CITY OF SIGNAL HILL

2175 Cherry Avenue • Signal Hill, California 90755-3799

THE CITY OF SIGNAL HILL
WELCOMES YOU TO A SPECIAL
CITY COUNCIL MEETING
November 13, 2025

The City of Signal Hill appreciates your attendance. Public interest provides the Council and Agency with valuable information regarding issues of the community. Tonight's meeting is a Special meeting of the City Council, beginning at 6:00 p.m. There is a public comment period at the beginning of the meeting. Any person wishing to comment shall be allotted three minutes per distinct item.

Regular meetings are held on the 2nd and 4th Tuesday of every month. Regular meetings begin at 6:00 pm with the conduct of any business permitted to be conducted in closed session by the Brown Act (Government Code Section 54950, et seq.), if any, and with the public portion of the meeting beginning at 7:00 pm. There is a period for public comment on closed session matters at 6:00 pm prior to the closed session. In the event there is no business to be conducted in closed session, the Regular meeting shall begin at 7:00 pm. Any meeting may be adjourned to a time and place stated in the order of adjournment.

The agenda is posted 72 hours prior to each meeting on the City's website and outside of City Hall. The agenda and related reports are also available for review online at www.cityofsignalhill.org.

To view the meeting live at 6:00 p.m.:

- City of Signal Hill website at www.cityofsignalhill.org, select the City Council Meetings Link from the home page.
- Charter Spectrum Channel 74 or Frontier FiOS Channel 38.

To participate:

- In-person Participation: Council Chamber of City Hall, 2175 Cherry Avenue, Signal Hill, California.
- To make a general public comment or comment on a specific agenda item, you may also submit your comment, limited to 250 words or less, to the City Clerk at cityclerk@cityofsignalhill.org not later than 4:00 p.m. on Thursday, November 13, 2025. Written comments will be provided electronically to the City Council and attached to the meeting minutes. Written comments will not be read into the record.

City Council Members are compensated $794.40 per month. City Clerk and City Treasurer are compensated $482.04 per month.

(1) CALL TO ORDER – 6:00 P.M.

(2) ROLL CALL

MAYOR JONES
VICE MAYOR HANSEN
COUNCIL MEMBER COPELAND
COUNCIL MEMBER HONEYCUTT
COUNCIL MEMBER WOODS

(3) PLEDGE OF ALLEGIANCE

(4) PUBLIC BUSINESS FROM THE FLOOR ON ITEMS NOT LISTED ON THE AGENDA (SPEAKERS WILL BE GIVEN THREE MINUTES FOR EACH DISTINCT ITEM)

(5) PRESENTATIONS

a. MAYOR KEIR JONES WILL PRESENT A PROCLAMATION TO THE POLICE DEPARTMENT IN RECOGNITION OF LAW ENFORCEMENT RECORDS AND SUPPORT PERSONNEL WEEK, NOVEMBER 9-15, 2025.

(6) ORDINANCES

a. WAIVE THE READING OF ORDINANCES IN FULL AND AUTHORIZE READING BY TITLE ONLY

Summary:

The recommended action waives reading of Ordinances in full and authorizes reading by title only. The purpose of this item is to help streamline the City Council meeting process, to avoid unnecessary delay, and to allow more time for substantive discussion of items on the agenda.

Strategic Plan Goal(s):

Goal No. 5 High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendation:

Waive the reading of all Ordinances. Wherein the titles appear on the public agenda; said titles shall be determined to have been read by title, and further reading is waived.

b. INTRODUCTION OF AN ORDINANCE AMENDING TITLE 15 (BUILDINGS AND CONSTRUCTION) OF THE SIGNAL HILL MUNICIPAL CODE TO ADOPT BY REFERENCE THE 2025 CALIFORNIA BUILDING STANDARDS CODE AND OTHER UNIFORM CODES

Summary:

The City of Signal Hill ("City") regularly adopts the California Building Standards Code ("CBSC") by reference along with a few unique local codes which are all listed in Title 15 (Buildings and Construction) of the Signal Hill Municipal Code ("SHMC"). Every three years, the State of California adopts a set of newly updated building standards codes which requires that the City also adopt the updated codes. The City Council will consider an Ordinance Amendment to the Signal Hill Municipal Code revising regulations for Buildings and Construction (Title 15 of the SHMC). The primary purpose of the proposed Ordinance is to adopt the 2025 editions of the CBSC by reference along with the re-adoption of local amendments previously adopted by the City via Ordinance No. 2022-12-1542, which the California Building Standards Commission reviewed and accepted on May 1, 2023. Subject to approval by the City Council, the proposed Ordinance would return for public hearing and Second Reading at the December 9, 2025 City Council meeting and become effective thirty-days thereafter.

Strategic Plan Goals:

Goal No. 2: Community Safety: Maintain community safety by supporting public safety services and increasing emergency preparedness.

Goal No. 5: High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendations:

1. Introduce the following Ordinance for first reading, entitled: "AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, AMENDING CHAPTERS 15.02, 15.04, 15.06, 15.10, 15.12, 15.16, 15.20, AND 15.36, OF TITLE 15 (BUILDINGS AND CONSTRUCTION) OF THE CITY'S MUNICIPAL CODE TO ADOPT BY REFERENCE THE 2025 EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE (CALIFORNIA CODE OF REGULATIONS, TITLE 24), VOLUMES I AND II AND ALL APPENDICES WITH CERTAIN AMENDMENTS TO APPENDIX J, CONSISTING OF THE 2025 CALIFORNIA RESIDENTIAL CODE, THE 2025 CALIFORNIA PLUMBING CODE, THE 2025 CALIFORNIA GREEN BUILDING STANDARDS CODE, THE 2025 CALIFORNIA ELECTRICAL CODE, AND THE 2025 CALIFORNIA ENERGY CODE; TOGETHER WITH

CERTAIN CHANGES THERETO; AND ADOPTING BY REFERENCE THE 2024 INTERNATIONAL SWIMMING POOL AND SPA CODE, THE 2024 INTERNATIONAL PROPERTY MAINTENANCE CODE, 2024 INTERNATIONAL BUILDING CODE, 2024 INTERNATIONAL GREEN STANDARDS CODE, AND 2024 INTERNATIONAL RESIDENTIAL CODE TOGETHER WITH CERTAIN CHANGES THERETO; AND DELETING CHAPTERS 15.22 AND 15.32 OF TITLE 15 (BUILDINGS AND CONSTRUCTION)."

2. Set a public hearing for December 9, 2025, regarding the proposed Ordinance.

(7) CITY MANAGER REPORTS

a. PROPOSED AMENDMENT TO THE EXCLUSIVE NEGOTIATION AGREEMENT WITH NATIONAL COMMUNITY RENAISSANCE OF CALIFORNIA (NATIONAL CORE)

Summary:

Staff has negotiated and is presenting revised terms of an Exclusive Negotiation Agreement (ENA) by and between the City, Housing Authority, and National Community Renaissance of California, a California nonprofit public benefit corporation (National CORE). The Orange Bluff ENA expires on November 15, 2025, and supports efforts to develop the Orange Bluff Affordable Housing Projects. The ENA for the Walnut Bluff Project has been satisfied. The Walnut Bluff project is located on a two-acre property at the northwest corner of East Willow Street and Walnut Avenue, consisting of approximately 83 affordable homes for individuals and families earning below 80% of the area median income (AMI). The Orange Bluff Project is located on an 8.6-acre property on the south side of East 28th Street, between Orange Avenue and Gundry Avenue, and consists of approximately 297 affordable homes.

Since the original ENA was negotiated, National CORE has experienced significant impacts from a changing financial environment due to changing funding priorities at the State level. In response, National CORE is pursuing funding through the Affordable Housing and Sustainable Communities (AHSC) program, funded by the Greenhouse Gas Reduction Fund. The AHSC program prioritizes larger, denser projects that promote greenhouse gas reductions through sustainable design, location efficiency, and transit connectivity. To strengthen its competitiveness for AHSC funding, National CORE is now evaluating a scattered-sites approach, which could include both the Orange Bluff and Walnut Bluff sites and a third alternative public or privately owned site.

Staff recommends the City Council and Housing Authority Board approve the proposed ENA between the City of Signal Hill, the Signal Hill Housing Authority, and National CORE substantially in the form presented, for the development of the Orange Bluff Workforce Housing project and the 28th & Walnut or

Alternative Site. Staff further recommends extending the ENA deadline to September 15, 2027 for the Orange Bluff Project and July 15, 2026 for the 28th & Walnut or Alternative Site. In addition, staff has identified a need to amend the ENA to include language that allows for the identification and consideration of an alternative site, either publicly or privately owned, should the originally proposed site not be available or feasible for development.

Strategic Plan Goal(s):

Goal No. 1 Financial Stability: Ensure the City's long-term financial stability and resilience.

Goal No. 3 Economic Development: Improve the local economy, support local businesses, and create a vibrant downtown core.

Goal No. 4 Infrastructure: Maintain and improve the City's physical infrastructure, water system, and recreational spaces.

Recommendations:

Staff recommends the City Council and Housing Authority Board approve the proposed amendments to the Exclusive Negotiation Agreement (ENA) between the City of Signal Hill, the Signal Hill Housing Authority, and National Community Renaissance (National CORE) substantially in the form presented for the development of two proposed workforce housing projects known as Orange Bluff and an alternative potential site as follows:

1. Approve the revised ENA between the City of Signal Hill, the Signal Hill Housing Authority, and National CORE, extending the ENA deadlines to September 15, 2027 for the Orange Bluff Project and July 15, 2026 for 28th & Walnut or Alternative Site.

2. Authorize the City Manager to effectuate all documents related to this action.

b. 2026 COMMEMORATIVE FLAG DISPLAY SCHEDULE

Summary:

Pursuant to Resolution No. 2021-10-6642, the City Council will consider the display of commemorative flags for the upcoming calendar year. After this initial agendized discussion, staff will return to a subsequent City Council meeting with a resolution supporting the City's display of the selected flags.

Strategic Plan Goal(s):

Goal No. 5 High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendations:

1. Consider new/alternate commemorative flags for calendar year 2026.

2. Direct staff to return and bring to a future City Council meeting a Resolution memorializing the commemorative flags for calendar year 2026.

c. PUBLIC WORKS CONTRACT WITH OAK HOLLOW RESTORATION, INCORPORATED FOR EXTERIOR VERTICAL WALL REPAIR AND INSTALLATION OF RETROFIT STEEL WINDOWS AT CITY HALL

Summary:

On November 12, 2024, the City Council awarded the City Hall Interior Renovation Project to Estate Design & Construction (EDC). After the execution of all contract documents and the relocation of City staff to a temporary location, construction activities commenced on November 25, 2024. The project has reached a critical point, where a significant milestone requires coordinated work, including specialized materials and a general contractor with a background in historical building retrofit and repair. Specifically, the repair of the exterior shell, primarily composed of gunite, a material commonly used in the late 1800s to early 1900s, was required. In contrast, modern construction typically utilizes stucco, fiber cement, or concrete. The repair became necessary following the removal of existing windows and installation of new ones, which required additional steel framing and partial removal of the exterior shell. This work was not included in the original project scope, as the existing window framing and related structural conditions were not visible at the time of bid or contract award in November 2024.

To ensure a proper installation process and meet project deadlines, the City has contacted a limited pool of general contractors capable of performing the required scope of work for the repair of the vertical walls and the installation of steel windows. Staff engaged in several discussions with Thirtieth Street Architects (TSA), the City's historical architectural consultant, whom the City retained explicitly to retrofit new windows while preserving the historical appearance of City Hall. Due to the specialized nature of the work, TSA recommended that the City hire Oak Hollow Restoration, Incorporated, a general contractor specializing in historical restoration and construction.

With several other trades coordinated, the critical path moving forward is to secure the right historical restoration contractor to ensure the timely completion of the City Hall Renovation Project. Staff recommends the City Council award a Public Works Contract to Oak Hollow Restoration, Incorporated for a not-to-exceed amount of $486,974 and authorize a 10% contingency for a total construction budget of $535,671.40.
Staff also requests supplemental funding to cover the related incidentals needed to complete this work. These costs include third-party material testing, special inspections, and abatement activities necessary to rebuild the openings correctly

and ensure compliance with structural, safety, and historical-preservation standards. When added to the construction contract and contingency, these incidentals bring the total funding request to $660,412. If approved by City Council, Oak Hollow Restoration, Incorporated would immediately mobilize to meet project milestone deadlines and position the City to reopen this essential public facility in February 2026.

Strategic Plan Goal(s):

Goal No. 4 Infrastructure: Maintain and improve the City's physical infrastructure, water system, and recreational spaces.

Goal No. 5 High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendations:

1. Authorize the City Manager, or his designee, to enter into a Public Works Contract with Oak Hollow Restoration, Incorporated, for the exterior vertical wall repair and installation of energy-efficient steel windows at City Hall for a term of 60 working days and a not-to-exceed contract amount of $486,974 in a form approved by the City Attorney.

2. Authorize a contingency of 10% or $48,697.40 and up to a 15 -working-day extension to accommodate additional scope of work, changes, or any unforeseen conditions, to be utilized if approved by the Public Works Director, for a total construction budget of $535,671.40.

3. Adopt a Resolution, entitled:

   A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA AWARDING A CONTRACT FOR THE CITY HALL RENOVATION -WINDOW INSTALLATION PROJECT.

4. Adopt a Resolution, entitled:

   A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, AMENDING THE ADOPTED BUDGET AND AUTHORIZING BUDGET APPROPRIATIONS FOR FISCAL YEAR 2025-26.

d. RECREATIONAL USE OF HILL STREET BETWEEN TEMPLE AVENUE AND OBISPO AVENUE

Summary:

At the City Council meeting of October 28, 2025, Vice Mayor Hansen received support from Mayor Jones to enable further discussion of potential public safety

concerns on Hill Street between Temple Avenue and Obispo Avenue when Hill Street is used for recreational purposes. Staff is placing this item on the agenda pursuant to the City Council's adopted policy and has not provided analysis of the request. This agenda item provides the City Council with the opportunity to discuss the item further and provide direction to staff as desired.

Strategic Plan Goal(s):

Goal No. 5 High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendation:

Discuss the proposed City Council request and provide direction to staff as desired.

(8) CONSENT CALENDAR

The following Consent Calendar items are expected to be routine and non-controversial. Items will be acted upon by the Council at one time without discussion. Any item may be removed by a Council Member for discussion.

a. FINAL ACCEPTANCE OF CALIFORNIA AVENUE IMPROVEMENTS PROJECT PURSUANT TO THE PUBLIC WORKS CONTRACT WITH EXCEL PAVING COMPANY

Summary:

On March 11, 2025, the City Council awarded the Fiscal Year (FY) 2024-2025 Pavement Management Program Project related to California Avenue Improvements (Project No. 90.25003) to PALP Incorporated, dba Excel Paving Company (Excel Paving). The project included removing and reconstructing approximately 44,640 square feet of pavement along California Avenue, from Spring Street to 28th Street, with pavement removal depths ranging from 17 to 22.5 inches. Excel Paving completed the scope of work in accordance with City standards, ADA guidelines, and the approved project specifications meeting the requirements of the Public Works Department. Staff requests the City Council declare final acceptance of the Pavement Management Project for a final contract amount of $896,032.35 and direct staff to record a Notice of Completion with the Los Angeles County Recorder's office and process the contract retention release.

Strategic Plan Goal(s):

Goal No. 4 Infrastructure: Maintain and improve the City's physical infrastructure, water system, and recreational spaces.

Recommendations:

1. Accept the work in conformance with the plans and specifications for the California Avenue Improvements Project in accordance with the contract entered into between PALP Incorporated, dba Excel Paving Company, and the City of Signal Hill, and authorize the City Manager to execute the Notice of Completion; and

2. Direct staff to record the Notice of Completion with the Los Angeles County Registrar-Recorder's office.

b. WARRANT REGISTER DATED NOVEMBER 13, 2025

Summary:

The Warrant Register is a listing of all general disbursements issued since the prior warrant register and are requested to be approved by the City Council.

Strategic Plan Goal(s):

Goal No. 1 Financial Stability: Ensure the City's long-term financial stability and resilience.

Recommendation:

Authorize payment of the Warrant Registers dated November 11, 2025

c. APPROVAL OF MEETING MINUTES

Summary:

Regular Meeting of October 28, 2025.

Strategic Plan Goal(s):

Goal No. 5. High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendation:

Approve the meeting minutes.

(9) COUNCIL AGENDA--NEW BUSINESS

COUNCIL MEMBER WOODS
COUNCIL MEMBER HONEYCUTT
COUNCIL MEMBER COPELAND
VICE MAYOR HANSEN
MAYOR JONES

(10) ADJOURNMENT

Tonight's meeting will be adjourned to the next Regular meeting of the Signal Hill City Council to be held on Tuesday, November 25, 2025, at 7:00 p.m., in the Community Room of the Signal Hill Public Library, 1800 E. Hill Street, Signal Hill, CA 90755.

PUBLIC PARTICIPATION

Routine matters are handled most quickly and efficiently if contact is made with the City department directly concerned. However, if you would like to request that a matter be presented for City Council consideration, you may do so by writing to the City Council, City Clerk, or City Manager. The deadline for agenda items for Regular meetings is 12 noon on the Tuesday preceding the Council and Agency meetings. The complete agenda, including back up materials, is available on the City website on the Friday preceding a Regular meeting.

If you need special assistance beyond what is normally provided to participate in City meetings, the City will attempt to accommodate you in every reasonable manner. Please call the City Clerk's office at (562) 989-7305 at least 48 hours prior to the meeting to inform us of your particular needs and to determine if accommodation is feasible.

2175 Cherry Avenue • Signal Hill, California 90755-3799

CITY OF SIGNAL HILL

STAFF REPORT

11/13/2025

AGENDA ITEM

TO: **HONORABLE MAYOR**
AND MEMBERS OF THE CITY COUNCIL

FROM: **CARLO TOMAINO**
CITY MANAGER

BY: **BRAD KENNEALLY**
CHIEF OF POLICE

SUBJECT:

PROCLAMATION PRESENTATION - LAW ENFORCEMENT RECORDS AND SUPPORT PERSONNEL WEEK

Summary:

Mayor Keir Jones will present a proclamation to the Police Department in recognition of Law Enforcement Records and Support Personnel Week, November 9-15, 2025.

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CITY OF SIGNAL HILL

STAFF REPORT

11/13/2025

AGENDA ITEM

TO: **HONORABLE MAYOR**
AND MEMBERS OF THE CITY COUNCIL

FROM: **CARLO TOMAINO**
CITY MANAGER

BY: **CITY ATTORNEY'S OFFICE**

SUBJECT:

WAIVE THE READING OF ORDINANCES IN FULL AND AUTHORIZE READING BY TITLE ONLY

Summary:

The recommended action waives reading of Ordinances in full and authorizes reading by title only. The purpose of this item is to help streamline the City Council meeting process, to avoid unnecessary delay, and to allow more time for substantive discussion of items on the agenda.

Strategic Plan Goal(s):

Goal No. 5 High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendation:

Waive the reading of all Ordinances. Wherein the titles appear on the public agenda; said titles shall be determined to have been read by title, and further reading is waived.

Fiscal Impact:

There is no fiscal impact associated with the recommended action.

11/13/2025

AGENDA ITEM

TO: **HONORABLE MAYOR**
AND MEMBERS OF THE CITY COUNCIL

FROM: **CARLO TOMAINO**
CITY MANAGER

BY: **CARLOS LUIS**
PLANNING MANAGER

SUBJECT:

INTRODUCTION OF AN ORDINANCE AMENDING TITLE 15 (BUILDINGS AND CONSTRUCTION) OF THE SIGNAL HILL MUNICIPAL CODE TO ADOPT BY REFERENCE THE 2025 CALIFORNIA BUILDING STANDARDS CODE AND OTHER UNIFORM CODES

Summary:

The City of Signal Hill ("City") regularly adopts the California Building Standards Code ("CBSC") by reference along with a few unique local codes which are all listed in Title 15 (Buildings and Construction) of the Signal Hill Municipal Code ("SHMC"). Every three years, the State of California adopts a set of newly updated building standards codes which requires that the City also adopt the updated codes. The City Council will consider an Ordinance Amendment to the Signal Hill Municipal Code revising regulations for Buildings and Construction (Title 15 of the SHMC). The primary purpose of the proposed Ordinance is to adopt the 2025 editions of the CBSC by reference along with the re-adoption of local amendments previously adopted by the City via Ordinance No. 2022-12-1542, which the California Building Standards Commission reviewed and accepted on May 1, 2023. Subject to approval by the City Council, the proposed Ordinance would return for public hearing and Second Reading at the December 9, 2025 City Council meeting and become effective thirty-days thereafter.

Strategic Plan Goals:

Goal No. 2: Community Safety: Maintain community safety by supporting public safety services and increasing emergency preparedness.

Goal No. 5: High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendations:

1. Introduce the following Ordinance for first reading, entitled: “AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, AMENDING CHAPTERS 15.02, 15.04, 15.06, 15.10, 15.12, 15.16, 15.20, AND 15.36, OF TITLE 15 (BUILDINGS AND CONSTRUCTION) OF THE CITY’S MUNICIPAL CODE TO ADOPT BY REFERENCE THE 2025 EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE (CALIFORNIA CODE OF REGULATIONS, TITLE 24), VOLUMES I AND II AND ALL APPENDICES WITH CERTAIN AMENDMENTS TO APPENDIX J, CONSISTING OF THE 2025 CALIFORNIA RESIDENTIAL CODE, THE 2025 CALIFORNIA PLUMBING CODE, THE 2025 CALIFORNIA GREEN BUILDING STANDARDS CODE, THE 2025 CALIFORNIA ELECTRICAL CODE, AND THE 2025 CALIFORNIA ENERGY CODE; TOGETHER WITH CERTAIN CHANGES THERETO; AND ADOPTING BY REFERENCE THE 2024 INTERNATIONAL SWIMMING POOL AND SPA CODE, THE 2024 INTERNATIONAL PROPERTY MAINTENANCE CODE, 2024 INTERNATIONAL BUILDING CODE, 2024 INTERNATIONAL GREEN STANDARDS CODE, AND 2024 INTERNATIONAL RESIDENTIAL CODE TOGETHER WITH CERTAIN CHANGES THERETO; AND DELETING CHAPTERS 15.22 AND 15.32 OF TITLE 15 (BUILDINGS AND CONSTRUCTION).”

2. Set a public hearing for December 9, 2025, regarding the proposed Ordinance.

Fiscal Impact:

There is no direct fiscal impact associated with the recommended actions.

Background:

Every three years, the California Building Standards Commission updates the California Building Codes to reflect the latest in building and fire safety standards. In July 2025, the Commission published the 2025 California Building Standards Code, which will take effect on January 1, 2026. While the 2025 Code becomes effective statewide regardless of local action, State law allows cities to adopt the codes by reference and make local amendments as needed. Specifically, the City may establish more restrictive standards than those contained in the Code, provided the amendments are supported by express findings showing they are “reasonably necessary because of local climatic, geological, or topographical conditions” (Health & Safety Code, §§ 18941.5, and 17958.7.) and in accordance with Assembly Bill 130. In accordance with these statutes, the local amendment findings specified in the proposed Ordinance demonstrate that the City’s modifications are necessary and appropriate for Signal Hill.

The proposed Ordinance repeals and amends certain chapters of Title 15 (Buildings and Construction) of the SHMC to adopt the 2025 CBSC and related uniform codes, together with local amendments necessary to address unique geological, and topographical conditions in Signal Hill. Adoption ensures that the City remains consistent with State law and maintains the ability to enforce building and safety standards locally.

Analysis:

On December 13, 2022, the City adopted codes based on the 2022 editions of the CBSC and

comprise the current Signal Hill Building and Safety Code (Building Code).

Local Building Code Modifications

Municipalities may adopt their own local building standards in addition to the CBSC standards which may be more restrictive, but they may not be less restrictive. The City of Signal Hill regularly adopts local building standards for the purpose of addressing local conditions. Cities are required by the State to justify modifications to their local building codes based upon local climatic, geologic, or topographic conditions.

The proposed Ordinance will adopt the 2025 edition of the CBSC and make minor amendments to it. These amendments consider the City's unique geological and topographical conditions. In addition to the CBSC, this Ordinance adopts a number of other specified uniform codes. The City of Signal Hill local conditions that justify modifications to the Code are as follows:

- Local administrative processes
- Petroleum production areas
- Earthquake fault hazards
- Soils conditions
- Drainage
- The City's View Policy

Many of the local modifications to the Code are administrative in nature, are clarifications, or are based upon local geologic or topographic conditions. Modifications also include public feedback received during implementation of previous code cycles. Specifically, removing redundant requirements to the exploratory excavations exemptions section of the code while maintaining safety during exploratory excavations.

Staff is providing a brief explanation of various local conditions that justify the proposed local Building Code modifications. To be clear, staff is not proposing new local standards to Title 15 of the SHMC. The City is re-adopting the same local modifications the City previously adopted by the City via Ordinance No. 2022-12-1542, which were reviewed and accepted by the California Building Standards Commission on May 1, 2023; however, two sections of the local modifications are being deleted as these are now included in the 2025 CBSC (see the first bullet below). In addition, minor edits and clarifications to the previous local modifications and their justifications are included in the proposed Ordinance amendment.

The following is a summary of the 2025 local modifications:

- Staff proposes to delete Chapters 15.22 (Housing Code) and 15.32 (Code for the Abatement of Dangerous Buildings) of the SHMC from Title 15 (Buildings and Construction) because these are now included in the 2025 CBSC being adopted by reference and are therefore redundant.

Staff updated a reference to the former editions of the CBSC and other uniform codes to refer to the correct edition.

- Building Code:
    - A building permit is not required for replacement windows of the same size or for doors installed in existing openings under certain conditions.
    - References to the Los Angeles County Grading Manual.
    - Clarifications of the requirements for exploratory excavations to streamline the process subject to conditions and ensure safeguards are in place.
    - Methane Assessment and Mitigation requirements pursuant to Chapter 16.24.080 of the Signal Hill Oil and Gas Code.
    - Clarifications on the requirements for obtaining an electrical permit.
    - The addition of residential Energy Storage Systems, i.e., Batteries, and residential EV chargers to the expedited permit and inspection process in conformity with State laws.
    - Clarification of the barrier requirements for residential pools.

- Plumbing Code:
    - The requirement for an expansion tank with the addition of a pressure regulator.

- Electrical Code:
    - The addition of a requirement that electrical permits only be issued to State licensed electrical contractors or an owner/resident of a single family or two-family dwelling employing a state licensed electrical contractor.

Procedurally, the City must take special steps whenever it adopts a code by reference. It must (1) introduce the ordinance and conduct a first reading; and (2) schedule a public hearing that may coincide with the second reading.

In accordance with Government Code Section 6066, notice of the public hearing must be published once a week for two successive weeks, with at least five days in between each publication. The first notice must be published at least 14 days before the hearing date. Accordingly, if the City Council wishes to adopt the Ordinance, it should schedule the public hearing and second reading for its December 9, 2025 regular meeting to allow for the second reading and public hearing to be published in accordance with the requirements of Government Code Section 6066.

Conclusion

Staff is introducing the 2025 CBSC for City Council approval to adopt by reference along with the amendments to the local modifications to the specified chapters of Title 15 of the SHMC. Should the City Council approve the proposed Ordinance, staff would bring back the Ordinance for a public hearing and second reading at its upcoming December 9, 2025 City Council meeting and would be effective thirty days thereafter.

Reviewed for fiscal impact:

11/13/2025

Siamlu Cox
Administrative Services Officer/Finance Director

Attachment:

A. Ordinance No. 2025-11-1555

ORDINANCE NO. 2025-11-1555

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, AMENDING CHAPTERS 15.02, 15.04, 15.06, 15.10, 15.12, 15.16, 15.20, AND 15.36, OF TITLE 15 (BUILDINGS AND CONSTRUCTION) OF THE CITY'S MUNICIPAL CODE TO ADOPT BY REFERENCE THE 2025 EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE (CALIFORNIA CODE OF REGULATIONS, TITLE 24), VOLUMES I AND II AND ALL APPENDICES WITH CERTAIN AMENDMENTS TO APPENDIX J, CONSISTING OF THE 2025 CALIFORNIA RESIDENTIAL CODE, THE 2025 CALIFORNIA PLUMBING CODE, THE 2025 CALIFORNIA GREEN BUILDING STANDARDS CODE, THE 2025 CALIFORNIA ELECTRICAL CODE, AND THE 2025 CALIFORNIA ENERGY CODE; TOGETHER WITH CERTAIN CHANGES THERETO; AND ADOPTING BY REFERENCE THE 2024 INTERNATIONAL SWIMMING POOL AND SPA CODE, THE 2024 INTERNATIONAL PROPERTY MAINTENANCE CODE, 2024 INTERNATIONAL BUILDING CODE, 2024 INTERNATIONAL GREEN STANDARDS CODE, AND 2024 INTERNATIONAL RESIDENTIAL CODE TOGETHER WITH CERTAIN CHANGES THERETO; AND DELETING CHAPTERS 15.22 AND 15.32 OF TITLE 15 (BUILDINGS AND CONSTRUCTION)

WHEREAS, every three years, the California Building Standards Commission ("Commission") adopts a new edition of the Uniform Codes and recently adopted the most recent edition in 2025; and

WHEREAS, pursuant to Government Code Section 50022.1 *et seq.* the City of Signal Hill ("City") may adopt by reference the California Building Standards Code, 2025 Edition as provided in Title 24 of the California Code of Regulations, and other codes, including, without limitation, the 2024 International Swimming Pool & Spa Code, 2024 International Property Maintenance Code, 2024 International Building Code, 2024 International Residential Code and the 2024 International Green Standards Code (collectively the "Uniform Codes"); and

WHEREAS, Sections 17958, 17958.5, 17958.7 and 18941.5 of the Health and Safety Code require a city, before making any amendments and modifications to the

California Building Standards Code, to make an express finding that such amendments and modifications are reasonably necessary because of local climatic, geological or topographical conditions; and

WHEREAS, the City Council of the City of Signal Hill recognizes certain unique characteristics of the City which are not adequately addressed by the aforementioned codes; and

WHEREAS, the City's Building Official has recommended that changes and modifications be made to the Uniform Codes, and has advised that certain changes and modifications to said codes are reasonably necessary due to local conditions within the City of Signal Hill, and have further advised that the remainder of the said changes and modifications are of an administrative or procedural nature, or concern themselves with subjects not covered by the code, or are reasonably necessary to safeguard life and property within the City of Signal Hill; and

WHEREAS, the Building Official has also recommended that changes and modifications be made to the Uniform Codes, which are necessary for administrative clarification and to establish administrative standards for the effective enforcement of the building standards of the City of Signal Hill and do not modify a building standard pursuant to California Health & Safety Code Section 17958, 17958.7, and/or 18941.5; and

WHEREAS, accordingly and in addition to the adoption of the 2025 edition of the California Building Standards Code, this Ordinance proposes the re-adoption of the same modifications to the codes previously adopted by the City via Ordinance No. 2022-12-1542, which were reviewed and accepted by the California Building Standards Commission on May 1, 2023, and are restated in this Ordinance below; and

WHEREAS, the introduction of an ordinance to be adopted by reference is not required to be a noticed public hearing; however, the second reading to adopt the ordinance by reference is required to be a public hearing therefore no notice was published for this action. The second reading will be a noticed public hearing in accordance with Government Code 50022.2; and

WHEREAS, on November 13, 2025, the City Council introduced this Ordinance for first reading, recommending the adoption of the 2025 edition of the California Building Standards Code by reference, subject to certain local modifications, and all persons were given an opportunity to be heard; and

WHEREAS, following the introduction of this Ordinance, staff recommends the City Council schedule a public hearing to consider this Ordinance at its December 9, 2025 City Council meeting; and

WHEREAS, any and all other legal prerequisites relating to the adoption of this Ordinance have occurred; and

WHEREAS, the City Council has considered all comments received and responses thereto.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, DOES ORDAIN AS FOLLOWS:

Section 1. Recitals. The above recitals are true and correct and hereby incorporated into this Ordinance.

Section 2. Authority. The City Council enacts this Ordinance under the authority granted to the City as follows:

A. California Government Code Section 50022 et seq. authorizes the City to adopt by reference the California Building Standards Code and authorizes the City to adopt other uniform codes by reference; and

B. California Health & Safety Code Section 17958.7 and 18941.5 authorize the City to adopt the California Building Standards Code with modifications determined to be reasonably necessary because of local climatic, geological, or topographical conditions.

Section 3. Findings. The City Council hereby finds that the proposed amendments to the 2025 California Building Standards Code are more restrictive than the standards adopted by the California Building Standards Commission, and are reasonably necessary because of local climatic, geological, or topographic conditions, based on the express findings and determinations, marked in relation to the respective amendments provided in this ordinance, described in Exhibit A attached hereto, and hereby adopted by the City Council as the findings to support the modifications to the California Building Standards Code.

Section 4. Section 15.02.010 (Violations) of Chapter 15.02 (Building Code General Provisions) of Title 15 (Buildings and Construction) of the Municipal Code is hereby amended to read as follows.

A. Whereas, the City Council has adopted all of the 2025 California Building Standards Codes, Title 24, California Code of Regulations as established by the California Building Standards Commission, all violations of the provisions of the 2025 editions of the California Building Code Volume 1, Volume 2, and Appendices, the California Residential Code, the California Plumbing Code, the California Electrical Code, the California Energy Code, the California Fire Code, the California Green Building Standards Code, and the California Existing Building Code shall be a misdemeanor and subject to the penalty provisions contained in Chapter 1.16 of the Signal Hill Municipal Code. One copy of each code has been deposited in the office of the city clerk and shall be at all times maintained by the clerk for use and examination by the public.

B. Furthermore, the City Council has adopted the provisions of the 2024 International Swimming Pool and Spa Code, and the 2024 International Property Maintenance Code and all violations of these provisions shall be a misdemeanor and subject to the penalty provisions contained in Chapter 1.16 of the Signal Hill Municipal Code. One copy of each code has been deposited in the office of the city clerk and shall be at all times maintained by the clerk for use and examination by the public.

Section 5. Chapter 15.04 (Building Code) of Title 15 (Buildings and Constructions) of the Municipal Code is hereby amended to read in full as follows:

Chapter 15.04 "Building Code"

15.04.010 California Building Code, Volume 1 and 2 adopted.
15.04.020 Definitions.
15.04.030 Section 105.2 amended —Exempted work.
15.04.040 Section 109.2 amended—Permit fees.
15.04.050 Section 109 amended—Plan review fees.
15.04.060 Section 109 amended—Investigation fees.
15.04.070 Section 1511.1 amended—General.
15.04.080 Appendix Chapter J amended.
15.04.090 CBC Section 1808 Foundations.

15.04.010 California Building Code, Volume 1 and Volume 2 Adopted.

A. Except as provided in this chapter, those certain building codes known and designated as the 2025 California Building Code, Volume 1 and Volume 2, (CBC) (California Code of Regulations, Title 24, Part 2), based on the 2024 International Building Code, including the appendices to the International Building Code as published by the International Code Council, shall be and become the building code for the city for regulating the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area and maintenance of all buildings and/or structures in the city.

B. One copy of the California Building Code, Volume 1, Volume 2 and its appendices has been deposited in the office of the City Clerk and shall be at all times maintained by the Clerk for use and examination by the public

15.04.020 Definitions.

Whenever any of the following names or terms are used in the California Building Code Volume 1,Volume 2 or its appendices (Title 24 Part 2) each such name or term shall be deemed and construed to have meaning ascribed to it in this section as follows:

A. “Residential code” means Chapter 15.06 of this code as amended.
B. “Fire code” means Chapter 15.08 of this code as amended.
C. “Electrical code” means Chapter 15.12 of this code as amended.
D. “Plumbing code” means Chapter 15.16 of this code as amended.
E. “Mechanical code” means Chapter 15.20 of this code as amended.
F. “Director” means Director of Community Development.

15.04.030 Section 105.2 amended – Work exempt from permit.

(CBC 105.2)

A. Section 105.2 of the California Building Code is amended by deleting Items 2 and 4 and renumbering the remaining items under “Building” accordingly, so that building permits are required for all fences and retaining walls regardless of height.

B. A new Item 12 is added to “Building” under the revised Section 105.2 of the California Building Code so that replacement windows and doors in the same size openings are exempt from permits. Item 12 shall read as follows:

1Item 12. Same size, replacement windows and doors installed in existing openings that do not disturb the exterior water resistant barrier of walls or roofs; do not alter, change, or modify structural framing; do not require interior finishes to be altered, changed, or modified in excess of 100 square feet; comply with the 2025 Energy Code for U-factor and SHGC; and in residential occupancies, comply with the 2025 California Residential Code requirements for replacement windows, emergency escape and rescue openings, Section R310.5.

15.04.040 Section 109.2 amended—Permit fees.

(CBC 109.2)

Permit fees shall be those which the City Council may from time to time adopt by resolution.

15.04.050 Section 109.7 added—Plan review fees.

(CBC 109.7)

When a plan or other data are required to be submitted by Section 107, a plan review fee shall be paid at the time of submitting plans and specifications for review. Plan Review Fees shall be those which the City Council may from time to time adopt by resolution.

15.04.060 Section 109.8 added—Investigation fees.

(CBC 109.8)

A. Investigation. Whenever any work for which a permit is required by this code has been commenced without first obtaining said permit, a special investigation shall be made before a permit may be issued for such work.

B. Fee. An investigation fee, in addition to the permit fee, may be required and collected whether or not a permit is then or subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by this code. The payment of such investigation fee shall not exempt any person from compliance with all of the provisions of either this code or the technical codes or from any penalty described by law.

15.04.070 Section 1511.1 amended—General.

(CBC 1511.1)

Section 1511.1 of Chapter 15 of the California Building Code is amended to read in its entirety as follows:

Section 1511.1. All reroofing shall conform to the applicable provisions of Chapter 15 of this code and as otherwise required in this chapter.

If twenty-six percent (26%) or more of the roof covering of any building or structure is reroofed in any twelve (12) month period, the roof covering of such reroofed portion shall conform to the requirements of this code for new buildings or structures.

Roofing materials and methods of application shall comply with 2025 California Building Code referenced standards or shall follow the manufacturer's installation instructions when approved.

15.04.080 Appendix Chapter J.

(CBC Appendix J)

Appendix J of the California Building Code is amended as follows:

A. Section J101.3 Added - Purpose. Section J101.3 of Appendix J of the California Building Code is added to read as follows:

Section J101.3 Purpose. The purpose and intent of this appendix is to implement the programs and policies of the General Plan relating to the maintenance of the natural character and amenity of hillsides as a scenic resource of the City; and to safeguard life, limb, property and the public welfare by regulating grading on private property.

B. Section J102.1 Amended - Definitions. Section J102.1 of Appendix J of the California Building Code is amended by adding an additional sentence after the first sentence in the section to read as follows:

Additional definitions may be included in the City of Signal Hill Grading Manual, as adopted and approved by resolution of the City Council, the Los Angeles County Grading Manual, or other engineering standards that are site specific and approved by the Building and Safety Division.

C. Section J103 Amended - Permits Required. Section J103.2 of Appendix J to the California Building Code is amended to read as follows:

Section J103.2 Exemptions. No person shall do any grading without first having obtained a grading permit from the Building and Safety Division except for the following:

1. An excavation below finished grade for basements and footings of a building retaining wall or other structure authorized by a valid building permit. This shall not exempt any fill made with the material from such excavation nor exempt any excavation having an unsupported height greater than five (5) feet after the completion of such a structure.
2. Cemetery graves.
3. Refuse disposal sites controlled by other regulations.
4. Excavations for wells or tunnels or utilities.
5. Exploratory excavations performed under the direction of soil engineers or engineering geologists provided that the following conditions are met:
    - 5.1. Not more than 500 square feet of soil is disturbed to a depth not to exceed 12".
    - 5.2. Bore holes not wider than 24" and to a depth not to exceed 4 feet.
    - 5.3. Trenches not wider than 24" and to a depth not to exceed 4 feet on the same parcel.
    - 5.4. Excavations shall be backfilled immediately or protected as directed by the Building Official. Locations of the exploratory excavations and details of subsection 5.1-5.3 shall be shown accurately on a drawing. The Building Official shall determine the size and dimensions on the drawing. The City's geotechnical consultant shall approve any use of temporary backfill materials.
    - 5.5. Exploratory excavations must not pose danger to the public or adversely affect adjacent properties. Exploratory excavations must be restored to existing conditions, unless otherwise approved by the Building Official.

D. Section J104 Amended - Engineered Grading Requirements. Sections J104.5 and J104.5.1-J104.5.2 of Appendix J of the California Building Code area is added to read as follows:

J104.5 Engineering grading requirements.

Section J 104.5.1 Plans and Specifications.

1. Each application for a grading permit shall be accompanied by: three (3) sets of approved Grading Plans, two (2) copies of a soils engineering report and two (2) copies of an engineering geology report (if the site is in the Alquist-Priolo Special Studies Zone or if required by the Director of Community Development).
2. The Director of Community Development may further require that preliminary soils reports be submitted to the City for review. Pursuant to such review, the City Engineer may require additional information or reject the report if it is found to be incomplete, inaccurate or unsatisfactory.
3. The grading plan shall be prepared under the supervision of a civil engineer, signed by a civil engineer and stamped with the civil engineer's seal.
4. The soils engineering and engineering geology reports shall be signed by those professionals authorized by the State of California to sign these reports.

Section J104.5.2 City Review of Plans.

1. The City will review each site with the intent of achieving the following objectives:

    a. Minimize the height of slopes between building pads;
    b. Encourage the use of retaining walls of less than six (6) feet in height to create a landscaped, terraced appearance. Provide four (4) foot wide landscaped terraces;
    c. Encourage the use of multi levels within buildings and use building walls to take up slopes;
    d. Preserve existing or introduce plant materials so as to protect slopes from soil erosion;
    e. Avoid long uniform slopes and successive terracing of building pads;
    f. The introduction and utilization of permanent full coverage irrigation systems adequate to sustain existing and developed slope plantings and to help protect against potential hazards due to fire; and
    g. The utilization of street designs and improvements which serve to reduce grading alterations and harmonize with the natural contours and character of the hillside.

2. Upon determination by the City, the applicant may be required to submit a scaled profile model depicting any or all portions of the site proposed for development.

3. The City of Signal Hill Grading Manual, the Los Angeles County Grading Manual, and other engineering standards that are site specific and approved by

the Building Safety Division may formulate such rules, procedures, and interpretations as may be necessary or convenient to administer the Excavation and Grading Code. Such rules, amendments thereto shall be referred to as the City of Signal Hill Grading Manual once approved by the Director of Community Development.

E. Section J106.1 Amended - Maximum slope. Section J106.1 of the California Building Code is amended to read as follows:

106.1 Maximum slope. The slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than two units horizontal to one unit vertical.

F. Section J108.2 Amended - Setbacks. Section J108.2 of the California Building Code is amended to read as follows:

Section J108.2 Top of slope. The tops of cuts and toes of fill slopes exposed to weathering shall be set back as far as necessary from the outer property boundaries of the permit area, including slope easements and in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the site boundary. The top of cut or fill slopes exposed to weathering shall not be made nearer to the site boundary and/or permit area boundary line than three (3) feet for height of cut or fill or six (6) feet or less and five (5) feet for height of cut or fill more than six (6) feet. The tops and the toes of cut and fill slopes exposed to weathering shall be setback from structures as far as is necessary for adequacy of foundation support and to prevent damage as a result of water runoff, erosion or maintenance of the slopes. Unless otherwise approved by the Building Official based on recommendations in the approved soil engineering and/or engineering geology report on the approved grading plan, structure setbacks from slopes exposed to weathering shall be:

1. From top of cut or fill slope to building wall, one half of the height of cut or fill with seven (7) foot minimum and ten (10) foot maximum.
2. From the lower outside edge of the footing along a horizontal line to the face of the slope, the distance shall be one half of the height of cut or fill with five (5) foot minimum and ten (10) foot maximum.
3. From the toe of cut or fill slope to building wall, the distance shall be one half of the height of cut or fill with three (3) foot minimum and fifteen (15) foot maximum.
4. The use of retaining walls to reduce setbacks must be approved by the Building Official.

G. Section J109.3 Amended – Interceptor drains. Section J109.3 of the California Building Code is amended to read as follows:

Section J109.3 Interceptor drains. Paved interceptor drains shall be installed along the top of all cut and fill slopes where the tributary drainage area above slopes towards the cut or fill and has a drainage path greater than forty (40) feet measured horizontally. Interceptor drains shall be paved with a minimum of three (3) inches of concrete or gunite and reinforced. They shall have a minimum depth of twelve (12) inches and a minimum

paved width of thirty (30) inches measured horizontally across the drain. The slope of the drain shall be approved by the Building and Safety Division.

H. Section J109.4 Amended – Disposal. Section J109.4 of the California Building Code is amended to read as follows:

Section J109.4 Drainage Across Property Lines. All drainage facilities shall be designed to carry waters to the nearest practicable drainage course approved by the City Engineer. Erosion of ground in the area of concentrated discharge shall be prevented by installation of non-erosive down drains, riprap, energy dissipaters or other approved devices including a return of flow to a natural sheet flow condition provided the potential effects of greater volume than existing conditions generated are accounted for. Where surface waters are to be conveyed or directed onto adjacent property in an unnatural manner, the applicant shall be required, prior to issuance of a grading permit, to obtain a drainage easement from the owner of said property. This easement shall be recorded. There shall be a drainage gradient of two percent (2%) from the building pad toward an approved drainage facility.

15.04.000 Section 1808.1 amended - General.

Section 1808.1 of the California Building Code is amended by adding the following to the end of the paragraph:

1. All new foundations, slabs, or any impermeable surface material, such as but not limited to artificial turf, concrete, or asphalt that increase the square footage of a building, structure, or caps the parcel shall comply with Chapter 16.24.080 (Methane Assessment and Mitigation Standards) for areas of new development or additions to existing development.

Section 6. Chapter 15.06 (Residential Code) of Title 15 (Buildings and Construction) of the Municipal Code is hereby amended in full as follows:

Chapter 15.06 "Residential Code"

15.06.010 California Residential Code adopted.
15.06.020 Definitions.
15.06.030 Permit fees.

15.06.010 California Residential Code adopted.

A. Except as provided in this chapter, those certain building codes known and designated as the 2025 California Residential Code (CRC) (California Code of Regulations, Title 24, Part 2.5), based on the 2024 International Residential Code, including the appendices to the International Residential Code as published by the International Code Council, shall be and become the residential code of the City for regulating the erection, construction, enlargement, alteration, repair, moving, removal,

demolition, conversion, occupancy, equipment, use, height, area and maintenance of all buildings and/or structures in the City.

B. One copy of the California Residential Code and its appendices has been deposited in the office of the City Clerk and shall be at all times maintained by the Clerk for use and examination by the public.

C. The 2025 California Residential Code is amended to read as follows:

Section R401.2 Requirements. All new foundations, slabs, or any impermeable surface material, such as but not limited to artificial turf, concrete, or asphalt that increases the square footage of a building, structure, or caps the parcel shall comply with Chapter 16.24.080 (Methane Assessment and Mitigation Standards) for areas of new development or additions to existing development.

15.06.020 Definitions.

(CRC R202)

Whenever any of the following names or terms are used in the California Residential Code or its appendices each such name or term shall be deemed and construed to have meaning ascribed to it in this chapter as follows:

A. “Building code” means Chapter 15.04 of this code as amended.
B. “Fire code” means Chapter 15.08 of this code as amended.
C. “Electrical code” means Chapter 15.12 of this code as amended.
D. “Plumbing code” means Chapter 15.16 of this code as amended.
E. “Mechanical code” means Chapter 15.20 of this code as amended.

15.06.030 Permit fees.

The residential code permit fees shall be those which the City Council may from time to time adopt by resolution.

Section 7. Chapter 15.10 (Cal Green Code) of Title 15 (Buildings and Construction) of the Municipal Code is hereby amended in full as follows:

Chapter 15.10 “Green Code”

15.10.010 Cal Green Code adopted.
15.10.020 Definitions.
15.10.030 Permit fees.

15.10.010 Cal Green Code adopted.

A. Except as provided in this chapter, those certain building codes known and designated as the 2025 California Green Building Standards Code (CALGreen)

(California Code of Regulations, Title 24, Part 11) based on the 2024 International Green Standards Code shall be and become the green building code of the City for regulating the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area and maintenance of all buildings and/or structures in the city.

B. One copy of the Cal Green Building Standards Code and its appendices has been deposited in the office of the City Clerk and shall be at all times maintained by the Clerk for use and examination by the public.

15.10.020 Definitions.

(Cal Green 202)

Whenever any of the following names or terms are used in the CALGreen Code each such name or term shall be deemed and construed to have meaning ascribed to it in this section as follows:

A. “Building code” means Chapter 15.04 of this code as amended.
B. “Residential code” means Chapter 15.06 of this code as amended.
C. “Fire code” means Chapter 15.08 of this code as amended.
D. “Electrical code” means Chapter 15.12 of this code as amended.
E. “Plumbing code” means Chapter 15.16 of this code as amended.
F. “Mechanical code” means Chapter 15.20 of this code as amended.

15.10.030 Permit fees.

The green building code permit fees shall be those which the City Council may from time to time adopt by resolution.

Section 8. Chapter 15.12 (Electrical Code) of Title 15 (Buildings and Construction) of the Municipal Code is amended in full as follows:

Chapter 15.12 “Electrical Code”

15.12.010 California Electrical Code adopted.
15.12.020 Definitions.
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15.12.030 Undergrounding of utilities.
15.12.040 Permit fees.
15.12.050 Issuance of electrical permits.

15.12.010 California Electrical Code adopted.

A. Except as provided in this chapter, that certain electrical code known and designated as the 2025 California Electrical Code (CEC) (California Code of Regulations, Title 24, Part 3) based on the 2023 National Electrical Code, published by the National

Fire Protection Association, shall be and become the electrical code of the City for regulating the installation, arrangement, alteration, repairs, use and other operation of electrical wiring, connections, fixtures, and other electrical appliances on premises within the City.

B. One copy of the California Electrical Code has been deposited in the office of the City Clerk and shall be at all times maintained by the Clerk for use and examination by the public.

15.12.020 Definitions.

(CEC 100)

Whenever any of the following names or terms are used in the California Electrical Code each such name or term shall be deemed and construed to have meaning ascribed to it in this section as follows:

A. “Building code” means Chapter 15.04 of this code as amended.
B. “Residential code” means Chapter 15.06 of this code as amended.
C. “Fire code” means Chapter 15.08 of this code as amended.
D. “Plumbing code” means Chapter 15.16 of this code as amended.
E. “Mechanical code” means Chapter 15.20 of this code as amended.

15.12.030 Undergrounding of utilities.

(Zoning Code Amendment)

A. Underground utilities shall be installed in a new development in accordance with the rules and regulations of the serving utility as approved by the public utilities commission. When such rules and regulations do not apply, overhead utility lines may serve a new development; provided, however, that conduit (raceway) from service equipment shall be placed underground to the curb line and/or utility right-of-way. Said conduit (raceway) shall include but not be limited to electric, telephone, communication, exterior lighting, and television cable.

B. All related equipment such as transformers, meters, etc., may be permitted aboveground but not in the required front yard setback or the side yard setback adjacent to a street unless otherwise approved by the administrative committee.

C. After fifty and one-tenth percent (50.1%) of any street frontage of any city block has been developed with underground utilities, it shall be the responsibility of the city to investigate the feasibility of establishing an underground utility district for the block to have all utilities placed underground.

For additional provisions regarding underground utilities, see Chapter 13.08 of this code.

15.12.040 Permit fees.

The electrical permit fees shall be those which the City Council may from time to time adopt by resolution.

15.12.050 Issuance of electrical permits.

Permits required by this chapter shall be required for all electrical work within the city. Permits shall only be issued to a state licensed electrical contractor in good standing and in compliance with all Business and Professions Codes and State laws pertaining to their profession.

Exemptions:

A residential owner, with current legal possession of a property, may obtain a permit for that property when employing a state licensed electrical contractor. In no case shall a residential owner or an unqualified individual be allowed to do the work or obtain the permits for such work unless they can provide the following:

A. Include a copy of the contractor's state license card and current contact information of the electrician they are employing.
B. Provide proof of insurance by the contractor or homeowner for the work.
C. Provide a current and signed estimate from the contractor for the scope of work.
D. Ensure that the contractor shall be present for all inspections.

Section 9. Chapter 15.16 (Plumbing Code) of Title 15 (Buildings and Construction) of the Municipal Code is hereby amended in full as follows:

Chapter 15.16 "Plumbing Code"

15.16.010 California Plumbing Code adopted.
15.16.020 Definitions.
15.16.030 Permit fees.
15.16.040 Section 608.2 amended— Excessive water pressure.

15.16.010 California Plumbing Code adopted.

A. Except as provided in this chapter, that certain plumbing code known and designated as the 2025 California Plumbing Code (CPC) (California Code of Regulations, Title 24, Part 5) based on the 2024 Uniform Plumbing Code, including the appendix to the Uniform Plumbing Code, published by the International Association of Plumbing and Mechanical Officials, shall be and become the code of the City, regulating erection, installation, alteration, repair, relocation, replacement, maintenance or use of plumbing systems within the City.

B. One copy of the California Plumbing Code has been deposited in the office of the City Clerk and shall be at all times maintained by the Clerk for use and examination by the public.

15.16.020 Definitions.

(CPC 203.0)

Whenever any of the following names or terms are used in the California Plumbing Code each such name or term shall be deemed and construed to have meaning ascribed to it in this section as follows:

A. “Building code” means Chapter 15.04 of this code as amended.
B. “Residential code” means Chapter 15.06 of this code as amended.
C. “Fire code” means Chapter 15.08 of this code as amended.
D. “Electrical code” means Chapter 15.12 of this code as amended.
E. “Mechanical code” means Chapter 15.20 of this code as amended.

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15.16.030 Permit fees.

The plumbing permit fees shall be those which the City Council may from time to time adopt by resolution.

15.16.040 Section 608.2 amended—Excessive water pressure.

Section 608.2 of the California Plumbing Code is amended to read in its entirety as follows:

Section 608.2 Excessive water pressure. All water service systems and re-piping of existing water systems within buildings or structures shall be equipped with an approved type of pressure regulator preceded by an adequate strainer and the pressure reduced to 80 pounds per square inch (551.2 kPa) or less. With the installation of a pressure regulator to any water system, an approved expansion tank shall be installed on the cold-water side of the water heater as per the manufacturer. For potable water services up to and including one and one-half inch (38.1 mm) regulators, provision shall be made to prevent pressure on the building side of the regulator from exceeding main supply pressure. Approved regulators with integral bypasses are acceptable. Each such regulator and strainer shall be accessibly located and shall have the strainer readily accessible for disconnecting the supply piping. All pipe size determinations shall be based on 80 percent (80%) of the reduced pressure when using Table 610.4.

Section 10. Chapter 15.20 (Mechanical Code) of Title 15 (Buildings and Construction) of the Municipal Code is hereby amended in full as follows:

Chapter 15.20 “Mechanical Code”

15.20.010 California Mechanical Code adopted.
15.20.020 Definitions.
15.20.030 Permit fees.

15.20.010 California Mechanical Code adopted.

A. Except as provided in this chapter, that certain mechanical code known and designated as the 2025 California Mechanical Code (CMC) (California Code of Regulations, Title 24, Part 4) based on the 2024 Uniform Mechanical Code, including the appendix to the Uniform Mechanical Code, published by the International Association of Plumbing and Mechanical Officials, shall be and become the code of the City, regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance of heating, ventilating, cooling, refrigeration systems, incinerators and other miscellaneous heat producing appliances.

B. One copy of the California Mechanical Code has been deposited in the office of the City Clerk and shall be at all times maintained by the Clerk for use and examination by the public.

15.20.020 Definitions.

(CMC 203.0)

Whenever any of the following names or terms are used in the California Mechanical Code, each such name or term shall be deemed and construed to have the meaning ascribed to in this section as follows:

A. “Building code” means Chapter 15.04 of this code as amended.
B. “Residential code” means Chapter 15.06 of this code as amended.
C. “Fire code” means Chapter 15.08 of this code as amended.
D. “Electrical code” means Chapter 15.12 of this code as amended.
E. “Plumbing code” means Chapter 15.16 of this code as amended.

15.20.030 Permit fees.

The mechanical permit fees shall be those which the City Council may from time to time adopt by resolution.

Section 11. Chapter 15.22 (Housing Code) of Title 15 (Buildings and Construction) of the Municipal Code is hereby deleted in its entirety.

Section 12. Chapter 15.32 (Code for the Abatement of Dangerous Buildings) of Title 15 (Buildings and Construction) of the Municipal Code is hereby deleted in its entirety.

Section 13. Chapter 15.36 (Uniform Swimming Pool, Spa and Hot Tub Code) of Title 15 (Buildings and Construction) of the Municipal Code is hereby amended in full as follows:

Chapter 15.36 “Uniform Swimming Pool, Spa and Hot Tub Code”

15.36.010 Uniform Swimming Pool, Spa and Hot Tub Code adopted.
15.36.020 Section 305 Barrier Requirements.
15.36.030 Permit fees.

15.36.010 Uniform Swimming Pool, Spa and Hot Tub Code adopted.

A. Except as provided in this chapter, that certain swimming pool code known and designated as the 2024 International Swimming Pool and Spa Code shall be and become the swimming pool code of the city, regulating erection, installation, alteration, repair, replacement, maintenance, or use of swimming pools, spas and hot tubs within the city.

B. One copy of the International Swimming Pool and Spa Code shall be at all times maintained by the city for use and examination by the public.

15.36.020 Section 305 Barrier Requirements.

The barrier requirements for any pool shall comply with the most recent adoption of the California Health and Safety Code known as the Swimming Pool Safety Act. This legislation requires the use of at least two of the seven protection devices for a residential pool. For residential pools, the city adopts the first and primary safety device as the barrier or enclosure around the pool restricting access. A secondary safety device shall then be required within the enclosure.

15.36.030 Permit fees.

The fees for swimming pools, spa and hot tubs shall be those which the city council may from time to time adopt by resolution.

Section 14. Repeal of Conflicting Ordinances. All former ordinances or parts conflicting or inconsistent with the provisions of this Ordinance or of the Uniform Codes are hereby repealed.

Section 15. Severability. If any section, subsection, subdivision, paragraph, sentence, clause or phrase added by this Ordinance, or any part thereof, is for any reason held to be unconstitutional or invalid or ineffective by any court of competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portions of this Ordinance or any part thereof. The City Council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause or phrase thereof irrespective of the fact that any one or more subsections, subdivisions, paragraphs, sentences, clauses or phrases are declared unconstitutional, invalid or ineffective.

Section 16. The Director of Community Development is instructed to, and shall, transmit a copy of this Ordinance together with any appropriate supporting documentation, to the California Building Standards Commission in accordance with California Health and Safety Code Section 17958.7.

Section 17. Effective Date. This ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect on January 1, 2026.

Section 18. CEQA. The City Council finds that the changes made to the Uniform Codes are enacted to mitigate the threats posed to public peace, health and safety from snow and fire. Therefore, it can be seen with certainty that adoption of this Ordinance will not have a significant adverse effect on the environment and is therefore exempt from California Environmental Quality Act pursuant to Section 15061(b)(3) of the CEQA Guidelines.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the City Council of the City of Signal Hill, California, on this 9th day of December, 2025.

_____
KEIR JONES
MAYOR

ATTEST:

_____
DARITZA PEREZ
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss.
CITY OF SIGNAL HILL)

I, DARITZA PEREZ, City Clerk of the City of Signal Hill, California, hereby certify that Ordinance No. 2025-11-1555 was introduced at a special meeting of the City Council of the City of Signal Hill held on the 13th day of November, 2025, and thereafter was adopted at a regular meeting of the City Council on the 9th of December, 2025, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
DARITZA PEREZ
CITY CLERK

Exhibit A

Findings to Support Amendments to the

2025 Edition of the California Building Standards Code

This Exhibit A provides the express findings and determinations (where necessary pursuant to California Health & Safety Code Sections 17958, 17958.7 and/or 18941.5) justifying the City of Signal Hill's local amendments to the 2025 Edition of the California Building Code, the 2025 Residential Code, the 2025 California Green Building Standards Code, the 2025 Electrical Code, the 2025 Plumbing Code, the 2025 Mechanical Code, the 2024 International Swimming Pool and Spa Code, as reasonably necessary because of local climatic, geologic or topographic conditions.

Amendments to the California Building Code

Section 15.04.030 Section 105.2 amended – Exempted work.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.04.040(A)	105.2	Not structural change and energy compliance obligation is of applicant.	A

Section 15.04.040 Section 109.2 amended—Permit fees.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.04.050	109.2	City Council establishes fees annually by Resolution.	A

15.04.050 Section 109.7 added —Plan review fees.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.04.060	109	City Council establishes fees annually by Resolution.	A

15.04.060 Section 109.4 amended—Investigation fees.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.04.070	109.4	City Council establishes fees annually by Resolution.	A

15.04.070 Section 1511.1 amended—General.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.04.080	1511.1	Clarification of area triggering a permit.	A

15.04.080 Appendix J

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.04.080	Appendix J	Clarifications of the requirements for exploratory excavations to streamline the process subject to conditions and ensure safeguards are in place.	B, C

Amendments to the California Residential Code

15.06.010 California Residential Code adopted.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.06.010	R401.2	Mitigation due to oil field impacts.	B (ii)

15.06.020 Definitions.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.06.020	R202	Clarification	A

Amendments to the California Green Building Standards Code

15.10.020 Definitions.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.10.020	202	Clarification	A

Amendments to the California Electrical Code

15.12.020 Definitions.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.12.020	100	Clarification	A

Amendments to the Plumbing Code

15.16.020 Definitions.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.16.020	203	Clarification	A

15.16.040 Section 608.2 amended—Excessive water pressure.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.16.050	608.2	Based on City Water Dept. standards.	A

Amendments to the Mechanical Code

15.20.020 Definitions.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.20.020	203.0	Clarification	A

Amendments to the International Swimming Pool and Spa Code

15.36.020 Section 305 Barrier Requirements.

Signal Hill Municipal Code Section	Section Impacted	Amendment	Justification (see below key to justifications)
15.36.020	305	Local interpretation allowing compliance and flexibility based on safety conditions.	A

Justifications KEY: Findings to Support Amendments to the California Building Code, the 2025 Residential Code, the 2025 California Green Building Standards Code, the 2025 Electrical Code, the 2025 Plumbing Code, the 2025 Mechanical Code, the 2024 International Swimming Pool and Spa Code.

A. This amendment establishes administrative standards for the effective enforcement of building standards through the City of Signal Hill and is necessary for administrative clarification and does not modify a California Building Standard pursuant to California Health and Safety Code Sections 17958, 17958.5 and 17958.7. This amendment is reasonably necessary because of the following local climatic conditions:

B. This amendment is reasonably necessary because of the following local geological conditions:

i. The City is subject to earthquake hazards caused by its location on the Newport-Inglewood Fault. The Newport-Inglewood Fault is a normal fault with a strike slip fault component. The Newport-Inglewood Fault has been designated by the Alquist-Priolo Geologic Hazards Zones and Acts as a Special Studies Zone. The Special Studies Zone requires developers to provide a report prepared by a registered geologist. The recommendations within the report must be implemented which may include setbacks to be maintained and/or structural requirements. Grading plans and structures must be designed in accordance with the adopted Grading Codes and Building Codes.

ii. The presence of oil in the City's subsurface, and in conjunction with the City's history of oil operations, results in the concentrations of methane gas which can rise up from the subsurface, accumulate, and present a fire hazard if pressurized. Thus, local amendments are necessary to provide for methane and other oil field related mitigations that are unique to the City's soil and subsurface presence of oil.

C. This amendment is reasonably necessary because of the following local topographical conditions:

i. View Policy. The hilltop in Signal Hill provides the City with its most identifying feature. All new development and major rebuilds or additions are projects subject to the City's View Policy. The City's View Policy clarifies circumstances under which a view analysis is required and establishes guidelines for views which are eligible for preservation and recommendations of modifications to proposed project in order to protect views.

ii. Soils. Signal Hill is located in the Los Angeles Coast Plain. The plain sits on an extraordinarily deep marine and nonmarine sedimentary base that has an important bearing on earthquakes, petroleum deposits and subsidence problems. Slopes vary from 10 to 80 percent. Slopes over 20 percent are not generally considered suitable for urban development. In addition, highly expansive or compressible soils and land with significant rock outcroppings or other landforms are not suitable for development. Although the soils of Signal Hill, characterized primarily by sand, silt and clay deposits, are considered to be a sound foundation for buildings and development, the possibility of a geologic hazard always exists. Appropriate planning and prudent design are required to decrease the danger and possibility of a severe slope hazard. Grading and erosion control plans prepared by a registered civil engineer are required for all projects.

iii. Drainage. The City's stormwater drains into the Pacific Ocean. Accordingly, in order to protect ocean water quality, all grading and development activity must include stormwater pollution protection as a primary consideration. Developers are responsible for construction or upgrading of sewer and water mains, storm drains, streetlights, fire hydrants, street trees and street signs. Construction is required concurrent

with project development and a performance bond for the construction must be obtained before the issuance of building permits. In certain situations where construction is infeasible, the City may accept an in-lieu fee equal to the cost of construction.

11/13/2025

AGENDA ITEM

TO: **HONORABLE MAYOR**
AND MEMBERS OF THE CITY COUNCIL

HONORABLE CHAIR
AND MEMBERS OF THE HOUSING AUTHORITY

FROM: **CARLO TOMAINO**
CITY MANAGER

BY: **ALFA LOPEZ**
ASSISTANT TO THE CITY MANAGER/
ECONOMIC DEVELOPMENT MANAGER

SUBJECT:

PROPOSED AMENDMENT TO THE EXCLUSIVE NEGOTIATION AGREEMENT WITH NATIONAL COMMUNITY RENAISSANCE OF CALIFORNIA (NATIONAL CORE)

Summary:

Staff has negotiated and is presenting revised terms of an Exclusive Negotiation Agreement (ENA) by and between the City, Housing Authority, and National Community Renaissance of California, a California nonprofit public benefit corporation (National CORE). The Orange Bluff ENA expires on November 15, 2025, and supports efforts to develop the Orange Bluff Affordable Housing Projects. The ENA for the Walnut Bluff Project has been satisfied. The Walnut Bluff project is located on a two-acre property at the northwest corner of East Willow Street and Walnut Avenue, consisting of approximately 83 affordable homes for individuals and families earning below 80% of the area median income (AMI). The Orange Bluff Project is located on an 8.6-acre property on the south side of East 28th Street, between Orange Avenue and Gundry Avenue, and consists of approximately 297 affordable homes.

Since the original ENA was negotiated, National CORE has experienced significant impacts from a changing financial environment due to changing funding priorities at the State level. In response, National CORE is pursuing funding through the Affordable Housing and Sustainable Communities (AHSC) program, funded by the Greenhouse Gas Reduction Fund. The AHSC program prioritizes larger, denser projects that promote greenhouse gas reductions through sustainable design, location efficiency, and transit connectivity. To strengthen its competitiveness for AHSC funding, National CORE is now evaluating a scattered-sites approach, which could include both the Orange Bluff and Walnut Bluff sites and a third alternative public or privately owned site.

Staff recommends the City Council and Housing Authority Board approve the proposed ENA between the City of Signal Hill, the Signal Hill Housing Authority, and National CORE substantially in the form presented, for the development of the Orange Bluff Workforce Housing project and the 28th & Walnut or Alternative Site. Staff further recommends extending the ENA deadline to September 15, 2027 for the Orange Bluff Project and July 15, 2026 for the 28th & Walnut or Alternative Site. In addition, staff has identified a need to amend the ENA to include language that allows for the identification and consideration of an alternative site, either publicly or privately owned, should the originally proposed site not be available or feasible for development.

Strategic Plan Goal(s):

Goal No. 1 Financial Stability: Ensure the City's long-term financial stability and resilience.

Goal No. 3 Economic Development: Improve the local economy, support local businesses, and create a vibrant downtown core.

Goal No. 4 Infrastructure: Maintain and improve the City's physical infrastructure, water system, and recreational spaces.

Recommendations:

Staff recommends the City Council and Housing Authority Board approve the proposed amendments to the Exclusive Negotiation Agreement (ENA) between the City of Signal Hill, the Signal Hill Housing Authority, and National Community Renaissance (National CORE) substantially in the form presented for the development of two proposed workforce housing projects known as Orange Bluff and an alternative potential site as follows:

1. Approve the revised ENA between the City of Signal Hill, the Signal Hill Housing Authority, and National CORE, extending the ENA deadlines to September 15, 2027 for the Orange Bluff Project and July 15, 2026 for 28th & Walnut or Alternative Site.

2. Authorize the City Manager to effectuate all documents related to this action.

Fiscal Impact:

There is no fiscal impact associated with amending the Exclusive Negotiation Agreement with National CORE.

Background:

The City's Certified Housing Element identifies two sites owned by Signal Hill Petroleum (SHP) for future development of workforce housing. Orange Bluff is an 8.6-acre property located on the south side of East 28th Street between Orange Avenue and Gundry Avenue. Walnut Bluff is a 2-acre property located at the northwest corner of East Willow Street and Walnut Avenue. The City Council entitled both sites to accommodate 85 units of workforce housing on Walnut Bluff and 297 units on Orange Bluff. Developing these sites helps the City provide new affordable housing opportunities and meet its Regional Housing Needs Assessment (RHNA) allocation for the current Housing Element

cycle, totaling 517 units.

The City Council and Housing Authority Board approved the selection of National CORE through a Notice of Funding Availability. In April 2024, the City Council authorized the City Manager to execute an ENA with National CORE. The ENA committed available and future City and Housing Authority funding and set performance milestones aligned with the City's desired development timeline. Both workforce housing sites contain active and abandoned oil wells. As both the property owner and development partner, Signal Hill Petroleum has provided technical expertise throughout this process.

During site evaluations, National CORE and SHP determined the Orange Bluff property presents significantly more complex and costly remediation challenges than initially anticipated. As a result, National CORE requires additional time to complete its due diligence and assess the financial feasibility of the Orange Bluff site as an income-restricted residential project. Due to the expected delays with the Orange Bluff project, the City Manager, under his authority, revised the ENA, separating it into two schedules to allow both projects to move forward. The ENA outlines a specific timeframe for National CORE to meet its performance requirements. National CORE has made significant progress in its due diligence for the Walnut Bluff site and negotiated site control with Signal Hill Petroleum, recently executing a Letter of Intent for site acquisition.

The City Council and Housing Authority subsequently approved an Affordable Housing Agreement with National CORE for the development of the Walnut Bluff property. The Walnut Bluff Workforce Housing Project, including the acquisition, development, and remediation costs, totals $51,515,329. The City's loan, in the amount of $6,550,000, funds the financing gap for this project. National CORE has continued implementing the performance schedule outlined in the Affordable Housing Agreement and is securing additional sources of funding that comprise the capital stack for this project.

Analysis:

Since executing the ENA, there have been challenges associated with the two project sites outside the control of the City, National CORE, and SHP. First, due to the State budget's multibillion-dollar operating deficit, the State Legislature and Governor temporarily suspended funding for programs such as the Infill Infrastructure Grant (IIG) and other affordable housing initiatives. National CORE identified the IIG program, in particular, as a possible source of funding for infrastructure improvements; National CORE continues advocating for the reinstatement of these funds. As further discussed below, the State has also reprioritized the use existing affordable housing funding for permanent supportive housing. The current funding landscape means that there is a significantly diminished pool of State money available for affordable housing developers which makes funding applications much more competitive.

Walnut Bluff Workforce Housing Project

National CORE successfully negotiated with SHP to acquire the property; the two parties are now finalizing the terms and conditions of a Purchase and Sale Agreement. In order to make the project financing feasible for this site, SHP discounted the value of the property by 50%, which enabled the two parties to advance negotiations. National CORE also made significant progress designing the site layout, which is comprised of 86 units, and a Boys and Girls Club. The total cost of the project, including acquisition, development, and remediation, is $51,515,329. The City Council previously authorized a loan totaling $6,550,000 to close the financing gap.

National CORE also completed its site analysis, which included further study of environmental conditions due to a recent change in State law regarding oil operations and health protection zones. National CORE and SHP prepared a supplemental Human Health Risk Assessment (HHRA) to determine that the Walnut Bluff safe is suitable for residential development. SHP and National CORE were very diligent in ensuring the oil activity with proximity to the proposed Walnut Bluff development would not create health risks for future residents. The HHRA concluded that the proximity to previous and current oil operations does not pose a health risk to future residents. Staff has attached the HHRA for the City Council's information (Attachment A).

Orange Bluff Workforce Housing Project

The Orange Bluff property is approximately 8.6 acres, which is generally much larger than the average affordable housing site which is typically two to three acres. The property's size makes site acquisition and development much more costly, even at a discounted price, for an affordable housing developer. The Orange Bluff property also contains oil wells and requires soil remediation, which will add to its development cost. In summary, while the Orange Bluff site can be developed as a future housing site, developing the entire property as an affordable housing site is cost prohibitive and the property is better suited as a potential market rate development with two acres set aside for an affordable multifamily project. This potential change would increase the opportunities to develop the property by relying more on private equity investment than on competitive and limited State funding opportunities. National CORE and SHP would jointly pursue market rate development partners for this property and report back to the City Council.

Affordable Housing and Sustainable Communities Program

As noted previously, one of the most significant challenges to developing the two workforce housing sites is that the State of California has substantially reduced funding availability for affordable housing projects. In other instances, the State has reprioritized its available affordable housing funding for permanent supportive housing projects that supports that State's initiatives to reduce homeless population. National CORE identified an alternative source of funding called the AHSC program, that could potentially fill the funding gap left by the Infill Infrastructure Grant program.

The AHSC Program links the development of affordable housing with investments in sustainable transportation infrastructure to address climate change and housing affordability simultaneously. Funded by California's Cap-and-Trade program through California Climate Investments, the AHSC program is administered jointly by the Strategic Growth Council and the Department of Housing and Community Development. The goal of the AHSC program is to reduce greenhouse gas emissions by decreasing vehicle miles traveled, also known as VMT, by integrating communities within proximity to jobs and essential services. AHSC also provides grants and loans for affordable housing, the development of new bike lanes, sidewalks, transit stops, and urban greening efforts.

Since 2015, the AHSC program has invested more than $4 billion, funding over 200 projects statewide. This investment has resulted in the creation of over 20,000 new affordable homes and is projected to avoid an estimated 5.7 million metric tons of GHG emissions. Over half of these investments have directly benefited disadvantaged communities, promoted environmental equity and provided significant financial relief to households through reduced transportation and housing costs. The program requires collaboration between housing developers, local governments, and transit agencies, representing a comprehensive, multi-sector approach to building healthier, more sustainable, and equitable communities across California.

Proposed Approach using AHSC Funding

To advance development of the City's workforce housing projects, National CORE proposes leveraging the AHSC funding source and applying for funding based on the scattered site model. As noted, the Orange Bluff site requires a significantly higher capital investment compared to available State funding; therefore, the Orange Bluff site is not likely suitable as part of the AHSC funding application. The proposed approach would require National CORE to apply for funding for the Walnut Bluff property and an alternative site discussed below, both of which National CORE believes are financially feasible based on current funding availability and market conditions.

Potential Alternative Sites:

As discussed above, there have been challenges associated with the availability of State funding for workforce housing projects. The primary purpose of the proposed item this evening is to recommend extending the ENA to allow National CORE time to pursue alternative approaches to fulfilling its obligations to the City. As a precursor to this discussion, National CORE identified one alternative site for discussion purposes that could be a potential replacement for the Orange Bluff property in the near-term and is committed to exploring additional properties. The following section of this report briefly summarizes a potential candidate site and other options; staff is not requesting that the City Council take final action related to the properties below.

28th Street and Walnut Avenue Property

The 28th & Walnut site is located on a 1.3-acre property at the southwest corner of East 28th Street and Walnut Avenue in Signal Hill. The project site could support a single 3 to 4-story residential building with approximately 60 units and a leasing and property management office, a 1,000 square foot community room, and a private office for support services. A surface parking lot could potentially accommodate approximately 64 stalls. The potential project site could include a total of 60 affordable apartment homes for individuals and families earning below 80% of the AMI with a mix of one, two, and three-bedroom units. One (1) three-bedroom unit will be reserved for an onsite property manager. Onsite amenities will include a children's playground, shaded BBQ, outdoor lounge and dining areas, and multiuse lawn. The Hope through Housing Foundation would also offer onsite programs and services, providing residents with the resources and support they need to thrive.

Alternative Sites:

National CORE is requesting time to conduct additional due diligence and would be required to submit entitlement applications to request a zone change if required, for an alternative site. \Staff has included the 28th and Walnut property in the proposed updated ENA as an option for the City Council's consideration. However, there may be additional privately owned sites that could be suitable for development, potentially in conjunction with a market-rate development. Staff will work with National CORE to identify additional potential sites for feasibility and will return to the City Council with an amendment to the ENA for another possible site once it has been identified. Staff's review will consider currently available public and privately owned properties as possible options for this alternative site.

Amendments to the Exclusive Negotiation Agreement

The proposed revised ENA includes several key updates to ensure that the City, Housing Authority, and National CORE can continue moving forward with the development of the Walnut Bluff and Orange Bluff affordable housing projects despite changes in the broader financial environment (Attachment B). The revisions are intended to preserve the City's ability to facilitate meaningful affordable housing opportunities and to maintain flexibility as project conditions evolve.

The most significant change is the addition of language providing flexibility for National CORE to explore the option of developing a third site along with the Orange Bluff Project. This modification allows the City and National CORE to identify and consider other publicly or privately owned properties should the originally proposed site become unavailable or infeasible for development. The inclusion of this provision ensures the ENA remains viable and adaptable, allowing the City and National CORE to respond to changing site conditions and funding opportunities.

