Summa Canister
Sipa	=	Ambient Air Helium Leak Detect Gas Summa Canister
He Meter	=	Helium detector for He concentration readings - Shroud Ambient & Purged Soul Vapor
T	=	Disposable Teflon or Polyethylene Tubing
SST	=	Stainless Steel Tubing and Fittings
He	=	Helium tank, leak detect gas, regulator and tubing



STANDARD OPERATING PROCEDURE
SOIL VAPOR SAMPLING
HELIUM SHROUD
SOURCE: ALLWEST
PREPARED BY: C. RAMELB / C. MONAHAN

General Soil Gas Sampling Manifold Schematic with Leak Detection Shroud



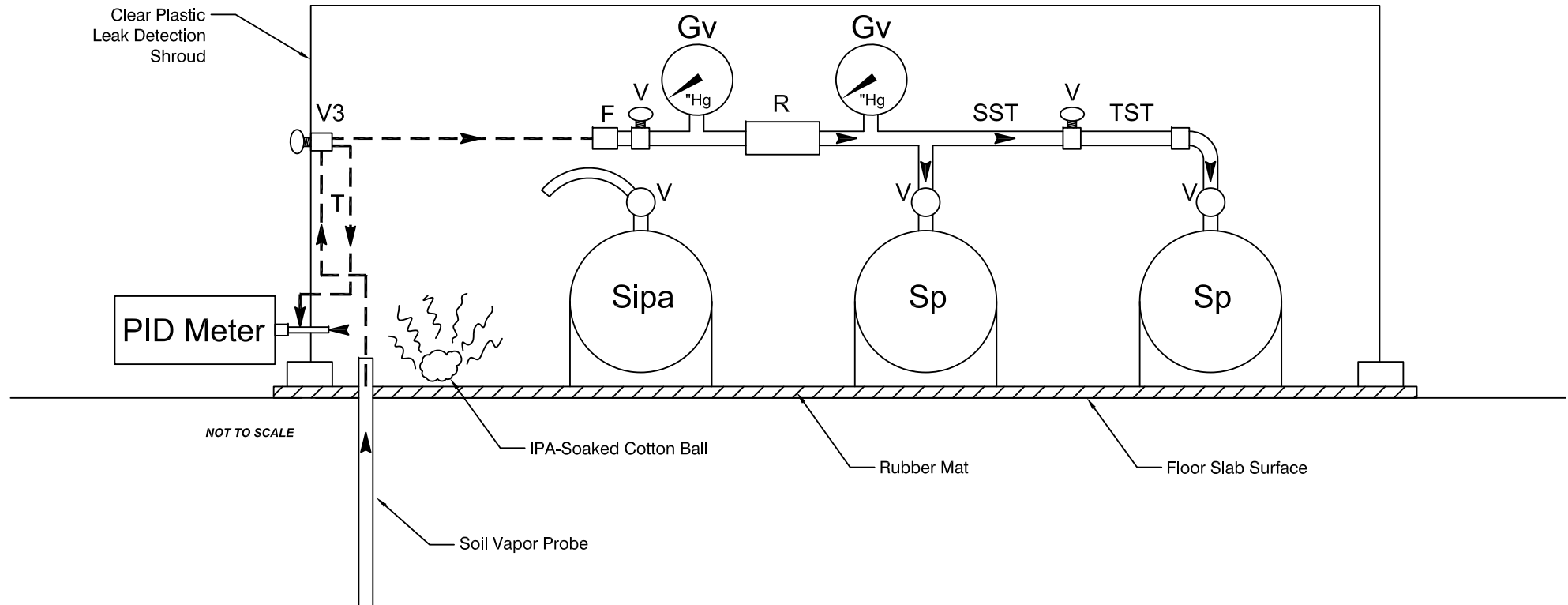
LEGEND

F	= Filter
V	= Valve
V3	= Valve - 3-Way
Gp	= Pressure Gauge
R	= Flow Regulator
Gv	= Vacuum Gauge
Sp	= Purge Summa Canister
Ss	= Sample Summa Canister
Sipa	= Ambient Air Helium Leak Detect Gas Summa Canister
He Meter	= Helium detector for He concentration readings - Shroud Ambient & Purged Soul Vapor
T	= Disposable Teflon or Polyethylene Tubing
SST	= Stainless Steel Tubing and Fittings
He	= Helium tank, leak detect gas, regulator and tubing
V2	= Valve, 2-Way
Vacuum Purge Pump	= Electric Battery-Powered Vacuum Pump with Flow Regulator



STANDARD OPERATING PROCEDURE
SOIL VAPOR SAMPLING
HELIUM SHROUD
SOURCE: ALLWEST
PREPARED BY: C. RAMELB / C. MONAHAN

General Soil Gas Sampling Manifold Schematic For Sorbent Tubes with Leak Detection Shroud



LEGEND

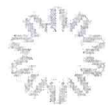
F	=	Filter
V	=	Valve
V3	=	Valve - 3-Way
Gp	=	Pressure Gauge
R	=	Flow Regulator
Gv	=	Vacuum Gauge
Sp	=	Purge Summa Canister
TST	=	Tenax Sorbent Tube
Sipa	=	Ambient Air IPA Leak Detect Gas Summa Canister
PID Meter	=	Photo-ionization detector for IPA concentration readings - Shroud Ambient & Purged Soul Vapor
T	=	Disposable Teflon or Polyethylene Tubing
SST	=	Stainless Steel Tubing and Fittings
IPA	=	Isopropyl Alcohol-soaked cotton ball



STANDARD OPERATING PROCEDURE
SOIL VAPOR SAMPLING - SORBENT TUBES
HELIUM SHROUD
SOURCE: ALLWEST
PREPARED BY: C. RAMELB / C. MONAHAN

APPENDIX E

* office pin



AllWest

AllWest Environmental, Inc.

Specialists in Physical Due
Diligence and Remedial Services

1520 Brookhollow Drive, Suite 30
Santa Ana, CA 92705

714-541-5303 AllWest1.com

SOIL GAS VAPOR FIELD LOG

Date: 5-21-19

Project No: 19061.23

Project Name: 2550 Irving St.

Vapor Probe #: VP-1 Purge Summa #: D814 Sample Summa #: LC223

Regulatory Agencies: _____

Contractor: AllWest

Hole Diameter: _____ Total Depth: - Grout/Bentonite: Vapor Pin

Probe Diameter: _____ Line Length: - Purge Volume: _____

Tracer Gas: Helium Flow Regulator No: SGM429 Flow Rate: 150/200 (ml/min)

Laboratory Name and Number: Eurofins

SAMPLE COLLECTION

Leak Test: Pass/Fail

Start Time	Time Elapsed	Pressure	Tracer Gas Conc. (in shroud)	Remarks
1150	3	-30		Start Purge
1153	3	-29		stop Purge
1155	3	-30		Start Sample
1158	3	-5		stop Sample

Remarks: _____

Sampler: Sam Calloway



AllWest Environmental, Inc.

Specialists in Physical Due
Diligence and Remedial Services

1520 Brookhollow Drive, Suite 30
Santa Ana, CA 92705

714-541-5303 AllWest1.com

SOIL GAS VAPOR FIELD LOG

Date: 5-21-19

Project No: 19061.23

Project Name: 2550 Irving st.

Vapor Probe #: VP-2 Purge Summa #: D814 Sample Summa #: LC293

Regulatory Agencies: _____

Contractor: Allwest

Hole Diameter: _____ Total Depth: - Grout/Bentonite: Vapor Pin

Probe Diameter: _____ Line Length: - Purge Volume: _____

Tracer Gas: Helium Flow Regulator No: SGM278 Flow Rate: 150/200 (ml/min)

Laboratory Name and Number: Eurofins

SAMPLE COLLECTION

Leak Test: Pass/Fail

Start Time	Time Elapsed	Pressure	Tracer Gas Conc. (in shroud)	Remarks
1230	3	-8629		start purge
1233		-28		stop purge
1240	5	-30		start sample
1245		-5		stop sample

Remarks: _____

Sampler: Sam Calloway

APPENDIX F



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1905B97

Report Created for: All West Environmental, Inc

2141 Mission Street, Ste 100
San Francisco, CA 94110

Project Contact: Samuel Calloway

Project P.O.:

Project: 19061.23; 2550 Irving St.

Project Received: 05/22/2019

Analytical Report reviewed & approved for release on 05/30/2019 by:

Yen Cao

Project Manager

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





Glossary of Terms & Qualifier Definitions

Client: All West Environmental, Inc
Project: 19061.23; 2550 Irving St.
WorkOrder: 1905B97

Glossary Abbreviation

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



Glossary of Terms & Qualifier Definitions

Client: All West Environmental, Inc
Project: 19061.23; 2550 Irving St.
WorkOrder: 1905B97

Analytical Qualifiers

J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
S	Spike recovery outside accepted recovery limits.
a3	Sample diluted due to high organic content.
a4	Reporting limits raised due to the sample's matrix prohibiting a full volume extraction.
c1	Surrogate recovery outside of the control limits due to the dilution of the sample.
e2	Diesel range compounds are significant; no recognizable pattern.
e7	Oil range compounds are significant.

Quality Control Qualifiers

F2	LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.
F3	The surrogate standard recovery and/or RPD is outside of acceptance limits.



Detection Summary

Client: All West Environmental, Inc

WorkOrder: 1905B97

Project: 19061.23; 2550 Irving St.

Client ID: B-1 (4.5-5)

Lab ID: 1905B97-002A

Analyte	Result	Qual	RL	DF	Unit	ExtType/ CleanUp	Method
Chromium	44		0.50	1	mg/Kg		SW6020
Lead	9.0		0.50	1	mg/Kg		SW6020
Nickel	24		0.50	1	mg/Kg		SW6020
Zinc	28		5.0	1	mg/Kg		SW6020
TPH-Diesel (C10-C23)	13		5.0	5	mg/Kg	SG	SW8015B
TPH-Motor Oil (C18-C36)	210		25	5	mg/Kg	SG	SW8015B

Client ID: B-2 (4.5-5)

Lab ID: 1905B97-005A

Analyte	Result	Qual	RL	DF	Unit	ExtType/ CleanUp	Method
Chromium	57		0.50	1	mg/Kg		SW6020
Lead	4.6		0.50	1	mg/Kg		SW6020
Nickel	26		0.50	1	mg/Kg		SW6020
Zinc	24		5.0	1	mg/Kg		SW6020
TPH-Diesel (C10-C23)	3.6		2.0	2	mg/Kg	SG	SW8015B
TPH-Motor Oil (C18-C36)	70		10	2	mg/Kg	SG	SW8015B

Client ID: B-3 (4.5-5)

Lab ID: 1905B97-008A

Analyte	Result	Qual	RL	DF	Unit	ExtType/ CleanUp	Method
Chromium	49		0.50	1	mg/Kg		SW6020
Lead	39		0.50	1	mg/Kg		SW6020
Nickel	26		0.50	1	mg/Kg		SW6020
Zinc	68		5.0	1	mg/Kg		SW6020
TPH-Diesel (C10-C23)	1.1		1.0	1	mg/Kg	SG	SW8015B
TPH-Motor Oil (C18-C36)	19		5.0	1	mg/Kg	SG	SW8015B

Client ID: B-4 (4.5-5)

Lab ID: 1905B97-011A

Analyte	Result	Qual	RL	DF	Unit	ExtType/ CleanUp	Method
Chromium	57		0.50	1	mg/Kg		SW6020
Lead	10		0.50	1	mg/Kg		SW6020
Nickel	30		0.50	1	mg/Kg		SW6020
Zinc	45		5.0	1	mg/Kg		SW6020

Client ID: B-5 (4.5-5)

Lab ID: 1905B97-014A

Analyte	Result	Qual	RL	DF	Unit	ExtType/ CleanUp	Method
Chromium	45		0.50	1	mg/Kg		SW6020
Lead	2.5		0.50	1	mg/Kg		SW6020
Nickel	24		0.50	1	mg/Kg		SW6020
Zinc	21		5.0	1	mg/Kg		SW6020



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-1 (4.5-5)	1905B97-002A	Soil	05/21/2019 09:25		GC10 05261925.D	178288
Analytes	Result	RL	DF	Date Analyzed		
Acetone	ND	0.10	1	05/27/2019 13:15		
tert-Amyl methyl ether (TAME)	ND	0.0050	1	05/27/2019 13:15		
Benzene	ND	0.0050	1	05/27/2019 13:15		
Bromobenzene	ND	0.0050	1	05/27/2019 13:15		
Bromochloromethane	ND	0.0050	1	05/27/2019 13:15		
Bromodichloromethane	ND	0.0050	1	05/27/2019 13:15		
Bromoform	ND	0.0050	1	05/27/2019 13:15		
Bromomethane	ND	0.0050	1	05/27/2019 13:15		
2-Butanone (MEK)	ND	0.050	1	05/27/2019 13:15		
t-Butyl alcohol (TBA)	ND	0.050	1	05/27/2019 13:15		
n-Butyl benzene	ND	0.0050	1	05/27/2019 13:15		
sec-Butyl benzene	ND	0.0050	1	05/27/2019 13:15		
tert-Butyl benzene	ND	0.0050	1	05/27/2019 13:15		
Carbon Disulfide	ND	0.0050	1	05/27/2019 13:15		
Carbon Tetrachloride	ND	0.0050	1	05/27/2019 13:15		
Chlorobenzene	ND	0.0050	1	05/27/2019 13:15		
Chloroethane	ND	0.0050	1	05/27/2019 13:15		
Chloroform	ND	0.0050	1	05/27/2019 13:15		
Chloromethane	ND	0.0050	1	05/27/2019 13:15		
2-Chlorotoluene	ND	0.0050	1	05/27/2019 13:15		
4-Chlorotoluene	ND	0.0050	1	05/27/2019 13:15		
Dibromochloromethane	ND	0.0050	1	05/27/2019 13:15		
1,2-Dibromo-3-chloropropane	ND	0.0050	1	05/27/2019 13:15		
1,2-Dibromoethane (EDB)	ND	0.0040	1	05/27/2019 13:15		
Dibromomethane	ND	0.0050	1	05/27/2019 13:15		
1,2-Dichlorobenzene	ND	0.0050	1	05/27/2019 13:15		
1,3-Dichlorobenzene	ND	0.0050	1	05/27/2019 13:15		
1,4-Dichlorobenzene	ND	0.0050	1	05/27/2019 13:15		
Dichlorodifluoromethane	ND	0.0050	1	05/27/2019 13:15		
1,1-Dichloroethane	ND	0.0050	1	05/27/2019 13:15		
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	05/27/2019 13:15		
1,1-Dichloroethene	ND	0.0050	1	05/27/2019 13:15		
cis-1,2-Dichloroethene	ND	0.0050	1	05/27/2019 13:15		
trans-1,2-Dichloroethene	ND	0.0050	1	05/27/2019 13:15		
1,2-Dichloropropane	ND	0.0050	1	05/27/2019 13:15		
1,3-Dichloropropane	ND	0.0050	1	05/27/2019 13:15		
2,2-Dichloropropane	ND	0.0050	1	05/27/2019 13:15		

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Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 (4.5-5)	1905B97-002A	Soil	05/21/2019 09:25	GC10 05261925.D	178288

Analytes	Result	RL	DE	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	05/27/2019 13:15
cis-1,3-Dichloropropene	ND	0.0050	1	05/27/2019 13:15
trans-1,3-Dichloropropene	ND	0.0050	1	05/27/2019 13:15
Diisopropyl ether (DIPE)	ND	0.0050	1	05/27/2019 13:15
Ethylbenzene	ND	0.0050	1	05/27/2019 13:15
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	05/27/2019 13:15
Freon 113	ND	0.0050	1	05/27/2019 13:15
Hexachlorobutadiene	ND	0.0050	1	05/27/2019 13:15
Hexachloroethane	ND	0.0050	1	05/27/2019 13:15
2-Hexanone	ND	0.0050	1	05/27/2019 13:15
Isopropylbenzene	ND	0.0050	1	05/27/2019 13:15
4-Isopropyl toluene	ND	0.0050	1	05/27/2019 13:15
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	05/27/2019 13:15
Methylene chloride	ND	0.020	1	05/27/2019 13:15
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	05/27/2019 13:15
Naphthalene	ND	0.0050	1	05/27/2019 13:15
n-Propyl benzene	ND	0.0050	1	05/27/2019 13:15
Styrene	ND	0.0050	1	05/27/2019 13:15
1,1,1,2-Tetrachloroethane	ND	0.0050	1	05/27/2019 13:15
1,1,2,2-Tetrachloroethane	ND	0.0050	1	05/27/2019 13:15
Tetrachloroethene	ND	0.0050	1	05/27/2019 13:15
Toluene	ND	0.0050	1	05/27/2019 13:15
1,2,3-Trichlorobenzene	ND	0.0050	1	05/27/2019 13:15
1,2,4-Trichlorobenzene	ND	0.0050	1	05/27/2019 13:15
1,1,1-Trichloroethane	ND	0.0050	1	05/27/2019 13:15
1,1,2-Trichloroethane	ND	0.0050	1	05/27/2019 13:15
Trichloroethene	ND	0.0050	1	05/27/2019 13:15
Trichlorofluoromethane	ND	0.0050	1	05/27/2019 13:15
1,2,3-Trichloropropane	ND	0.0050	1	05/27/2019 13:15
1,2,4-Trimethylbenzene	ND	0.0050	1	05/27/2019 13:15
1,3,5-Trimethylbenzene	ND	0.0050	1	05/27/2019 13:15
Vinyl Chloride	ND	0.0050	1	05/27/2019 13:15
m,p-Xylene	ND	0.0050	1	05/27/2019 13:15
o-Xylene	ND	0.0050	1	05/27/2019 13:15
Xylenes, Total	ND	0.0050	1	05/27/2019 13:15

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Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 (4.5-5)	1905B97-002A	Soil	05/21/2019 09:25	GC10 05261925.D	178288

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	83	66-116		05/27/2019 13:15
Toluene-d8	110	86-110		05/27/2019 13:15
4-BFB	107	71-114		05/27/2019 13:15
Benzene-d6	91	62-122		05/27/2019 13:15
Ethylbenzene-d10	123	69-130		05/27/2019 13:15
1,2-DCB-d4	86	55-108		05/27/2019 13:15

Analyst(s): KF



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 (4.5-5)	1905B97-005A	Soil	05/21/2019 09:40	GC10 05261926.D	178288
Analytes	Result	RL	DE	Date Analyzed	
Acetone	ND	0.10	1	05/27/2019 13:55	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	05/27/2019 13:55	
Benzene	ND	0.0050	1	05/27/2019 13:55	
Bromobenzene	ND	0.0050	1	05/27/2019 13:55	
Bromochloromethane	ND	0.0050	1	05/27/2019 13:55	
Bromodichloromethane	ND	0.0050	1	05/27/2019 13:55	
Bromoform	ND	0.0050	1	05/27/2019 13:55	
Bromomethane	ND	0.0050	1	05/27/2019 13:55	
2-Butanone (MEK)	ND	0.050	1	05/27/2019 13:55	
t-Butyl alcohol (TBA)	ND	0.050	1	05/27/2019 13:55	
n-Butyl benzene	ND	0.0050	1	05/27/2019 13:55	
sec-Butyl benzene	ND	0.0050	1	05/27/2019 13:55	
tert-Butyl benzene	ND	0.0050	1	05/27/2019 13:55	
Carbon Disulfide	ND	0.0050	1	05/27/2019 13:55	
Carbon Tetrachloride	ND	0.0050	1	05/27/2019 13:55	
Chlorobenzene	ND	0.0050	1	05/27/2019 13:55	
Chloroethane	ND	0.0050	1	05/27/2019 13:55	
Chloroform	ND	0.0050	1	05/27/2019 13:55	
Chloromethane	ND	0.0050	1	05/27/2019 13:55	
2-Chlorotoluene	ND	0.0050	1	05/27/2019 13:55	
4-Chlorotoluene	ND	0.0050	1	05/27/2019 13:55	
Dibromochloromethane	ND	0.0050	1	05/27/2019 13:55	
1,2-Dibromo-3-chloropropane	ND	0.0050	1	05/27/2019 13:55	
1,2-Dibromoethane (EDB)	ND	0.0040	1	05/27/2019 13:55	
Dibromomethane	ND	0.0050	1	05/27/2019 13:55	
1,2-Dichlorobenzene	ND	0.0050	1	05/27/2019 13:55	
1,3-Dichlorobenzene	ND	0.0050	1	05/27/2019 13:55	
1,4-Dichlorobenzene	ND	0.0050	1	05/27/2019 13:55	
Dichlorodifluoromethane	ND	0.0050	1	05/27/2019 13:55	
1,1-Dichloroethane	ND	0.0050	1	05/27/2019 13:55	
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	05/27/2019 13:55	
1,1-Dichloroethene	ND	0.0050	1	05/27/2019 13:55	
cis-1,2-Dichloroethene	ND	0.0050	1	05/27/2019 13:55	
trans-1,2-Dichloroethene	ND	0.0050	1	05/27/2019 13:55	
1,2-Dichloropropane	ND	0.0050	1	05/27/2019 13:55	
1,3-Dichloropropane	ND	0.0050	1	05/27/2019 13:55	
2,2-Dichloropropane	ND	0.0050	1	05/27/2019 13:55	

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Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 (4.5-5)	1905B97-005A	Soil	05/21/2019 09:40	GC10 05261926.D	178288

Analytes	Result	RL	DE	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	05/27/2019 13:55
cis-1,3-Dichloropropene	ND	0.0050	1	05/27/2019 13:55
trans-1,3-Dichloropropene	ND	0.0050	1	05/27/2019 13:55
Diisopropyl ether (DIPE)	ND	0.0050	1	05/27/2019 13:55
Ethylbenzene	ND	0.0050	1	05/27/2019 13:55
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	05/27/2019 13:55
Freon 113	ND	0.0050	1	05/27/2019 13:55
Hexachlorobutadiene	ND	0.0050	1	05/27/2019 13:55
Hexachloroethane	ND	0.0050	1	05/27/2019 13:55
2-Hexanone	ND	0.0050	1	05/27/2019 13:55
Isopropylbenzene	ND	0.0050	1	05/27/2019 13:55
4-Isopropyl toluene	ND	0.0050	1	05/27/2019 13:55
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	05/27/2019 13:55
Methylene chloride	ND	0.020	1	05/27/2019 13:55
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	05/27/2019 13:55
Naphthalene	ND	0.0050	1	05/27/2019 13:55
n-Propyl benzene	ND	0.0050	1	05/27/2019 13:55
Styrene	ND	0.0050	1	05/27/2019 13:55
1,1,1,2-Tetrachloroethane	ND	0.0050	1	05/27/2019 13:55
1,1,2,2-Tetrachloroethane	ND	0.0050	1	05/27/2019 13:55
Tetrachloroethene	ND	0.0050	1	05/27/2019 13:55
Toluene	ND	0.0050	1	05/27/2019 13:55
1,2,3-Trichlorobenzene	ND	0.0050	1	05/27/2019 13:55
1,2,4-Trichlorobenzene	ND	0.0050	1	05/27/2019 13:55
1,1,1-Trichloroethane	ND	0.0050	1	05/27/2019 13:55
1,1,2-Trichloroethane	ND	0.0050	1	05/27/2019 13:55
Trichloroethene	ND	0.0050	1	05/27/2019 13:55
Trichlorofluoromethane	ND	0.0050	1	05/27/2019 13:55
1,2,3-Trichloropropane	ND	0.0050	1	05/27/2019 13:55
1,2,4-Trimethylbenzene	ND	0.0050	1	05/27/2019 13:55
1,3,5-Trimethylbenzene	ND	0.0050	1	05/27/2019 13:55
Vinyl Chloride	ND	0.0050	1	05/27/2019 13:55
m,p-Xylene	ND	0.0050	1	05/27/2019 13:55
o-Xylene	ND	0.0050	1	05/27/2019 13:55
Xylenes, Total	ND	0.0050	1	05/27/2019 13:55

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Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 (4.5-5)	1905B97-005A	Soil	05/21/2019 09:40	GC10 05261926.D	178288

Analytes	Result	RL	DE	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	83	66-116		05/27/2019 13:55
Toluene-d8	109	86-110		05/27/2019 13:55
4-BFB	107	71-114		05/27/2019 13:55
Benzene-d6	87	62-122		05/27/2019 13:55
Ethylbenzene-d10	118	69-130		05/27/2019 13:55
1,2-DCB-d4	83	55-108		05/27/2019 13:55

Analyst(s): KF



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 (4.5-5)	1905B97-008A	Soil	05/21/2019 10:00	GC10 05261927.D	178288

Analytes	Result	RL	DE	Date Analyzed
Acetone	ND	0.10	1	05/27/2019 14:35
tert-Amyl methyl ether (TAME)	ND	0.0050	1	05/27/2019 14:35
Benzene	ND	0.0050	1	05/27/2019 14:35
Bromobenzene	ND	0.0050	1	05/27/2019 14:35
Bromochloromethane	ND	0.0050	1	05/27/2019 14:35
Bromodichloromethane	ND	0.0050	1	05/27/2019 14:35
Bromoform	ND	0.0050	1	05/27/2019 14:35
Bromomethane	ND	0.0050	1	05/27/2019 14:35
2-Butanone (MEK)	ND	0.050	1	05/27/2019 14:35
t-Butyl alcohol (TBA)	ND	0.050	1	05/27/2019 14:35
n-Butyl benzene	ND	0.0050	1	05/27/2019 14:35
sec-Butyl benzene	ND	0.0050	1	05/27/2019 14:35
tert-Butyl benzene	ND	0.0050	1	05/27/2019 14:35
Carbon Disulfide	ND	0.0050	1	05/27/2019 14:35
Carbon Tetrachloride	ND	0.0050	1	05/27/2019 14:35
Chlorobenzene	ND	0.0050	1	05/27/2019 14:35
Chloroethane	ND	0.0050	1	05/27/2019 14:35
Chloroform	ND	0.0050	1	05/27/2019 14:35
Chloromethane	ND	0.0050	1	05/27/2019 14:35
2-Chlorotoluene	ND	0.0050	1	05/27/2019 14:35
4-Chlorotoluene	ND	0.0050	1	05/27/2019 14:35
Dibromochloromethane	ND	0.0050	1	05/27/2019 14:35
1,2-Dibromo-3-chloropropane	ND	0.0050	1	05/27/2019 14:35
1,2-Dibromoethane (EDB)	ND	0.0040	1	05/27/2019 14:35
Dibromomethane	ND	0.0050	1	05/27/2019 14:35
1,2-Dichlorobenzene	ND	0.0050	1	05/27/2019 14:35
1,3-Dichlorobenzene	ND	0.0050	1	05/27/2019 14:35
1,4-Dichlorobenzene	ND	0.0050	1	05/27/2019 14:35
Dichlorodifluoromethane	ND	0.0050	1	05/27/2019 14:35
1,1-Dichloroethane	ND	0.0050	1	05/27/2019 14:35
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	05/27/2019 14:35
1,1-Dichloroethene	ND	0.0050	1	05/27/2019 14:35
cis-1,2-Dichloroethene	ND	0.0050	1	05/27/2019 14:35
trans-1,2-Dichloroethene	ND	0.0050	1	05/27/2019 14:35
1,2-Dichloropropane	ND	0.0050	1	05/27/2019 14:35
1,3-Dichloropropane	ND	0.0050	1	05/27/2019 14:35
2,2-Dichloropropane	ND	0.0050	1	05/27/2019 14:35

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Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 (4.5-5)	1905B97-008A	Soil	05/21/2019 10:00	GC10 05261927.D	178288

Analytes	Result	RL	DE	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	05/27/2019 14:35
cis-1,3-Dichloropropene	ND	0.0050	1	05/27/2019 14:35
trans-1,3-Dichloropropene	ND	0.0050	1	05/27/2019 14:35
Diisopropyl ether (DIPE)	ND	0.0050	1	05/27/2019 14:35
Ethylbenzene	ND	0.0050	1	05/27/2019 14:35
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	05/27/2019 14:35
Freon 113	ND	0.0050	1	05/27/2019 14:35
Hexachlorobutadiene	ND	0.0050	1	05/27/2019 14:35
Hexachloroethane	ND	0.0050	1	05/27/2019 14:35
2-Hexanone	ND	0.0050	1	05/27/2019 14:35
Isopropylbenzene	ND	0.0050	1	05/27/2019 14:35
4-Isopropyl toluene	ND	0.0050	1	05/27/2019 14:35
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	05/27/2019 14:35
Methylene chloride	ND	0.020	1	05/27/2019 14:35
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	05/27/2019 14:35
Naphthalene	ND	0.0050	1	05/27/2019 14:35
n-Propyl benzene	ND	0.0050	1	05/27/2019 14:35
Styrene	ND	0.0050	1	05/27/2019 14:35
1,1,1,2-Tetrachloroethane	ND	0.0050	1	05/27/2019 14:35
1,1,2,2-Tetrachloroethane	ND	0.0050	1	05/27/2019 14:35
Tetrachloroethene	ND	0.0050	1	05/27/2019 14:35
Toluene	ND	0.0050	1	05/27/2019 14:35
1,2,3-Trichlorobenzene	ND	0.0050	1	05/27/2019 14:35
1,2,4-Trichlorobenzene	ND	0.0050	1	05/27/2019 14:35
1,1,1-Trichloroethane	ND	0.0050	1	05/27/2019 14:35
1,1,2-Trichloroethane	ND	0.0050	1	05/27/2019 14:35
Trichloroethene	ND	0.0050	1	05/27/2019 14:35
Trichlorofluoromethane	ND	0.0050	1	05/27/2019 14:35
1,2,3-Trichloropropane	ND	0.0050	1	05/27/2019 14:35
1,2,4-Trimethylbenzene	ND	0.0050	1	05/27/2019 14:35
1,3,5-Trimethylbenzene	ND	0.0050	1	05/27/2019 14:35
Vinyl Chloride	ND	0.0050	1	05/27/2019 14:35
m,p-Xylene	ND	0.0050	1	05/27/2019 14:35
o-Xylene	ND	0.0050	1	05/27/2019 14:35
Xylenes, Total	ND	0.0050	1	05/27/2019 14:35

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Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 (4.5-5)	1905B97-008A	Soil	05/21/2019 10:00	GC10 05261927.D	178288

Analytes	Result	RL	DE	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	83	66-116		05/27/2019 14:35
Toluene-d8	109	86-110		05/27/2019 14:35
4-BFB	108	71-114		05/27/2019 14:35
Benzene-d6	92	62-122		05/27/2019 14:35
Ethylbenzene-d10	126	69-130		05/27/2019 14:35
1,2-DCB-d4	87	55-108		05/27/2019 14:35

Analyst(s): KF



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 (4.5-5)	1905B97-011A	Soil	05/21/2019 10:15	GC10 05261928.D	178288
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DE</u>		<u>Date Analyzed</u>
Acetone	ND		0.10 1		05/27/2019 15:15
tert-Amyl methyl ether (TAME)	ND		0.0050 1		05/27/2019 15:15
Benzene	ND		0.0050 1		05/27/2019 15:15
Bromobenzene	ND		0.0050 1		05/27/2019 15:15
Bromochloromethane	ND		0.0050 1		05/27/2019 15:15
Bromodichloromethane	ND		0.0050 1		05/27/2019 15:15
Bromoform	ND		0.0050 1		05/27/2019 15:15
Bromomethane	ND		0.0050 1		05/27/2019 15:15
2-Butanone (MEK)	ND		0.050 1		05/27/2019 15:15
t-Butyl alcohol (TBA)	ND		0.050 1		05/27/2019 15:15
n-Butyl benzene	ND		0.0050 1		05/27/2019 15:15
sec-Butyl benzene	ND		0.0050 1		05/27/2019 15:15
tert-Butyl benzene	ND		0.0050 1		05/27/2019 15:15
Carbon Disulfide	ND		0.0050 1		05/27/2019 15:15
Carbon Tetrachloride	ND		0.0050 1		05/27/2019 15:15
Chlorobenzene	ND		0.0050 1		05/27/2019 15:15
Chloroethane	ND		0.0050 1		05/27/2019 15:15
Chloroform	ND		0.0050 1		05/27/2019 15:15
Chloromethane	ND		0.0050 1		05/27/2019 15:15
2-Chlorotoluene	ND		0.0050 1		05/27/2019 15:15
4-Chlorotoluene	ND		0.0050 1		05/27/2019 15:15
Dibromochloromethane	ND		0.0050 1		05/27/2019 15:15
1,2-Dibromo-3-chloropropane	ND		0.0050 1		05/27/2019 15:15
1,2-Dibromoethane (EDB)	ND		0.0040 1		05/27/2019 15:15
Dibromomethane	ND		0.0050 1		05/27/2019 15:15
1,2-Dichlorobenzene	ND		0.0050 1		05/27/2019 15:15
1,3-Dichlorobenzene	ND		0.0050 1		05/27/2019 15:15
1,4-Dichlorobenzene	ND		0.0050 1		05/27/2019 15:15
Dichlorodifluoromethane	ND		0.0050 1		05/27/2019 15:15
1,1-Dichloroethane	ND		0.0050 1		05/27/2019 15:15
1,2-Dichloroethane (1,2-DCA)	ND		0.0040 1		05/27/2019 15:15
1,1-Dichloroethene	ND		0.0050 1		05/27/2019 15:15
cis-1,2-Dichloroethene	ND		0.0050 1		05/27/2019 15:15
trans-1,2-Dichloroethene	ND		0.0050 1		05/27/2019 15:15
1,2-Dichloropropane	ND		0.0050 1		05/27/2019 15:15
1,3-Dichloropropane	ND		0.0050 1		05/27/2019 15:15
2,2-Dichloropropane	ND		0.0050 1		05/27/2019 15:15

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Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 (4.5-5)	1905B97-011A	Soil	05/21/2019 10:15	GC10 05261928.D	178288