In addition, the ENA revisions acknowledge the shifts in the affordable housing financing landscape that have affected National CORE's ability to secure certain previously anticipated funding sources. These external changes reflect the broader economic and funding challenges currently impacting affordable housing development throughout the region. The updated ENA accommodates these challenges by providing flexibility in the project's timeline and negotiation period, allowing additional time for funding applications, feasibility analysis, and site evaluation.

The ENA has also been updated to reflect National CORE's pursuit of funding through the State's AHSC program. This program, supported by the Greenhouse Gas Reduction Fund, favors larger,

denser projects that promote sustainability and greenhouse gas reduction through transit access, active transportation, and energy efficiency. The revised ENA supports National CORE's exploration of a scattered-sites approach, which could enhance the competitiveness of the Orange Bluff Project for AHSC funding and align with state sustainability goals.

Overall, the proposed updates to the ENA strengthen the City's partnership with National CORE, provide the flexibility needed to adapt to evolving financial and site conditions, and reaffirm the City's ongoing commitment to expanding affordable housing opportunities within the community.

Recommendation

Staff recommends that the City Council and the City of Signal Hill Housing Authority amend the Exclusive Negotiation Agreement with National CORE to accommodate the proposed inclusion of language to allow for the consideration of potential alternative sites and extend the development timeframes for the Orange Bluff project.

The recommended action would extend the ENA deadlines to September 15, 2027 for the Orange Bluff Project and July 15, 2026 for the 28th & Walnut or Alternative Site project, adding a potential third workforce housing site to the schedule and result in the potential of an additional sixty (60) units of housing. These additional units would provide much-needed housing opportunities for local residents and families, supporting the community's goal of increasing access to safe, affordable workforce housing.

Reviewed for Fiscal Impact:

_____
Siamlu Cox
Administrative Services Officer/Finance Director

Attachments:

A. Human Health Risk Assessment: Walnut Bluff Development
B. National CORE Exclusive Negotiation Agreement (ENA)
C. Revised ENA

MEARNS CONSULTING LLC
ENVIRONMENTAL CONSULTANTS
RISK ASSESSORS

738 Ashland Avenue, Santa Monica, California 90405
Cell 310.403.1921
Tel 310.396.9606 Fax310.396.6878
Mearns.Consulting@verizon.net

June 23, 2025

via email

Ms. Colleen T. Doan
Community Development Manager
City of Signal Hill
2175 Cherry Avenue
Signal Hill, California 90755

RE: **Memorandum – Study of Human Health Risks Due to Outdoor Air Exposure at Proposed Walnut Bluff Development, City of Signal Hill, California 90755, dated April 16, 2025 prepared by Catalyst Environmental Solutions**

Dear Ms. Doan:

The Study of Human Health Risks Due to Outdoor Air Exposure at Proposed Walnut Bluff Development, City of Signal Hill, California 90755, dated April 16, 2025, prepared by Catalyst Environmental Solutions (Catalyst) was received and reviewed on April 16, 2025.

Catalyst estimated cancer risk due to exposure to benzene only and all petroleum-related chemicals of potential concern (COPCs) measured during the month of October 2024 onsite in outdoor air using acceptable regulatory agency guidance.

Catalyst excluded the benzene concentration of 3.2 micrograms per cubic meter ($\mu g/m^3$) detected in October 2024 at onsite location WB05 and used Dixon's Outlier Test to statistically demonstrate this detected concentration was an outlier. Catalyst also performed additional air sampling during December 2024 at four locations and recorded detected concentrations of benzene at 1.7 $\mu g/m^3$, 1.7 $\mu g/m^3$, 1.7 $\mu g/m^3$ and 1.9 $\mu g/m^3$, all greater than the concentrations of benzene detected in October. Catalyst did not include these five detected concentrations of benzene in their risk estimates.

Mearns Consulting LLC (Mearns) was able to replicate Catalysts' risk estimates. Mearns also estimated cancer risk for benzene only and all petroleum-related COPCs including the five detected concentrations of benzene: 3.2 $\mu g/m^3$, 1.7 $\mu g/m^3$, 1.7 $\mu g/m^3$, 1.7 $\mu g/m^3$ and 1.9 $\mu g/m^3$ omitted by Catalyst. The results are presented below.

Benzene Cancer Risk Calculations

Scenario	Benzene Cancer Risk	All Petroleum-Related COPCs Cancer Risk
MATES V – Regional All Data	1.1×10^{-5}	1.0×10^{-5}
Catalyst Walnut Bluff Offsite Samples	1.0×10^{-5}	1.1×10^{-5}
Catalyst Walnut Bluff Onsite Samples	8.6×10^{-6}	1.0×10^{-5}
Walnut Bluff Onsite Samples including WB05, and 4 samples collected in December 2024	1.47×10^{-5}	1.6×10^{-5}

The Mearns calculated risk estimate 1.47 x 10^{-5} for benzene and 1.6 x 10^{-5} for all petroleum-related COPCs includes the five data points for benzene (3.2 µg/m^3 , 1.7 µg/m^3 , 1.7 µg/m^3 , 1.7 µg/m^3 and 1.9 µg/m^3) omitted by Catalyst, is greater than the risk estimates calculated by Catalyst, is within the regulatory agency acceptable risk range of 1 x 10^{-4} to 1 x 10^{-6} and less than the SCAQMD Air Toxics Hotspots threshold of 1 x 10^{-4}. Excluding the detected concentration of 3.2 µg/m^3, that Catalyst identified as an outlier, from the benzene cancer risk calculations results in a benzene cancer risk of 1.4 x 10^{-5}, which is not statistically different from the risk calculation 1.47 x 10^{-5}.

The benefit of including all detected concentrations of benzene in the onsite risk calculations is a more robust risk estimation due to exposure of the outdoor concentrations of benzene detected in the 28 days samples were collected from two separate months with different conditions. The different conditions make the dataset more representative of onsite conditions to which the future site occupants will be exposed.

Comparing Onsite Results to MATES V

The dataset analyzed in the MATES V Study included 60 days of data collected over a 12 month period in 2018-2019 to account for seasonal variability. The dataset analyzed in the Catalyst study included 14 days of data collected in October 2024 only. The differences between the MATES V Study and the Catalyst study include the duration of the data collection, the year of the data collection and the seasonal data collection. As demonstrated by the data collected by Catalyst in December 2024 with greater detected concentrations of benzene than the October dataset, seasonal variability occurs.

Mearns agrees with Catalysts' conclusions that the onsite risk due to exposure to benzene (1.47 x 10^{-5}) and petroleum-related COPCs (1.6 x 10^{-5}) is comparable to the risk estimations in the MATES V Study (1 x 10^{-5}), is less than the SCAQMD Air Toxics Hotspots threshold of 1 x 10^{-4}, and is within the regulatory agency acceptable risk range of 1 x 10^{-4} to 1 x 10^{-6}.

Please do not hesitate to contact me should you have any questions.

Sincerely,

Susan Mearns

Susan L. Mearns, Ph.D.
Mearns Consulting LLC

Study of Human Health Risks Due to Outdoor Air Exposure at Proposed Walnut Bluff Development

City of Signal Hill, California

April 16, 2025

Prepared for:
City of Signal Hill
2175 Cherry Avenue
Signal Hill, CA 90755

Prepared By:
Catalyst Environmental Solutions
315 Montana Avenue, Suite 311
Santa Monica, CA 90403

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GLOSSARY

AQMD	South Coast Air Quality Management District
ATSDR	Agency for Toxic Substances and Disease Registry
BTEX	benzene, toluene, ethylbenzene, total xylenes
Comparable	used herein to mean similar in quality and quantity
COPC	chemical of potential concern
CSM	Conceptual Site Model
CVOCs	chlorinated volatile organic compounds
DTSC	California Department of Toxic Substances Control
EPC	Exposure Point Concentration
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	Hazard Quotient
ILCR	individual incremental lifetime cancer risk
MATES V	Multiple Air Toxics Exposure Study V
OEHHA	California's Office of Environmental Health Hazard Assessment
Offsite	Monitoring and sampling locations studied herein not located on the Site labelled WB17, WB18, labelled WB19
Onsite	Walnut Bluff property, including monitoring and sampling locations WB01 through WB16
PCE	Tetrachloroethene
PID	Photo-ionization detector
ppbv	parts per billion by volume
Region / Regional	Air quality and associated risks documented in the MATES V Study
Report	Study of Human Health Risks Due to Exposure to Outdoor Air [at the] Proposed Walnut Bluff Development
REL	Reference Exposure Level
RL	reporting limit
RME	Reasonable Maximum Exposure
RSL	Regional Screening Levels
AEGL	Acute Exposure Guideline Level
USDOE	United States Department of Energy
AGV	acute Air Guidance Values
SCAQMD	South Coast Air Quality Management District
SHP	Signal Hill Petroleum
Site	Walnut Bluff property
SL	screening level
µg/m^3	micrograms per cubic meter, also known as parts per billion by mass
UCL	upper confidence level
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

ABSTRACT

On behalf of the City of Signal Hill (City), Catalyst Environmental Solutions Corporation (Catalyst) evaluated the quality of, and potential risks to human health posed by, outdoor air at an approximately 2-acre property located at the corner of Willow Street and Walnut Avenue in the City of Signal Hill, Los Angeles County, California (Site). This Site is currently owned by Signal Hill Petroleum (SHP). The quality of outdoor air was characterized by 14-day, 1-day, and 1 hour time integrated samples collected between October 1 and October 15, 2024 and by 4 onsite 14-day samples collected in December 2024. The samples were collected from 14 locations distributed across the Site and from 3 nearby properties also owned by SHP. The samples were analyzed by a California certified laboratory method TO-15sim to provide measurable concentrations of volatile organic compounds (VOCs). The results indicate that the 14-day analytical results and risks based on the onsite samples and offsite samples are comparable to the risks presented in the South Coast Air Quality Management District's Multiple Air Toxics Exposure Study V (MATES V) performed for the broader Los Angeles basin in 2018 and 2019. In summary, the onsite air quality measured in October 2024 poses no additional measurable risk to human health compared with offsite and regional conditions, and the outdoor air quality measured at the Site is comparable to regional air quality conditions characterized by the MATES V study.

SECTION 1

Introduction

On behalf of the City of Signal Hill (City), Catalyst Environmental Solutions Corporation (Catalyst) prepared this Study of Human Health Risks Due to Exposure to Outdoor Air at the Proposed Walnut Bluff Development (Report) located at the corner of Willow Street and Walnut Avenue in the City of Signal Hill, Los Angeles County, California (Site; Figure 1). The overall purpose of this Report is to present the findings from the assessment of human health risks posed by volatile organic compounds (VOCs) detected in outdoor air samples collected at the Site between October 1 and October 15, 2024.

The Site consists of an approximately two-acre parcel that is currently owned by Signal Hill Petroleum (SHP) and is used for oil extraction with eight wells onsite, consisting of four abandoned wells, two idle wells, and two active wells (Figure 2). The City plans to support redevelopment of this property that will include an apartment building and separate recreational building.

Prior to redevelopment, we understand that SHP has plans to remove relic infrastructure and remediate the parcel to standards that support residential land use. In addition, development of the Site will require engineering controls (e.g., methane mitigation system) to be installed sub-slab of all proposed buildings to mitigate risks and hazards due to the potential for volatile organic compounds (VOCs) and methane vapor intrusion from the subsurface.

Because two of the wells on the Site will remain active for oil and gas production following development, the City commissioned the *Work Plan for Human Health Risk Assessment* (Catalyst 2024) to evaluate the potential human health risks posed by outdoor air to future residents and recreational users of the Site. The objective was to collect site-specific outdoor air data to support an assessment of potential human health risks posed by VOCs in outdoor air.

The scope of work involved: 1) reviewing existing air quality data documented in the Multiple Air Toxics Exposure Study V (MATES V) for the Los Angeles basin as provided by the South Coast Air Quality Management District (SCAQMD) ; 2) collecting air quality data to characterize outdoor air quality on and adjacent to the Site; and 3) analyzing the collected data to prepare a site-specific assessment of potential human health risks. The investigation was conducted in accordance with the most current methods recommended by the California Department of Toxic Substances Control (DTSC), California's Office of Environmental Health Hazard Assessment (OEHHA), and the U.S. Environmental Protection Agency (USEPA). This report documents the methods and results of the study and assessment of potential human health risks.

Figure 1. Site Location Map (Source: Mearns Consulting, LLC 2021)

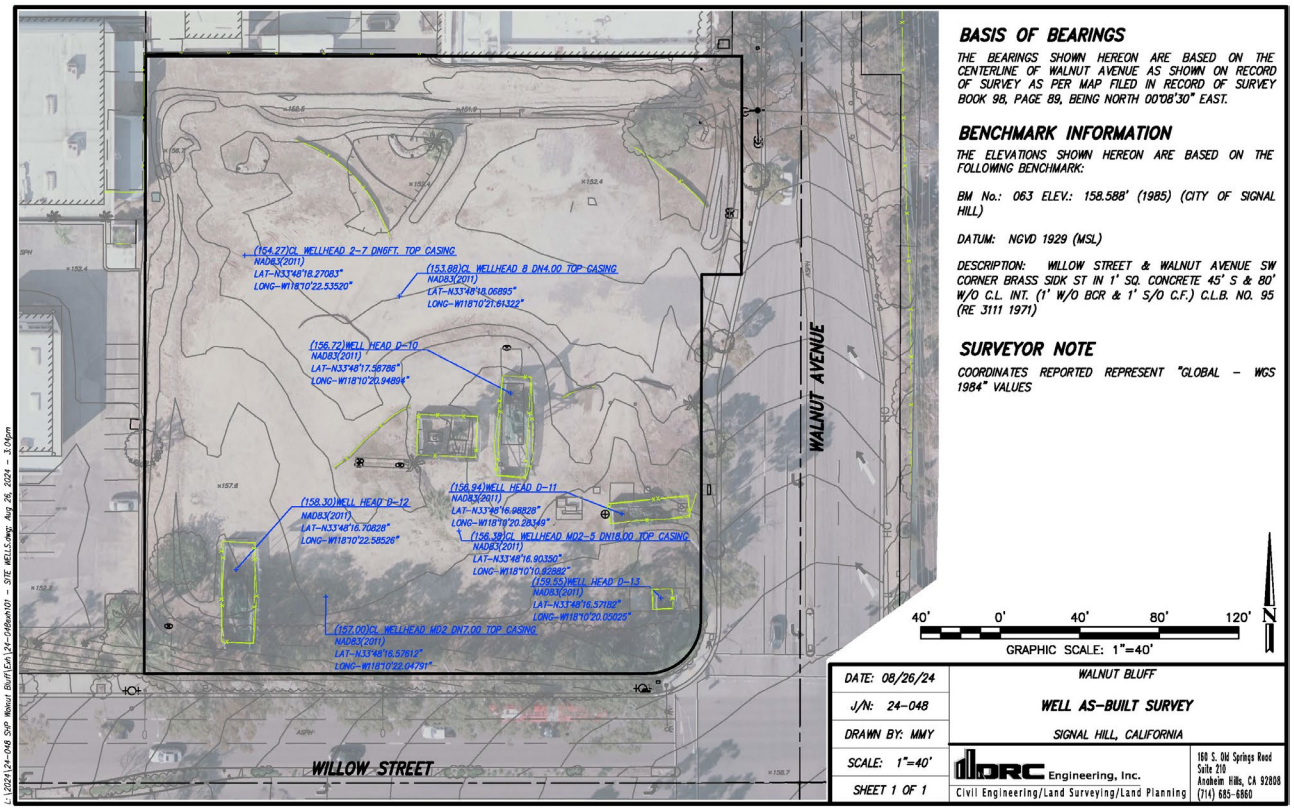


Figure 2. Site Map with Oil and Gas Well Locations (Source: SHP, 2021)

SECTION 2

Study Design Framework

The *Work Plan for Human Health Risk Assessment*, consisting of an air quality monitoring and sampling plan, was developed to characterize air quality at the Site and its vicinity and to generate the data required to support an assessment of potential human health risks. More specifically, the study was designed to generate data to enable evaluations of:

- Air quality impacts from VOCs (if measurable) associated with each of the onsite active and idle wells
- Concentrations of VOCs in outdoor air at the Site
- Effects (if any) of wind direction, temperature, and barometric pressure on outdoor air quality
- Cumulative cancer risk and chronic and acute noncancer hazards posed by potential exposure to outdoor air at the Site.

The Study Design was based on these two key assumptions:

- Onsite active, idle, and previously abandoned oil and gas wells are potential sources of measurable concentrations of VOCs to outdoor air
- Outdoor air in the vicinity of the Site, including air upwind from the Site and in the Los Angeles region contain measurable concentrations of VOCs.

Catalyst also required the following support during the implementation of the Study:

- Routine SHP operations would continue without regard nor alteration due to the study
- Security would be installed to ensure that all monitoring equipment would be protected and not subjected to tampering.
    - We note that security consisted of temporary chain-link fencing installed around the entire Site and 24-hour video surveillance. No trespassing nor tampering of the monitoring equipment was observed.

SECTION 3

Field Methods

The study consisted of real-time monitoring of outdoor air quality, collection of outdoor air samples, and measurement of meteorological parameters. All data were collected during October 1 through October 15, 2024 at the locations shown on Figures 3 and 4. This section describes the means and methods employed to collect these data.

3.1 Monitoring and Sampling Locations

Monitoring and sampling were performed over a 14-day period at 16 onsite and 3 offsite locations. At each location (onsite, offsite, and meteorological), the sampling and monitoring devices were deployed vertically within the breathing zone, approximately 3 to 5 feet above ground surface. As discussed in Section 3.1.3, the dominant wind direction in September 2023 and September 2024 was primarily from the southwest/west-southwest with a subdominant direction from the west-northwest; this wind direction informed some of the location-selection rationale provided in Table 1. Table 1 below provides the rationale for each sampling and monitoring location.

Table 1. Sampling Locations

Site ID	Onsite/Offsite	Location Description and Rationale
WB1	Onsite	Located upwind and crosswind from one of the wells (API #03708973) that will remain active
WB2	Onsite	Located at one of the wells that will remain active (API #03708973)
WB3	Onsite	Located upwind and crosswind of one of the wells (API #03708973) that will remain active and along the western property margin
WB4	Onsite	Located upwind and crosswind on the property, and just west of the proposed residential building in the northern portion of the Site
WB5	Onsite	Located within the footprint of the proposed residential building
WB6	Onsite	Located in the center of the proposed residential building in the northern portion of the Site, and along the upwind margin of the property for wind towards the southeast
WB7	Onsite	Located within the footprint of the proposed residential building

Site ID	Onsite/Offsite	Location Description and Rationale
WB8	Onsite	Located along the east side of the proposed residential building in the northern portion of the Site, and along the downwind margin of the property for wind towards the southeast
WB9	Onsite	Located at the middle eastern side of the property and largely along the downwind side of the property
WB10	Onsite	Located at one of the wells that will remain active in the center of the Site (API #03708971)
WB11	Onsite	Located at an idle well that is proposed for abandonment (API #03708975)
WB12	Onsite	Located at an idle well that is proposed for abandonment (API #03708972)
WB13	Onsite	Located in the center of the proposed recreational building in the southern portion of the Site
WB14	Onsite	Located at the western side of the proposed recreational building
WB15	Onsite	Weather station in the southwest quadrant of the Site
WB16	Onsite	Weather station in the northeast quadrant of the Site
WB17	Offsite	Located offsite, upwind and/or crosswind at a nearby SHP facility
WB18	Offsite	Located offsite, upwind and/or crosswind near the 405 freeway at SHP Drill Site #1 located at 805 East Spring Street
WB19	Offsite	Located offsite, upwind and/or crosswind at the SHP Town Center Northwest site

3.1.1 Onsite Air Quality Monitoring and Sampling Locations

Air quality monitoring and sampling was performed at 14 onsite sampling locations (WB1 through WB14) and weather monitoring was performed at 2 onsite locations (WB15, WB16), as shown in Figure 3. The onsite sampling locations were selected to characterize outdoor air quality in the vicinity of:

- two active wells
- two idle wells
- area within the footprint of the proposed residential apartment building
- area within the footprint of the proposed recreational building
- along the upwind, crosswind and downwind margins of the property
- offsite areas upwind, crosswind, and downwind of the property.

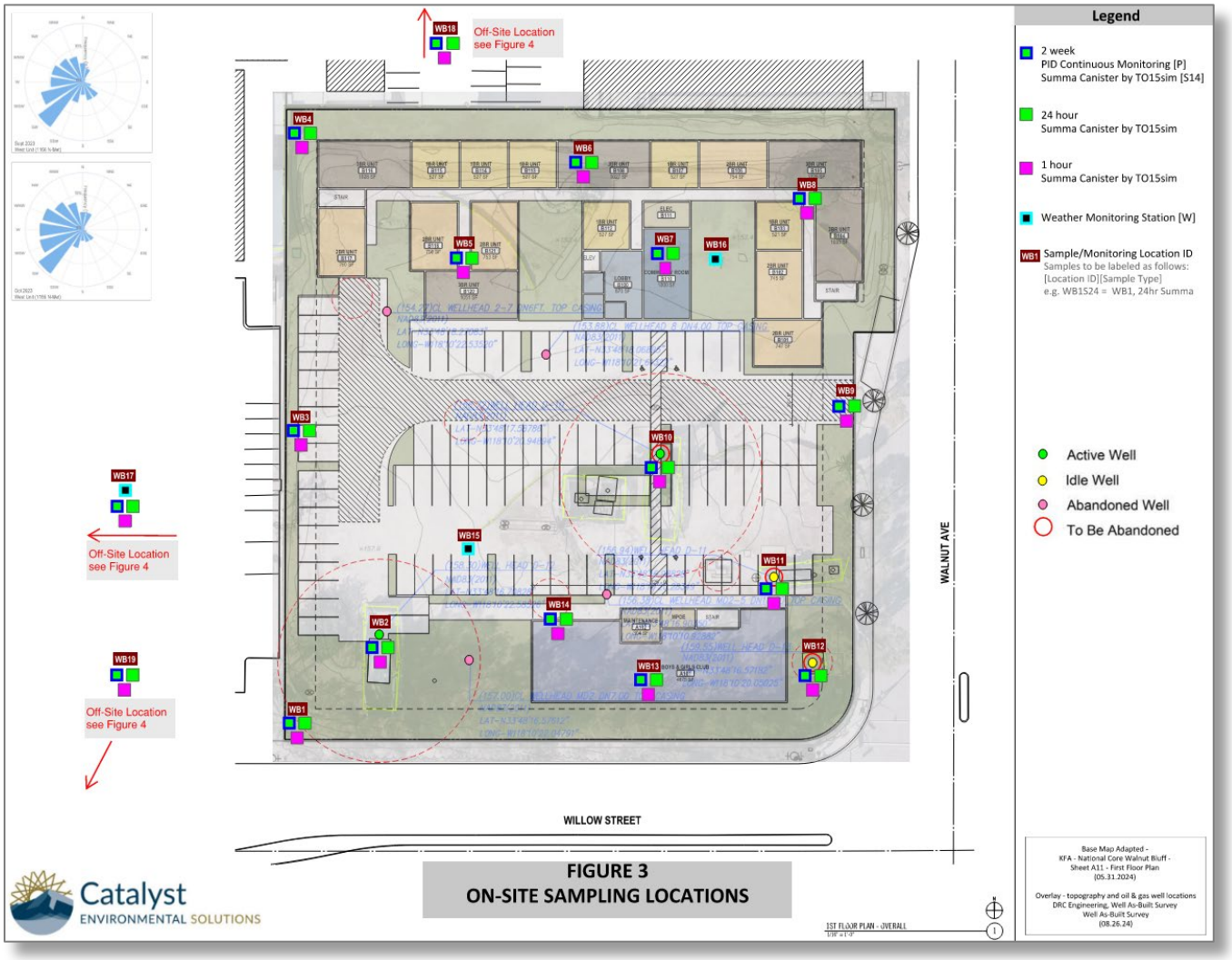


Figure 3. Onsite Sampling Plan

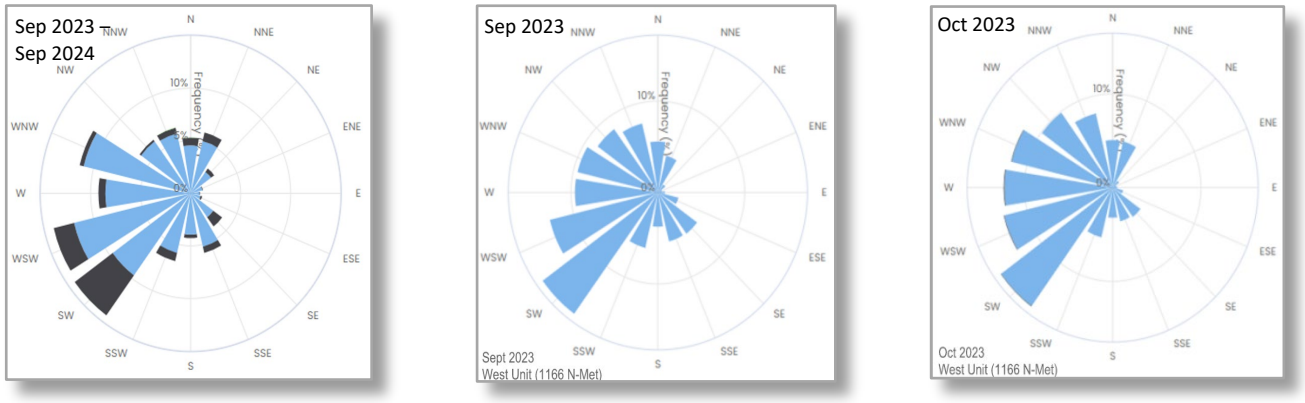
3.1.2 Offsite Air Quality Monitoring and Sampling Locations

Air quality monitoring and sampling were performed at three offsite study locations (WB17 through WB19) as shown in Figure 4. The three offsite sampling locations were selected to characterize outdoor air quality at similar SHP facilities upwind or crosswind from the Site. SHP provided access to the three offsite locations.

Figure 4. Offsite Sampling Plan

3.1.3 2023 and 2024 Wind Directions

Wind direction and speed are important phenomena to consider when evaluating air quality in an outdoor environment. The leftmost wind rose below is for the period between September 12, 2023 and September 11, 2024 measured at the SHP facility located at 1215 E 29th Street in the City of Signal Hill, which is approximately 0.35-miles northwest of the Site (provided by SHP). This wind rose indicates that the dominant wind direction at that time was primarily from the southwest/west-southwest with a subdominant direction from the west-northwest (see adjacent figure). Similarly, SHP provided the center and rightmost wind roses at other nearby facilities in the City, which show similar dominant and sub-dominant wind directions in the months of September 2023 and October 2023. It was assumed that the dominant and subdominant wind directions at the Site were similar to these wind roses and would remain similar during the time of the study.



3.1.4 Weather Monitoring Locations

Monitoring of meteorological conditions was performed at three locations. Two locations (WB15, WB16) were located onsite, and one location (WB17) was located offsite. At each location, a Lufft WS600 meteorological monitoring station was installed and maintained to measure and record every 15 minutes throughout the study period: wind direction, wind speed, air temperature, and absolute air pressure (aka, barometric pressure). Refer to Section 4.1 for the measurements of actual wind direction and wind speed during this study.

3.2 Air Quality Monitoring and Sampling

This task involved the collection of outdoor air quality data to characterize both onsite and offsite conditions. Over a period of 14 continuous days, the monitoring and sampling program involved the following collection of continuous and concurrent data as well as time-integrated air quality samples at each of the locations shown on Figures 3 and 4, as follows:

- Continuous measurements of total concentrations of VOCs using a photo-ionization detector meter (PID) for 14 days
- 14-day time integrated air samples
- 24-hour time integrated air samples
- 1-hour time integrated air samples
- Continuous measurements of meteorological parameters.

Field data sheets are provided in Appendix A.

3.2.1 Continuous Photo-Ionization Detection Monitoring – 14-Days

Air quality was monitored continuously at the 14 onsite sample locations and the 3 offsite sample locations using PIDs configured to measure in parts per billion by volume (ppbv, or ppb) and record the total concentration of VOCs every 15-seconds. The data were evaluated to identify:

- Changes in VOC concentrations over time at each monitoring location
- Correlations (if any) between VOC concentrations, time, wind speed and direction, and barometric pressure
- Overall range of total VOC concentrations in air
- Diurnal variation in the concentration of total VOCs at each of the monitoring locations. The diurnal distribution of relatively higher and lower concentrations was used to identify the optimal time interval(s) during a 24-hour period to collect 1-hour air samples for laboratory analysis that will likely yield the highest daily VOC concentrations in outdoor air, as described below.

The PID meters were supplied by Field Environmental Instruments (FEI), located in Signal Hill. Prior to deployment, the PIDs were calibrated by FEI following the manufacturer's instructions. Calibration certificates are provided in Appendix H. The PIDs deployed at the Site were the ppbRAE 3000 or multiRAE Pro manufactured by Rae Systems in San Jose, California. All PIDs were secured onto a rigid tripod, measured VOCs at 4 to 5 feet above grade, and were powered by a dedicated battery.

ppbRAE

ppbRAE & Tripod

ppbRAE, Tripod, & battery

3.2.2 Time-Integrated Sampling – 14-Days

Six-liter Summa canisters were deployed on October 1, 2024 at each location also containing a PID to collect 14-day time-integrated samples over the duration of the study. Enthalpy Analytical in Orange, California, a State of California certified laboratory, provided Summa canisters and 14-day flow controllers, and analyzed the Summa canisters for VOCs using USEPA Method TO-15sim. Charts 1 through 17 depict the PID measurements and the 14-day sampling interval at all sampling locations.

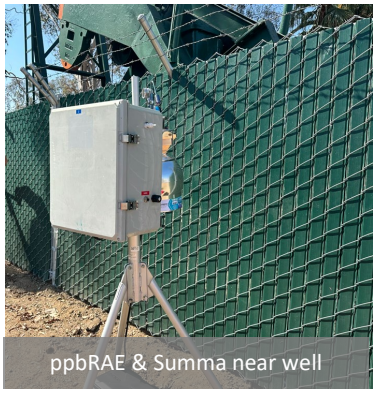
Each 6-liter Summa sample canister was fitted with a vacuum gauge and a flow controller to collect the sample over an approximately 14-day period. Each canister, flow controller, and gauge was individually certified clean by the analytical laboratory. After the canisters were set in the breathing zone in their respective locations, the initial vacuum reading was recorded on field forms. Canisters were confirmed to be at a minimum vacuum of 27-inches of mercury prior to use. After 14 days, the valve on the Summa canister was closed and the final vacuum was

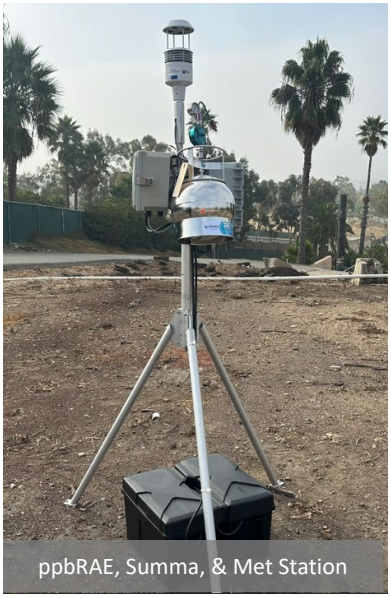
measured and recorded. Each canister was labeled appropriately, and a chain-of-custody manifest was completed onsite to accompany the samples to the lab.

The following items were recorded for each sample:

- Sample location (including figure and photographs)
- Canister and flow regulator identification numbers
- Initial vacuum
- Time and date that sample collection began and ended
- Final vacuum.

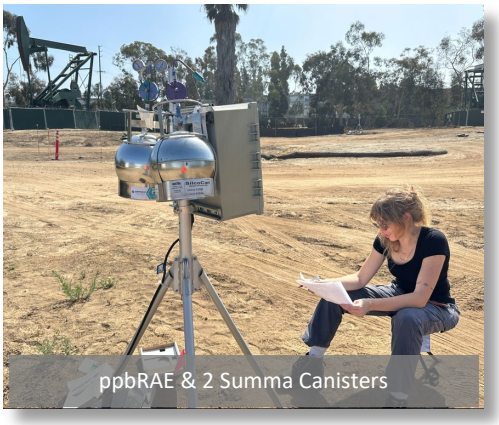
ppbRAE & Summa Canister


ppbRAE & Summa near well


ppbRAE, Summa, & Met Station

3.2.3 Time-Integrated Sampling – 1-Hour

The PID measurements recorded during the first six days at each monitoring location were evaluated to identify the daylight hour when the highest PID measurements were typically recorded. For safety reasons, collection of the 1-hour air sample was limited to daylight hours. Table 3 summarizes the 1-hour sampling timeframe selected for each location. Charts 1 through 17 depict the PID measurements and the 1-hour sampling interval at all sampling locations.


ppbRAE & 2 Summa Canisters

The six-liter summa canisters were deployed on October 9, 2024 in a similar manner to the 14-day samples. Pace Analytical, a State of California certified laboratory, supplied the Summa canisters and flow controllers, and analyzed the air samples for VOCs by USEPA Method TO-15sim.

3.2.4 Time-Integrated Sampling – 24-Hours

The PID measurements recorded during the first six days at each monitoring location were evaluated to identify the day of the week that corresponded with relatively higher measurements of VOCs compared to other days. However, the PID data yielded no indication that any particular day of the week corresponded with relatively higher concentrations than any other day. Therefore, the 6-liter Summa canisters for collecting a 24-hour air sample were deployed at each sampling location on October 10, 2024, the day following the collection of the 1-

hour air sample. Charts 1 through 17 depict the PID measurements and the 24-hour sampling intervals at all sampling locations.

The six-liter Summa canisters were deployed on October 10, 2024 in a similar manner to the 14-day samples. Pace Analytical, a State of California certified laboratory, supplied the Summa canisters and flow controllers, and analyzed the air samples for VOCs by USEPA Method TO-15sim.

3.2.5 Deviations From Work Plan

Location WB07 was sampled for 1 hour. However, the summa canister arrived at the laboratory fully evacuated and could not be analyzed. Because the study generated data from 13 other locations on the Site, the lack of a 1-hour sample at this location is considered to be an insignificant deviation and does not materially affect the results and conclusions presented herein.

All offsite outdoor air sampling locations were adjusted to locations shown in Figure 4 as follows:

- WB17 was changed because the County Assessor's office did not provide access for this study.
- WB18 was changed to avoid conflict with oil and gas well infrastructure.
- WB19 was changed to avoid conflict with oil and gas well infrastructure.

The above changes are slight and considered immaterial to the overall findings in this study.

Following publication of the Work Plan, feedback from Dr. Susan Mearns (City consultant) and the City as well as discussions with SHP (property owner) and National Core (potential buyer) resulted in modifying the scope of work to remove overt monitoring and sampling at the abandoned wells. Instead, the study evaluated outdoor air quality throughout the Site, which includes the area containing the previously abandoned wells, but did not overtly measure outdoor air quality at each of the abandoned well locations. Because the study generated multiple samples from 14 locations across the Site, and because samples purposefully collected adjacent to active and idle wells did not yield concentrations significantly different from samples collected further away from these wells (as discussed herein below), the lack of samples deployed precisely above abandoned well locations is considered to not materially affect the results and conclusions presented herein.

3.3 Personnel and Procedures

All environmental work was performed by qualified Catalyst environmental personnel who supervised the field activities and oversaw all phases of the work including managing subcontractors. All field procedures (e.g., permitting, sampling protocol, chain-of-custody, preparation of a Health and Safety Plan, etc.) followed City of Signal Hill, Los Angeles County, and State of California guidelines, as well as Catalyst's Standard Operating Procedures.

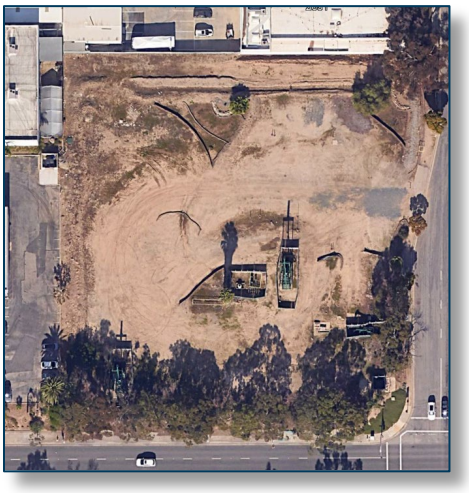
3.4 Site Safety

A site-specific Health, Safety, and Environmental Plan (HSE) was developed in accordance with the California Occupational Safety and Health Administration (Cal-OSHA) guidelines for Hazardous Waste Operations Standards (Title 29 CFR, Section 1910.120) and California Code of Regulations (Title 8 CCR, Section 5192). The HSE Plan provided field personnel with an understanding of the potential chemical and physical hazards, protection of any offsite receptors, procedures for entering the Site, health and safety procedures, and emergency response to

hazards should they occur. In addition, the HSE Plan addressed the appropriate level of Personal Protective Equipment (PPE) for onsite workers during activities at the Site. A copy of the HSE was present onsite at all times and kept in an easily accessible location.

3.5 Site Security and Access Control

Because the scope of work involved the use of various air quality monitoring and sampling equipment on a continuous basis, site security measures were implemented to protect the safety of site workers and integrity of the study, prevent unauthorized access to the Site, and reduce risk of equipment damage, theft, and vandalism. The security measures used included: 1) installation of temporary fencing with locking gates around the perimeter of the Site and offsite monitoring locations where no permanent fencing existed; 2) installation of video cameras and remote monitoring; 3) deployment of security lighting; and, 4) where feasible, equipment was set back a minimum of 20 feet from property lines to ensure public safety and the safety of the equipment.



SECTION 4

Monitoring and Sampling Results

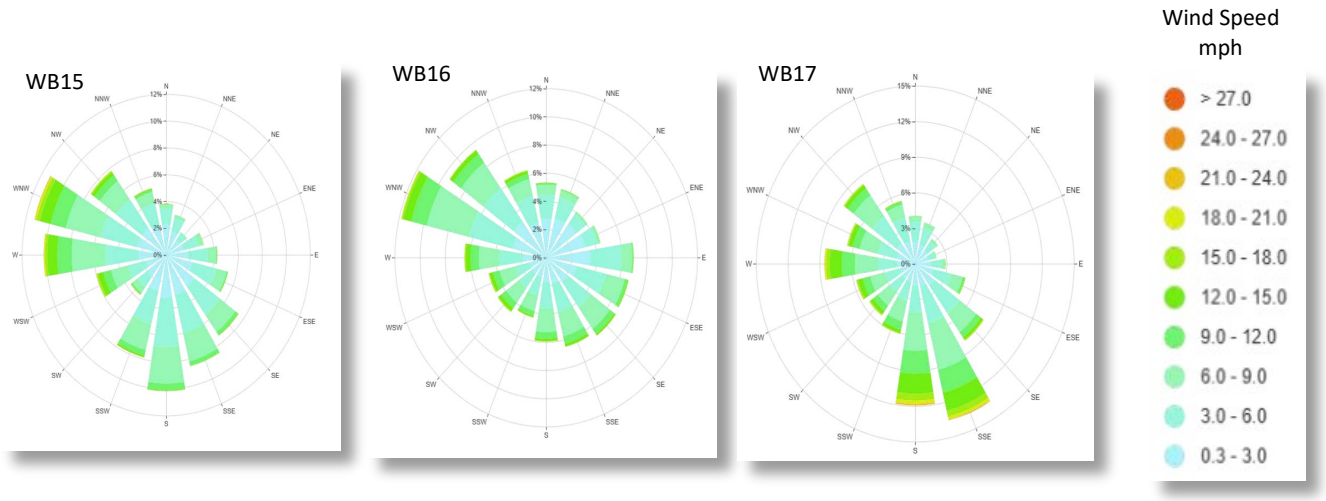
This section presents the data resulting from the monitoring and sampling scope described in Section 3.

4.1 Meteorological Data

Section 3.1.4 presents the wind directions recorded near the Site from September 2023 through September 2024, and in the months of September and October 2023, which showed the dominant wind direction was primarily from the southwest/west-southwest with a subdominant direction from the west. During this October 2024 study, the meteorological stations (WB15, WB16, and WB17) measured and recorded wind direction, temperature, and barometric pressure. Charts 27 through 29 present wind direction and wind speed on a wind rose. Charts 30 to 32 present wind speed, temperature, and barometric pressure. The data show that temperature and barometric pressure fluctuated within the normal and anticipated range for the season and therefore, are interpreted to have not materially affected the representativeness of the results presented herein.

As shown below, the dominant west-northwest wind direction measured at the onsite locations WB15 and WB16 and the dominant south-southeast offsite location WB17 differed from the dominant west-southwest 2023 direction. However, the subdominant wind direction from the west recorded in 2023 matches reasonably well with the onsite dominant wind direction from the west and west-northwest. Charts 30 through 32 present the histograms of the wind speed measured from October 1 through October 15, 2024.

As discussed in detail in Section 5, because the offsite, onsite, and regional concentrations and risks are comparable, the inconsistency between the anticipated and actual wind directions is considered immaterial to the conclusion drawn in this report.



4.2 PID Monitoring

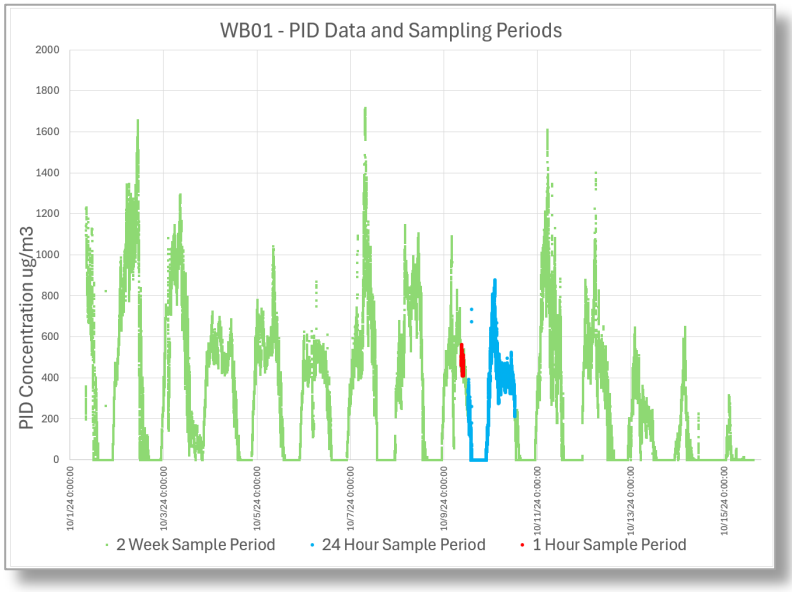
Measurements of total VOC concentrations were recorded every approximately 15 seconds at each of the 14 onsite (WB01 - WB14) and 3 offsite (WB17 - WB19) monitoring stations. These data are presented graphically in two forms utilizing two different X-axes.

4.2.1 PID Measurements versus Calendar Day

Charts 1 through 17 present the PID measurements with the x-axis structured chronologically by day. The y-axis for the charts for all locations was selected to display the data that represents measurements of air quality.

An example chart, with PID measurements at WB01, is provided here. The charts are color coded to show the following:

- Green depicts the entire duration of the 14-day time integrated air sample
- Blue depicts the entire duration of the 24-hour air sample
- Red depicts the entire duration of the 1-hour air sample.



It is noted that because bump test events were performed during the monitoring period, the data collected at each location also include concentrations considerably higher than those actually present in outdoor air . The bump tests involved briefly exposing the PID sensor to 10ppm of isobutylene gas to evaluate if the PID reads the concentration as expected. An appropriate PID response confirms the detector reliably measures VOCs. Bump tests were performed by FEI and field notes were not recorded. If the y-axis was adjusted to include the bump

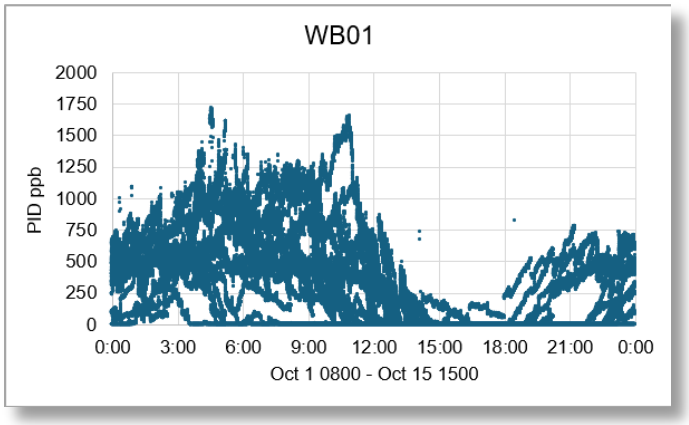
test events, then the diurnal patterns would be too subtle to observe. It is also noted that to avoid graphically calling unnecessary attention to the bump test events, the PID data are plotted as points, rather than lines connecting each data point.

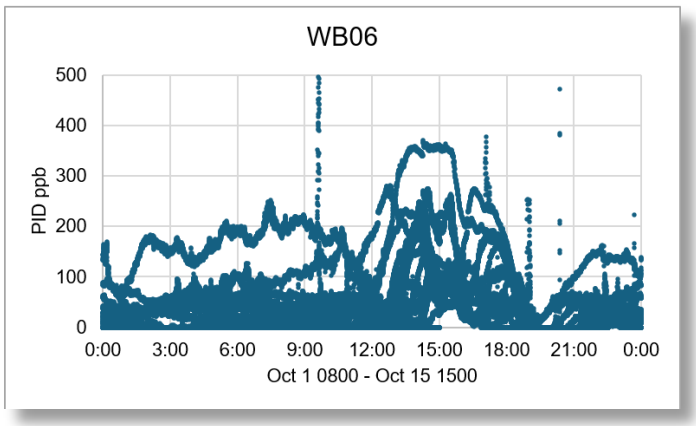
4.2.2 PID Measurements versus 24-hour Day

Most of the locations yielded PID data that show diurnal variations over time. It is postulated that these diurnal fluctuations are associated with both anthropogenic factors, such as vehicle traffic patterns, and meteorological patterns, such as changes in wind direction. The potential significance of the relatively higher PID measurement revealed within the diurnal fluctuations was evaluated via the collection of 1-hour outdoor air samples as discussed in Section 4.3.3. Understanding the causes of these diurnal patterns is beyond the scope of this study and the causes are considered to be immaterial to the risk assessment objectives of this study.

Nonetheless, in an attempt to gain some further insight into these diurnal patterns, the same PID data were plotted with the X-axis structured as a 24-hour day. Chart 18 presents these PID measurements with the charts ordered sequentially by monitoring location. Chart 19 is organized to show locations with similar diurnal patterns. The y-axis for the charts for all locations was selected to display the data that represents measurements of air quality, excluding bump test events.

For example, PID measurements at WB01 show a diurnal pattern with low total VOC concentrations routinely recorded by the PID between 2pm and 6pm. Other locations with a similar pattern are WB07, WB13, WB14, and WB19.



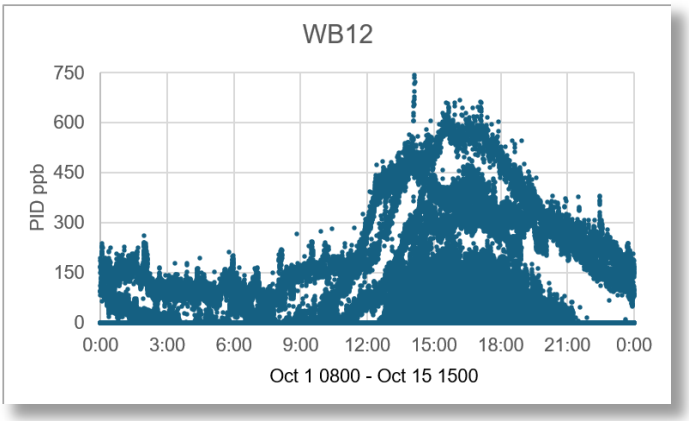


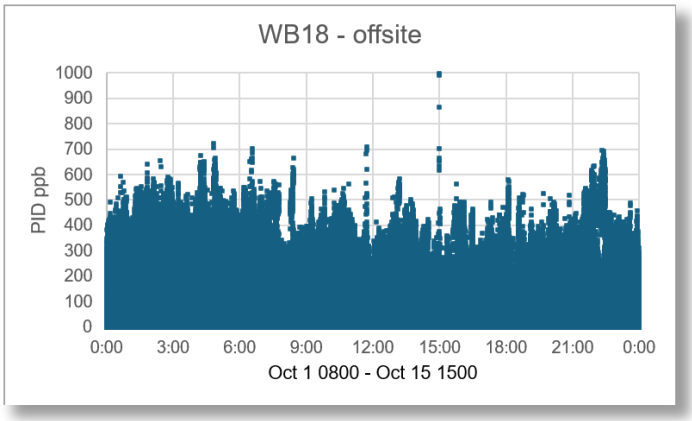
A different pattern emerges with PID measurements at WB06, which shows a diurnal pattern with slightly lower concentrations routinely recorded around 12pm, slightly higher concentrations recorded around 2pm to 6pm, followed by a rapid decline at about 7pm. Other locations with a similar pattern are WB03, WB05, WB08, WB09, and WB10.

PID measurements at WB12 show a diurnal pattern with marked rise in total VOC concentrations routinely recorded in the afternoon. One other location with this pattern is the offsite location WB17.

There are also locations that yielded PID concentrations with either no discernable pattern or a pattern that was not replicated at other monitoring locations. For example, the WB18 location.

It is also noted that PID data recorded at WB04 produced total VOC concentrations considerably lower than all other locations. Similarly, PID data recorded at WB11 also produced mainly very low total VOC concentrations. Repeated bump tests of the PID at these locations were performed and the ppbRAE demonstrated proper function. The relatively unusual PID data recorded at these locations cannot be explained. Regardless, as shown below, the air quality samples collected at WB04 and WB11 reveal total VOC concentrations similar in magnitude to those collected throughout the study.





4.3 Air Quality Samples

4.3.1 Screening Criteria

The analytical data tables compare the measured concentrations with the following chronic screening criteria:

- DTSC (2022a) HHRA Note 3 residential air screening levels for carcinogenic risks (SLc)
- DTSC (2022a) HHRA Note 3 residential air screening levels for noncarcinogenic hazard (SLnc)
- USEPA (2024) Regional Screening Levels for residential air carcinogenic risk (RSLc)
- USEPA (2024) Regional Screening Levels for residential air noncarcinogenic hazard (RSLnc).

It is important to note that not all detected VOCs have DTSC SLs, not all detected VOCs have USEPA RSLs, and that some detected VOCs have neither or both.

4.3.2 14-Day Air Samples

Laboratory analytical results for these samples are summarized in Table 2. Laboratory analytical reports are presented in Appendix E. These data are used in Section 5 to evaluate human health chronic cancer risks and noncancer hazards. The following summarizes those VOCs that exceed chronic screening levels.

- Petroleum-related VOCs
  - Benzene ranged narrowly at the onsite and offsite locations from 0.72 µg/m^3 to 0.99 µg/m^3, and as discussed below there is an outlier concentration of 3.2 µg/m^3 at WB05. Concentrations at all onsite and offsite locations exceeded both the SLc and RSLc.

  - Naphthalene ranged onsite from below the reporting limit of 0.052 µg/m^3 to 0.14 µg/m^3, and ranged offsite from below the reporting limit of 0.058 µg/m^3 to 0.073 µg/m^3. Naphthalene exceeded the RSLc at three locations, WB10, WB11, and WB13.

- Nonpetroleum-related VOCs
  - Carbon tetrachloride ranged narrowly at the onsite and offsite locations from 0.45 µg/m^3 to 0.47 µg/m^3. There are six onsite locations and one offsite location that equaled the SLc and RSLc of 0.47 µg/m^3.
  - Chloroform ranged narrowly at the onsite and offsite locations from 0.13 µg/m^3 to 0.17 µg/m^3. Concentrations at all onsite and offsite locations exceeded the RSLc.

4.3.3 1-Hour Air Samples

Laboratory analytical results for these samples are summarized in Table 3. Laboratory analytical reports are presented in Appendix G. These data are used in Section 5 to evaluate human health acute noncancer hazards.

The following summarizes those VOCs that exceed chronic screening levels. It is important to note that because chronic screening levels are considerably lower than acute screening levels, the comparison of chronic screening levels to the 1-hour VOC concentrations provides a very conservative list of VOCs that might pose a risk and hazard. Acute noncancer hazards are appropriately assessed in Section 5.

- Petroleum-related VOCs
  - Benzene ranged narrowly at the onsite and offsite locations from 0.88 µg/m^3 to 1.9 µg/m^3. Concentrations at all onsite and offsite locations exceeded both the SLc and RSLc.
  - Naphthalene narrowly ranged at the onsite and offsite locations from 0.13 µg/m^3 to 0.38 µg/m^3. Concentrations at all onsite and offsite locations exceeded the RSLc.

- Nonpetroleum-related VOCs
  - Carbon tetrachloride ranged narrowly at the onsite and offsite locations from 0.49 µg/m^3 to 0.51 µg/m3. Concentrations at all onsite and offsite locations exceeded both the SLc and RSLc.
  - Chloroform ranged narrowly at the onsite and offsite locations from 0.19 µg/m^3 to 0.27 µg/m^3. Concentrations at all onsite and offsite locations exceeded the RSLc.
  - 1,2 Dichloroethane exceeded the RSLc at three onsite locations and one offsite location. All exceedances were reported at 0.11 µg/m^3.

4.3.4 24-Hour Air Samples

Laboratory analytical results for these samples are summarized in Table 4. Laboratory analytical reports are presented in Appendix F. These data are not used in Section 5 to evaluate chronic human health risks because the 14-day samples better represent the average concentration to which a receptor might be exposed. But, because longer term time-integrated 14-day samples run a greater risk of disturbance (e.g., physical, meteorological) to sample integrity, these 24-hour samples are used herein to evaluate if the 14-day samples reasonably represent site conditions over the longer term. The following summarizes those VOCs that exceed chronic screening levels.

- Petroleum-related VOCs
  - Benzene ranged narrowly at the onsite and offsite locations from 0.68 µg/m^3 to 1.1 µg/m^3. The high concentration of 1.1 µg/m^3 was reported at the onsite location WB10 and the offsite location WB19. Concentrations at all onsite and offsite locations exceeded both the SLc and RSLc.

  - Naphthalene narrowly ranged at the onsite and offsite locations from 0.13 µg/m^3 to 0.43 µg/m^3. Concentrations at all onsite and offsite locations exceeded the RSLc.

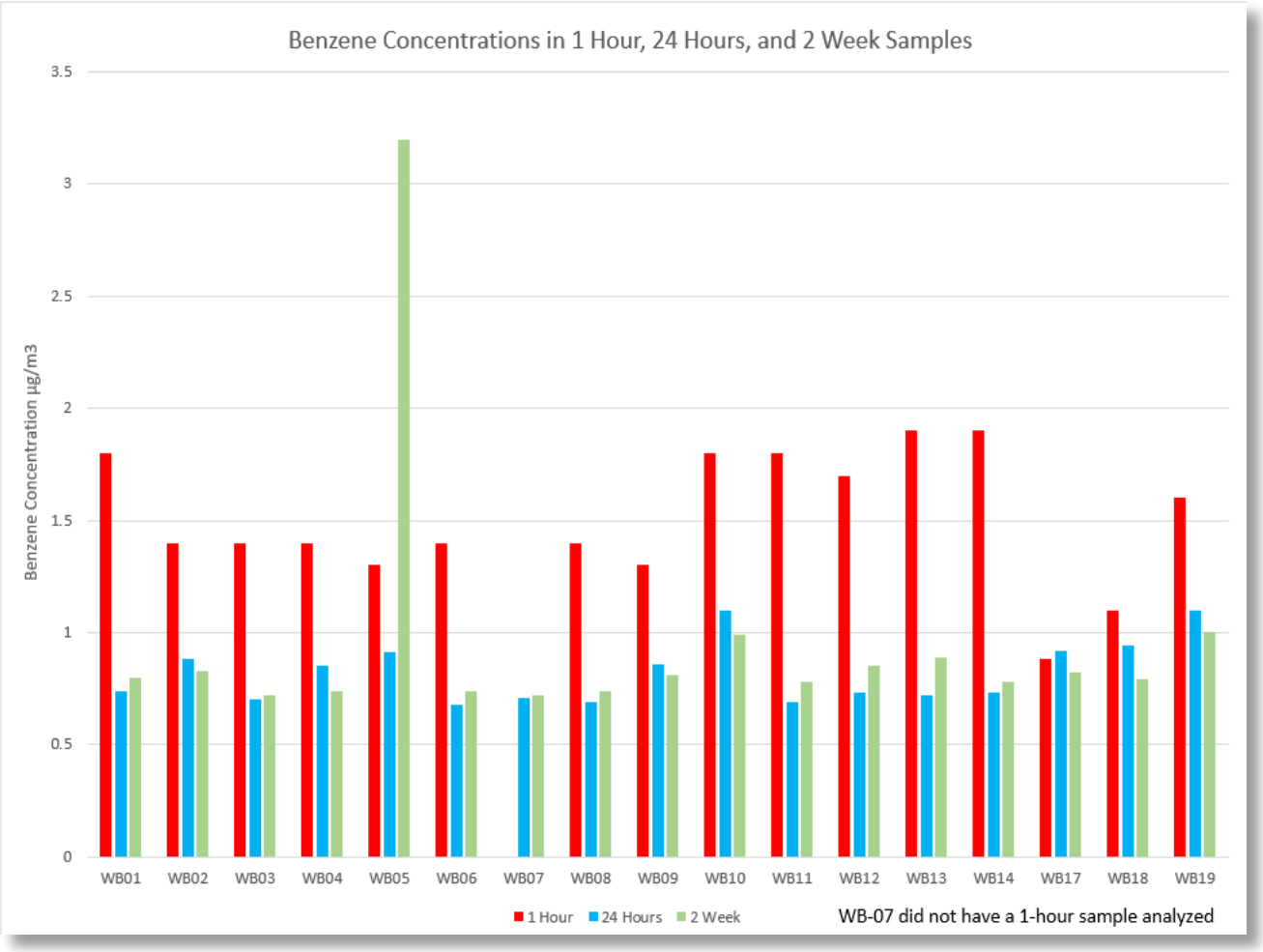
- Nonpetroleum-related VOCs
  - Carbon tetrachloride ranged narrowly at the onsite and offsite locations from 0.46 µg/m^3 to 0.50 µg/m^3. Concentrations at all but one onsite location and all offsite locations exceeded both the SLc and RSLc of 0.47 µg/m^3.
  - Chloroform ranged narrowly at the onsite and offsite locations from 0.14 µg/m^3 to 0.17 µg/m^3. Concentrations at all onsite and offsite locations exceeded the RSLc.

Overall, the 1-day samples yielded concentrations reasonably comparable to the 14-day sample concentrations suggests that concentrations are relatively consistent each day throughout this 14 day monitoring period.

4.3.5 Comparison Of 14-Day, 24-Hour, and 1-Hour Samples

Charts 20 through 24 compare the concentrations of petroleum-related VOCs measured in the 14-day, 24-hour, and 1-hour samples. Chart 25 compares the concentrations of 1,2,4-trimenthylbenzene and 1,3,5-trimethylbenzene in 14-day samples, these two VOCs were not analyzed in the 1-hour and 24-hour samples.

In nearly all cases, the highest concentrations were detected in the 1-hour samples and the lowest concentrations were measured in the 14-day samples. This distribution validates the overall intent of the sampling strategy, which was to capture the long-term average concentration in the 14-day samples and the likely higher concentrations (based on PID data) in the 1-hour samples. It is noted that, again in most cases, the concentrations measured in the 24-hour and 14-day samples are quite comparable. This comparison indicates that daily average concentrations do not vary significantly over longer, in this case 2-week, time horizons. An example comparison chart is provided below for benzene, which includes the outlier concentration at WB05 as discussed below in Section 4.4.



4.3.6 Data Quality Evaluation

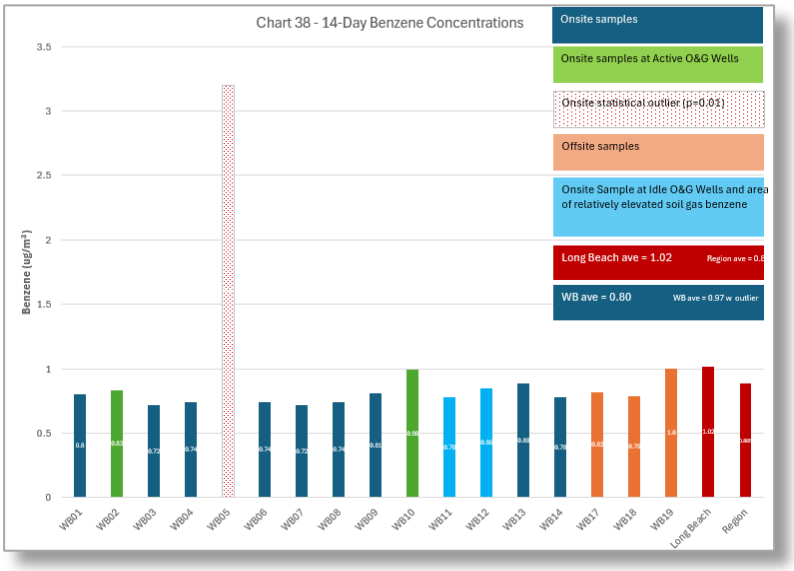
The laboratory analytical reports and field sampling sheets were evaluated to identify potential issues that could impact the quality and/or representativeness of the samples and data reported by the laboratory. The Laboratory Data Review Checklist for the Air Samples was completed and the analytical data returned by Pace Analytical and Enthalpy Analytical, are provided in Appendix B. No significant quality control issues were identified. Therefore, the data are considered reliable and reasonably representative of Site conditions.

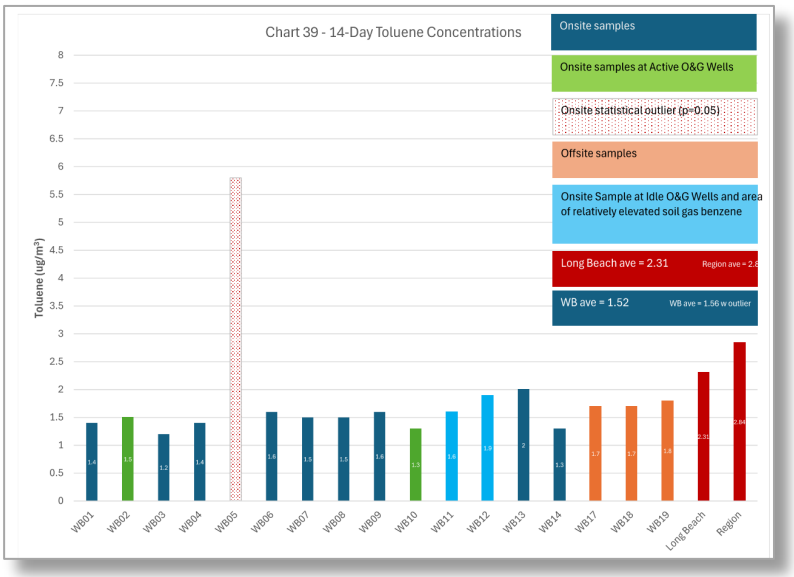
4.4 Statistical Outliers

Two statistical outliers were identified in the 14-day sample dataset, one for benzene and one for toluene, both at WB05. Onsite outdoor air benzene concentrations in the 14-day samples ranged from 0.72 to 3.2 µg/m^3. Dixon's Outlier Test identifies the benzene concentration of 3.2 µg/m^3 in the WB05 sample as a statistically significant outlier at p=0.01 (Appendix C). Similarly, onsite outdoor air toluene concentrations in the 14-day samples ranged from 1.2 to 5.8 µg/m^3. Dixon's Outlier Test identifies toluene concentration of 5.8 µg/m^3 in the WB05 sample as a statistically significant outlier based at p=0.01 (Appendix C).

A "p" value of 0.01 means that the test has a 99% chance that the results were not due to chance and the outlier designation is statistically significant. Furthermore, it is reasonable to conclude that benzene and toluene in the 14-day sample at WB05 are unlikely to be representative of outdoor air quality at that location because:

- 1-hour samples collected when the PID revealed relatively higher concentrations of VOCs during the day did not contain relatively higher concentrations of benzene nor toluene compared to other 1-hour samples,
- WB05 is not located adjacent to an oil well, and because samples located adjacent to active and idle wells did not yield relatively higher concentrations of benzene and toluene,
- Concentrations at locations that are crosswind, upwind, and downwind (WB04, WB06, WB03, WB10, WB07) to WB05 show no corresponding effects indicating the absence of any similarly elevated concentrations coming onsite towards WB05 or elevated concentrations downwind from WB05, it is reasonable to conclude that benzene and toluene in the 14-day sample at WB05 are unlikely to be representative of outdoor air quality at that locationWB05.





Therefore, the benzene and toluene concentrations in the 14-day sample at WB05 are not utilized herein to evaluate chronic risks posed by outdoor air at the Site. Exclusion of the outliers in the calculation of risks is consistent with USEPA 2002 and USEPA 2000.

Excluding the outlier, onsite outdoor air benzene concentrations ranged from 0.72 to 0.99 µg/m^3. This rather tight range is slightly less than the offsite outdoor air benzene concentrations, which ranged from 0.79 to 1.0 µg/m^3. Excluding the toluene outlier, onsite outdoor air toluene concentrations ranged from 1.2 to 2 µg/m^3. This rather tight range is slightly higher than the offsite outdoor air toluene concentrations, which ranged from 1.7 to 1.8 µg/m^3. As discussed further below, this range in concentrations is comparable to those reported in MATES V.

A graphic depiction of the WB05 benzene and toluene outlier are shown above. Nonetheless, in order to further evaluate the benzene and toluene outliers at WB05, a second round of 14-day sampling occurred in December 2024 at 4 sampling locations as described below.

4.4.1 Field Methods for Outlier Evaluation in December 2024

From December 2 to December 16, 2024, six-liter Summa canisters were utilized at 4 locations (WB02, WB03, WB05, and WB10) to collect 14-day time-integrated samples. Enthalpy Analytical in Orange, California, a State of California certified laboratory, provided Summa canisters and 14-day flow controllers, and analyzed the Summa canisters for VOCs using USEPA Method TO-15sim. In addition, monitoring of meteorological conditions was performed at WB16 with a Lufft WS600 meteorological monitoring station that was set to record the following every 15 minutes throughout the study period: wind direction, wind speed, air temperature, and absolute air pressure (aka, barometric pressure).

Each 6-liter Summa sample canister was fitted with a vacuum gauge and a flow controller to collect the sample over an approximately 14-day period. Each canister, flow controller, and gauge was individually certified clean by the analytical laboratory. After the canisters were set in the breathing zone in their respective locations, the initial vacuum reading was recorded on field forms. Canisters were confirmed to be at a minimum vacuum of 27-inches of mercury prior to use. After 14 days, the valve on the Summa canister was closed and the final vacuum was measured and recorded. Each canister was labeled appropriately, and a chain-of-custody manifest was completed onsite to accompany the samples to the lab.

The following items were recorded for each sample:

- Sample location (including figure and photographs)
- Canister and flow regulator identification numbers
- Initial vacuum
- Time and date that sample collection began and ended
- Final vacuum.

4.4.2 Findings

Charts 43 through 48 compare concentrations from October and December 2024 of benzene, toluene, ethylbenzene, xylenes, naphthalene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene. As shown, individual VOC concentrations in December were relatively similar to each other across the four samples including benzene and toluene concentrations. Benzene concentrations ranged from 1.7 to 1.9 µg/m^3 and toluene concentrations ranged from 3.2 to 3.4 µg/m^3.

The overall December concentrations are higher than those measured in October, excluding the outliers benzene and toluene at WB05. These results support the conclusion that the concentrations of benzene and toluene measured at WB05 in October were outliers and not representative of outdoor air quality at the WB05 sampling location. These results also indicate that variability in concentrations month over month exists at the Site.

The windrose from WB16 in December 2024 is provided in Chart 49. The dominant wind direction measured (easterly) differed from the October 2024 direction. Chart 50 presents the histogram of the wind speed measured from December 2 to December 16, 2024.

4.5 Petroleum Hydrocarbon Fingerprint

The primary focus of this study is on petroleum-related VOCs and on chlorinated solvents that reportedly might have been a component of some products used during periodic servicing and maintenance of the onsite oil and gas extraction wells. Nevertheless, all VOCs detected in 1-hour, 24-hour, and 14-day samples and are evaluated herein and in the assessment of potential human health risks.

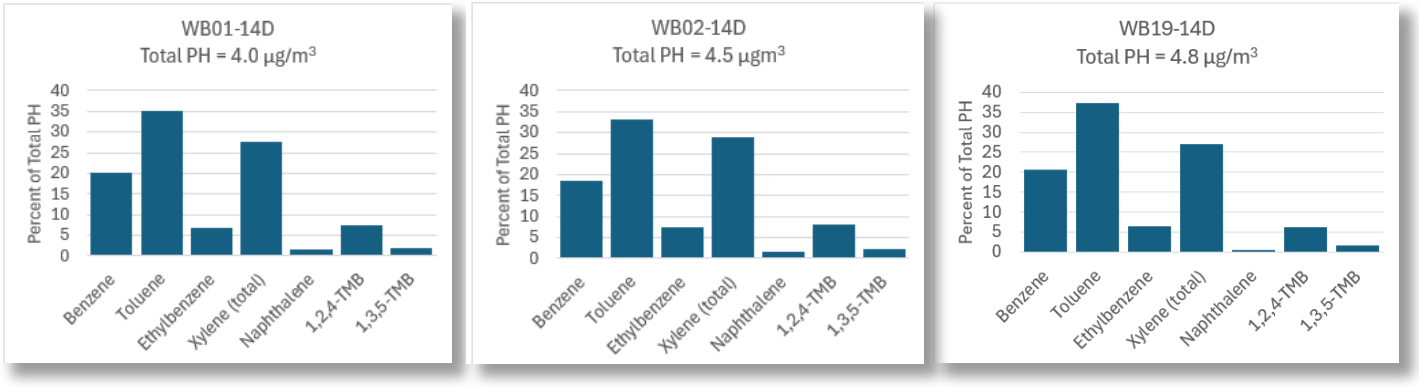
Petroleum related VOCs were routinely measured in all 14-day, 24-hour, and 1-hour air samples: benzene, toluene, ethylbenzene, total xylenes (collectively referred to as BTEX), naphthalene, 1,2,4- trimethylbenzene, and 1,3,5 -trimethylbenzene..

The 14-day samples collected in October 2024 revealed just one onsite location, WB13 at 0.08 µg/m^3, with a measurable concentration of the chlorinated VOC (CVOC) tetrachloroethene (PCE). None of the 24-hour samples contained measurable CVOCs. Four of the fourteen onsite 1-hour samples contained measurable PCE with an average concentration of 0.11 ug/m^3. For comparison, the average PCE concentration in all MATES V regional data is 0.20 µg/m^3 and the average PCE concentration at the MATES V Long Beach location was 0.22 µg/m^3, both above all onsite measurements of PCE.

To evaluate if the distribution of these seven petroleum-related VOCs varied or remained similar regardless of sampling location, the normalized concentrations (as percent of total) of these seven petroleum-related VOCs are plotted and compared. These plots can be considered as fingerprints that graphically depict relative concentrations. Chart 26 displays the fingerprints at all 14 onsite and 3 offsite locations sampled in October 2024, and MATES V all regional data, October 2018 data, and Long Beach October 2018 data. The fingerprints were inspected to identify:

- Obvious differences among the fingerprints in pattern, which would be indicative of source(s) at one or more locations that would alter the fingerprint relative to other locations.
- Obvious similarities among the fingerprints in pattern, which could be indicative of similar conditions at each of the locations, such as being dominated by regional air quality conditions.

The three fingerprints depicted here are from WB01, located at the southwest corner upwind from the Site and near the road, at WB02 adjacent to an active oil production well, and the most distant offsite location WB19 that is in a parking lot and more distant from adjacent active roads. The onsite and offsite fingerprints show similar



patterns. Comparing the MATES fingerprint with the onsite fingerprints shows they are comparable.

SECTION 5

Assessment of Human Health Risks

The objective of this assessment of potential human health risks is to evaluate potential human health risks associated with outdoor air quality and future residential land use of the property, which includes a residential apartment building and a Boys & Girls Club recreational facility. As discussed above, the two oil production wells

that were operating during this study will remain active on the property following development. It is important to note here that this assessment of potential human health risks and the findings and conclusions herein are limited to conditions represented by the samples collected during 2 weeks in October 2024.

Because oil and gas operations are the only known historical and current uses of the Site, it would be reasonable to focus this assessment of potential human health risks on VOCs related to petroleum and servicing of the oil production wells, the latter of which reportedly might include CVOCs. Nonetheless, this assessment of potential human health risks provides a full assessment of all detected VOCs in onsite outdoor air.

As discussed above, outdoor air samples were collected at receptor height from 14 locations across the property in October to provide a reasonable estimate of outdoor air exposures to VOC concentrations. Specifically, continuous 14-day air samples and peak 1-hour air samples were collected for the purpose of assessing potential onsite cancer risks and chronic noncancer hazards and onsite acute noncancer hazards, respectively.

It is noted that the air sampling described herein occurred prior to anticipated remediation of elevated VOC concentrations in soil gas, which have been separately investigated and reported to be present at elevated concentrations in the southeastern portion of the Site (Mearns Consulting, 2021). Consequently, it remains possible that following remediation, the outdoor air quality at the Site might improve.

The assessment of potential human health risks provides upper-bound estimates of individual incremental lifetime cancer risk (ILCR)[1] and noncancer hazard for the theoretical Reasonable Maximum Exposure (RME) for adult and child receptors based on exposures to VOCs in outdoor air. The RME approach utilized herein is consistent with DTSC (2015, 2022a,b) and USEPA (1989) human health risk assessment guidance and is a conservative measure that overestimates potential risks USEPA (1989), thus ensuring the protection of public health, including sensitive subpopulations.

The assessment of potential human health risks was conducted following standardized risk assessment methods consistent with DTSC and USEPA risk assessment guidance, including, but not limited to, the following guidance documents, as applicable:

- USEPA. 1987. The Risk Assessment Guidelines of 1986
- USEPA. 1989. Risk Assessment Guidance for Superfund, Volume I, Health Evaluation Manual, Part A
- USEPA. 2009. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment)
- USEPA. 2011. Exposure Factors Handbook: 2011 Edition
- USEPA. 2014. Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors
- DTSC. 2015. Preliminary Endanger Assessment Guidance Manual
- DTSC. 2018. California Toxicity Criteria Rule
- USEPA. 2019. Guidelines for Human Exposure Assessment
- DTSC. 2019. Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities
- DTSC. 2022a. Human Health Risk Assessment (HHRA) Note Number 3, DTSC-modified Screening Levels (DTSC-SLs)
- DTSC. 2022b. Human Health Risk Assessment (HHRA) Note Number 4: Guidance for Screening Level Human Health Risk Assessments

[1] Throughout this report “ILCR” and “cancer risk” have the same meaning and are used interchangeably.

- USEPA (2024) Regional Screening Levels (RSLs). November.

Consistent with DTSC and USEPA risk assessment guidelines, the assessment of potential human health risks is organized as follows:

- Exposure Assessment
- Toxicity Assessment
- Risk Characterization.

5.1 Exposure Assessment

Exposure Assessment is the process of quantitatively characterizing exposure concentrations and potential human intake (e.g., dose). Exposure assessment results are subsequently integrated with toxicity information from the Toxicity Assessment (Section 5.2) into the Risk Characterization (Section 5.3) to assess potential health risks.

The Exposure Assessment comprises the following components:

- Selection of chemicals of potential concern (COPCs)
- Data useability evaluation for risk assessment
- Identification of human receptors
- Exposure pathways analysis and development of a Conceptual Site Model (CSM)
- Derivation of Exposure Point Concentrations (EPCs)
- Summarize human exposure factors.

5.1.1 Selection of Chemicals of Potential Concern (COPCs)

For this assessment of potential human health risks, any VOC detected in at least one onsite 14-day outdoor air sample or in at least one onsite 1-hour outdoor air sample was selected as a COPC. The TO-15sim analytical method applied to the 14-day outdoor air samples comprised 48 VOCs, of which 21 VOCs were detected in at least one sample of outdoor air. The TO-15sim analytical method applied to the 1-hour air samples comprised 30 VOCs, of which 16 VOCs were detected in at least one sample.

For the 14-day air samples, in total, 7 petroleum-related VOCs were detected and selected as COPCs, and 14 non-petroleum-related VOCs were detected and selected as COPCs. The 7 petroleum-related VOCs are benzene, toluene, ethylbenzene, total xylenes, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. For the 1-hour air samples, in total, 7 petroleum-related VOCs were detected and selected as COPCs, and 9 non-petroleum-related VOCs were detected and selected as COPCs.

5.1.2 Data Usability Evaluation

The purpose of the data useability evaluation is to ensure that the analytical data collected and used for the assessment of potential human exposure are of sufficient quality with respect to sample size and analytical detection limits. As detailed below, both the number of samples (sample size) and data quality are sufficient for the assessment of potential human health risks.

For the chronic 14-day outdoor air sample data set, a total of 14 onsite samples were collected, which is a sufficient sample size for calculating EPCs (USEPA 2022). All petroleum-related VOCs selected as COPCs were detected in each of the 14 onsite samples with the exception of naphthalene which was detected in 10 of 14 samples. The

maximum reporting limit (RL) for naphthalene of 0.058 µg/m^3 is lower than the lowest DTSC (2022a) residential air screening level (SL) of 0.083 µg/m^3. Therefore, it is concluded that sample size and detection limits for onsite COPCs are sufficient for assessing chronic exposures in the assessment of potential human health risks.