Analytes	Result	RL	DE	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	05/27/2019 15:15
cis-1,3-Dichloropropene	ND	0.0050	1	05/27/2019 15:15
trans-1,3-Dichloropropene	ND	0.0050	1	05/27/2019 15:15
Diisopropyl ether (DIPE)	ND	0.0050	1	05/27/2019 15:15
Ethylbenzene	ND	0.0050	1	05/27/2019 15:15
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	05/27/2019 15:15
Freon 113	ND	0.0050	1	05/27/2019 15:15
Hexachlorobutadiene	ND	0.0050	1	05/27/2019 15:15
Hexachloroethane	ND	0.0050	1	05/27/2019 15:15
2-Hexanone	ND	0.0050	1	05/27/2019 15:15
Isopropylbenzene	ND	0.0050	1	05/27/2019 15:15
4-Isopropyl toluene	ND	0.0050	1	05/27/2019 15:15
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	05/27/2019 15:15
Methylene chloride	ND	0.020	1	05/27/2019 15:15
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	05/27/2019 15:15
Naphthalene	ND	0.0050	1	05/27/2019 15:15
n-Propyl benzene	ND	0.0050	1	05/27/2019 15:15
Styrene	ND	0.0050	1	05/27/2019 15:15
1,1,1,2-Tetrachloroethane	ND	0.0050	1	05/27/2019 15:15
1,1,2,2-Tetrachloroethane	ND	0.0050	1	05/27/2019 15:15
Tetrachloroethene	ND	0.0050	1	05/27/2019 15:15
Toluene	ND	0.0050	1	05/27/2019 15:15
1,2,3-Trichlorobenzene	ND	0.0050	1	05/27/2019 15:15
1,2,4-Trichlorobenzene	ND	0.0050	1	05/27/2019 15:15
1,1,1-Trichloroethane	ND	0.0050	1	05/27/2019 15:15
1,1,2-Trichloroethane	ND	0.0050	1	05/27/2019 15:15
Trichloroethene	ND	0.0050	1	05/27/2019 15:15
Trichlorofluoromethane	ND	0.0050	1	05/27/2019 15:15
1,2,3-Trichloropropane	ND	0.0050	1	05/27/2019 15:15
1,2,4-Trimethylbenzene	ND	0.0050	1	05/27/2019 15:15
1,3,5-Trimethylbenzene	ND	0.0050	1	05/27/2019 15:15
Vinyl Chloride	ND	0.0050	1	05/27/2019 15:15
m,p-Xylene	ND	0.0050	1	05/27/2019 15:15
o-Xylene	ND	0.0050	1	05/27/2019 15:15
Xylenes, Total	ND	0.0050	1	05/27/2019 15:15

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Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 (4.5-5)	1905B97-011A	Soil	05/21/2019 10:15	GC10 05261928.D	178288

Analytes	Result	RL	DE	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	85	66-116		05/27/2019 15:15
Toluene-d8	108	86-110		05/27/2019 15:15
4-BFB	105	71-114		05/27/2019 15:15
Benzene-d6	90	62-122		05/27/2019 15:15
Ethylbenzene-d10	122	69-130		05/27/2019 15:15
1,2-DCB-d4	85	55-108		05/27/2019 15:15

Analyst(s): KF



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 (4.5-5)	1905B97-014A	Soil	05/21/2019 10:40	GC10 05261929.D	178288
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DE</u>		<u>Date Analyzed</u>
Acetone	ND		0.10 1		05/27/2019 15:56
tert-Amyl methyl ether (TAME)	ND		0.0050 1		05/27/2019 15:56
Benzene	ND		0.0050 1		05/27/2019 15:56
Bromobenzene	ND		0.0050 1		05/27/2019 15:56
Bromochloromethane	ND		0.0050 1		05/27/2019 15:56
Bromodichloromethane	ND		0.0050 1		05/27/2019 15:56
Bromoform	ND		0.0050 1		05/27/2019 15:56
Bromomethane	ND		0.0050 1		05/27/2019 15:56
2-Butanone (MEK)	ND		0.050 1		05/27/2019 15:56
t-Butyl alcohol (TBA)	ND		0.050 1		05/27/2019 15:56
n-Butyl benzene	ND		0.0050 1		05/27/2019 15:56
sec-Butyl benzene	ND		0.0050 1		05/27/2019 15:56
tert-Butyl benzene	ND		0.0050 1		05/27/2019 15:56
Carbon Disulfide	ND		0.0050 1		05/27/2019 15:56
Carbon Tetrachloride	ND		0.0050 1		05/27/2019 15:56
Chlorobenzene	ND		0.0050 1		05/27/2019 15:56
Chloroethane	ND		0.0050 1		05/27/2019 15:56
Chloroform	ND		0.0050 1		05/27/2019 15:56
Chloromethane	ND		0.0050 1		05/27/2019 15:56
2-Chlorotoluene	ND		0.0050 1		05/27/2019 15:56
4-Chlorotoluene	ND		0.0050 1		05/27/2019 15:56
Dibromochloromethane	ND		0.0050 1		05/27/2019 15:56
1,2-Dibromo-3-chloropropane	ND		0.0050 1		05/27/2019 15:56
1,2-Dibromoethane (EDB)	ND		0.0040 1		05/27/2019 15:56
Dibromomethane	ND		0.0050 1		05/27/2019 15:56
1,2-Dichlorobenzene	ND		0.0050 1		05/27/2019 15:56
1,3-Dichlorobenzene	ND		0.0050 1		05/27/2019 15:56
1,4-Dichlorobenzene	ND		0.0050 1		05/27/2019 15:56
Dichlorodifluoromethane	ND		0.0050 1		05/27/2019 15:56
1,1-Dichloroethane	ND		0.0050 1		05/27/2019 15:56
1,2-Dichloroethane (1,2-DCA)	ND		0.0040 1		05/27/2019 15:56
1,1-Dichloroethene	ND		0.0050 1		05/27/2019 15:56
cis-1,2-Dichloroethene	ND		0.0050 1		05/27/2019 15:56
trans-1,2-Dichloroethene	ND		0.0050 1		05/27/2019 15:56
1,2-Dichloropropane	ND		0.0050 1		05/27/2019 15:56
1,3-Dichloropropane	ND		0.0050 1		05/27/2019 15:56
2,2-Dichloropropane	ND		0.0050 1		05/27/2019 15:56

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Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 (4.5-5)	1905B97-014A	Soil	05/21/2019 10:40	GC10 05261929.D	178288

Analytes	Result	RL	DE	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	05/27/2019 15:56
cis-1,3-Dichloropropene	ND	0.0050	1	05/27/2019 15:56
trans-1,3-Dichloropropene	ND	0.0050	1	05/27/2019 15:56
Diisopropyl ether (DIPE)	ND	0.0050	1	05/27/2019 15:56
Ethylbenzene	ND	0.0050	1	05/27/2019 15:56
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	05/27/2019 15:56
Freon 113	ND	0.0050	1	05/27/2019 15:56
Hexachlorobutadiene	ND	0.0050	1	05/27/2019 15:56
Hexachloroethane	ND	0.0050	1	05/27/2019 15:56
2-Hexanone	ND	0.0050	1	05/27/2019 15:56
Isopropylbenzene	ND	0.0050	1	05/27/2019 15:56
4-Isopropyl toluene	ND	0.0050	1	05/27/2019 15:56
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	05/27/2019 15:56
Methylene chloride	ND	0.020	1	05/27/2019 15:56
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	05/27/2019 15:56
Naphthalene	ND	0.0050	1	05/27/2019 15:56
n-Propyl benzene	ND	0.0050	1	05/27/2019 15:56
Styrene	ND	0.0050	1	05/27/2019 15:56
1,1,1,2-Tetrachloroethane	ND	0.0050	1	05/27/2019 15:56
1,1,2,2-Tetrachloroethane	ND	0.0050	1	05/27/2019 15:56
Tetrachloroethene	ND	0.0050	1	05/27/2019 15:56
Toluene	ND	0.0050	1	05/27/2019 15:56
1,2,3-Trichlorobenzene	ND	0.0050	1	05/27/2019 15:56
1,2,4-Trichlorobenzene	ND	0.0050	1	05/27/2019 15:56
1,1,1-Trichloroethane	ND	0.0050	1	05/27/2019 15:56
1,1,2-Trichloroethane	ND	0.0050	1	05/27/2019 15:56
Trichloroethene	ND	0.0050	1	05/27/2019 15:56
Trichlorofluoromethane	ND	0.0050	1	05/27/2019 15:56
1,2,3-Trichloropropane	ND	0.0050	1	05/27/2019 15:56
1,2,4-Trimethylbenzene	ND	0.0050	1	05/27/2019 15:56
1,3,5-Trimethylbenzene	ND	0.0050	1	05/27/2019 15:56
Vinyl Chloride	ND	0.0050	1	05/27/2019 15:56
m,p-Xylene	ND	0.0050	1	05/27/2019 15:56
o-Xylene	ND	0.0050	1	05/27/2019 15:56
Xylenes, Total	ND	0.0050	1	05/27/2019 15:56

(Cont.)



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 (4.5-5)	1905B97-014A	Soil	05/21/2019 10:40	GC10 05261929.D	178288

Analytes	Result	RL	DE	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	84	66-116		05/27/2019 15:56
Toluene-d8	106	86-110		05/27/2019 15:56
4-BFB	105	71-114		05/27/2019 15:56
Benzene-d6	80	62-122		05/27/2019 15:56
Ethylbenzene-d10	103	69-130		05/27/2019 15:56
1,2-DCB-d4	74	55-108		05/27/2019 15:56

Analyst(s): KF



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 (4.5-5)	1905B97-002A	Soil	05/21/2019 09:25	GC17 05241931.D	178377

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	2.1	200	05/24/2019 22:55
Acenaphthylene	ND	2.1	200	05/24/2019 22:55
Anthracene	ND	2.1	200	05/24/2019 22:55
Benzo (a) anthracene	ND	8.0	200	05/24/2019 22:55
Benzo (a) pyrene	ND	4.0	200	05/24/2019 22:55
Benzo (b) fluoranthene	ND	2.1	200	05/24/2019 22:55
Benzo (g,h,i) perylene	ND	4.0	200	05/24/2019 22:55
Benzo (k) fluoranthene	ND	2.1	200	05/24/2019 22:55
Chrysene	ND	4.0	200	05/24/2019 22:55
Dibenzo (a,h) anthracene	ND	4.0	200	05/24/2019 22:55
Fluoranthene	ND	2.1	200	05/24/2019 22:55
Fluorene	ND	4.0	200	05/24/2019 22:55
Indeno (1,2,3-cd) pyrene	ND	4.0	200	05/24/2019 22:55
1-Methylnaphthalene	ND	2.1	200	05/24/2019 22:55
2-Methylnaphthalene	ND	4.0	200	05/24/2019 22:55
Naphthalene	ND	2.1	200	05/24/2019 22:55
Phenanthrene	ND	8.0	200	05/24/2019 22:55
Pyrene	ND	4.0	200	05/24/2019 22:55

Surrogates	REC (%)	Qualifiers	Limits	
2,4,6-Tribromophenol	707	S	25-166	05/24/2019 22:55
2-Fluorobiphenyl	150	S	46-141	05/24/2019 22:55
2-Fluorophenol	282	S	56-152	05/24/2019 22:55
4-Terphenyl-d14	525	S	39-153	05/24/2019 22:55
Nitrobenzene-d5	464	S	47-147	05/24/2019 22:55
Phenol-d5	246	S	54-146	05/24/2019 22:55

Analyst(s): REB

Analytical Comments: a3,a4,c1

(Cont.)



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 (4.5-5)	1905B97-005A	Soil	05/21/2019 09:40	GC17 05241932.D	178377

Analytes	Result	RL	DE	Date Analyzed
Acenaphthene	ND	2.1	200	05/24/2019 23:22
Acenaphthylene	ND	2.1	200	05/24/2019 23:22
Anthracene	ND	2.1	200	05/24/2019 23:22
Benzo (a) anthracene	ND	8.0	200	05/24/2019 23:22
Benzo (a) pyrene	ND	4.0	200	05/24/2019 23:22
Benzo (b) fluoranthene	ND	2.1	200	05/24/2019 23:22
Benzo (g,h,i) perylene	ND	4.0	200	05/24/2019 23:22
Benzo (k) fluoranthene	ND	2.1	200	05/24/2019 23:22
Chrysene	ND	4.0	200	05/24/2019 23:22
Dibenzo (a,h) anthracene	ND	4.0	200	05/24/2019 23:22
Fluoranthene	ND	2.1	200	05/24/2019 23:22
Fluorene	ND	4.0	200	05/24/2019 23:22
Indeno (1,2,3-cd) pyrene	ND	4.0	200	05/24/2019 23:22
1-Methylnaphthalene	ND	2.1	200	05/24/2019 23:22
2-Methylnaphthalene	ND	4.0	200	05/24/2019 23:22
Naphthalene	ND	2.1	200	05/24/2019 23:22
Phenanthrene	ND	8.0	200	05/24/2019 23:22
Pyrene	ND	4.0	200	05/24/2019 23:22

Surrogates	REC (%)	Qualifiers	Limits	
2,4,6-Tribromophenol	0	S	25-166	05/24/2019 23:22
2-Fluorobiphenyl	93		46-141	05/24/2019 23:22
2-Fluorophenol	410	S	56-152	05/24/2019 23:22
4-Terphenyl-d14	333	S	39-153	05/24/2019 23:22
Nitrobenzene-d5	144		47-147	05/24/2019 23:22
Phenol-d5	179	S	54-146	05/24/2019 23:22

Analyst(s): REB

Analytical Comments: a3,a4,c1

(Cont.)



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 (4.5-5)	1905B97-008A	Soil	05/21/2019 10:00	GC17 05241933.D	178377

Analytes	Result	RL	DE	Date Analyzed
Acenaphthene	ND	0.0065	5	05/24/2019 23:49
Acenaphthylene	ND	0.0065	5	05/24/2019 23:49
Anthracene	ND	0.0065	5	05/24/2019 23:49
Benzo (a) anthracene	ND	0.025	5	05/24/2019 23:49
Benzo (a) pyrene	ND	0.012	5	05/24/2019 23:49
Benzo (b) fluoranthene	ND	0.0065	5	05/24/2019 23:49
Benzo (g,h,i) perylene	ND	0.012	5	05/24/2019 23:49
Benzo (k) fluoranthene	ND	0.0065	5	05/24/2019 23:49
Chrysene	ND	0.012	5	05/24/2019 23:49
Dibenzo (a,h) anthracene	ND	0.012	5	05/24/2019 23:49
Fluoranthene	ND	0.0065	5	05/24/2019 23:49
Fluorene	ND	0.012	5	05/24/2019 23:49
Indeno (1,2,3-cd) pyrene	ND	0.012	5	05/24/2019 23:49
1-Methylnaphthalene	ND	0.0065	5	05/24/2019 23:49
2-Methylnaphthalene	ND	0.012	5	05/24/2019 23:49
Naphthalene	ND	0.0065	5	05/24/2019 23:49
Phenanthrene	ND	0.025	5	05/24/2019 23:49
Pyrene	ND	0.012	5	05/24/2019 23:49

Surrogates	REC (%)	Limits	
2,4,6-Tribromophenol	79	25-166	05/24/2019 23:49
2-Fluorobiphenyl	100	46-141	05/24/2019 23:49
2-Fluorophenol	146	56-152	05/24/2019 23:49
4-Terphenyl-d14	108	39-153	05/24/2019 23:49
Nitrobenzene-d5	104	47-147	05/24/2019 23:49
Phenol-d5	138	54-146	05/24/2019 23:49

Analyst(s): REB

Analytical Comments: a3



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 (4.5-5)	1905B97-011A	Soil	05/21/2019 10:15	GC17 05241934.D	178377

Analytes	Result	RL	DE	Date Analyzed
Acenaphthene	ND	0.0013	1	05/25/2019 00:16
Acenaphthylene	ND	0.0013	1	05/25/2019 00:16
Anthracene	ND	0.0013	1	05/25/2019 00:16
Benzo (a) anthracene	ND	0.0050	1	05/25/2019 00:16
Benzo (a) pyrene	ND	0.0025	1	05/25/2019 00:16
Benzo (b) fluoranthene	ND	0.0013	1	05/25/2019 00:16
Benzo (g,h,i) perylene	ND	0.0025	1	05/25/2019 00:16
Benzo (k) fluoranthene	ND	0.0013	1	05/25/2019 00:16
Chrysene	ND	0.0025	1	05/25/2019 00:16
Dibenzo (a,h) anthracene	ND	0.0025	1	05/25/2019 00:16
Fluoranthene	ND	0.0013	1	05/25/2019 00:16
Fluorene	ND	0.0025	1	05/25/2019 00:16
Indeno (1,2,3-cd) pyrene	ND	0.0025	1	05/25/2019 00:16
1-Methylnaphthalene	ND	0.0013	1	05/25/2019 00:16
2-Methylnaphthalene	ND	0.0025	1	05/25/2019 00:16
Naphthalene	ND	0.0013	1	05/25/2019 00:16
Phenanthrene	ND	0.0050	1	05/25/2019 00:16
Pyrene	ND	0.0025	1	05/25/2019 00:16

Surrogates	REC (%)	Limits	
2,4,6-Tribromophenol	58	25-166	05/25/2019 00:16
2-Fluorobiphenyl	89	46-141	05/25/2019 00:16
2-Fluorophenol	127	56-152	05/25/2019 00:16
4-Terphenyl-d14	112	39-153	05/25/2019 00:16
Nitrobenzene-d5	95	47-147	05/25/2019 00:16
Phenol-d5	120	54-146	05/25/2019 00:16

Analyst(s): REB

(Cont.)



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 (4.5-5)	1905B97-014A	Soil	05/21/2019 10:40	GC17 05241935.D	178377

Analytes	Result	RL	DE	Date Analyzed
Acenaphthene	ND	0.0013	1	05/25/2019 00:43
Acenaphthylene	ND	0.0013	1	05/25/2019 00:43
Anthracene	ND	0.0013	1	05/25/2019 00:43
Benzo (a) anthracene	ND	0.0050	1	05/25/2019 00:43
Benzo (a) pyrene	ND	0.0025	1	05/25/2019 00:43
Benzo (b) fluoranthene	ND	0.0013	1	05/25/2019 00:43
Benzo (g,h,i) perylene	ND	0.0025	1	05/25/2019 00:43
Benzo (k) fluoranthene	ND	0.0013	1	05/25/2019 00:43
Chrysene	ND	0.0025	1	05/25/2019 00:43
Dibenzo (a,h) anthracene	ND	0.0025	1	05/25/2019 00:43
Fluoranthene	ND	0.0013	1	05/25/2019 00:43
Fluorene	ND	0.0025	1	05/25/2019 00:43
Indeno (1,2,3-cd) pyrene	ND	0.0025	1	05/25/2019 00:43
1-Methylnaphthalene	ND	0.0013	1	05/25/2019 00:43
2-Methylnaphthalene	ND	0.0025	1	05/25/2019 00:43
Naphthalene	ND	0.0013	1	05/25/2019 00:43
Phenanthrene	ND	0.0050	1	05/25/2019 00:43
Pyrene	ND	0.0025	1	05/25/2019 00:43

Surrogates	REC (%)	Limits	
2,4,6-Tribromophenol	45	25-166	05/25/2019 00:43
2-Fluorobiphenyl	77	46-141	05/25/2019 00:43
2-Fluorophenol	128	56-152	05/25/2019 00:43
4-Terphenyl-d14	100	39-153	05/25/2019 00:43
Nitrobenzene-d5	82	47-147	05/25/2019 00:43
Phenol-d5	119	54-146	05/25/2019 00:43

Analyst(s): REB



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 (4.5-5)	1905B97-002A	Soil	05/21/2019 09:25	GC7 05231938.D	178354

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	05/24/2019 06:42
MTBE	---	0.050	1	05/24/2019 06:42
Benzene	---	0.0050	1	05/24/2019 06:42
Toluene	---	0.0050	1	05/24/2019 06:42
Ethylbenzene	---	0.0050	1	05/24/2019 06:42
m,p-Xylene	---	0.010	1	05/24/2019 06:42
o-Xylene	---	0.0050	1	05/24/2019 06:42
Xylenes	---	0.0050	1	05/24/2019 06:42

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	79	62-126	05/24/2019 06:42

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 (4.5-5)	1905B97-005A	Soil	05/21/2019 09:40	GC7 05231939.D	178354

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	05/24/2019 07:12
MTBE	---	0.050	1	05/24/2019 07:12
Benzene	---	0.0050	1	05/24/2019 07:12
Toluene	---	0.0050	1	05/24/2019 07:12
Ethylbenzene	---	0.0050	1	05/24/2019 07:12
m,p-Xylene	---	0.010	1	05/24/2019 07:12
o-Xylene	---	0.0050	1	05/24/2019 07:12
Xylenes	---	0.0050	1	05/24/2019 07:12

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	80	62-126	05/24/2019 07:12

Analyst(s): IA

(Cont.)



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 (4.5-5)	1905B97-008A	Soil	05/21/2019 10:00	GC7 05231935.D	178354

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	05/24/2019 05:13
MTBE	---	0.050	1	05/24/2019 05:13
Benzene	---	0.0050	1	05/24/2019 05:13
Toluene	---	0.0050	1	05/24/2019 05:13
Ethylbenzene	---	0.0050	1	05/24/2019 05:13
m,p-Xylene	---	0.010	1	05/24/2019 05:13
o-Xylene	---	0.0050	1	05/24/2019 05:13
Xylenes	---	0.0050	1	05/24/2019 05:13

Surrogates	REC (%)	Limits	
2-Fluorotoluene	84	62-126	05/24/2019 05:13

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 (4.5-5)	1905B97-011A	Soil	05/21/2019 10:15	GC7 05231936.D	178354

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	05/24/2019 05:43
MTBE	---	0.050	1	05/24/2019 05:43
Benzene	---	0.0050	1	05/24/2019 05:43
Toluene	---	0.0050	1	05/24/2019 05:43
Ethylbenzene	---	0.0050	1	05/24/2019 05:43
m,p-Xylene	---	0.010	1	05/24/2019 05:43
o-Xylene	---	0.0050	1	05/24/2019 05:43
Xylenes	---	0.0050	1	05/24/2019 05:43

Surrogates	REC (%)	Limits	
2-Fluorotoluene	80	62-126	05/24/2019 05:43

Analyst(s): IA

(Cont.)



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected		Instrument	Batch ID
B-5 (4.5-5)	1905B97-014A	Soil	05/21/2019 10:40		GC7 05241938.D	178354
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>	
TPH(g) (C6-C12)	ND		1.0	1	05/25/2019 06:13	
MTBE	---		0.050	1	05/25/2019 06:13	
Benzene	---		0.0050	1	05/25/2019 06:13	
Toluene	---		0.0050	1	05/25/2019 06:13	
Ethylbenzene	---		0.0050	1	05/25/2019 06:13	
m,p-Xylene	---		0.010	1	05/25/2019 06:13	
o-Xylene	---		0.0050	1	05/25/2019 06:13	
Xylenes	---		0.0050	1	05/25/2019 06:13	
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>			
2-Fluorotoluene	69		62-126		05/25/2019 06:13	
<u>Analyst(s):</u> IA						



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 (4.5-5)	1905B97-002A	Soil	05/21/2019 09:25	ICP-MS3 132SMPL.D	178361

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/24/2019 21:12
Chromium	44	0.50	1	05/24/2019 21:12
Lead	9.0	0.50	1	05/24/2019 21:12
Nickel	24	0.50	1	05/24/2019 21:12
Zinc	28	5.0	1	05/24/2019 21:12

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	102	70-130	05/24/2019 21:12

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 (4.5-5)	1905B97-005A	Soil	05/21/2019 09:40	ICP-MS3 133SMPL.D	178361

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/24/2019 21:18
Chromium	57	0.50	1	05/24/2019 21:18
Lead	4.6	0.50	1	05/24/2019 21:18
Nickel	26	0.50	1	05/24/2019 21:18
Zinc	24	5.0	1	05/24/2019 21:18

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	113	70-130	05/24/2019 21:18

Analyst(s): DB



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 (4.5-5)	1905B97-008A	Soil	05/21/2019 10:00	ICP-MS3 134SMPL.D	178361

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/24/2019 21:24
Chromium	49	0.50	1	05/24/2019 21:24
Lead	39	0.50	1	05/24/2019 21:24
Nickel	26	0.50	1	05/24/2019 21:24
Zinc	68	5.0	1	05/24/2019 21:24

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	113	70-130	05/24/2019 21:24

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 (4.5-5)	1905B97-011A	Soil	05/21/2019 10:15	ICP-MS3 135SMPL.D	178361

Analytes	Result	RL	DF	Date Analyzed
Cadmium	ND	0.25	1	05/24/2019 21:31
Chromium	57	0.50	1	05/24/2019 21:31
Lead	10	0.50	1	05/24/2019 21:31
Nickel	30	0.50	1	05/24/2019 21:31
Zinc	45	5.0	1	05/24/2019 21:31

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	109	70-130	05/24/2019 21:31

Analyst(s): DB

(Cont.)



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

LUFT 5 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 (4.5-5)	1905B97-014A	Soil	05/21/2019 10:40	ICP-MS3 136SMPL.D	178361

Analytes	Result	RL	DE	Date Analyzed
Cadmium	ND	0.25	1	05/24/2019 21:37
Chromium	45	0.50	1	05/24/2019 21:37
Lead	2.5	0.50	1	05/24/2019 21:37
Nickel	24	0.50	1	05/24/2019 21:37
Zinc	21	5.0	1	05/24/2019 21:37

Surrogates	REC (%)	Limits	
Terbium	108	70-130	05/24/2019 21:37

Analyst(s): DB



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1 (4.5-5)	1905B97-002A	Soil	05/21/2019 09:25	GC11B 05281959.D	178366

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	13	5.0	5	05/29/2019 03:10
TPH-Motor Oil (C18-C36)	210	25	5	05/29/2019 03:10

Surrogates	REC (%)	Limits	
C9	93	74-123	05/29/2019 03:10

Analyst(s): JIS

Analytical Comments: e2,e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-2 (4.5-5)	1905B97-005A	Soil	05/21/2019 09:40	GC11B 05291909.D	178366

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	3.6	2.0	2	05/29/2019 16:39
TPH-Motor Oil (C18-C36)	70	10	2	05/29/2019 16:39

Surrogates	REC (%)	Limits	
C9	82	74-123	05/29/2019 16:39

Analyst(s): JIS

Analytical Comments: e2,e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-3 (4.5-5)	1905B97-008A	Soil	05/21/2019 10:00	GC9b 05281945.D	178366

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.1	1.0	1	05/28/2019 22:29
TPH-Motor Oil (C18-C36)	19	5.0	1	05/28/2019 22:29

Surrogates	REC (%)	Limits	
C9	100	74-123	05/28/2019 22:29

Analyst(s): JIS

Analytical Comments: e2,e7

(Cont.)



Analytical Report

Client: All West Environmental, Inc
Date Received: 5/22/19 16:40
Date Prepared: 5/22/19
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4 (4.5-5)	1905B97-011A	Soil	05/21/2019 10:15	GC9a 05261992.D	178366

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	05/27/2019 18:10
TPH-Motor Oil (C18-C36)	ND	5.0	1	05/27/2019 18:10

Surrogates	REC (%)	Limits	
C9	94	74-123	05/27/2019 18:10

Analyst(s): JIS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5 (4.5-5)	1905B97-014A	Soil	05/21/2019 10:40	GC9b 05281949.D	178366

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	05/28/2019 23:47
TPH-Motor Oil (C18-C36)	ND	5.0	1	05/28/2019 23:47

Surrogates	REC (%)	Limits	
C9	99	74-123	05/28/2019 23:47

Analyst(s): JIS



Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/21/19
Date Analyzed: 5/22/19 - 5/23/19
Instrument: GC10, GC38
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178288
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg
Sample ID: MB/LCS/LCSD-178288

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	0.039	0.10	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0010	0.0050	-	-	-
Benzene	ND	0.0016	0.0050	-	-	-
Bromobenzene	ND	0.0030	0.0050	-	-	-
Bromochloromethane	ND	0.0015	0.0050	-	-	-
Bromodichloromethane	ND	0.0012	0.0050	-	-	-
Bromoform	ND	0.0012	0.0050	-	-	-
Bromomethane	ND	0.0020	0.0050	-	-	-
2-Butanone (MEK)	ND	0.021	0.050	-	-	-
t-Butyl alcohol (TBA)	ND	0.0053	0.050	-	-	-
n-Butyl benzene	ND	0.0035	0.0050	-	-	-
sec-Butyl benzene	ND	0.0034	0.0050	-	-	-
tert-Butyl benzene	ND	0.0029	0.0050	-	-	-
Carbon Disulfide	ND	0.0036	0.0050	-	-	-
Carbon Tetrachloride	ND	0.0017	0.0050	-	-	-
Chlorobenzene	ND	0.0018	0.0050	-	-	-
Chloroethane	ND	0.0016	0.0050	-	-	-
Chloroform	ND	0.0016	0.0050	-	-	-
Chloromethane	ND	0.0017	0.0050	-	-	-
2-Chlorotoluene	ND	0.0022	0.0050	-	-	-
4-Chlorotoluene	ND	0.0024	0.0050	-	-	-
Dibromochloromethane	ND	0.0011	0.0050	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0037	0.0050	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0013	0.0040	-	-	-
Dibromomethane	ND	0.0014	0.0050	-	-	-
1,2-Dichlorobenzene	ND	0.0032	0.0050	-	-	-
1,3-Dichlorobenzene	ND	0.0018	0.0050	-	-	-
1,4-Dichlorobenzene	ND	0.0018	0.0050	-	-	-
Dichlorodifluoromethane	ND	0.0011	0.0050	-	-	-
1,1-Dichloroethane	ND	0.0017	0.0050	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0014	0.0040	-	-	-
1,1-Dichloroethene	ND	0.0017	0.0050	-	-	-
cis-1,2-Dichloroethene	ND	0.0015	0.0050	-	-	-
trans-1,2-Dichloroethene	ND	0.0016	0.0050	-	-	-
1,2-Dichloropropane	ND	0.0014	0.0050	-	-	-
1,3-Dichloropropane	ND	0.0016	0.0050	-	-	-
2,2-Dichloropropane	ND	0.0013	0.0050	-	-	-
1,1-Dichloropropene	ND	0.0018	0.0050	-	-	-

(Cont.)



Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/21/19
Date Analyzed: 5/22/19 - 5/23/19
Instrument: GC10, GC38
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178288
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg
Sample ID: MB/LCS/LCSD-178288

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.0015	0.0050	-	-	-
trans-1,3-Dichloropropene	ND	0.0014	0.0050	-	-	-
Diisopropyl ether (DIPE)	ND	0.0014	0.0050	-	-	-
Ethylbenzene	ND	0.0025	0.0050	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0013	0.0050	-	-	-
Freon 113	ND	0.0016	0.0050	-	-	-
Hexachlorobutadiene	ND	0.0050	0.0050	-	-	-
Hexachloroethane	ND	0.0025	0.0050	-	-	-
2-Hexanone	ND	0.0022	0.0050	-	-	-
Isopropylbenzene	ND	0.0032	0.0050	-	-	-
4-Isopropyl toluene	ND	0.0032	0.0050	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0013	0.0050	-	-	-
Methylene chloride	ND	0.010	0.020	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.00080	0.0050	-	-	-
Naphthalene	ND	0.0044	0.0050	-	-	-
n-Propyl benzene	ND	0.0029	0.0050	-	-	-
Styrene	ND	0.0030	0.0050	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.0016	0.0050	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.0013	0.0050	-	-	-
Tetrachloroethene	ND	0.0023	0.0050	-	-	-
Toluene	ND	0.0024	0.0050	-	-	-
1,2,3-Trichlorobenzene	ND	0.0030	0.0050	-	-	-
1,2,4-Trichlorobenzene	ND	0.0029	0.0050	-	-	-
1,1,1-Trichloroethane	ND	0.0018	0.0050	-	-	-
1,1,2-Trichloroethane	ND	0.0019	0.0050	-	-	-
Trichloroethene	ND	0.0017	0.0050	-	-	-
Trichlorofluoromethane	ND	0.0016	0.0050	-	-	-
1,2,3-Trichloropropane	ND	0.0019	0.0050	-	-	-
1,2,4-Trimethylbenzene	ND	0.0028	0.0050	-	-	-
1,3,5-Trimethylbenzene	ND	0.0026	0.0050	-	-	-
Vinyl Chloride	ND	0.0015	0.0050	-	-	-
m,p-Xylene	ND	0.0040	0.0050	-	-	-
o-Xylene	ND	0.0018	0.0050	-	-	-

(Cont.)



Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/21/19
Date Analyzed: 5/22/19 - 5/23/19
Instrument: GC10, GC38
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178288
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg
Sample ID: MB/LCS/LCSD-178288

QC Summary Report for SW8260B

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	0.11			0.12	84	66-112
Toluene-d8	0.14			0.12	110,F3	92-109
4-BFB	0.013			0.012	106	72-112
Benzene-d6	0.095			0.10	95	81-126
Ethylbenzene-d10	0.13			0.10	133	92-138
1,2-DCB-d4	0.090			0.10	90	68-108



Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/21/19
Date Analyzed: 5/22/19 - 5/23/19
Instrument: GC10, GC38
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178288
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg
Sample ID: MB/LCS/LCSD-178288

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	0.19	0.19	0.20	95	97	59-127	2.45	20
tert-Amyl methyl ether (TAME)	0.015	0.016	0.020	77	79	54-98	2.71	20
Benzene	0.020	0.020	0.020	99	102	71-115	3.73	20
Bromobenzene	0.019	0.019	0.020	94	97	69-120	2.59	20
Bromochloromethane	0.018	0.018	0.020	90	92	63-117	2.00	20
Bromodichloromethane	0.016	0.017	0.020	81	84	61-109	3.55	20
Bromoform	0.011	0.011	0.020	53	53	46-87	0	20
Bromomethane	0.021	0.022	0.020	104	108	22-195	3.76	20
2-Butanone (MEK)	0.059	0.060	0.080	74	75	53-124	1.45	20
t-Butyl alcohol (TBA)	0.069	0.068	0.080	86	86	29-142	0	20
n-Butyl benzene	0.026	0.027	0.020	128	133	102-169	4.15	20
sec-Butyl benzene	0.025	0.026	0.020	124	131	100-166	5.41	20
tert-Butyl benzene	0.023	0.024	0.020	116	121	91-153	4.41	20
Carbon Disulfide	0.018	0.019	0.020	91	95	60-125	4.65	20
Carbon Tetrachloride	0.017	0.018	0.020	87	92	69-124	6.32	20
Chlorobenzene	0.018	0.019	0.020	91	94	73-116	2.84	20
Chloroethane	0.015	0.016	0.020	76	80	47-140	5.63	20
Chloroform	0.019	0.020	0.020	97	101	69-118	4.09	20
Chloromethane	0.018	0.018	0.020	89	92	30-132	4.08	20
2-Chlorotoluene	0.021	0.022	0.020	105	108	75-147	2.88	20
4-Chlorotoluene	0.021	0.022	0.020	106	108	75-137	2.25	20
Dibromochloromethane	0.014	0.014	0.020	71	72	57-105	1.88	20
1,2-Dibromo-3-chloropropane	0.012	0.012	0.020	62	61	36-103	0.605	20
1,2-Dibromoethane (EDB)	0.016	0.016	0.020	81	82	66-101	1.64	20
Dibromomethane	0.016	0.017	0.020	81	84	61-103	3.57	20
1,2-Dichlorobenzene	0.016	0.016	0.020	78	79	59-104	1.34	20
1,3-Dichlorobenzene	0.019	0.019	0.020	94	94	70-133	0	20
1,4-Dichlorobenzene	0.018	0.019	0.020	91	93	68-123	1.71	20
Dichlorodifluoromethane	0.012	0.013	0.020	62	65	13-107	5.19	20
1,1-Dichloroethane	0.019	0.020	0.020	95	100	69-118	4.66	20
1,2-Dichloroethane (1,2-DCA)	0.018	0.018	0.020	88	90	59-112	2.68	20
1,1-Dichloroethene	0.016	0.017	0.020	82	86	69-126	4.75	20
cis-1,2-Dichloroethene	0.018	0.019	0.020	91	95	69-116	4.22	20
trans-1,2-Dichloroethene	0.019	0.020	0.020	95	99	73-116	4.28	20
1,2-Dichloropropane	0.017	0.018	0.020	86	92	65-111	6.24	20
1,3-Dichloropropane	0.017	0.018	0.020	87	89	67-110	2.02	20
2,2-Dichloropropane	0.020	0.021	0.020	100	105	65-125	5.01	20
1,1-Dichloropropene	0.018	0.019	0.020	88	94	70-123	6.24	20

(Cont.)



Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/21/19
Date Analyzed: 5/22/19 - 5/23/19
Instrument: GC10, GC38
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178288
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg
Sample ID: MB/LCS/LCSD-178288

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	0.017	0.018	0.020	87	92	68-126	5.21	20
trans-1,3-Dichloropropene	0.017	0.017	0.020	85	87	69-117	2.08	20
Diisopropyl ether (DIPE)	0.017	0.018	0.020	87	90	57-110	3.84	20
Ethylbenzene	0.020	0.021	0.020	102	106	80-128	4.12	20
Ethyl tert-butyl ether (ETBE)	0.016	0.017	0.020	81	84	54-106	3.61	20
Freon 113	0.016	0.017	0.020	78	84	60-108	7.05	20
Hexachlorobutadiene	0.020	0.021	0.020	101	105	67-182	3.79	20
Hexachloroethane	0.019	0.020	0.020	97	102	85-156	4.69	20
2-Hexanone	0.013	0.015	0.020	64	74	37-90	14.8	20
Isopropylbenzene	0.021	0.022	0.020	104	108	64-167	3.81	20
4-Isopropyl toluene	0.025	0.026	0.020	126	132	88-167	4.28	20
Methyl-t-butyl ether (MTBE)	0.016	0.017	0.020	82	85	60-102	3.28	20
Methylene chloride	0.024	0.025	0.020	122, F2	124, F2	71-117	1.74	20
4-Methyl-2-pentanone (MIBK)	0.013	0.013	0.020	64	64	48-90	0	20
Naphthalene	0.0098	0.0089	0.020	49	44	29-65	9.63	20
n-Propyl benzene	0.024	0.025	0.020	119	124	88-161	3.52	20
Styrene	0.017	0.017	0.020	84	84	70-108	0	20
1,1,1,2-Tetrachloroethane	0.017	0.018	0.020	85	88	69-117	3.52	20
1,1,2,2-Tetrachloroethane	0.015	0.015	0.020	76	75	53-96	1.19	20
Tetrachloroethene	0.020	0.022	0.020	102	107	78-128	4.95	20
Toluene	0.019	0.019	0.020	93	97	78-121	3.55	20
1,2,3-Trichlorobenzene	0.011	0.011	0.020	56	54	35-80	3.94	20
1,2,4-Trichlorobenzene	0.014	0.014	0.020	69	69	46-101	0	20
1,1,1-Trichloroethane	0.019	0.020	0.020	95	100	69-121	5.10	20
1,1,2-Trichloroethane	0.016	0.016	0.020	81	81	64-104	0	20
Trichloroethene	0.018	0.019	0.020	91	97	73-118	6.56	20
Trichlorofluoromethane	0.018	0.018	0.020	88	92	31-119	4.83	20
1,2,3-Trichloropropane	0.017	0.017	0.020	85	83	65-107	1.77	20
1,2,4-Trimethylbenzene	0.023	0.024	0.020	117	120	80-147	2.21	20
1,3,5-Trimethylbenzene	0.025	0.026	0.020	123	128	83-156	4.51	20
Vinyl Chloride	0.018	0.019	0.020	90	94	40-125	4.46	20
m,p-Xylene	0.038	0.040	0.040	96	100	80-122	3.83	20
o-Xylene	0.019	0.019	0.020	94	97	79-116	2.86	20

(Cont.)



Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/21/19
Date Analyzed: 5/22/19 - 5/23/19
Instrument: GC10, GC38
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178288
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg
Sample ID: MB/LCS/LCSD-178288

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	0.11	0.10	0.12	86	84	66-112	2.53	20
Toluene-d8	0.14	0.14	0.12	108	109	92-109	0.279	20
4-BFB	0.013	0.013	0.012	105	106	72-112	0.683	20
Benzene-d6	0.092	0.094	0.10	92	94	81-126	2.53	20
Ethylbenzene-d10	0.13	0.13	0.10	127	132	92-138	3.85	20
1,2-DCB-d4	0.089	0.092	0.10	89	92	68-108	2.61	20



Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/22/19
Date Analyzed: 5/23/19 - 5/24/19
Instrument: GC21
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178377
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/Kg
Sample ID: MB/LCS/LCSD-178377

QC Summary Report for SW8270C

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
1-Methylnaphthalene	ND	0.0011	0.0013	-	-	-
Acenaphthene	ND	0.00077	0.0013	-	-	-
Acenaphthylene	ND	0.00041	0.0013	-	-	-
Anthracene	ND	0.00082	0.0013	-	-	-
Benzo (a) anthracene	ND	0.0043	0.0050	-	-	-
Benzo (a) pyrene	ND	0.0012	0.0025	-	-	-
Benzo (b) fluoranthene	ND	0.00074	0.0013	-	-	-
Benzo (g,h,i) perylene	ND	0.0011	0.0025	-	-	-
Benzo (k) fluoranthene	ND	0.00079	0.0013	-	-	-
Chrysene	ND	0.00080	0.0025	-	-	-
Dibenzo (a,h) anthracene	ND	0.0015	0.0025	-	-	-
1,2-Dichlorobenzene	ND	0.15	0.25	-	-	-
1,3-Dichlorobenzene	ND	0.13	0.25	-	-	-
1,4-Dichlorobenzene	ND	0.18	0.25	-	-	-
Fluoranthene	ND	0.0011	0.0013	-	-	-
Fluorene	ND	0.00086	0.0025	-	-	-
Hexachlorobutadiene	ND	0.00042	0.0025	-	-	-
Hexachloroethane	ND	0.0011	0.0025	-	-	-
Indeno (1,2,3-cd) pyrene	ND	0.0010	0.0025	-	-	-
2-Methylnaphthalene	ND	0.0017	0.0025	-	-	-
Naphthalene	ND	0.00069	0.0013	-	-	-
Phenanthrene	ND	0.00067	0.0050	-	-	-
Pyrene	ND	0.0014	0.0025	-	-	-
1,2,4-Trichlorobenzene	ND	0.15	0.25	-	-	-
Surrogate Recovery						
2-Fluorophenol	1.3			1.25	105	54-131
Phenol-d5	1.2			1.25	95	52-129
Nitrobenzene-d5	1.4			1.25	109	43-127
2-Fluorobiphenyl	1.3			1.25	106	42-116
2,4,6-Tribromophenol	1.3			1.25	102	39-119
4-Terphenyl-d14	1.5			1.25	123,F3	36-118

(Cont.)



Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/22/19
Date Analyzed: 5/23/19 - 5/24/19
Instrument: GC21
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178377
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/Kg
Sample ID: MB/LCS/LCSD-178377

QC Summary Report for SW8270C

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
1-Methylnaphthalene	0.18	0.19	0.12	146, F2	150, F2	65-134	2.57	30
Acenaphthene	0.14	0.15	0.12	115	120	68-134	3.97	30
Acenaphthylene	0.15	0.15	0.12	116	122	65-141	4.63	30
Anthracene	0.15	0.15	0.12	119	122	65-147	1.78	30
Benzo (a) anthracene	0.14	0.14	0.12	112	114	61-136	2.59	30
Benzo (a) pyrene	0.16	0.16	0.12	130	132	59-150	1.18	30
Benzo (b) fluoranthene	0.16	0.16	0.12	127	126	43-160	0.305	30
Benzo (g,h,i) perylene	0.16	0.16	0.12	124	126	54-142	1.56	30
Benzo (k) fluoranthene	0.16	0.16	0.12	130	127	59-141	2.40	30
Chrysene	0.15	0.16	0.12	122	125	58-140	2.26	30
Dibenzo (a,h) anthracene	0.16	0.16	0.12	126	124	57-151	1.36	30
1,2-Dichlorobenzene	2.7	2.7	2.5	108	107	68-114	1.51	30
1,3-Dichlorobenzene	2.4	2.4	2.5	97	95	69-116	1.98	30
1,4-Dichlorobenzene	2.6	2.4	2.5	103	96	64-117	6.78	30
Fluoranthene	0.17	0.17	0.12	132	133	66-146	0.553	30
Fluorene	0.17	0.18	0.12	137	142	72-142	3.50	30
Hexachlorobutadiene	0.13	0.13	0.12	101	104	68-131	2.73	30
Hexachloroethane	0.13	0.13	0.12	107	105	57-117	1.96	30
Indeno (1,2,3-cd) pyrene	0.16	0.17	0.12	131	134	57-145	2.45	30
2-Methylnaphthalene	0.17	0.17	0.12	135	140, F2	72-139	3.85	30
Naphthalene	0.13	0.13	0.12	101	104	64-127	3.53	30
Phenanthrene	0.15	0.15	0.12	120	121	66-129	1.49	30
Pyrene	0.16	0.16	0.12	126	129	55-148	2.31	30
1,2,4-Trichlorobenzene	2.7	2.8	2.5	106	113	69-130	6.63	30
Surrogate Recovery								
2-Fluorophenol	1.3	1.4	1.25	104	109	68-128	4.84	30
Phenol-d5	1.3	1.4	1.25	105	109	73-121	4.07	30
Nitrobenzene-d5	1.4	1.6	1.25	111	125	59-138	11.8	30
2-Fluorobiphenyl	1.3	1.4	1.25	102	112	59-129	9.98	30
2,4,6-Tribromophenol	1.2	1.3	1.25	98	105	46-142	6.47	30
4-Terphenyl-d14	1.6	1.7	1.25	126	136	50-143	7.18	30



Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/22/19
Date Analyzed: 5/23/19 - 5/24/19
Instrument: GC19
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178354
Extraction Method: SW5035
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg
Sample ID: MB/LCS/LCSD-178354

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	0.14,J	0.090	1.0	-	-	-
MTBE	ND	0.0023	0.050	-	-	-
Benzene	ND	0.0010	0.0050	-	-	-
Toluene	ND	0.0012	0.0050	-	-	-
Ethylbenzene	ND	0.0020	0.0050	-	-	-
m,p-Xylene	ND	0.0013	0.010	-	-	-
o-Xylene	ND	0.0013	0.0050	-	-	-

Surrogate Recovery

2-Fluorotoluene	0.095			0.10	95	75-134
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.57	0.59	0.60	95	99	82-118	4.20	20
MTBE	0.090	0.093	0.10	90	93	61-119	3.50	20
Benzene	0.090	0.094	0.10	90	94	77-128	4.68	20
Toluene	0.094	0.098	0.10	94	98	74-132	5.04	20
Ethylbenzene	0.094	0.099	0.10	94	99	84-127	5.06	20
m,p-Xylene	0.20	0.21	0.20	98	103	80-120	5.02	20
o-Xylene	0.098	0.10	0.10	98	103	80-120	4.57	20

Surrogate Recovery

2-Fluorotoluene	0.092	0.095	0.10	92	95	75-134	3.21	20
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Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/22/19
Date Analyzed: 5/23/19
Instrument: ICP-MS3
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178361
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg
Sample ID: MB/LCS/LCSD-178361

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Cadmium	ND	0.058	0.25	-	-	-
Chromium	ND	0.092	0.50	-	-	-
Lead	ND	0.094	0.50	-	-	-
Nickel	ND	0.072	0.50	-	-	-
Zinc	ND	1.4	5.0	-	-	-
Surrogate Recovery						
Terbium	550			500	110	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Cadmium	49	49	50	99	99	75-125	0	20
Chromium	50	49	50	100	98	75-125	1.21	20
Lead	49	49	50	99	97	75-125	1.41	20
Nickel	51	50	50	101	100	75-125	1.53	20
Zinc	500	500	500	100	99	75-125	0.684	20
Surrogate Recovery								
Terbium	540	540	500	107	108	70-130	0.298	20



Quality Control Report

Client: All West Environmental, Inc
Date Prepared: 5/22/19
Date Analyzed: 5/23/19 - 5/29/19
Instrument: GC11A, GC11B
Matrix: Soil
Project: 19061.23; 2550 Irving St.

WorkOrder: 1905B97
BatchID: 178366
Extraction Method: SW3550B/3630C
Analytical Method: SW8015B
Unit: mg/Kg
Sample ID: MB/LCS/LCSD-178366
1905B97-002AMS/MSD

QC Report for SW8015B w/ Silica Gel Clean-Up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	0.83	1.0	-	-	-
TPH-Motor Oil (C18-C36)	ND	3.8	5.0	-	-	-

Surrogate Recovery

C9	23			25	91	72-122
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	40	38	40	100	95	75-128	4.35	30

Surrogate Recovery

C9	23	22	25	91	89	72-122	2.27	30
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Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	5	23	23	40	13.11	NR	NR	71-134	0	30

Surrogate Recovery

C9	5	22	21	25		87	85	78-126	2.16	30
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McC Campbell Analytical, Inc.



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

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CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 1905B97

ClientCode: AWE

☐ Excel ☐ EQuIS ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☐ Detection Summary ☐ Dry-Weight

Report to:

Sam Calloway
All West Environmental, Inc
2141 Mission Street, Ste 100
San Francisco, CA 94110
(360) 618-2789 FAX: (415) 391-2008

Email: sam@allwest1.com
cc/3rd Party:
PO:
Project: 19061.23; 2550 Irving St.

Bill to:

Darlene Torio
All West Environmental, Inc
2141 Mission Street, Ste 100
San Francisco, CA 94110
darlene@allwest1.com

Requested TAT: 5 days;

Date Received: 05/22/2019

Date Logged: 05/22/2019

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1905B97-002	B-1 (4.5-5)	Soil	5/21/2019 09:25	<input type="checkbox"/>	A	A	A	A	A							
1905B97-005	B-2 (4.5-5)	Soil	5/21/2019 09:40	<input type="checkbox"/>	A	A	A	A	A							
1905B97-008	B-3 (4.5-5)	Soil	5/21/2019 10:00	<input type="checkbox"/>	A	A	A	A	A							
1905B97-011	B-4 (4.5-5)	Soil	5/21/2019 10:15	<input type="checkbox"/>	A	A	A	A	A							
1905B97-014	B-5 (4.5-5)	Soil	5/21/2019 10:40	<input type="checkbox"/>	A	A	A	A	A							

Test Legend:

1	8260B_S
5	TPH(DMO)WSG_S
9	

2	8270_PNA_S
6	
10	

3	G-MBTX_S
7	
11	

4	LUFTMS_6020_TTLC_S
8	
12	

Project Manager: Heidi Fruhlinger

Prepared by: Kena Ponce

The following SampleIDs: 002A, 005A, 008A, 011A, 014A contain testgroup Multi RangeWSG_S.

Comments:

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



McC Campbell Analytical, Inc.

"When Quality Counts"

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

WORK ORDER SUMMARY

Client Name: ALL WEST ENVIRONMENTAL, INC

Client Contact: Sam Calloway

Contact's Email: sam@allwest1.com

Project: 19061.23; 2550 Irving St.

Comments:

Work Order: 1905B97

QC Level: LEVEL 2

Date Logged: 5/22/2019

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

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1905B97-002A	B-1 (4.5-5)	Soil	SW6020 (LUFT)	1	Acetate Liner	<input type="checkbox"/>	5/21/2019 9:25	5 days		<input type="checkbox"/>	
			Multi-Range TPH w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1905B97-005A	B-2 (4.5-5)	Soil	SW6020 (LUFT)	1	Acetate Liner	<input type="checkbox"/>	5/21/2019 9:40	5 days		<input type="checkbox"/>	
			Multi-Range TPH w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1905B97-008A	B-3 (4.5-5)	Soil	SW6020 (LUFT)	1	Acetate Liner	<input type="checkbox"/>	5/21/2019 10:00	5 days		<input type="checkbox"/>	
			Multi-Range TPH w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1905B97-011A	B-4 (4.5-5)	Soil	SW6020 (LUFT)	1	Acetate Liner	<input type="checkbox"/>	5/21/2019 10:15	5 days		<input type="checkbox"/>	
			Multi-Range TPH w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	

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

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



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WORK ORDER SUMMARY

Client Name: ALL WEST ENVIRONMENTAL, INC

Project: 19061.23; 2550 Irving St.