For VOCs not selected as COPCs (e.g., not detected in any sample), RLs were lower than screening levels for all VOCs with the exception of 1,1,2,2-tetrachloroethane, 1,2-dibromoethane, benzyl chloride, bromodichloromethane, and vinyl chloride for which RLs exceeded either DTSC (2022a) SLs or USEPA (2024) RSLs. However, since these VOCs were never detected in any 1-hour, 24-hour, or 14-day onsite outdoor air sample it is reasonable to conclude that these VOCs were not present at detectable concentrations in outdoor air at the Site in October 2024.

For the acute 1-hour outdoor air sample data set, a total of 13 onsite samples were collected, which is a sufficient sample size for calculating EPCs (USEPA 2022). In contrast to the 14 14-day onsite air samples discussed above, there are only 13 1-hour air samples as the WB07 Summa cannister was depressurized when received by the analytical laboratory, and therefore, did not contain an air sample. The cause is unknown. In addition, the analytical laboratory used for the acute 1-hour samples does not report results for 1,2,4-trimethylbenzene or 1,3,5- trimethylbenzene. For VOCs not selected as COPCs (e.g., not detected in any sample), all RLs were lower than available screening levels. The one missing sample and the absence of 1-hour sample results for 1,2,4-trimethylbenzene or 1,3,5-trimethylbenzene are expected to not impact the outcome of the assessment of potential human health risks.

5.1.3 Exposure Pathways Analysis and Development of the Conceptual Site Model (CSM)

The ultimate goal of the Exposure Pathways Analysis is to identify those potential exposure pathways to outdoor air that would be considered complete exposure pathways for the quantitative assessment of potential human health risks based on future land use, identification of future human receptors, identification of sources of contamination and receiving media, chemical fate and transport in receiving media, and identification of exposure points and exposure routes (USEPA 1989).

Based on the planned future land use of the property (residential), the following exposure pathways are anticipated to become present:

- The human receptors expected to be present on the property following future development are residential adults and children as well as adults and children using the planned Boys & Girls Club.
- Sources of potential contamination to outdoor air following development are expected to be the two active and two idle oil and gas wells whereby VOCs may be released to the outdoor air during continuous operation and periodic servicing of these wells. In addition, residual VOCs in subsurface soils (e.g., soil gas) following remediation may also be released to the outdoor air.
- The primary chemical fate and transport process is dispersion within outdoor air of such potential emissions, if any, which would cause concentrations to reduce with increased distance from the point of release.
- Human exposure points for short term acute exposure (i.e. 1 hour) may be any discreet location on the property and would be represented by the maximum detected concentration of each identified COPC.
- Human exposure points for long term chronic exposure may be all accessible locations on the property and would be represented by the 95% upper confidence limit on the mean (95% UCL) concentration of each identified COPC across the Site.

The Exposure Pathways Analysis is summarized in the Conceptual Site Model (CSM) presented in Figure 5.

5.1.4 Exposure Point Concentrations

Consistent with DTSC (2015) and USEPA (1989) risk assessment guidance, EPCs for chronic exposures are estimated as the site-wide 95% UCL 14-day outdoor air concentration for each COPC as measured at all 14 onsite locations. 95% UCLs are estimated herein using USEPA (2022) ProUCL ver. 5.2 software. Exceptions for benzene and toluene are the exclusion of the benzene outlier of 3.2 µg/m^3 and the toluene outlier of 5.8 µg/m^3, both measured at WB05, from the 95% UCL calculations. As discussed in Section 4.4 both outliers are considered to be not representative of Site conditions.

EPCs for acute exposures are the maximum 1-hour maximum outdoor air concentration for each COPC measured at any one of the 14 onsite sample locations. The chronic 14-day EPCs and the acute 1-hour maximum EPCs for each COPCs are summarized in the risk characterization tables presented in the Risk Characterization section. The ProUCL outputs are presented in Appendix D.

5.1.5 Human Exposure Factors

The human exposure factors applicable to the inhalation exposure pathway for adults and children are those embedded within the DTSC (2022a) SLs, which are consistent with the residential human exposure factors recommended by DTSC (2019) exposure factor guidelines and consistent with those embedded within the USEPA (2024) RSLs. The key chronic residential exposure factors are exposure time of 24 hours/day, exposure frequency of 350 days/year, and exposure duration of 20 years for adults and 6 years for children. For acute exposures the only applicable exposure factor is the exposure time of 1 hour.

5.2 Toxicity Assessment

Toxicity Assessment is the process of assessing the relationship between human intake of a chemical (e.g., dose) and the corresponding toxic response. This process is also known as dose-response assessment. The results of the dose-response assessment are generally referred to as toxicity values. Over the past 30 years, dose-response assessments have been routinely performed by State and Federal regulatory agencies that publish toxicity values for various types of health effects and exposure pathways.

Consistent with the approach used in this assessment of potential human health risks for the Exposure Assessment, the chronic noncancer- and cancer-based toxicity values used are embedded within the DTSC (2022a) SLs and USEPA (2024) RSLs. Preferentially using DTSC (2022a) SLs and secondarily USEPA (2024) RSLs ensures compliance with the DTSC (2018) Toxicity Criteria Rule.

For assessing 1-hour acute exposures, acute toxicity values were obtained from multiple sources when available. The preferred source of acute toxicity values is OEHHA's acute Reference Exposure Levels (RELs). For COPCs without OEHHA acute RELs, the USEPA's Acute Exposure Guideline Levels (AEGLs; USEPA 2019) are the next preferred source, and in the absence of either acute RELs or AEGLs, then the U.S. Department of Energy (USDOE) Protective Action Criteria (PAC; USDOE 2018) are selected as acute toxicity values. For two COPCs (naphthalene and tetrachloroethene) acute toxicity values were not available from any of these sources but were available from the Minnesota Department of Health as acute Air Guidance Values (AGVs).

As with the exposure parameters described above in Section 5.1.3, the toxicity values described in this Section are also presented in the risk characterization tables in Section 5.3.

5.2.1 MATES V – Summary Description

To date, the SCAQMD has evaluated and reported regional air quality in the Los Angeles basin in five separate studies, entitled Multiple Air Toxics Exposure Study (MATES). The four most recent MATES studies occurred during 1998-1999 (MATES II), 2005 (MATES III), 2012-2013 (MATES IV), and 2018-2019 (MATES V). The most recent study, MATES V, was performed between May 2018 and April 2019 and consisted of monitoring air quality at ten different locations by collecting a total of 528 samples, consisting of approximately 50 to 60 samples per location. The nearest MATES V sampling location is the Long Beach monitoring location, at 1710 East 20th Street in Signal Hill, 1 mile south of Walnut Bluff.

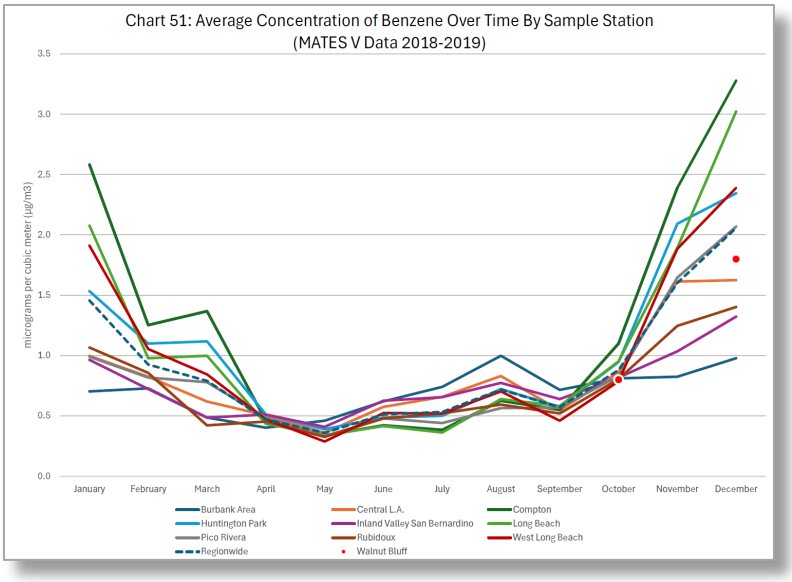
Unlike conventional risk assessments, which utilize the 95% UCL to estimate risks, MATES V assessed risk by using the average concentrations. It is recognized that the MATES V study and findings predate the study reported herein by 6 years. Another important difference is that the MATES V study collected samples approximately every 6 weeks over the course of 12 months. In contrast, this Report presents results and calculates risk based on a single sampling event covering two weeks in October 2024.

Nonetheless, the MATES V study is considered herein to be the most comprehensive and relevant assessment of risk posed by outdoor air quality to human health in the region. Therefore, the findings from the MATES V study are used here to compare with the findings from this study and to evaluate if potential additional human health risks are posed to human health by outdoor air at the Site.

5.2.2 MATES V – Data Trends

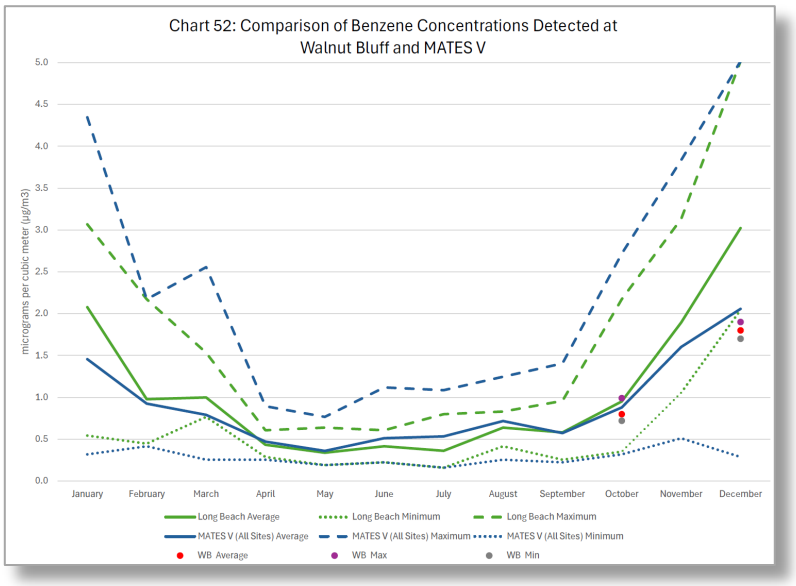
As described above, samples of outdoor air at the Site were collected in October and December 2024. The concentrations of VOCs measured in December were generally higher than concentrations measured in October.

The adjacent Chart 51 shows the average MATES V benzene concentration by monitoring station and the region along with the average benzene concentration measured at the Site. The chart shows that the Site data are comparable with the trends revealed in the MATES V data.



To further assess these trends, the adjacent Chart 52 shows the maximum, average, and minimum concentrations of benzene measured at the nearby MATES V Long Beach station, the regional MATES V data, and Site data. Similar to the preceding chart, the maximum, average, and minimum concentrations measured at the Site are also comparable with, and in some cases slightly lower than, the MATES V data.

Taken together, these charts indicate that the increase trend in on-Site concentrations measured in December are comparable to increase trends revealed in the MATES V data.



5.3 Risk Characterization

Risk Characterization is the process of integrating exposure and toxicity information to characterize potential health risks. Under this process, chronic cancer risks are estimated for individual carcinogens, and the total risk from all carcinogens combined, referred to as the cumulative cancer risk, is then calculated by summing the cancer risks for all carcinogenic COPCs.

A similar process is employed for chronic and acute noncancer hazards whereby chronic and acute noncancer hazards are estimated for individual COPCs, referred to as Hazard Quotients (HQs), and cumulative noncancer hazard, referred to as the Hazard Index (HI), is then calculated by summing the individual chronic and acute noncancer HQs, respectively.

5.3.1 Cancer Risk and Noncancer Hazard Calculations and Equations

The equations used to calculate cancer risk, chronic HQs, and acute HQs are as follows:

$$\mathbf{ILCR = EPC}c\mathbf{ / SLc \times 1x10^{-6}}$$

Where,

ILCR = Incremental Lifetime Cancer Risk (unitless)

EPC*c* = chronic EPC

defined herein as the 95% UCL air concentration (µg/m^3) based on 14-day continuous onsite air monitoring data

SLc = cancer-based screening level (µg/m^3)

Chronic HQ = EPC*c* / SLnc

Where,

Chronic HQ = Chronic Hazard Quotient (unitless)
EPC*c* = chronic EPC
defined herein as the 95% UCL air concentration (µg/m^3) based on 14-day continuous onsite air monitoring data
SLnc = noncancer-based screening level (µg/m^3)

Acute HQ = EPC*a* / AREL

Where,

Acute HQ = Acute Hazard Quotient (unitless)
EPC*a* = acute EPC
defined herein as the maximum 1-hour air concentration (µg/m^3)
AREL = Acute Reference Exposure Level (µg/m^3)

Cumulative cancer, non-cancer hazard, and acute risks:
Cumulative ILCR = Σ ILCR for individual carcinogenic COPCs
Chronic HI = Σ chronic HQs for individual COPCs
Acute HI = Σ acute HQs for individual COPCs

Potential cancer risks, chronic noncancer hazards and acute noncancer hazards associated with measured onsite outdoor air VOC concentrations are presented in Tables 5 and 6, respectively, and summarized below. Potential cancer risks and chronic noncancer hazards associated with measured offsite outdoor air VOC concentrations are presented in Table 7 and summarized below. For perspective and transparency, risk assessment findings are presented separately for petroleum-related COPCs, non-petroleum-related COPCs, and all COPCs combined.

While the standard default comparison threshold for cancer risk is $1x10^{-6}$ (ATSDR 2024) and DTSC, the USEPA (1994) National Contingency Plan (NCP) defines the range of acceptable cancer risks as $1x10^{-6}$ to $1x10^{-4}$. However, the NCP explains that the point of departure for screening risks is $1x10^{-6}$, such that regulatory approval of risks up to $1x10^{-4}$ requires a Site-specific risk assessment or some other technically defensible justification, such as background or regional conditions. Falling within this range is the SCAQMD Air Toxics Hotspots threshold of $1x10^{-4}$, which also characterizes the regional risks posed by outdoor air quality as reported in MATES V (SCAQMD, 2021).

5.3.2 Incremental Lifetime Cancer Risks

For individual petroleum-related COPCs, estimated onsite cancer risks ranged from $2.8x10^{-7}$ to $8.6x10^{-6}$. Benzene, with an ILCR of $8.6x10^{-6}$, is the only petroleum-related COPC exceeding the default cancer risk threshold of $1x10^{-6}$ (Table 5). The onsite cumulative cancer risk for petroleum-related COPCs was $1.0x10^{-5}$, which exceeds the default cancer risk threshold of $1x10^{-6}$, but is less than the SCAAQMD Air Toxics Hotspots threshold of $1x10^{-4}$. As described further below, this level of risk from outdoor onsite air is comparable to the regional risks in the MATES V study.

In the absence of benzene, the onsite cumulative risk associated with petroleum-related COPCs is $1.3x10^{-6}$. This clearly demonstrates that benzene is the only significant driver of petroleum-related VOCs. This discussion is also focused on benzene because benzene is the one petroleum-related "risk driver" COPC measured in both onsite outdoor air samples, offsite outdoor air samples, and the MATES regional monitoring studies.

For individual non-petroleum-related COPCs, estimated cancer risks ranged from $1.7x10^{-7}$ to $2.3x10^{-6}$. The non-petroleum-related COPCs exceeding the default cancer risk threshold of $1x10^{-6}$ were trichlorofluoromethane with an ILCR of $2.3x10^{-6}$, chloroform with an ILCR of $1.3x10^{-6}$, and methylene chloride with an ILCR of $1.1x10^{-6}$. The cumulative cancer risk for non-petroleum-related COPCs was $5.9x10^{-6}$.

The cumulative cancer risk for all COPCs, petroleum-related hydrocarbons and non-petroleum-related hydrocarbons, combined was $1.6x10^{-5}$.

5.3.3 Chronic Noncancer Hazards

For individual petroleum-related COPCs, chronic noncancer HQs ranged from $3.1x10^{-4}$ for ethylbenzene to $0.27x10^{-1}$ for benzene all below the target chronic noncancer HQ of 1 (Table 5). The cumulative chronic noncancer HI for petroleum-related COPCs was $3.2x10^{-1}$, well below the target chronic noncancer HI of 1.

For individual non-petroleum-related COPCs, chronic noncancer HQs ranged from $1.4x10^{-5}$ for chloroethane to $5.3x10^{-1}$ for trichlorofluoromethane all below the target chronic noncancer HQ of 1. The cumulative chronic noncancer HI for non-petroleum-related COPCs was 0.67, well below the target chronic noncancer HI of 1.

The cumulative noncancer HI for all COPCs, petroleum-related hydrocarbons and non-petroleum-related hydrocarbons, combined was 0.99, equivalent to the target chronic noncancer HI of 1.

5.3.4 Acute Noncancer Hazards

For individual petroleum-related COPCs, acute noncancer HQs ranged from $5.7x10^{-6}$ for ethylbenzene to $7.0x10^{-2}$ for benzene, all below the target acute noncancer HQ of 1 (Table 6). The cumulative acute noncancer HI for petroleum-related COPCs was $7.4x10^{-2}$, well below the target acute noncancer HI of 1.

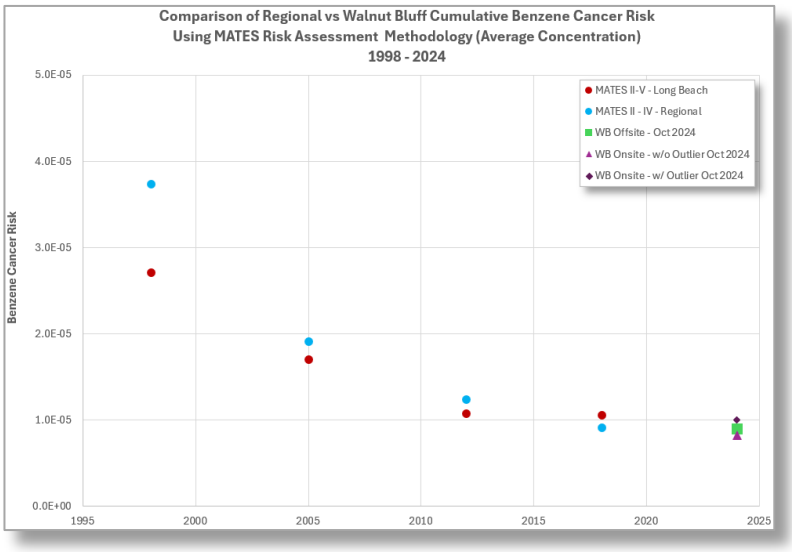
For individual non-petroleum-related COPCs, acute noncancer HQs ranged from $5.5x10^{-7}$ for 1,2-dichloroethane to $1.8x10^{-3}$ for chloroform all below the target acute noncancer HQ of 1. The cumulative acute noncancer HI for non-petroleum-related COPCs was $2.1x10^{-3}$, well below the target acute noncancer HI of 1.

The cumulative noncancer HI for all COPCs, petroleum-related hydrocarbons and non-petroleum-related hydrocarbons, combined was 0.076, also well below the target acute noncancer HI of 1.

5.3.5 Comparison of Onsite, Offsite, and Regional MATES V Benzene Cancer Risks

The focus of this discussion is on benzene because benzene is the “driver” for onsite petroleum-related COPC cancer risks of $1.0x10^{-5}$, which exceeds the $1x10^{-6}$ default cancer risk threshold (Table 5).

Charts 33 through 37 compare the estimated cancer risk posed by benzene, toluene, ethylbenzene, total xylenes, and naphthalene onsite and offsite with risk provided in MATES II, II, III, IV, and V for the region and at the Long Beach location. The chart for benzene, is provided here.



As shown in these Charts and in Table 8, regional outdoor air benzene concentrations and corresponding cancer risk estimates decreased over time from 1998-1999 to 2005 to 2012-2013 to 2018-2019, respectively, and corresponding cancer risk estimates from $4.2x10^{-5}$ to $1.7x10^{-5}$ to $1.1x10^{-5}$ to $1.1x10^{-5}$, respectively.

It is important to note here that the MATES studies calculate cancer risk using average concentration, whereas USEPA and DTSC require the calculation of estimated risk to be based on the 95% UCL. However, for comparison purposes only, Charts 33 through 37 present risk based on average concentrations at the Site Walnut Bluff.

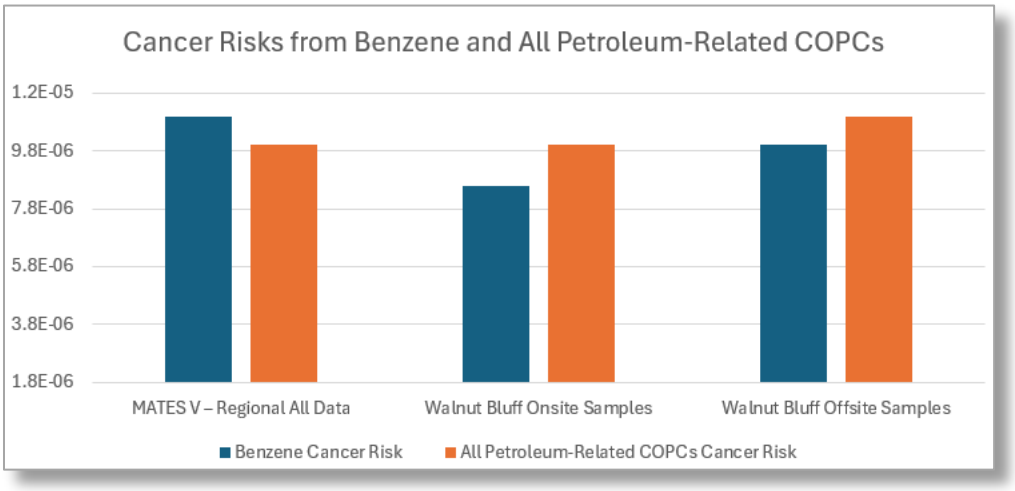
By definition, the arithmetic average concentration is always less than the 95% UCL (USEPA 2022). Therefore, the risks calculated using the 95% UCL of the Walnut Bluff study data should be considered more conservative than cancers risk based on MATES average concentrations. And by extension, comparisons of cancer risks between this study and the MATES data are also conservative. Were this study to assess cancer risk using the arithmetic average (an approach that does not comport with DTSC nor USEPA protocol), then this assessment of potential human health risks would conclude cancer risks lower than presented, and likely lower than the regional cancer risks presented in MATES V.

The most recent regional monitoring cancer risk estimates associated with 95% UCL benzene is comparable to the offsite outdoor air cancer risk estimates ($1.0x10^{-5}$) or the onsite outdoor air cancer risk estimate ($8.6x10^{-6}$).

A more granular version of the above information depicts concentrations measured at each onsite and offsite Walnut Bluff sampling location with MATES V regional and Long Beach data are provided in Charts 38 through 42. Collectively, these data show that overall concentrations, and by extension risks and hazards, measured in this Walnut Bluff study are also comparable to the MATES V study.

For the purpose of comparing onsite and offsite cancer risk estimates, cancer risks for petroleum-related COPCs were also calculated for the offsite sampling locations. Since there were only 3 offsite sampling locations, there was an insufficient sample size for calculating a 95% UCL. As such, cancer risk estimates for offsite outdoor air samples were conservatively based on the maximum detected concentrations. Calculations presented in Table 7 show that the cumulative cancer risk associated with petroleum-related COPCs in offsite outdoor air is $1.1x10^{-5}$, approximately the same as the cumulative cancer risk associated with petroleum-related COPCs in onsite outdoor air of $1.0x10^{-5}$.

Scenario	Benzene Cancer Risk	All Petroleum-Related COPCs Cancer Risk
MATES V – Regional All Data	1.1E-05	1.0E-05
Walnut Bluff Offsite Samples	1.0E-05	1.1E-05
Walnut Bluff Onsite Samples	8.6E-06	1.0E-05



5.4 Discussion of Findings and Uncertainties

The Walnut Bluff outdoor air sampling study was specifically designed to collect appropriate data for assessing potential acute and chronic human exposures, specifically maximum 1-hour concentrations of VOCs and continuous 14-day concentrations of VOCs, respectively. Although any VOC detected in any sample was selected as a COPC, the focus of the assessment of potential human health risks is on current and historical land use (e.g., operation of oil and gas wells). As such, individual COPC and cumulative acute hazards, chronic hazards, and cancer risks are presented in prior sections for petroleum-related COPCs and non-petroleum-related COPCs.

For petroleum-related and non-petroleum COPCs combined, all individual acute HQs and cumulative acute HIs are well below the target HQ and HI of 1.0. All individual chronic HQs as well as petroleum-related and non-petroleum-related cumulative chronic HIs are also below the target HQ and HI of 1.0. The chronic HI for petroleum-related and non-petroleum-related COPCs combined is 0.99, slightly less than the target HI of 1.

The default cancer risk threshold of $1x10^{-6}$ for petroleum-related COPCs, non-petroleum related VOCs, and all COPCs is exceeded in the onsite 14-day outdoor air samples, the offsite 14-day outdoor samples, and also the MATES V study. The range of cumulative petroleum-related cancer risks is relatively small, from $1.0x10^{-5}$ to $1.5x10^{-5}$. The onsite, offsite, and regional (MATES V) benzene concentrations and corresponding cancer risk estimates from all VOCs are comparable.

As noted above in Section 5.2.1, there are important differences between the MATES V study and this Walnut Bluff study. Nonetheless, the MATES V study is considered to be the most comprehensive and relevant assessment of risk posed by outdoor air quality in the region and is used herein to compare with the findings from this study and assessment of potential human health risks posed by outdoor air at the Site.

Although uncertainty is inherent to the risk assessment process, the decisions made in the risk assessment process are biased towards the protection of human health. The key areas of uncertainty generally include (1) exposure assumptions, (2) toxicity data extrapolations, and (3) risk calculations based on the 95% UCL and not the arithmetic average. It is generally recognized that these uncertainties result in the over-estimation of health risk, thus ensuring the protection of human health.

SECTION 6

Conclusions

The following key conclusions are based on the findings presented above:

- In summary, the onsite air quality measured in October 2024 poses no additional measurable risk to human health compared with offsite and regional conditions, and the outdoor air quality measured at the Site is comparable to regional air quality conditions characterized by the MATES V study.

- The study was implemented as designed and the few minor deviations are considered to have not materially affected the data nor the findings.

- The 14-day analytical results and risks based on the onsite samples and offsite samples are comparable to the risks presented in the MATES V regional data.

- The concentrations of petroleum-related hydrocarbons measured in the onsite 14-day samples collected in October 2024 and MATES V samples collected between May 2018 and April 2019 are comparable.

- The onsite cumulative cancer risk for petroleum-related COPCs was 1.0×10^{-5}, which exceeds the default cancer risk threshold of 1×10^{-6}, but is less than the SCAAQMD Air Toxics Hotspots threshold of 1×10^{-4}. This level of risk from outdoor onsite air is comparable to the regional risks in the MATES V study.

- Concentrations in the 1-hour samples typically exceed concentrations measured in the 14-day samples. This means that the 1-hour sampling interval identified based on the PID data accurately identified the daytime period associated with higher concentrations. The assessment of potential human health risks demonstrates that the higher concentrations measured in the 1-hour samples do not pose an acute noncancer hazard.

- Benzene and toluene in the October 14-day air sample collected at WB05 are statistical outliers. The source of these concentrations is unknown, but based on the entirety of the data, they are considered unrepresentative of onsite conditions.
    - A second deployment of 14-day sampling occurred in December 2024 at 4 sampling locations including WB05. The individual VOC concentrations, including benzene and toluene, measured in the 4 December samples were relatively similar. Therefore, the December data provide further indication that the concentrations of benzene and toluene measured at WB05 in October were merely outliers and not indicative of a source at the sampling location. Consequently, it is appropriate to exclude the outliers from the estimates of onsite risk.
- The concentrations of petroleum hydrocarbons measured in the 14 onsite 14-day samples and 3 offsite 14-day samples are similar, which indicates that onsite risks and offsite risks are similar. It is important to recognize that the land use of both the onsite and offsite are similar and consist of SHP properties with active oil and gas operations.

- The increase in on-Site concentrations measured from October to December are comparable to monthly increases revealed in the MATES V data.

- The Final MATES V report documents a decrease of 40% in cumulative cancer risk from MATES IV. However, the Final MATES V report also shows that between MATES IV and MATES V, benzene concentrations reduced

by only 10% indicating that the 30% of the decrease in cumulative cancer risk between MATES IV and MATES V was due largely to the decrease in carcinogenic VOCs unrelated to petroleum. Therefore, assuming no significant changes to petroleum-related hydrocarbons in the regional air quality has occurred since the MATES V study was performed (which could be evaluated by others once the pending Mates VI study is published), it is reasonable to conclude that the Site not a significant source of additional:

- measurable concentrations of petroleum-related hydrocarbons
- measurable cumulative cancer risk due to petroleum-related hydrocarbons
- acute noncancer hazard due to petroleum-related hydrocarbons.
- cumulative chronic noncancer hazard due to petroleum-related hydrocarbons.

- It is important to note here that this assessment of potential human health risks is based solely on samples collected at the Site during 2 weeks in October 2024. The onsite data collected in October and December 2024 reveal seasonal variability at the Site that is comparable to the MATES V data.

SECTION 7

References

ATSDR. 2024. Public Health Assessment Guidance Manual (PHAGM). Agency for Toxic Substances and Disease Registry.

Catalyst. 2024. Workplan for Human Health Risk Assessment Proposed Walnut Bluff Development.

DTSC. 2015. Preliminary Endanger Assessment Guidance Manual. Department of Toxic Substances Control. October.

DTSC. 2018. Toxicity Criteria Rule. September 4. Department of Toxic Substances Control. 22 CA ADC § 68400.5.

DTSC. 2019. Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. Department of Toxic Substances Control. April 9.

DTSC. 2022a. Human Health Risk Assessment (HHRA) Note Number 3, DTSC-modified Screening Levels (DTSC-SLs). Department of Toxic Substances Control. May.

DTSC. 2022b. Human Health Risk Assessment (HHRA) Note Number 4: Guidance for Screening Level Human Health Risk Assessments. Department of Toxic Substances Control. March 29.

Mearns Consulting. 2021. Human Health Risk Assessment, Northwest Corner E. Willow St. and Walnut Avenue, Walnut Bluff, Signal Hill, California. Mearns Consulting LLC. June 16.

SCAQMD. 2021. Multiple Air Toxics Exposure Study V (MATES V). South Coast Air Quality Management District. August.

USEPA. 1994. National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CFR40 Chapter I Subchapter J Part 300.

USEPA. 1998. Linear Low dose Extrapolation for Cancer Risk Assessments: Sources of Uncertainty and How They Affect the Precision of Risk Estimates. Scientific Advisory Panel (SAP) Meeting. July.

USEPA. 1989. Risk Assessment Guidance for Superfund, Volume I, Health Evaluation Manual, Part A. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. December.

USEPA. 2000. Guidance of Data Quality Assessment, Practical Methods of Data Analysis, EPA QA/G-9. July.

USEPA. 2002. Calculation UIPper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Site. December.

USEPA. 2022. ProUCL Version 5.2.0 Technical Guide. U.S. Environmental Protection Agency, Office of Research and Development.

USEPA. 2024. Regional Screening Levels (RSLs). U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. November.

Tables

Table 2
1 Hour Ambient Air Samples
Proposed Walnut Bluff Development - City of Signal Hill, CA

Sample ID	Date	Time	1,1,2-Trichloro-1,2,2-trifluoroethane	1,1-Difluoroethane	1,2-Dichloroethane	1,4-Dichlorobenzene	Benzene	Carbon tetrachloride	Chloroform	Dichlorodifluoromethane	Ethylbenzene	Naphthalene	o-Xylene	p- & m-Xylenes	Tetrachloroethene	Toluene	Trichlorofluoromethane
			µg/m3														
DTSC SLc			--	--	--	--	0.1	0.47	--	--	--	--	--	--	0.46	--	--
DTSC SLnc			--	--	--	--	3.1	42	--	--	--	--	--	--	42	310	1300
RSLs C			--	--	0.11	0.26	0.36	0.47	0.12	--	1.1	0.08	--	--	11	--	--
RSLs NC			5200	42000	7.3	830	31	100	2	100	1000	3.1	100	100	42	5200	--
WB01-1H	10/9/2024	9:00 - 9:59	0.53	1.1	***0.11***	0.09	***1.8***	***0.5***	***0.25***	2.3	0.57	***0.22***	0.65	2	<0.1	2.8	1.2
WB02-1H	10/9/2024	10:31 - 11:31	0.52	1.1	0.093	0.12	***1.4***	***0.49***	***0.27***	2.3	0.75	***0.29***	0.86	2.6	0.081	2.8	1.2
WB03-1H	10/9/2024	10:35 - 11:33	0.52	1.1	0.093	0.11	***1.4***	***0.5***	***0.23***	2.3	0.81	***0.20***	0.91	2.8	0.09	2.6	1.2
WB04-1H	10/9/2024	10:47 - 11:46	0.52	1.2	0.091	0.1	***1.4***	***0.5***	***0.23***	2.3	0.74	***0.17***	0.82	2.5	<0.1	2.6	1.2
WB05-1H	10/9/2024	11:06 - 12:08	0.52	1.1	0.092	0.093	***1.3***	***0.5***	***0.2***	2.3	0.58	***0.38***	0.64	1.8	<0.1	2.3	1.2
WB06-1H	10/9/2024	10:43 - 11:42	0.52	1.2	0.093	0.1	***1.4***	***0.49***	***0.23***	2.3	0.66	***0.23***	0.74	2.2	<0.1	2.6	1.2
WB07-1H	10/9/2024	8:36 - 9:42	Can arrived evacuated and could not be analyzed.														
WB08-1H	10/9/2024	11:11 - 12:11	0.53	1.1	0.088	0.086	***1.4***	***0.5***	***0.21***	2.3	0.56	***0.16***	0.62	1.7	<0.1	2.6	1.3
WB09-1H	10/9/2024	11:22 - 12:24	0.53	1	0.086	0.093	***1.3***	***0.5***	***0.22***	2.4	0.72	***0.34***	0.9	2.4	<0.1	2.7	1.3
WB10-1H	10/9/2024	11:17 - 12:20	0.52	1.1	0.089	0.1	***1.8***	***0.51***	***0.22***	2.4	0.61	***0.25***	0.64	1.9	<0.1	7.2	1.3
WB11-1H	10/9/2024	11:52 - 12:51	0.52	0.89	0.1	0.11	***1.8***	***0.5***	***0.19***	2.3	0.67	***0.31***	0.75	2.1	0.077	2.8	1.3
WB12-1H	10/9/2024	11:58 - 12:58	0.53	1.7	0.1	0.085	***1.7***	***0.5***	***0.2***	2.4	0.8	***0.30***	0.92	2.6	0.072	3	1.3
WB13-1H	10/9/2024	9:10 - 10:09	0.52	0.98	***0.11***	0.093	***1.9***	***0.5***	***0.22***	2.3	0.57	***0.24***	0.65	1.9	<0.1	2.9	1.2
WB14-1H	10/9/2024	9:18 - 10:19	0.52	0.99	***0.11***	0.097	***1.9***	***0.5***	***0.24***	2.3	0.58	***0.23***	0.68	2	<0.1	3.2	1.2
WB17-1H	10/9/2024	13:30 - 14:37	0.53	0.67	0.07	0.08	***0.88***	***0.5***	***0.19***	2.4	0.61	***0.18***	0.67	2	0.074	1.7	1.3
WB18-1H	10/9/2024	13:52 - 14:56	0.53	0.8	0.073	0.092	***1.1***	***0.5***	***0.2***	2.4	0.52	***0.13***	0.56	1.5	0.12	2.5	1.3
WB19-1H	10/9/2024	9:52 - 10:54	0.54	1.1	***0.11***	0.091	***1.6***	***0.5***	***0.23***	2.4	0.69	***0.77***	0.78	2.4	<0.1	2.8	1.2

Notes:

SLc - - DTSC (May 2022) HHRA Note 3 residential air screening level for carcinogenic effects unless otherwise specified.

SLnc - DTSC (May 2022) HHRA Note 3 residential air screening level for noncancer effects unless otherwise specified.

RSLs C- USEPA (May 2024) Regional Screening Levels for residential air carcinogenic

RSLs NC- USEPA (May 2024) Regional Screening Levels for residential air Noncarcinogenic

µg/m3 - micrograms per cubic meter

highlighted where above screening criteria

Table 3
24 Hour Ambient Air Samples
Proposed Walnut Bluff Development - City of Signal Hill, CA

Sample ID	Date	1,1,2-Trichloro-1,2,2-trifluoroethane	1,1-Difluoroethane	1,2-Dichloroethane	1,4-Dichlorobenzene	Benzene	Carbon tetrachloride	Chloroform	Dichlorodifluoromethane	Ethylbenzene	Naphthalene	o-Xylene	p- & m-Xylenes	Toluene	Trichlorofluoromethane
		µg/m3													
DTSC SLc		--	--	--	--	0.097	0.47	--	--	--	--	--	--	--	--
DTSC SLnc		--	--	--	--	3.1	42	--	--	--	--	--	--	310	1300
RSLs C		--	--	0.11	0.26	0.36	0.47	0.12	--	1.1	0.083	--	--	--	--
RSLs NC		5200	42000	7.3	830	31	100	2	100	1000	3.1	100	100	5200	--
WB01-24H	10/9 - 10/10/2024	0.52	0.43	0.07	<0.050	***0.74***	***0.47***	***0.15***	2.30	0.29	***0.21***	0.32	0.94	1.30	1.20
WB02-24H	10/9 - 10/10/2024	0.50	0.44	0.07	0.08	***0.88***	0.46	***0.17***	2.30	0.36	***0.43***	0.38	1.00	1.90	1.20
WB03-24H	10/9 - 10/10/2024	0.52	0.48	0.06	<0.050	***0.70***	***0.48***	***0.17***	2.40	0.25	***0.16***	0.29	0.79	1.20	1.20
WB04-24H	10/9 - 10/10/2024	0.52	0.45	0.07	<0.050	***0.85***	***0.48***	***0.15***	2.30	0.28	***0.18***	0.33	0.93	1.40	1.20
WB05-24H	10/9 - 10/10/2024	0.52	0.45	0.07	<0.050	***0.91***	***0.49***	***0.15***	2.30	0.39	***0.19***	0.50	1.40	2.00	1.20
WB06-24H	10/9 - 10/10/2024	0.52	0.42	0.07	<0.050	***0.68***	***0.48***	***0.16***	2.30	0.25	***0.14***	0.28	0.82	1.20	1.20
WB07-24H	10/9 - 10/10/2024	0.51	0.45	0.06	<0.050	***0.71***	***0.47***	***0.16***	2.30	0.25	***0.14***	0.27	0.75	1.20	1.20
WB08-24H	10/9 - 10/10/2024	0.52	0.43	0.07	<0.050	***0.69***	***0.48***	***0.14***	2.30	0.26	***0.15***	0.29	0.80	1.20	1.20
WB09-24H	10/9 - 10/10/2024	0.53	0.42	0.07	<0.050	***0.86***	***0.49***	***0.32***	2.30	0.38	***0.17***	0.49	1.40	1.80	1.20
WB10-24H	10/9 - 10/10/2024	0.52	0.43	0.07	<0.050	***1.10***	***0.48***	***0.15***	2.30	0.47	***0.28***	0.41	1.40	1.70	1.20
WB11-24H	10/9 - 10/10/2024	0.52	0.44	0.07	<0.050	***0.69***	***0.49***	***0.14***	2.40	0.27	***0.12***	0.29	0.85	1.20	1.20
WB12-24H	10/9 - 10/10/2024	0.52	0.44	0.07	<0.050	***0.73***	***0.49***	***0.15***	2.20	0.27	***0.17***	0.32	0.89	1.30	1.20
WB13-24H	10/9 - 10/10/2024	0.53	0.44	0.07	<0.050	***0.72***	***0.49***	***0.17***	2.30	0.26	***0.15***	0.29	0.79	1.20	1.20
WB14-24H	10/9 - 10/10/2024	0.53	0.43	0.07	<0.050	***0.73***	***0.49***	***0.15***	2.20	0.24	***0.13***	0.27	0.77	1.30	1.20
WB17-24H	10/9 - 10/10/2024	0.52	0.47	0.07	<0.050	***0.92***	***0.50***	***0.15***	2.20	0.34	***0.22***	0.40	1.10	2.20	1.20
WB18-24H	10/9 - 10/10/2024	0.52	0.48	0.07	<0.050	***0.94***	***0.49***	***0.14***	2.20	0.51	***0.21***	0.64	1.90	2.10	1.20
WB19-24H	10/9 - 10/10/2024	0.51	0.45	0.08	<0.050	***1.10***	***0.49***	***0.14***	2.30	0.33	***0.16***	0.36	1.10	1.50	1.20

Notes:

SLc - - DTSC (May 2022) HHRA Note 3 residential air screening level for carcinogenic effects unless otherwise specified.

SLnc - DTSC (May 2022) HHRA Note 3 residential air screening level for noncancer effects unless otherwise specified.

RSLs C- USEPA (May 2024) Regional Screening Levels for residential air carcinogenic

RSLs NC- USEPA (May 2024) Regional Screening Levels for residential air Noncarcinogenic

µg/m3 - micrograms per cubic meter

highlighted where above screening criteria

Table 4
2 Week Ambient Air Samples
Proposed Walnut Bluff Development - City of Signal Hill, CA

Sample ID	Date	1,2,4-Trimethylbenzene	1,2-Dichloroethane	1,3,5-Trimethylbenzene	1,4-Dichlorobenzene	Benzene	Bromomethane	Carbon Tetrachloride	Chloroethane	Chloroform	Chloromethane	Ethylbenzene	1,1,2-Trichloro-1,2,2-trifluoroethane	Freon 114	Dichlorodifluoromethane	Methylene Chloride	Naphthalene	Styrene	Tetrachloroethene	Toluene	Trichlorofluoromethane	Xylene (total)	m,p-Xylenes	o-Xylene
		ug/m3																						
DTSC SLc		--	--	--	--	0.097	--	0.47	--	--	--	--	--	--	--	--	--	--	0.46	--	--	--	--	--
DTSC SLnc		--	--	--	--	3.1	--	42	--	--	--	--	--	--	--	--	--	940	42	310	1300	--	--	--
RSLs C		--	0.11	--	0.26	0.36	--	0.47	--	0.12	--	1.1	--	--	--	100	0.083	--	11	--	--	--	--	--
RSLs NC		63	7.3	63	830	31	5.2	100	4200	2	94	1000	5200	--	100	630	3.1	1000	42	5200	--	100	100	100
WB01-14D	10/1 - 10/15/2024	0.30	0.063	0.074	<0.066	***0.8***	0.08	0.46	<0.029	***0.14***	0.99	0.27	0.46	0.11	2.3	0.55	0.059	0.1	<0.075	1.4	1.1	1.1	0.79	0.32
WB02-14D	10/1 - 10/15/2024	0.37	0.066	0.10	<0.060	***0.83***	0.084	0.45	0.049	***0.16***	0.99	0.33	0.44	0.12	2.3	0.60	0.077	0.12	<0.068	1.5	1	1.3	0.90	0.35
WB02-14D-R2	12/2 - 12/16/2024	1.2	0.1	0.34	0.082	***1.9***	0.15	0.44	<0.026	***0.19***	1.1	0.88	0.46	0.1	2.2	0.84	***0.15***	0.41	0.1	3.3	1.1	3.5	2.50	0.95
WB03-14D	10/1 - 10/15/2024	0.24	0.062	0.055	<0.060	***0.72***	0.082	***0.47***	<0.026	***0.17***	1.0	0.25	0.47	0.12	2.3	0.59	<0.052	0.076	<0.068	1.2	1.1	0.99	0.71	0.28
WB03-14D-R2	12/2 - 12/16/2024	0.92	0.097	0.26	0.092	***1.7***	0.16	***0.45***	<0.026	***0.2***	1.1	0.73	0.47	0.1	2.2	0.93	***0.11***	0.46	0.11	3.2	1.1	3.2	2.3	0.89
WB04-14D	10/1 - 10/15/2024	0.29	0.062	0.065	<0.060	***0.74***	0.075	***0.47***	<0.026	***0.16***	1.0	0.26	0.47	0.12	2.3	1.2	<0.052	0.11	<0.068	1.4	1.1	1.1	0.76	0.3
WB05-14D	10/1 - 10/15/2024	0.29	0.061	0.074	<0.072	***3.2****	0.084	0.46	<0.032	***0.16***	1.0	0.26	0.46	0.11	2.3	0.76	0.074	0.13	<0.081	5.8**	1.1	1.0	0.73	0.29
WB05-14D-R2	12/2 - 12/16/2024	1.3	0.096	0.33	0.09	***1.7***	0.15	0.45	<0.029	***0.19***	1.1	0.72	0.47	0.1	2.2	0.91	***0.16***	0.47	0.12	3.4	1.1	3.1	2.3	0.87
WB06-14D	10/1 - 10/15/2024	0.26	0.062	0.065	<0.060	***0.74***	0.081	***0.47***	0.045	***0.15***	1.0	0.28	0.46	0.12	2.3	0.62	<0.052	0.11	<0.068	1.6	1.1	1.0	0.74	0.29
WB07-14D	10/1 - 10/15/2024	0.29	0.061	0.065	<0.060	***0.72***	0.085	0.46	0.088	***0.14***	0.99	0.26	0.46	0.12	2.3	0.67	0.059	0.12	<0.068	1.5	1.1	0.99	0.71	0.28
WB08-14D	10/1 - 10/15/2024	0.27	0.062	0.061	<0.066	***0.74***	0.08	***0.47***	0.058	***0.14***	1.0	0.26	0.47	0.12	2.3	0.74	<0.058	0.099	<0.075	1.5	1.1	0.98	0.70	0.28
WB09-14D	10/1 - 10/15/2024	0.29	0.063	0.068	<0.060	***0.81***	0.092	***0.47***	0.042	***0.18***	1.0	0.27	0.47	0.12	2.3	2.8	0.078	0.12	<0.068	1.6	1.1	1.1	0.79	0.31
WB10-14D	10/1 - 10/15/2024	0.50	0.072	0.14	<0.060	***0.99***	0.083	0.46	<0.026	***0.15***	0.98	0.45	0.46	0.12	2.3	0.85	***0.14***	0.13	<0.068	1.3	1.1	1.5	1.2	0.37
WB10-14D-R2	12/2 - 12/16/2024	1.10	0.1	0.3	<0.060	***1.9***	0.15	0.45	<0.026	***0.2***	1.1	0.84	0.46	0.1	2.2	0.87	0.06	0.36	0.12	3.2	1.1	3.3	2.5	0.87
WB11-14D	10/1 - 10/15/2024	0.30	0.061	0.073	<0.060	***0.78***	0.089	***0.47***	0.089	***0.14***	1.0	0.27	0.47	0.12	2.3	0.57	***0.086***	0.13	<0.068	1.6	1.1	1.1	0.78	0.31
WB12-14D	10/1 - 10/15/2024	0.32	0.062	0.074	<0.060	***0.85***	0.081	0.46	0.10	***0.14***	1.0	0.29	0.46	0.12	2.3	0.57	0.059	0.14	<0.068	1.9	1.1	1.2	0.83	0.33
WB13-14D	10/1 - 10/15/2024	0.35	0.065	0.085	<0.066	***0.89***	0.083	0.46	<0.029	***0.17***	1.0	0.31	0.46	0.11	2.3	0.60	***0.12***	0.32	0.08	2.0	1.1	1.3	0.94	0.37
WB14-14D	10/1 - 10/15/2024	0.27	0.063	0.067	<0.060	***0.78***	0.085	0.46	<0.026	***0.13***	1.0	0.26	0.46	0.11	2.3	0.59	0.057	0.086	<0.068	1.3	1.1	1.1	0.75	0.3
WB17-14D	10/1 - 10/15/2024	0.33	0.062	0.085	<0.066	***0.82***	0.084	0.46	0.032	***0.14***	1.0	0.3	0.46	0.11	2.3	0.53	0.072	0.13	<0.075	1.7	1.1	1.2	0.89	0.35
WB18-14D	10/1 - 10/15/2024	0.44	0.062	0.11	<0.072	***0.79***	0.11	***0.47***	0.035	***0.14***	1.1	0.3	0.47	0.12	2.4	0.56	0.073	0.13	<0.081	1.7	1.1	1.2	0.88	0.35
WB19-14D	10/1 - 10/15/2024	0.30	0.067	0.081	<0.066	***1***	0.08	0.45	0.069	***0.13***	1.0	0.31	0.45	0.11	2.3	0.50	<0.058	0.18	<0.075	1.8	1.1	1.3	0.95	0.37

Notes:

SLc - - DTSC (May 2022) HHRA Note 3 residential air screening level for carcinogenic effects unless otherwise specified.

SLnc - DTSC (May 2022) HHRA Note 3 residential air screening level for noncancer effects unless otherwise specified.

RSLs C- USEPA (May 2024) Regional Screening Levels for residential air carcinogenic

RSLs NC- USEPA (May 2024) Regional Screening Levels for residential air Noncarcinogenic

µg/m3 - micrograms per cubic meter

highlighted where above screening criteria

** determined to be a statistical outlier and excluded from all calculations of risk per Section 4.4

Table 5
Characterization of Potential Chronic Human Health Risks Associated with Onsite Outdoor Air Exposure Proposed Walnut Bluff Development

Analyte	N	Detects	Percent FOD	Max Outdoor Air (µg/m^3)	95% UCL Outdoor Air (µg/m^3)	*	Res SLc (µg/m^3)		Res SLnc (µg/m^3)	*	Cancer Risk	Hazard Quotient
Petroleum Hydrocarbons												
Benzene	13	13	100	1.0	0.84		0.097		3.1		8.6E-06	2.7E-01
Toluene	13	13	100	2.0	1.6		NTV		310		-	5.3E-03
Ethylbenzene	14	14	100	0.45	0.31		1.1	2	1,000	2	2.8E-07	3.1E-04
m,p-Xylenes	14	14	100	1.2	0.87		NTV		100	2	-	8.7E-03
o-Xylene	14	14	100	0.37	0.33		NTV		100	2	-	3.3E-03
Naphthalene	14	10	71	0.14	0.086		0.083		3.1	2	1.0E-06	2.8E-02
1,2,4-Trimethylbenzene	14	14	100	0.50	0.34		NTV		63	2	-	5.4E-03
1,3,5-Trimethylbenzene	14	14	100	0.14	0.086		NTV		63	2	-	1.4E-03
Cumulative Cancer Risk and Hazard Index											**1.0E-05**	**3.2E-01**
Non-Petroleum Hydrocarbons												
1,2-Dichloroethane	14	14	100	0.072	0.065		NTV		NTV		-	-
Bromomethane	14	14	100	0.092	0.085		NTV		5.2	2	-	1.6E-02
Carbon Tetrachloride	14	14	100	0.47	0.47		0.47		42		9.9E-07	1.1E-02
Chloroethane	14	7	50	0.10	0.060		NTV		4,200	2	-	1.4E-05
Chloroform	14	14	100	0.18	0.16		0.12	2	2.0	2	1.3E-06	8.0E-02
Chloromethane	14	14	100	1.0	1.0		NTV		94	2	-	1.1E-02
Freon 113	14	14	100	0.47	0.47		NTV		5,200	2	-	9.0E-05
Freon 114	14	14	100	0.12	0.12		NTV		NTV		-	-
Freon 12	14	14	100	2.3	2.3	1	NTV		100	2	-	2.3E-02
Methylene Chloride	14	14	100	2.8	1.1		1		420		1.1E-06	2.7E-03
Styrene	14	14	100	0.32	0.16		NTV		940		-	1.6E-04
Tetrachloroethene	14	1	7.1	0.080	0.080	1	0.46		42		1.7E-07	1.9E-03
Trichlorofluoromethane	14	14	100	1.1	1.1		0.48	2	2.1	2	2.3E-06	5.3E-01
Cumulative Cancer Risk and Hazard Index											**5.9E-06**	**6.7E-01**
Total Cumulative Cancer Risk and Hazard Index[3]											**1.6E-05**	**9.9E-01**

Notes:

N = sample size

FOD = frequency of detection.

95% UCL = 95% upper confidence limit on the mean concentration calculated using USEPA (2022) ProUCL (version 5.2) statistical software.

Res SLc - - DTSC (2022a) HHRA Note 3 residential air screening level for carcinogenic effects unless otherwise specified. June.

Res SLnc - DTSC (2022a) HHRA Note 3 residential air screening level for noncancer effects unless otherwise specified. June.

NTV = no toxicity/screening value available

1. Insufficient data for calculating 95% UCL using standard USEPA (2022) methods. Value shown is the lower of the 95% UCL calculated using the 1/2 detection limit method or the maximum concentration.

2. USEPA (2024) Regional Screening Levels for residential air. November.

3. Total Cumulative Cancer Risk and Hazard Index is the combined cancer risks and hazard indices from petroleum hydrocarbons and non-petroleum hydrobarbons.

Table 6
Characterization of Potential Acute Human Health Risks Associated with Onsite Outdoor Air Exposure Proposed Walnut Bluff Development

Analyte	Max 1-Hour (µg/m3)	Acute REL (µµg/m3)	Source	Acute Hazard Quotient (unitless)
Petroleum Hydrocarbons				
Benzene	1.9	27	OEHHA	7.0E-02
Ethylbenzene	0.81	143,297	AEGL	5.7E-06
Naphthalene	0.38	200	AGV	1.9E-03
Toluene	7.2	5,000	OEHHA	1.4E-03
o-Xylene	0.92	22,000	OEHHA	4.2E-05
p- & m-Xylenes	2.8	22,000	OEHHA	1.3E-04
Total Xylenes[2]	3.7	22,000	OEHHA	1.7E-04
Cumulative Acute Hazard Index				**7.4E-02**
Non-Petroleum Hydrocarbons				
1,1,2-Trichloro-1,2,2-trifluoroethane	0.53	NTV	-	-
1,1-Difluoroethane	1.7	NTV	-	-
1,2-Dichloroethane	0.11	200,000	PAC	5.5E-07
1,4-Dichlorobenzene	0.12	NTV	-	-
Carbon tetrachloride	0.51	1,900	OEHHA	2.7E-04
Chloroform	0.27	150	OEHHA	1.8E-03
Dichlorodifluoromethane	2.4	NTV	-	-
Tetrachloroethene	0.09	20,000	AGV	4.5E-06
Trichlorofluoromethane	1.3	NTV	-	-
Cumulative Acute Hazard Index				**2.1E-03**
Total Cumulative Acute Hazard Index[1]				**7.6E-02**

Notes:

OEHHA = California Office of Environmental Health Hazard Assessment (2024) Acute Reference Exposure Levels

AEGL = U.S. Environmental Protection Agency (2019) Acute Exposure Guideline Level

PAC = U.S. Department of Energy (2018) Protective Action Criteria

AGV = Minnesota Department of Health (2024) acute Air Guidance Values (AGVs)

NTV = no toxicity/screening value available.

1. Total Cumulative Acute Hazard Index is the combined acute hazard indices from petroleum hydrocarbons and non-petroleum hydrocarbons.

2. Total Xyelenes not included in the cumulative HI calculations as this would result in double-counting xylenes whereby the cumulative HI for o-xylene + the cumulative HI for m&p-xylene is greater than the cumulative HI for Total Xylenes.

Table 7
Characterization of Potential Chronic Human Health Risks Associated with Offsite Ambient Air Exposure to Petroleum-Related COPCs Proposed Walnut Bluff Development

Analyte	N	Detects	Percent FOD	Max Outdoor Air (µg/m3)	95% UCL Outdoor Air (µg/m3)	*	Res SLc (µg/m3)		Res SLnc (µg/m3)	*	Cancer Risk	Hazard Quotient
Petroleum Hydrocarbons												
Benzene	3	3	100	1.0	1.0	1	0.097		3.1		1.0E-05	3.2E-01
Toluene	3	3	100	1.8	1.8	1	NTV		310		-	5.8E-03
Ethylbenzene	3	3	100	0.31	0.31	1	1.1	2	1,000	2	2.8E-07	3.1E-04
m,p-Xylenes	3	3	100	0.95	0.95	1	NTV		100	2	-	9.5E-03
o-Xylene	3	3	100	0.37	0.37	1	NTV		100	2	-	3.7E-03
Naphthalene	3	2	67	0.073	0.073	1	0.083		3.1	2	8.8E-07	2.4E-02
1,2,4-Trimethylbenzene	3	3	100	0.44	0.44	1	NTV		63	2	-	7.0E-03
1,3,5-Trimethylbenzene	3	3	100	0.11	0.11	1	NTV		63	2	-	1.7E-03
Cumulative Cancer Risk and Hazard Index											**1.1E-05**	**3.7E-01**

Notes:

N = sample size

FOD = frequency of detection.

95% UCL = 95% upper confidence limit on the mean concentration calculated using USEPA (2022) ProUCL (version 5.2) statistical software.

Res SLc - - DTSC (2022) HHRA Note 3 residential air screening level for carcinogenic effects unless otherwise specified. June.

Res SLnc - DTSC (2022) HHRA Note 3 residential air screening level for noncancer effects unless otherwise specified. June.

NTV = no toxicity/screening value available

1. Insufficient data for calculating 95% UCL using standard USEPA (2022) methods. Value shown is the lower of the 95% UCL calculated using the 1/2 detection limit method or the maximum concentration.

2. USEPA (2024) Regional Screening Levels for residential air. May.

Table 8
Comparison of Regional and Walnut Bluff
Average Outdoor Air Petroleum Hydrocarbon Concentrations
Proposed Walnut Bluff Development

Study	Benzene µg/m^3		Toluene µg/m^3		Ethylbenzene µg/m^3		Xylenes µg/m^3		Naphthalene µg/m^3	
	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional
MATES II 1998-1990	2.6	3.6	7.9	13	1.4	2.1	6.1	9.8	ND	ND
MATES III 2005	1.7	1.9	5.7	7.5	0.94	1.2	4.5	4.3	ND	0.20
MATES IV 2012-2013	1.0	1.2	2.8	4.0	0.48	0.90	1.9	3.0	0.08	0.10
MATES V 2018-2019	1.0	0.88	2.3	2.8	0.42	0.49	1.7	2.1	ND	0.061
WB Offsite- Oct 2024	0.87		1.7		0.30		1.2		**0.073**	
WB Onsite - Oct 2024	0.80		1.5		0.29		1.1		**0.081**	

Study	Benzene cancer risk		Toluene noncancer hazard index		Ethylbenzene cancer risk		Xylenes noncancer hazard index		Naphthalene cancer risk	
	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional	Long Beach	Regional
MATES II 1998-1990	2.7E-05	3.7E-05	2.6E-02	4.2E-02	1.3E-06	1.9E-06	6.1E-02	9.8E-02	--	--
MATES III 2005	1.7E-05	1.9E-05	1.8E-02	2.4E-02	8.6E-07	1.1E-06	4.5E-02	4.3E-02	--	1.8E-07
MATES IV 2012-2013	1.1E-05	1.2E-05	9.0E-03	1.3E-02	4.3E-07	8.2E-07	1.9E-02	3.0E-02	9.2E-07	1.3E-06
MATES V 2018-2019	1.1E-05	9.1E-06	7.4E-03	9.2E-03	3.8E-07	4.4E-07	1.7E-02	2.1E-02	--	7.4E-07
WB Offsite- Oct 2024	9.0E-06		5.6E-03		2.8E-07		1.2E-02		8.7E-07	
WB Onsite - Oct 2024	8.2E-06		4.9E-03		2.6E-07		1.1E-02		9.7E-07	

Notes:
1,2,4-Trimethylbenzene and 1,3,5-trimethylbenzene are not shown as they're concentrations were not reported in the MATES regional studies.
Bold values exceed MATES regional air concentrations.

Figures

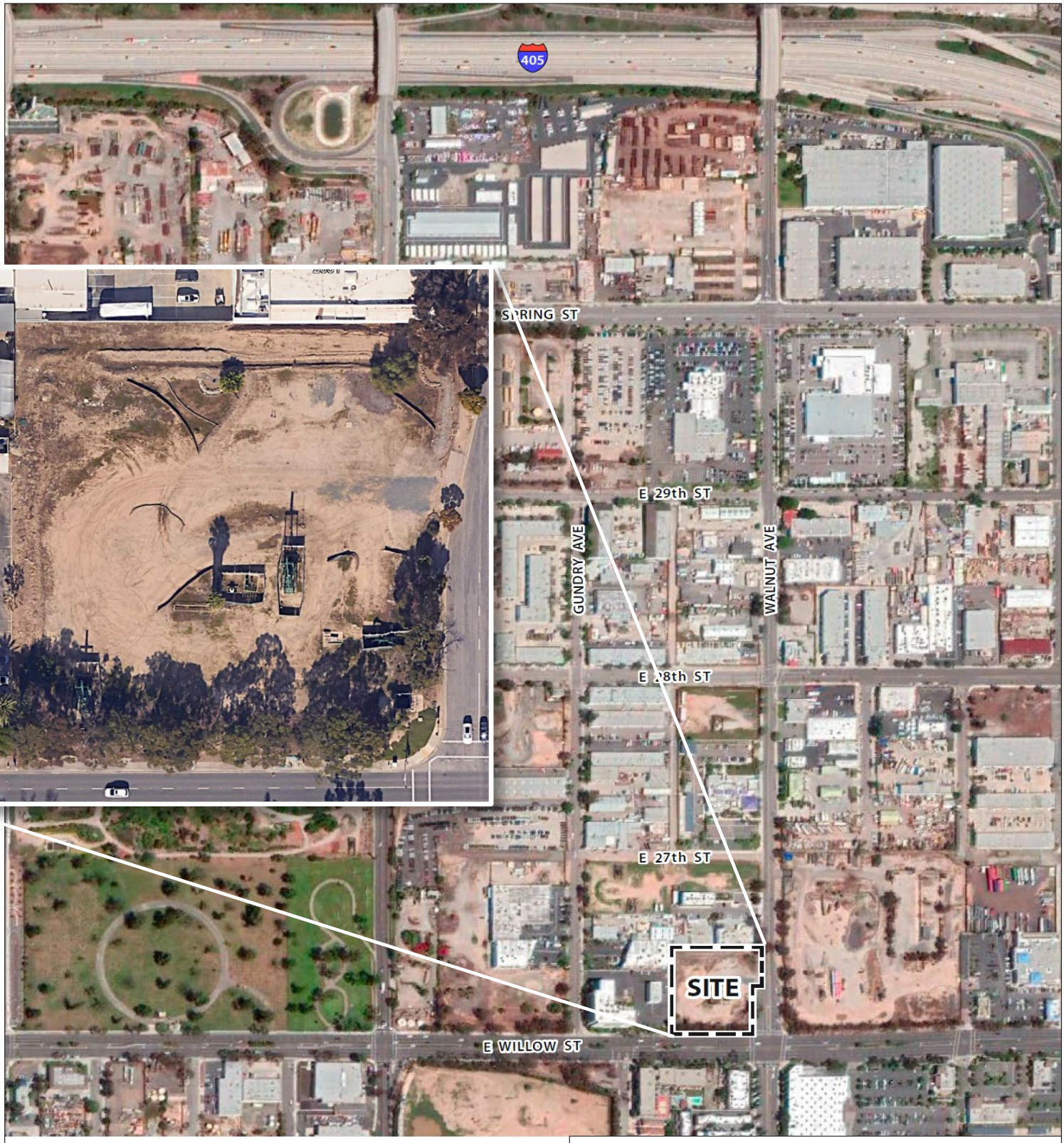
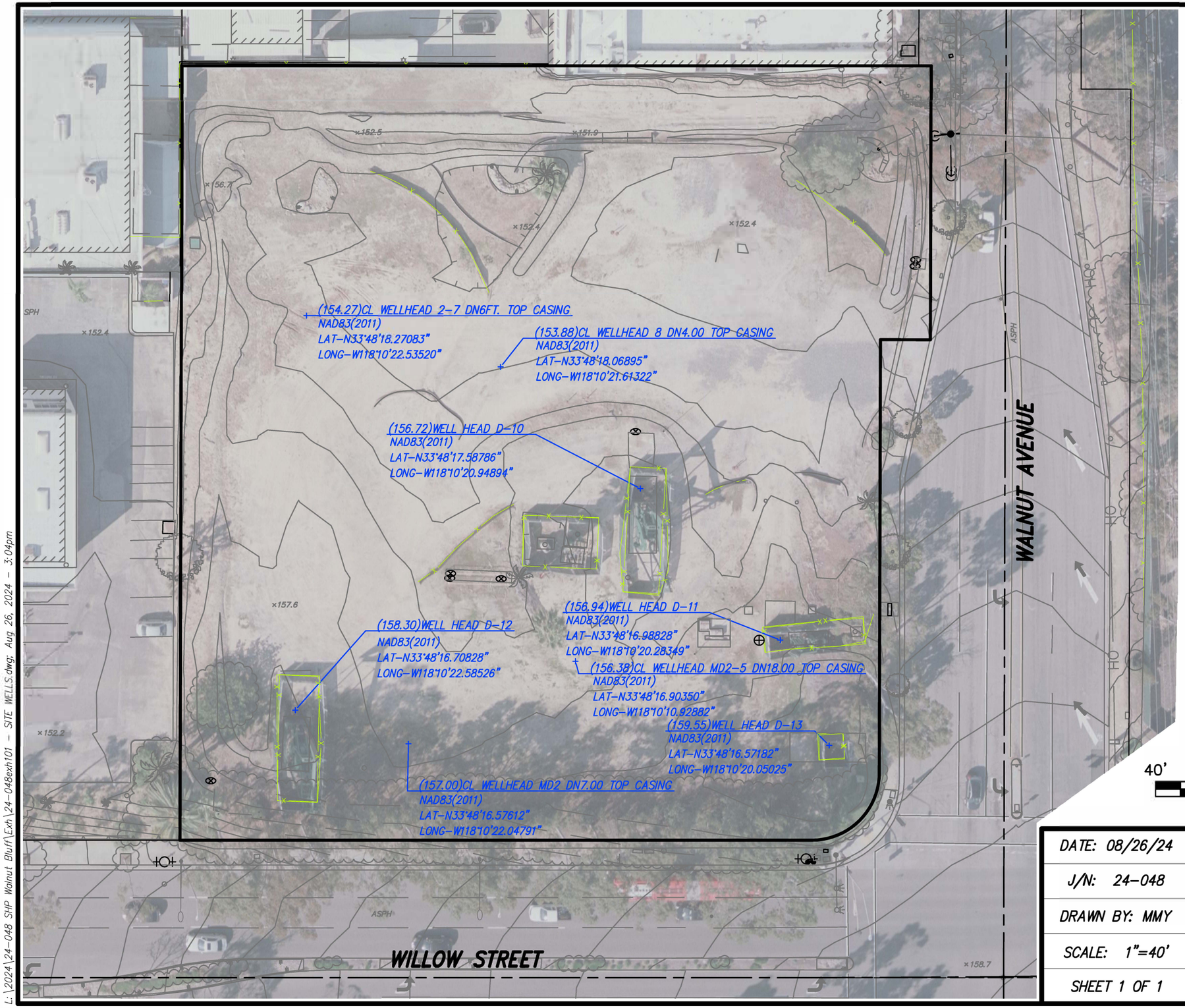


Figure 1: Site Location Map
Walnut Bluff
Signal Hill, CA

(Source: Mearns Consulting, LLC 2021)



BASIS OF BEARINGS

THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF WALNUT AVENUE AS SHOWN ON RECORD OF SURVEY AS PER MAP FILED IN RECORD OF SURVEY BOOK 98, PAGE 89, BEING NORTH 00°08'30" EAST.

BENCHMARK INFORMATION

THE ELEVATIONS SHOWN HEREON ARE BASED ON THE FOLLOWING BENCHMARK:

BM No.: 063 ELEV.: 158.588' (1985) (CITY OF SIGNAL HILL)

DATUM: NGVD 1929 (MSL)

DESCRIPTION: WILLOW STREET & WALNUT AVENUE SW CORNER BRASS SIDK ST IN 1' SQ. CONCRETE 45' S & 80' W/O C.L. INT. (1' W/O BCR & 1' S/O C.F.) C.L.B. NO. 95 (RE 3111 1971)

SURVEYOR NOTE

COORDINATES REPORTED REPRESENT "GLOBAL – WGS 1984" VALUES

40' 0' 40' 80' 120'

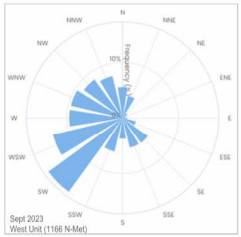
GRAPHIC SCALE: 1"=40'

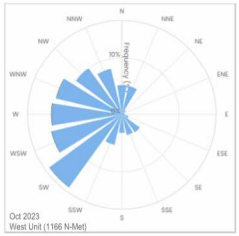
N

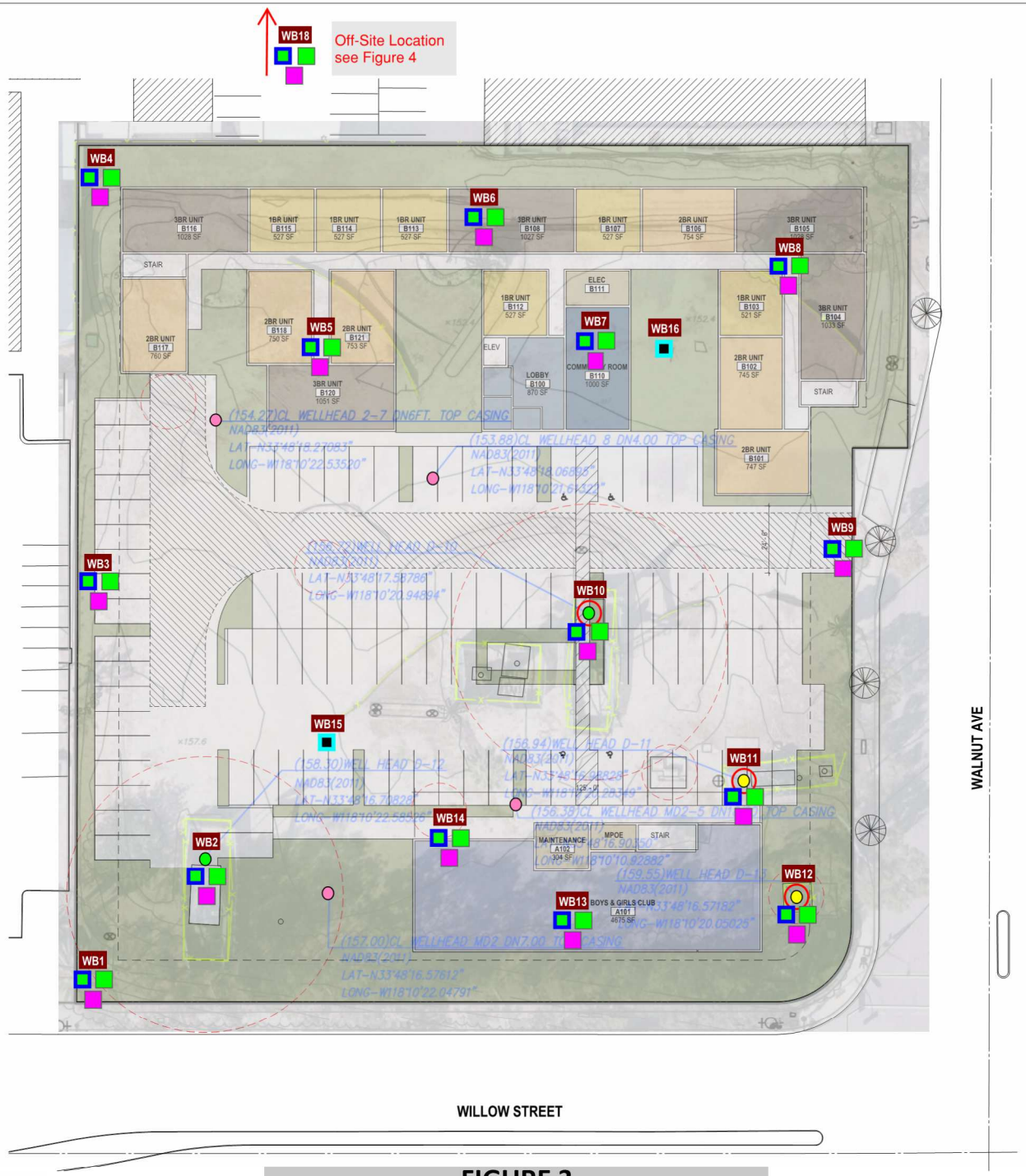
DATE: 08/26/24	WALNUT BLUFF
J/N: 24-048	WELL AS-BUILT SURVEY — Figure 2
DRAWN BY: MMY	SIGNAL HILL, CALIFORNIA
SCALE: 1"=40'	
SHEET 1 OF 1	

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
(714) 685-6860

L:\2024\24-048 SHP Walnut Bluff\Exh\24-048exh101 - SITE WELLS.dwg; Aug 26, 2024 - 3:04pm







Legend

- 2 week
  PID Continuous Monitoring [P]
  Summa Canister by TO15sim [S14]
- 24 hour
  Summa Canister by TO15sim
- 1 hour
  Summa Canister by TO15sim
- Weather Monitoring Station [W]
- WB1 Sample/Monitoring Location ID
  Samples to be labeled as follows:
  [Location ID][Sample Type]
  e.g. WB1S24 = WB1, 24hr Summa

- Active Well
- Idle Well
- Abandoned Well
- To Be Abandoned

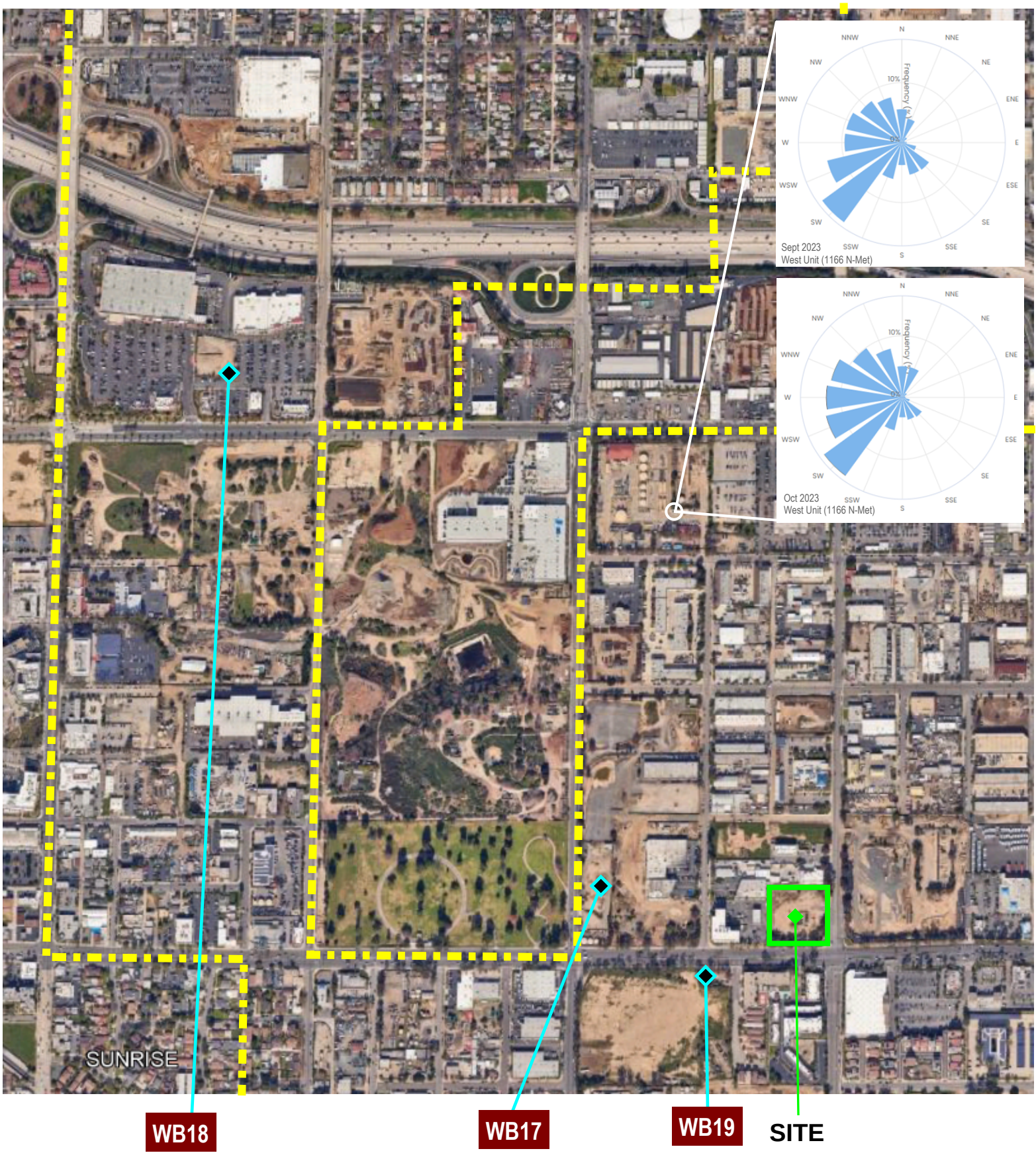
Base Map Adapted -
KFA - National Core Walnut Bluff -
Sheet A11 - First Floor Plan
(05.31.2024)

Overlay - topography and oil & gas well locations
DRC Engineering, Well As-Built Survey
Well As-Built Survey
(08.26.24)

1ST FLOOR PLAN - OVERALL
1/16" = 1'-0"

FIGURE 3
ON-SITE SAMPLING LOCATIONS

Catalyst
ENVIRONMENTAL SOLUTIONS



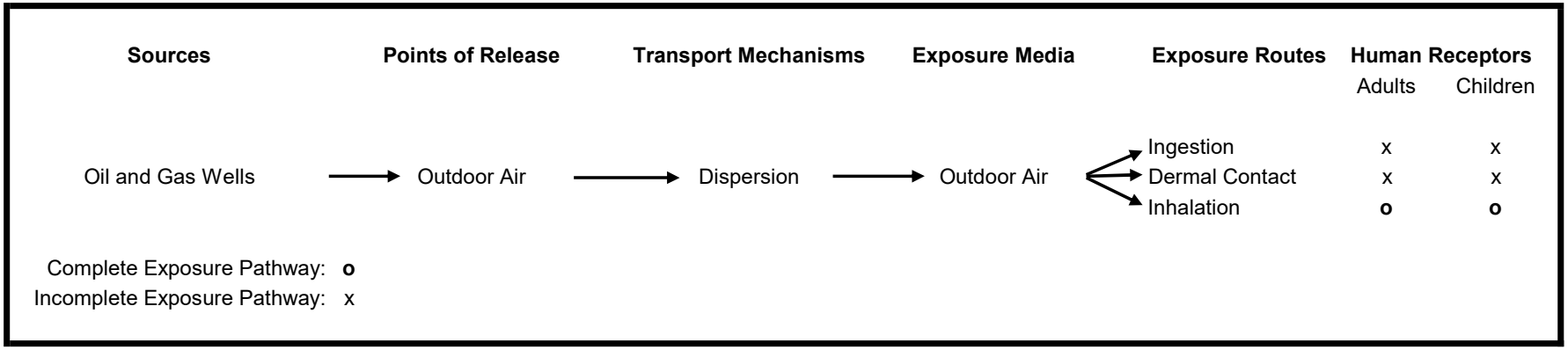
Signal Hill City Limits

FIGURE 4
OFF-SITE OUTDOOR AIR SAMPLING PLAN

Note:
See Figure 3 for Sampling Legend.