Work Order: 1905B97

Client Contact: Sam Calloway

QC Level: LEVEL 2

Contact's Email: sam@allwest1.com

Comments:

Date Logged: 5/22/2019

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQUIS ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1905B97-014A	B-5 (4.5-5)	Soil	SW6020 (LUFT)	1	Acetate Liner	<input type="checkbox"/>	5/21/2019 10:40	5 days		<input type="checkbox"/>	
			Multi-Range TPH w/ S.G. Clean-Up			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	

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

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

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



Sample Receipt Checklist

Client Name: **All West Environmental, Inc**
Project: **19061.23; 2550 Irving St.**

Date and Time Received: **5/22/2019 16:40**

Date Logged: **5/22/2019**

Received by: **Kena Ponce**

Logged by: **Kena Ponce**

WorkOrder No: **1905B97** Matrix: Soil

Carrier: Lorenzo Perez (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

(Ice Type: WET ICE)

Sample/Temp Blank temperature	Temp: 2.7°C	NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input type="checkbox"/> No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

UCMR Samples:

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

Comments:



WORK ORDER NUMBER: 19-05-1869

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: AllWest Environmental, Inc.

Client Project Name: 2550 Irving Street

Attention: Sam Calloway
2141 Mission Street
Suite 100
San Francisco, CA 94110-6331

Vikas Patel

Approved for release on 05/31/2019 by:
Vikas Patel
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience (Calscience) certifies that the test results provided in this report meet all NELAC Institute requirements for parameters for which accreditation is required or available. Any exceptions to NELAC Institute requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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Client Project Name: 2550 Irving Street
Work Order Number: 19-05-1869

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Work Order Narrative

Work Order: 19-05-1869

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 05/23/19. They were assigned to Work Order 19-05-1869.

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

Holding Times:

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

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

Quality Control:

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

Subcontractor Information:

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

Additional Comments:

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

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



Calscience

Sample Summary

Client:	AllWest Environmental, Inc.	Work Order:	19-05-1869
	2141 Mission Street, Suite 100	Project Name:	2550 Irving Street
	San Francisco, CA 94110-6331	PO Number:	
		Date/Time Received:	05/23/19 09:30
		Number of Containers:	2

Attn: Sam Calloway

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
VP-1	19-05-1869-1	05/21/19 11:58	1	Air
VP-2	19-05-1869-2	05/21/19 12:45	1	Air


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Calscience

Detections Summary

Client: AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Work Order: 19-05-1869
Project Name: 2550 Irving Street
Received: 05/23/19

Attn: Sam Calloway

Page 1 of 1

Client SampleID

<u>Analyte</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
VP-1 (19-05-1869-1)						
Acetone	56		11	ug/m3	EPA TO-15	N/A
Chloroform	8.6		5.6	ug/m3	EPA TO-15	N/A
Isopropanol	46		28	ug/m3	EPA TO-15	N/A
Tetrachloroethene	530		7.7	ug/m3	EPA TO-15	N/A
VP-2 (19-05-1869-2)						
Acetone	57		4.8	ug/m3	EPA TO-15	N/A
2-Butanone	9.5		4.4	ug/m3	EPA TO-15	N/A
Isopropanol	27		12	ug/m3	EPA TO-15	N/A
Tetrachloroethene	480		3.4	ug/m3	EPA TO-15	N/A
Toluene	2.8		1.9	ug/m3	EPA TO-15	N/A

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

Return to Contents

* MDL is shown

Analytical Report

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: ASTM D-1946 (M)
Units: %v

Project: 2550 Irving Street

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-1	19-05-1869-1-A	05/21/19 11:58	Air	GC 55	N/A	05/23/19 13:18	190523L01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>	<u>DF</u>		<u>Qualifiers</u>
Helium		ND		0.0100	1.00		
Hydrogen		ND		0.0100	1.00		
VP-2	19-05-1869-2-A	05/21/19 12:45	Air	GC 55	N/A	05/23/19 13:43	190523L01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>	<u>DF</u>		<u>Qualifiers</u>
Helium		ND		0.0100	1.00		
Hydrogen		ND		0.0100	1.00		
Method Blank	099-12-872-1430	N/A	Air	GC 55	N/A	05/23/19 10:21	190523L01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>	<u>DF</u>		<u>Qualifiers</u>
Helium		ND		0.0100	1.00		
Hydrogen		ND		0.0100	1.00		

Return to Contents

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



Calscience

Analytical Report

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: 2550 Irving Street

Page 1 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-1	19-05-1869-1-A	05/21/19 11:58	Air	GC/MS K	N/A	05/26/19 01:12	190525L01

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	34	2.28	
Acetone	56	11	2.28	
Benzene	ND	3.6	2.28	
Benzyl Chloride	ND	24	2.28	
Bromodichloromethane	ND	7.6	2.28	
Bromoform	ND	12	2.28	
Bromomethane	ND	4.4	2.28	
2-Butanone	ND	10	2.28	
n-Butylbenzene	ND	63	2.28	
sec-Butylbenzene	ND	63	2.28	
tert-Butylbenzene	ND	63	2.28	
Carbon Disulfide	ND	14	2.28	
Carbon Tetrachloride	ND	7.2	2.28	
Chlorobenzene	ND	5.2	2.28	
Chloroethane	ND	3.0	2.28	
Chloroform	8.6	5.6	2.28	
Chloromethane	ND	4.7	2.28	
Dibromochloromethane	ND	9.7	2.28	
1,2-Dibromo-3-Chloropropane	ND	33	2.28	
1,2-Dibromoethane	ND	8.8	2.28	
1,2-Dichlorobenzene	ND	6.9	2.28	
1,3-Dichlorobenzene	ND	6.9	2.28	
1,4-Dichlorobenzene	ND	6.9	2.28	
Dichlorodifluoromethane	ND	5.6	2.28	
1,1-Dichloroethane	ND	4.6	2.28	
1,2-Dichloroethane	ND	4.6	2.28	
1,1-Dichloroethene	ND	4.5	2.28	
c-1,2-Dichloroethene	ND	4.5	2.28	
t-1,2-Dichloroethene	ND	4.5	2.28	
1,2-Dichloropropane	ND	5.3	2.28	
c-1,3-Dichloropropene	ND	5.2	2.28	
t-1,3-Dichloropropene	ND	10	2.28	
Dichlorotetrafluoroethane	ND	32	2.28	
1,1-Difluoroethane	ND	12	2.28	
Ethylbenzene	ND	5.0	2.28	

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

Analytical Report

AllWest Environmental, Inc.
 2141 Mission Street, Suite 100
 San Francisco, CA 94110-6331

Date Received: 05/23/19
 Work Order: 19-05-1869
 Preparation: N/A
 Method: EPA TO-15
 Units: ug/m3

Project: 2550 Irving Street

Page 2 of 8

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
4-Ethyltoluene	ND	11	2.28	
Hexachloro-1,3-Butadiene	ND	36	2.28	
2-Hexanone	ND	14	2.28	
Isopropanol	46	28	2.28	
Methyl-t-Butyl Ether (MTBE)	ND	16	2.28	
Methylene Chloride	ND	40	2.28	
4-Methyl-2-Pentanone	ND	14	2.28	
Styrene	ND	15	2.28	
1,1,2,2-Tetrachloroethane	ND	16	2.28	
Tetrachloroethene	530	7.7	2.28	
Toluene	ND	4.3	2.28	
1,1,1-Trichloroethane	ND	6.2	2.28	
1,1,2-Trichloroethane	ND	6.2	2.28	
Trichloroethene	ND	6.1	2.28	
Trichlorofluoromethane	ND	13	2.28	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	26	2.28	
1,2,4-Trimethylbenzene	ND	17	2.28	
1,3,5-Trimethylbenzene	ND	11	2.28	
Vinyl Acetate	ND	16	2.28	
Vinyl Chloride	ND	2.9	2.28	
o-Xylene	ND	20	2.28	
p/m-Xylene	ND	40	2.28	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	96	68-134		
1,2-Dichloroethane-d4	93	67-133		
Toluene-d8	98	70-130		

Return to Contents

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Calscience

Analytical Report

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: 2550 Irving Street

Page 3 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-2	19-05-1869-2-A	05/21/19 12:45	Air	GC/MS K	N/A	05/25/19 08:16	190524L01

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	15	1.00	
Acetone	57	4.8	1.00	
Benzene	ND	1.6	1.00	
Benzyl Chloride	ND	10	1.00	
Bromodichloromethane	ND	3.4	1.00	
Bromoform	ND	5.2	1.00	
Bromomethane	ND	1.9	1.00	
2-Butanone	9.5	4.4	1.00	
n-Butylbenzene	ND	27	1.00	
sec-Butylbenzene	ND	27	1.00	
tert-Butylbenzene	ND	27	1.00	
Carbon Disulfide	ND	6.2	1.00	
Carbon Tetrachloride	ND	3.1	1.00	
Chlorobenzene	ND	2.3	1.00	
Chloroethane	ND	1.3	1.00	
Chloroform	ND	2.4	1.00	
Chloromethane	ND	2.1	1.00	
Dibromochloromethane	ND	4.3	1.00	
1,2-Dibromo-3-Chloropropane	ND	14	1.00	
1,2-Dibromoethane	ND	3.8	1.00	
1,2-Dichlorobenzene	ND	3.0	1.00	
1,3-Dichlorobenzene	ND	3.0	1.00	
1,4-Dichlorobenzene	ND	3.0	1.00	
Dichlorodifluoromethane	ND	2.5	1.00	
1,1-Dichloroethane	ND	2.0	1.00	
1,2-Dichloroethane	ND	2.0	1.00	
1,1-Dichloroethene	ND	2.0	1.00	
c-1,2-Dichloroethene	ND	2.0	1.00	
t-1,2-Dichloroethene	ND	2.0	1.00	
1,2-Dichloropropane	ND	2.3	1.00	
c-1,3-Dichloropropene	ND	2.3	1.00	
t-1,3-Dichloropropene	ND	4.5	1.00	
Dichlorotetrafluoroethane	ND	14	1.00	
1,1-Difluoroethane	ND	5.4	1.00	
Ethylbenzene	ND	2.2	1.00	

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

Analytical Report

AllWest Environmental, Inc.
 2141 Mission Street, Suite 100
 San Francisco, CA 94110-6331

Date Received: 05/23/19
 Work Order: 19-05-1869
 Preparation: N/A
 Method: EPA TO-15
 Units: ug/m3

Project: 2550 Irving Street

Page 4 of 8

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
4-Ethyltoluene	ND	4.9	1.00	
Hexachloro-1,3-Butadiene	ND	16	1.00	
2-Hexanone	ND	6.1	1.00	
Isopropanol	27	12	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	7.2	1.00	
Methylene Chloride	ND	17	1.00	
4-Methyl-2-Pentanone	ND	6.1	1.00	
Styrene	ND	6.4	1.00	
1,1,2,2-Tetrachloroethane	ND	6.9	1.00	
Tetrachloroethene	480	3.4	1.00	
Toluene	2.8	1.9	1.00	
1,1,1-Trichloroethane	ND	2.7	1.00	
1,1,2-Trichloroethane	ND	2.7	1.00	
Trichloroethene	ND	2.7	1.00	
Trichlorofluoromethane	ND	5.6	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	11	1.00	
1,2,4-Trimethylbenzene	ND	7.4	1.00	
1,3,5-Trimethylbenzene	ND	4.9	1.00	
Vinyl Acetate	ND	7.0	1.00	
Vinyl Chloride	ND	1.3	1.00	
o-Xylene	ND	8.7	1.00	
p/m-Xylene	ND	17	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	99	68-134		
1,2-Dichloroethane-d4	95	67-133		
Toluene-d8	94	70-130		

Return to Contents

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

Analytical Report

AllWest Environmental, Inc.
 2141 Mission Street, Suite 100
 San Francisco, CA 94110-6331

Date Received: 05/23/19
 Work Order: 19-05-1869
 Preparation: N/A
 Method: EPA TO-15
 Units: ug/m3

Project: 2550 Irving Street

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	095-01-021-21821	N/A	Air	GC/MS K	N/A	05/24/19 16:20	190524L01

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	15	1.00	
Acetone	ND	4.8	1.00	
Benzene	ND	1.6	1.00	
Benzyl Chloride	ND	10	1.00	
Bromodichloromethane	ND	3.4	1.00	
Bromoform	ND	5.2	1.00	
Bromomethane	ND	1.9	1.00	
2-Butanone	ND	4.4	1.00	
n-Butylbenzene	ND	27	1.00	
sec-Butylbenzene	ND	27	1.00	
tert-Butylbenzene	ND	27	1.00	
Carbon Disulfide	ND	6.2	1.00	
Carbon Tetrachloride	ND	3.1	1.00	
Chlorobenzene	ND	2.3	1.00	
Chloroethane	ND	1.3	1.00	
Chloroform	ND	2.4	1.00	
Chloromethane	ND	2.1	1.00	
Dibromochloromethane	ND	4.3	1.00	
1,2-Dibromo-3-Chloropropane	ND	14	1.00	
1,2-Dibromoethane	ND	3.8	1.00	
1,2-Dichlorobenzene	ND	3.0	1.00	
1,3-Dichlorobenzene	ND	3.0	1.00	
1,4-Dichlorobenzene	ND	3.0	1.00	
Dichlorodifluoromethane	ND	2.5	1.00	
1,1-Dichloroethane	ND	2.0	1.00	
1,2-Dichloroethane	ND	2.0	1.00	
1,1-Dichloroethene	ND	2.0	1.00	
c-1,2-Dichloroethene	ND	2.0	1.00	
t-1,2-Dichloroethene	ND	2.0	1.00	
1,2-Dichloropropane	ND	2.3	1.00	
c-1,3-Dichloropropene	ND	2.3	1.00	
t-1,3-Dichloropropene	ND	4.5	1.00	
Dichlorotetrafluoroethane	ND	14	1.00	
1,1-Difluoroethane	ND	5.4	1.00	
Ethylbenzene	ND	2.2	1.00	

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

Analytical Report

AllWest Environmental, Inc.
 2141 Mission Street, Suite 100
 San Francisco, CA 94110-6331

Date Received: 05/23/19
 Work Order: 19-05-1869
 Preparation: N/A
 Method: EPA TO-15
 Units: ug/m3

Project: 2550 Irving Street

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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
4-Ethyltoluene	ND	4.9	1.00	
Hexachloro-1,3-Butadiene	ND	16	1.00	
2-Hexanone	ND	6.1	1.00	
Isopropanol	ND	12	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	7.2	1.00	
Methylene Chloride	ND	17	1.00	
4-Methyl-2-Pentanone	ND	6.1	1.00	
Styrene	ND	6.4	1.00	
1,1,2,2-Tetrachloroethane	ND	6.9	1.00	
Tetrachloroethene	ND	3.4	1.00	
Toluene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	2.7	1.00	
1,1,2-Trichloroethane	ND	2.7	1.00	
Trichloroethene	ND	2.7	1.00	
Trichlorofluoromethane	ND	5.6	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	11	1.00	
1,2,4-Trimethylbenzene	ND	7.4	1.00	
1,3,5-Trimethylbenzene	ND	4.9	1.00	
Vinyl Acetate	ND	7.0	1.00	
Vinyl Chloride	ND	1.3	1.00	
o-Xylene	ND	8.7	1.00	
p/m-Xylene	ND	17	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	99	68-134		
1,2-Dichloroethane-d4	115	67-133		
Toluene-d8	99	70-130		

Return to Contents

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

Analytical Report

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: 2550 Irving Street

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	095-01-021-21835	N/A	Air	GC/MS K	N/A	05/25/19 18:50	190525L01

Parameter	Result	RL	DF	Qualifiers
1,2,4-Trichlorobenzene	ND	15	1.00	
Acetone	ND	4.8	1.00	
Benzene	ND	1.6	1.00	
Benzyl Chloride	ND	10	1.00	
Bromodichloromethane	ND	3.4	1.00	
Bromoform	ND	5.2	1.00	
Bromomethane	ND	1.9	1.00	
2-Butanone	ND	4.4	1.00	
n-Butylbenzene	ND	27	1.00	
sec-Butylbenzene	ND	27	1.00	
tert-Butylbenzene	ND	27	1.00	
Carbon Disulfide	ND	6.2	1.00	
Carbon Tetrachloride	ND	3.1	1.00	
Chlorobenzene	ND	2.3	1.00	
Chloroethane	ND	1.3	1.00	
Chloroform	ND	2.4	1.00	
Chloromethane	ND	2.1	1.00	
Dibromochloromethane	ND	4.3	1.00	
1,2-Dibromo-3-Chloropropane	ND	14	1.00	
1,2-Dibromoethane	ND	3.8	1.00	
1,2-Dichlorobenzene	ND	3.0	1.00	
1,3-Dichlorobenzene	ND	3.0	1.00	
1,4-Dichlorobenzene	ND	3.0	1.00	
Dichlorodifluoromethane	ND	2.5	1.00	
1,1-Dichloroethane	ND	2.0	1.00	
1,2-Dichloroethane	ND	2.0	1.00	
1,1-Dichloroethene	ND	2.0	1.00	
c-1,2-Dichloroethene	ND	2.0	1.00	
t-1,2-Dichloroethene	ND	2.0	1.00	
1,2-Dichloropropane	ND	2.3	1.00	
c-1,3-Dichloropropene	ND	2.3	1.00	
t-1,3-Dichloropropene	ND	4.5	1.00	
Dichlorotetrafluoroethane	ND	14	1.00	
1,1-Difluoroethane	ND	5.4	1.00	
Ethylbenzene	ND	2.2	1.00	