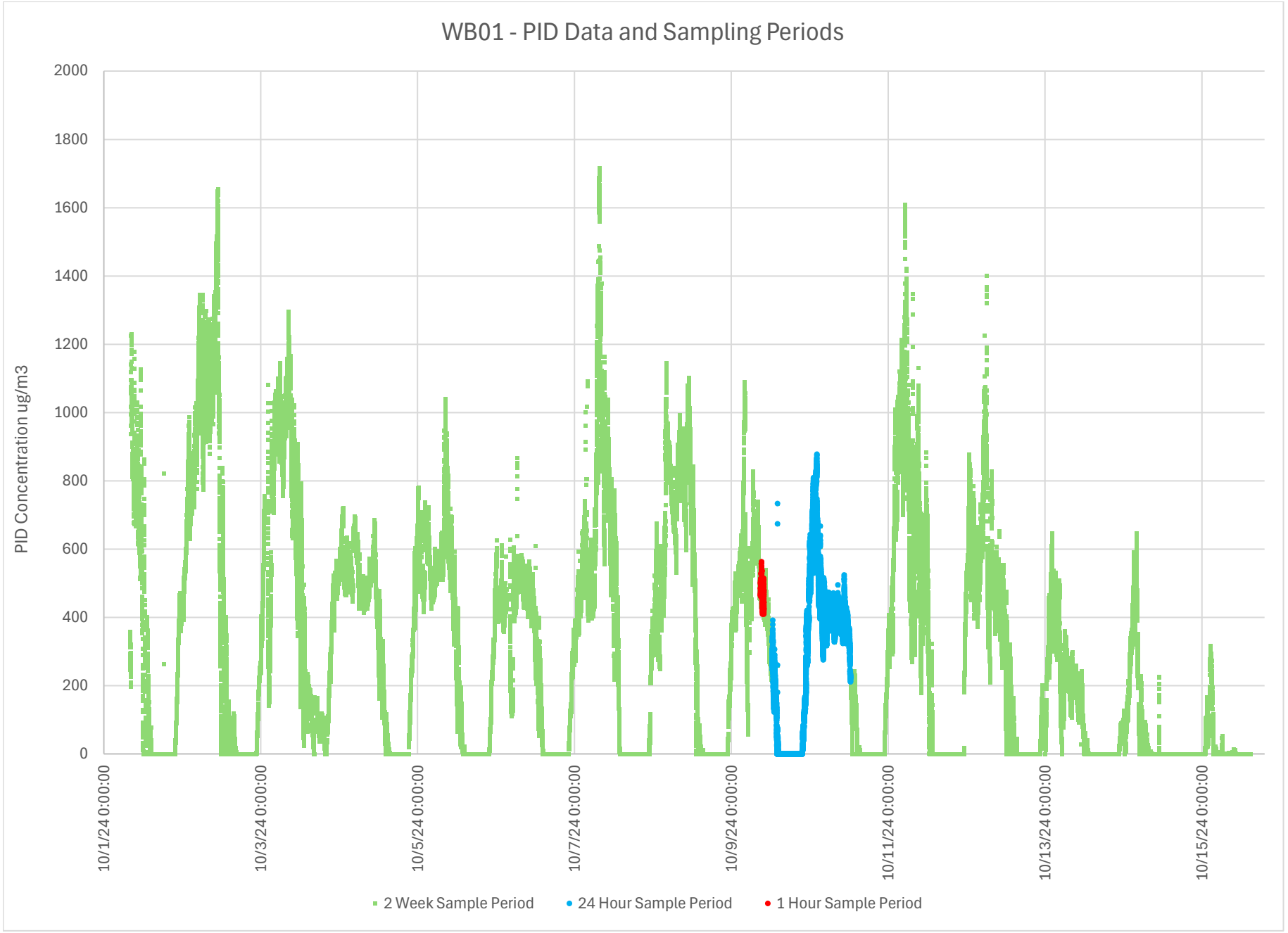
Catalyst ENVIRONMENTAL SOLUTIONS

Figure 5
Human Health Risk Assessment Conceptual Site Model
Proposed Walnut Bluff Development



Charts

CHART 1


WB01 - PID Data and Sampling Periods
PID Concentration ug/m3
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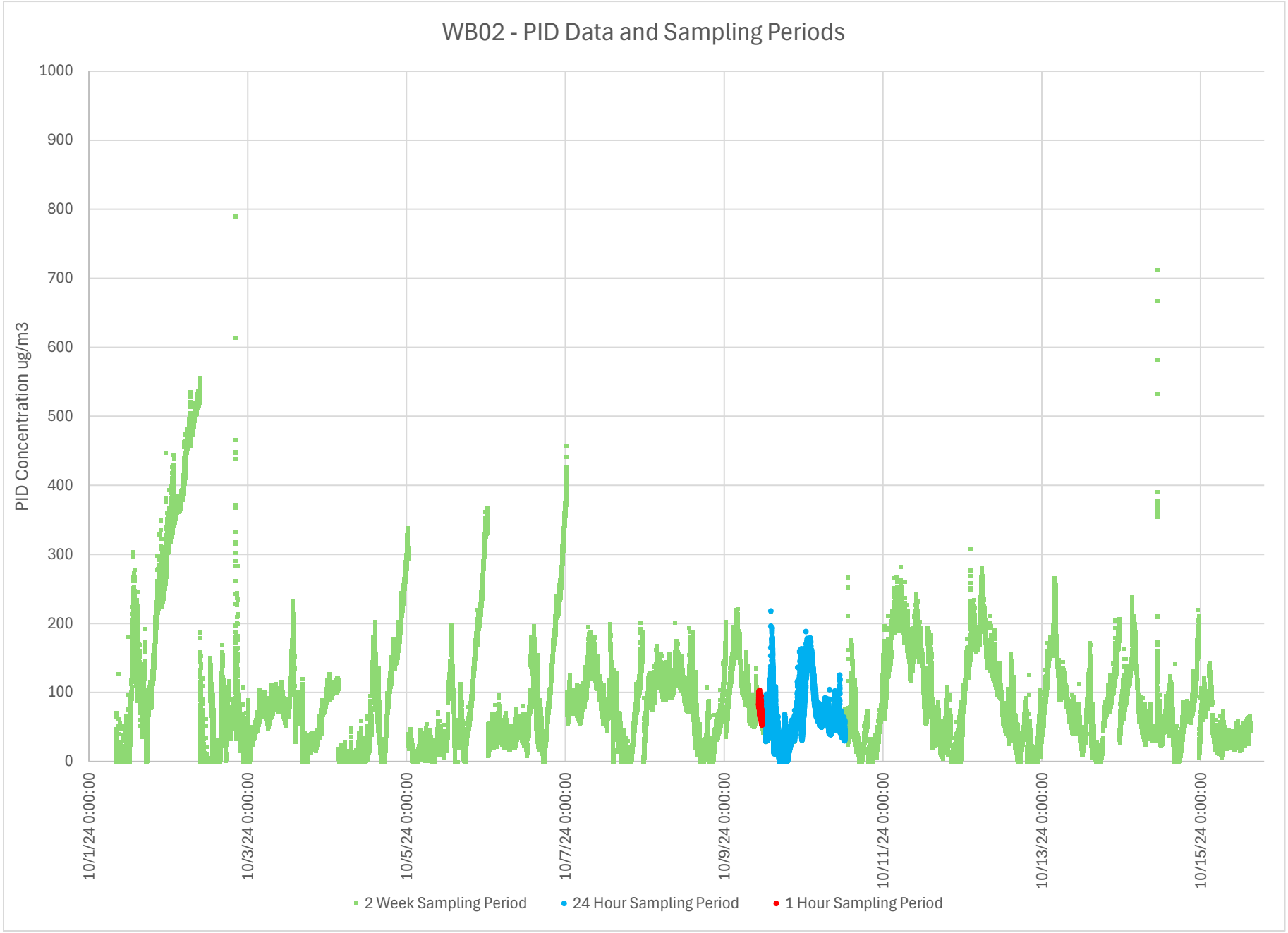
1800
1600
1400
1200
1000
800
600
400
200
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sample Period
24 Hour Sample Period
1 Hour Sample Period

CHART 2


WB02 - PID Data and Sampling Periods
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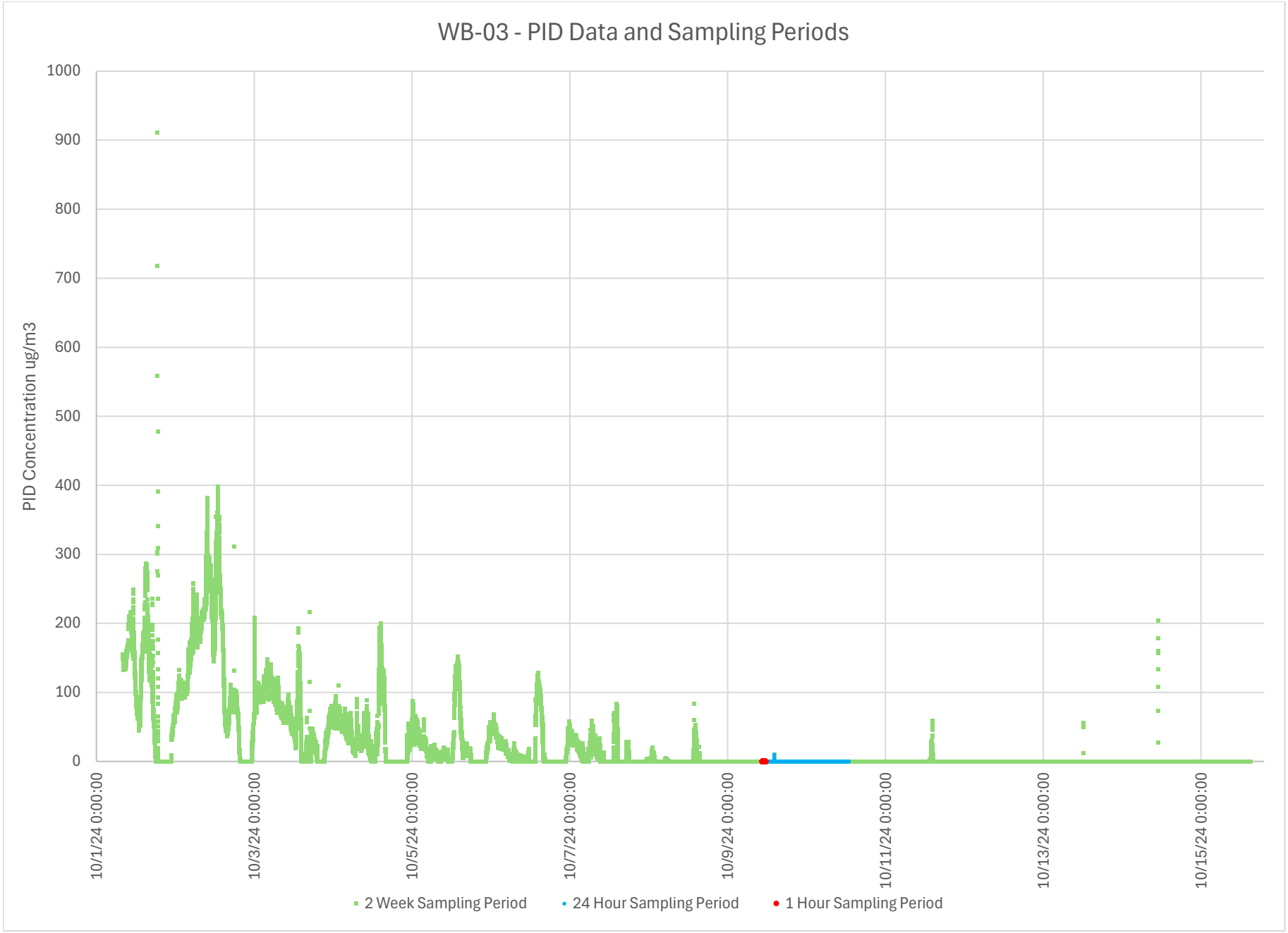
900
800
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 3


WB-03 - PID Data and Sampling Periods
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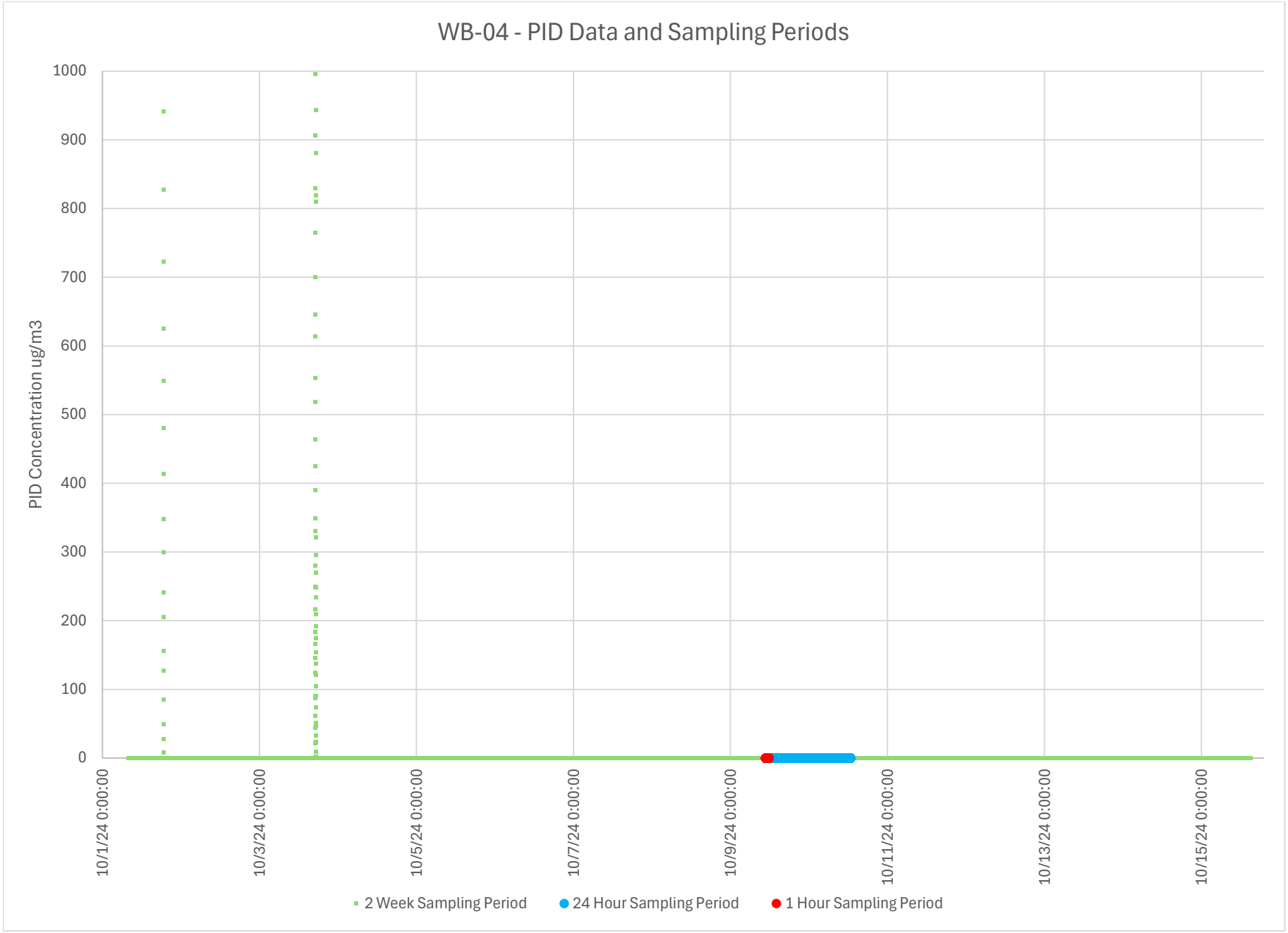
900
800
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 4


WB-04 - PID Data and Sampling Periods
PID Concentration ug/m3
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900
800
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 5

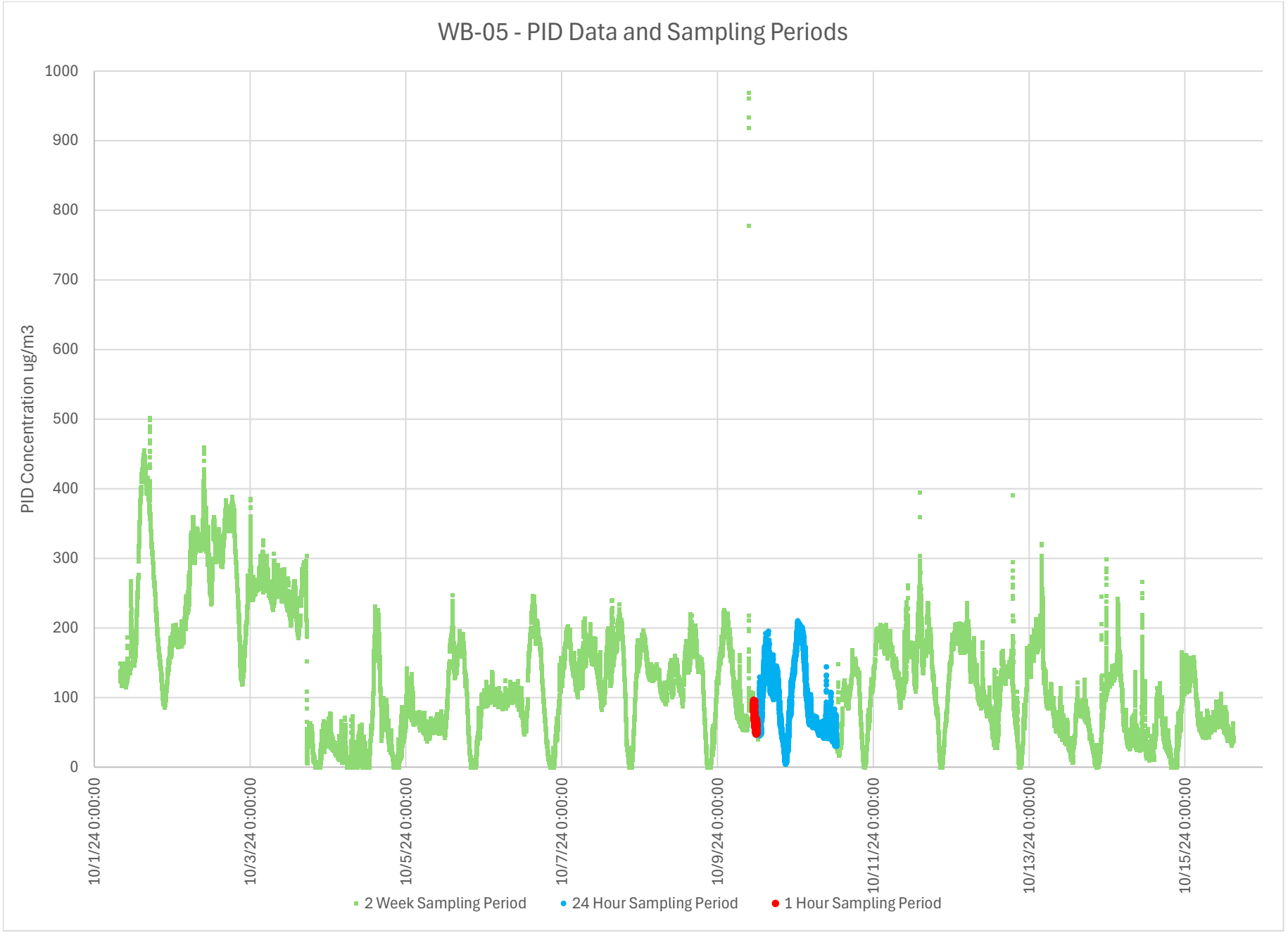
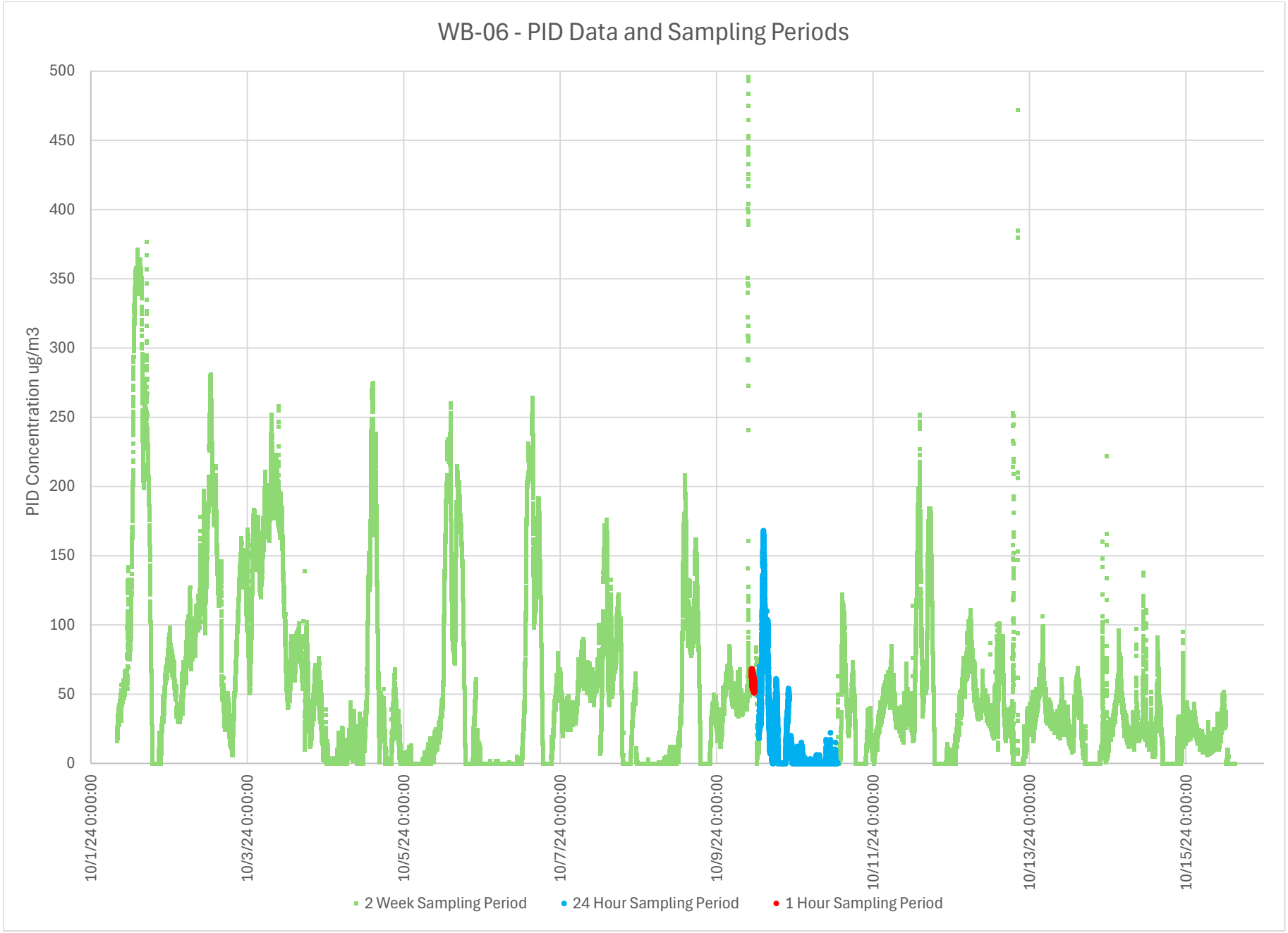

WB-05 - PID Data and Sampling Periods
PID Concentration ug/m3
1000
900
800
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 6


WB-06 - PID Data and Sampling Periods
PID Concentration ug/m3
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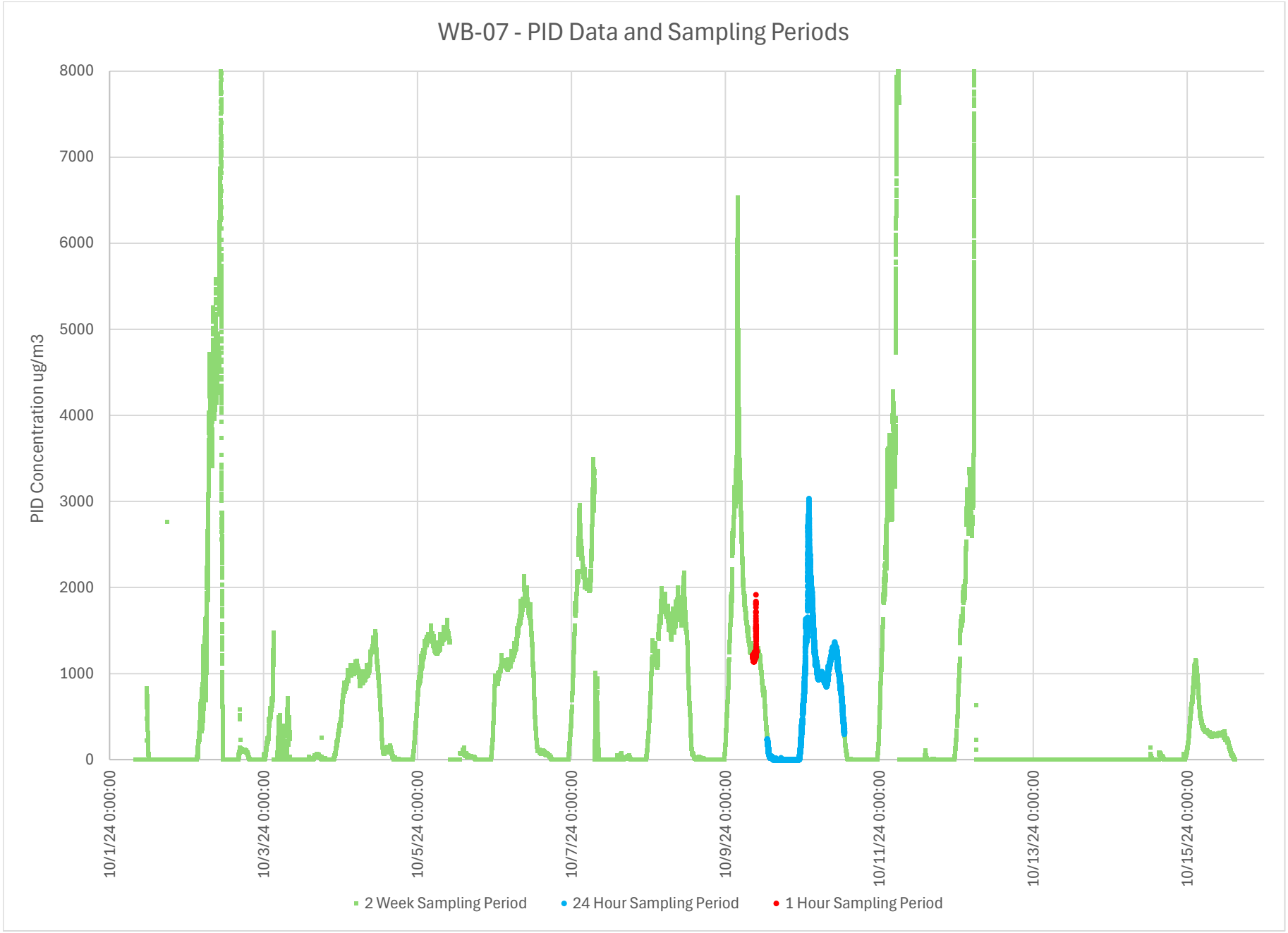
450
400
350
300
250
200
150
100
50
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 7


WB-07 - PID Data and Sampling Periods
PID Concentration ug/m3
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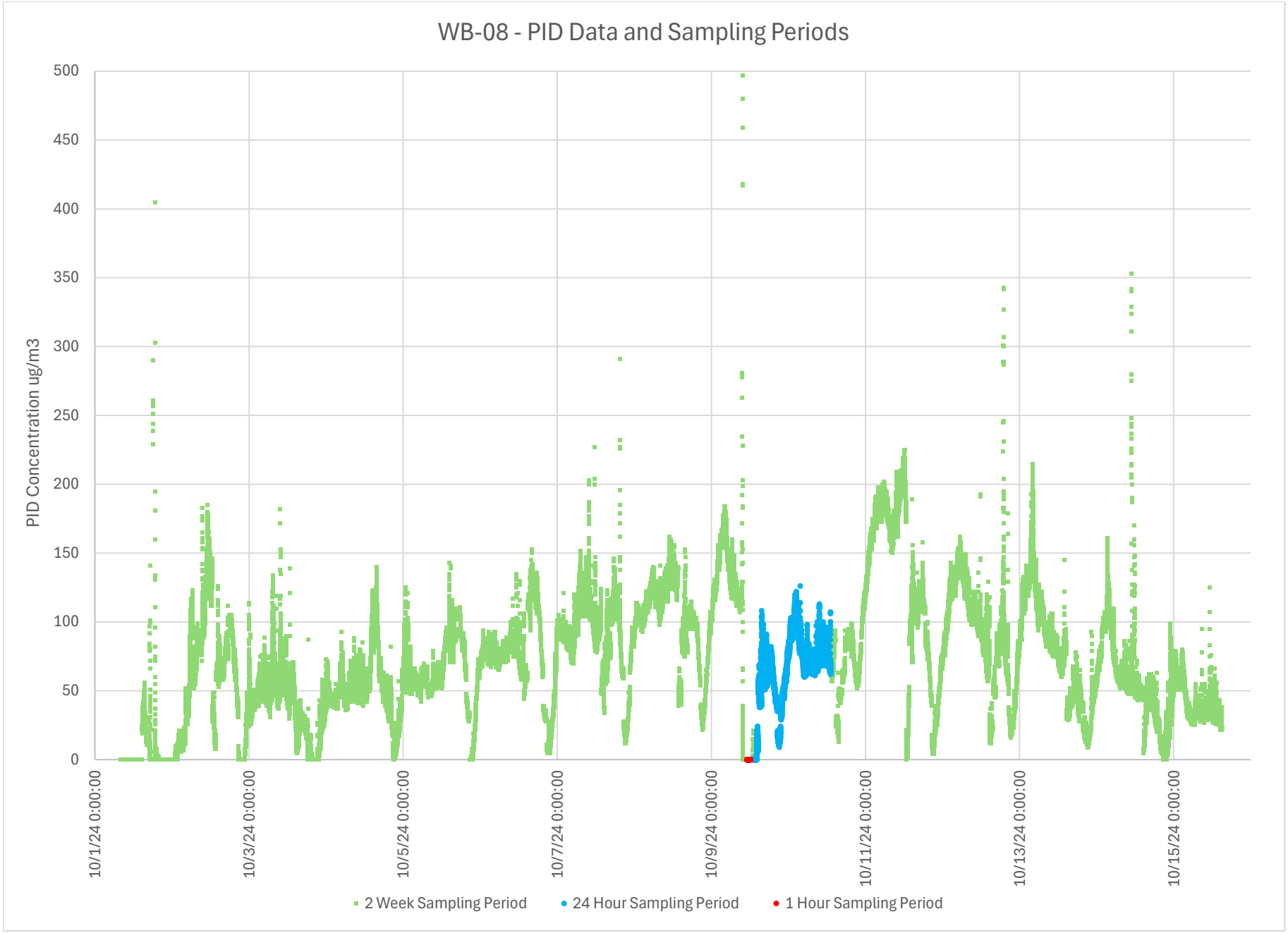
7000
6000
5000
4000
3000
2000
1000
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 8


WB-08 - PID Data and Sampling Periods
PID Concentration ug/m3
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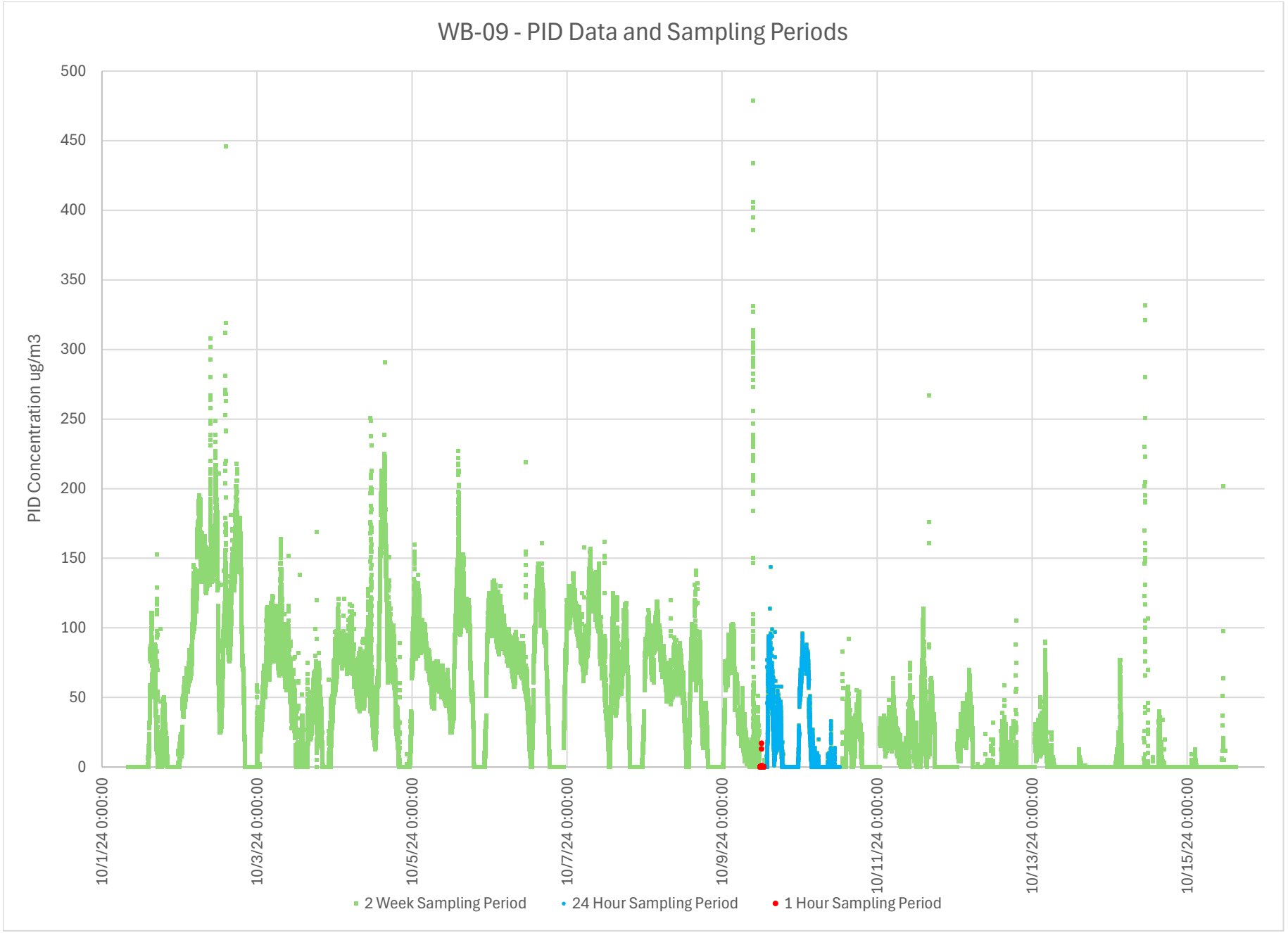
400
350
300
250
200
150
100
50
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 9


WB-09 - PID Data and Sampling Periods
PID Concentration ug/m3
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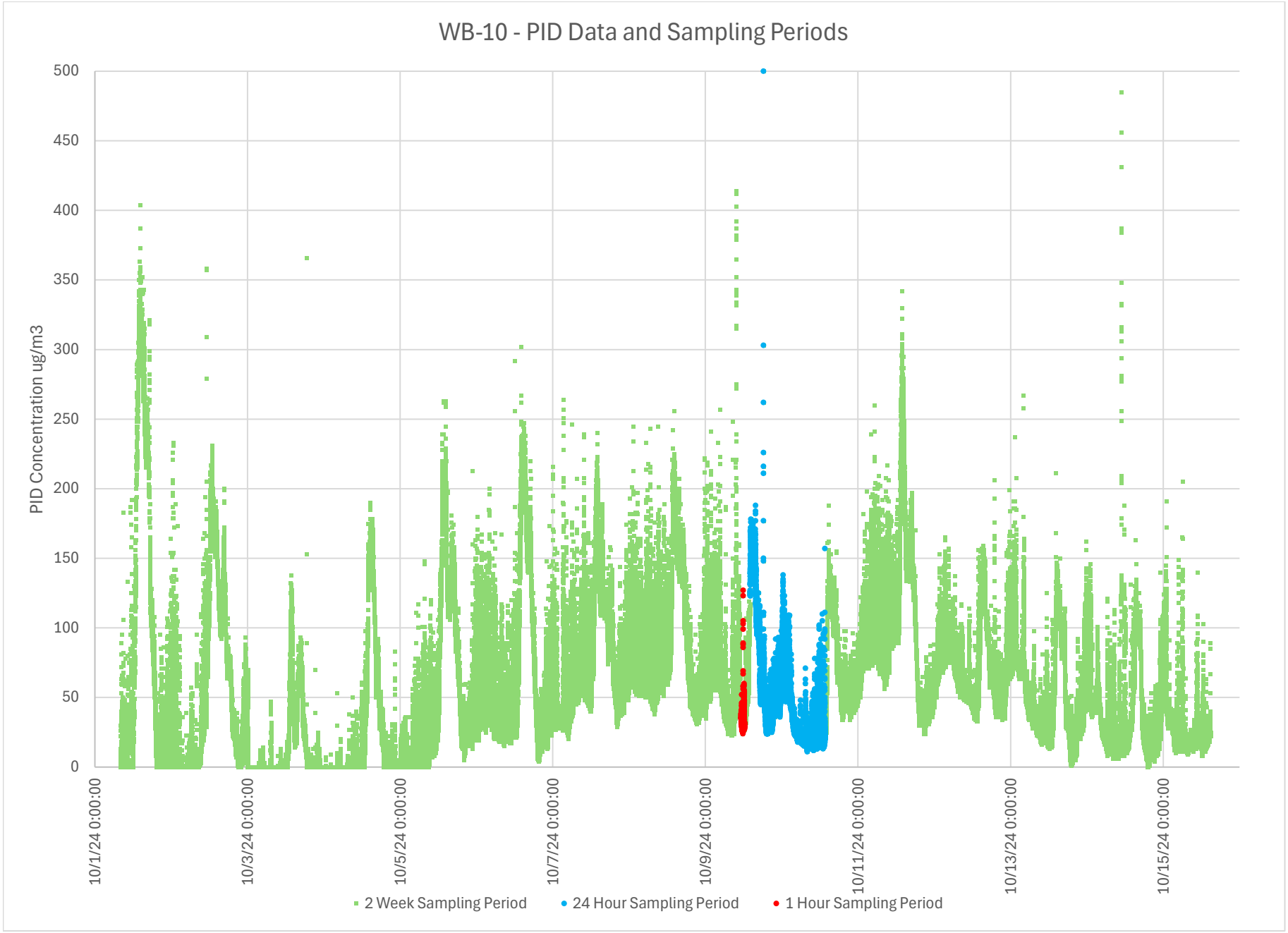
450
400
350
300
250
200
150
100
50
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 10


WB-10 - PID Data and Sampling Periods
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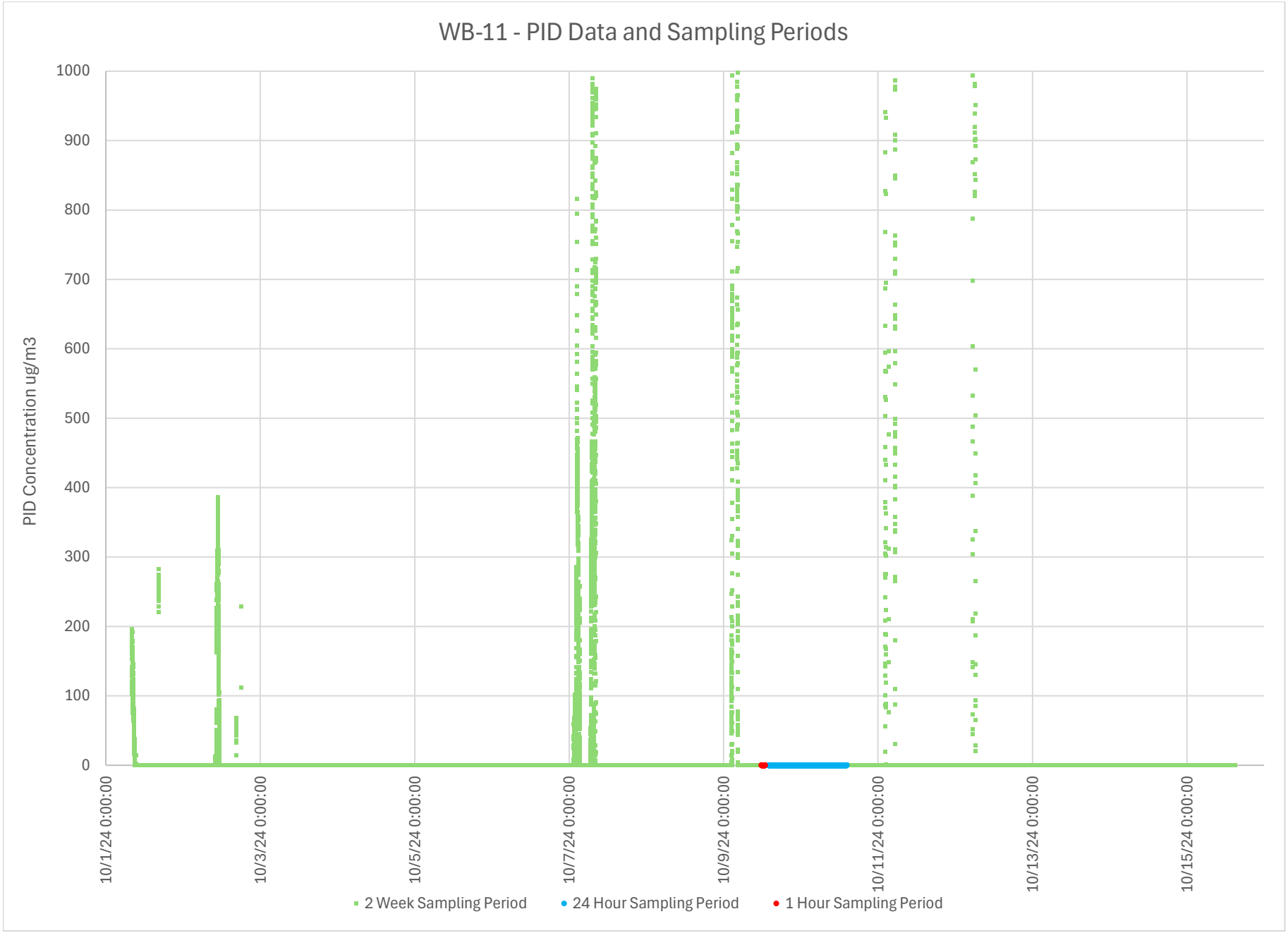
450
400
350
300
250
200
150
100
50
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 11


WB-11 - PID Data and Sampling Periods
PID Concentration ug/m3
1000
900
800
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
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10/13/24 0:00:00
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2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

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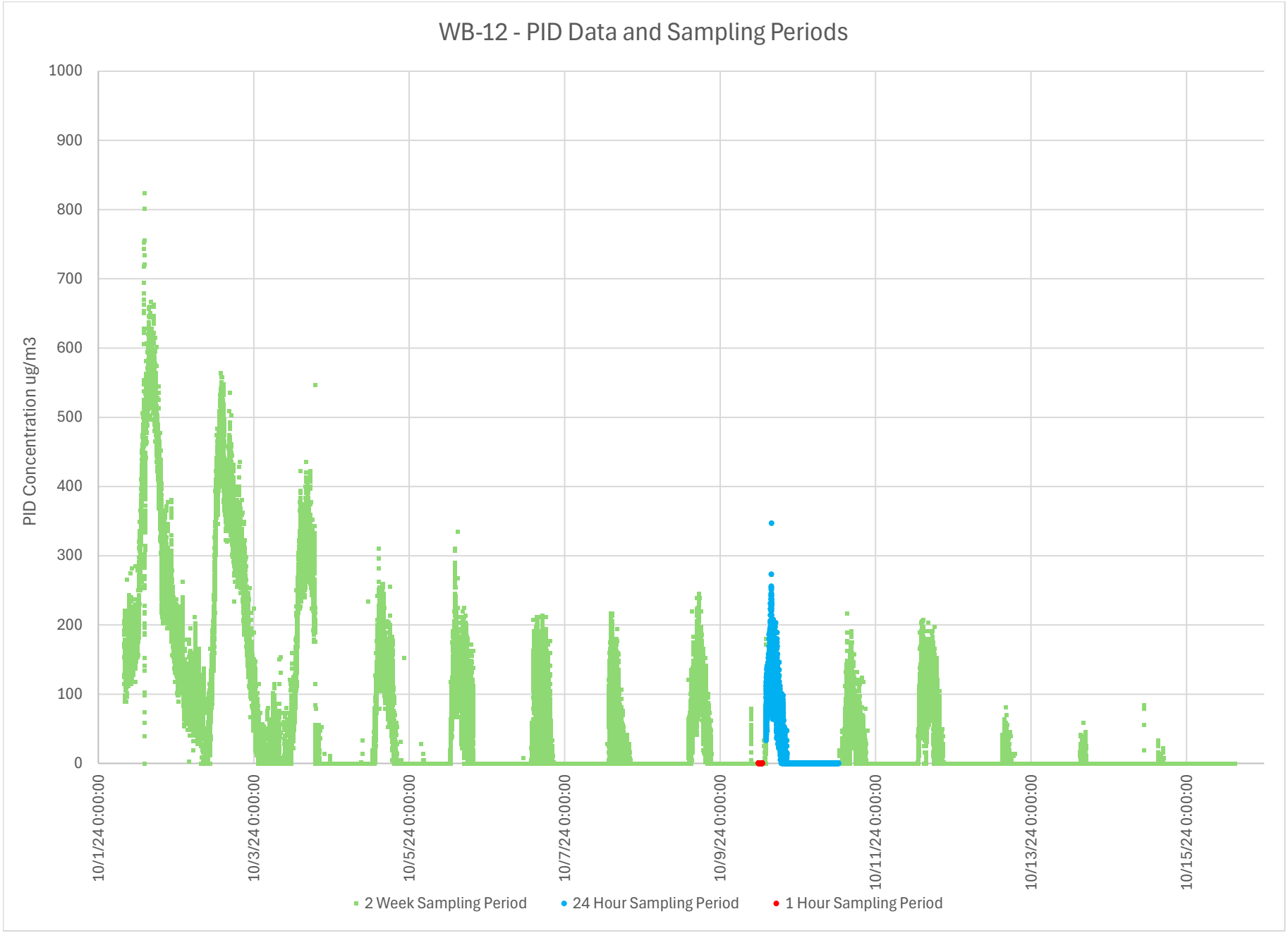
WB-12 - PID Data and Sampling Periods
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500
400
300
200
100
0
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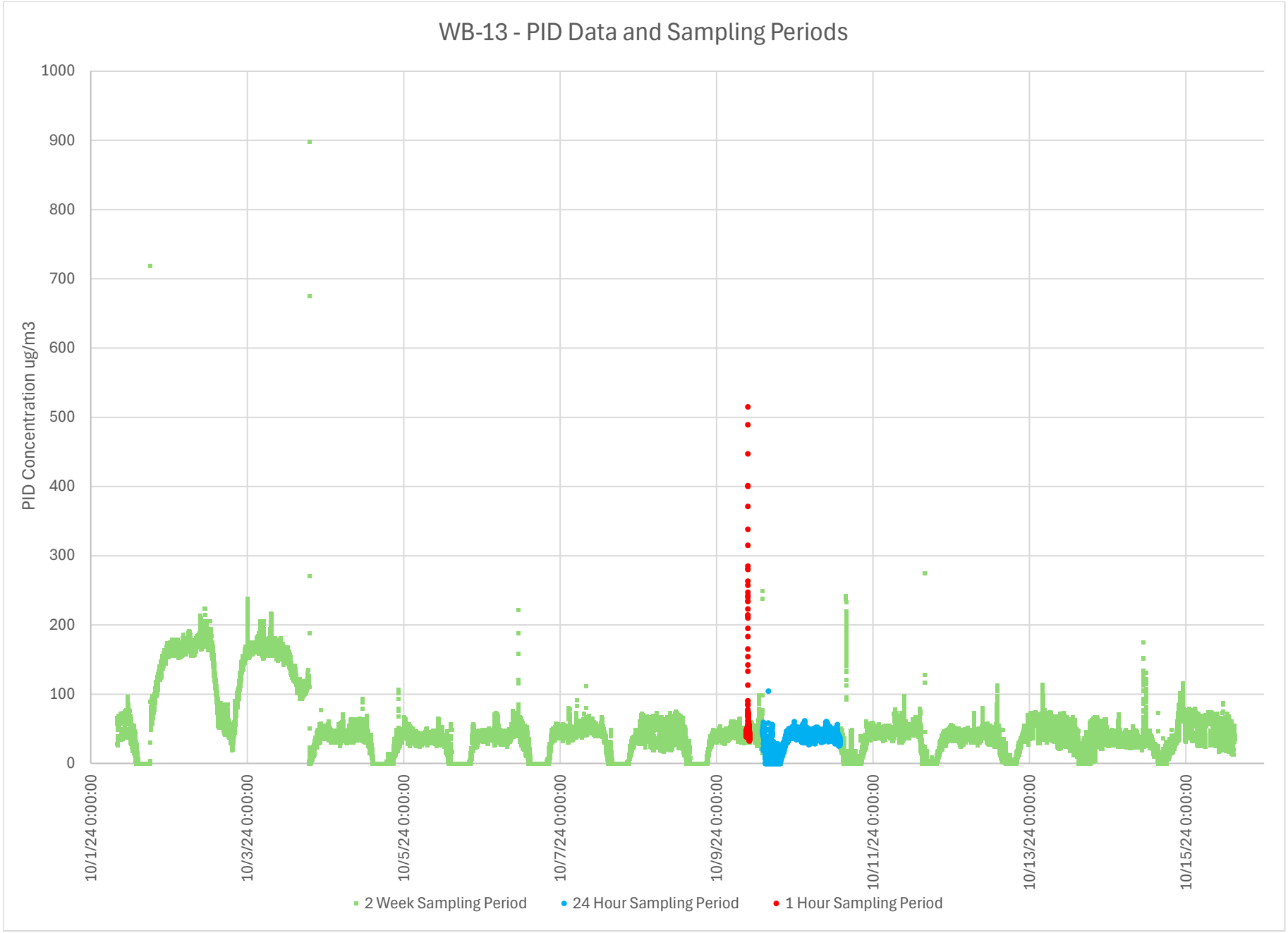
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 13


WB-13 - PID Data and Sampling Periods
PID Concentration ug/m3
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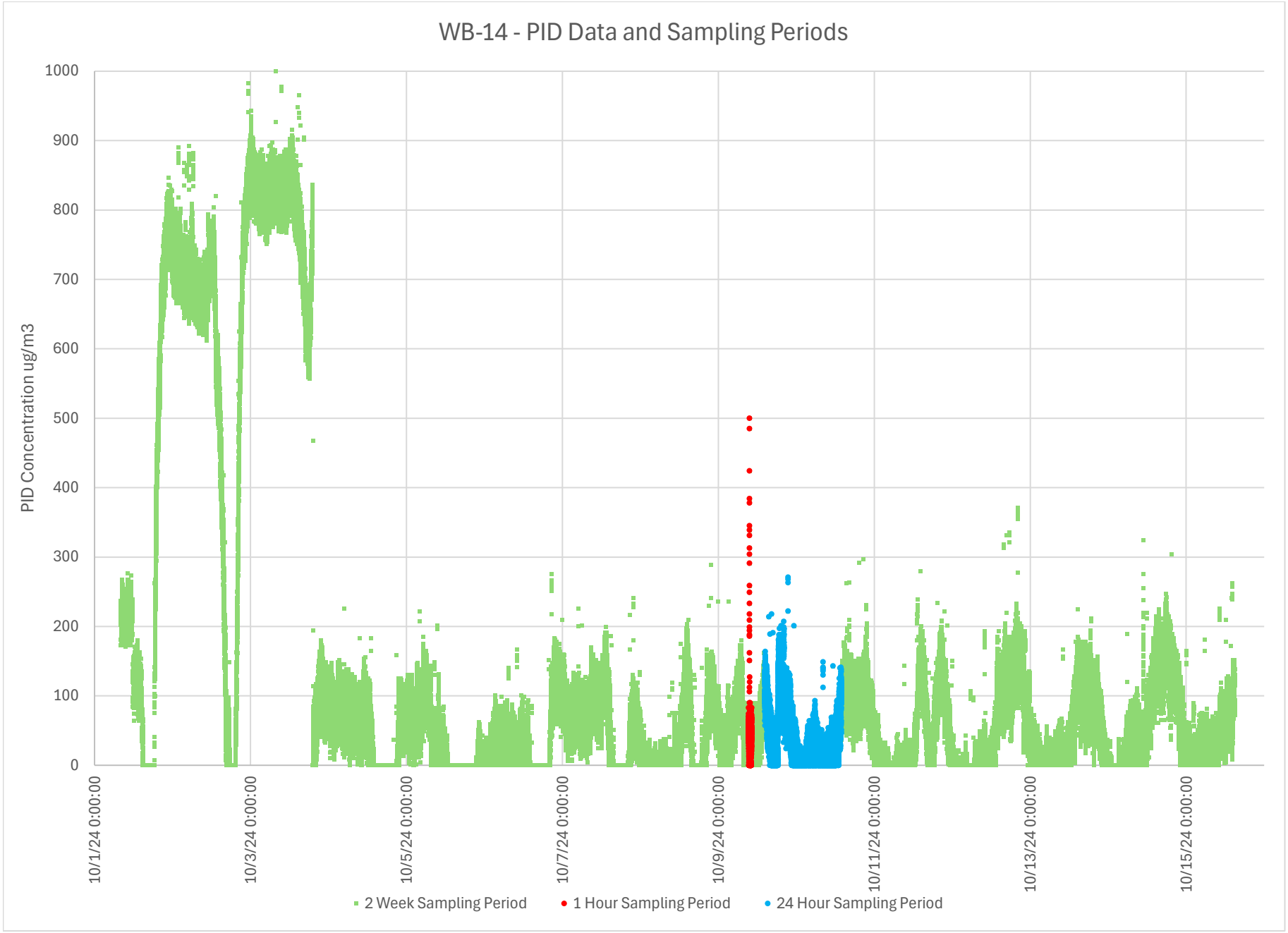
900
800
700
600
500
400
300
200
100
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 14


WB-14 - PID Data and Sampling Periods
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600
500
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300
200
100
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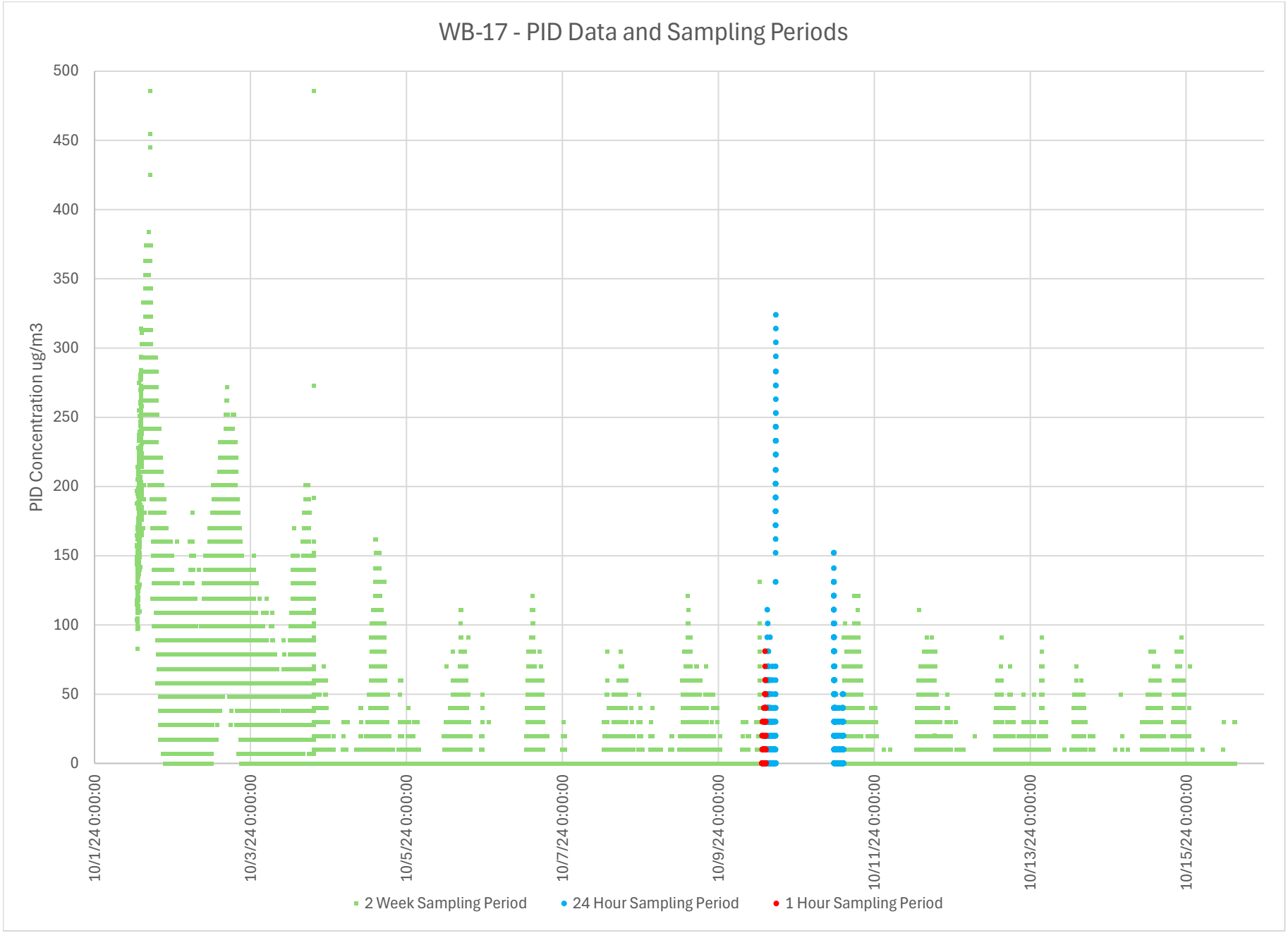
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
1 Hour Sampling Period
24 Hour Sampling Period

CHART 15


WB-17 - PID Data and Sampling Periods
PID Concentration ug/m3
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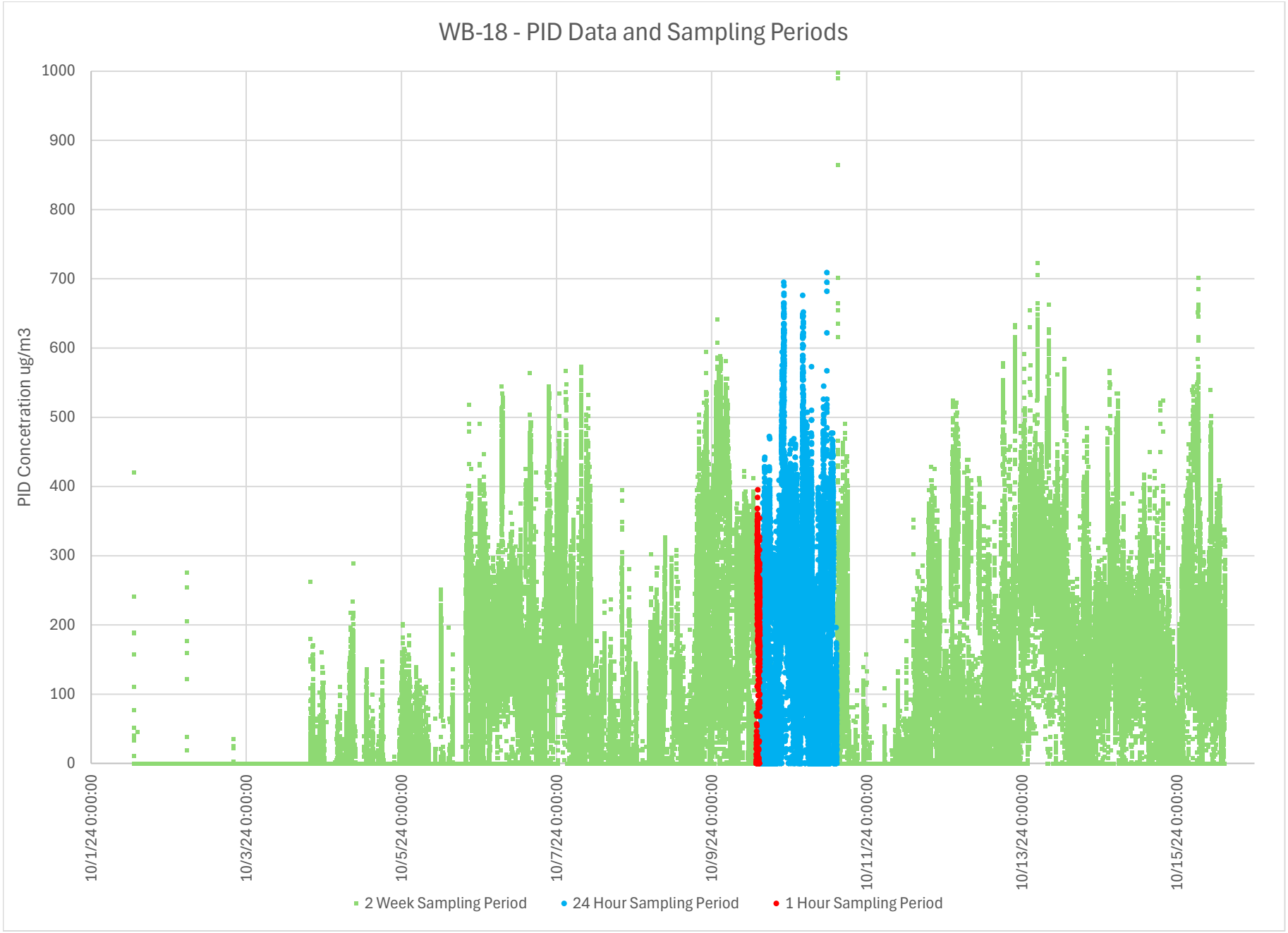
450
400
350
300
250
200
150
100
50
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

CHART 16


WB-18 - PID Data and Sampling Periods
PID Concetration ug/m3
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800
700
600
500
400
300
200
100
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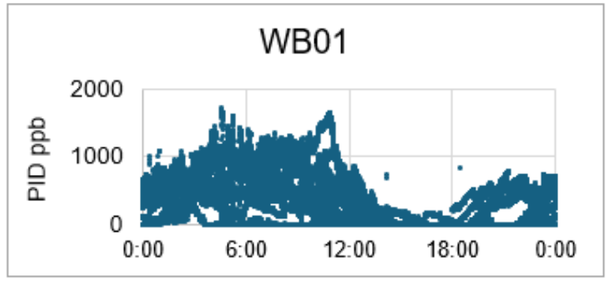
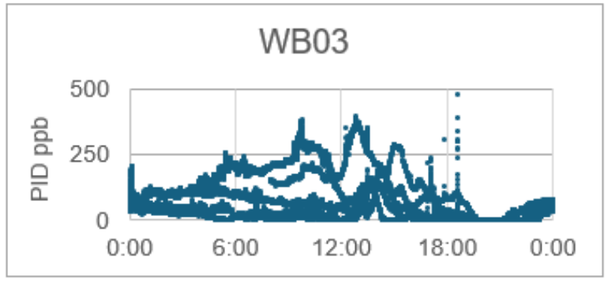
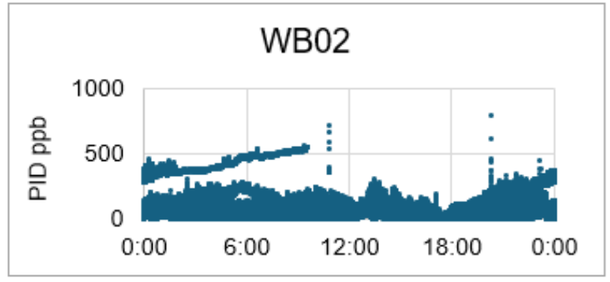
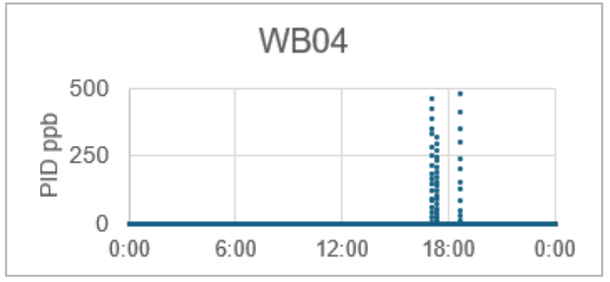
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
2 Week Sampling Period
24 Hour Sampling Period
1 Hour Sampling Period

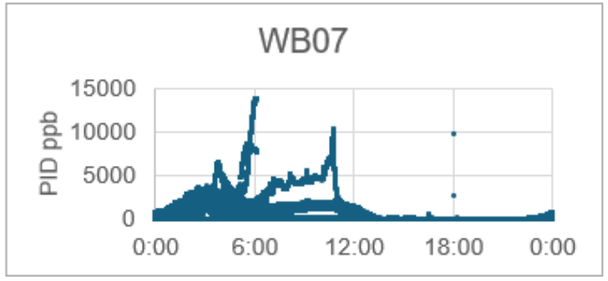
Chart 19 - PID Measurements vs 24 Hour Day - Arranged by Pattern - Oct 1 0800 - Oct 15 1500

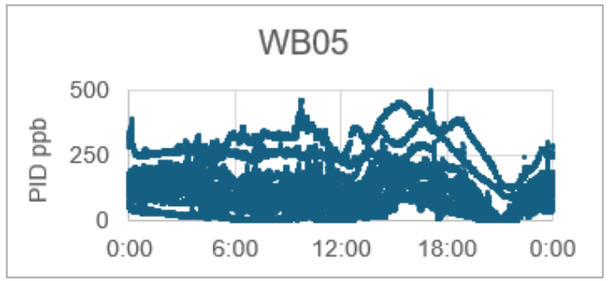


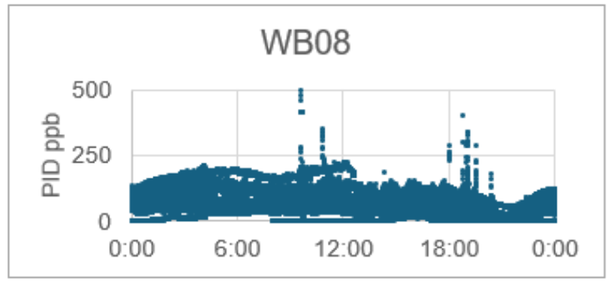


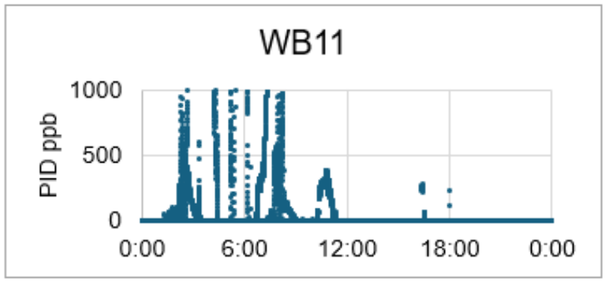


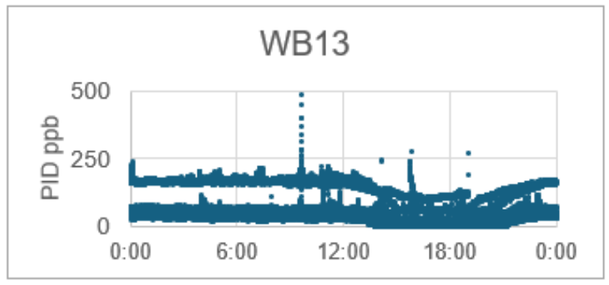


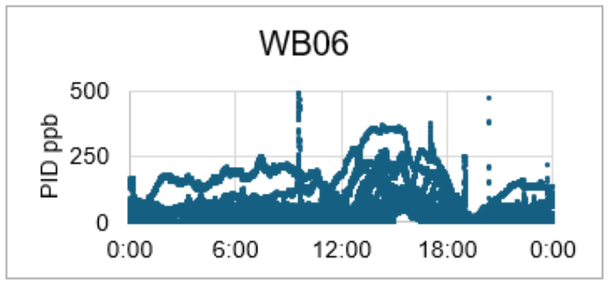


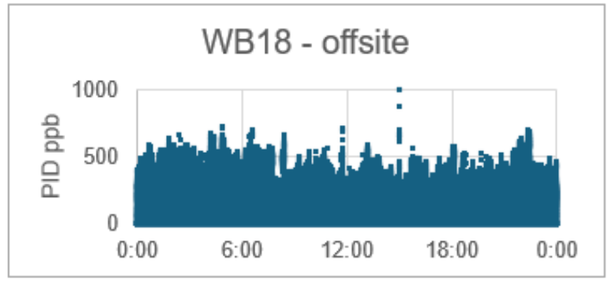


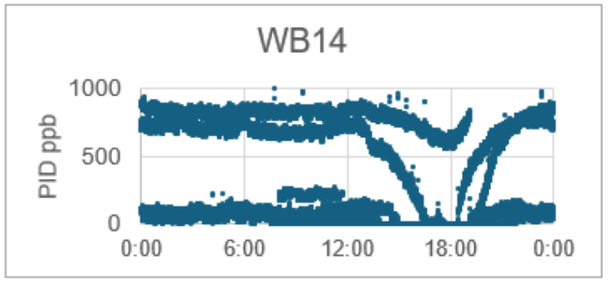


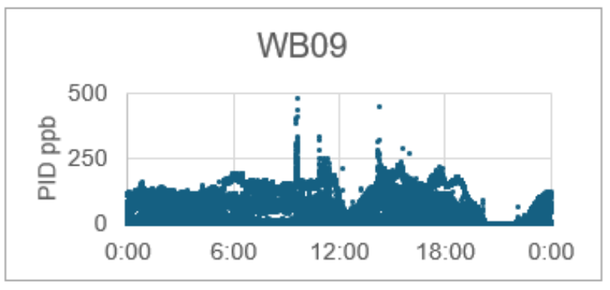


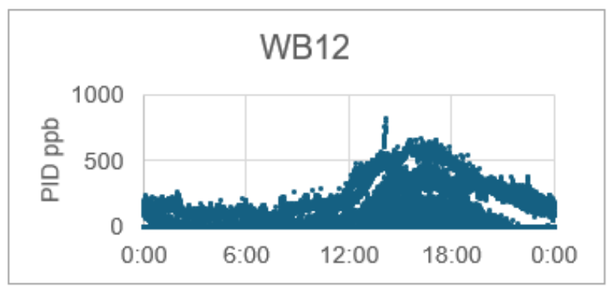


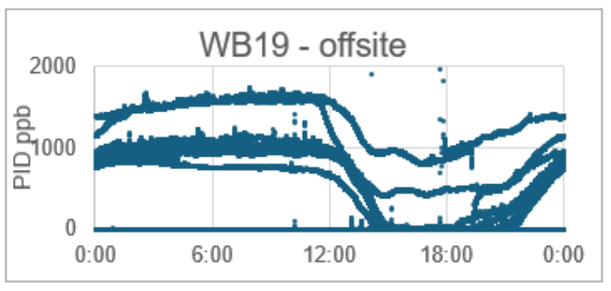


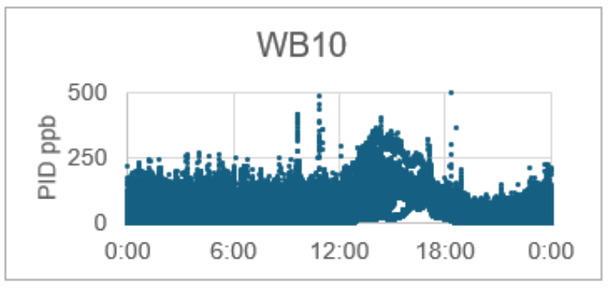












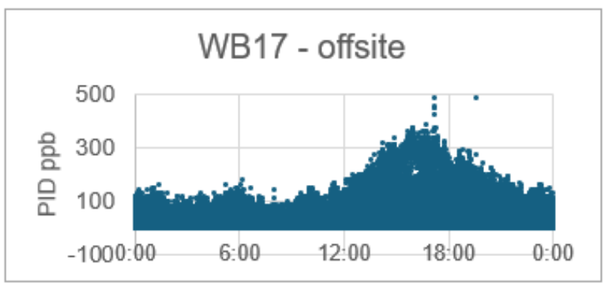
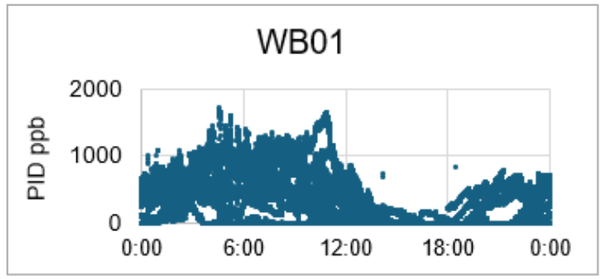
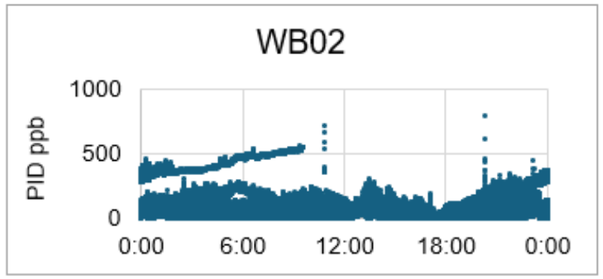
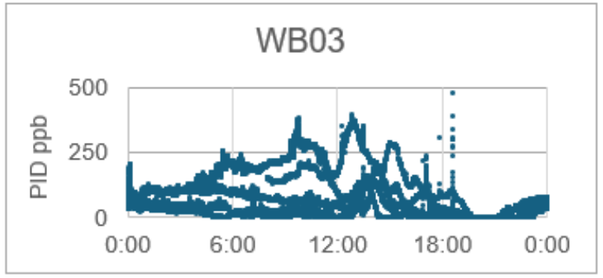
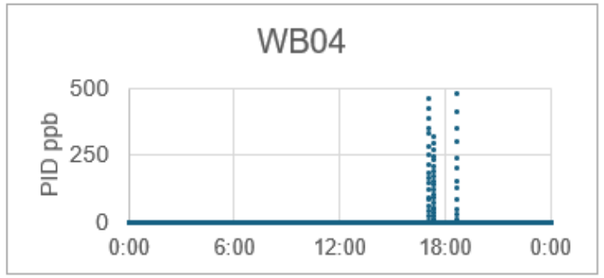


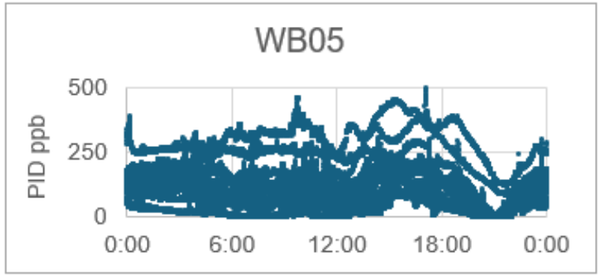
Chart 18 - PID Measurements vs 24 Hour Day - Oct 1 0800 - Oct 15 1500

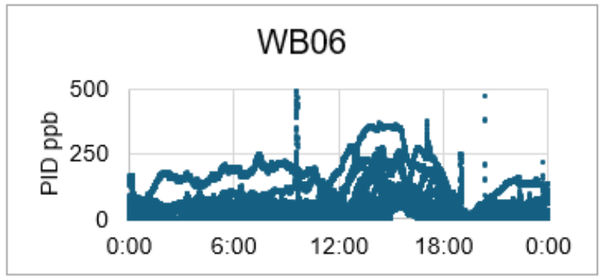


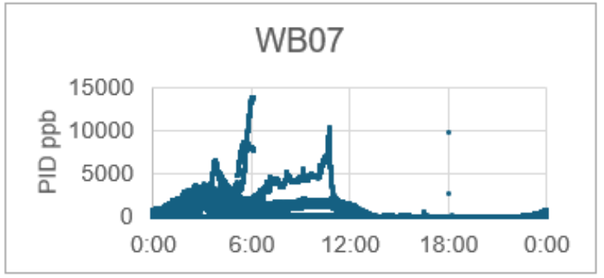


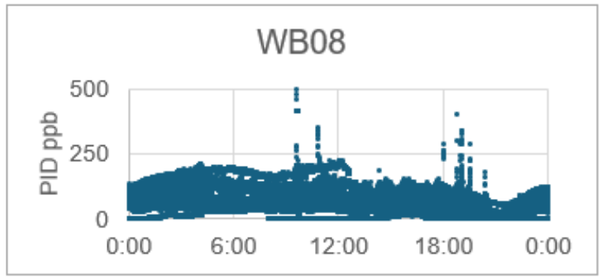


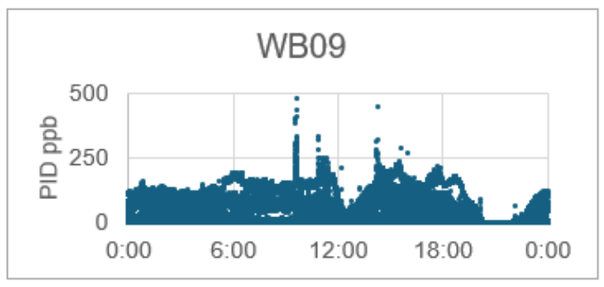


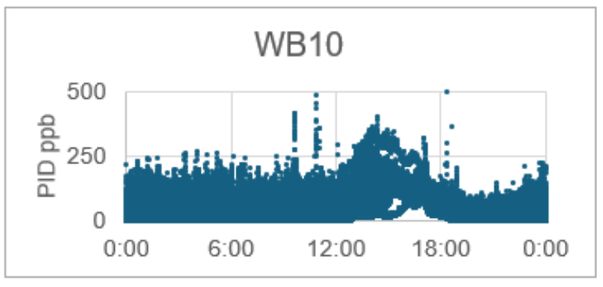


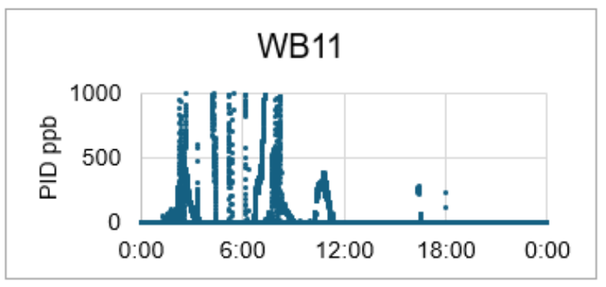


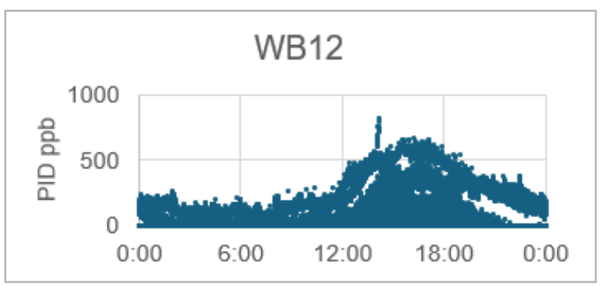


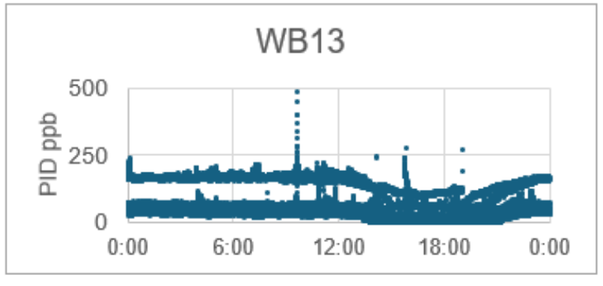


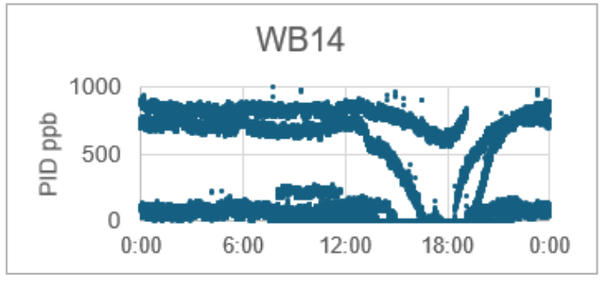


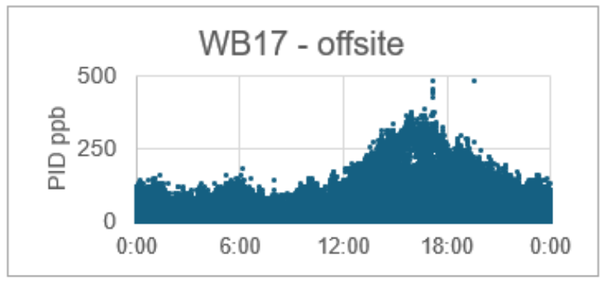


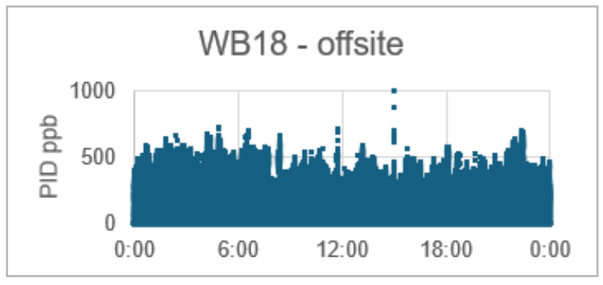












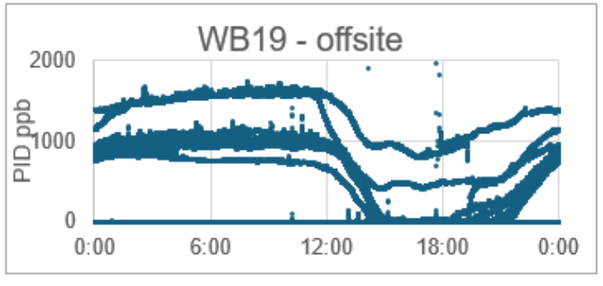
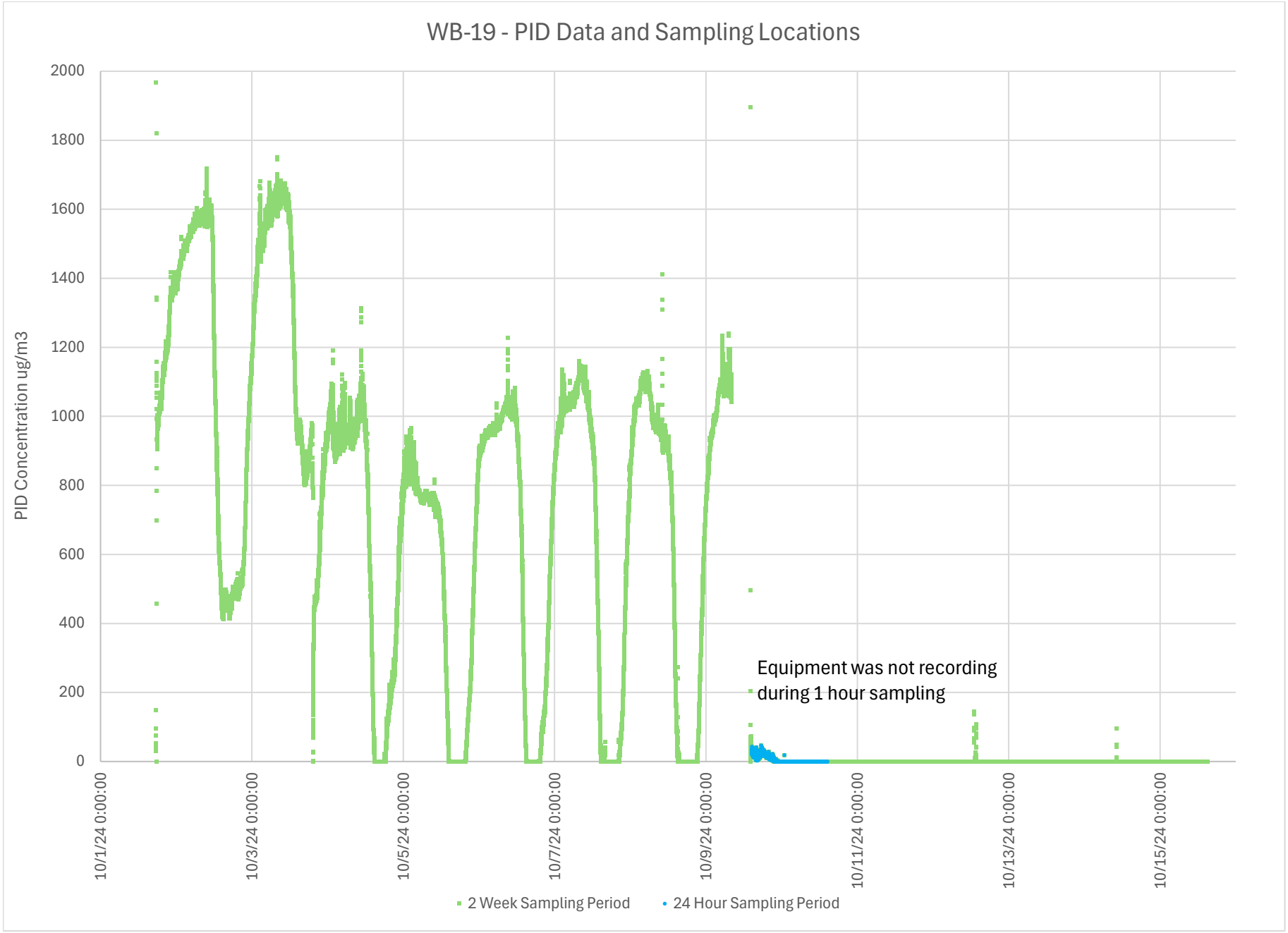


CHART 17


WB-19 - PID Data and Sampling Locations
PID Concentration ug/m3
2000
1800
1600
1400
1200
1000
800
600
400
200
0
10/1/24 0:00:00
10/3/24 0:00:00
10/5/24 0:00:00
10/7/24 0:00:00
10/9/24 0:00:00
10/11/24 0:00:00
10/13/24 0:00:00
10/15/24 0:00:00
Equipment was not recording during 1 hour sampling
2 Week Sampling Period
24 Hour Sampling Period

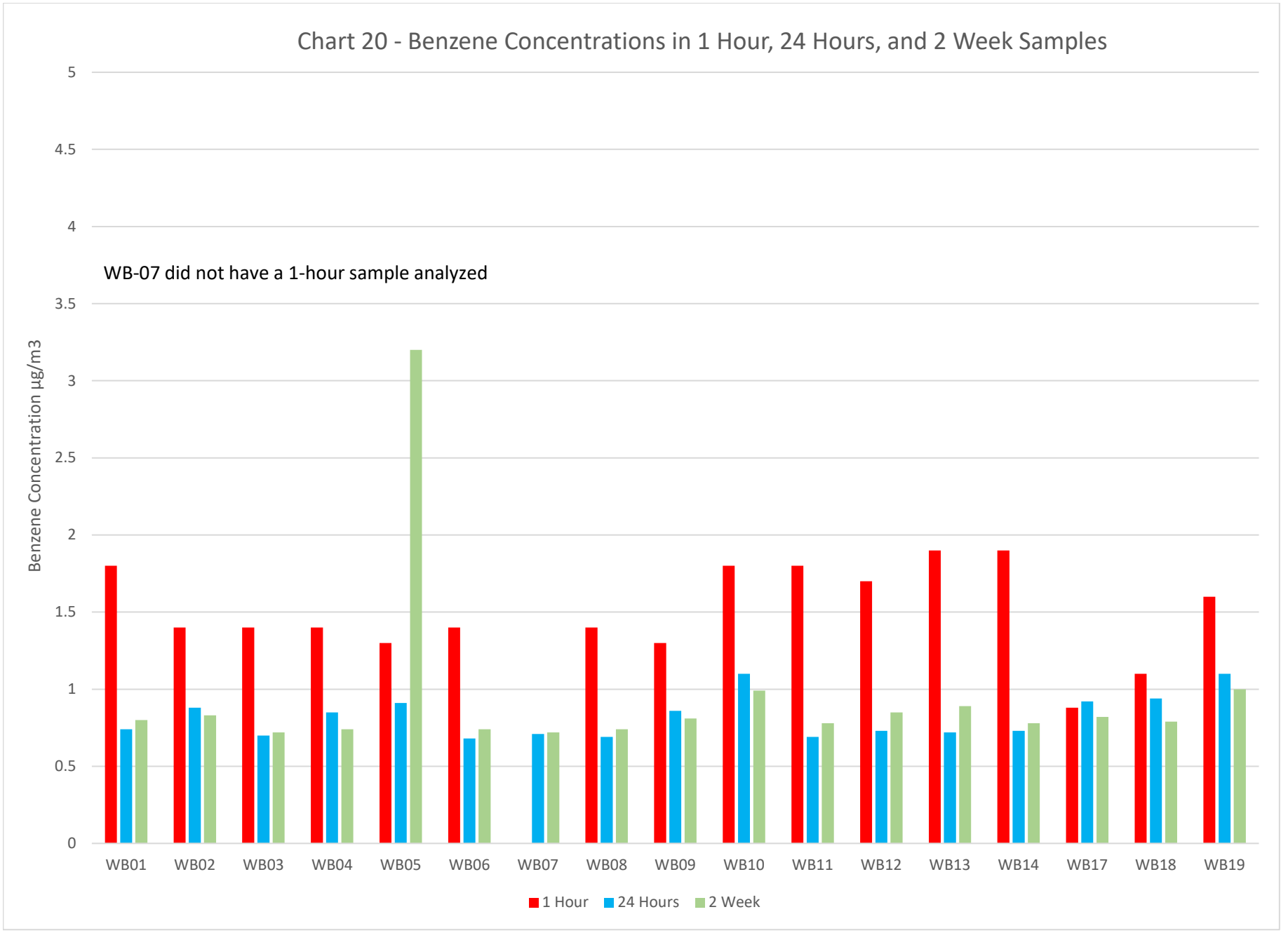


Chart 20 - Benzene Concentrations in 1 Hour, 24 Hours, and 2 Week Samples
WB-07 did not have a 1-hour sample analyzed
Benzene Concentration µg/m3
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1 Hour
24 Hours
2 Week

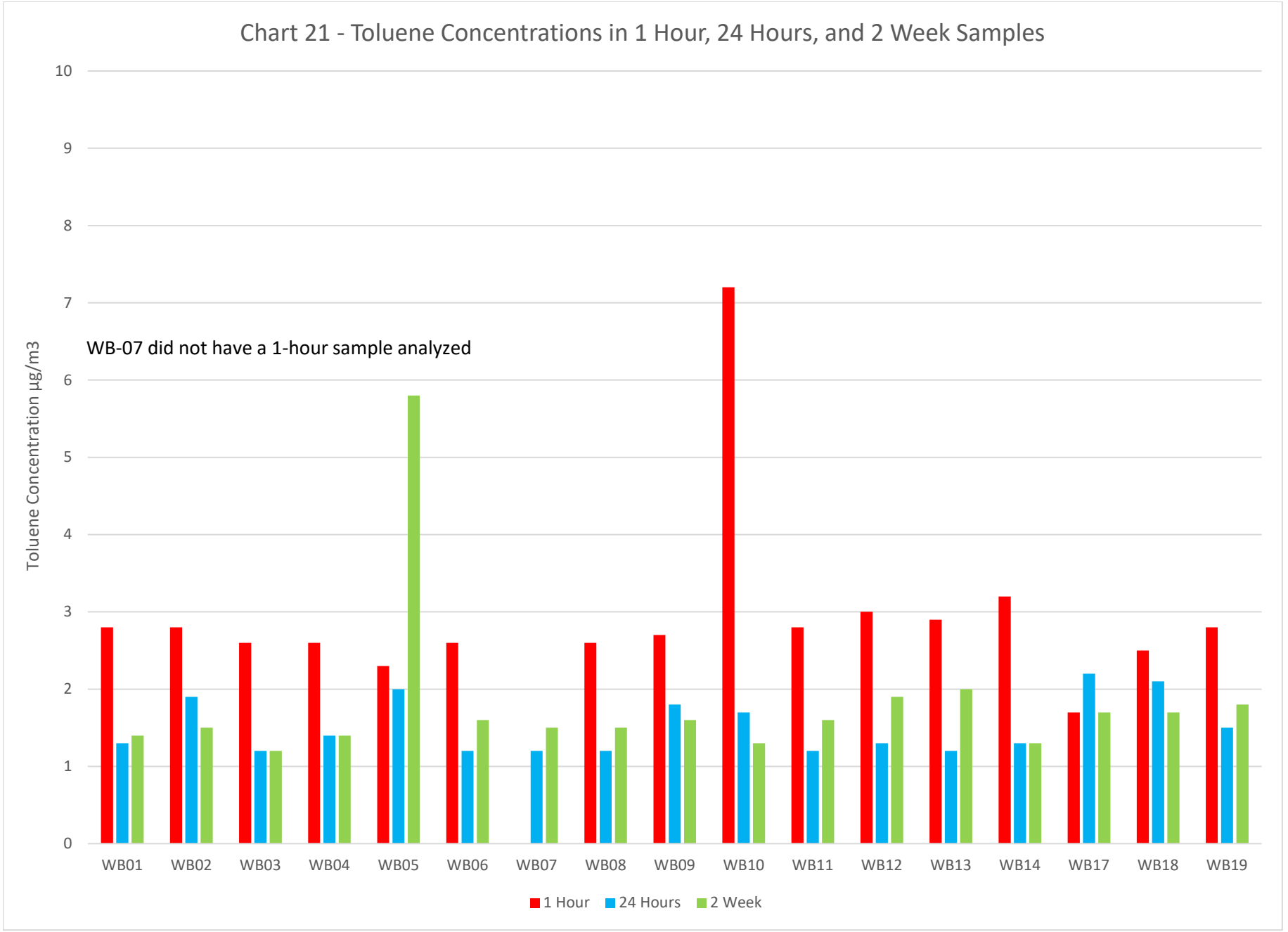


Chart 21 - Toluene Concentrations in 1 Hour, 24 Hours, and 2 Week Samples
Toluene Concentration µg/m3
10
9
8
7
6
5
4
3
2
1
0
WB-07 did not have a 1-hour sample analyzed
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1 Hour
24 Hours
2 Week

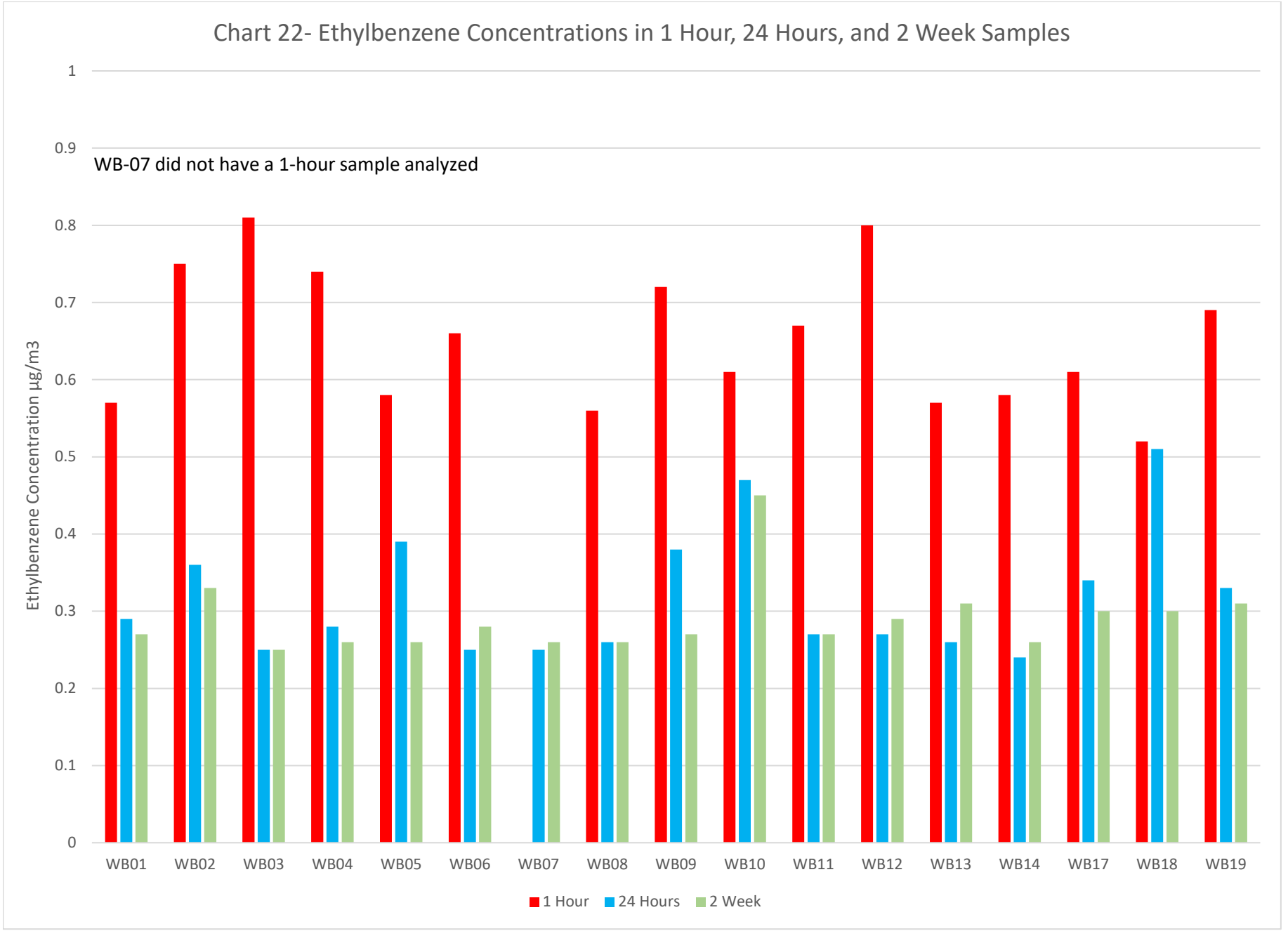


Chart 22- Ethylbenzene Concentrations in 1 Hour, 24 Hours, and 2 Week Samples
WB-07 did not have a 1-hour sample analyzed
Ethylbenzene Concentration µg/m3
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1 Hour
24 Hours
2 Week

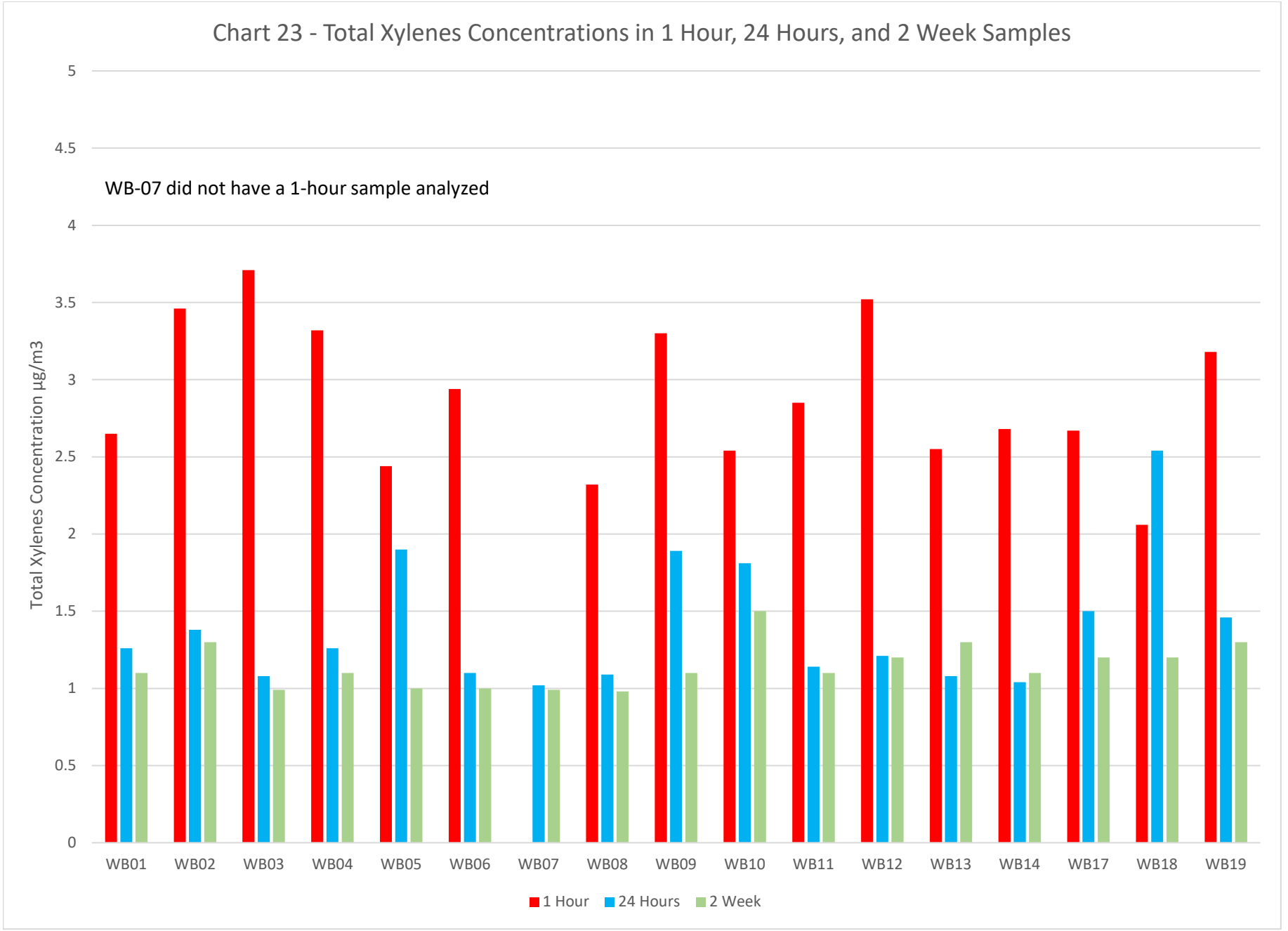


Chart 23 - Total Xylenes Concentrations in 1 Hour, 24 Hours, and 2 Week Samples
WB-07 did not have a 1-hour sample analyzed
Total Xylenes Concentration µg/m3
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1 Hour
24 Hours
2 Week

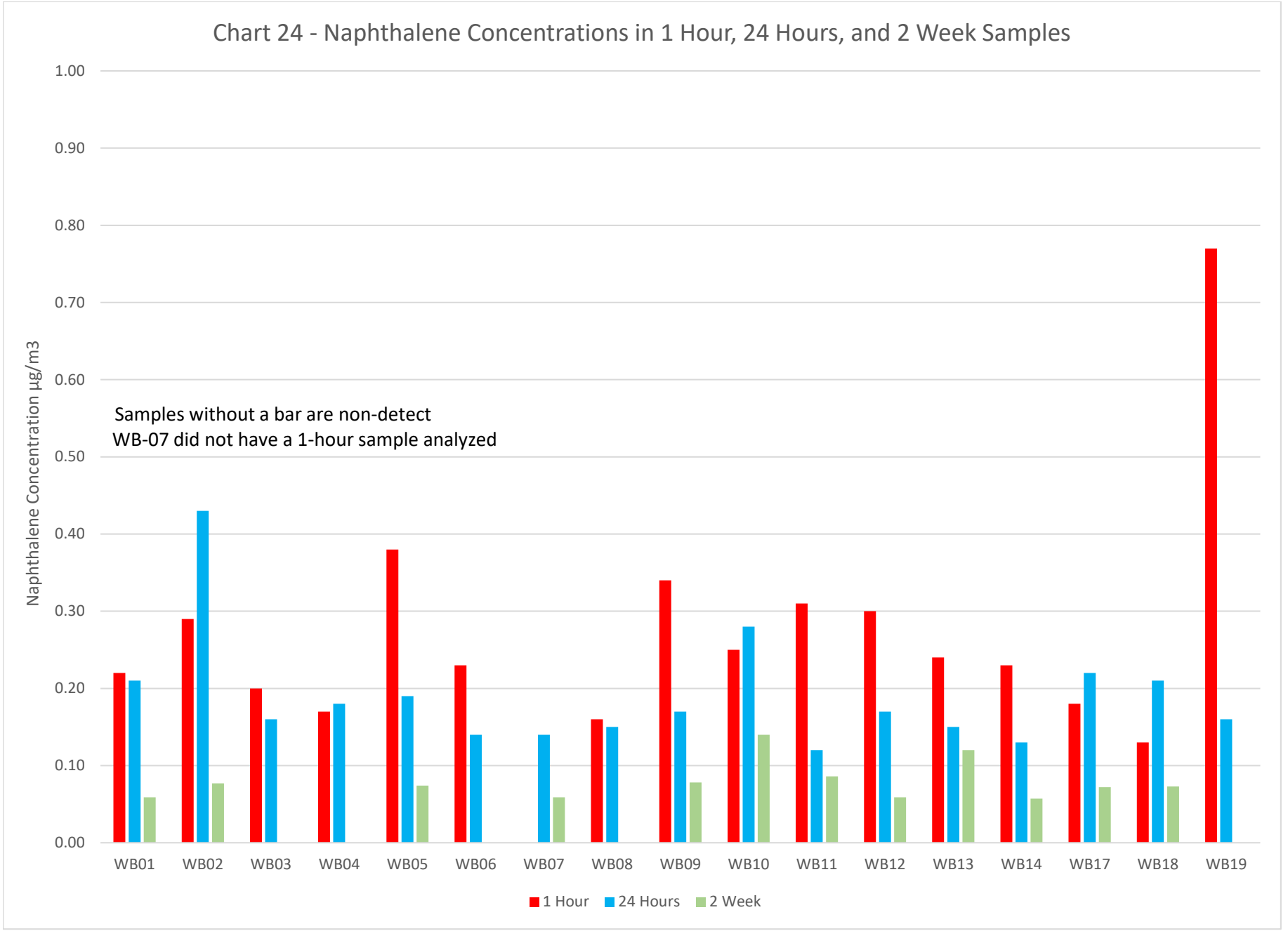


Chart 24 - Naphthalene Concentrations in 1 Hour, 24 Hours, and 2 Week Samples
Naphthalene Concentration µg/m3
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Samples without a bar are non-detect
WB-07 did not have a 1-hour sample analyzed
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1 Hour
24 Hours
2 Week

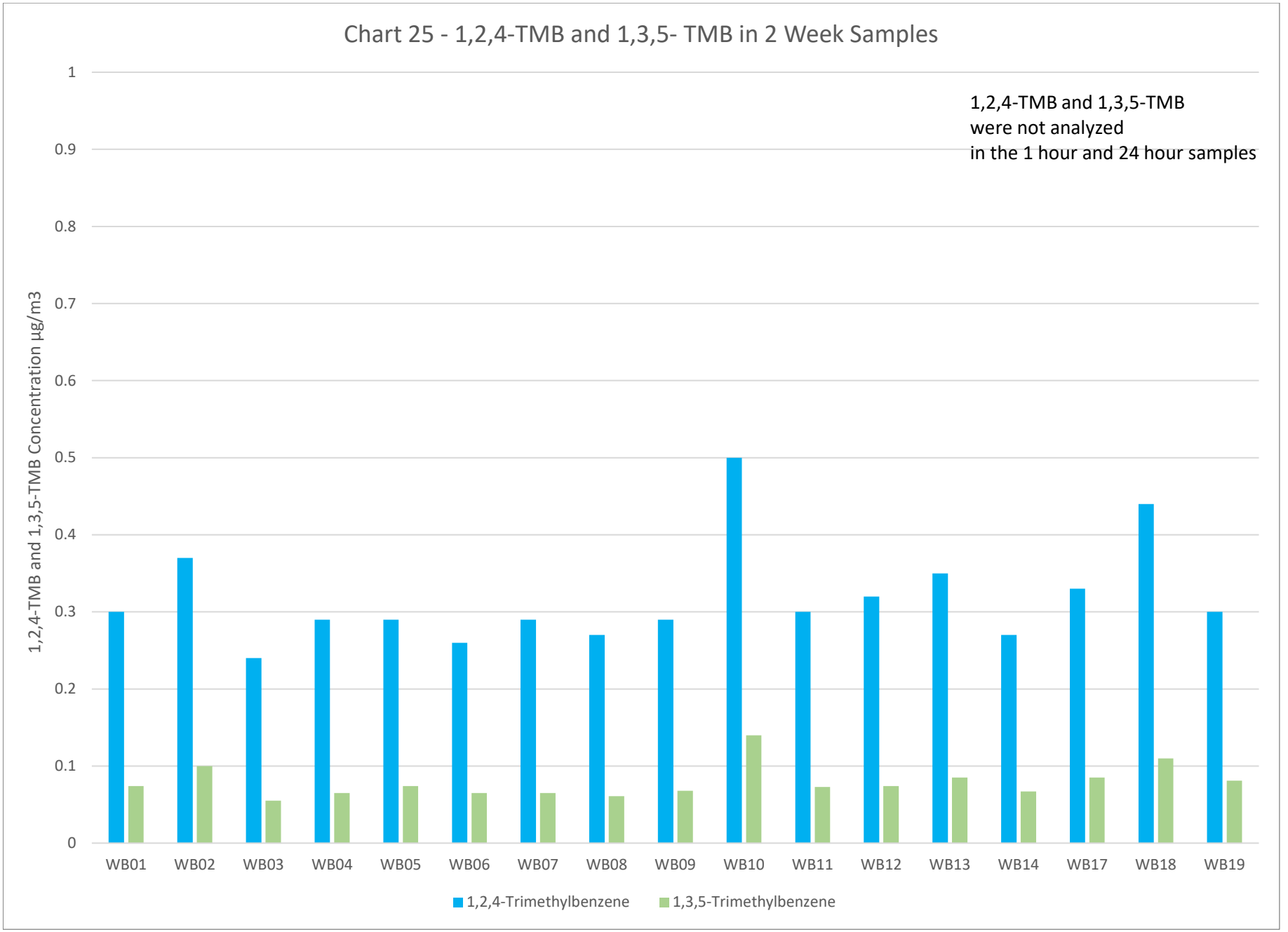
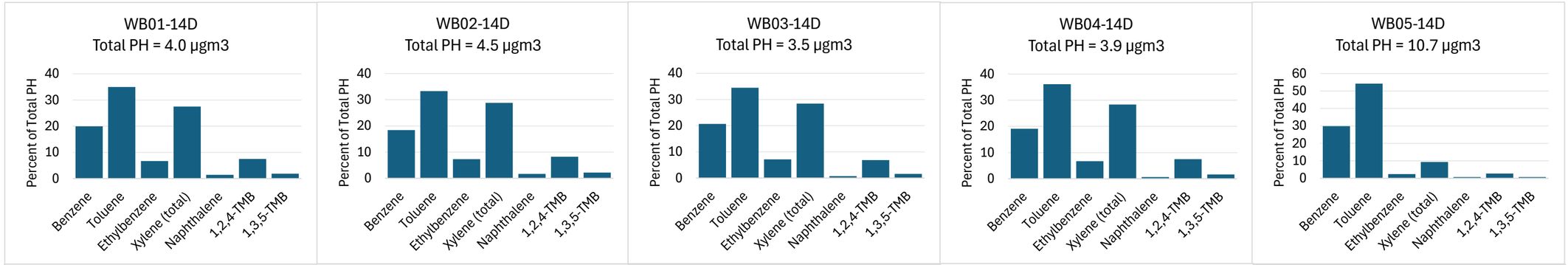


Chart 25 - 1,2,4-TMB and 1,3,5- TMB in 2 Week Samples
1,2,4-TMB and 1,3,5-TMB were not analyzed in the 1 hour and 24 hour samples
1,2,4-TMB and 1,3,5-TMB Concentration µg/m3
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene

Chart 26 - Petroleum Fingerprints



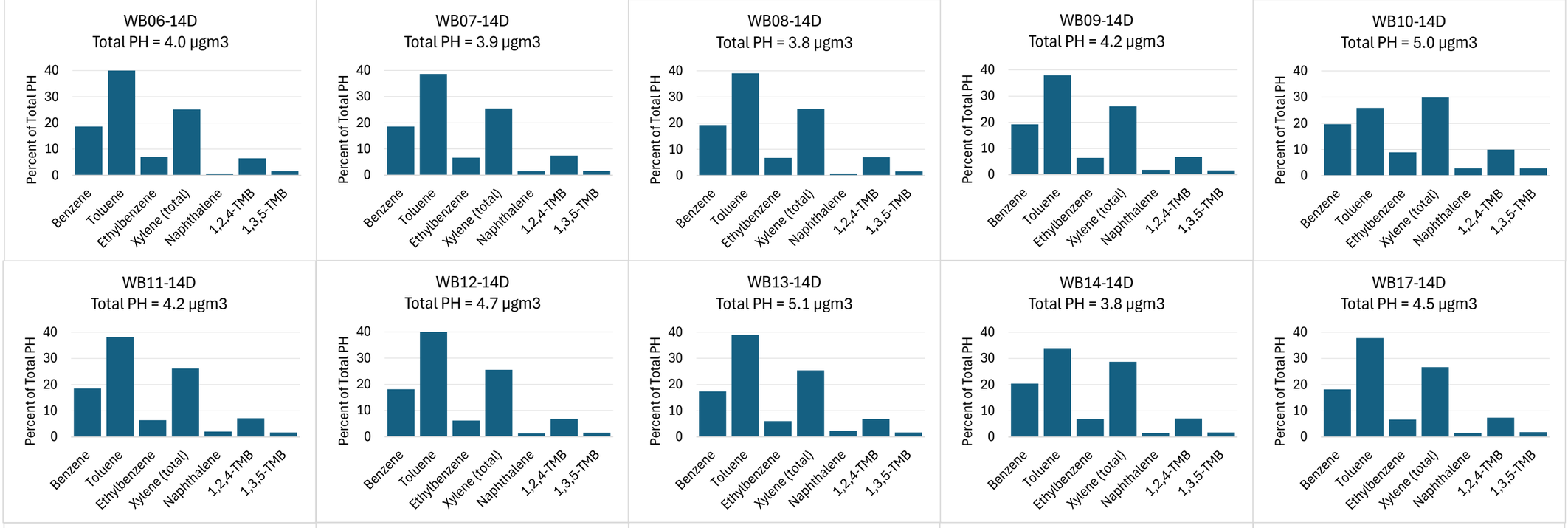


Chart 27 WB15 Windrose Diagram

Signal Hill

WB15/10.1.2024 - 10.15.2024

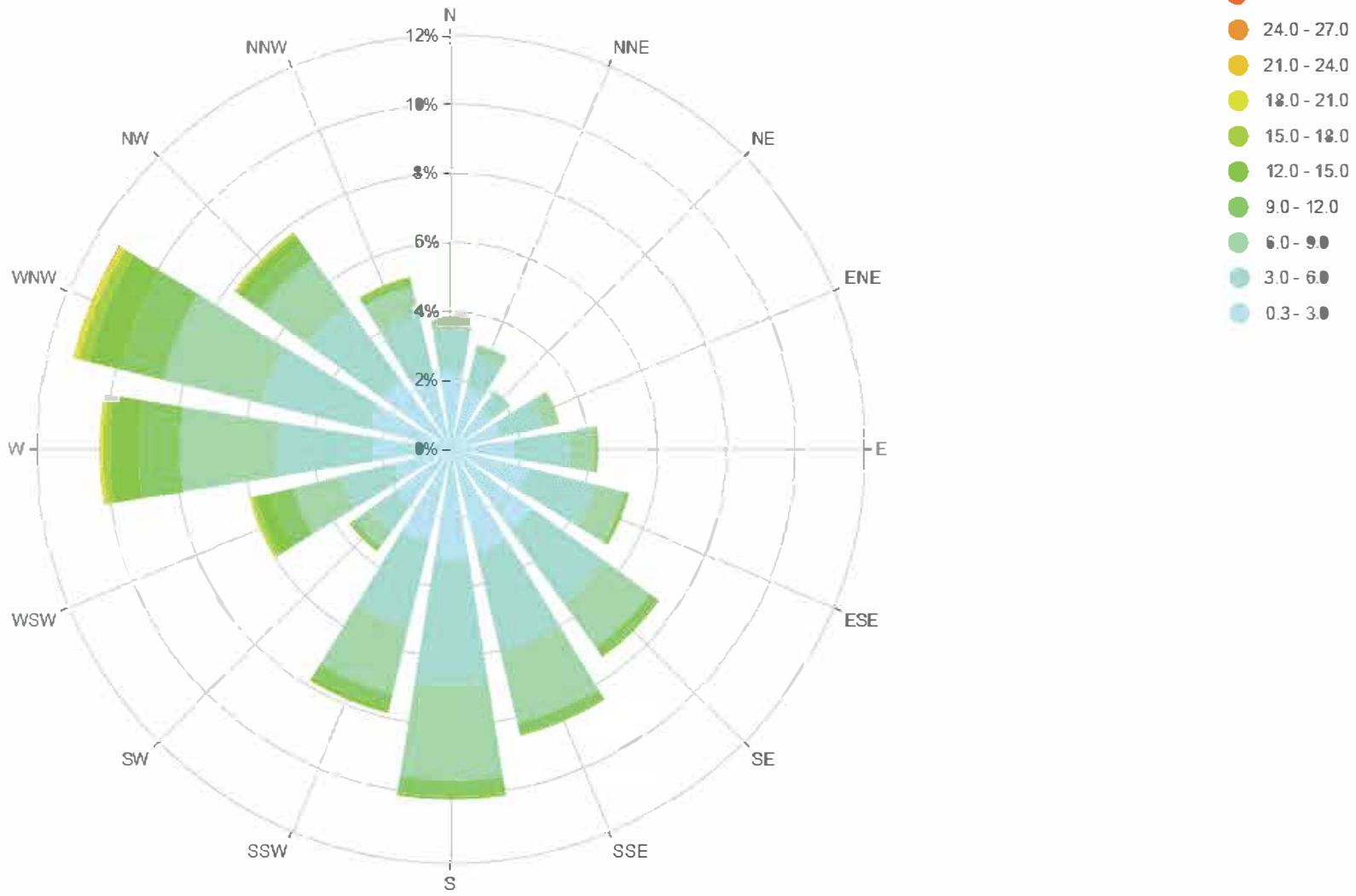


Chart 28 WB16 Windrose Diagram

Signal Hill

WB16 - Weather Station 10 1.2024 - 10 15.2024

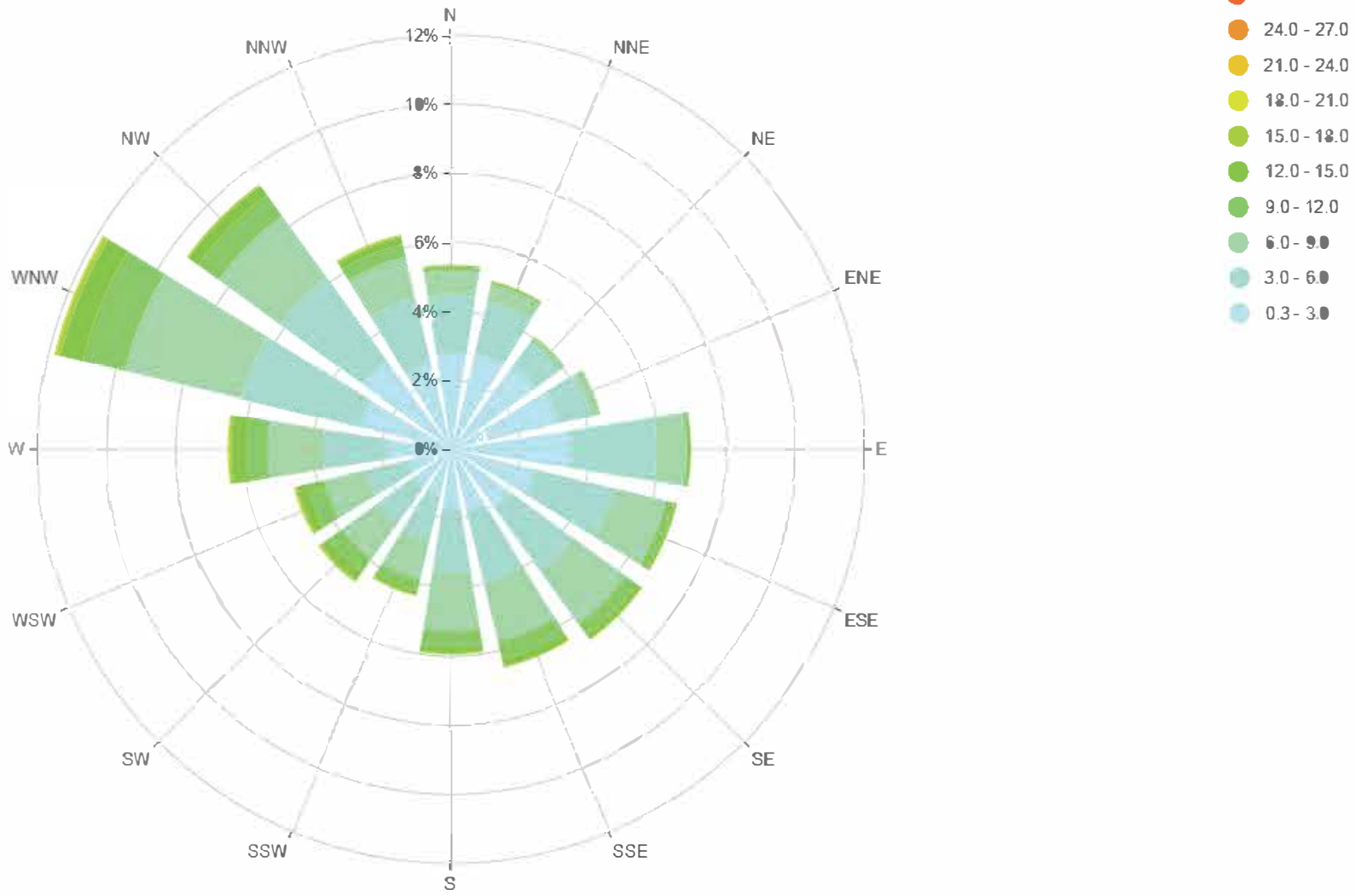
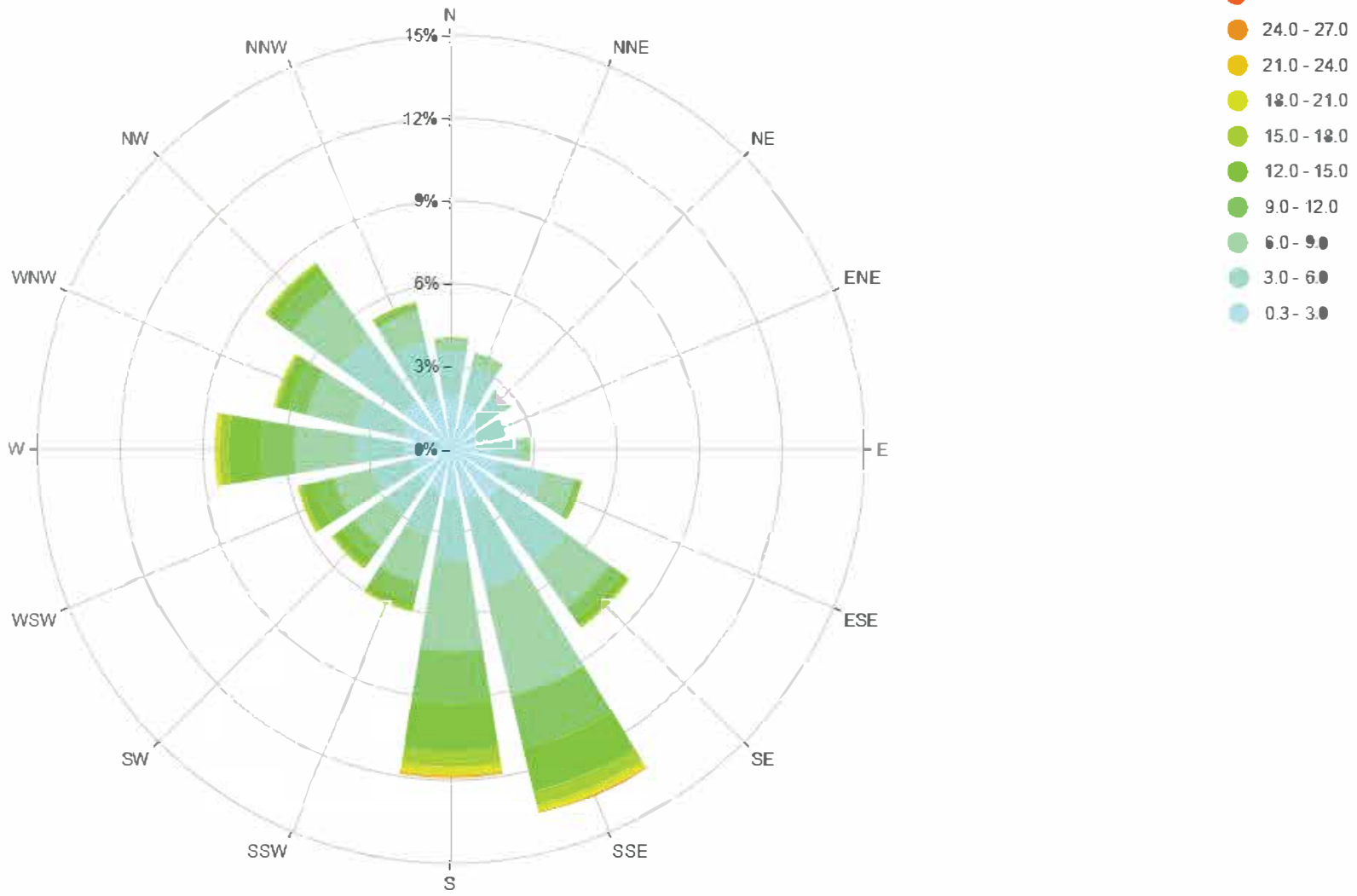
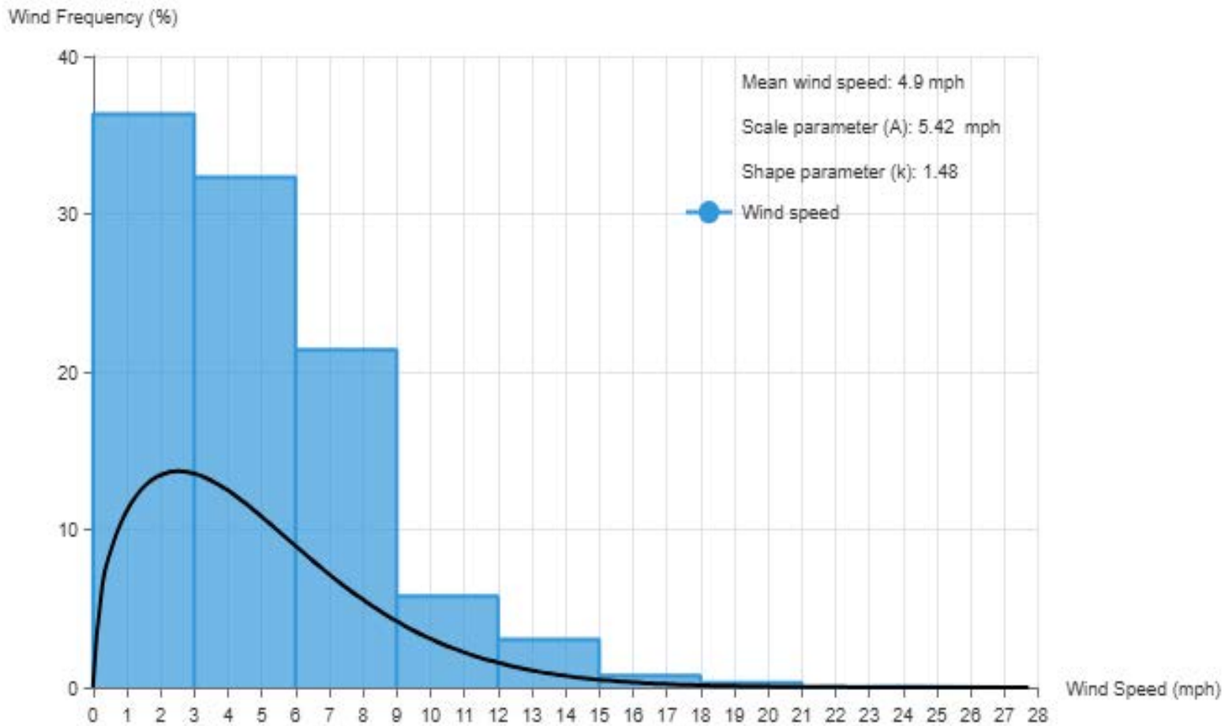


Chart 29 WB17 Windrose Diagram

Signal Hill

WB17 - Weather Station 10.1.2024 - 10.15.2024





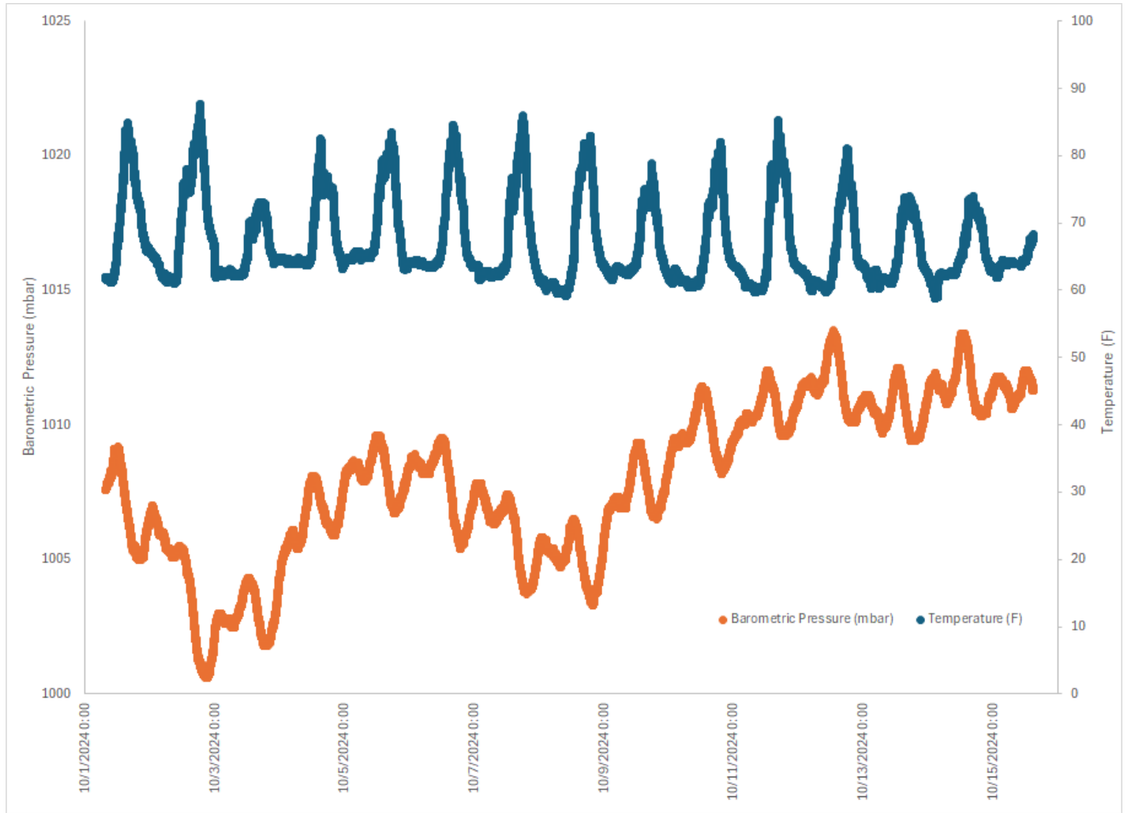
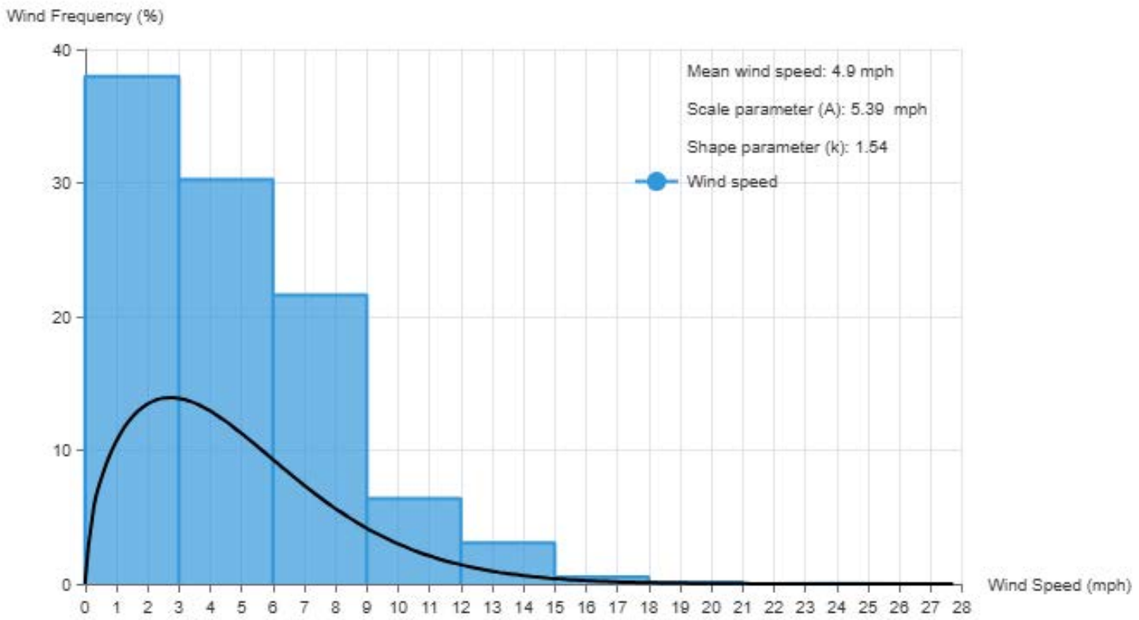


Chart 30 - WB15 Windspeed, Temperature, and Barometric Pressure



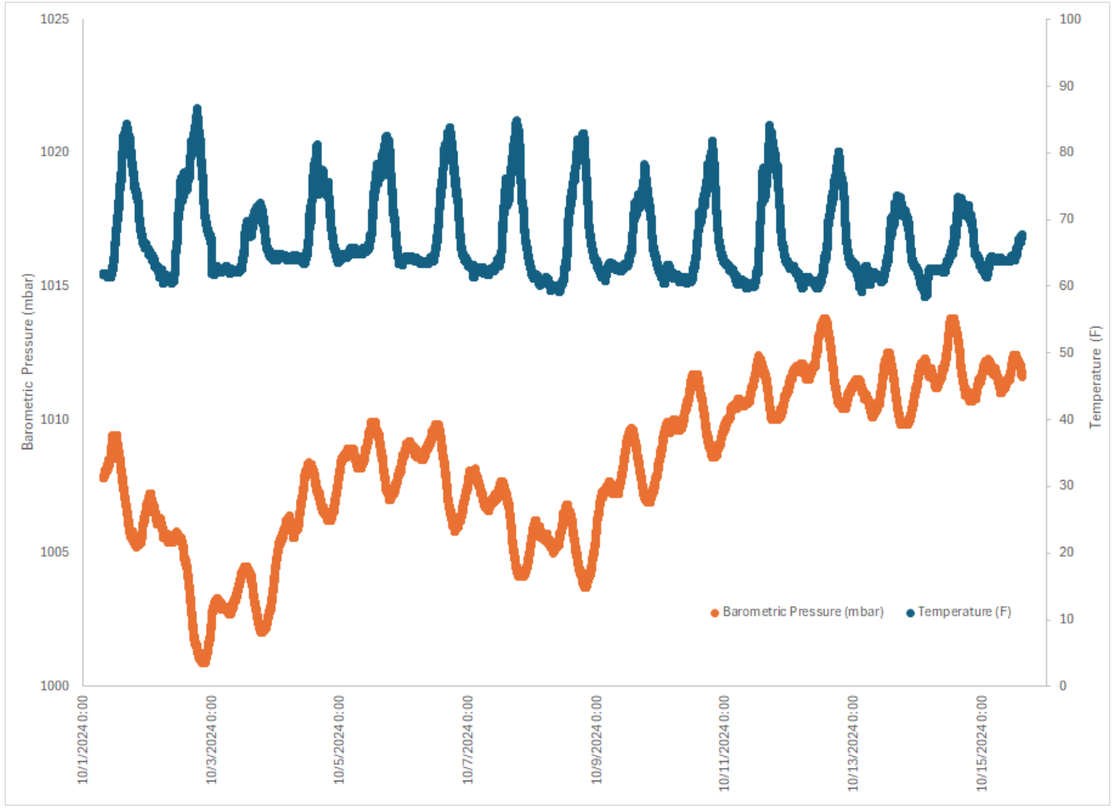
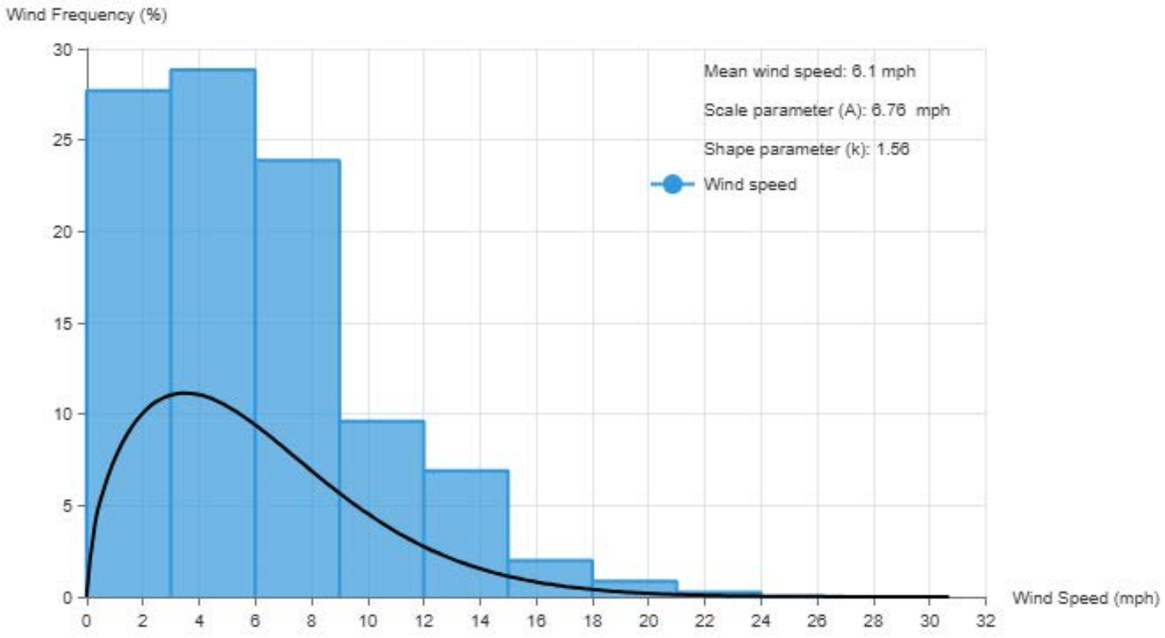


Chart 31 - WB16 Windspeed, Temperature, and Barometric Pressure



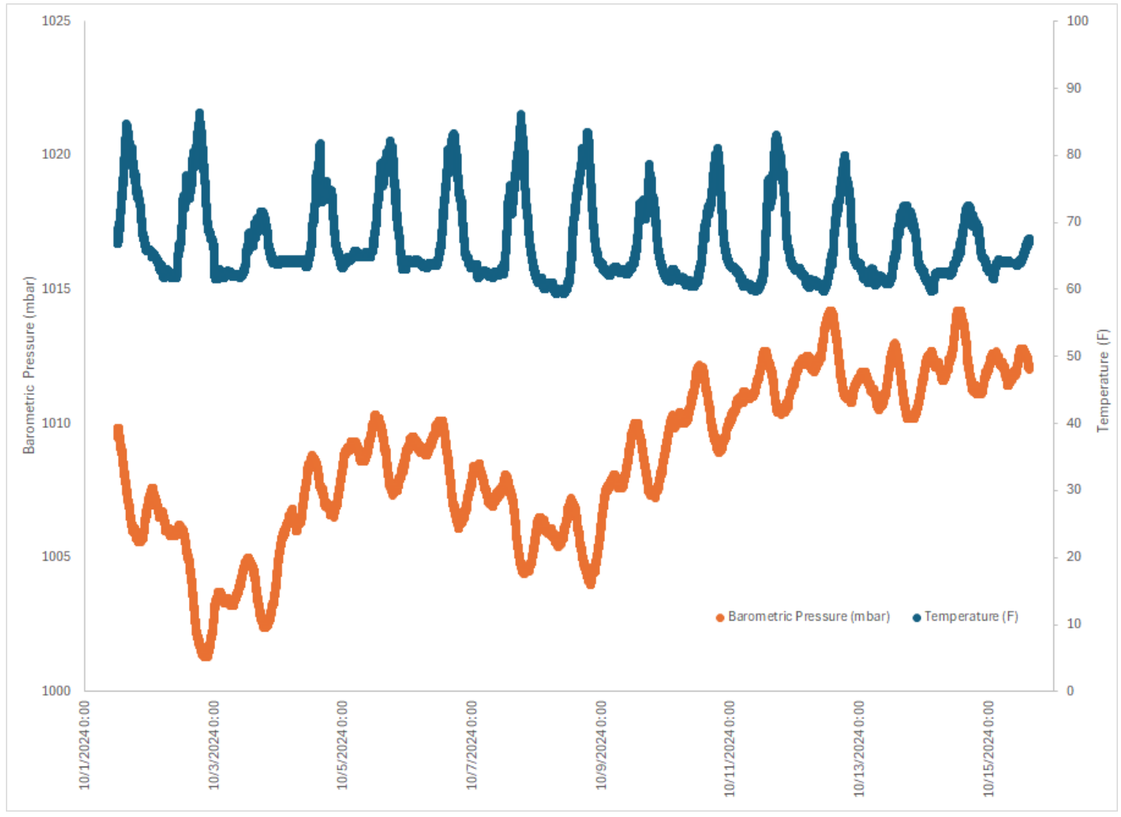


Chart 32 - WB17 Windspeed, Temperature, and Barometric Pressure

Chart 33
Comparison of Regional vs Walnut Bluff Benzene Cancer Risk
Using MATES Risk Assessment Methodology (Average Concentration)
1998 - 2024

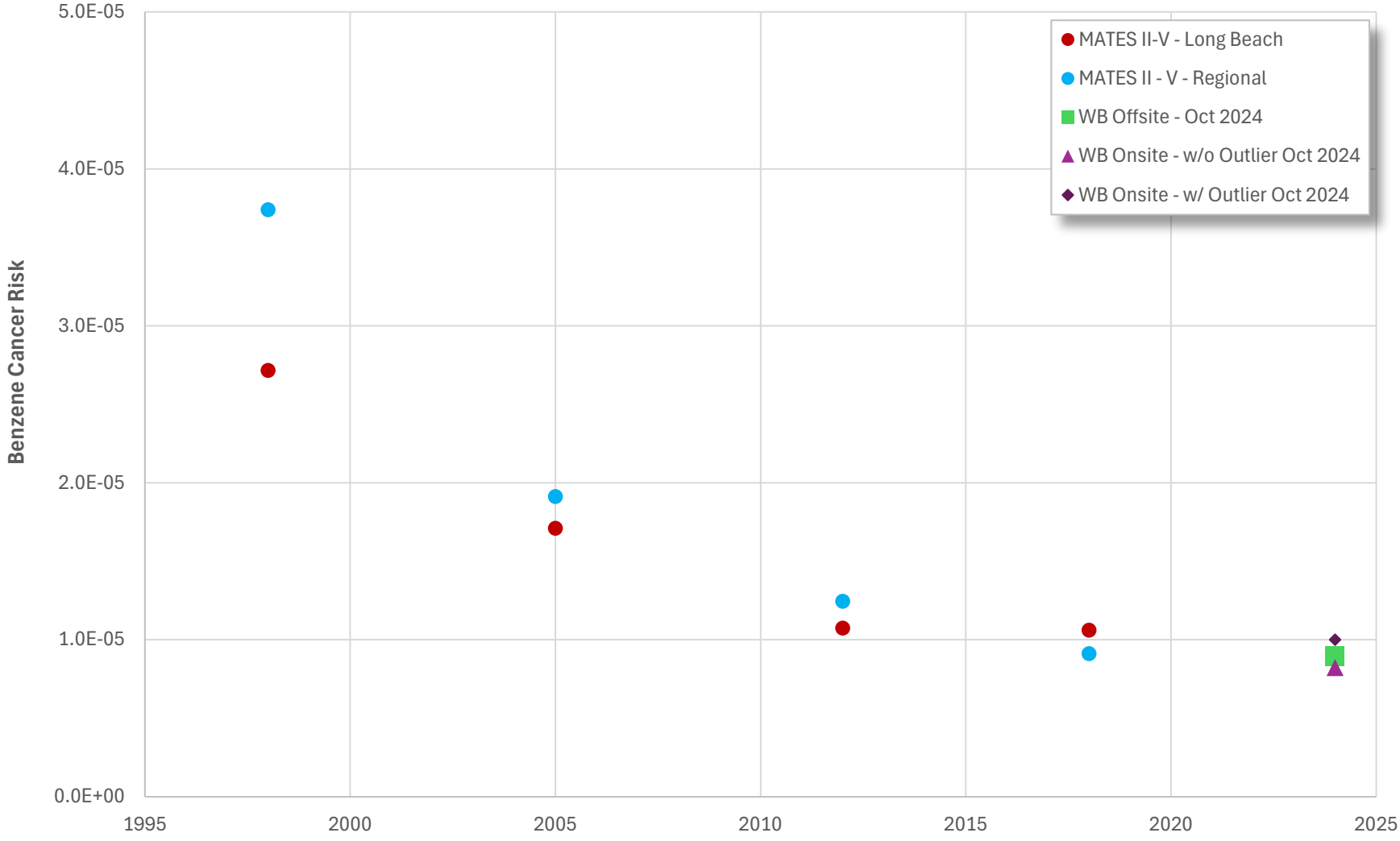


Chart 34
Comparison of Regional vs Walnut Bluff Toluene Noncancer Hazard Index
Using MATES Risk Assessment Methodology (Average Concentration)
1998 - 2024

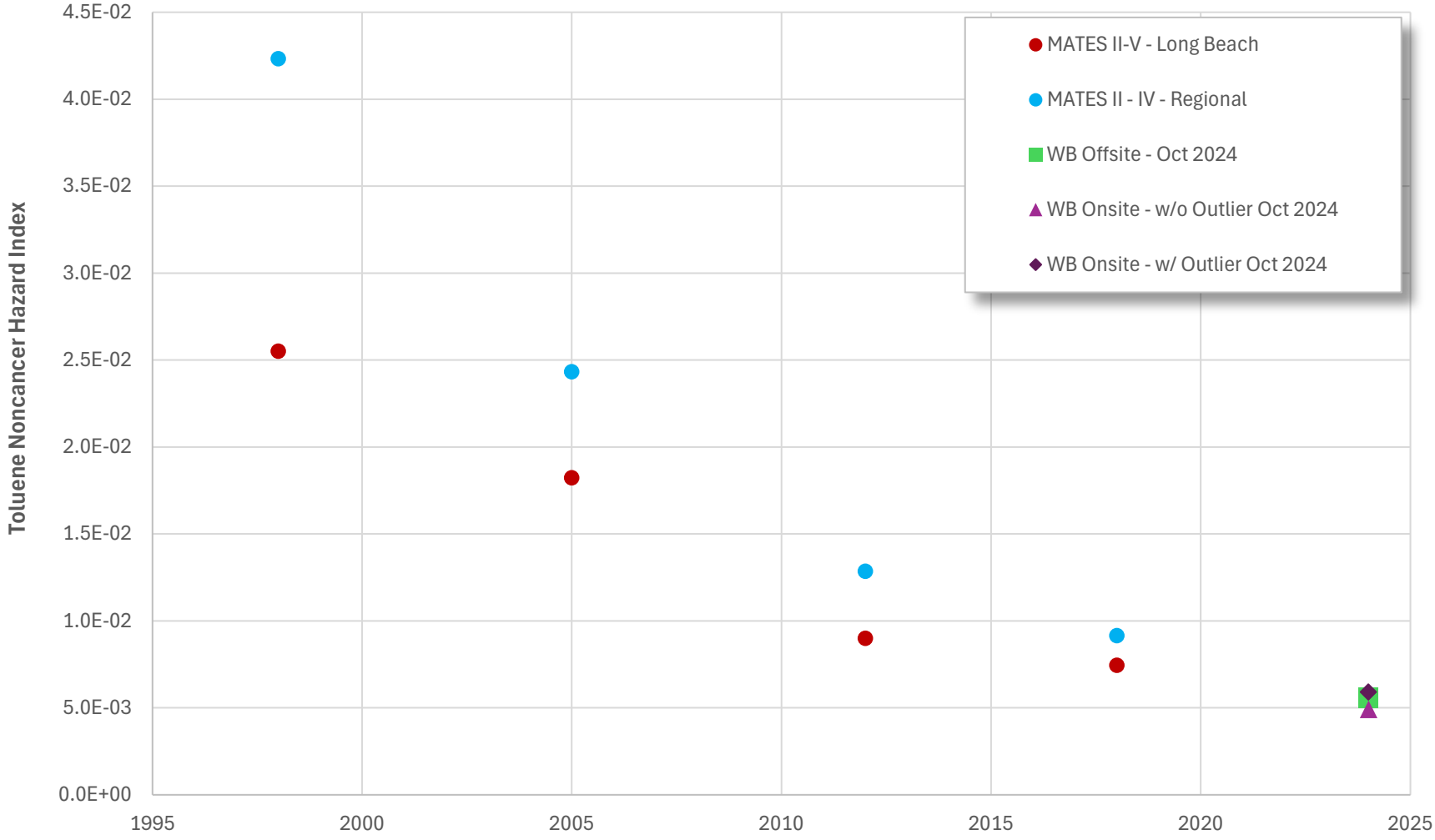


Chart 35
Comparison of Regional vs Walnut Bluff Ethylbenzene Cancer Risk
Using MATES Risk Assessment Methodology (Average Concentration)
1998 - 2024

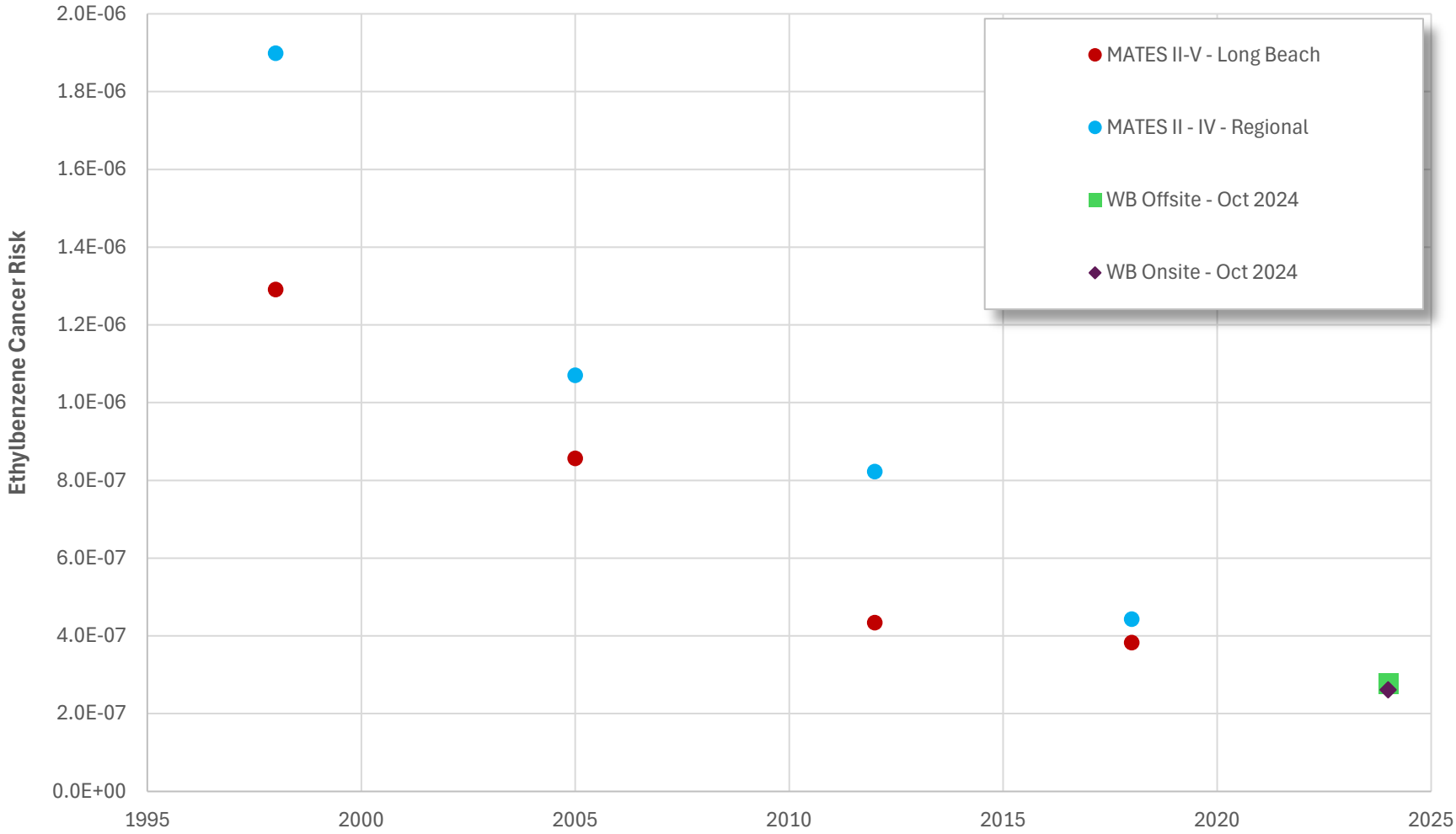


Chart 36
Comparison of Regional vs Walnut Bluff Total Xylenes Noncancer Hazard Index
Using MATES Risk Assessment Methodology (Average Concentration)
1998 - 2024