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

Analytical Report

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: 2550 Irving Street

Page 8 of 8

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
4-Ethyltoluene	ND	4.9	1.00	
Hexachloro-1,3-Butadiene	ND	16	1.00	
2-Hexanone	ND	6.1	1.00	
Isopropanol	ND	12	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	7.2	1.00	
Methylene Chloride	ND	17	1.00	
4-Methyl-2-Pentanone	ND	6.1	1.00	
Styrene	ND	6.4	1.00	
1,1,2,2-Tetrachloroethane	ND	6.9	1.00	
Tetrachloroethene	ND	3.4	1.00	
Toluene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	2.7	1.00	
1,1,2-Trichloroethane	ND	2.7	1.00	
Trichloroethene	ND	2.7	1.00	
Trichlorofluoromethane	ND	5.6	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	11	1.00	
1,2,4-Trimethylbenzene	ND	7.4	1.00	
1,3,5-Trimethylbenzene	ND	4.9	1.00	
Vinyl Acetate	ND	7.0	1.00	
Vinyl Chloride	ND	1.3	1.00	
o-Xylene	ND	8.7	1.00	
p/m-Xylene	ND	17	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
1,4-Bromofluorobenzene	96	68-134	
1,2-Dichloroethane-d4	111	67-133	
Toluene-d8	97	70-130	

Return to Contents

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



Calscience

Analytical Report

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-3M
Units: ug/m3

Project: 2550 Irving Street

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-1	19-05-1869-1-A	05/21/19 11:58	Air	GC 13	N/A	05/24/19 10:51	190524L01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>	
TPH as Gasoline		ND		9300	1.00		
VP-2	19-05-1869-2-A	05/21/19 12:45	Air	GC 13	N/A	05/24/19 11:02	190524L01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>	
TPH as Gasoline		ND		9300	1.00		
Method Blank	098-01-005-9037	N/A	Air	GC 13	N/A	05/24/19 09:51	190524L01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>	
TPH as Gasoline		ND		9300	1.00		

Return to Contents

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



Calscience

Quality Control - Sample Duplicate

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-3M

Project: 2550 Irving Street

Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
19-05-1873-2	Sample	Air	GC 13	N/A	05/24/19 10:27	190524D01
19-05-1873-2	Sample Duplicate	Air	GC 13	N/A	05/24/19 10:39	190524D01

<u>Parameter</u>	<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
TPH as Gasoline	42910	44160	3	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 2550 Irving Street

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-12-872-1430	LCS	Air	GC 55	N/A	05/23/19 09:37	190523L01			
099-12-872-1430	LCSD	Air	GC 55	N/A	05/23/19 09:59	190523L01			
<u>Parameter</u>	<u>Spike Added</u>	<u>LCS Conc.</u>	<u>LCS %Rec.</u>	<u>LCSD Conc.</u>	<u>LCSD %Rec.</u>	<u>%Rec. CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Helium	1.000	0.8985	90	0.9227	92	80-120	3	0-30	
Hydrogen	1.000	0.8918	89	0.9124	91	80-120	2	0-30	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-15

Project: 2550 Irving Street

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-021-21821	LCS	Air	GC/MS K	N/A	05/24/19 13:35	190524L01
095-01-021-21821	LCSD	Air	GC/MS K	N/A	05/24/19 14:27	190524L01

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
1,2,4-Trichlorobenzene	185.5	189.7	102	192.1	104	31-151	11-171	1	0-30	
Acetone	59.39	61.25	103	62.65	105	67-133	56-144	2	0-30	
Benzene	79.87	85.21	107	85.96	108	70-130	60-140	1	0-30	
Benzyl Chloride	129.4	147.5	114	148.3	115	38-158	18-178	1	0-30	
Bromodichloromethane	167.5	182.7	109	181.7	108	70-130	60-140	1	0-30	
Bromoform	258.4	297.0	115	296.6	115	63-147	49-161	0	0-30	
Bromomethane	97.08	98.19	101	99.54	103	70-139	58-150	1	0-30	
2-Butanone	73.73	70.09	95	70.98	96	66-132	55-143	1	0-30	
n-Butylbenzene	137.2	146.4	107	147.4	107	50-150	33-167	1	0-30	
sec-Butylbenzene	137.2	137.5	100	137.4	100	50-150	33-167	0	0-30	
tert-Butylbenzene	137.2	141.7	103	141.8	103	50-150	33-167	0	0-30	
Carbon Disulfide	77.85	87.99	113	89.11	114	68-146	55-159	1	0-30	
Carbon Tetrachloride	157.3	173.9	111	173.0	110	70-136	59-147	1	0-30	
Chlorobenzene	115.1	117.4	102	118.5	103	70-130	60-140	1	0-30	
Chloroethane	65.96	64.60	98	65.37	99	65-149	51-163	1	0-30	
Chloroform	122.1	127.3	104	128.2	105	70-130	60-140	1	0-30	
Chloromethane	51.63	52.65	102	53.52	104	69-141	57-153	2	0-30	
Dibromochloromethane	213.0	234.7	110	235.2	110	70-138	59-149	0	0-30	
1,2-Dibromo-3-Chloropropane	241.6	241.6	100	243.8	101	60-140	47-153	1	0-35	
1,2-Dibromoethane	192.1	207.7	108	209.6	109	70-133	60-144	1	0-30	
1,2-Dichlorobenzene	150.3	157.2	105	158.2	105	48-138	33-153	1	0-30	
1,3-Dichlorobenzene	150.3	155.3	103	156.8	104	56-134	43-147	1	0-30	
1,4-Dichlorobenzene	150.3	153.9	102	154.5	103	52-136	38-150	0	0-30	
Dichlorodifluoromethane	123.6	116.5	94	117.3	95	67-139	55-151	1	0-30	
1,1-Dichloroethane	101.2	100.4	99	101.8	101	70-130	60-140	1	0-30	
1,2-Dichloroethane	101.2	95.55	94	96.55	95	70-132	60-142	1	0-30	
1,1-Dichloroethene	99.12	94.20	95	96.08	97	70-135	59-146	2	0-30	
c-1,2-Dichloroethene	99.12	98.86	100	100.4	101	70-130	60-140	2	0-30	
t-1,2-Dichloroethene	99.12	105.3	106	105.9	107	70-130	60-140	1	0-30	
1,2-Dichloropropane	115.5	129.8	112	129.7	112	70-130	60-140	0	0-30	
c-1,3-Dichloropropene	113.5	120.4	106	119.7	106	70-130	60-140	1	0-30	
t-1,3-Dichloropropene	113.5	126.4	111	126.2	111	70-147	57-160	0	0-30	
Dichlorotetrafluoroethane	174.8	186.7	107	188.4	108	51-135	37-149	1	0-30	
1,1-Difluoroethane	67.54	73.22	108	74.81	111	70-131	60-141	2	0-30	
Ethylbenzene	108.6	119.8	110	120.6	111	70-130	60-140	1	0-30	
4-Ethyltoluene	122.9	126.8	103	127.3	104	68-130	58-140	0	0-30	

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-15

Project: 2550 Irving Street

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Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Hexachloro-1,3-Butadiene	266.6	276.4	104	278.4	104	44-146	27-163	1	0-30	
2-Hexanone	102.4	116.5	114	116.7	114	70-136	59-147	0	0-30	
Isopropanol	61.45	52.25	85	53.15	86	57-135	44-148	2	0-30	
Methyl-t-Butyl Ether (MTBE)	90.13	86.69	96	88.45	98	68-130	58-140	2	0-30	
Methylene Chloride	86.84	84.05	97	85.16	98	69-130	59-140	1	0-30	
4-Methyl-2-Pentanone	102.4	121.0	118	120.8	118	70-130	60-140	0	0-30	
Styrene	106.5	115.3	108	113.1	106	65-131	54-142	2	0-30	
1,1,2,2-Tetrachloroethane	171.6	191.9	112	190.7	111	63-130	52-141	1	0-30	
Tetrachloroethene	169.6	179.3	106	179.8	106	70-130	60-140	0	0-30	
Toluene	94.21	95.83	102	96.84	103	70-130	60-140	1	0-30	
1,1,1-Trichloroethane	136.4	142.0	104	116.6	86	70-130	60-140	20	0-30	
1,1,2-Trichloroethane	136.4	154.4	113	154.9	114	70-130	60-140	0	0-30	
Trichloroethene	134.3	145.7	108	145.5	108	70-130	60-140	0	0-30	
Trichlorofluoromethane	140.5	146.0	104	148.1	105	63-141	50-154	1	0-30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	191.6	191.4	100	192.8	101	70-136	59-147	1	0-30	
1,2,4-Trimethylbenzene	122.9	135.5	110	136.4	111	60-132	48-144	1	0-30	
1,3,5-Trimethylbenzene	122.9	131.3	107	131.4	107	62-130	51-141	0	0-30	
Vinyl Acetate	88.03	80.44	91	81.52	93	58-130	46-142	1	0-30	
Vinyl Chloride	63.91	64.19	100	65.11	102	70-134	59-145	1	0-30	
o-Xylene	108.6	120.6	111	119.3	110	69-130	59-140	1	0-30	
p/m-Xylene	217.1	248.1	114	247.3	114	70-132	60-142	0	0-30	

Total number of LCS compounds: 57

Total number of ME compounds: 0

Total number of ME compounds allowed: 3

LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-15

Project: 2550 Irving Street

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-021-21835	LCS	Air	GC/MS K	N/A	05/25/19 15:26	190525L01
095-01-021-21835	LCSD	Air	GC/MS K	N/A	05/25/19 16:17	190525L01

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
1,2,4-Trichlorobenzene	185.5	138.6	75	137.3	74	31-151	11-171	1	0-30	
Acetone	59.39	63.52	107	64.58	109	67-133	56-144	2	0-30	
Benzene	79.87	85.71	107	86.30	108	70-130	60-140	1	0-30	
Benzyl Chloride	129.4	131.8	102	131.2	101	38-158	18-178	0	0-30	
Bromodichloromethane	167.5	173.1	103	173.5	104	70-130	60-140	0	0-30	
Bromoform	258.4	264.2	102	264.1	102	63-147	49-161	0	0-30	
Bromomethane	97.08	97.76	101	97.87	101	70-139	58-150	0	0-30	
2-Butanone	73.73	72.01	98	72.67	99	66-132	55-143	1	0-30	
n-Butylbenzene	137.2	127.9	93	127.3	93	50-150	33-167	0	0-30	
sec-Butylbenzene	137.2	126.1	92	124.7	91	50-150	33-167	1	0-30	
tert-Butylbenzene	137.2	128.5	94	128.0	93	50-150	33-167	0	0-30	
Carbon Disulfide	77.85	88.28	113	89.20	115	68-146	55-159	1	0-30	
Carbon Tetrachloride	157.3	159.5	101	158.7	101	70-136	59-147	0	0-30	
Chlorobenzene	115.1	114.5	100	114.3	99	70-130	60-140	0	0-30	
Chloroethane	65.96	65.72	100	66.38	101	65-149	51-163	1	0-30	
Chloroform	122.1	125.3	103	125.8	103	70-130	60-140	0	0-30	
Chloromethane	51.63	53.52	104	53.67	104	69-141	57-153	0	0-30	
Dibromochloromethane	213.0	213.9	100	212.5	100	70-138	59-149	1	0-30	
1,2-Dibromo-3-Chloropropane	241.6	216.3	90	216.1	89	60-140	47-153	0	0-35	
1,2-Dibromoethane	192.1	200.8	105	201.5	105	70-133	60-144	0	0-30	
1,2-Dichlorobenzene	150.3	141.4	94	142.0	94	48-138	33-153	0	0-30	
1,3-Dichlorobenzene	150.3	141.6	94	140.8	94	56-134	43-147	1	0-30	
1,4-Dichlorobenzene	150.3	141.3	94	140.7	94	52-136	38-150	0	0-30	
Dichlorodifluoromethane	123.6	139.2	113	147.3	119	67-139	55-151	6	0-30	
1,1-Dichloroethane	101.2	102.3	101	102.4	101	70-130	60-140	0	0-30	
1,2-Dichloroethane	101.2	123.2	122	123.8	122	70-132	60-142	1	0-30	
1,1-Dichloroethene	99.12	94.23	95	94.87	96	70-135	59-146	1	0-30	
c-1,2-Dichloroethene	99.12	99.80	101	99.89	101	70-130	60-140	0	0-30	
t-1,2-Dichloroethene	99.12	106.2	107	106.6	108	70-130	60-140	0	0-30	
1,2-Dichloropropane	115.5	130.6	113	130.7	113	70-130	60-140	0	0-30	
c-1,3-Dichloropropene	113.5	117.8	104	118.3	104	70-130	60-140	0	0-30	
t-1,3-Dichloropropene	113.5	120.9	107	122.3	108	70-147	57-160	1	0-30	
Dichlorotetrafluoroethane	174.8	182.0	104	182.0	104	51-135	37-149	0	0-30	
1,1-Difluoroethane	67.54	75.10	111	75.28	111	70-131	60-141	0	0-30	
Ethylbenzene	108.6	114.9	106	114.1	105	70-130	60-140	1	0-30	
4-Ethyltoluene	122.9	119.7	97	118.3	96	68-130	58-140	1	0-30	

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-15

Project: 2550 Irving Street

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Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Hexachloro-1,3-Butadiene	266.6	208.5	78	208.4	78	44-146	27-163	0	0-30	
2-Hexanone	102.4	113.0	110	113.6	111	70-136	59-147	1	0-30	
Isopropanol	61.45	53.42	87	53.96	88	57-135	44-148	1	0-30	
Methyl-t-Butyl Ether (MTBE)	90.13	87.27	97	88.07	98	68-130	58-140	1	0-30	
Methylene Chloride	86.84	85.84	99	86.26	99	69-130	59-140	0	0-30	
4-Methyl-2-Pentanone	102.4	117.0	114	118.5	116	70-130	60-140	1	0-30	
Styrene	106.5	109.7	103	108.3	102	65-131	54-142	1	0-30	
1,1,2,2-Tetrachloroethane	171.6	180.1	105	179.5	105	63-130	52-141	0	0-30	
Tetrachloroethene	169.6	167.7	99	167.8	99	70-130	60-140	0	0-30	
Toluene	94.21	94.40	100	94.03	100	70-130	60-140	0	0-30	
1,1,1-Trichloroethane	136.4	153.2	112	155.1	114	70-130	60-140	1	0-30	
1,1,2-Trichloroethane	136.4	154.2	113	156.2	115	70-130	60-140	1	0-30	
Trichloroethene	134.3	141.5	105	141.6	105	70-130	60-140	0	0-30	
Trichlorofluoromethane	140.5	144.1	103	144.0	103	63-141	50-154	0	0-30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	191.6	190.1	99	191.9	100	70-136	59-147	1	0-30	
1,2,4-Trimethylbenzene	122.9	118.9	97	118.4	96	60-132	48-144	0	0-30	
1,3,5-Trimethylbenzene	122.9	120.3	98	119.4	97	62-130	51-141	1	0-30	
Vinyl Acetate	88.03	83.14	94	83.63	95	58-130	46-142	1	0-30	
Vinyl Chloride	63.91	64.59	101	64.77	101	70-134	59-145	0	0-30	
o-Xylene	108.6	109.7	101	109.7	101	69-130	59-140	0	0-30	
p/m-Xylene	217.1	223.9	103	223.6	103	70-132	60-142	0	0-30	

Total number of LCS compounds: 57

Total number of ME compounds: 0

Total number of ME compounds allowed: 3

LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110-6331

Date Received: 05/23/19
Work Order: 19-05-1869
Preparation: N/A
Method: EPA TO-3M

Project: 2550 Irving Street

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
098-01-005-9037	LCS	Air	GC 13	N/A	05/24/19 09:33	190524L01

<u>Parameter</u>	<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
TPH as Gasoline	932500	932000	100	80-120	

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Summa Canister Vacuum Summary

Work Order: 19-05-1869

Page 1 of 1

Sample Name	Vacuum Out	Vacuum In	Equipment	Description
VP-1	-29.50 in Hg	-4.00 in Hg	LC223	Summa Canister 1L
VP-2	-29.50 in Hg	-4.20 in Hg	LC293	Summa Canister 1L

Sample Analysis Summary Report

Work Order: 19-05-1869

Page 1 of 1

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
ASTM D-1946 (M)	N/A	1144	GC 55	2
EPA TO-15	N/A	866	GC/MS K	2
EPA TO-3M	N/A	1144	GC 13	2


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Glossary of Terms and Qualifiers

Work Order: 19-05-1869

Page 1 of 1

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

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

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

1869

5/22/2019



800-322-5555
www.gso.com

Ship From

ALLWEST
SAM CALLOWAY
2141 MISSION STREET
SUITE 100
SAN FRANCISCO, CA 94110

Tracking #: 544892347

NPS

**Ship To**

CEL
SAMPLE RECEIVING
7440 LINCOLN WAY
GARDEN GROVE, CA 92841

GARDEN GROVE

S92841A



3122250

ORC CA927-C 0

COD: \$0.00

Weight: 0 lb(s)

Reference:

ALLWEST

Delivery Instructions:

Signature Type: STANDARD

Print Date: 5/22/2019 9:52 AM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

SAMPLE RECEIPT CHECKLIST

COOLER 0 OF 0

CLIENT: A/ West

DATE: 05/23/2019

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

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

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

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

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

Ambient Temperature: ☒ Air ☐ Filter

Checked by: 826

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☐ Not Present ☒ N/A

Checked by: 826

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A

Checked by: 826

SAMPLE CONDITION:

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

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOAh ☐ VOAna₂ ☐ 100PJ ☐ 100PJna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB ☐ 125PBznna (pH__9)

☐ 250AGB ☐ 250CGB ☐ 250CGBs (pH__2) ☐ 250PB ☐ 250PBn (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJs (pH__2) ☐ 500PB

☐ 1AGB ☐ 1AGBna₂ ☐ 1AGBs (pH__2) ☐ 1AGBs (O&G) ☐ 1PB ☐ 1PBna (pH__12) ☐ _____ ☐ _____ ☐ _____

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

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

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

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO₃, **na** = NaOH, **na₂** = Na₂S₂O₃, **p** = H₃PO₄, Labeled/Checked by: 826

s = H₂SO₄, **u** = ultra-pure, **x** = Na₂SO₃+NaHSO₄.H₂O, **znna** = Zn (CH₃CO₂)₂ + NaOH

Reviewed by: 826

APPENDIX G



APPLICATION FOR AUTHORIZATION TO USE

REPORT TITLE: PHASE II SUBSURFACE INVESTIGATION REPORT

2500-2550 Irving Street
San Francisco, California 94122

PROJECT NUMBER: 19061.23

To: AllWest Environmental, Inc.
2141 Mission Street, Suite 100
San Francisco, CA 94110

From (Applicant):

(Please clearly identify name and address of person/entity applying for permission to use or copy this document)

Ladies and Gentlemen:

Applicant states they have thoroughly reviewed the report and had the opportunity to discuss with AllWest the report's methodology, findings and conclusion(s).