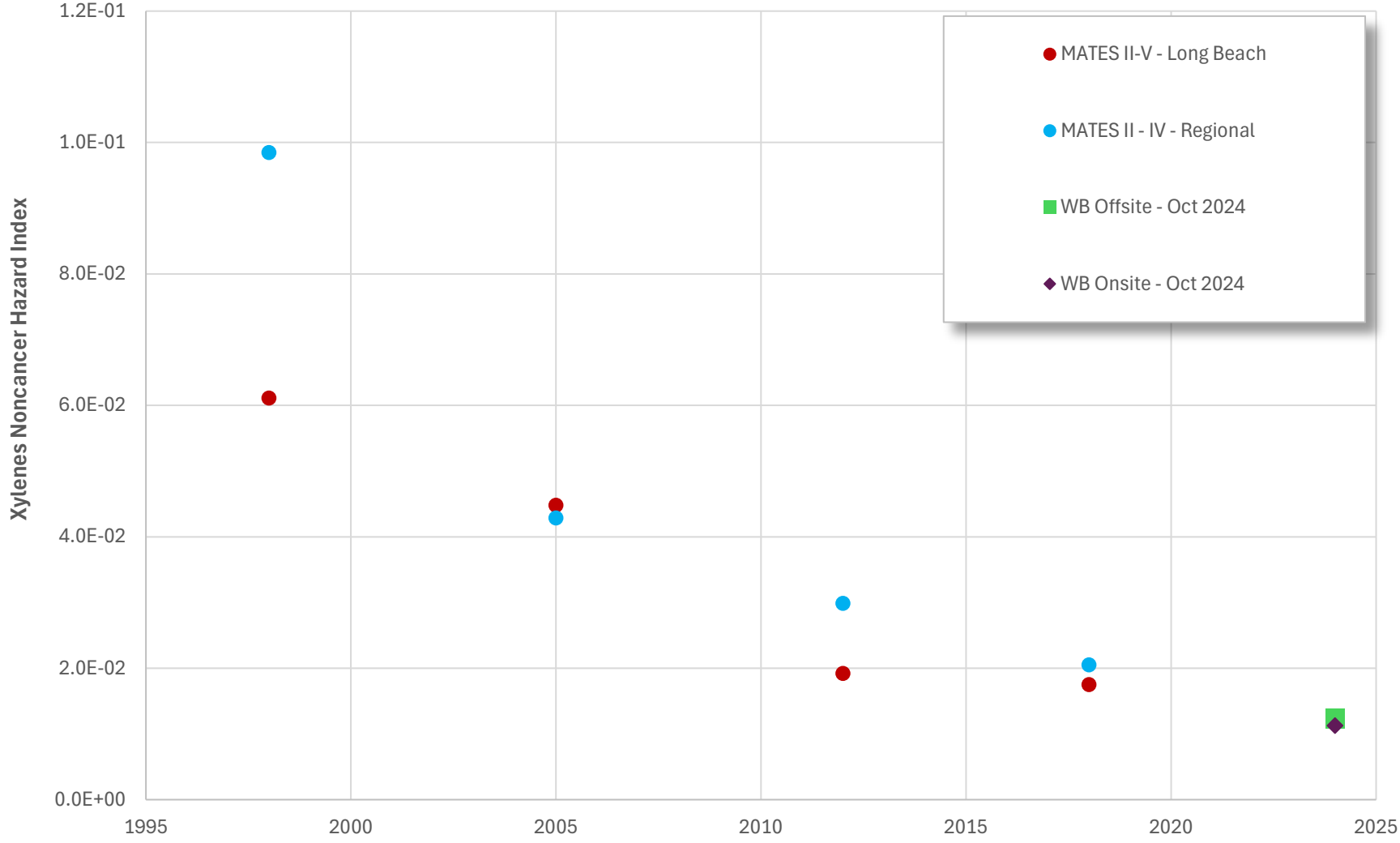
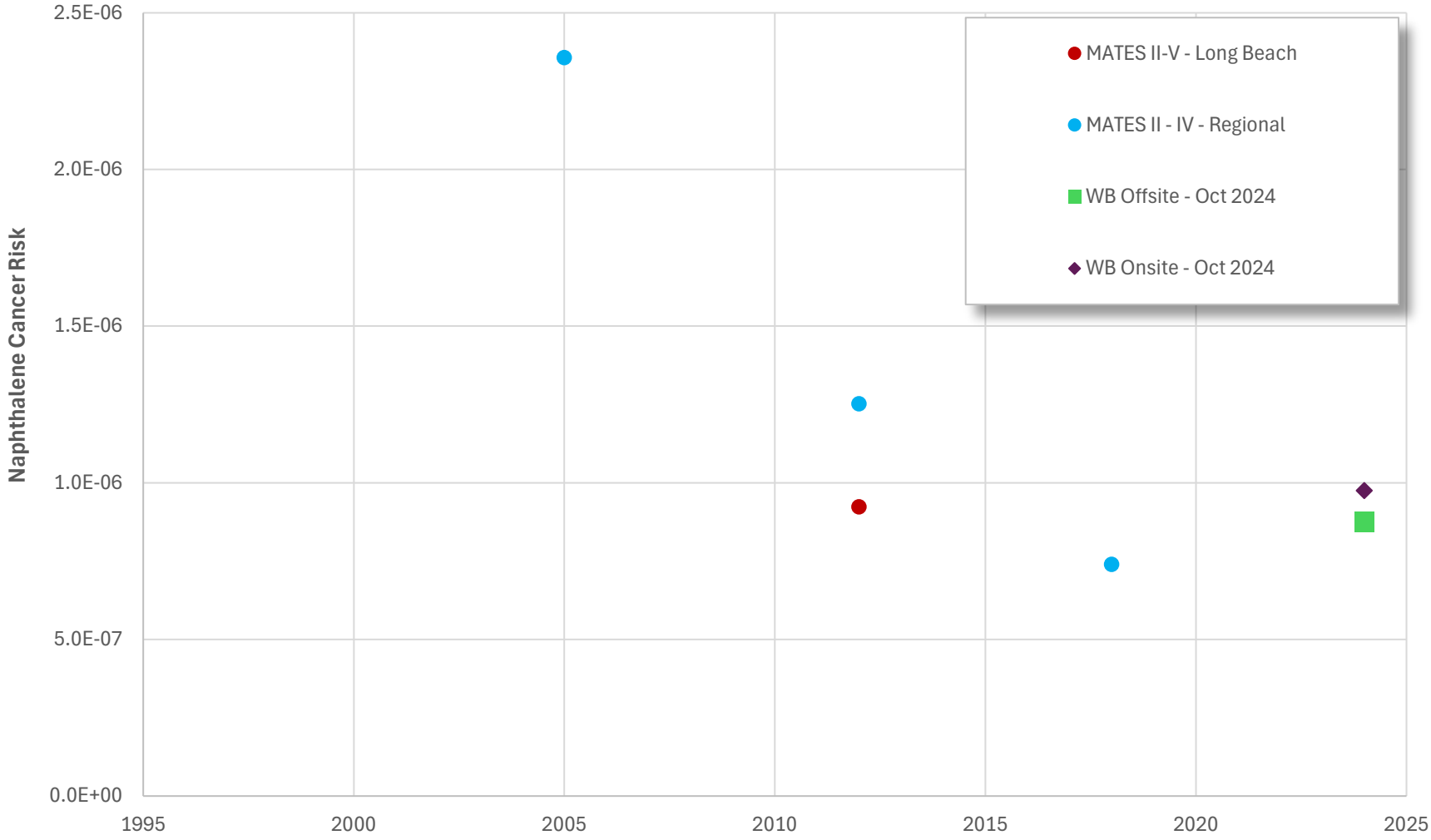


Chart 37
Comparison of Regional vs Walnut Bluff Naphthalene Cancer Risk
Using MATES Risk Assessment Methodology (Average Concentration)
1998 - 2024



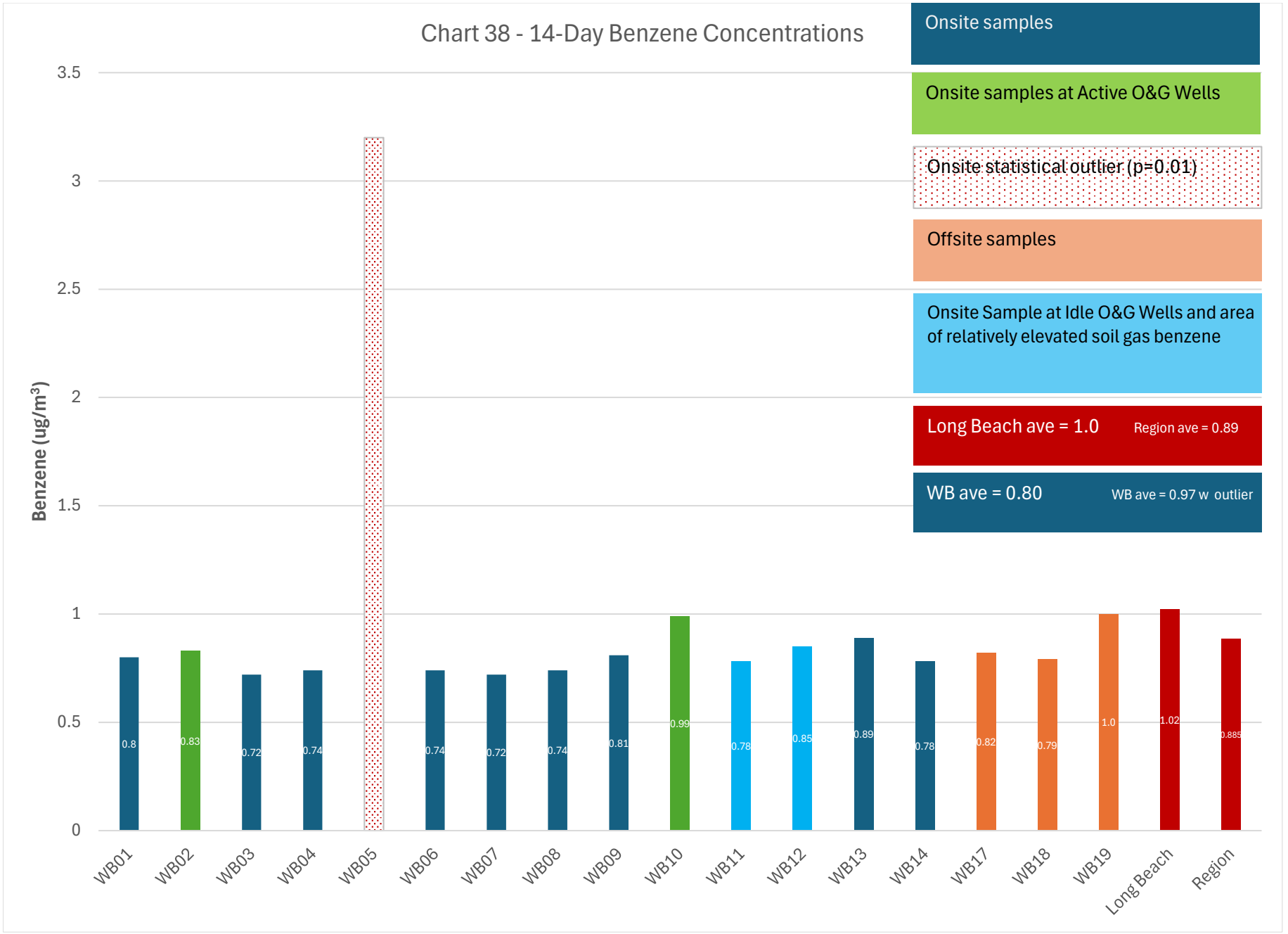


Chart 38 - 14-Day Benzene Concentrations
Benzene (ug/m³)
3.5
3
2.5
2
1.5
1
0.5
0
0.8
0.83
0.72
0.74
0.74
0.72
0.74
0.81
0.99
0.78
0.85
0.89
0.78
0.82
0.79
1.0
1.02
0.885
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
Long Beach
Region
Onsite samples
Onsite samples at Active O&G Wells
Onsite statistical outlier (p=0.01)
Offsite samples
Onsite Sample at Idle O&G Wells and area of relatively elevated soil gas benzene
Long Beach ave = 1.0
Region ave = 0.89
WB ave = 0.80
WB ave = 0.97 w outlier

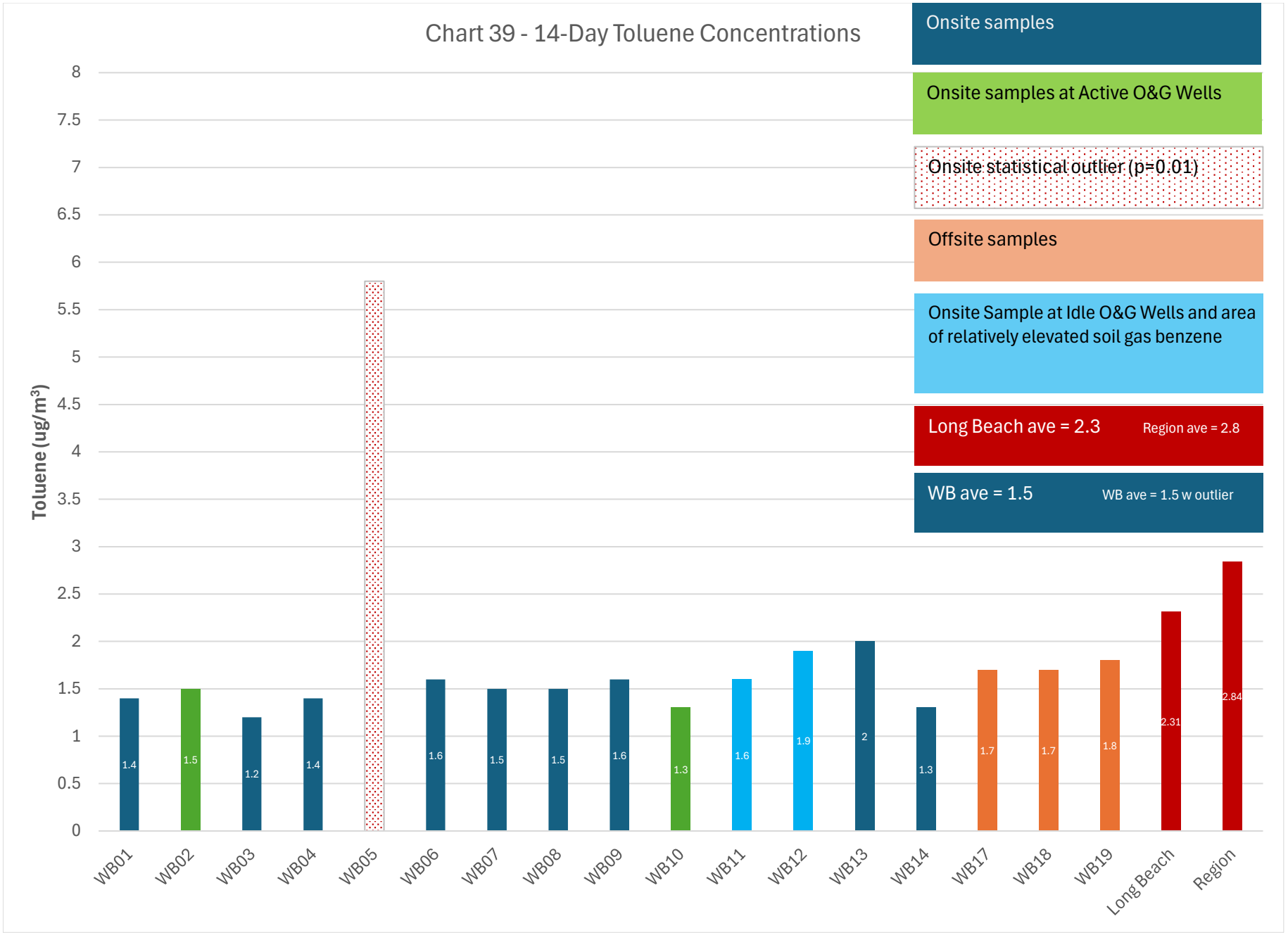


Chart 39 - 14-Day Toluene Concentrations
Onsite samples
Onsite samples at Active O&G Wells
Onsite statistical outlier (p=0.01)
Offsite samples
Onsite Sample at Idle O&G Wells and area of relatively elevated soil gas benzene
Long Beach ave = 2.3
Region ave = 2.8
WB ave = 1.5
WB ave = 1.5 w outlier
Toluene (ug/m³)
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
6.5
7
7.5
8
1.4
1.5
1.2
1.4
1.6
1.5
1.5
1.6
1.3
1.6
1.9
2
1.3
1.7
1.7
1.8
2.31
2.84
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
Long Beach
Region

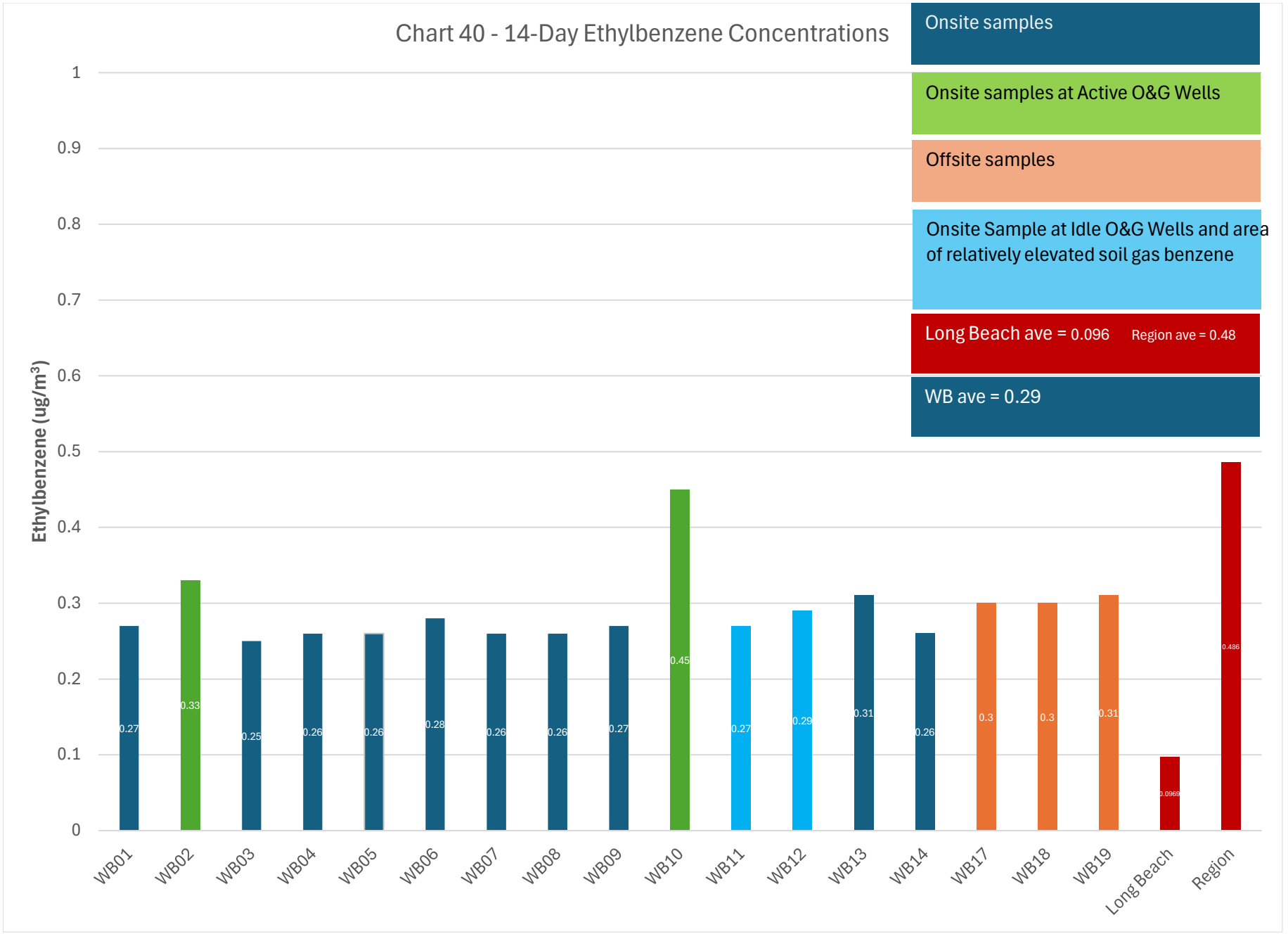


Chart 40 - 14-Day Ethylbenzene Concentrations
Onsite samples
Onsite samples at Active O&G Wells
Offsite samples
Onsite Sample at Idle O&G Wells and area of relatively elevated soil gas benzene
Long Beach ave = 0.096
Region ave = 0.48
WB ave = 0.29
Ethylbenzene (ug/m³)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.27
0.33
0.25
0.26
0.26
0.28
0.26
0.26
0.27
0.45
0.27
0.29
0.31
0.26
0.3
0.3
0.31
0.0969
0.486
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
Long Beach
Region

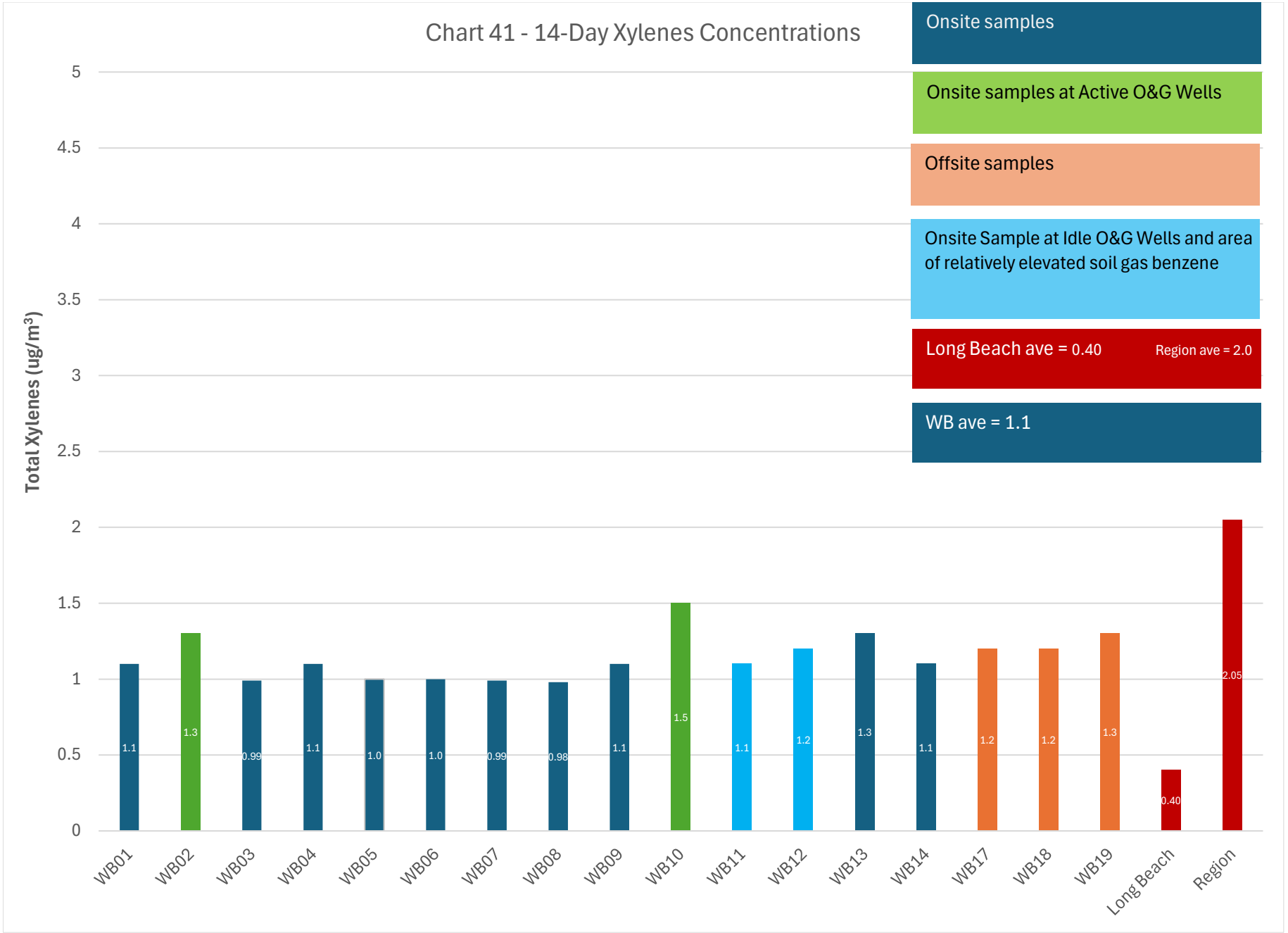


Chart 41 - 14-Day Xylenes Concentrations
Onsite samples
Onsite samples at Active O&G Wells
Offsite samples
Onsite Sample at Idle O&G Wells and area of relatively elevated soil gas benzene
Long Beach ave = 0.40
Region ave = 2.0
WB ave = 1.1
Total Xylenes (ug/m³)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1.1
1.3
0.99
1.1
1.0
1.0
0.99
0.98
1.1
1.5
1.1
1.2
1.3
1.1
1.2
1.2
1.3
0.40
2.05
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
Long Beach
Region

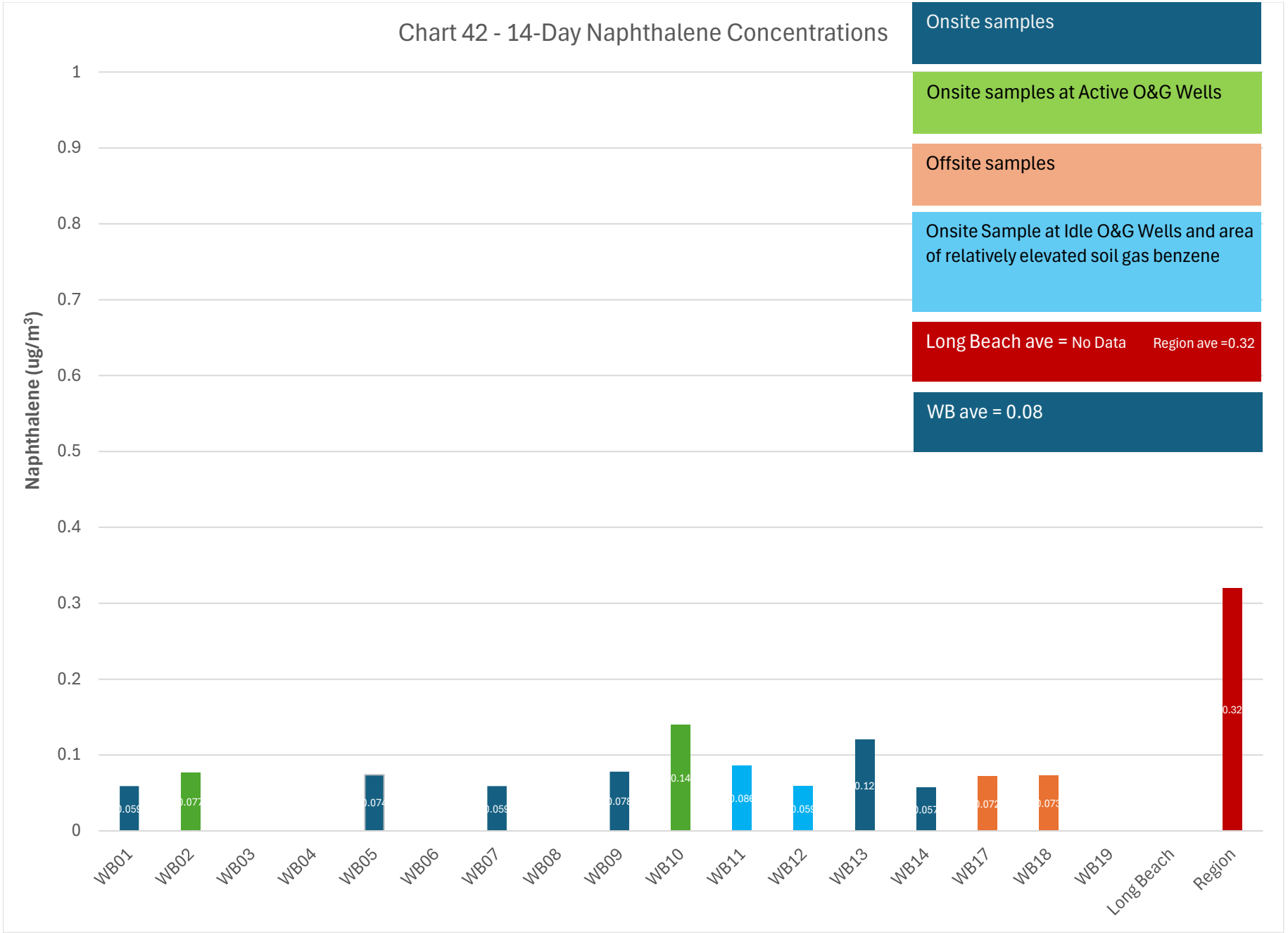


Chart 42 - 14-Day Naphthalene Concentrations
Onsite samples
Onsite samples at Active O&G Wells
Offsite samples
Onsite Sample at Idle O&G Wells and area of relatively elevated soil gas benzene
Long Beach ave = No Data
Region ave =0.32
WB ave = 0.08
Naphthalene (ug/m³)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.059
0.077
0.074
0.059
0.078
0.14
0.086
0.059
0.12
0.057
0.072
0.073
0.32
WB01
WB02
WB03
WB04
WB05
WB06
WB07
WB08
WB09
WB10
WB11
WB12
WB13
WB14
WB17
WB18
WB19
Long Beach
Region

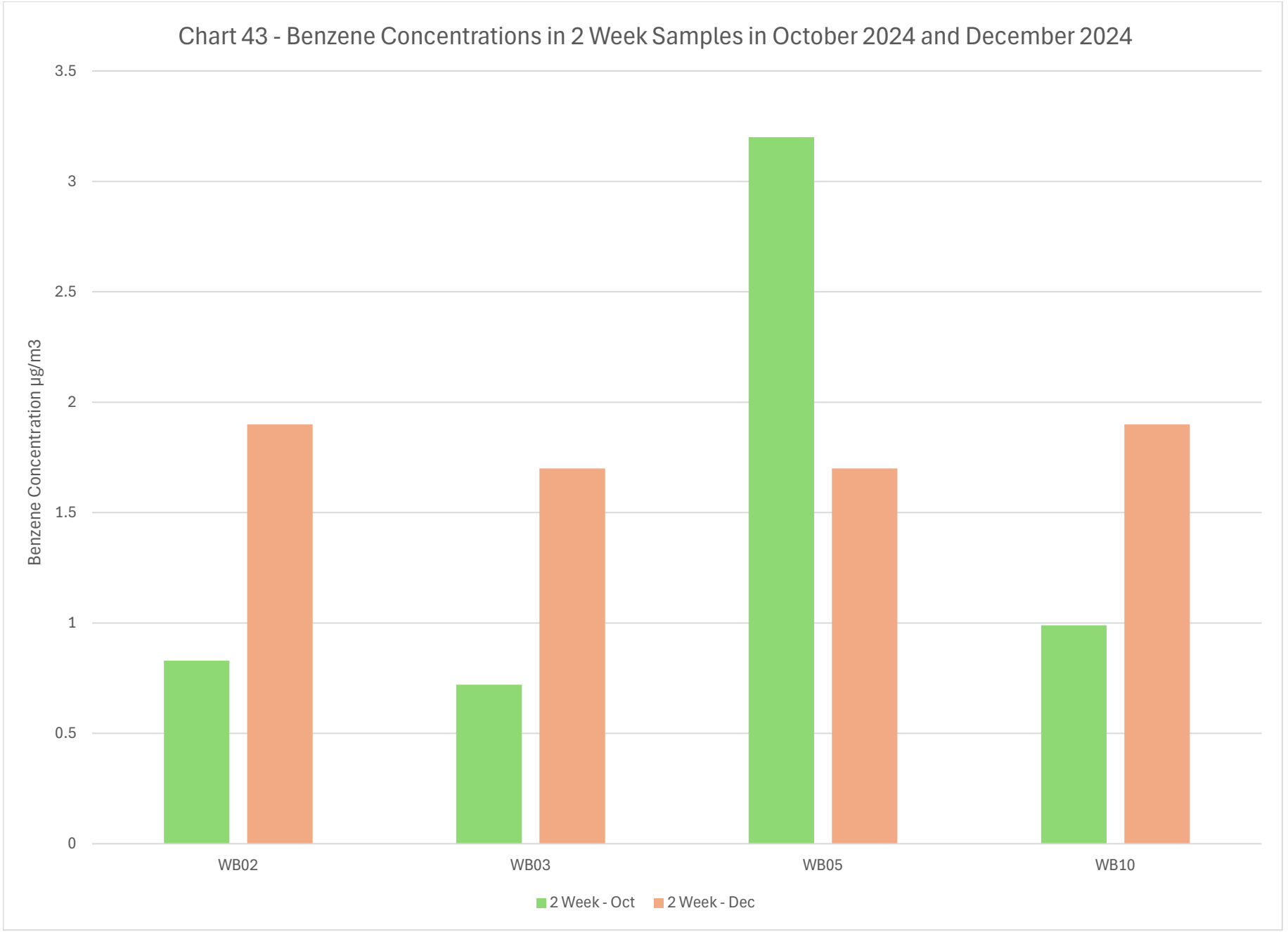


Chart 43 - Benzene Concentrations in 2 Week Samples in October 2024 and December 2024
Benzene Concentration µg/m3
3.5
3
2.5
2
1.5
1
0.5
0
WB02
WB03
WB05
WB10
2 Week - Oct
2 Week - Dec

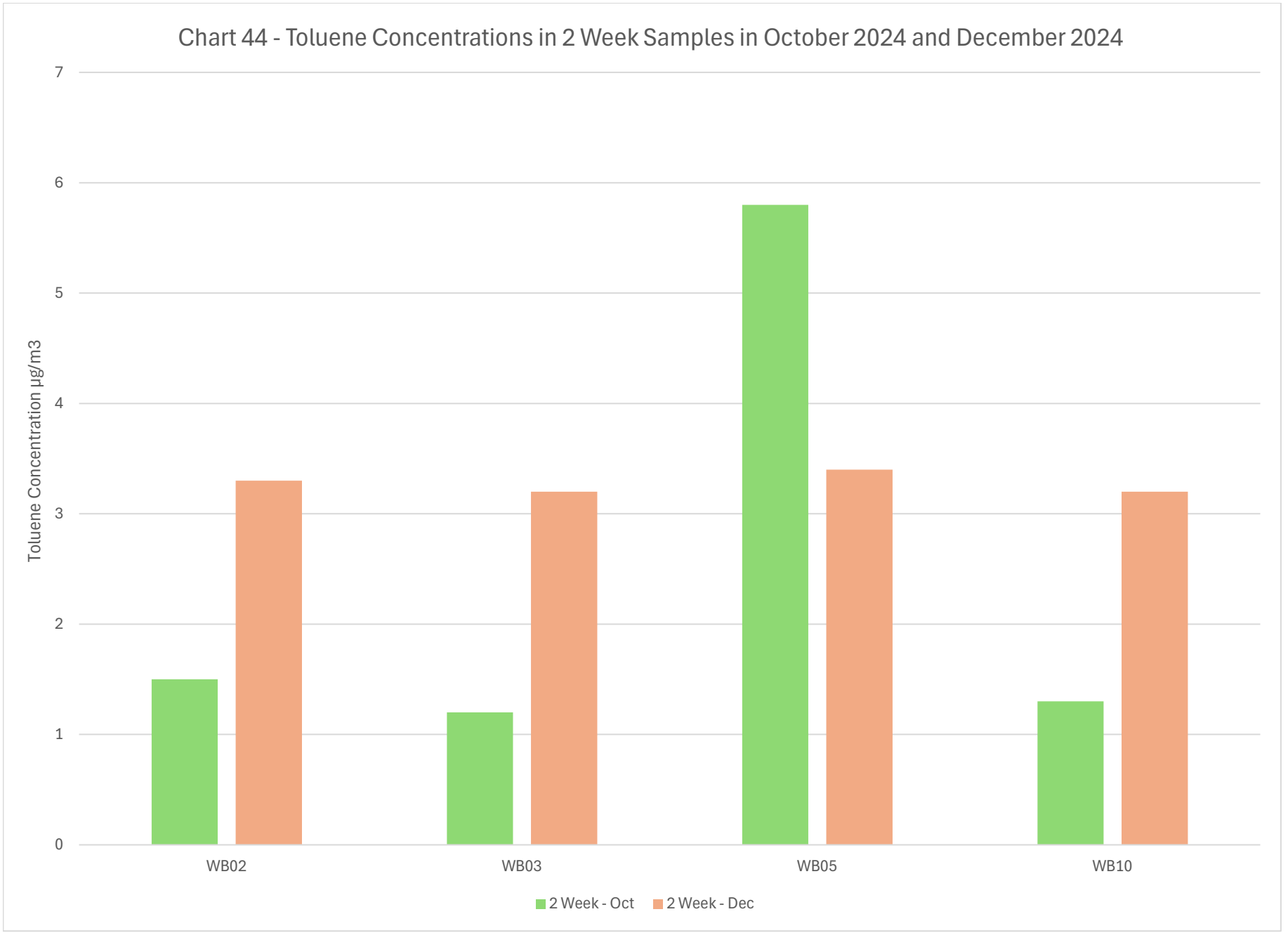


Chart 44 - Toluene Concentrations in 2 Week Samples in October 2024 and December 2024
Toluene Concentration µg/m3
7
6
5
4
3
2
1
0
WB02
WB03
WB05
WB10
2 Week - Oct
2 Week - Dec

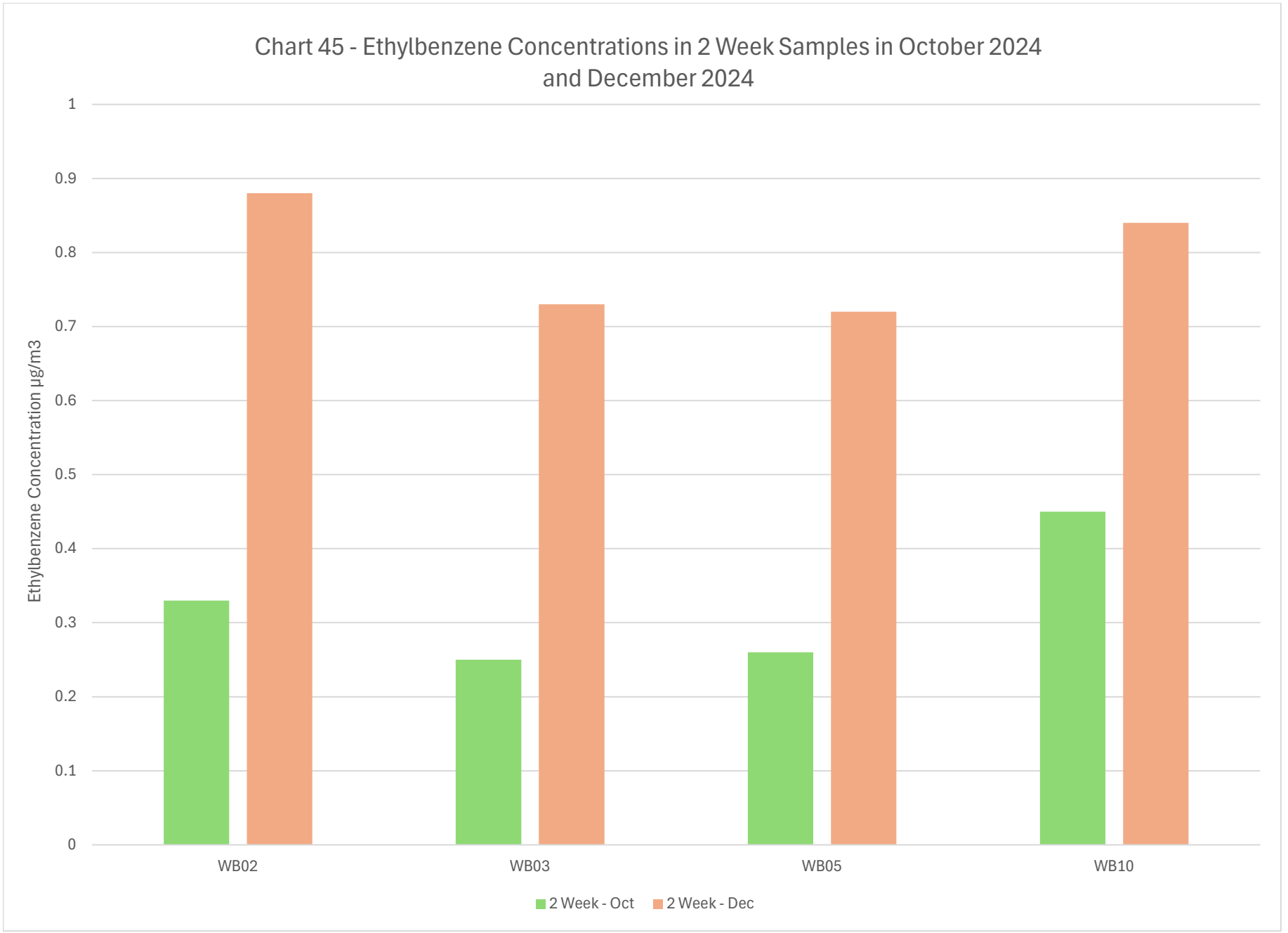
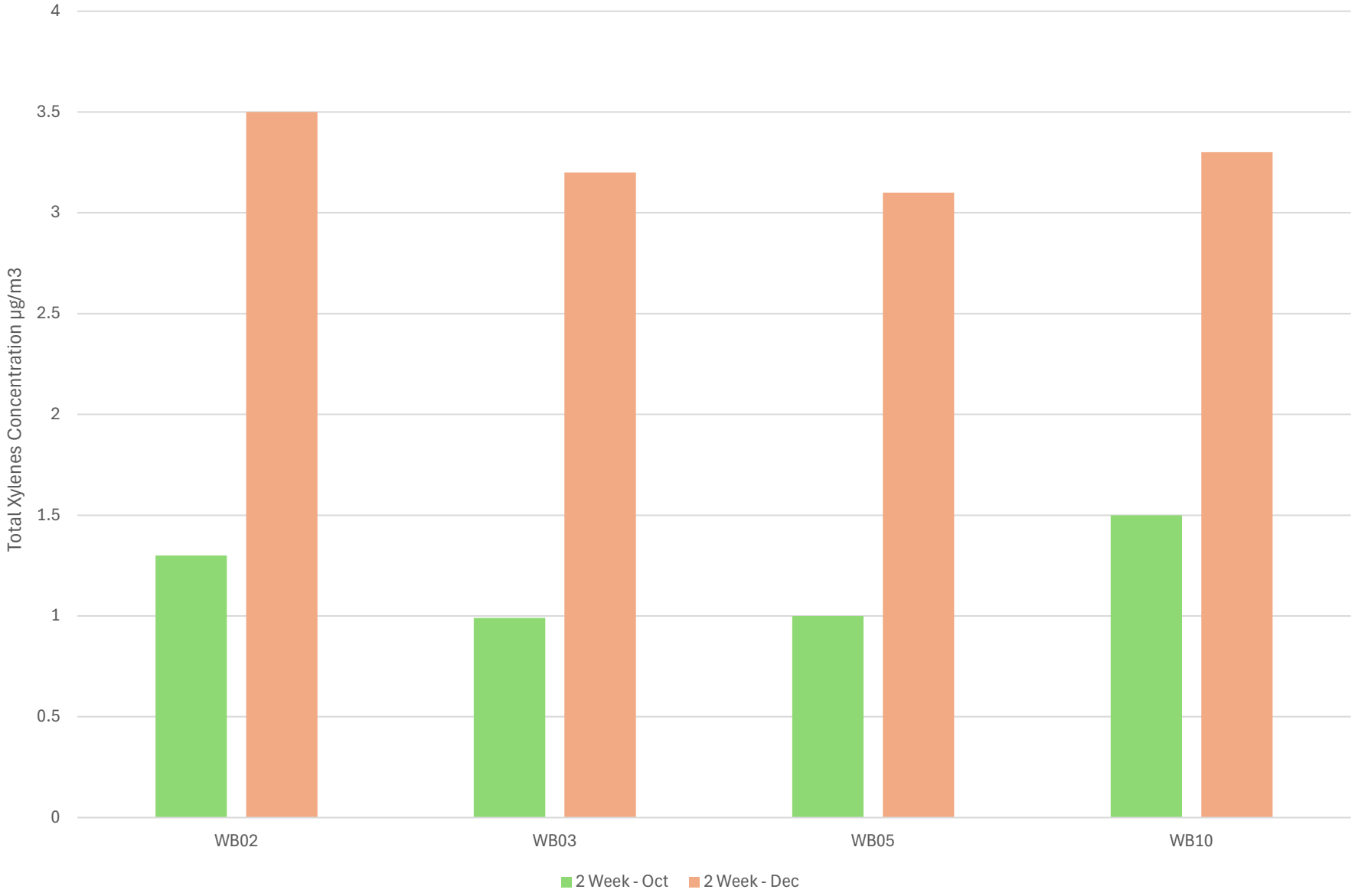


Chart 45 - Ethylbenzene Concentrations in 2 Week Samples in October 2024 and December 2024
Ethylbenzene Concentration µg/m3
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
WB02
WB03
WB05
WB10
2 Week - Oct
2 Week - Dec

Chart 46 - Total Xylenes Concentrations in 2 Week Samples in October 2024 and December 2024



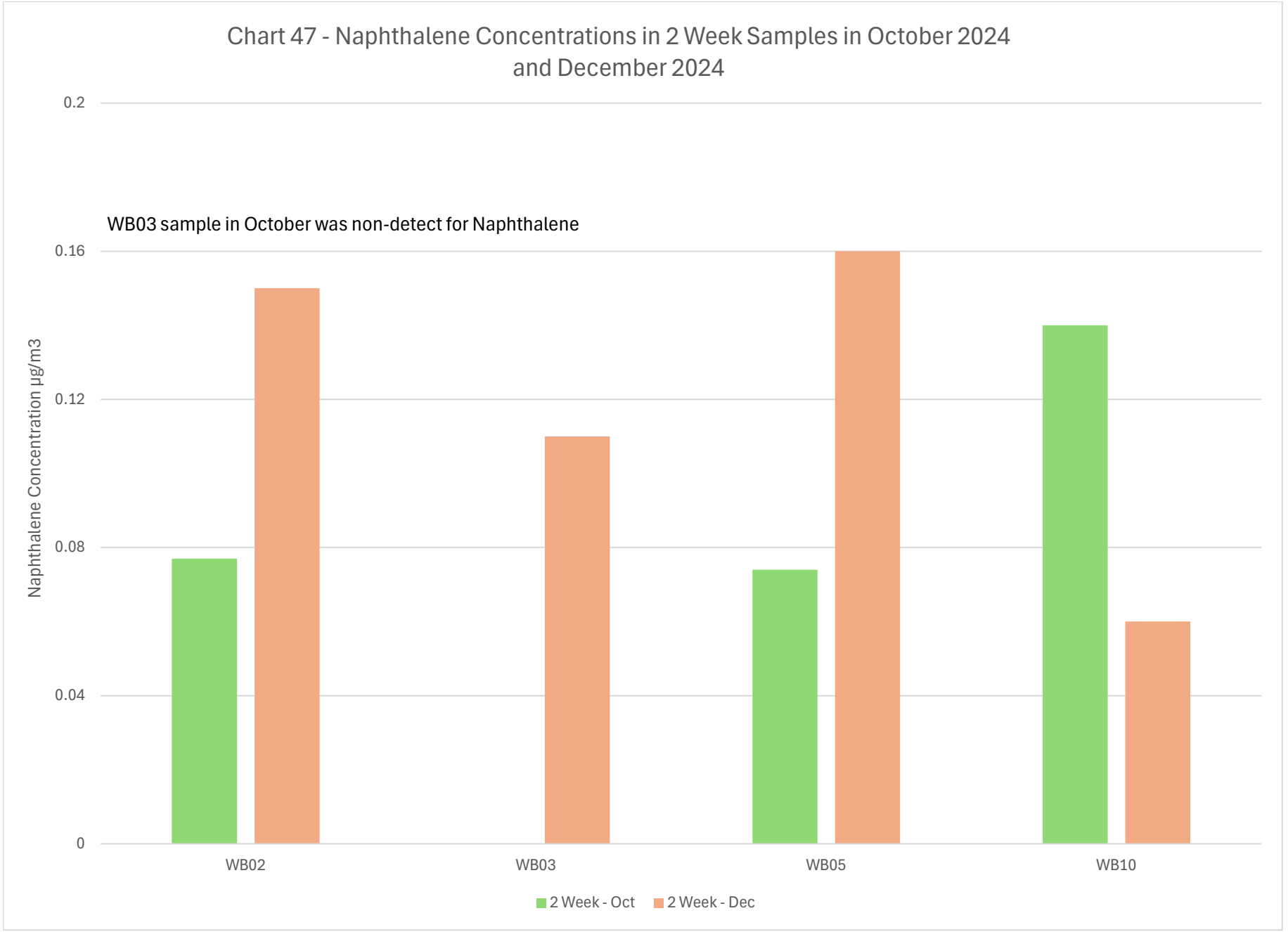


Chart 47 - Naphthalene Concentrations in 2 Week Samples in October 2024 and December 2024
WB03 sample in October was non-detect for Naphthalene
Naphthalene Concentration µg/m3
0.2
0.16
0.12
0.08
0.04
0
WB02
WB03
WB05
WB10
2 Week - Oct
2 Week - Dec

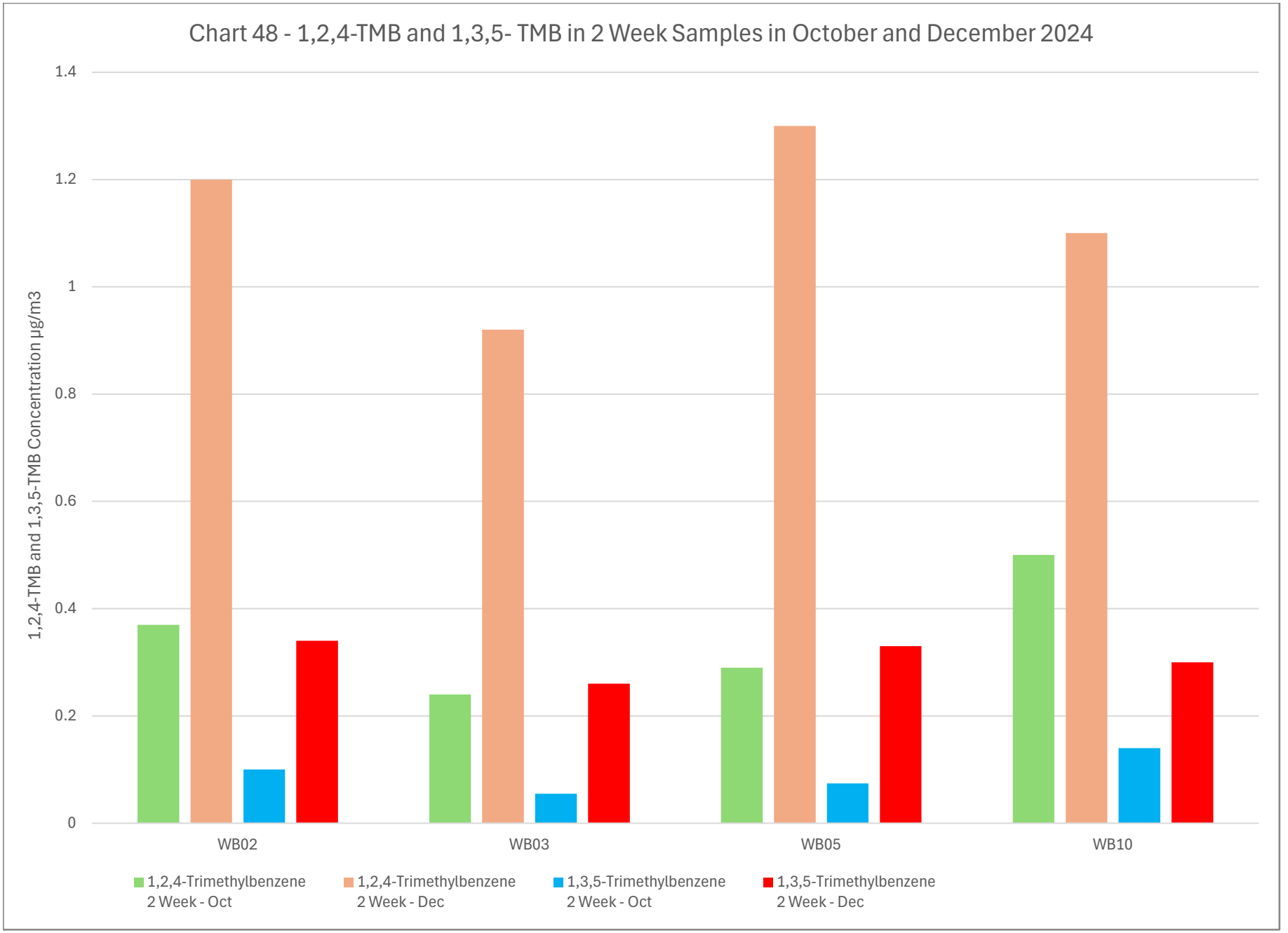


Chart 48 - 1,2,4-TMB and 1,3,5- TMB in 2 Week Samples in October and December 2024
1,2,4-TMB and 1,3,5-TMB Concentration µg/m3
1.4
1.2
1
0.8
0.6
0.4
0.2
0
WB02
WB03
WB05
WB10
1,2,4-Trimethylbenzene 2 Week - Oct
1,2,4-Trimethylbenzene 2 Week - Dec
1,3,5-Trimethylbenzene 2 Week - Oct
1,3,5-Trimethylbenzene 2 Week - Dec

Chart 49 WB 16 Windrose Diagram (December 2024)

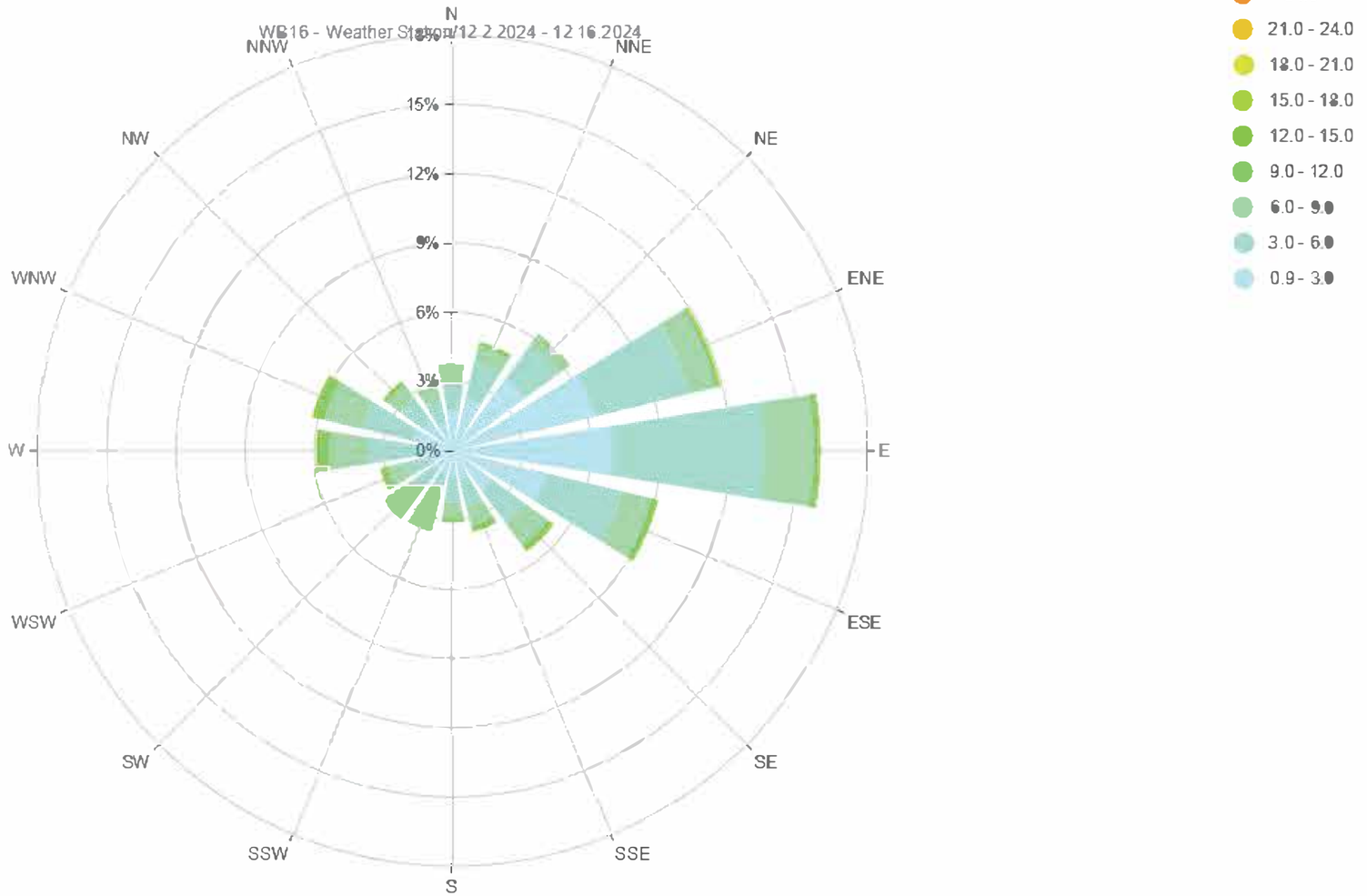


Chart 50 Windspeed (December 2024)

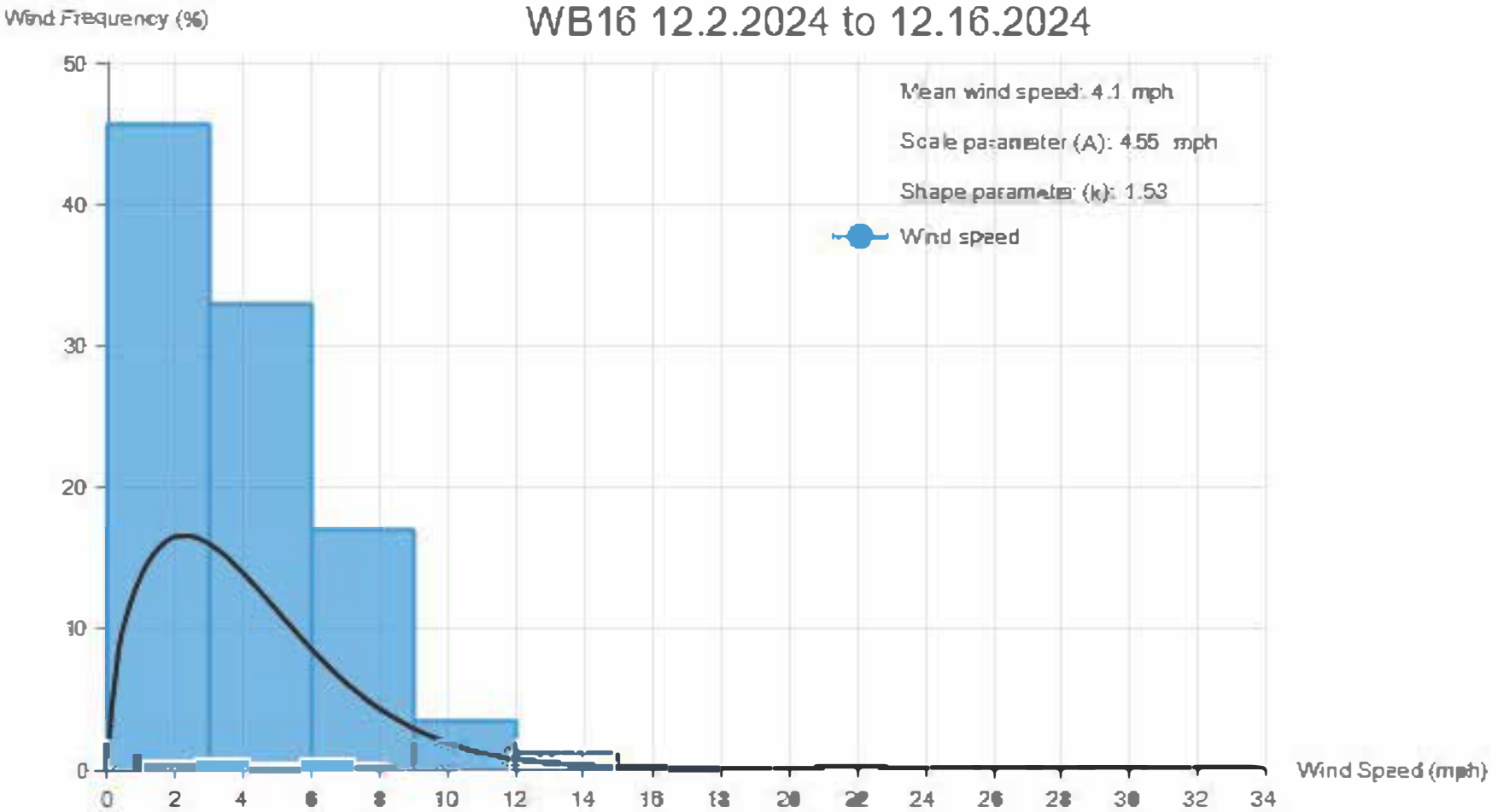


Chart 51: Average Concentration of Benzene Over Time By Sample Station (MATES V Data 2018-2019)

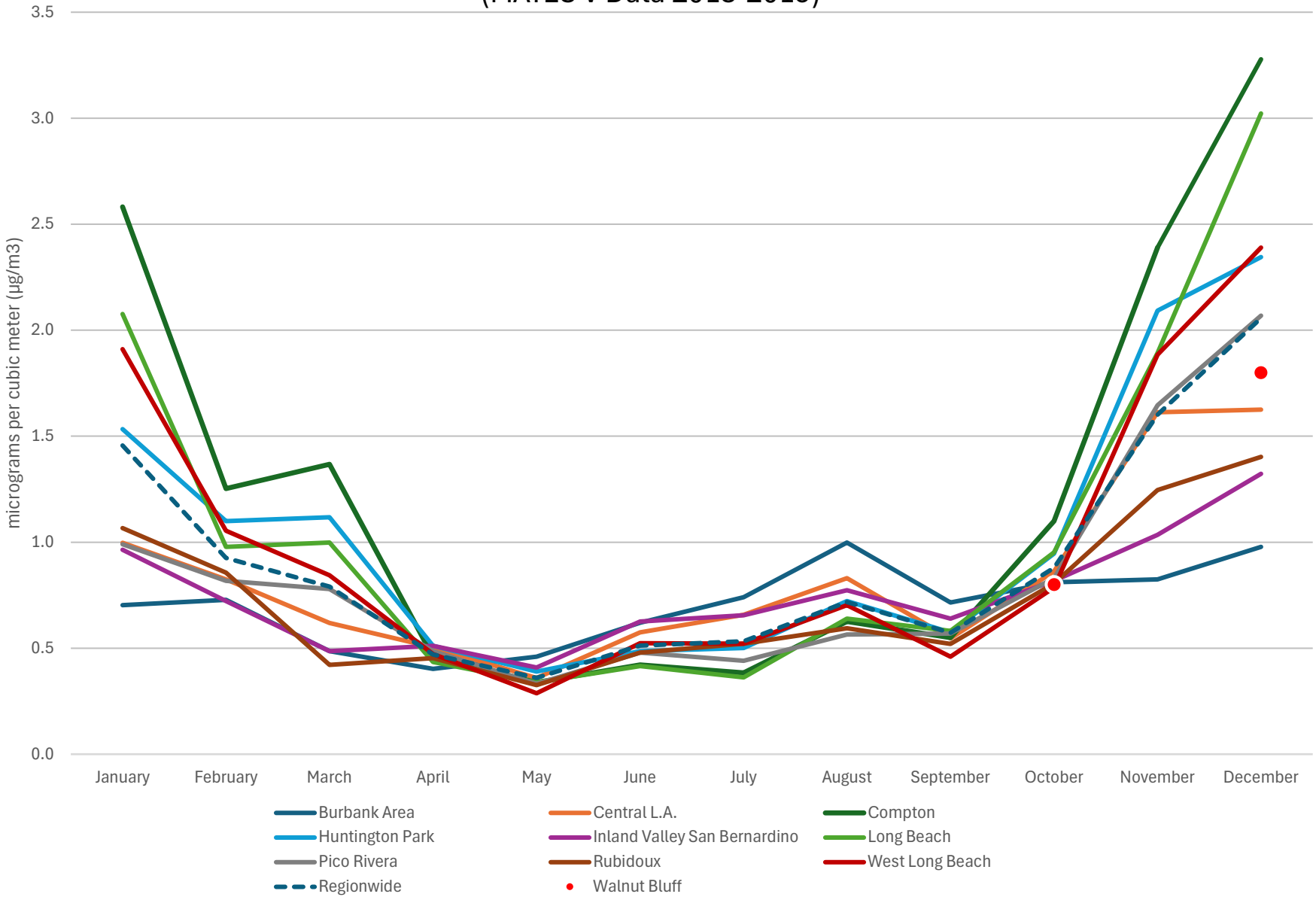
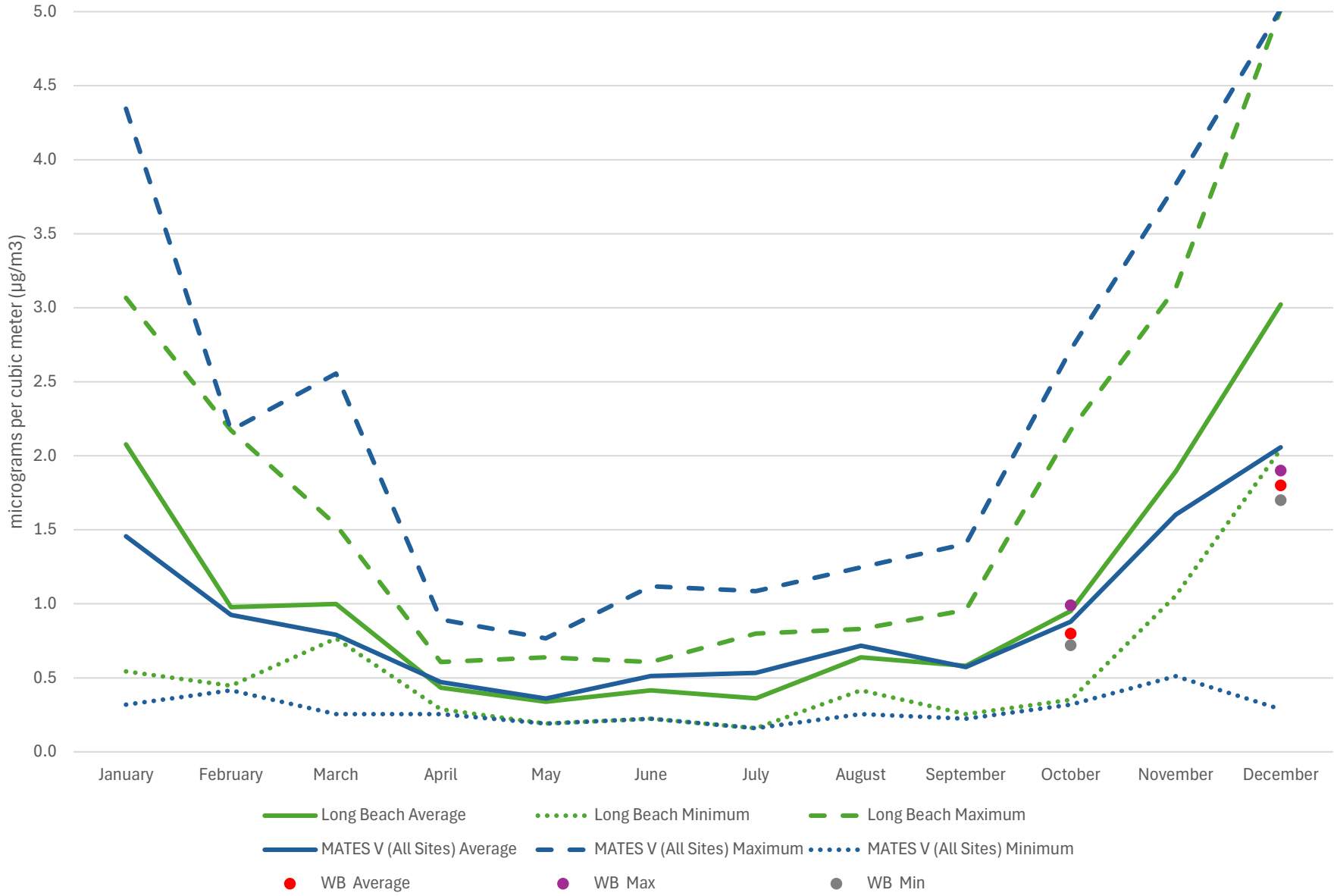


Chart 52: Comparison of Benzene Concentrations Detected at Walnut Bluff and MATES V



Appendix A

Field Data Sheets

2 Week Samples

Ambient Air Sampling Form

start

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/1/24

Sampled by: Elizabeth Hwang Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB17-14D	A70230	C70938	30	8	2 Weeks
Time/Date	10/1/24, 0935	10/10/24 14:32	10/15/24 0940		
Pressure (in HG)	30	15	8		
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB18-14D	A70252	C70812	31	10	2 Weeks
Time/Date	10/1/24, 10:20	10/10/24 14:46	10/15/24 1028		
Pressure (in HG)	31	17	10		
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB9-14D	A70102	C70012	29	6	2 Weeks
Time/Date	10/1/24, 10:44	10/9/24 11:22	10/10/24 13:16	10/15/24 11:05	
Pressure (in HG)	29	16	14	6	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB10-14D	A70238	C70331	31	6	2 Weeks
Time/Date	10/1/24, 10:49	10/9/24 11:20	10/10/24 13:45	10/15/24 11:12	
Pressure (in HG)	31	16	14	6	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB11-14D	A70404	C70352	30	5	2 Weeks
Time/Date	10/1/24 10:55	10/9/24 12:51	10/10/24 14:14	10/15/24 11:16	
Pressure (in HG)	30	16	14	5	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB12-14D	A70144	C70908	31	8	2 Weeks
Time/Date	10/1/24 11:03	10/9/24 11:59	10/10/24 13:50	10/15/24 11:20	
Pressure (in HG)	31	17	15.5	8	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB13-14D	A70531	C70249	30	7	2 Weeks
Time/Date	10/1/24 11:10	10/9/24 09:13	10/10/24 13:52	10/15/24 11:24	
Pressure (in HG)	30	17.5	15	7	
Comments:					

2 week Samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: signal Hill Date: _____

Sampled by: Elizabeth Hwang Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB14-14D	A70014	C70309	30	5	2 Weeks
Time/Date	10/1/24 11:16	10/9/24 09:28	10/10/24 13:56	10/15/24 11:28	
Pressure (in HG)	30	14	13	5	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WBQ2-14D	A70413	C70903	31	6	2 Weeks
Time/Date	10/1/24 11:20	10/9/24 10:33	10/10/24 12:51	10/15/24 11:34	
Pressure (in HG)	31	17	15	6	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB01-14D	A70124	C70196	30	8	2 Weeks
Time/Date	10/1/24 11:26	10/9/24 09:01	10/10/24 11:49	10/15/24 11:37	
Pressure (in HG)	30	18	16	8	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB03-14D	A70027	C70059	31	7	2 Weeks
Time/Date	10/1/24 11:33	10/9/24 10:36	10/10/24 12:41	10/15/24 11:46	
Pressure (in HG)	31	17	15	7	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB 05-14D	A70163	C70800	31	10	2 Weeks
Time/Date	10/1/24 11:43	10/9/24 4:06	10/10/24 12:49	10/15/24 12:01	
Pressure (in HG)	31	19	17	10	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB04-14	A70110	C70932	28	7	2 Weeks
Time/Date	10/1/24 11:47	10/9/24 10:48	10/10/24 12:50	10/15/24 11:50	
Pressure (in HG)	28	16	15	7	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB06-14D	A70403	C70916	30	3	2 weeks
Time/Date	10/1/24 11:52	10/9/24 10:43	10/10/24 13:06	10/15/24 11:56	
Pressure (in HG)	30	15	13.5	3	
Comments:					

2 week samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: _____

Sampled by: Elizabeth Hwang Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB07-14D	A70248	C70901	31	7	2 Weeks
Time/Date	10/1/24 11:57	10/9/24 08:45	10/10/24 13:08	10/15/24 1206	
Pressure (in HG)	31	18	16	7	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB08-14D	A70079	C70914	30	8	2Weeks
Time/Date	10/1/24 12:01	10/9/24 11:14	10/10/24 13:12	10/15/24 12:11	
Pressure (in HG)	30	17	15	8	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB19-14D	A70118	C70081	30	9	2Weeks
Time/Date	10/1/24 14:51	10/9/24 09:53	10/10/24 14:23	10/15/24 1444	
Pressure (in HG)	30	19	17	9	
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date				~~10/15/24~~	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

24Hr samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24

Sampled by: Elizabeth Hwang, Olivia Hogan Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB01-24H	6024fc	0626	30	1	24 Hr
Time/Date	10/9/24 12:33	10/10/24 11:48	10/9/24 12:33	10/10/24 11:48	
Pressure (in HG)	30	1			
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB02-24H	20459	813	30	2	24Hr
Time/Date			10/9/24 12:36	10/10/24 12:38	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB03-24	13897	0794	30	2	24 Hr
Time/Date			10/9/24 12:38	10/10/24 12:42	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB04-24H	6026fc	37493	30	3	24 Hr
Time/Date			10/9/24 12:42	10/10/24 12:44	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB05-24H	18716	c8346	29	3	24 Hr
Time/Date			10/9/24 12:46	10/10/24 12:46	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB06-24H	6027fc	0747	30	3	24 Hr
Time/Date			10/9/24 13:04	10/10/24 13:05	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB07-24H	10001	0616	30	2	24Hr
Time/Date			10/9/24 13:06	10/10/24 13:08	
Pressure (in HG)					
Comments:					

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24 / 10/10/24

Sampled by: Elizabeth Hwang / Olivia Hogan Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB08-24H	6030fc	35416	30	2	
Time/Date			10/9/24 13:12	10/10/24 13:11	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB09-24	6022fc	0762	30	2	
Time/Date			10/9/24 13:17	10/10/24 12:20	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB10-24H	18714	0161	30	2	
Time/Date			10/9/24 14:07	10/10/24 13:44	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB11-24H	10012	0684	30	3	
Time/Date			10/9/24 14:10	10/10/24 14:13	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB12-24H	5982	27754	30	2	
Time/Date			10/9/24 14:14	10/10/24 12:30	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB13-24H	6031	0681	30	1	
Time/Date			10/9/24 14:16	10/10/24 13:50	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB14-24H	6025fc	0484	30	2	
Time/Date			10/9/24 14:19	10/10/24 13:55	
Pressure (in HG)					
Comments:					

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24

Sampled by: Elizabeth Hwang / Olivia Hagan Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB19-24H	5980	819	30	2	
Time/Date			10/9/24 14:30	10/10/24 14:21	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB17-24H	20197	0685	31	2	
Time/Date			10/9/24 14:47	10/10/24 1431	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB18-24H	6029fc	27756	30	1.5	
Time/Date			10/9/24 14:58	10/10/24 14:45	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

1Hr Samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24

Sampled by: Elizabeth Hwang / Olivia Hogan Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB07-1H	13685	0790	28	4	1Hr
Time/Date			10/9/24 08:36	10/9/24 09:42	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB01-1H	18718	0787	29	5	1Hr
Time/Date			10/9/24 09:00	10/9/24 09:59	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB13-1H	13676	49967	28	4.5	1Hr
Time/Date			10/9/24 09:10	10/9/24 10:09	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB14-1H	20201	802	29	5	1Hr
Time/Date			10/9/24 09:18	10/9/24 10:19	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB19-1H	6032	0744	30	5	1Hr
Time/Date			10/9/24 09:52	10/9/24 10:54	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB02-1H	6057	0796	29	4	1Hr
Time/Date			10/9/24 10:31	10/9/24 11:31	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB03-1H	5983	0803	27	4	1Hr
Time/Date			10/9/24 10:35	10/9/24 11:33	
Pressure (in HG)					
Comments:					

1Hr Samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24

Sampled by: Elizabeth Hwang / Olivia Hogan Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB06-1H	13686	43531	30	4	1Hr
Time/Date			10/9/24 10:43	10/9/24 11:42	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB04-1H	6016	23803	29	4	1Hr
Time/Date			10/9/24 10:47	10/9/24 11:46	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB05-1H	6013	37503	29	4	1 Hr
Time/Date			10/9/24 11:06	10/9/24 12:08	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB08-1H	17517	49958	29	4	1 Hr
Time/Date			10/9/24 11:11	10/9/24 12:11	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB10-1H	17512	0679	28	3	1Hr
Time/Date			10/9/24 11:17	10/9/24 12:20	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB09-1H	7629	0800	29	4	1Hr
Time/Date			10/9/24 11:22	10/9/24 12:24	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB11-1H	18715	35427	27	5	1Hr
Time/Date			10/9/24 1192	10/9/24 1251	
Pressure (in HG)					
Comments:					

1HR samples

Ambient Air Sampling Form

Project Name: Walnut Bluff Site Location: Signal Hill Date: 10/9/24

Sampled by: Elizabeth Hwang / Olivia Hogan Weather/Temp (°F): _____

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB12-1H	13694	C8345	28	3	1 Hr
Time/Date			10/9/24 11:58	10/9/24 12:58	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB17-1H	13898	37519	29	2	1Hr
Time/Date			10/9/24 13:30	10/9/24 14:37	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
WB18-1H	13677	0761	29	3	1 Hr
Time/Date			10/9/24 13:52	10/9/24 14:56	
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Sample ID	Manifold #	Canister #	Start Pressure	End Pressure	Duration (hr or weeks)
Time/Date					
Pressure (in HG)					
Comments:					

Appendix B

Quality Assurance Evaluation of Laboratory Data

Laboratory Data Review Checklist for Air and Soil Vapor Samples

Site Name:

Walnut Bluff

Date:

12-11-2024

Consultant Firm:

Catalyst Environmental Solutions

Completed By (Name):

Yola Bayram

Laboratory Name:

Enthalpy Analytical Laboratory

Laboratory Report Number:

518235

Laboratory Report Date:

10/22/24

Laboratory Report Number:

518235

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

10/22/24

1. **Laboratory**

   a. Did an ELAP or NELAP-certified laboratory receive and perform all of the submitted sample analyses?

   Yes■ No☐ N/A☐ Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ELAP or NELAP-certified?

   Yes☐ No☐ N/A■ Comments:

2. **Chain of Custody (CoC)**

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes■ No☐ N/A☐ Comments:

   b. Correct analyses requested per approved Work Plan?

   Yes■ No☐ N/A☐ Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Sample condition documented? (e.g., Samples collected in gas tight, opaque/dark Summa canisters or other appropriate container? Canister vacuum/pressure checked, recorded upon receipt and contained no open valves?)

   Yes■ No☐ N/A☐ Comments:

   b. If sample condition compromised, is Data quality or usability affected?

Laboratory Report Number:

518235

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

10/22/24

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

b. Discrepancies, errors, and Lab QC failures identified by the lab?

Yes☒ No☐ N/A☐ If Yes, describe errors. Comments:

c. Does Lab describe corrective actions implemented?

Yes☒ No☐ N/A☐ If Yes, describe corrective actions. Comments:

d. Described impact to data quality/usability according to the case narrative.

No issues encountered

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. Are the reported reporting limits (RLs) less than the data quality objectives or screening level for the project, as defined in the approved work plan?

Yes☐ No☒ N/A☐ Comments:

See attached. none of the analytes are related to petroleum hydrocarbons

Laboratory Report Number:

518235

Laboratory Report Date:

10/22/24

Provide an explanation in comment box for any N/A or No box checked.

d. Did Lab dilute the samples?

Yes☒ No☐ N/A☐ Comments:

e. Describe impact to data quality or usability.:

no impact

6. Lab QC Samples

a. Lab Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than RL, Lab QA/QC criteria, and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iii. Describe impact to data quality from Method Blank results.

None

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis, and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes☒ No☐ N/A☐ Comments:

Laboratory Report Number:

518235

Laboratory Report Date:

10/22/24

Provide an explanation in comment box for any N/A or No box checked.

iii. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iv. If %R or RPD is outside acceptable limits, what samples are affected?:

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A■ Comments:

vii. Describe impact to data quality or usability from LCS/LCSD results?:

c. Lab Surrogates – VOCs only

i. Are surrogate recoveries reported for VOC analyses – field, QC and laboratory samples?

Yes■ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iii. Describe impacts to data quality or usability from VOC surrogate data?

Laboratory Report Number:

518235

Laboratory Report Date:

10/22/24

Provide an explanation in comment box for any N/A or No box checked.

7. Field QC Samples

a. Field Duplicate

i. Field duplicate submitted per matrix, analysis, and approved Work Plan?

Yes☐ No☐ N/A■ Comments:

No field duplicate

ii. Submitted blind to lab?

Yes☐ No☐ N/A■ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% air and soil vapor)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A■ Comments:

iv. Describe impact to data quality or usability from Field Duplicate data.:

b. Field Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A■ Comments:

i. Describe impact to data quality or usability from Field Blank results?:

no field blank submitted per work plan

Laboratory Report Number:

518235

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

10/22/24

8. Data Flags/Qualifiers

a. Are the flags clearly defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

b. Do the affected sample(s) have appropriate data flags?

Yes☒ No☐ N/A☐ Comments:

518235																						
Sample ID	*Units*	*dtscC*	*dtscNC*	*RSLc*	*RSLnc*	*WB01-14D*	*WB02-14D*	*WB03-14D*	*WB04-14D*	*WB05-14D*	*WB06-14D*	*WB07-14D*	*WB08-14D*	*WB09-14D*	*WB10-14D*	*WB11-14D*	*WB12-14D*	*WB13-14D*	*WB14-14D*	*WB17-14D*	*WB18-14D*	*WB19-14D*
Sample Date						*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*	*10/15/2024*
Lab Sample ID						*518235-001*	*518235-002*	*518235-003*	*518235-004*	*518235-005*	*518235-006*	*518235-007*	*518235-008*	*518235-009*	*518235-010*	*518235-011*	*518235-012*	*518235-013*	*518235-014*	*518235-015*	*518235-016*	*518235-017*
1,1,1,2-Tetrachloroethane	ug/m3	0.38	130	0.38	--	0.076	0.069	0.069	0.069	0.082	0.069	0.069	0.076	0.069	0.069	0.069	0.069	0.076	0.069	0.076	0.082	0.076
1,1,1-Trichloroethane	ug/m3	--	1000	--	5200	0.06	0.055	0.055	0.055	0.065	0.055	0.055	0.06	0.055	0.055	0.055	0.055	0.06	0.055	0.06	0.065	0.06
1,1,2,2-Tetrachloroethane	ug/m3	0.048	83	0.048	--	0.076	0.069	0.069	0.069	0.082	0.069	0.069	0.076	0.069	0.069	0.069	0.069	0.076	0.069	0.076	0.082	0.076
1,1,2-Trichloroethane	ug/m3	--	--	0.18	0.21	0.06	0.055	0.055	0.055	0.065	0.055	0.055	0.06	0.055	0.055	0.055	0.055	0.06	0.055	0.06	0.065	0.06
1,1-Dichloroethane	ug/m3	1.8	830	1.8	--	0.045	0.04	0.04	0.04	0.049	0.04	0.04	0.045	0.04	0.04	0.04	0.04	0.045	0.04	0.045	0.049	0.045
1,1-Dichloroethene	ug/m3	--	73	--	4.1	0.044	0.04	0.04	0.04	0.048	0.04	0.04	0.044	0.04	0.04	0.04	0.04	0.044	0.04	0.044	0.048	0.044
1,2,4-Trichlorobenzene	ug/m3	0.38	2.1	--	2.1	0.082	0.074	0.074	0.074	0.089	0.074	0.074	0.082	0.074	0.074	0.074	0.074	0.082	0.074	0.082	0.089	0.082
1,2,4-Trimethylbenzene	ug/m3	--	--	--	63	**0.3**	**0.37**	**0.24**	**0.29**	**0.29**	**0.26**	**0.29**	**0.27**	**0.29**	**0.5**	**0.3**	**0.32**	**0.35**	**0.27**	**0.33**	**0.44**	**0.3**
1,2-Dibromoethane	ug/m3	--	0.83	0.0047	9.4	0.085	0.077	0.077	0.077	0.092	0.077	0.077	0.085	0.077	0.077	0.077	0.077	0.085	0.077	0.085	0.092	0.085
1,2-Dichlorobenzene	ug/m3	--	--	--	210	0.066	0.06	0.06	0.06	0.072	0.06	0.06	0.066	0.06	0.06	0.06	0.06	0.066	0.06	0.066	0.072	0.066
1,2-Dichloroethane	ug/m3	--	--	0.11	7.3	**0.063**	**0.066**	**0.062**	**0.062**	**0.061**	**0.062**	**0.061**	**0.062**	**0.063**	**0.072**	**0.061**	**0.062**	**0.065**	**0.063**	**0.062**	**0.062**	**0.067**
1,2-Dichloropropane	ug/m3	--	--	0.76	4.2	0.051	0.046	0.046	0.046	0.055	0.046	0.046	0.051	0.046	0.046	0.046	0.046	0.051	0.046	0.051	0.055	0.051
1,3,5-Trimethylbenzene	ug/m3	--	--	--	63	**0.074**	**0.1**	**0.055**	**0.065**	**0.074**	**0.065**	**0.065**	**0.061**	**0.068**	**0.14**	**0.073**	**0.074**	**0.085**	**0.067**	**0.085**	**0.11**	**0.081**
1,3-Dichlorobenzene	ug/m3	--	--	--	--	0.066	0.06	0.06	0.06	0.072	0.06	0.06	0.066	0.06	0.06	0.06	0.06	0.066	0.06	0.066	0.072	0.066
1,4-Dichlorobenzene	ug/m3	--	--	0.26	830	0.066	0.06	0.06	0.06	0.072	0.06	0.06	0.066	0.06	0.06	0.06	0.06	0.066	0.06	0.066	0.072	0.066
2-Chlorotoluene	ug/m3	--	83	--	--	0.057	0.052	0.052	0.052	0.062	0.052	0.052	0.057	0.052	0.052	0.052	0.052	0.057	0.052	0.057	0.062	0.057
Benzene	ug/m3	0.097	3.1	0.36	31	**0.8**	**0.83**	**0.72**	**0.74**	**3.2**	**0.74**	**0.72**	**0.74**	**0.81**	**0.99**	**0.78**	**0.85**	**0.89**	**0.78**	**0.82**	**0.79**	**1**
Benzyl chloride	ug/m3	--	--	0.057	1	0.057	0.052	0.052	0.052	0.062	0.052	0.052	0.057	0.052	0.052	0.052	0.052	0.057	0.052	0.057	0.062	0.057
Bromodichloromethane	ug/m3	0.076	83	0.076	--	0.074	0.067	0.067	0.067	0.08	0.067	0.067	0.074	0.067	0.067	0.067	0.067	0.074	0.067	0.074	0.08	0.074
Bromoform	ug/m3	2.6	83	2.6	--	0.11	0.1	0.1	0.1	0.12	0.1	0.1	0.11	0.1	0.1	0.1	0.1	0.11	0.1	0.11	0.12	0.11
Bromomethane	ug/m3	--	--	--	5.2	**0.08**	**0.084**	**0.082**	**0.075**	**0.084**	**0.081**	**0.085**	**0.08**	**0.092**	**0.083**	**0.089**	**0.081**	**0.083**	**0.085**	**0.084**	**0.11**	**0.08**
Carbon Tetrachloride	ug/m3	0.47	42	0.47	100	**0.46**	**0.45**	**0.47**	**0.47**	**0.46**	**0.47**	**0.46**	**0.47**	**0.47**	**0.46**	**0.47**	**0.46**	**0.46**	**0.46**	**0.46**	**0.47**	**0.45**
Chlorobenzene	ug/m3	--	--	--	52	0.051	0.046	0.046	0.046	0.055	0.046	0.046	0.051	0.046	0.046	0.046	0.046	0.051	0.046	0.051	0.055	0.051
Chloroethane	ug/m3	--	--	--	4200	0.029	**0.049**	0.026	0.026	0.032	**0.045**	**0.088**	**0.058**	**0.042**	0.026	**0.089**	**0.1**	0.029	0.026	**0.032**	**0.035**	**0.069**
Chloroform	ug/m3	--	--	0.12	2	**0.14**	**0.16**	**0.17**	**0.16**	**0.16**	**0.15**	**0.14**	**0.14**	**0.18**	**0.15**	**0.14**	**0.14**	**0.17**	**0.13**	**0.14**	**0.14**	**0.13**
Chloromethane	ug/m3	--	--	--	94	**0.99**	**0.99**	**1**	**1**	**1**	**1**	**0.99**	**1**	**1**	**0.98**	**1**	**1**	**1**	**1**	**1**	**1.1**	**1**
Dibromochloromethane	ug/m3	0.13	83	--	--	0.094	0.085	0.085	0.085	0.1	0.085	0.085	0.094	0.085	0.085	0.085	0.085	0.094	0.085	0.094	0.1	0.094
Ethylbenzene	ug/m3	--	--	1.1	1000	**0.27**	**0.33**	**0.25**	**0.26**	**0.26**	**0.28**	**0.26**	**0.26**	**0.27**	**0.45**	**0.27**	**0.29**	**0.31**	**0.26**	**0.3**	**0.3**	**0.31**
Freon 113	ug/m3	--	--	--	5200	**0.46**	**0.44**	**0.47**	**0.47**	**0.46**	**0.46**	**0.46**	**0.47**	**0.47**	**0.46**	**0.47**	**0.46**	**0.46**	**0.46**	**0.46**	**0.47**	**0.45**
Freon 114	ug/m3	--	--	--	--	**0.11**	**0.12**	**0.12**	**0.12**	**0.11**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.11**	**0.11**	**0.11**	**0.12**	**0.11**
Freon 12	ug/m3	--	--	--	100	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.4**	**2.3**
Hexachlorobutadiene	ug/m3	0.13	4.2	0.13	--	0.12	0.11	0.11	0.11	0.13	0.11	0.11	0.12	0.11	0.11	0.11	0.11	0.12	0.11	0.12	0.13	0.12
Methylene Chloride	ug/m3	1	420	100	630	**0.55**	**0.6**	**0.59**	**1.2**	**0.76**	**0.62**	**0.67**	**0.74**	**2.8**	**0.85**	**0.57**	**0.57**	**0.6**	**0.59**	**0.53**	**0.56**	**0.5**
Naphthalene	ug/m3	--	--	0.083	3.1	**0.059**	**0.077**	0.052	0.052	**0.074**	0.052	**0.059**	0.058	**0.078**	**0.14**	**0.086**	**0.059**	**0.12**	**0.057**	**0.072**	**0.073**	0.058
Styrene	ug/m3	--	940	--	1000	**0.1**	**0.12**	**0.076**	**0.11**	**0.13**	**0.11**	**0.12**	**0.099**	**0.12**	**0.13**	**0.13**	**0.14**	**0.32**	**0.086**	**0.13**	**0.13**	**0.18**
Tetrachloroethene	ug/m3	0.46	42	11	42	0.075	0.068	0.068	0.068	0.081	0.068	0.068	0.075	0.068	0.068	0.068	0.068	**0.08**	0.068	0.075	0.081	0.075
Toluene	ug/m3	--	310	--	5200	**1.4**	**1.5**	**1.2**	**1.4**	**5.8**	**1.6**	**1.5**	**1.5**	**1.6**	**1.3**	**1.6**	**1.9**	**2**	**1.3**	**1.7**	**1.7**	**1.8**
Trichloroethene	ug/m3	--	--	0.48	2.1	0.059	0.054	0.054	0.054	0.064	0.054	0.054	0.059	0.054	0.054	0.054	0.054	0.059	0.054	0.059	0.064	0.059
Trichlorofluoromethane	ug/m3	--	1300	--	--	**1.1**	**1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**
Vinyl Chloride	ug/m3	0.0095	100	0.17	53	0.028	0.026	0.026	0.026	0.031	0.026	0.026	0.028	0.026	0.026	0.026	0.026	0.028	0.026	0.028	0.031	0.028
Vinyl bromide	ug/m3	--	--	0.19	3.1	0.048	0.044	0.044	0.044	0.052	0.044	0.044	0.048	0.044	0.044	0.044	0.044	0.048	0.044	0.048	0.052	0.048
Xylene (total)	ug/m3	--	--	--	100	**1.1**	**1.3**	**0.99**	**1.1**	**1**	**1**	**0.99**	**0.98**	**1.1**	**1.5**	**1.1**	**1.2**	**1.3**	**1.1**	**1.2**	**1.2**	**1.3**
cis-1,2-Dichloroethene	ug/m3	--	8.3	--	42	0.044	0.04	0.04	0.04	0.048	0.04	0.04	0.044	0.04	0.04	0.04	0.04	0.044	0.04	0.044	0.048	0.044
cis-1,3-Dichloropropene	ug/m3	--	--	--	--	0.05	0.045	0.045	0.045	0.054	0.045	0.045	0.05	0.045	0.045	0.045	0.045	0.05	0.045	0.05	0.054	0.05
m,p-Xylenes	ug/m3	--	--	--	100	**0.79**	**0.9**	**0.71**	**0.76**	**0.73**	**0.74**	**0.71**	**0.7**	**0.79**	**1.2**	**0.78**	**0.83**	**0.94**	**0.75**	**0.89**	**0.88**	**0.95**
o-Xylene	ug/m3	--	--	--	100	**0.32**	**0.35**	**0.28**	**0.3**	**0.29**	**0.29**	**0.28**	**0.28**	**0.31**	**0.37**	**0.31**	**0.33**	**0.37**	**0.3**	**0.35**	**0.35**	**0.37**
trans-1,2-Dichloroethene	ug/m3	--	83	--	42	0.044	0.04	0.04	0.04	0.048	0.04	0.04	0.044	0.04	0.04	0.04	0.04	0.044	0.04	0.044	0.048	0.044
trans-1,3-Dichloropropene	ug/m3	--	--	--	--	0.05	0.045	0.045	0.045	0.054	0.045	0.045	0.05	0.045	0.045	0.045	0.045	0.05	0.045	0.05	0.054	0.05
BOLD IS DETECTED																						

Laboratory Data Review Checklist for Air and Soil Vapor Samples

Site Name:

Walnut Bluff

Date:

2/14/2025

Consultant Firm:

Catalyst Environmental Solutions

Completed By (Name):

Yola Bayram

Laboratory Name:

Enthalpy Analytical Laboratory

Laboratory Report Number:

522442

Laboratory Report Date:

12/23/24

Laboratory Report Number:

522442

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

12/23/24

1. **Laboratory**

   a. Did an ELAP or NELAP-certified laboratory receive and perform all of the submitted sample analyses?

   Yes■ No☐ N/A☐ Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ELAP or NELAP-certified?

   Yes☐ No☐ N/A■ Comments:

2. **Chain of Custody (CoC)**

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes■ No☐ N/A☐ Comments:

   b. Correct analyses requested per approved Work Plan?

   Yes■ No☐ N/A☐ Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Sample condition documented? (e.g., Samples collected in gas tight, opaque/dark Summa canisters or other appropriate container? Canister vacuum/pressure checked, recorded upon receipt and contained no open valves?)

   Yes■ No☐ N/A☐ Comments:

   b. If sample condition compromised, is Data quality or usability affected?

Laboratory Report Number:

522442

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

12/23/24

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

b. Discrepancies, errors, and Lab QC failures identified by the lab?

Yes☒ No☐ N/A☐ If Yes, describe errors. Comments:

c. Does Lab describe corrective actions implemented?

Yes☒ No☐ N/A☐ If Yes, describe corrective actions. Comments:

d. Described impact to data quality/usability according to the case narrative.

No issues encountered

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. Are the reported reporting limits (RLs) less than the data quality objectives or screening level for the project, as defined in the approved work plan?

Yes☐ No☒ N/A☐ Comments:

None of the analytes are related to petroleum hydrocarbons

Laboratory Report Number:

522442

Laboratory Report Date:

12/23/24

Provide an explanation in comment box for any N/A or No box checked.

d. Did Lab dilute the samples?

Yes☒ No☐ N/A☐ Comments:

e. Describe impact to data quality or usability.:

no impact

6. Lab QC Samples

a. Lab Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than RL, Lab QA/QC criteria, and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iii. Describe impact to data quality from Method Blank results.

None

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis, and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes☒ No☐ N/A☐ Comments:

Laboratory Report Number:

522442

Laboratory Report Date:

12/23/24

Provide an explanation in comment box for any N/A or No box checked.

iii. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iv. If %R or RPD is outside acceptable limits, what samples are affected?:

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A■ Comments:

vii. Describe impact to data quality or usability from LCS/LCSD results?:

c. Lab Surrogates – VOCs only

i. Are surrogate recoveries reported for VOC analyses – field, QC and laboratory samples?

Yes■ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iii. Describe impacts to data quality or usability from VOC surrogate data?

Laboratory Report Number:

522442

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

12/23/24

7. Field QC Samples

a. Field Duplicate

i. Field duplicate submitted per matrix, analysis, and approved Work Plan?

Yes☐ No☐ N/A■ Comments:

No field duplicate

ii. Submitted blind to lab?

Yes☐ No☐ N/A■ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% air and soil vapor)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A■ Comments:

iv. Describe impact to data quality or usability from Field Duplicate data.:

b. Field Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A■ Comments:

i. Describe impact to data quality or usability from Field Blank results?:

no field blank submitted per work plan

Laboratory Report Number:

522442

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

12/23/24

8. Data Flags/Qualifiers

a. Are the flags clearly defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

b. Do the affected sample(s) have appropriate data flags?

Yes☒ No☐ N/A☐ Comments:

Laboratory Data Review Checklist for Air and Soil Vapor Samples

Site Name:

Walnut Bluff

Date:

12-11-2024

Consultant Firm:

Catalyst Environmental Solutions

Completed By (Name):

Yola Bayram

Laboratory Name:

Enthalpy Analytical Laboratory

Laboratory Report Number:

2416404

Laboratory Report Date:

11/11/2024

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

1. Laboratory

a. Did an ELAP or NELAP-certified laboratory receive and perform all of the submitted sample analyses?

Yes■ No☐ N/A☐ Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ELAP or NELAP-certified?

Yes☐ No☐ N/A■ Comments:

2. Chain of Custody (CoC)

a. CoC information completed, signed, and dated (including released/received by)?

Yes■ No☐ N/A☐ Comments:

b. Correct analyses requested per approved Work Plan?

Yes■ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

a. Sample condition documented? (e.g., Samples collected in gas tight, opaque/dark Summa canisters or other appropriate container? Canister vacuum/pressure checked, recorded upon receipt and contained no open valves?)

Yes■ No☐ N/A☐ Comments:

b. If sample condition compromised, is Data quality or usability affected?

WB07-1H was received fully evacuated and could not be analyzed.

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

4. Case Narrative

a. Present and understandable?

Yes■ No☐ N/A☐ Comments:

b. Discrepancies, errors, and Lab QC failures identified by the lab?

Yes■ No☐ N/A☐ If Yes, describe errors. Comments:

c. Does Lab describe corrective actions implemented?

Yes■ No☐ N/A☐ If Yes, describe corrective actions. Comments:

d. Described impact to data quality/usability according to the case narrative.

WB07-1H was received fully evacuated and could not be analyzed

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes■ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes■ No☐ N/A☐ Comments:

c. Are the reported reporting limits (RLs) less than the data quality objectives or screening level for the project, as defined in the approved work plan?

Yes☐ No■ N/A☐ Comments:

See attached.benzene and naphtalene had detections and are not affected. all others are non-petroleum hydrocarbons

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

d. Did Lab dilute the samples?

Yes☒ No☐ N/A☐ Comments:

e. Describe impact to data quality or usability.:

no impact

6. Lab QC Samples

a. Lab Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than RL, Lab QA/QC criteria, and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iii. Describe impact to data quality from Method Blank results.

None

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis, and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes☒ No☐ N/A☐ Comments:

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

iii. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iv. If %R or RPD is outside acceptable limits, what samples are affected?:

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A■ Comments:

vii. Describe impact to data quality or usability from LCS/LCSD results?:

c. Lab Surrogates – VOCs only

i. Are surrogate recoveries reported for VOC analyses – field, QC and laboratory samples?

Yes■ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iii. Describe impacts to data quality or usability from VOC surrogate data?

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

7. Field QC Samples

a. Field Duplicate

i. Field duplicate submitted per matrix, analysis, and approved Work Plan?

Yes☐ No☐ N/A■ Comments:

No field duplicate

ii. Submitted blind to lab?

Yes☐ No☐ N/A■ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% air and soil vapor)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A■ Comments:

iv. Describe impact to data quality or usability from Field Duplicate data.:

b. Field Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A■ Comments:

i. Describe impact to data quality or usability from Field Blank results?:

no field blank submitted per work plan

Laboratory Report Number:

2416404

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

8. Data Flags/Qualifiers

a. Are the flags clearly defined and appropriate?

Yes■ No☐ N/A☐ Comments:

b. Do the affected sample(s) have appropriate data flags?

Yes■ No☐ N/A☐ Comments:

ANALYTE	*dtscC*	*dtscNC*	*RSLc*	*RSLnc*	UNITS	WB01	WB02	WB03	WB04	WB05	WB06	WB07	WB08	WB09	WB10	WB11	WB12	WB13	WB14	WB17	WB18
1,1,1-Trichloroethane	--	1000	--	5200	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	5200	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1,2-Trichloroethane	--	--	0.18	0.21	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1-Dichloroethane	1.8	830	1.8	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1,1-Dichloroethene	--	73	--	4.1	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1,1-Difluoroethane	--	--	--	--	ug/m3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1,2-Dibromoethane	--	0.83	0.0047	9.4	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,2-Dichlorobenzene	--	--	--	210	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,2-Dichloroethane	--	--	0.11	7.3	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,3-Dichlorobenzene	--	--	--	--	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,4-Dichlorobenzene	--	--	0.26	830	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Benzene	0.097	3.1	0.36	31	ug/m3	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzyl chloride	--	--	0.057	1	ug/m3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Carbon tetrachloride	0.47	42	0.47	100	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Chlorobenzene	--	--	--	52	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Chloroform	--	--	0.12	2	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
cis-1,2-Dichloroethene	--	8.3	--	42	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Dichlorodifluoromethane	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Ethylbenzene	--	--	1.1	1000	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Naphthalene	--	--	0.083	3.1	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
o-Xylene	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
p- & m-Xylenes	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Tetrachloroethene	0.46	42	11	42	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Toluene	--	310	--	5200	ug/m3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Xylenes	--	--	--	100	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
trans-1,2-Dichloroethene	--	83	--	42	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
trans-1,3-Dichloropropene	--	--	--	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Trichloroethene	--	--	0.48	2.1	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Trichlorofluoromethane	--	1300	--	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Vinyl chloride	0.0095	100	0.17	53	ug/m3	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Laboratory Data Review Checklist for Air and Soil Vapor Samples

Site Name:

Walnut Bluff

Date:

12-11-2024

Consultant Firm:

Catalyst Environmental Solutions

Completed By (Name):

Yola Bayram

Laboratory Name:

Enthalpy Analytical Laboratory

Laboratory Report Number:

2416470

Laboratory Report Date:

11/11/2024

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

1. **Laboratory**

   a. Did an ELAP or NELAP-certified laboratory receive and perform all of the submitted sample analyses?

   Yes■ No☐ N/A☐ Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ELAP or NELAP-certified?

   Yes☐ No☐ N/A■ Comments:

2. **Chain of Custody (CoC)**

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes■ No☐ N/A☐ Comments:

   b. Correct analyses requested per approved Work Plan?

   Yes■ No☐ N/A☐ Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Sample condition documented? (e.g., Samples collected in gas tight, opaque/dark Summa canisters or other appropriate container? Canister vacuum/pressure checked, recorded upon receipt and contained no open valves?)

   Yes■ No☐ N/A☐ Comments:

   b. If sample condition compromised, is Data quality or usability affected?

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

4. Case Narrative

a. Present and understandable?

Yes■ No☐ N/A☐ Comments:

b. Discrepancies, errors, and Lab QC failures identified by the lab?

Yes■ No☐ N/A☐ If Yes, describe errors. Comments:

c. Does Lab describe corrective actions implemented?

Yes■ No☐ N/A☐ If Yes, describe corrective actions. Comments:

d. Described impact to data quality/usability according to the case narrative.

No issues noted

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes■ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes■ No☐ N/A☐ Comments:

c. Are the reported reporting limits (RLs) less than the data quality objectives or screening level for the project, as defined in the approved work plan?

Yes☐ No■ N/A☐ Comments:

See attached.benzene and naphtalene had detections and are not affected. all others are non-petroleum hydrocarbons

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

d. Did Lab dilute the samples?

Yes☒ No☐ N/A☐ Comments:

e. Describe impact to data quality or usability.:

no impact

6. Lab QC Samples

a. Lab Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than RL, Lab QA/QC criteria, and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iii. Describe impact to data quality from Method Blank results.

None

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis, and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes☒ No☐ N/A☐ Comments:

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

iii. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iv. If %R or RPD is outside acceptable limits, what samples are affected?:

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A■ Comments:

vii. Describe impact to data quality or usability from LCS/LCSD results?:

c. Lab Surrogates – VOCs only

i. Are surrogate recoveries reported for VOC analyses – field, QC and laboratory samples?

Yes■ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes■ No☐ N/A☐ Comments:

iii. Describe impacts to data quality or usability from VOC surrogate data?

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

7. Field QC Samples

a. Field Duplicate

i. Field duplicate submitted per matrix, analysis, and approved Work Plan?

Yes☐ No☐ N/A■ Comments:

No field duplicate

ii. Submitted blind to lab?

Yes☐ No☐ N/A■ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% air and soil vapor)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A■ Comments:

iv. Describe impact to data quality or usability from Field Duplicate data.:

b. Field Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A■ Comments:

i. Describe impact to data quality or usability from Field Blank results?:

no field blank submitted per work plan

Laboratory Report Number:

2416470

Provide an explanation in comment box for any N/A or No box checked.

Laboratory Report Date:

11/11/2024

8. Data Flags/Qualifiers

a. Are the flags clearly defined and appropriate?

Yes■ No☐ N/A☐ Comments:

b. Do the affected sample(s) have appropriate data flags?

Yes■ No☐ N/A☐ Comments:

ANALYTE	*dtscC*	*dtscNC*	*RSLc*	*RSLnc*	UNITS	WB01	WB02	WB03	WB04	WB05	WB06	WB07	WB08	WB09	WB10	WB11	WB12	WB13	WB14	WB17	WB18
1,1,1-Trichloroethane	--	1000	--	5200	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	5200	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1,2-Trichloroethane	--	--	0.18	0.21	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,1-Dichloroethane	1.8	830	1.8	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1,1-Dichloroethene	--	73	--	4.1	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1,1-Difluoroethane	--	--	--	--	ug/m3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1,2-Dibromoethane	--	0.83	0.0047	9.4	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,2-Dichlorobenzene	--	--	--	210	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,2-Dichloroethane	--	--	0.11	7.3	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1,3-Dichlorobenzene	--	--	--	--	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,4-Dichlorobenzene	--	--	0.26	830	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Benzene	0.097	3.1	0.36	31	ug/m3	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzyl chloride	--	--	0.057	1	ug/m3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Carbon tetrachloride	0.47	42	0.47	100	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Chlorobenzene	--	--	--	52	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Chloroform	--	--	0.12	2	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
cis-1,2-Dichloroethene	--	8.3	--	42	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Dichlorodifluoromethane	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Ethylbenzene	--	--	1.1	1000	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Naphthalene	--	--	0.083	3.1	ug/m3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
o-Xylene	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
p- & m-Xylenes	--	--	--	100	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Tetrachloroethene	0.46	42	11	42	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Toluene	--	310	--	5200	ug/m3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Xylenes	--	--	--	100	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
trans-1,2-Dichloroethene	--	83	--	42	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
trans-1,3-Dichloropropene	--	--	--	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Trichloroethene	--	--	0.48	2.1	ug/m3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Trichlorofluoromethane	--	1300	--	--	ug/m3	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Vinyl chloride	0.0095	100	0.17	53	ug/m3	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Appendix C

Dixon's Outlier Test for Benzene

ProUCL Dixon's Outlier Test Bezene
Proposed Walnut Bluff Development

Outlier Tests for Selected Uncensored Variables

User Selected Options	
Date/Time of Computation	ProUCL 5.2 12/8/2024 7:01:51 AM
From File	WorkSheet.xls
Full Precision	OFF

Dixon's Outlier Test for C0

Number of Observations = 14
10% critical value: 0.492
5% critical value: 0.546
1% critical value: 0.641

1. Observation Value 3.2 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.939

For 10% significance level, 3.2 is an outlier.
For 5% significance level, 3.2 is an outlier.
For 1% significance level, 3.2 is an outlier.

ProUCL Dixon's Outlier Test Toluene
Proposed Walnut Bluff Development

Outlier Tests for Selected Uncensored Variables

User Selected Options	
Date/Time of Computation	ProUCL 5.2 12/8/2024 7:01:51 AM
From File	WorkSheet.xls
Full Precision	OFF

Dixon's Outlier Test for C0

Number of Observations = 14
10% critical value: 0.492
5% critical value: 0.546
1% critical value: 0.641

1. Observation Value 5.8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.867

For 10% significance level, 5.8 is an outlier.
For 5% significance level, 5.8 is an outlier.
For 1% significance level, 5.8 is an outlier.

Appendix D

Assessment Of Potential Human Health Risks ProUCL Outputs

Appendix D
ProUCL Output for 95% UCLs
Proposed Walnut Bluff Development

UCL Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation	ProUCL 5.2 10/23/2024 12:00:19 PM
From File	14D-ProUCLinput.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operation	2000

1,2,4-Trimethylbenzene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	0.24	Mean	0.31
Maximum	0.5	Median	0.29
SD	0.0643	Std. Error of Mean	0.0172
Coefficient of Variation	0.208	Skewness	2.194

Normal GOF Test

Shapiro Wilk Test Statistic	0.771	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.276	Lilliefors GOF Test
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.34	95% Adjusted-CLT UCL (Chen-1995)	0.349
		95% Modified-t UCL (Johnson-1978)	0.342

Gamma GOF Test

A-D Test Statistic	0.923	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.734	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.262	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	30.29	k star (bias corrected MLE)	23.84
Theta hat (MLE)	0.0102	Theta star (bias corrected MLE)	0.013
nu hat (MLE)	848	nu star (bias corrected)	667.6
MLE Mean (bias corrected)	0.31	MLE Sd (bias corrected)	0.0635
		Approximate Chi Square Value (0.05)	608.7
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	601.2

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.34	95% Adjusted Gamma UCL	0.344

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.855	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.25	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.427	Mean of logged Data	-1.188
Maximum of Logged Data	-0.693	SD of logged Data	0.181

Assuming Lognormal Distribution

95% H-UCL	0.339	90% Chebyshev (MVUE) UCL	0.355
95% Chebyshev (MVUE) UCL	0.375	97.5% Chebyshev (MVUE) UCL	0.404
99% Chebyshev (MVUE) UCL	0.459		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.338	95% BCA Bootstrap UCL	0.349
95% Standard Bootstrap UCL	0.338	95% Bootstrap-t UCL	0.365
95% Hall's Bootstrap UCL	0.472	95% Percentile Bootstrap UCL	0.34
90% Chebyshev(Mean, Sd) UCL	0.362	95% Chebyshev(Mean, Sd) UCL	0.385
97.5% Chebyshev(Mean, Sd) UCL	0.417	99% Chebyshev(Mean, Sd) UCL	0.481

Suggested UCL to Use

95% Student's-t UCL	0.34

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

1,2-Dichloroethane

General Statistics

Total Number of Observations	14	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	0.061	Mean	0.0632
Maximum	0.072	Median	0.062
SD	0.00291	Std. Error of Mean	7.79E-04
Coefficient of Variation	0.0461	Skewness	2.409

Normal GOF Test

Shapiro Wilk Test Statistic	0.701	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.315	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.0646	95% Adjusted-CLT UCL (Chen-1995)	0.065

		95% Modified-t UCL (Johnson-1978)	0.0647

Gamma GOF Test			
A-D Test Statistic	1.49	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.311	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	537.9	k star (bias corrected MLE)	422.7
Theta hat (MLE)	1.18E-04	Theta star (bias corrected MLE)	1.50E-04
nu hat (MLE)	15060	nu star (bias corrected)	11834
MLE Mean (bias corrected)	0.0632	MLE Sd (bias corrected)	0.00307
		Approximate Chi Square Value (0.05)	11582
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	11549

Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.0646	95% Adjusted Gamma UCL	0.0648

Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.719	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.308	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	
Data Not Lognormal at 10% Significance Level			

Lognormal Statistics			
Minimum of Logged Data	-2.797	Mean of logged Data	-2.762
Maximum of Logged Data	-2.631	SD of logged Data	0.0441

Assuming Lognormal Distribution			
95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.0654
95% Chebyshev (MVUE) UCL	0.0665	97.5% Chebyshev (MVUE) UCL	0.0679
99% Chebyshev (MVUE) UCL	0.0706		

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0645	95% BCA Bootstrap UCL	0.0649
95% Standard Bootstrap UCL	0.0645	95% Bootstrap-t UCL	0.0662
95% Hall's Bootstrap UCL	0.0698	95% Percentile Bootstrap UCL	0.0646
90% Chebyshev(Mean, Sd) UCL	0.0656	95% Chebyshev(Mean, Sd) UCL	0.0666
97.5% Chebyshev(Mean, Sd) UCL	0.0681	99% Chebyshev(Mean, Sd) UCL	0.071

Suggested UCL to Use

95% Student's-t UCL	0.0646

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

1,3,5-Trimethylbenzene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	10
		Number of Missing Observations	0
Minimum	0.055	Mean	0.0761
Maximum	0.14	Median	0.0705
SD	0.0214	Std. Error of Mean	0.00572
Coefficient of Variation	0.281	Skewness	2.35

Normal GOF Test

Shapiro Wilk Test Statistic	0.729	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.326	Lilliefors GOF Test
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.0863	95% Adjusted-CLT UCL (Chen-1995)	0.0894
		95% Modified-t UCL (Johnson-1978)	0.0869

Gamma GOF Test

A-D Test Statistic	1.104	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.734	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.302	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	17.71	k star (bias corrected MLE)	13.97
Theta hat (MLE)	0.0043	Theta star (bias corrected MLE)	0.00545
nu hat (MLE)	496	nu star (bias corrected)	391.1
MLE Mean (bias corrected)	0.0761	MLE Sd (bias corrected)	0.0204
		Approximate Chi Square Value (0.05)	346.2
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	340.6

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.086	95% Adjusted Gamma UCL	0.0874

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.834	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.286	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-2.9	Mean of logged Data	-2.604
Maximum of Logged Data	-1.966	SD of logged Data	0.234

Assuming Lognormal Distribution

95% H-UCL	0.0857	90% Chebyshev (MVUE) UCL	0.0902
95% Chebyshev (MVUE) UCL	0.0967	97.5% Chebyshev (MVUE) UCL	0.106

99% Chebyshev (MVUE) UCL	0.123

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0855	95% BCA Bootstrap UCL	0.0896
95% Standard Bootstrap UCL	0.0853	95% Bootstrap-t UCL	0.0993
95% Hall's Bootstrap UCL	0.132	95% Percentile Bootstrap UCL	0.0861
90% Chebyshev(Mean, Sd) UCL	0.0933	95% Chebyshev(Mean, Sd) UCL	0.101
97.5% Chebyshev(Mean, Sd) UCL	0.112	99% Chebyshev(Mean, Sd) UCL	0.133

Suggested UCL to Use

95% Student's-t UCL	0.0863

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Benzene

General Statistics

Total Number of Observations	13	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	0.72	Mean	0.799
Maximum	0.99	Median	0.78
SD	0.0775	Std. Error of Mean	0.0215
Coefficient of Variation	0.097	Skewness	1.315

Normal GOF Test

Shapiro Wilk Test Statistic	0.88	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.814	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.162	Lilliefors GOF Test
1% Lilliefors Critical Value	0.271	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.838	95% Adjusted-CLT UCL (Chen-1995)	0.843
		95% Modified-t UCL (Johnson-1978)	0.839

Gamma GOF Test

A-D Test Statistic	0.477	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.732	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.176	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.236	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	122.4	k star (bias corrected MLE)	94.22
Theta hat (MLE)	0.00653	Theta star (bias corrected MLE)	0.00848
nu hat (MLE)	3183	nu star (bias corrected)	2450
MLE Mean (bias corrected)	0.799	MLE Sd (bias corrected)	0.0823
		Approximate Chi Square Value (0.05)	2336
Adjusted Level of Significance	0.0301	Adjusted Chi Square Value	2320

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.838	95% Adjusted Gamma UCL	0.844

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.903	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.889	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.169	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.215	Data appear Lognormal at 10% Significance Level	

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.329	Mean of logged Data	-0.228
Maximum of Logged Data	-0.0101	SD of logged Data	0.0928

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.861
95% Chebyshev (MVUE) UCL	0.889	97.5% Chebyshev (MVUE) UCL	0.928
99% Chebyshev (MVUE) UCL	1.004		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.835	95% BCA Bootstrap UCL	0.843
95% Standard Bootstrap UCL	0.833	95% Bootstrap-t UCL	0.852
95% Hall's Bootstrap UCL	0.863	95% Percentile Bootstrap UCL	0.835
90% Chebyshev(Mean, Sd) UCL	0.864	95% Chebyshev(Mean, Sd) UCL	0.893
97.5% Chebyshev(Mean, Sd) UCL	0.933	99% Chebyshev(Mean, Sd) UCL	1.013

Suggested UCL to Use
95% Student's-t UCL 0.838

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Bromomethane

General Statistics

Total Number of Observations	14	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	0.075	Mean	0.0831
Maximum	0.092	Median	0.083
SD	0.00409	Std. Error of Mean	0.00109
Coefficient of Variation	0.0492	Skewness	0.375

Normal GOF Test

Shapiro Wilk Test Statistic	0.95	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.182	Lilliefors GOF Test	

1% Lilliefors Critical Value	0.263	Data appear Normal at 1% Significance Level	
Data appear Normal at 1% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.0851	95% Adjusted-CLT UCL (Chen-1995)	0.0851
		95% Modified-t UCL (Johnson-1978)	0.0851
Gamma GOF Test			
A-D Test Statistic	0.375	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.171	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	447.7	k star (bias corrected MLE)	351.8
Theta hat (MLE)	1.86E-04	Theta star (bias corrected MLE)	2.36E-04
nu hat (MLE)	12534	nu star (bias corrected)	9850
MLE Mean (bias corrected)	0.0831	MLE Sd (bias corrected)	0.00443
		Approximate Chi Square Value (0.05)	9620
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	9590
Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.0851	95% Adjusted Gamma UCL	0.0854
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.954	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.175	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data appear Lognormal at 10% Significance Level	
Data appear Lognormal at 10% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-2.59	Mean of logged Data	-2.488
Maximum of Logged Data	-2.386	SD of logged Data	0.049

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.0864
95% Chebyshev (MVUE) UCL	0.0879	97.5% Chebyshev (MVUE) UCL	0.0899
99% Chebyshev (MVUE) UCL	0.094		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0849	95% BCA Bootstrap UCL	0.085
95% Standard Bootstrap UCL	0.0849	95% Bootstrap-t UCL	0.0853
95% Hall's Bootstrap UCL	0.0857	95% Percentile Bootstrap UCL	0.0849
90% Chebyshev(Mean, Sd) UCL	0.0864	95% Chebyshev(Mean, Sd) UCL	0.0879
97.5% Chebyshev(Mean, Sd) UCL	0.09	99% Chebyshev(Mean, Sd) UCL	0.094

Suggested UCL to Use

95% Student's-t UCL	0.0851

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Carbon Tetrachloride

General Statistics

Total Number of Observations	14	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	0.45	Mean	0.464
Maximum	0.47	Median	0.46
SD	0.00633	Std. Error of Mean	0.00169
Coefficient of Variation	0.0137	Skewness	-0.433

Normal GOF Test

Shapiro Wilk Test Statistic	0.771	Shapiro Wilk GOF Test	

1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.285	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.467	95% Adjusted-CLT UCL (Chen-1995)	0.466
		95% Modified-t UCL (Johnson-1978)	0.467
Gamma GOF Test			
A-D Test Statistic	1.727	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.319	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	5749	k star (bias corrected MLE)	4517
Theta hat (MLE)	8.06E-05	Theta star (bias corrected MLE)	1.03E-04
nu hat (MLE)	160985	nu star (bias corrected)	126489
MLE Mean (bias corrected)	0.464	MLE Sd (bias corrected)	0.0069
		Approximate Chi Square Value (0.05)	125663
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	125554
Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.467	95% Adjusted Gamma UCL	0.467
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.771	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.283	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	
Data Not Lognormal at 10% Significance Level			
Lognormal Statistics			

Minimum of Logged Data	-0.799	Mean of logged Data	-0.769
Maximum of Logged Data	-0.755	SD of logged Data	0.0137

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.469
95% Chebyshev (MVUE) UCL	0.471	97.5% Chebyshev (MVUE) UCL	0.474
99% Chebyshev (MVUE) UCL	0.48		

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.466	95% BCA Bootstrap UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
90% Chebyshev(Mean, Sd) UCL	0.469	95% Chebyshev(Mean, Sd) UCL	0.471
97.5% Chebyshev(Mean, Sd) UCL	0.474	99% Chebyshev(Mean, Sd) UCL	0.48

Suggested UCL to Use

95% Student's-t UCL	0.467

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Chloroethane

General Statistics

Total Number of Observations	14	Number of Distinct Observations	10
Number of Detects	7	Number of Non-Detects	7
Number of Distinct Detects	7	Number of Distinct Non-Detects	3
Minimum Detect	0.042	Minimum Non-Detect	0.026
Maximum Detect	0.1	Maximum Non-Detect	0.032

Variance Detects	5.88E-04	Percent Non-Detects	50%
Mean Detects	0.0673	SD Detects	0.0242
Median Detects	0.058	CV Detects	0.36
Skewness Detects	0.327	Kurtosis Detects	-2.259
Mean of Logged Detects	-2.755	SD of Logged Detects	0.363

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.856	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.73	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.232	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.35	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Note GOF tests may be unreliable for small sample sizes

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0466	KM Standard Error of Mean	0.00752
90KM SD	0.026	95% KM (BCA) UCL	0.0585
95% KM (t) UCL	0.06	95% KM (Percentile Bootstrap) UCL	0.0579
95% KM (z) UCL	0.059	95% KM Bootstrap t UCL	0.0606
90% KM Chebyshev UCL	0.0692	95% KM Chebyshev UCL	0.0794
97.5% KM Chebyshev UCL	0.0936	99% KM Chebyshev UCL	0.121

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.543	Anderson-Darling GOF Test	
5% A-D Critical Value	0.709	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.258	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.312	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Note GOF tests may be unreliable for small sample sizes

Gamma Statistics on Detected Data Only

k hat (MLE)	9.027	k star (bias corrected MLE)	5.253
Theta hat (MLE)	0.00745	Theta star (bias corrected MLE)	0.0128
nu hat (MLE)	126.4	nu star (bias corrected)	73.55
Mean (detects)	0.0673		

Gamma ROS Statistics using Imputed Non-Detects
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.0406
Maximum	0.1	Median	0.0332
SD	0.0325	CV	0.801
k hat (MLE)	1.603	k star (bias corrected MLE)	1.307
Theta hat (MLE)	0.0253	Theta star (bias corrected MLE)	0.031
nu hat (MLE)	44.88	nu star (bias corrected)	36.59
Adjusted Level of Significance (β)	0.0312		
Approximate Chi Square Value (36.59, α)	23.75	Adjusted Chi Square Value (36.59, β)	22.38
95% Gamma Approximate UCL	0.0625	95% Gamma Adjusted UCL	0.0663

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0466	SD (KM)	0.026
Variance (KM)	6.78E-04	SE of Mean (KM)	0.00752
k hat (KM)	3.208	k star (KM)	2.568
nu hat (KM)	89.83	nu star (KM)	71.92
theta hat (KM)	0.0145	theta star (KM)	0.0182
80% gamma percentile (KM)	0.0678	90% gamma percentile (KM)	0.0856
95% gamma percentile (KM)	0.102	99% gamma percentile (KM)	0.139

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (71.92, α)	53.39	Adjusted Chi Square Value (71.92, β)	51.28
95% KM Approximate Gamma UCL	0.0628	95% KM Adjusted Gamma UCL	0.0654

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.869	Shapiro Wilk GOF Test
10% Shapiro Wilk Critical Value	0.838	Detected Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.243	Lilliefors GOF Test
10% Lilliefors Critical Value	0.28	Detected Data appear Lognormal at 10% Significance Level

Detected Data appear Lognormal at 10% Significance Level
Note GOF tests may be unreliable for small sample sizes

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0452	Mean in Log Scale	-3.275
SD in Original Scale	0.0285	SD in Log Scale	0.617
95% t UCL (assumes normality of ROS data)	0.0587	95% Percentile Bootstrap UCL	0.0573
95% BCA Bootstrap UCL	0.0583	95% Bootstrap t UCL	0.0631
95% H-UCL (Log ROS)	0.067		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-3.202	KM Geo Mean	0.0407
KM SD (logged)	0.507	95% Critical H Value (KM-Log)	2.016
KM Standard Error of Mean (logged)	0.146	95% H-UCL (KM -Log)	0.0614
KM SD (logged)	0.507	95% Critical H Value (KM-Log)	2.016
KM Standard Error of Mean (logged)	0.146		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.0406	Mean in Log Scale	-3.519
SD in Original Scale	0.0323	SD in Log Scale	0.832
95% t UCL (Assumes normality)	0.0558	95% H-Stat UCL	0.075

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics
Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.06

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Chloroform

General Statistics

Total Number of Observations	14	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	0.13	Mean	0.152
Maximum	0.18	Median	0.15
SD	0.0148	Std. Error of Mean	0.00395
Coefficient of Variation	0.0971	Skewness	0.408

Normal GOF Test

Shapiro Wilk Test Statistic	0.922	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.223	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.159	95% Adjusted-CLT UCL (Chen-1995)	0.159
		95% Modified-t UCL (Johnson-1978)	0.159

Gamma GOF Test

A-D Test Statistic	0.58	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.232	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	116.1	k star (bias corrected MLE)	91.26
Theta hat (MLE)	0.00131	Theta star (bias corrected MLE)	0.00167
nu hat (MLE)	3250	nu star (bias corrected)	2555
MLE Mean (bias corrected)	0.152	MLE Sd (bias corrected)	0.0159
		Approximate Chi Square Value (0.05)	2439
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	2424

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.159	95% Adjusted Gamma UCL	0.16

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.926	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data appear Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.223	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data appear Approximate Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-2.04	Mean of logged Data	-1.887
Maximum of Logged Data	-1.715	SD of logged Data	0.0961

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.164
95% Chebyshev (MVUE) UCL	0.169	97.5% Chebyshev (MVUE) UCL	0.177
99% Chebyshev (MVUE) UCL	0.191		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.159	95% BCA Bootstrap UCL	0.158
95% Standard Bootstrap UCL	0.158	95% Bootstrap-t UCL	0.159
95% Hall's Bootstrap UCL	0.159	95% Percentile Bootstrap UCL	0.159
90% Chebyshev(Mean, Sd) UCL	0.164	95% Chebyshev(Mean, Sd) UCL	0.169
97.5% Chebyshev(Mean, Sd) UCL	0.177	99% Chebyshev(Mean, Sd) UCL	0.191

Suggested UCL to Use

95% Student's-t UCL	0.159

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Chloromethane

General Statistics

Total Number of Observations	14	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	0.98	Mean	0.996
Maximum	1	Median	1
SD	0.00633	Std. Error of Mean	0.00169
Coefficient of Variation	0.00636	Skewness	-1.687

Normal GOF Test

Shapiro Wilk Test Statistic	0.627	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.428	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.999	95% Adjusted-CLT UCL (Chen-1995)	0.998
		95% Modified-t UCL (Johnson-1978)	0.999

Gamma GOF Test

A-D Test Statistic	2.73	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.435	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	26494	k star (bias corrected MLE)	20816
Theta hat (MLE)	3.76E-05	Theta star (bias corrected MLE)	4.79E-05
nu hat (MLE)	741822	nu star (bias corrected)	582861
MLE Mean (bias corrected)	0.996	MLE Sd (bias corrected)	0.00691
		Approximate Chi Square Value (0.05)	581087
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	580851

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.999	95% Adjusted Gamma UCL	1

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.627	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.428	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.0202	Mean of logged Data	-0.0036
Maximum of Logged Data	0	SD of logged Data	0.00639

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	1.002
95% Chebyshev (MVUE) UCL	1.004	97.5% Chebyshev (MVUE) UCL	1.007
99% Chebyshev (MVUE) UCL	1.013		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.999	95% BCA Bootstrap UCL	N/A	
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A	
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A	
90% Chebyshev(Mean, Sd) UCL	1.002	95% Chebyshev(Mean, Sd) UCL		1.004
97.5% Chebyshev(Mean, Sd) UCL	1.007	99% Chebyshev(Mean, Sd) UCL		1.013

Suggested UCL to Use

95% Student's-t UCL	0.999

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Ethylbenzene

General Statistics			
Total Number of Observations	14	Number of Distinct Observations	8
		Number of Missing Observations	0
Minimum	0.25	Mean	0.287
Maximum	0.45	Median	0.27
SD	0.0518	Std. Error of Mean	0.0138
Coefficient of Variation	0.18	Skewness	2.739

Normal GOF Test			
Shapiro Wilk Test Statistic	0.638	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.273	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.312	95% Adjusted-CLT UCL (Chen-1995)	0.321
		95% Modified-t UCL (Johnson-1978)	0.313

Gamma GOF Test			
A-D Test Statistic	1.694	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.276	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	41.34	k star (bias corrected MLE)	32.53
Theta hat (MLE)	0.00695	Theta star (bias corrected MLE)	0.00883

nu hat (MLE)	1158	nu star (bias corrected)	910.9
MLE Mean (bias corrected)	0.287	MLE Sd (bias corrected)	0.0503
		Approximate Chi Square Value (0.05)	841.8
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	833

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.311	95% Adjusted Gamma UCL	0.314

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.7	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.269	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.386	Mean of logged Data	-1.26
Maximum of Logged Data	-0.799	SD of logged Data	0.153

Assuming Lognormal Distribution

95% H-UCL	0.31	90% Chebyshev (MVUE) UCL	0.322
95% Chebyshev (MVUE) UCL	0.338	97.5% Chebyshev (MVUE) UCL	0.36
99% Chebyshev (MVUE) UCL	0.404		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.31	95% BCA Bootstrap UCL	0.321
95% Standard Bootstrap UCL	0.309	95% Bootstrap-t UCL	0.35
95% Hall's Bootstrap UCL	0.396	95% Percentile Bootstrap UCL	0.311
90% Chebyshev(Mean, Sd) UCL	0.329	95% Chebyshev(Mean, Sd) UCL	0.347
97.5% Chebyshev(Mean, Sd) UCL	0.374	99% Chebyshev(Mean, Sd) UCL	0.425

Suggested UCL to Use

95% Student's-t UCL	0.312

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Freon 113

General Statistics

Total Number of Observations	14	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	0.44	Mean	0.462
Maximum	0.47	Median	0.46
SD	0.00802	Std. Error of Mean	0.00214
Coefficient of Variation	0.0173	Skewness	-1.482

Normal GOF Test

Shapiro Wilk Test Statistic	0.723	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.323	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.466	95% Adjusted-CLT UCL (Chen-1995)	0.465
		95% Modified-t UCL (Johnson-1978)	0.466

Gamma GOF Test

A-D Test Statistic	1.592	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.297	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	3524	k star (bias corrected MLE)	2769
Theta hat (MLE)	1.31E-04	Theta star (bias corrected MLE)	1.67E-04
nu hat (MLE)	98661	nu star (bias corrected)	77521
MLE Mean (bias corrected)	0.462	MLE Sd (bias corrected)	0.00878
		Approximate Chi Square Value (0.05)	76874
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	76789

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.466	95% Adjusted Gamma UCL	0.467

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.718	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.327	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.821	Mean of logged Data	-0.772
Maximum of Logged Data	-0.755	SD of logged Data	0.0176

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.469
95% Chebyshev (MVUE) UCL	0.472	97.5% Chebyshev (MVUE) UCL	0.476
99% Chebyshev (MVUE) UCL	0.484		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.466	95% BCA Bootstrap UCL	N/A	
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A	
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A	
90% Chebyshev(Mean, Sd) UCL	0.469	95% Chebyshev(Mean, Sd) UCL		0.471
97.5% Chebyshev(Mean, Sd) UCL	0.476	99% Chebyshev(Mean, Sd) UCL		0.483

Suggested UCL to Use
95% Student's-t UCL 0.466

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Freon 114

General Statistics

Total Number of Observations	14	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	0.11	Mean	0.117
Maximum	0.12	Median	0.12
SD	0.00469	Std. Error of Mean	0.00125
Coefficient of Variation	0.04	Skewness	-1.067

Normal GOF Test

Shapiro Wilk Test Statistic	0.576	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.443	Lilliefors GOF Test
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.119	95% Adjusted-CLT UCL (Chen-1995)	0.119
		95% Modified-t UCL (Johnson-1978)	0.119

Gamma GOF Test

A-D Test Statistic	3.136	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level

K-S Test Statistic	0.451	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	655.6	k star (bias corrected MLE)	515.2
Theta hat (MLE)	1.79E-04	Theta star (bias corrected MLE)	2.27E-04
nu hat (MLE)	18357	nu star (bias corrected)	14425
MLE Mean (bias corrected)	0.117	MLE Sd (bias corrected)	0.00516
		Approximate Chi Square Value (0.05)	14147
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	14110

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.119	95% Adjusted Gamma UCL	0.12

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.576	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.443	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	
Data Not Lognormal at 10% Significance Level			

Lognormal Statistics

Minimum of Logged Data	-2.207	Mean of logged Data	-2.145
Maximum of Logged Data	-2.12	SD of logged Data	0.0408

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.121
95% Chebyshev (MVUE) UCL	0.123	97.5% Chebyshev (MVUE) UCL	0.125
99% Chebyshev (MVUE) UCL	0.13		

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.119	95% BCA Bootstrap UCL	N/A

95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
90% Chebyshev(Mean, Sd) UCL	0.121	95% Chebyshev(Mean, Sd) UCL	0.123
97.5% Chebyshev(Mean, Sd) UCL	0.125	99% Chebyshev(Mean, Sd) UCL	0.13

Suggested UCL to Use
95% Student's-t UCL 0.119

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Freon 12

General Statistics

Total Number of Observations	14	Number of Distinct Observations	1
		Number of Missing Observations	0
Minimum	2.3	Mean	2.3
Maximum	2.3	Median	2.3

Warning: There is only one distinct observation value in this data set - resulting in '0' variance!
ProUCL (or any other software) should not be used on such a data set!
The data set for variable Freon 12 was not processed!

If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

m,p-Xylenes

General Statistics

Total Number of Observations	14	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	0.7	Mean	0.809
Maximum	1.2	Median	0.77
SD	0.133	Std. Error of Mean	0.0354
Coefficient of Variation	0.164	Skewness	2.237

Normal GOF Test			
Shapiro Wilk Test Statistic	0.747	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.272	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.872	95% Adjusted-CLT UCL (Chen-1995)	0.89
		95% Modified-t UCL (Johnson-1978)	0.876

Gamma GOF Test			
A-D Test Statistic	1.041	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.261	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	47.37	k star (bias corrected MLE)	37.27
Theta hat (MLE)	0.0171	Theta star (bias corrected MLE)	0.0217
nu hat (MLE)	1326	nu star (bias corrected)	1043
MLE Mean (bias corrected)	0.809	MLE Sd (bias corrected)	0.133
		Approximate Chi Square Value (0.05)	969.5
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	960

Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.871	95% Adjusted Gamma UCL	0.88

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.806	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.251	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.357	Mean of logged Data	-0.222
Maximum of Logged Data	0.182	SD of logged Data	0.145

Assuming Lognormal Distribution

95% H-UCL	0.869	90% Chebyshev (MVUE) UCL	0.903
95% Chebyshev (MVUE) UCL	0.946	97.5% Chebyshev (MVUE) UCL	1.005
99% Chebyshev (MVUE) UCL	1.122		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.868	95% BCA Bootstrap UCL	0.89
95% Standard Bootstrap UCL	0.866	95% Bootstrap-t UCL	0.926
95% Hall's Bootstrap UCL	1.111	95% Percentile Bootstrap UCL	0.871
90% Chebyshev(Mean, Sd) UCL	0.916	95% Chebyshev(Mean, Sd) UCL	0.964
97.5% Chebyshev(Mean, Sd) UCL	1.031	99% Chebyshev(Mean, Sd) UCL	1.162

Suggested UCL to Use

95% Student's-t UCL	0.872

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Methylene Chloride

General Statistics

Total Number of Observations	14	Number of Distinct Observations	11
		Number of Missing Observations	0
Minimum	0.55	Mean	0.836
Maximum	2.8	Median	0.61
SD	0.591	Std. Error of Mean	0.158
Coefficient of Variation	0.706	Skewness	3.26

Normal GOF Test

Shapiro Wilk Test Statistic	0.506	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.348	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.116	95% Adjusted-CLT UCL (Chen-1995)	1.243
		95% Modified-t UCL (Johnson-1978)	1.139

Gamma GOF Test

A-D Test Statistic	2.169	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.74	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.298	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.23	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	4.27	k star (bias corrected MLE)	3.403
Theta hat (MLE)	0.196	Theta star (bias corrected MLE)	0.246
nu hat (MLE)	119.6	nu star (bias corrected)	95.27
MLE Mean (bias corrected)	0.836	MLE Sd (bias corrected)	0.453
		Approximate Chi Square Value (0.05)	73.76
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	71.25

Assuming Gamma Distribution

95% Approximate Gamma UCL	1.08	95% Adjusted Gamma UCL	1.118

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.663	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.262	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-0.598	Mean of logged Data	-0.3
Maximum of Logged Data	1.03	SD of logged Data	0.437

Assuming Lognormal Distribution

95% H-UCL	1.038	90% Chebyshev (MVUE) UCL	1.098
95% Chebyshev (MVUE) UCL	1.229	97.5% Chebyshev (MVUE) UCL	1.411
99% Chebyshev (MVUE) UCL	1.769		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	1.096	95% BCA Bootstrap UCL	1.283
95% Standard Bootstrap UCL	1.082	95% Bootstrap-t UCL	2.143
95% Hall's Bootstrap UCL	2.094	95% Percentile Bootstrap UCL	1.116
90% Chebyshev(Mean, Sd) UCL	1.31	95% Chebyshev(Mean, Sd) UCL	1.524
97.5% Chebyshev(Mean, Sd) UCL	1.822	99% Chebyshev(Mean, Sd) UCL	2.407

Suggested UCL to Use

95% Student's-t UCL	1.116

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Naphthalene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	10
Number of Detects	10	Number of Non-Detects	4
Number of Distinct Detects	8	Number of Distinct Non-Detects	2
Minimum Detect	0.057	Minimum Non-Detect	0.052
Maximum Detect	0.14	Maximum Non-Detect	0.058
Variance Detects	7.92E-04	Percent Non-Detects	28.57%
Mean Detects	0.0809	SD Detects	0.0281
Median Detects	0.0755	CV Detects	0.348
Skewness Detects	1.375	Kurtosis Detects	1.072
Mean of Logged Detects	-2.561	SD of Logged Detects	0.311

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.809	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.781	Detected Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.241	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.304	Detected Data appear Normal at 1% Significance Level	

Detected Data appear Normal at 1% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0727	KM Standard Error of Mean	0.00733
90KM SD	0.026	95% KM (BCA) UCL	0.0863
95% KM (t) UCL	0.0857	95% KM (Percentile Bootstrap) UCL	0.0849
95% KM (z) UCL	0.0848	95% KM Bootstrap t UCL	0.0965
90% KM Chebyshev UCL	0.0947	95% KM Chebyshev UCL	0.105
97.5% KM Chebyshev UCL	0.119	99% KM Chebyshev UCL	0.146

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.693	Anderson-Darling GOF Test	
5% A-D Critical Value	0.725	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.211	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.267	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	10.84	k star (bias corrected MLE)	7.653
Theta hat (MLE)	0.00746	Theta star (bias corrected MLE)	0.0106
nu hat (MLE)	216.8	nu star (bias corrected)	153.1
Mean (detects)	0.0809		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0128	Mean	0.0649
Maximum	0.14	Median	0.059
SD	0.0355	CV	0.547
k hat (MLE)	3.138	k star (bias corrected MLE)	2.513
Theta hat (MLE)	0.0207	Theta star (bias corrected MLE)	0.0258
nu hat (MLE)	87.86	nu star (bias corrected)	70.36
Adjusted Level of Significance (β)	0.0312		
Approximate Chi Square Value (70.36, α)	52.05	Adjusted Chi Square Value (70.36, β)	49.97
95% Gamma Approximate UCL	0.0877	95% Gamma Adjusted UCL	0.0913

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0727	SD (KM)	0.026
Variance (KM)	6.76E-04	SE of Mean (KM)	0.00733
k hat (KM)	7.821	k star (KM)	6.192
nu hat (KM)	219	nu star (KM)	173.4
theta hat (KM)	0.0093	theta star (KM)	0.0117
80% gamma percentile (KM)	0.0955	90% gamma percentile (KM)	0.112
95% gamma percentile (KM)	0.127	99% gamma percentile (KM)	0.157

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (173.39, α)	143.9	Adjusted Chi Square Value (173.39, β)	140.4
95% KM Approximate Gamma UCL	0.0876	95% KM Adjusted Gamma UCL	0.0898

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.86	Shapiro Wilk GOF Test	
10% Shapiro Wilk Critical Value	0.869	Detected Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.206	Lilliefors GOF Test	
10% Lilliefors Critical Value	0.241	Detected Data appear Lognormal at 10% Significance Level	

Detected Data appear Approximate Lognormal at 10% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0685	Mean in Log Scale	-2.77
SD in Original Scale	0.0311	SD in Log Scale	0.434
95% t UCL (assumes normality of ROS data)	0.0832	95% Percentile Bootstrap UCL	0.0823
95% BCA Bootstrap UCL	0.0836	95% Bootstrap t UCL	0.0899
95% H-UCL (Log ROS)	0.0876		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.673	KM Geo Mean	0.0691
KM SD (logged)	0.305	95% Critical H Value (KM-Log)	1.899
KM Standard Error of Mean (logged)	0.0861	95% H-UCL (KM -Log)	0.085
KM SD (logged)	0.305	95% Critical H Value (KM-Log)	1.899
KM Standard Error of Mean (logged)	0.0861		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.0654	Mean in Log Scale	-2.865
SD in Original Scale	0.0345	SD in Log Scale	0.561
95% t UCL (Assumes normality)	0.0818	95% H-Stat UCL	0.0927

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 1% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.0857

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

o-Xylene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	8
		Number of Missing Observations	0
Minimum	0.28	Mean	0.313
Maximum	0.37	Median	0.305
SD	0.0315	Std. Error of Mean	0.00841
Coefficient of Variation	0.101	Skewness	0.849

Normal GOF Test

Shapiro Wilk Test Statistic	0.876	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data appear Normal at 1% Significance Level	
Lilliefors Test Statistic	0.179	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data appear Normal at 1% Significance Level	

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.328	95% Adjusted-CLT UCL (Chen-1995)	0.329
		95% Modified-t UCL (Johnson-1978)	0.328

Gamma GOF Test

A-D Test Statistic	0.588	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.169	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	110.8	k star (bias corrected MLE)	87.12
Theta hat (MLE)	0.00282	Theta star (bias corrected MLE)	0.00359
nu hat (MLE)	3103	nu star (bias corrected)	2439
MLE Mean (bias corrected)	0.313	MLE Sd (bias corrected)	0.0335

		Approximate Chi Square Value (0.05)	2326
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	2311

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.328	95% Adjusted Gamma UCL	0.33

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.89	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.162	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data appear Lognormal at 10% Significance Level	

Data appear Approximate Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.273	Mean of logged Data	-1.167
Maximum of Logged Data	-0.994	SD of logged Data	0.0977

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.337
95% Chebyshev (MVUE) UCL	0.348	97.5% Chebyshev (MVUE) UCL	0.364
99% Chebyshev (MVUE) UCL	0.394		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.327	95% BCA Bootstrap UCL	0.328
95% Standard Bootstrap UCL	0.326	95% Bootstrap-t UCL	0.331
95% Hall's Bootstrap UCL	0.328	95% Percentile Bootstrap UCL	0.326
90% Chebyshev(Mean, Sd) UCL	0.338	95% Chebyshev(Mean, Sd) UCL	0.35
97.5% Chebyshev(Mean, Sd) UCL	0.365	99% Chebyshev(Mean, Sd) UCL	0.397

Suggested UCL to Use

95% Student's-t UCL	0.328

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Styrene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	9
		Number of Missing Observations	0
Minimum	0.076	Mean	0.128
Maximum	0.32	Median	0.12
SD	0.0581	Std. Error of Mean	0.0155
Coefficient of Variation	0.455	Skewness	3.111

Normal GOF Test

Shapiro Wilk Test Statistic	0.599	Shapiro Wilk GOF Test	
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level	
Lilliefors Test Statistic	0.346	Lilliefors GOF Test	
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level	
Data Not Normal at 1% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.155	95% Adjusted-CLT UCL (Chen-1995)	0.167
		95% Modified-t UCL (Johnson-1978)	0.158

Gamma GOF Test

A-D Test Statistic	1.356	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.736	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.293	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.229	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	8.31	k star (bias corrected MLE)	6.577
Theta hat (MLE)	0.0154	Theta star (bias corrected MLE)	0.0195

nu hat (MLE)	232.7	nu star (bias corrected)	184.2
MLE Mean (bias corrected)	0.128	MLE Sd (bias corrected)	0.0499
		Approximate Chi Square Value (0.05)	153.8
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	150.1

Assuming Gamma Distribution

95% Approximate Gamma UCL	0.153	95% Adjusted Gamma UCL	0.157

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.794	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.264	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	

Data Not Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	-2.577	Mean of logged Data	-2.118
Maximum of Logged Data	-1.139	SD of logged Data	0.329

Assuming Lognormal Distribution

95% H-UCL	0.151	90% Chebyshev (MVUE) UCL	0.16
95% Chebyshev (MVUE) UCL	0.176	97.5% Chebyshev (MVUE) UCL	0.197
99% Chebyshev (MVUE) UCL	0.239		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	0.153	95% BCA Bootstrap UCL	0.168
95% Standard Bootstrap UCL	0.153	95% Bootstrap-t UCL	0.192
95% Hall's Bootstrap UCL	0.264	95% Percentile Bootstrap UCL	0.157
90% Chebyshev(Mean, Sd) UCL	0.175	95% Chebyshev(Mean, Sd) UCL	0.196
97.5% Chebyshev(Mean, Sd) UCL	0.225	99% Chebyshev(Mean, Sd) UCL	0.283

Suggested UCL to Use

95% Student's-t UCL	0.155

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Tetrachloroethene

General Statistics

Total Number of Observations	14	Number of Distinct Observations	4
Number of Detects	1	Number of Non-Detects	13
Number of Distinct Detects	1	Number of Distinct Non-Detects	3

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Tetrachloroethene was not processed!

Toluene

General Statistics

Total Number of Observations	13	Number of Distinct Observations	7
		Number of Missing Observations	0
Minimum	1.2	Mean	1.523
Maximum	2	Median	1.5
SD	0.228	Std. Error of Mean	0.0632
Coefficient of Variation	0.15	Skewness	0.863

Normal GOF Test

Shapiro Wilk Test Statistic	0.919	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.814	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.214	Lilliefors GOF Test
1% Lilliefors Critical Value	0.271	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.636	95% Adjusted-CLT UCL (Chen-1995)	1.643
		95% Modified-t UCL (Johnson-1978)	1.638

Gamma GOF Test

A-D Test Statistic	0.397	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.733	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.19	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.236	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	50.9	k star (bias corrected MLE)	39.2
Theta hat (MLE)	0.0299	Theta star (bias corrected MLE)	0.0388
nu hat (MLE)	1323	nu star (bias corrected)	1019
MLE Mean (bias corrected)	1.523	MLE Sd (bias corrected)	0.243
		Approximate Chi Square Value (0.05)	946.2
Adjusted Level of Significance	0.0301	Adjusted Chi Square Value	936.2

Assuming Gamma Distribution

95% Approximate Gamma UCL	1.641	95% Adjusted Gamma UCL	1.658

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.947	Shapiro Wilk Lognormal GOF Test
10% Shapiro Wilk Critical Value	0.889	Data appear Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.187	Lilliefors Lognormal GOF Test
10% Lilliefors Critical Value	0.215	Data appear Lognormal at 10% Significance Level

Data appear Lognormal at 10% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.182	Mean of logged Data	0.411
Maximum of Logged Data	0.693	SD of logged Data	0.145

Assuming Lognormal Distribution

95% H-UCL	1.642	90% Chebyshev (MVUE) UCL	1.706

95% Chebyshev (MVUE) UCL	1.79	97.5% Chebyshev (MVUE) UCL	1.905
99% Chebyshev (MVUE) UCL	2.132		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	1.627	95% BCA Bootstrap UCL	1.631
95% Standard Bootstrap UCL	1.625	95% Bootstrap-t UCL	1.669
95% Hall's Bootstrap UCL	1.723	95% Percentile Bootstrap UCL	1.631
90% Chebyshev(Mean, Sd) UCL	1.713	95% Chebyshev(Mean, Sd) UCL	1.799
97.5% Chebyshev(Mean, Sd) UCL	1.918	99% Chebyshev(Mean, Sd) UCL	2.152

Suggested UCL to Use

95% Student's-t UCL	1.636

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Trichlorofluoromethane

General Statistics

Total Number of Observations	14	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	1	Mean	1.093
Maximum	1.1	Median	1.1
SD	0.0267	Std. Error of Mean	0.00714
Coefficient of Variation	0.0245	Skewness	-3.742

Normal GOF Test

Shapiro Wilk Test Statistic	0.297	Shapiro Wilk GOF Test
1% Shapiro Wilk Critical Value	0.825	Data Not Normal at 1% Significance Level
Lilliefors Test Statistic	0.534	Lilliefors GOF Test
1% Lilliefors Critical Value	0.263	Data Not Normal at 1% Significance Level

Data Not Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.106	95% Adjusted-CLT UCL (Chen-1995)	1.097
		95% Modified-t UCL (Johnson-1978)	1.104

Gamma GOF Test

A-D Test Statistic	4.872	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.733	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.538	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.228	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	1706	k star (bias corrected MLE)	1340
Theta hat (MLE)	6.41E-04	Theta star (bias corrected MLE)	8.15E-04
nu hat (MLE)	47755	nu star (bias corrected)	37523
MLE Mean (bias corrected)	1.093	MLE Sd (bias corrected)	0.0299
		Approximate Chi Square Value (0.05)	37074
Adjusted Level of Significance	0.0312	Adjusted Chi Square Value	37015

Assuming Gamma Distribution

95% Approximate Gamma UCL	1.106	95% Adjusted Gamma UCL	1.108

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.297	Shapiro Wilk Lognormal GOF Test	
10% Shapiro Wilk Critical Value	0.895	Data Not Lognormal at 10% Significance Level	
Lilliefors Test Statistic	0.534	Lilliefors Lognormal GOF Test	
10% Lilliefors Critical Value	0.208	Data Not Lognormal at 10% Significance Level	
Data Not Lognormal at 10% Significance Level			

Lognormal Statistics

Minimum of Logged Data	0	Mean of logged Data	0.0885
Maximum of Logged Data	0.0953	SD of logged Data	0.0255

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	1.115
95% Chebyshev (MVUE) UCL	1.125	97.5% Chebyshev (MVUE) UCL	1.139
99% Chebyshev (MVUE) UCL	1.167		

Nonparametric Distribution Free UCL Statistics
Data do not follow a Discernible Distribution

Nonparametric Distribution Free UCLs

95% CLT UCL	1.105	95% BCA Bootstrap UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
90% Chebyshev(Mean, Sd) UCL	1.114	95% Chebyshev(Mean, Sd) UCL	1.124
97.5% Chebyshev(Mean, Sd) UCL	1.137	99% Chebyshev(Mean, Sd) UCL	1.164

Suggested UCL to Use
95% Student's-t UCL 1.106
Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Appendix E

Laboratory Analytical Reports – 14-day Samples

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

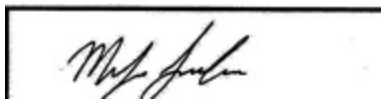
Lab Job Number : 518235
Report Level : II
Report Date : 10/22/2024

Analytical Report *prepared for:*

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Location: Walnut Bluff Workplan

Authorized for release by:



Miguel Gamboa, Project Manager
miguel.gamboa@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Lab Job #: 518235
Location: Walnut Bluff Workplan
Date Received: 10/15/24

Sample ID	Lab ID	Collected	Matrix
WB01-14D	518235-001	10/15/24 11:37	Air
WB02-14D	518235-002	10/15/24 11:34	Air
WB03-14D	518235-003	10/15/24 11:46	Air
WB04-14D	518235-004	10/15/24 11:50	Air
WB05-14D	518235-005	10/15/24 12:01	Air
WB06-14D	518235-006	10/15/24 11:56	Air
WB07-14D	518235-007	10/15/24 12:06	Air
WB08-14D	518235-008	10/15/24 12:11	Air
WB09-14D	518235-009	10/15/24 11:05	Air
WB10-14D	518235-010	10/15/24 11:12	Air
WB11-14D	518235-011	10/15/24 11:16	Air
WB12-14D	518235-012	10/15/24 11:20	Air
WB13-14D	518235-013	10/15/24 11:24	Air
WB14-14D	518235-014	10/15/24 11:28	Air
WB17-14D	518235-015	10/15/24 09:40	Air
WB18-14D	518235-016	10/15/24 10:28	Air
WB19-14D	518235-017	10/15/24 14:44	Air

Case Narrative

Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403
Yola Bayram

Lab Job Number: 518235
Location: Walnut Bluff Workplan
Date Received: 10/15/24

This data package contains sample and QC results for seventeen air samples, requested for the above referenced project on 10/15/24. The samples were received intact.

Volatile Organics in Air by MS (EPA TO-15 SIM):
No analytical problems were encountered.