Applicant hereby applies for permission to rely upon AllWest's work product, as described above, for the purpose of (state here the purpose for which you wish to rely upon the work product):

Applicant only can accept and rely upon AllWest work product under the strict understanding that Applicant is bound by all provisions in the General Conditions to the Work Authorization Agreement provided below. Every report, recommendation, finding, or conclusion issued by AllWest shall be subject to the limitations stated in the Agreement and subject report(s). If this is agreeable, please sign below and return one copy of this letter to us along with the applicable fees. Upon receipt and if acceptable, our signed letter will be returned. AllWest may withhold permission at its sole discretion or require additional re-use fees or terms.

FEES: A \$1,650 coordination and reliance fee, payable in advance, will apply. If desired, for an additional \$150 report reproduction fee, we will reissue the report in the name of the Applicant; the report date, however, will remain the same. All checks will be returned if your request for reliance is not approved.

REQUESTED BY

APPROVED BY

Applicant Company

AllWest Environmental, Inc.

Print Name and Title

Print Name and Title

Signature and Date

Signature and Date

GENERAL CONDITIONS TO THE WORK AUTHORIZATION AGREEMENT

It is hereby agreed that the Client retains AllWest to provide services as set forth in the Work Authorization attached hereto (the "Work"). This contract shall be controlled by the following terms and conditions, and these terms and conditions shall also control any further assignments performed pursuant to this Work Authorization. Client's signature on this Work Authorization constitutes Client's agreement to the all terms to this contract, including these General Conditions.

FEES AND COSTS

1. AllWest shall charge for work performed by its personnel at the rates identified in the Work Authorization. These rates are subject to reasonable increases by AllWest upon giving Client 30 days advance notice. Reimbursable Costs will be charged to the Client in addition to the fees for the basic services under this Agreement and all Additional Services (defined below) under the Agreement. Reimbursable Costs include, but are not limited to, expenses for travel, including transportation, meals, lodging, long distance telephone and other related expenses, as well as the costs of reproduction of all drawings for the Client's use, costs for specifications and type-written reports, permit and approval fees, automobile travel reimbursement, costs and fees of subcontractors, and soil and other materials testing. No overtime is accrued for time spent in travel. All costs incurred which relate to the services or materials provided by a contractor or subcontractor to AllWest shall be invoiced by AllWest on the basis of cost plus twenty percent (20%). Automobile travel reimbursement shall be at the rate of fifty- eight cents (\$0.58) per mile. All other reimbursable costs shall be invoiced and billed by AllWest at the rate of 1.1 times the direct cost to AllWest. Reimbursable costs will be charged to the client only as outlined in the Work Authorization if the scope of work is for Phase I Environmental Site Assessment, Property Condition Assessment, Seismic Assessment or ALTA survey. Invoices for work performed shall be submitted monthly. Payment will be due upon receipt of invoice. Client shall pay interest on the balance of unpaid invoices which are overdue by more than 30 days, at a rate of 18% per annum as well as all attorney fees and costs incurred by AllWest to secure payment of unpaid invoices. AllWest may waive such fees at its sole discretion.

STANDARD OF CARE

2. AllWest will perform its work in accordance with the standard of care of its industry, as it is at the time of the work being performed, and applicable in the locale of the work being performed. AllWest makes no other warranties, express or implied regarding its work.

LIMITATION OF REMEDIES

3. Client expressly agrees that to the fullest extent permitted by law, Client's remedies for any liability incurred by AllWest, and/or its employees or agents, for any and all claims arising from AllWest's services, shall be \$50,000 or its fees, whichever is greater.

Client may request a higher limitation of remedies, but must do so in writing. Upon such written request, AllWest may agree to increase this limit in exchange for a mutually negotiated higher fee commensurate with the increased risk to AllWest. Any such agreed increase in fee and limitation of remedies amount must be memorialized by written agreement which expressly amends the terms of this clause.

As used in this section, the term "limitation of remedies" shall apply to claims of any kind, including, but not limited to, claims brought in contract, tort, strict liability, or otherwise, for any and all injuries, claims, losses, expenses, or damages whatsoever arising out of or in any way related to AllWest's services or the services of AllWest's subcontractors, consultants, agents, officers, directors, and employees from any cause(s). AllWest shall not be liable for any claims of loss of profits or any other indirect, incidental, or consequential damages of any nature whatsoever. Client & AllWest have specifically negotiated this limitation.

INDEMNIFICATION

4. Notwithstanding any other provision of this Agreement, Client agrees, to the fullest extent permitted by law, to waive any claim against, release from any liability or responsibility for, and , indemnify and hold harmless AllWest, its employees, agents and sub-consultants (collectively, Consultant) from and against any and all damages, liabilities, claims, actions or costs of any kind, including reasonable attorney's fees and defense costs, arising or alleged to arise out of or to be in any way connected with the Project or the performance or non-performance of Consultant of any services under this Agreement, excepting only any such liabilities determined by a court or other forum of competent jurisdiction to have been caused by the negligence or willful misconduct of Consultant. This provision shall be in addition to any rights of indemnity that Consultant may have under the law and shall survive and remain in effect following the termination of this Agreement for any reason. Should any part of this provision be determined to be unenforceable, AllWest and Client agree that the rest of the provision shall apply to the maximum extent permitted by law. The Client's duty to defend AllWest shall arise immediately upon tender of any matter potentially covered by the above obligations to indemnify and hold harmless.

MEDIATION & JUDICIAL REFERENCE

5. In an effort to resolve any conflicts or disputes that arise regarding the performance of this agreement, the Client & AllWest agree that all such disputes shall be submitted to non-binding mediation, using a mutually agreed upon mediation service experienced in the resolution of construction disputes. Unless the parties mutually agree otherwise, such mediation shall be a condition precedent to the initiation of any other adjudicative proceedings. It is further agreed that any dispute that is not settled pursuant to such mediation shall be adjudicated by a court appointed referee in accordance with the Judicial Reference procedures as set forth in California Code of Civil Procedure Section 638 et seq. The parties hereby mutually agree to waive any right to a trial by jury regarding any dispute arising out of this agreement.

The parties further agree to include a similar mediation, Judicial Reference & waiver of jury trial provision in their agreements with other independent contractors & consultants retained for the project and require them to similarly agree to these dispute resolution procedures. The cost of said Mediation shall be split equally between the parties. This agreement to mediate shall be specifically enforceable under the prevailing law of the jurisdiction in which this agreement was signed.

HAZARDOUS WASTE

6. Client acknowledges that AllWest and its sub-contractors have played no part in the creation of any hazardous waste, pollution sources, nuisance, or chemical or industrial disposal problem, which may exist, and that AllWest has been retained for the sole purpose of performing the services set out in the scope of work within this Agreement, which may include, but is not necessarily limited to such services as assisting the Client in assessing any problem which may exist and in assisting the

Client in formulating a remedial program. Client acknowledges that while necessary for investigations, commonly used exploration methods employed by AllWest may penetrate through contaminated materials and serve as a connecting passageway between the contaminated material and an uncontaminated aquifer or groundwater, possibly inducing cross contamination. While back-filling with grout or other means, according to a state of practice design is intended to provide a seal against such passageway, it is recognized that such a seal may be imperfect and that there is an inherent risk in drilling borings of performing other exploration methods in a hazardous waste site.

AllWest will not sign or execute hazardous waste manifests or other waste tracking documents on behalf of Client unless Client specifically establishes AllWest as an express agent of Client under a written agency agreement approved by AllWest. In addition, Client agrees that AllWest shall not be required to sign any documents, no matter requested by whom, that would have the effect of AllWest providing any form of certification, guarantee, or warranty as to any matter or to opine on conditions for which the existence AllWest cannot ascertain. Client also agrees that it shall never seek or otherwise attempt to have AllWest provide any form of such certification, guarantee or warranty in exchange for resolution of any disputes between Client and AllWest, or as a condition precedent to making payment to AllWest for fees and costs owing under this Agreement.

Client understands and agrees that AllWest is not, and has no responsibility as, a generator, operator, treater, storer, transporter, arranger or disposer of hazardous or toxic substances found or identified at the site, including investigation-derived waste. The Client shall undertake and arrange for the removal, treatment, storage, disposal and/or treatment of hazardous material and investigation derived waste (such as drill cuttings) and further, assumes full responsibility for such wastes to the complete exclusion of any responsibility, duty or obligation upon AllWest. AllWest's responsibilities shall be limited to recommendations regarding such matters and assistance with appropriate arrangements if authorized by Client.

FORCE MAJUERE

7. Neither party shall be responsible for damages or delays in performance under this Agreement caused by acts of God, strikes, lockouts, accidents or other events or condition (other than financial inability) beyond the other Party's reasonable control.

TERMINATION

8. This Agreement may be terminated by either party upon ten (10) days' written notice should the other party substantially fail to perform in accordance with its duties and responsibilities as set forth in this Agreement and such failure to perform is through no fault of the party initiating the termination. Client agrees that if it chooses to terminate AllWest for convenience, and AllWest has otherwise satisfactorily performed its obligations under this Agreement to that point, AllWest shall be paid no less than eighty percent (80%) of the contract price, provided, however, that if AllWest shall have completed more than eighty percent of the Work at the time of said termination, AllWest shall be compensated as provided in the Work Authorization for all services performed prior to the termination date which fall within the scope of work described in the Work Authorization and may as well, at its sole discretion and in accordance with said Schedule of Fees, charge Client, and Client agrees to pay AllWest's reasonable costs and labor in winding up its files and removing equipment and other materials from the Project.

Upon notice of termination by Client to AllWest, AllWest may issue notice of such termination to other consultants, contractors, subcontractors and to governing agencies having jurisdiction over the Project, and take such other actions as are reasonably necessary in order to give notice that AllWest is no longer associated with the Project and to protect AllWest from claims of liability from the work of others.

DOCUMENTS

9. Any documents prepared by AllWest, including, but not limited to proposals, project specifications, drawings, calculations, plans and maps, and any ideas and designs incorporated therein, as well as any reproduction of the above are instruments of service and shall remain the property of AllWest and AllWest retains copyrights to these instruments of service. AllWest grants to Client a non-exclusive license to use these instruments of service for the purpose of completing and maintaining the Project. The Client shall be permitted to retain a copy of any instruments of service, but Client expressly agrees and acknowledges that the instruments of service may not be used by the Client on other projects, or for any other purpose, except the project for which they were prepared, unless Client first obtains a written agreement expanding the license to such use from AllWest, and with appropriate compensation to AllWest. Client further agrees that such instruments of service shall not be provided to any third parties without the express written permission of AllWest.

Client shall furnish, or cause to be furnished to AllWest all documents and information known to Client that relate to the identity, location, quantity, nature, or characteristics of any asbestos, PCBs, or any other hazardous materials or waste at, on or under the site. In addition, Client will furnish or cause to be furnished such reports, data, studies, plans, specifications, documents and other information on surface or subsurface site conditions, e.g., underground tanks, pipelines and buried utilities, required by AllWest for proper performance of its services. IF Client fails to provide AllWest with all hazardous material subject matter reports including geotechnical assessments in its possession during the period that AllWest is actively providing its services (including up to 30 days after its final invoice), Client shall release AllWest from any and all liability for risks and damages the Client incurs resulting from its reliance on AllWest's professional opinion. AllWest shall be entitled to rely upon Client - provided documents and information in performing the services required in this Agreement; however, AllWest assumes no responsibility or liability for the accuracy or completeness of Client-provided documents. Client-provided documents will remain the property of the Client.

ACCESS TO PROJECT

10. Client grants to AllWest the right of access and entry to the Project at all times necessary for AllWest to perform the Work. If Client is not the owner of the Project, then Client represents that Client has full authority to grant access and right of entry to AllWest for the purpose of AllWest's performance of the Work. This right of access and entry extends fully to any agents, employees, contractors or subcontractors of AllWest upon reasonable proof of association with AllWest. Client's failure to provide such timely access and permission shall constitute a material breach of this Agreement excusing AllWest from performance of its duties under this Agreement.

CONFIDENTIAL INFORMATION

11. Both Client and AllWest understand that in conjunction with AllWest's performance of the Work on the project, both Client and AllWest may receive or be exposed to Proprietary Information of the other. As used herein, the term "Proprietary Information" refers to any and all information of a confidential, proprietary or secret nature which may be either applicable to, or relate in any way to: (a) the personal, financial or other affairs of the business of each of the Parties, or (b) the

research and development or investigations of each of the Parties. Proprietary Information includes, for example and without limitation, trade secrets, processes, formulas, data, know-how, improvements, inventions, techniques, software technical data, developments, research projects, plans for future development, marketing plans and strategies. Each of the Parties agrees that all Proprietary Information of the other party is and shall remain exclusively the property of that other party. The parties further acknowledge that the Proprietary Information of the other party is a special, valuable and unique asset of that party, and each of the Parties agrees that at all times during the terms of this Agreement and thereafter to keep in confidence and trust all Proprietary Information of the other party, whether such Proprietary Information was obtained or developed by the other party before, during or after the term of this Agreement. Each of the Parties agrees not to sell, distribute, disclose or use in any other unauthorized manner the Proprietary Information of the other party. AllWest further agrees that it will not sell, distribute or disclose information or the results of any testing obtained by AllWest during the performance of the Work without the prior written approval of Client unless required to do so by federal, state or local statute, ordinance or regulation.

INDEPENDENT CONTRACTOR

12. Both Client and AllWest agree that AllWest is an independent contractor in the performance of the Work under this Agreement. All persons or parties employed by AllWest in connection with the Work are the agents, employees or subcontractors of AllWest and not of Client. Accordingly, AllWest shall be responsible for payment of all taxes arising out of AllWest's activities in performing the Work under this Agreement.

ENTIRE AGREEMENT

13. This Agreement contains the entire agreement between the Parties pertaining to the subject matter contained in it and supersedes and replaces in its entirety all prior and contemporaneous proposals, agreements, representations and understandings of the Parties. The Parties have carefully read and understand the contents of this Agreement and sign their names to the same as their own free act.

INTEGRATION

14. This is a fully integrated Agreement. The terms of this Agreement may be modified only by a writing signed by both Parties. The terms of this Agreement were fully negotiated by the Parties and shall not be construed for or against the Client or AllWest but shall be interpreted in accordance with the general meaning of the language in an effort to reach the intended result.

MODIFICATION / WAIVER / PARTIAL INVALIDITY

15. Failure on the part of either party to complain of any act or omission of the other, or to declare the other party in default, shall not constitute a waiver by such party of its rights hereunder. If any provision of this Agreement or its application be unenforceable to any extent, the Parties agree that the remainder of this Agreement shall not be affected and shall be enforced to the greatest extent permitted by law.

INUREMENT / TITLES

16. Subject to any restrictions on transfers, assignments and encumbrances set forth herein, this Agreement shall inure to the benefit of and be binding upon the undersigned Parties and their respective heirs, executors, legal representatives, successors and assigns. Paragraph titles or captions contained in this Agreement are inserted only as a matter of convenience, and for reference only, and in no way limit, define or extend the provisions of any paragraph. , et al., incurred in that action or proceeding, in addition to any other relief to which it or they may be entitled.

AUTHORITY

17. Each of the persons executing this Agreement on behalf of a corporation does hereby covenant and warrant that the corporation is duly authorized and existing under the laws of its respective state of incorporation, that the corporation has and is qualified to do business in its respective state of incorporation, that the corporation has the full right and authority to enter into this Agreement, and that each person signing on behalf of the corporation is authorized to do so. If the Client is a joint venture, limited liability company or a partnership, the signatories below warrant that said entity is properly and duly organized and existing under the laws of the state of its formation and pursuant to the organizational and operating document of the entity, and the laws of the state of its formation, said signatory has authority act on behalf of and commit the entity to this Agreement.

COUNTERPARTS

18. This Agreement may be signed in counterparts by each of the Parties hereto and, taken together, the signed counterparts shall constitute a single document.

THIRD PARTY BENEFICIARIES / CONTROLLING LAW

19. There are no intended third party beneficiaries of this Agreement. The services, data & opinions expressed by AllWest are for the sole use of the client, are for a particular project and may not be relied upon by anyone other than the client. This Agreement shall be controlled by the laws of the State of California and any action by either party to enforce this Agreement shall be brought in San Francisco County, California.

TIME BAR TO LEGAL ACTION

20. Any legal actions by either party against the other related to this Agreement, shall be barred after one year has passed from the time the claimant knew or should have known of its claim, and under no circumstances shall be initiated after two years have passed from the date by which AllWest completes its services.