ENTHALPY ANALYTICAL

Detection Summary

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Lab Job #: 518235
Location: Walnut Bluff Workplan
Date Received: 10/15/24

Sample ID: WB01-14D **Lab ID: 518235-001** **Collected: 10/15/24 11:37**
Matrix: Air

518235-001 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	11
Freon 12	**2.3**		ug/m3	0.054
Chloromethane	**480**		pptv	110
Chloromethane	**0.99**		ug/m3	0.23
Freon 114	**16**		pptv	11
Freon 114	**0.11**		ug/m3	0.077
Bromomethane	**21**		pptv	11
Bromomethane	**0.080**		ug/m3	0.043
Trichlorofluoromethane	**190**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**160**		pptv	22
Methylene Chloride	**0.55**		ug/m3	0.076
Freon 113	**60**		pptv	11
Freon 113	**0.46**		ug/m3	0.084
Chloroform	**28**		pptv	11
Chloroform	**0.14**		ug/m3	0.054
1,2-Dichloroethane	**16**		pptv	11
1,2-Dichloroethane	**0.063**		ug/m3	0.045
Benzene	**250**		pptv	11
Benzene	**0.80**		ug/m3	0.035
Carbon Tetrachloride	**73**		pptv	11
Carbon Tetrachloride	**0.46**		ug/m3	0.069
Toluene	**360**		pptv	11
Toluene	**1.4**		ug/m3	0.041
Ethylbenzene	**63**		pptv	11
Ethylbenzene	**0.27**		ug/m3	0.048
m,p-Xylenes	**180**		pptv	11
m,p-Xylenes	**0.79**		ug/m3	0.048
Styrene	**24**		pptv	11
Styrene	**0.10**		ug/m3	0.047
o-Xylene	**73**		pptv	11
o-Xylene	**0.32**		ug/m3	0.048
1,3,5-Trimethylbenzene	**15**		pptv	11
1,3,5-Trimethylbenzene	**0.074**		ug/m3	0.054
1,2,4-Trimethylbenzene	**61**		pptv	11
1,2,4-Trimethylbenzene	**0.30**		ug/m3	0.054
Naphthalene	**11**		pptv	11
Naphthalene	**0.059**		ug/m3	0.058
Xylene (total)	**250**		pptv	11
Xylene (total)	**1.1**		ug/m3	0.048

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB02-14D	Lab ID: 518235-002	Collected: 10/15/24 11:34
	Matrix: Air	

518235-002 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**480**		pptv	100
Chloromethane	**0.99**		ug/m3	0.21
Freon 114	**16**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**22**		pptv	10
Bromomethane	**0.084**		ug/m3	0.039
Chloroethane	**19**		pptv	10
Chloroethane	**0.049**		ug/m3	0.026
Trichlorofluoromethane	**180**		pptv	10
Trichlorofluoromethane	**1.0**		ug/m3	0.056
Methylene Chloride	**170**		pptv	20
Methylene Chloride	**0.60**		ug/m3	0.069
Freon 113	**58**		pptv	10
Freon 113	**0.44**		ug/m3	0.077
Chloroform	**32**		pptv	10
Chloroform	**0.16**		ug/m3	0.049
1,2-Dichloroethane	**16**		pptv	10
1,2-Dichloroethane	**0.066**		ug/m3	0.040
Benzene	**260**		pptv	10
Benzene	**0.83**		ug/m3	0.032
Carbon Tetrachloride	**71**		pptv	10
Carbon Tetrachloride	**0.45**		ug/m3	0.063
Toluene	**410**		pptv	10
Toluene	**1.5**		ug/m3	0.038
Ethylbenzene	**75**		pptv	10
Ethylbenzene	**0.33**		ug/m3	0.043
m,p-Xylenes	**210**		pptv	10
m,p-Xylenes	**0.90**		ug/m3	0.043
Styrene	**28**		pptv	10
Styrene	**0.12**		ug/m3	0.043
o-Xylene	**82**		pptv	10
o-Xylene	**0.35**		ug/m3	0.043
1,3,5-Trimethylbenzene	**20**		pptv	10
1,3,5-Trimethylbenzene	**0.10**		ug/m3	0.049
1,2,4-Trimethylbenzene	**74**		pptv	10
1,2,4-Trimethylbenzene	**0.37**		ug/m3	0.049
Naphthalene	**15**		pptv	10
Naphthalene	**0.077**		ug/m3	0.052
Xylene (total)	**290**		pptv	10
Xylene (total)	**1.3**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB03-14D	Lab ID: 518235-003	Collected: 10/15/24 11:46
	Matrix: Air	

518235-003 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**21**		pptv	10
Bromomethane	**0.082**		ug/m3	0.039
Trichlorofluoromethane	**200**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**170**		pptv	20
Methylene Chloride	**0.59**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.47**		ug/m3	0.077
Chloroform	**34**		pptv	10
Chloroform	**0.17**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.062**		ug/m3	0.040
Benzene	**230**		pptv	10
Benzene	**0.72**		ug/m3	0.032
Carbon Tetrachloride	**75**		pptv	10
Carbon Tetrachloride	**0.47**		ug/m3	0.063
Toluene	**330**		pptv	10
Toluene	**1.2**		ug/m3	0.038
Ethylbenzene	**57**		pptv	10
Ethylbenzene	**0.25**		ug/m3	0.043
m,p-Xylenes	**160**		pptv	10
m,p-Xylenes	**0.71**		ug/m3	0.043
Styrene	**18**		pptv	10
Styrene	**0.076**		ug/m3	0.043
o-Xylene	**65**		pptv	10
o-Xylene	**0.28**		ug/m3	0.043
1,3,5-Trimethylbenzene	**11**		pptv	10
1,3,5-Trimethylbenzene	**0.055**		ug/m3	0.049
1,2,4-Trimethylbenzene	**48**		pptv	10
1,2,4-Trimethylbenzene	**0.24**		ug/m3	0.049
Xylene (total)	**230**		pptv	10
Xylene (total)	**0.99**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB04-14D	Lab ID: 518235-004	Collected: 10/15/24 11:50
	Matrix: Air	

518235-004 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**16**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**19**		pptv	10
Bromomethane	**0.075**		ug/m3	0.039
Trichlorofluoromethane	**200**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**340**		pptv	20
Methylene Chloride	**1.2**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.47**		ug/m3	0.077
Chloroform	**33**		pptv	10
Chloroform	**0.16**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.062**		ug/m3	0.040
Benzene	**230**		pptv	10
Benzene	**0.74**		ug/m3	0.032
Carbon Tetrachloride	**75**		pptv	10
Carbon Tetrachloride	**0.47**		ug/m3	0.063
Toluene	**380**		pptv	10
Toluene	**1.4**		ug/m3	0.038
Ethylbenzene	**60**		pptv	10
Ethylbenzene	**0.26**		ug/m3	0.043
m,p-Xylenes	**180**		pptv	10
m,p-Xylenes	**0.76**		ug/m3	0.043
Styrene	**25**		pptv	10
Styrene	**0.11**		ug/m3	0.043
o-Xylene	**69**		pptv	10
o-Xylene	**0.30**		ug/m3	0.043
1,3,5-Trimethylbenzene	**13**		pptv	10
1,3,5-Trimethylbenzene	**0.065**		ug/m3	0.049
1,2,4-Trimethylbenzene	**59**		pptv	10
1,2,4-Trimethylbenzene	**0.29**		ug/m3	0.049
Xylene (total)	**240**		pptv	10
Xylene (total)	**1.1**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB05-14D	Lab ID: 518235-005	Collected: 10/15/24 12:01
	Matrix: Air	

518235-005 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	12
Freon 12	**2.3**		ug/m3	0.059
Chloromethane	**480**		pptv	120
Chloromethane	**1.0**		ug/m3	0.25
Freon 114	**16**		pptv	12
Freon 114	**0.11**		ug/m3	0.084
Bromomethane	**22**		pptv	12
Bromomethane	**0.084**		ug/m3	0.047
Trichlorofluoromethane	**190**		pptv	12
Trichlorofluoromethane	**1.1**		ug/m3	0.067
Methylene Chloride	**220**		pptv	24
Methylene Chloride	**0.76**		ug/m3	0.083
Freon 113	**61**		pptv	12
Freon 113	**0.46**		ug/m3	0.092
Chloroform	**32**		pptv	12
Chloroform	**0.16**		ug/m3	0.059
1,2-Dichloroethane	**15**		pptv	12
1,2-Dichloroethane	**0.061**		ug/m3	0.049
Benzene	**1,000**		pptv	12
Benzene	**3.2**		ug/m3	0.038
Carbon Tetrachloride	**73**		pptv	12
Carbon Tetrachloride	**0.46**		ug/m3	0.075
Toluene	**1,500**		pptv	12
Toluene	**5.8**		ug/m3	0.045
Ethylbenzene	**59**		pptv	12
Ethylbenzene	**0.26**		ug/m3	0.052
m,p-Xylenes	**170**		pptv	12
m,p-Xylenes	**0.73**		ug/m3	0.052
Styrene	**30**		pptv	12
Styrene	**0.13**		ug/m3	0.051
o-Xylene	**66**		pptv	12
o-Xylene	**0.29**		ug/m3	0.052
1,3,5-Trimethylbenzene	**15**		pptv	12
1,3,5-Trimethylbenzene	**0.074**		ug/m3	0.059
1,2,4-Trimethylbenzene	**59**		pptv	12
1,2,4-Trimethylbenzene	**0.29**		ug/m3	0.059
Naphthalene	**14**		pptv	12
Naphthalene	**0.074**		ug/m3	0.063
Xylene (total)	**230**		pptv	12
Xylene (total)	**1.0**		ug/m3	0.052

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB06-14D	Lab ID: 518235-006	Collected: 10/15/24 11:56
	Matrix: Air	

518235-006 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**480**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**21**		pptv	10
Bromomethane	**0.081**		ug/m3	0.039
Chloroethane	**17**		pptv	10
Chloroethane	**0.045**		ug/m3	0.026
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**180**		pptv	20
Methylene Chloride	**0.62**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**31**		pptv	10
Chloroform	**0.15**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.062**		ug/m3	0.040
Benzene	**230**		pptv	10
Benzene	**0.74**		ug/m3	0.032
Carbon Tetrachloride	**74**		pptv	10
Carbon Tetrachloride	**0.47**		ug/m3	0.063
Toluene	**420**		pptv	10
Toluene	**1.6**		ug/m3	0.038
Ethylbenzene	**64**		pptv	10
Ethylbenzene	**0.28**		ug/m3	0.043
m,p-Xylenes	**170**		pptv	10
m,p-Xylenes	**0.74**		ug/m3	0.043
Styrene	**26**		pptv	10
Styrene	**0.11**		ug/m3	0.043
o-Xylene	**66**		pptv	10
o-Xylene	**0.29**		ug/m3	0.043
1,3,5-Trimethylbenzene	**13**		pptv	10
1,3,5-Trimethylbenzene	**0.065**		ug/m3	0.049
1,2,4-Trimethylbenzene	**54**		pptv	10
1,2,4-Trimethylbenzene	**0.26**		ug/m3	0.049
Xylene (total)	**240**		pptv	10
Xylene (total)	**1.0**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB07-14D	Lab ID: 518235-007	Collected: 10/15/24 12:06
	Matrix: Air	

518235-007 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**480**		pptv	100
Chloromethane	**0.99**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**22**		pptv	10
Bromomethane	**0.085**		ug/m3	0.039
Chloroethane	**33**		pptv	10
Chloroethane	**0.088**		ug/m3	0.026
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**190**		pptv	20
Methylene Chloride	**0.67**		ug/m3	0.069
Freon 113	**60**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**29**		pptv	10
Chloroform	**0.14**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.061**		ug/m3	0.040
Benzene	**220**		pptv	10
Benzene	**0.72**		ug/m3	0.032
Carbon Tetrachloride	**73**		pptv	10
Carbon Tetrachloride	**0.46**		ug/m3	0.063
Toluene	**390**		pptv	10
Toluene	**1.5**		ug/m3	0.038
Ethylbenzene	**60**		pptv	10
Ethylbenzene	**0.26**		ug/m3	0.043
m,p-Xylenes	**160**		pptv	10
m,p-Xylenes	**0.71**		ug/m3	0.043
Styrene	**29**		pptv	10
Styrene	**0.12**		ug/m3	0.043
o-Xylene	**65**		pptv	10
o-Xylene	**0.28**		ug/m3	0.043
1,3,5-Trimethylbenzene	**13**		pptv	10
1,3,5-Trimethylbenzene	**0.065**		ug/m3	0.049
1,2,4-Trimethylbenzene	**58**		pptv	10
1,2,4-Trimethylbenzene	**0.29**		ug/m3	0.049
Naphthalene	**11**		pptv	10
Naphthalene	**0.059**		ug/m3	0.052
Xylene (total)	**230**		pptv	10
Xylene (total)	**0.99**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB08-14D	Lab ID: 518235-008	Collected: 10/15/24 12:11
	Matrix: Air	

518235-008 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	11
Freon 12	**2.3**		ug/m3	0.054
Chloromethane	**490**		pptv	110
Chloromethane	**1.0**		ug/m3	0.23
Freon 114	**17**		pptv	11
Freon 114	**0.12**		ug/m3	0.077
Bromomethane	**21**		pptv	11
Bromomethane	**0.080**		ug/m3	0.043
Chloroethane	**22**		pptv	11
Chloroethane	**0.058**		ug/m3	0.029
Trichlorofluoromethane	**200**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**210**		pptv	22
Methylene Chloride	**0.74**		ug/m3	0.076
Freon 113	**61**		pptv	11
Freon 113	**0.47**		ug/m3	0.084
Chloroform	**28**		pptv	11
Chloroform	**0.14**		ug/m3	0.054
1,2-Dichloroethane	**15**		pptv	11
1,2-Dichloroethane	**0.062**		ug/m3	0.045
Benzene	**230**		pptv	11
Benzene	**0.74**		ug/m3	0.035
Carbon Tetrachloride	**74**		pptv	11
Carbon Tetrachloride	**0.47**		ug/m3	0.069
Toluene	**400**		pptv	11
Toluene	**1.5**		ug/m3	0.041
Ethylbenzene	**59**		pptv	11
Ethylbenzene	**0.26**		ug/m3	0.048
m,p-Xylenes	**160**		pptv	11
m,p-Xylenes	**0.70**		ug/m3	0.048
Styrene	**23**		pptv	11
Styrene	**0.099**		ug/m3	0.047
o-Xylene	**65**		pptv	11
o-Xylene	**0.28**		ug/m3	0.048
1,3,5-Trimethylbenzene	**12**		pptv	11
1,3,5-Trimethylbenzene	**0.061**		ug/m3	0.054
1,2,4-Trimethylbenzene	**54**		pptv	11
1,2,4-Trimethylbenzene	**0.27**		ug/m3	0.054
Xylene (total)	**230**		pptv	11
Xylene (total)	**0.98**		ug/m3	0.048

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB09-14D	Lab ID: 518235-009	Collected: 10/15/24 11:05
	Matrix: Air	

518235-009 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**24**		pptv	10
Bromomethane	**0.092**		ug/m3	0.039
Chloroethane	**16**		pptv	10
Chloroethane	**0.042**		ug/m3	0.026
Trichlorofluoromethane	**200**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**820**		pptv	20
Methylene Chloride	**2.8**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.47**		ug/m3	0.077
Chloroform	**37**		pptv	10
Chloroform	**0.18**		ug/m3	0.049
1,2-Dichloroethane	**16**		pptv	10
1,2-Dichloroethane	**0.063**		ug/m3	0.040
Benzene	**250**		pptv	10
Benzene	**0.81**		ug/m3	0.032
Carbon Tetrachloride	**74**		pptv	10
Carbon Tetrachloride	**0.47**		ug/m3	0.063
Toluene	**420**		pptv	10
Toluene	**1.6**		ug/m3	0.038
Ethylbenzene	**62**		pptv	10
Ethylbenzene	**0.27**		ug/m3	0.043
m,p-Xylenes	**180**		pptv	10
m,p-Xylenes	**0.79**		ug/m3	0.043
Styrene	**29**		pptv	10
Styrene	**0.12**		ug/m3	0.043
o-Xylene	**72**		pptv	10
o-Xylene	**0.31**		ug/m3	0.043
1,3,5-Trimethylbenzene	**14**		pptv	10
1,3,5-Trimethylbenzene	**0.068**		ug/m3	0.049
1,2,4-Trimethylbenzene	**59**		pptv	10
1,2,4-Trimethylbenzene	**0.29**		ug/m3	0.049
Naphthalene	**15**		pptv	10
Naphthalene	**0.078**		ug/m3	0.052
Xylene (total)	**250**		pptv	10
Xylene (total)	**1.1**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB10-14D	Lab ID: 518235-010	Collected: 10/15/24 11:12
	Matrix: Air	

518235-010 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**480**		pptv	100
Chloromethane	**0.98**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**21**		pptv	10
Bromomethane	**0.083**		ug/m3	0.039
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**250**		pptv	20
Methylene Chloride	**0.85**		ug/m3	0.069
Freon 113	**60**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**31**		pptv	10
Chloroform	**0.15**		ug/m3	0.049
1,2-Dichloroethane	**18**		pptv	10
1,2-Dichloroethane	**0.072**		ug/m3	0.040
Benzene	**310**		pptv	10
Benzene	**0.99**		ug/m3	0.032
Carbon Tetrachloride	**73**		pptv	10
Carbon Tetrachloride	**0.46**		ug/m3	0.063
Toluene	**350**		pptv	10
Toluene	**1.3**		ug/m3	0.038
Ethylbenzene	**100**		pptv	10
Ethylbenzene	**0.45**		ug/m3	0.043
m,p-Xylenes	**270**		pptv	10
m,p-Xylenes	**1.2**		ug/m3	0.043
Styrene	**32**		pptv	10
Styrene	**0.13**		ug/m3	0.043
o-Xylene	**84**		pptv	10
o-Xylene	**0.37**		ug/m3	0.043
1,3,5-Trimethylbenzene	**28**		pptv	10
1,3,5-Trimethylbenzene	**0.14**		ug/m3	0.049
1,2,4-Trimethylbenzene	**100**		pptv	10
1,2,4-Trimethylbenzene	**0.50**		ug/m3	0.049
Naphthalene	**26**		pptv	10
Naphthalene	**0.14**		ug/m3	0.052
Xylene (total)	**350**		pptv	10
Xylene (total)	**1.5**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB11-14D	Lab ID: 518235-011	Collected: 10/15/24 11:16
	Matrix: Air	

518235-011 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**470**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**23**		pptv	10
Bromomethane	**0.089**		ug/m3	0.039
Chloroethane	**34**		pptv	10
Chloroethane	**0.089**		ug/m3	0.026
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**160**		pptv	20
Methylene Chloride	**0.57**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.47**		ug/m3	0.077
Chloroform	**29**		pptv	10
Chloroform	**0.14**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.061**		ug/m3	0.040
Benzene	**240**		pptv	10
Benzene	**0.78**		ug/m3	0.032
Carbon Tetrachloride	**74**		pptv	10
Carbon Tetrachloride	**0.47**		ug/m3	0.063
Toluene	**440**		pptv	10
Toluene	**1.6**		ug/m3	0.038
Ethylbenzene	**61**		pptv	10
Ethylbenzene	**0.27**		ug/m3	0.043
m,p-Xylenes	**180**		pptv	10
m,p-Xylenes	**0.78**		ug/m3	0.043
Styrene	**31**		pptv	10
Styrene	**0.13**		ug/m3	0.043
o-Xylene	**70**		pptv	10
o-Xylene	**0.31**		ug/m3	0.043
1,3,5-Trimethylbenzene	**15**		pptv	10
1,3,5-Trimethylbenzene	**0.073**		ug/m3	0.049
1,2,4-Trimethylbenzene	**60**		pptv	10
1,2,4-Trimethylbenzene	**0.30**		ug/m3	0.049
Naphthalene	**16**		pptv	10
Naphthalene	**0.086**		ug/m3	0.052
Xylene (total)	**250**		pptv	10
Xylene (total)	**1.1**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB12-14D	Lab ID: 518235-012	Collected: 10/15/24 11:20
	Matrix: Air	

518235-012 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**17**		pptv	10
Freon 114	**0.12**		ug/m3	0.070
Bromomethane	**21**		pptv	10
Bromomethane	**0.081**		ug/m3	0.039
Chloroethane	**39**		pptv	10
Chloroethane	**0.10**		ug/m3	0.026
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**160**		pptv	20
Methylene Chloride	**0.57**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**29**		pptv	10
Chloroform	**0.14**		ug/m3	0.049
1,2-Dichloroethane	**15**		pptv	10
1,2-Dichloroethane	**0.062**		ug/m3	0.040
Benzene	**270**		pptv	10
Benzene	**0.85**		ug/m3	0.032
Carbon Tetrachloride	**73**		pptv	10
Carbon Tetrachloride	**0.46**		ug/m3	0.063
Toluene	**490**		pptv	10
Toluene	**1.9**		ug/m3	0.038
Ethylbenzene	**68**		pptv	10
Ethylbenzene	**0.29**		ug/m3	0.043
m,p-Xylenes	**190**		pptv	10
m,p-Xylenes	**0.83**		ug/m3	0.043
Styrene	**32**		pptv	10
Styrene	**0.14**		ug/m3	0.043
o-Xylene	**75**		pptv	10
o-Xylene	**0.33**		ug/m3	0.043
1,3,5-Trimethylbenzene	**15**		pptv	10
1,3,5-Trimethylbenzene	**0.074**		ug/m3	0.049
1,2,4-Trimethylbenzene	**64**		pptv	10
1,2,4-Trimethylbenzene	**0.32**		ug/m3	0.049
Naphthalene	**11**		pptv	10
Naphthalene	**0.059**		ug/m3	0.052
Xylene (total)	**270**		pptv	10
Xylene (total)	**1.2**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB13-14D	Lab ID: 518235-013	Collected: 10/15/24 11:24
	Matrix: Air	

518235-013 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	11
Freon 12	**2.3**		ug/m3	0.054
Chloromethane	**490**		pptv	110
Chloromethane	**1.0**		ug/m3	0.23
Freon 114	**16**		pptv	11
Freon 114	**0.11**		ug/m3	0.077
Bromomethane	**21**		pptv	11
Bromomethane	**0.083**		ug/m3	0.043
Trichlorofluoromethane	**190**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**170**		pptv	22
Methylene Chloride	**0.60**		ug/m3	0.076
Freon 113	**59**		pptv	11
Freon 113	**0.46**		ug/m3	0.084
Chloroform	**35**		pptv	11
Chloroform	**0.17**		ug/m3	0.054
1,2-Dichloroethane	**16**		pptv	11
1,2-Dichloroethane	**0.065**		ug/m3	0.045
Benzene	**280**		pptv	11
Benzene	**0.89**		ug/m3	0.035
Carbon Tetrachloride	**72**		pptv	11
Carbon Tetrachloride	**0.46**		ug/m3	0.069
Toluene	**530**		pptv	11
Toluene	**2.0**		ug/m3	0.041
Tetrachloroethene	**12**		pptv	11
Tetrachloroethene	**0.080**		ug/m3	0.075
Ethylbenzene	**72**		pptv	11
Ethylbenzene	**0.31**		ug/m3	0.048
m,p-Xylenes	**220**		pptv	11
m,p-Xylenes	**0.94**		ug/m3	0.048
Styrene	**76**		pptv	11
Styrene	**0.32**		ug/m3	0.047
o-Xylene	**86**		pptv	11
o-Xylene	**0.37**		ug/m3	0.048
1,3,5-Trimethylbenzene	**17**		pptv	11
1,3,5-Trimethylbenzene	**0.085**		ug/m3	0.054
1,2,4-Trimethylbenzene	**72**		pptv	11
1,2,4-Trimethylbenzene	**0.35**		ug/m3	0.054
Naphthalene	**23**		pptv	11
Naphthalene	**0.12**		ug/m3	0.058
Xylene (total)	**300**		pptv	11
Xylene (total)	**1.3**		ug/m3	0.048

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB14-14D	Lab ID: 518235-014	Collected: 10/15/24 11:28
	Matrix: Air	

518235-014 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	10
Freon 12	**2.3**		ug/m3	0.049
Chloromethane	**490**		pptv	100
Chloromethane	**1.0**		ug/m3	0.21
Freon 114	**16**		pptv	10
Freon 114	**0.11**		ug/m3	0.070
Bromomethane	**22**		pptv	10
Bromomethane	**0.085**		ug/m3	0.039
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**170**		pptv	20
Methylene Chloride	**0.59**		ug/m3	0.069
Freon 113	**60**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**27**		pptv	10
Chloroform	**0.13**		ug/m3	0.049
1,2-Dichloroethane	**16**		pptv	10
1,2-Dichloroethane	**0.063**		ug/m3	0.040
Benzene	**240**		pptv	10
Benzene	**0.78**		ug/m3	0.032
Carbon Tetrachloride	**73**		pptv	10
Carbon Tetrachloride	**0.46**		ug/m3	0.063
Toluene	**350**		pptv	10
Toluene	**1.3**		ug/m3	0.038
Ethylbenzene	**60**		pptv	10
Ethylbenzene	**0.26**		ug/m3	0.043
m,p-Xylenes	**170**		pptv	10
m,p-Xylenes	**0.75**		ug/m3	0.043
Styrene	**20**		pptv	10
Styrene	**0.086**		ug/m3	0.043
o-Xylene	**68**		pptv	10
o-Xylene	**0.30**		ug/m3	0.043
1,3,5-Trimethylbenzene	**14**		pptv	10
1,3,5-Trimethylbenzene	**0.067**		ug/m3	0.049
1,2,4-Trimethylbenzene	**55**		pptv	10
1,2,4-Trimethylbenzene	**0.27**		ug/m3	0.049
Naphthalene	**11**		pptv	10
Naphthalene	**0.057**		ug/m3	0.052
Xylene (total)	**240**		pptv	10
Xylene (total)	**1.1**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB17-14D	Lab ID: 518235-015	Collected: 10/15/24 09:40
	Matrix: Air	

518235-015 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	11
Freon 12	**2.3**		ug/m3	0.054
Chloromethane	**480**		pptv	110
Chloromethane	**1.0**		ug/m3	0.23
Freon 114	**16**		pptv	11
Freon 114	**0.11**		ug/m3	0.077
Bromomethane	**22**		pptv	11
Bromomethane	**0.084**		ug/m3	0.043
Chloroethane	**12**		pptv	11
Chloroethane	**0.032**		ug/m3	0.029
Trichlorofluoromethane	**190**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**150**		pptv	22
Methylene Chloride	**0.53**		ug/m3	0.076
Freon 113	**60**		pptv	11
Freon 113	**0.46**		ug/m3	0.084
Chloroform	**29**		pptv	11
Chloroform	**0.14**		ug/m3	0.054
1,2-Dichloroethane	**15**		pptv	11
1,2-Dichloroethane	**0.062**		ug/m3	0.045
Benzene	**260**		pptv	11
Benzene	**0.82**		ug/m3	0.035
Carbon Tetrachloride	**72**		pptv	11
Carbon Tetrachloride	**0.46**		ug/m3	0.069
Toluene	**450**		pptv	11
Toluene	**1.7**		ug/m3	0.041
Ethylbenzene	**69**		pptv	11
Ethylbenzene	**0.30**		ug/m3	0.048
m,p-Xylenes	**200**		pptv	11
m,p-Xylenes	**0.89**		ug/m3	0.048
Styrene	**30**		pptv	11
Styrene	**0.13**		ug/m3	0.047
o-Xylene	**81**		pptv	11
o-Xylene	**0.35**		ug/m3	0.048
1,3,5-Trimethylbenzene	**17**		pptv	11
1,3,5-Trimethylbenzene	**0.085**		ug/m3	0.054
1,2,4-Trimethylbenzene	**67**		pptv	11
1,2,4-Trimethylbenzene	**0.33**		ug/m3	0.054
Naphthalene	**14**		pptv	11
Naphthalene	**0.072**		ug/m3	0.058
Xylene (total)	**290**		pptv	11
Xylene (total)	**1.2**		ug/m3	0.048

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB18-14D	Lab ID: 518235-016	Collected: 10/15/24 10:28
	Matrix: Air	

518235-016 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**480**		pptv	12
Freon 12	**2.4**		ug/m3	0.059
Chloromethane	**510**		pptv	120
Chloromethane	**1.1**		ug/m3	0.25
Freon 114	**17**		pptv	12
Freon 114	**0.12**		ug/m3	0.084
Bromomethane	**28**		pptv	12
Bromomethane	**0.11**		ug/m3	0.047
Chloroethane	**13**		pptv	12
Chloroethane	**0.035**		ug/m3	0.032
Trichlorofluoromethane	**200**		pptv	12
Trichlorofluoromethane	**1.1**		ug/m3	0.067
Methylene Chloride	**160**		pptv	24
Methylene Chloride	**0.56**		ug/m3	0.083
Freon 113	**62**		pptv	12
Freon 113	**0.47**		ug/m3	0.092
Chloroform	**29**		pptv	12
Chloroform	**0.14**		ug/m3	0.059
1,2-Dichloroethane	**15**		pptv	12
1,2-Dichloroethane	**0.062**		ug/m3	0.049
Benzene	**250**		pptv	12
Benzene	**0.79**		ug/m3	0.038
Carbon Tetrachloride	**75**		pptv	12
Carbon Tetrachloride	**0.47**		ug/m3	0.075
Toluene	**440**		pptv	12
Toluene	**1.7**		ug/m3	0.045
Ethylbenzene	**68**		pptv	12
Ethylbenzene	**0.30**		ug/m3	0.052
m,p-Xylenes	**200**		pptv	12
m,p-Xylenes	**0.88**		ug/m3	0.052
Styrene	**31**		pptv	12
Styrene	**0.13**		ug/m3	0.051
o-Xylene	**81**		pptv	12
o-Xylene	**0.35**		ug/m3	0.052
1,3,5-Trimethylbenzene	**22**		pptv	12
1,3,5-Trimethylbenzene	**0.11**		ug/m3	0.059
1,2,4-Trimethylbenzene	**89**		pptv	12
1,2,4-Trimethylbenzene	**0.44**		ug/m3	0.059
Naphthalene	**14**		pptv	12
Naphthalene	**0.073**		ug/m3	0.063
Xylene (total)	**280**		pptv	12
Xylene (total)	**1.2**		ug/m3	0.052

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB19-14D	Lab ID: 518235-017	Collected: 10/15/24 14:44
	Matrix: Air	

518235-017 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**460**		pptv	11
Freon 12	**2.3**		ug/m3	0.054
Chloromethane	**500**		pptv	110
Chloromethane	**1.0**		ug/m3	0.23
Freon 114	**16**		pptv	11
Freon 114	**0.11**		ug/m3	0.077
Bromomethane	**21**		pptv	11
Bromomethane	**0.080**		ug/m3	0.043
Chloroethane	**26**		pptv	11
Chloroethane	**0.069**		ug/m3	0.029
Trichlorofluoromethane	**190**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**140**		pptv	22
Methylene Chloride	**0.50**		ug/m3	0.076
Freon 113	**59**		pptv	11
Freon 113	**0.45**		ug/m3	0.084
Chloroform	**27**		pptv	11
Chloroform	**0.13**		ug/m3	0.054
1,2-Dichloroethane	**17**		pptv	11
1,2-Dichloroethane	**0.067**		ug/m3	0.045
Benzene	**320**		pptv	11
Benzene	**1.0**		ug/m3	0.035
Carbon Tetrachloride	**71**		pptv	11
Carbon Tetrachloride	**0.45**		ug/m3	0.069
Toluene	**480**		pptv	11
Toluene	**1.8**		ug/m3	0.041
Ethylbenzene	**72**		pptv	11
Ethylbenzene	**0.31**		ug/m3	0.048
m,p-Xylenes	**220**		pptv	11
m,p-Xylenes	**0.95**		ug/m3	0.048
Styrene	**42**		pptv	11
Styrene	**0.18**		ug/m3	0.047
o-Xylene	**86**		pptv	11
o-Xylene	**0.37**		ug/m3	0.048
1,3,5-Trimethylbenzene	**17**		pptv	11
1,3,5-Trimethylbenzene	**0.081**		ug/m3	0.054
1,2,4-Trimethylbenzene	**62**		pptv	11
1,2,4-Trimethylbenzene	**0.30**		ug/m3	0.054
Xylene (total)	**300**		pptv	11
Xylene (total)	**1.3**		ug/m3	0.048

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

931 W. Barkley Ave., Orange, CA 92868
Phone: (714) 771-6900 Fax: (714) 538-1209

ENTHALPY ANALYTICAL

Air Chain of Custody Record

Lab Job No. 518235

Page 1 of 2

CUSTOMER INFORMATION		PROJECT INFORMATION		PO Number:
Company:	Catalyst Environmental Solutions	Name:	Walnut Bluff Work plan	
Report To:	Vola Bayram	Number:		Lab Quote Number:
Email:	ybayram@ce.solutions	Address:		
Address:	315 Montana Ave, Suite 311			
	Santa Monica, CA, 90403	Global ID:		
Phone:	(313) 204-8477 Fax:	Sampled By:	Elizabeth Hwang	

Special Instructions:

Analysis Request: TO-15 sim

Required Turnaround Time: Standard [X] | 5 Day [ ] | 3 Day [ ] | 2 Day [ ] | 1 Day [ ] | Custom TAT: ____

	Sample ID	Air Type (I) Indoor (A) Ambient (SV) Soil Vapor	Equipment Information: Canister ID	Canister Size (6L or 1L)	Flow Controller ID	Start Sampling Information: Date	Time	Canister Pressure (in. Hg)	Stop Sampling Information: Date	Time	Canister Pressure (in. Hg)	Comments
1	WB01-14D	A	C70196	6	A70124	10/1/24	1126	30	10/15/24	1137	8	
2	WB02-14D	A	C70903	6	A70413	10/1/24	1120	31	10/15/24	1134	6	
3	WB03-14D	A	C70059	6	A70027	10/1/24	1133	31	10/15/24	1146	7	
4	WB04-14D	A	C70932	6	A70110	10/1/24	1147	28	10/15/24	1150	7	
5	WB05-14D	A	C70800	6	A70163	10/1/24	1143	31	10/15/24	1201	10	
6	WB06-14D	A	C70916	6	A70403	10/1/24	1152	30	10/15/24	1156	3	
7	WB07-14D	A	C70901	6	A70248	10/1/24	1157	31	10/15/24	1206	7	
8	WB08-14D	A	C70914	6	A70079	10/1/24	1201	30	10/15/24	1211	8	
9	WB09-14D	A	C70012	6	A70102	10/1/24	1044	29	10/15/24	1105	6	
10	WB10-14D	A	C70331	6	A70238	10/1/24	1049	31	10/15/24	1112	6	

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE / TIME
RELINQUISHED BY:		Elizabeth Hwang	CES - Env Sci	10/15/24 17:18
RECEIVED BY:		Tris Kelly	Enthalpy	10/15/24 17:18
RELINQUISHED BY:				
RECEIVED BY:				
RELINQUISHED BY:				
RECEIVED BY:				

931 W. Barkley Ave., Orange, CA 92868
Phone: (714) 771-6900 Fax: (714) 538-1209

ENTHALPY ANALYTICAL

Air Chain of Custody Record

Lab Job No. 518235

CUSTOMER INFORMATION		PROJECT INFORMATION		PO Number:
Company:	Catalyst Environmental Solutions	Name:	Walnut Bluff Work Plan	
Report To:	Yola Bayram	Number:		Lab Quote Number:
Email:	ybayram@ce.solutions	Address:		
Address:	315 Montana Ave, Suite 311 Santa Monica, CA, 90403			
Phone:	(313) 204-8477 Fax:	Global ID:		
		Sampled By:	Elizabeth Hwang	

Special Instructions:

Analysis Request: TO-15sim

Required Turnaround Time: Standard [X] 5 Day [ ] 3 Day [ ] 2 Day [ ] 1 Day [ ] Custom TAT: ____

	Sample ID	Air Type (I) Indoor (A) Ambient (SV) Soil Vapor	Equipment Information: Canister ID	Canister Size (6L or 1L)	Flow Controller ID	Start Sampling Information: Date	Time	Canister Pressure (in. Hg)	Stop Sampling Information: Date	Time	Canister Pressure (in. Hg)	TO-15sim	Comments
1	WB11-14D	A	C70352	6	A70404	10/1/24	1055	30	10/15/24	11:16	5	X	
2	WB12-14D	A	C70908	6	A70144	10/1/24	1103	31	10/15/24	11:20	8	X	
3	WB13-14D	A	C70249	6	A70531	10/1/24	1110	30	10/15/24	11:24	7	X	
4	WB14-14D	A	C70309	6	A70014	10/1/24	1116	30	10/15/24	11:28	5	X	
5	WB17-14D	A	C70938	6	A70230	10/1/24	0935	30	10/15/24	0940	8	X	
6	WB18-14D	A	C70812	6	A70252	10/1/24	1020	31	10/15/24	1028	10	X	
7	WB19-14D	A	C70081	6	A70118	10/1/24	1451	30	10/15	1444	9	X	
8													
9													
10													

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE / TIME
RELINQUISHED BY:	[signature]	Elizabeth Hwang	CES- Env. Sci.	10/15/24 17:16
RECEIVED BY:	[signature]	Tris Kelly	Enthalpy	10/15/24 17:18
RELINQUISHED BY:				
RECEIVED BY:				
RELINQUISHED BY:				
RECEIVED BY:				

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 10/15/24 WO# 518235 Client: Catalyst Environmental Solutions

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 10/15/24 By (initials) TLK Type of ice used : ☐ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

■ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: _____ CF: _____

Cooler Temp (°C) #1: ____/____ #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☐ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☑ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other _____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			x
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?		x	
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?			x

Section 5: Explanations / Comments ☑ **PM notified**

Sample 17 did not have a corresponding label on any container. Sample determined via canister ID

Date Logged 10/15/24 **By (print)** Tris Kelly **(sign)** Tris Kelly

Date Labeled 10/15/24 **By (print)** Tris Kelly **(sign)** Tris Kelly

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB01-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-001 **Sampled:** 10/15/24 11:37 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.100 **Analyzed:** 10/16/24 10:34

518235-001 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	11	pptv	**2.3**	0.054	ug/m3
Chloromethane	**480**	110	pptv	**0.99**	0.23	ug/m3
Freon 114	**16**	11	pptv	**0.11**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**21**	11	pptv	**0.080**	0.043	ug/m3
Chloroethane	ND	11	pptv	ND	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**190**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**160**	22	pptv	**0.55**	0.076	ug/m3
Freon 113	**60**	11	pptv	**0.46**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**28**	11	pptv	**0.14**	0.054	ug/m3
1,2-Dichloroethane	**16**	11	pptv	**0.063**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**250**	11	pptv	**0.80**	0.035	ug/m3
Carbon Tetrachloride	**73**	11	pptv	**0.46**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**360**	11	pptv	**1.4**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	ND	11	pptv	ND	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**63**	11	pptv	**0.27**	0.048	ug/m3
m,p-Xylenes	**180**	11	pptv	**0.79**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**24**	11	pptv	**0.10**	0.047	ug/m3
o-Xylene	**73**	11	pptv	**0.32**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**15**	11	pptv	**0.074**	0.054	ug/m3
1,2,4-Trimethylbenzene	**61**	11	pptv	**0.30**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	**11**	11	pptv	**0.059**	0.058	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-001 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**250**	11	pptv	**1.1**	0.048	ug/m3

518235-001 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	94	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB02-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-002	**Sampled:**	10/15/24 11:34	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 11:41		

518235-002 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**480**	100	pptv	**0.99**	0.21	ug/m3
Freon 114	**16**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**22**	10	pptv	**0.084**	0.039	ug/m3
Chloroethane	**19**	10	pptv	**0.049**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**180**	10	pptv	**1.0**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**170**	20	pptv	**0.60**	0.069	ug/m3
Freon 113	**58**	10	pptv	**0.44**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**32**	10	pptv	**0.16**	0.049	ug/m3
1,2-Dichloroethane	**16**	10	pptv	**0.066**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**260**	10	pptv	**0.83**	0.032	ug/m3
Carbon Tetrachloride	**71**	10	pptv	**0.45**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**410**	10	pptv	**1.5**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**75**	10	pptv	**0.33**	0.043	ug/m3
m,p-Xylenes	**210**	10	pptv	**0.90**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**28**	10	pptv	**0.12**	0.043	ug/m3
o-Xylene	**82**	10	pptv	**0.35**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**20**	10	pptv	**0.10**	0.049	ug/m3
1,2,4-Trimethylbenzene	**74**	10	pptv	**0.37**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**15**	10	pptv	**0.077**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-002 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**290**	10	pptv	**1.3**	0.043	ug/m3

518235-002 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	95	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB03-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-003	**Sampled:**	10/15/24 11:46	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 13:06		

518235-003 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**21**	10	pptv	**0.082**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**200**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**170**	20	pptv	**0.59**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.47**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**34**	10	pptv	**0.17**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.062**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**230**	10	pptv	**0.72**	0.032	ug/m3
Carbon Tetrachloride	**75**	10	pptv	**0.47**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**330**	10	pptv	**1.2**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**57**	10	pptv	**0.25**	0.043	ug/m3
m,p-Xylenes	**160**	10	pptv	**0.71**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**18**	10	pptv	**0.076**	0.043	ug/m3
o-Xylene	**65**	10	pptv	**0.28**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**11**	10	pptv	**0.055**	0.049	ug/m3
1,2,4-Trimethylbenzene	**48**	10	pptv	**0.24**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-003 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**230**	10	pptv	**0.99**	0.043	ug/m3

518235-003 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB04-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-004 **Sampled:** 10/15/24 11:50 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.000 **Analyzed:** 10/16/24 13:55

518235-004 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**16**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**19**	10	pptv	**0.075**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**200**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**340**	20	pptv	**1.2**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.47**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**33**	10	pptv	**0.16**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.062**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**230**	10	pptv	**0.74**	0.032	ug/m3
Carbon Tetrachloride	**75**	10	pptv	**0.47**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**380**	10	pptv	**1.4**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**60**	10	pptv	**0.26**	0.043	ug/m3
m,p-Xylenes	**180**	10	pptv	**0.76**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**25**	10	pptv	**0.11**	0.043	ug/m3
o-Xylene	**69**	10	pptv	**0.30**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**13**	10	pptv	**0.065**	0.049	ug/m3
1,2,4-Trimethylbenzene	**59**	10	pptv	**0.29**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-004 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**240**	10	pptv	**1.1**	0.043	ug/m3

518235-004 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	94	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB05-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-005 **Sampled:** 10/15/24 12:01 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.200 **Analyzed:** 10/16/24 14:44

518235-005 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	12	pptv	**2.3**	0.059	ug/m3
Chloromethane	**480**	120	pptv	**1.0**	0.25	ug/m3
Freon 114	**16**	12	pptv	**0.11**	0.084	ug/m3
Vinyl Chloride	ND	12	pptv	ND	0.031	ug/m3
Bromomethane	**22**	12	pptv	**0.084**	0.047	ug/m3
Chloroethane	ND	12	pptv	ND	0.032	ug/m3
Vinyl bromide	ND	12	pptv	ND	0.052	ug/m3
Trichlorofluoromethane	**190**	12	pptv	**1.1**	0.067	ug/m3
1,1-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
Methylene Chloride	**220**	24	pptv	**0.76**	0.083	ug/m3
Freon 113	**61**	12	pptv	**0.46**	0.092	ug/m3
trans-1,2-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
1,1-Dichloroethane	ND	12	pptv	ND	0.049	ug/m3
cis-1,2-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
Chloroform	**32**	12	pptv	**0.16**	0.059	ug/m3
1,2-Dichloroethane	**15**	12	pptv	**0.061**	0.049	ug/m3
1,1,1-Trichloroethane	ND	12	pptv	ND	0.065	ug/m3
Benzene	**1,000**	12	pptv	**3.2**	0.038	ug/m3
Carbon Tetrachloride	**73**	12	pptv	**0.46**	0.075	ug/m3
1,2-Dichloropropane	ND	12	pptv	ND	0.055	ug/m3
Bromodichloromethane	ND	12	pptv	ND	0.080	ug/m3
Trichloroethene	ND	12	pptv	ND	0.064	ug/m3
cis-1,3-Dichloropropene	ND	12	pptv	ND	0.054	ug/m3
trans-1,3-Dichloropropene	ND	12	pptv	ND	0.054	ug/m3
1,1,2-Trichloroethane	ND	12	pptv	ND	0.065	ug/m3
Toluene	**1,500**	12	pptv	**5.8**	0.045	ug/m3
Dibromochloromethane	ND	12	pptv	ND	0.10	ug/m3
1,2-Dibromoethane	ND	12	pptv	ND	0.092	ug/m3
Tetrachloroethene	ND	12	pptv	ND	0.081	ug/m3
Chlorobenzene	ND	12	pptv	ND	0.055	ug/m3
Ethylbenzene	**59**	12	pptv	**0.26**	0.052	ug/m3
m,p-Xylenes	**170**	12	pptv	**0.73**	0.052	ug/m3
Bromoform	ND	12	pptv	ND	0.12	ug/m3
Styrene	**30**	12	pptv	**0.13**	0.051	ug/m3
o-Xylene	**66**	12	pptv	**0.29**	0.052	ug/m3
2-Chlorotoluene	ND	12	pptv	ND	0.062	ug/m3
1,3,5-Trimethylbenzene	**15**	12	pptv	**0.074**	0.059	ug/m3
1,2,4-Trimethylbenzene	**59**	12	pptv	**0.29**	0.059	ug/m3
Benzyl chloride	ND	12	pptv	ND	0.062	ug/m3
1,3-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,4-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,2-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,2,4-Trichlorobenzene	ND	12	pptv	ND	0.089	ug/m3
1,1,2,2-Tetrachloroethane	ND	12	pptv	ND	0.082	ug/m3
1,1,1,2-Tetrachloroethane	ND	12	pptv	ND	0.082	ug/m3
Naphthalene	**14**	12	pptv	**0.074**	0.063	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-005 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	12	pptv	ND	0.13	ug/m3
Xylene (total)	**230**	12	pptv	**1.0**	0.052	ug/m3

518235-005 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	95	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB06-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-006	**Sampled:**	10/15/24 11:56	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 15:33		

518235-006 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**480**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**21**	10	pptv	**0.081**	0.039	ug/m3
Chloroethane	**17**	10	pptv	**0.045**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**180**	20	pptv	**0.62**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**31**	10	pptv	**0.15**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.062**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**230**	10	pptv	**0.74**	0.032	ug/m3
Carbon Tetrachloride	**74**	10	pptv	**0.47**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**420**	10	pptv	**1.6**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**64**	10	pptv	**0.28**	0.043	ug/m3
m,p-Xylenes	**170**	10	pptv	**0.74**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**26**	10	pptv	**0.11**	0.043	ug/m3
o-Xylene	**66**	10	pptv	**0.29**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**13**	10	pptv	**0.065**	0.049	ug/m3
1,2,4-Trimethylbenzene	**54**	10	pptv	**0.26**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-006 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**240**	10	pptv	**1.0**	0.043	ug/m3

518235-006 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB07-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-007 **Sampled:** 10/15/24 12:06 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.000 **Analyzed:** 10/16/24 16:22

518235-007 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**480**	100	pptv	**0.99**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**22**	10	pptv	**0.085**	0.039	ug/m3
Chloroethane	**33**	10	pptv	**0.088**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**190**	20	pptv	**0.67**	0.069	ug/m3
Freon 113	**60**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**29**	10	pptv	**0.14**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.061**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**220**	10	pptv	**0.72**	0.032	ug/m3
Carbon Tetrachloride	**73**	10	pptv	**0.46**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**390**	10	pptv	**1.5**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**60**	10	pptv	**0.26**	0.043	ug/m3
m,p-Xylenes	**160**	10	pptv	**0.71**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**29**	10	pptv	**0.12**	0.043	ug/m3
o-Xylene	**65**	10	pptv	**0.28**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**13**	10	pptv	**0.065**	0.049	ug/m3
1,2,4-Trimethylbenzene	**58**	10	pptv	**0.29**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**11**	10	pptv	**0.059**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-007 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**230**	10	pptv	**0.99**	0.043	ug/m3

518235-007 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	95	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB08-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-008	**Sampled:**	10/15/24 12:11	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.100	**Analyzed:**	10/16/24 17:10		

518235-008 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	11	pptv	**2.3**	0.054	ug/m3
Chloromethane	**490**	110	pptv	**1.0**	0.23	ug/m3
Freon 114	**17**	11	pptv	**0.12**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**21**	11	pptv	**0.080**	0.043	ug/m3
Chloroethane	**22**	11	pptv	**0.058**	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**200**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**210**	22	pptv	**0.74**	0.076	ug/m3
Freon 113	**61**	11	pptv	**0.47**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**28**	11	pptv	**0.14**	0.054	ug/m3
1,2-Dichloroethane	**15**	11	pptv	**0.062**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**230**	11	pptv	**0.74**	0.035	ug/m3
Carbon Tetrachloride	**74**	11	pptv	**0.47**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**400**	11	pptv	**1.5**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	ND	11	pptv	ND	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**59**	11	pptv	**0.26**	0.048	ug/m3
m,p-Xylenes	**160**	11	pptv	**0.70**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**23**	11	pptv	**0.099**	0.047	ug/m3
o-Xylene	**65**	11	pptv	**0.28**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**12**	11	pptv	**0.061**	0.054	ug/m3
1,2,4-Trimethylbenzene	**54**	11	pptv	**0.27**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	ND	11	pptv	ND	0.058	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-008 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**230**	11	pptv	**0.98**	0.048	ug/m3

518235-008 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB09-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-009	**Sampled:**	10/15/24 11:05	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 17:59		

518235-009 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**24**	10	pptv	**0.092**	0.039	ug/m3
Chloroethane	**16**	10	pptv	**0.042**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**200**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**820**	20	pptv	**2.8**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.47**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**37**	10	pptv	**0.18**	0.049	ug/m3
1,2-Dichloroethane	**16**	10	pptv	**0.063**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**250**	10	pptv	**0.81**	0.032	ug/m3
Carbon Tetrachloride	**74**	10	pptv	**0.47**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**420**	10	pptv	**1.6**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**62**	10	pptv	**0.27**	0.043	ug/m3
m,p-Xylenes	**180**	10	pptv	**0.79**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**29**	10	pptv	**0.12**	0.043	ug/m3
o-Xylene	**72**	10	pptv	**0.31**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**14**	10	pptv	**0.068**	0.049	ug/m3
1,2,4-Trimethylbenzene	**59**	10	pptv	**0.29**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**15**	10	pptv	**0.078**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-009 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**250**	10	pptv	**1.1**	0.043	ug/m3

518235-009 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB10-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-010	**Sampled:**	10/15/24 11:12	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 18:48		

518235-010 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**480**	100	pptv	**0.98**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**21**	10	pptv	**0.083**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**250**	20	pptv	**0.85**	0.069	ug/m3
Freon 113	**60**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**31**	10	pptv	**0.15**	0.049	ug/m3
1,2-Dichloroethane	**18**	10	pptv	**0.072**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**310**	10	pptv	**0.99**	0.032	ug/m3
Carbon Tetrachloride	**73**	10	pptv	**0.46**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**350**	10	pptv	**1.3**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**100**	10	pptv	**0.45**	0.043	ug/m3
m,p-Xylenes	**270**	10	pptv	**1.2**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**32**	10	pptv	**0.13**	0.043	ug/m3
o-Xylene	**84**	10	pptv	**0.37**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**28**	10	pptv	**0.14**	0.049	ug/m3
1,2,4-Trimethylbenzene	**100**	10	pptv	**0.50**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**26**	10	pptv	**0.14**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-010 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**350**	10	pptv	**1.5**	0.043	ug/m3

518235-010 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	94	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB11-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-011	**Sampled:**	10/15/24 11:16	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 19:37		

518235-011 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**470**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**23**	10	pptv	**0.089**	0.039	ug/m3
Chloroethane	**34**	10	pptv	**0.089**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**160**	20	pptv	**0.57**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.47**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**29**	10	pptv	**0.14**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.061**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**240**	10	pptv	**0.78**	0.032	ug/m3
Carbon Tetrachloride	**74**	10	pptv	**0.47**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**440**	10	pptv	**1.6**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**61**	10	pptv	**0.27**	0.043	ug/m3
m,p-Xylenes	**180**	10	pptv	**0.78**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**31**	10	pptv	**0.13**	0.043	ug/m3
o-Xylene	**70**	10	pptv	**0.31**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**15**	10	pptv	**0.073**	0.049	ug/m3
1,2,4-Trimethylbenzene	**60**	10	pptv	**0.30**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**16**	10	pptv	**0.086**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-011 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**250**	10	pptv	**1.1**	0.043	ug/m3

518235-011 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	97	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB12-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-012	**Sampled:**	10/15/24 11:20	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	10/16/24 20:25		

518235-012 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**17**	10	pptv	**0.12**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**21**	10	pptv	**0.081**	0.039	ug/m3
Chloroethane	**39**	10	pptv	**0.10**	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**160**	20	pptv	**0.57**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**29**	10	pptv	**0.14**	0.049	ug/m3
1,2-Dichloroethane	**15**	10	pptv	**0.062**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**270**	10	pptv	**0.85**	0.032	ug/m3
Carbon Tetrachloride	**73**	10	pptv	**0.46**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**490**	10	pptv	**1.9**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**68**	10	pptv	**0.29**	0.043	ug/m3
m,p-Xylenes	**190**	10	pptv	**0.83**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**32**	10	pptv	**0.14**	0.043	ug/m3
o-Xylene	**75**	10	pptv	**0.33**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**15**	10	pptv	**0.074**	0.049	ug/m3
1,2,4-Trimethylbenzene	**64**	10	pptv	**0.32**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**11**	10	pptv	**0.059**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-012 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**270**	10	pptv	**1.2**	0.043	ug/m3

518235-012 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	97	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB13-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-013 **Sampled:** 10/15/24 11:24 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.100 **Analyzed:** 10/16/24 21:14

518235-013 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	11	pptv	**2.3**	0.054	ug/m3
Chloromethane	**490**	110	pptv	**1.0**	0.23	ug/m3
Freon 114	**16**	11	pptv	**0.11**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**21**	11	pptv	**0.083**	0.043	ug/m3
Chloroethane	ND	11	pptv	ND	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**190**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**170**	22	pptv	**0.60**	0.076	ug/m3
Freon 113	**59**	11	pptv	**0.46**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**35**	11	pptv	**0.17**	0.054	ug/m3
1,2-Dichloroethane	**16**	11	pptv	**0.065**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**280**	11	pptv	**0.89**	0.035	ug/m3
Carbon Tetrachloride	**72**	11	pptv	**0.46**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**530**	11	pptv	**2.0**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	**12**	11	pptv	**0.080**	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**72**	11	pptv	**0.31**	0.048	ug/m3
m,p-Xylenes	**220**	11	pptv	**0.94**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**76**	11	pptv	**0.32**	0.047	ug/m3
o-Xylene	**86**	11	pptv	**0.37**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**17**	11	pptv	**0.085**	0.054	ug/m3
1,2,4-Trimethylbenzene	**72**	11	pptv	**0.35**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	**23**	11	pptv	**0.12**	0.058	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-013 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**300**	11	pptv	**1.3**	0.048	ug/m3

518235-013 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	97	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID: WB14-14D **Batch#:** 352933 **Prep:** METHOD

Lab ID: 518235-014 **Sampled:** 10/15/24 11:28 **Analysis:** EPA TO-15 SIM

Matrix: Air **Received:** 10/15/24 **Analyst:** OHD

Diln Fac: 1.000 **Analyzed:** 10/16/24 22:03

518235-014 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	10	pptv	**2.3**	0.049	ug/m3
Chloromethane	**490**	100	pptv	**1.0**	0.21	ug/m3
Freon 114	**16**	10	pptv	**0.11**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**22**	10	pptv	**0.085**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**170**	20	pptv	**0.59**	0.069	ug/m3
Freon 113	**60**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**27**	10	pptv	**0.13**	0.049	ug/m3
1,2-Dichloroethane	**16**	10	pptv	**0.063**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**240**	10	pptv	**0.78**	0.032	ug/m3
Carbon Tetrachloride	**73**	10	pptv	**0.46**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**350**	10	pptv	**1.3**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**60**	10	pptv	**0.26**	0.043	ug/m3
m,p-Xylenes	**170**	10	pptv	**0.75**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**20**	10	pptv	**0.086**	0.043	ug/m3
o-Xylene	**68**	10	pptv	**0.30**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**14**	10	pptv	**0.067**	0.049	ug/m3
1,2,4-Trimethylbenzene	**55**	10	pptv	**0.27**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**11**	10	pptv	**0.057**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-014 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**240**	10	pptv	**1.1**	0.043	ug/m3

518235-014 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	97	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB17-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-015	**Sampled:**	10/15/24 09:40	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.100	**Analyzed:**	10/16/24 22:52		

518235-015 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	11	pptv	**2.3**	0.054	ug/m3
Chloromethane	**480**	110	pptv	**1.0**	0.23	ug/m3
Freon 114	**16**	11	pptv	**0.11**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**22**	11	pptv	**0.084**	0.043	ug/m3
Chloroethane	**12**	11	pptv	**0.032**	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**190**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**150**	22	pptv	**0.53**	0.076	ug/m3
Freon 113	**60**	11	pptv	**0.46**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**29**	11	pptv	**0.14**	0.054	ug/m3
1,2-Dichloroethane	**15**	11	pptv	**0.062**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**260**	11	pptv	**0.82**	0.035	ug/m3
Carbon Tetrachloride	**72**	11	pptv	**0.46**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**450**	11	pptv	**1.7**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	ND	11	pptv	ND	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**69**	11	pptv	**0.30**	0.048	ug/m3
m,p-Xylenes	**200**	11	pptv	**0.89**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**30**	11	pptv	**0.13**	0.047	ug/m3
o-Xylene	**81**	11	pptv	**0.35**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**17**	11	pptv	**0.085**	0.054	ug/m3
1,2,4-Trimethylbenzene	**67**	11	pptv	**0.33**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	**14**	11	pptv	**0.072**	0.058	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-015 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**290**	11	pptv	**1.2**	0.048	ug/m3

518235-015 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	97	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB18-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-016	**Sampled:**	10/15/24 10:28	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.200	**Analyzed:**	10/16/24 23:40		

518235-016 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**480**	12	pptv	**2.4**	0.059	ug/m3
Chloromethane	**510**	120	pptv	**1.1**	0.25	ug/m3
Freon 114	**17**	12	pptv	**0.12**	0.084	ug/m3
Vinyl Chloride	ND	12	pptv	ND	0.031	ug/m3
Bromomethane	**28**	12	pptv	**0.11**	0.047	ug/m3
Chloroethane	**13**	12	pptv	**0.035**	0.032	ug/m3
Vinyl bromide	ND	12	pptv	ND	0.052	ug/m3
Trichlorofluoromethane	**200**	12	pptv	**1.1**	0.067	ug/m3
1,1-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
Methylene Chloride	**160**	24	pptv	**0.56**	0.083	ug/m3
Freon 113	**62**	12	pptv	**0.47**	0.092	ug/m3
trans-1,2-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
1,1-Dichloroethane	ND	12	pptv	ND	0.049	ug/m3
cis-1,2-Dichloroethene	ND	12	pptv	ND	0.048	ug/m3
Chloroform	**29**	12	pptv	**0.14**	0.059	ug/m3
1,2-Dichloroethane	**15**	12	pptv	**0.062**	0.049	ug/m3
1,1,1-Trichloroethane	ND	12	pptv	ND	0.065	ug/m3
Benzene	**250**	12	pptv	**0.79**	0.038	ug/m3
Carbon Tetrachloride	**75**	12	pptv	**0.47**	0.075	ug/m3
1,2-Dichloropropane	ND	12	pptv	ND	0.055	ug/m3
Bromodichloromethane	ND	12	pptv	ND	0.080	ug/m3
Trichloroethene	ND	12	pptv	ND	0.064	ug/m3
cis-1,3-Dichloropropene	ND	12	pptv	ND	0.054	ug/m3
trans-1,3-Dichloropropene	ND	12	pptv	ND	0.054	ug/m3
1,1,2-Trichloroethane	ND	12	pptv	ND	0.065	ug/m3
Toluene	**440**	12	pptv	**1.7**	0.045	ug/m3
Dibromochloromethane	ND	12	pptv	ND	0.10	ug/m3
1,2-Dibromoethane	ND	12	pptv	ND	0.092	ug/m3
Tetrachloroethene	ND	12	pptv	ND	0.081	ug/m3
Chlorobenzene	ND	12	pptv	ND	0.055	ug/m3
Ethylbenzene	**68**	12	pptv	**0.30**	0.052	ug/m3
m,p-Xylenes	**200**	12	pptv	**0.88**	0.052	ug/m3
Bromoform	ND	12	pptv	ND	0.12	ug/m3
Styrene	**31**	12	pptv	**0.13**	0.051	ug/m3
o-Xylene	**81**	12	pptv	**0.35**	0.052	ug/m3
2-Chlorotoluene	ND	12	pptv	ND	0.062	ug/m3
1,3,5-Trimethylbenzene	**22**	12	pptv	**0.11**	0.059	ug/m3
1,2,4-Trimethylbenzene	**89**	12	pptv	**0.44**	0.059	ug/m3
Benzyl chloride	ND	12	pptv	ND	0.062	ug/m3
1,3-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,4-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,2-Dichlorobenzene	ND	12	pptv	ND	0.072	ug/m3
1,2,4-Trichlorobenzene	ND	12	pptv	ND	0.089	ug/m3
1,1,2,2-Tetrachloroethane	ND	12	pptv	ND	0.082	ug/m3
1,1,1,2-Tetrachloroethane	ND	12	pptv	ND	0.082	ug/m3
Naphthalene	**14**	12	pptv	**0.073**	0.063	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-016 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	12	pptv	ND	0.13	ug/m3
Xylene (total)	**280**	12	pptv	**1.2**	0.052	ug/m3

518235-016 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	95	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB19-14D	**Batch#:**	352933	**Prep:**	METHOD
Lab ID:	518235-017	**Sampled:**	10/15/24 14:44	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	10/15/24	**Analyst:**	OHD
Diln Fac:	1.100	**Analyzed:**	10/17/24 00:29		

518235-017 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**460**	11	pptv	**2.3**	0.054	ug/m3
Chloromethane	**500**	110	pptv	**1.0**	0.23	ug/m3
Freon 114	**16**	11	pptv	**0.11**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**21**	11	pptv	**0.080**	0.043	ug/m3
Chloroethane	**26**	11	pptv	**0.069**	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**190**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**140**	22	pptv	**0.50**	0.076	ug/m3
Freon 113	**59**	11	pptv	**0.45**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**27**	11	pptv	**0.13**	0.054	ug/m3
1,2-Dichloroethane	**17**	11	pptv	**0.067**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**320**	11	pptv	**1.0**	0.035	ug/m3
Carbon Tetrachloride	**71**	11	pptv	**0.45**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**480**	11	pptv	**1.8**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	ND	11	pptv	ND	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**72**	11	pptv	**0.31**	0.048	ug/m3
m,p-Xylenes	**220**	11	pptv	**0.95**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**42**	11	pptv	**0.18**	0.047	ug/m3
o-Xylene	**86**	11	pptv	**0.37**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**17**	11	pptv	**0.081**	0.054	ug/m3
1,2,4-Trimethylbenzene	**62**	11	pptv	**0.30**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	ND	11	pptv	ND	0.058	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

518235-017 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**300**	11	pptv	**1.3**	0.048	ug/m3

518235-017 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	98	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BS **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1195606 **Batch#:** 352933 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 10/16/24 06:49 **Analyst:** OHD

QC1195606 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits
Freon 12	200.0	213.0	pptv	107	70-130
Chloromethane	200.0	214.0	pptv	107	70-130
Freon 114	200.0	220.1	pptv	110	70-130
Vinyl Chloride	200.0	206.4	pptv	103	70-130
Bromomethane	200.0	215.4	pptv	108	70-130
Chloroethane	200.0	195.5	pptv	98	70-130
Vinyl bromide	200.0	200.5	pptv	100	70-130
Trichlorofluoromethane	200.0	207.1	pptv	104	70-130
1,1-Dichloroethene	200.0	196.8	pptv	98	70-130
Methylene Chloride	200.0	186.6	pptv	93	70-130
Freon 113	200.0	203.2	pptv	102	70-130
trans-1,2-Dichloroethene	200.0	194.4	pptv	97	70-130
1,1-Dichloroethane	200.0	197.8	pptv	99	70-130
cis-1,2-Dichloroethene	200.0	192.0	pptv	96	70-130
Chloroform	200.0	201.8	pptv	101	70-130
1,2-Dichloroethane	200.0	200.7	pptv	100	70-130
1,1,1-Trichloroethane	200.0	205.5	pptv	103	70-130
Benzene	200.0	186.9	pptv	93	70-130
Carbon Tetrachloride	200.0	206.8	pptv	103	70-130
1,2-Dichloropropane	200.0	201.5	pptv	101	70-130
Bromodichloromethane	200.0	210.8	pptv	105	70-130
Trichloroethene	200.0	204.0	pptv	102	70-130
cis-1,3-Dichloropropene	200.0	202.8	pptv	101	70-130
trans-1,3-Dichloropropene	200.0	203.6	pptv	102	70-130
1,1,2-Trichloroethane	200.0	205.8	pptv	103	70-130
Toluene	200.0	184.5	pptv	92	70-130
Dibromochloromethane	200.0	214.0	pptv	107	70-130
1,2-Dibromoethane	200.0	203.3	pptv	102	70-130
Tetrachloroethene	200.0	204.4	pptv	102	70-130
Chlorobenzene	200.0	194.5	pptv	97	70-130
Ethylbenzene	200.0	181.9	pptv	91	70-130
m,p-Xylenes	400.0	378.4	pptv	95	70-130
Bromoform	200.0	214.1	pptv	107	70-130
Styrene	200.0	183.5	pptv	92	70-130
o-Xylene	200.0	194.7	pptv	97	70-130
2-Chlorotoluene	200.0	191.6	pptv	96	70-130
1,3,5-Trimethylbenzene	200.0	198.7	pptv	99	70-130
1,2,4-Trimethylbenzene	200.0	189.8	pptv	95	70-130
Benzyl chloride	200.0	209.0	pptv	105	70-130
1,3-Dichlorobenzene	200.0	199.1	pptv	100	70-130
1,4-Dichlorobenzene	200.0	201.7	pptv	101	70-130
1,2-Dichlorobenzene	200.0	195.0	pptv	97	70-130
1,2,4-Trichlorobenzene	200.0	165.9	pptv	83	70-130
1,1,2,2-Tetrachloroethane	200.0	200.9	pptv	100	70-130
1,1,1,2-Tetrachloroethane	200.0	206.6	pptv	103	70-130
Naphthalene	200.0	142.3	pptv	71	70-130
Hexachlorobutadiene	200.0	178.8	pptv	89	70-130

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1195606 Surrogate	%REC	Limits
Bromofluorobenzene	103	70-130

Type: BSD **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1195607 **Batch#:** 352933 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 10/16/24 07:31 **Analyst:** OHD

QC1195607 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Freon 12	200.0	216.9	pptv	108	70-130	2	25
Chloromethane	200.0	217.1	pptv	109	70-130	1	25
Freon 114	200.0	223.8	pptv	112	70-130	2	25
Vinyl Chloride	200.0	211.3	pptv	106	70-130	2	25
Bromomethane	200.0	220.7	pptv	110	70-130	2	25
Chloroethane	200.0	198.9	pptv	99	70-130	2	25
Vinyl bromide	200.0	203.9	pptv	102	70-130	2	25
Trichlorofluoromethane	200.0	210.7	pptv	105	70-130	2	25
1,1-Dichloroethene	200.0	201.1	pptv	101	70-130	2	25
Methylene Chloride	200.0	190.5	pptv	95	70-130	2	25
Freon 113	200.0	206.7	pptv	103	70-130	2	25
trans-1,2-Dichloroethene	200.0	198.7	pptv	99	70-130	2	25
1,1-Dichloroethane	200.0	202.3	pptv	101	70-130	2	25
cis-1,2-Dichloroethene	200.0	197.2	pptv	99	70-130	3	25
Chloroform	200.0	205.2	pptv	103	70-130	2	25
1,2-Dichloroethane	200.0	204.8	pptv	102	70-130	2	25
1,1,1-Trichloroethane	200.0	209.6	pptv	105	70-130	2	25
Benzene	200.0	191.1	pptv	96	70-130	2	25
Carbon Tetrachloride	200.0	210.1	pptv	105	70-130	2	25
1,2-Dichloropropane	200.0	204.7	pptv	102	70-130	2	25
Bromodichloromethane	200.0	213.0	pptv	107	70-130	1	25
Trichloroethene	200.0	206.1	pptv	103	70-130	1	25
cis-1,3-Dichloropropene	200.0	206.5	pptv	103	70-130	2	25
trans-1,3-Dichloropropene	200.0	207.0	pptv	104	70-130	2	25
1,1,2-Trichloroethane	200.0	207.9	pptv	104	70-130	1	25
Toluene	200.0	189.0	pptv	95	70-130	2	25
Dibromochloromethane	200.0	216.8	pptv	108	70-130	1	25
1,2-Dibromoethane	200.0	207.1	pptv	104	70-130	2	25
Tetrachloroethene	200.0	207.5	pptv	104	70-130	1	25
Chlorobenzene	200.0	197.3	pptv	99	70-130	1	25
Ethylbenzene	200.0	185.5	pptv	93	70-130	2	25
m,p-Xylenes	400.0	385.7	pptv	96	70-130	2	25
Bromoform	200.0	215.7	pptv	108	70-130	1	25
Styrene	200.0	187.6	pptv	94	70-130	2	25
o-Xylene	200.0	199.2	pptv	100	70-130	2	25
2-Chlorotoluene	200.0	196.0	pptv	98	70-130	2	25
1,3,5-Trimethylbenzene	200.0	203.2	pptv	102	70-130	2	25
1,2,4-Trimethylbenzene	200.0	195.7	pptv	98	70-130	3	25
Benzyl chloride	200.0	215.5	pptv	108	70-130	3	25
1,3-Dichlorobenzene	200.0	206.9	pptv	103	70-130	4	25
1,4-Dichlorobenzene	200.0	201.0	pptv	100	70-130	0	25
1,2-Dichlorobenzene	200.0	199.2	pptv	100	70-130	2	25
1,2,4-Trichlorobenzene	200.0	171.2	pptv	86	70-130	3	25
1,1,2,2-Tetrachloroethane	200.0	203.5	pptv	102	70-130	1	25
1,1,1,2-Tetrachloroethane	200.0	207.9	pptv	104	70-130	1	25

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1195607 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Naphthalene	200.0	149.1	pptv	75	70-130	5	25
Hexachlorobutadiene	200.0	182.7	pptv	91	70-130	2	25

QC1195607 Surrogate	%REC	Limits
Bromofluorobenzene	102	70-130

Legend

RPD: Relative Percent Difference

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BLANK **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1195608 **Batch#:** 352933 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 10/16/24 08:59 **Analyst:** OHD

QC1195608 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	ND	10	pptv	ND	0.049	ug/m3
Chloromethane	ND	100	pptv	ND	0.21	ug/m3
Freon 114	ND	10	pptv	ND	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	ND	10	pptv	ND	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	ND	10	pptv	ND	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	ND	20	pptv	ND	0.069	ug/m3
Freon 113	ND	10	pptv	ND	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	ND	10	pptv	ND	0.049	ug/m3
1,2-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	ND	10	pptv	ND	0.032	ug/m3
Carbon Tetrachloride	ND	10	pptv	ND	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	ND	10	pptv	ND	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	ND	10	pptv	ND	0.043	ug/m3
m,p-Xylenes	ND	10	pptv	ND	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	ND	10	pptv	ND	0.043	ug/m3
o-Xylene	ND	10	pptv	ND	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
1,2,4-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	ND	10	pptv	ND	0.043	ug/m3

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 518235 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1195608 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	90	70-130	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

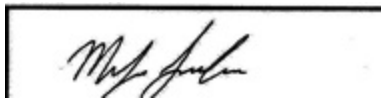
Lab Job Number : 522442
Report Level : II
Report Date : 12/23/2024

Analytical Report *prepared for:*

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Location: Walnut Bluff Workplan

Authorized for release by:



Miguel Gamboa, Project Manager
miguel.gamboa@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Lab Job #: 522442
Location: Walnut Bluff Workplan
Date Received: 12/16/24

Sample ID	Lab ID	Collected	Matrix
WB02-14D-R2	522442-001	12/16/24 14:03	Air
WB03-14D-R2	522442-002	12/16/24 14:10	Air
WB05-14D-R2	522442-003	12/16/24 14:15	Air
WB10-14D-R2	522442-004	12/16/24 14:24	Air

Case Narrative

Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403
Yola Bayram

Lab Job Number: 522442
Location: Walnut Bluff Workplan
Date Received: 12/16/24

This data package contains sample and QC results for four air samples, requested for the above referenced project on 12/16/24. The samples were received intact.

Volatile Organics in Air by MS (EPA TO-15 SIM):
No analytical problems were encountered.

ENTHALPY ANALYTICAL

Detection Summary

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Lab Job #: 522442
Location: Walnut Bluff Workplan
Date Received: 12/16/24

Sample ID: WB02-14D-R2 **Lab ID: 522442-001** **Collected: 12/16/24 14:03**
Matrix: Air

522442-001 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**440**		pptv	10
Freon 12	**2.2**		ug/m3	0.049
Chloromethane	**540**		pptv	100
Chloromethane	**1.1**		ug/m3	0.21
Freon 114	**15**		pptv	10
Freon 114	**0.10**		ug/m3	0.070
Bromomethane	**38**		pptv	10
Bromomethane	**0.15**		ug/m3	0.039
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**240**		pptv	20
Methylene Chloride	**0.84**		ug/m3	0.069
Freon 113	**60**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**39**		pptv	10
Chloroform	**0.19**		ug/m3	0.049
1,2-Dichloroethane	**26**		pptv	10
1,2-Dichloroethane	**0.10**		ug/m3	0.040
Benzene	**600**		pptv	10
Benzene	**1.9**		ug/m3	0.032
Carbon Tetrachloride	**70**		pptv	10
Carbon Tetrachloride	**0.44**		ug/m3	0.063
Toluene	**870**		pptv	10
Toluene	**3.3**		ug/m3	0.038
Tetrachloroethene	**15**		pptv	10
Tetrachloroethene	**0.10**		ug/m3	0.068
Ethylbenzene	**200**		pptv	10
Ethylbenzene	**0.88**		ug/m3	0.043
m,p-Xylenes	**580**		pptv	10
m,p-Xylenes	**2.5**		ug/m3	0.043
Styrene	**96**		pptv	10
Styrene	**0.41**		ug/m3	0.043
o-Xylene	**220**		pptv	10
o-Xylene	**0.95**		ug/m3	0.043
1,3,5-Trimethylbenzene	**68**		pptv	10
1,3,5-Trimethylbenzene	**0.34**		ug/m3	0.049
1,2,4-Trimethylbenzene	**240**		pptv	10
1,2,4-Trimethylbenzene	**1.2**		ug/m3	0.049
1,4-Dichlorobenzene	**14**		pptv	10
1,4-Dichlorobenzene	**0.082**		ug/m3	0.060

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

522442-001 Analyte	Result	Qual	Units	RL
Naphthalene	**30**		pptv	10
Naphthalene	**0.15**		ug/m3	0.052
Xylene (total)	**800**		pptv	10
Xylene (total)	**3.5**		ug/m3	0.043

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB03-14D-R2	Lab ID: 522442-002	Collected: 12/16/24 14:10
	Matrix: Air	

522442-002 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**440**		pptv	10
Freon 12	**2.2**		ug/m3	0.049
Chloromethane	**550**		pptv	100
Chloromethane	**1.1**		ug/m3	0.21
Freon 114	**15**		pptv	10
Freon 114	**0.10**		ug/m3	0.070
Bromomethane	**40**		pptv	10
Bromomethane	**0.16**		ug/m3	0.039
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**270**		pptv	20
Methylene Chloride	**0.93**		ug/m3	0.069
Freon 113	**61**		pptv	10
Freon 113	**0.47**		ug/m3	0.077
Chloroform	**40**		pptv	10
Chloroform	**0.20**		ug/m3	0.049
1,2-Dichloroethane	**24**		pptv	10
1,2-Dichloroethane	**0.097**		ug/m3	0.040
Benzene	**540**		pptv	10
Benzene	**1.7**		ug/m3	0.032
Carbon Tetrachloride	**72**		pptv	10
Carbon Tetrachloride	**0.45**		ug/m3	0.063
Toluene	**860**		pptv	10
Toluene	**3.2**		ug/m3	0.038
Tetrachloroethene	**16**		pptv	10
Tetrachloroethene	**0.11**		ug/m3	0.068
Ethylbenzene	**170**		pptv	10
Ethylbenzene	**0.73**		ug/m3	0.043
m,p-Xylenes	**540**		pptv	10
m,p-Xylenes	**2.3**		ug/m3	0.043
Styrene	**110**		pptv	10
Styrene	**0.46**		ug/m3	0.043
o-Xylene	**200**		pptv	10
o-Xylene	**0.89**		ug/m3	0.043
1,3,5-Trimethylbenzene	**54**		pptv	10
1,3,5-Trimethylbenzene	**0.26**		ug/m3	0.049
1,2,4-Trimethylbenzene	**190**		pptv	10
1,2,4-Trimethylbenzene	**0.92**		ug/m3	0.049
1,4-Dichlorobenzene	**15**		pptv	10
1,4-Dichlorobenzene	**0.092**		ug/m3	0.060
Naphthalene	**21**		pptv	10
Naphthalene	**0.11**		ug/m3	0.052
Xylene (total)	**740**		pptv	10
Xylene (total)	**3.2**		ug/m3	0.043

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ENTHALPY ANALYTICAL

Detection Summary

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ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB05-14D-R2	Lab ID: 522442-003	Collected: 12/16/24 14:15
	Matrix: Air	

522442-003 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**440**		pptv	11
Freon 12	**2.2**		ug/m3	0.054
Chloromethane	**540**		pptv	110
Chloromethane	**1.1**		ug/m3	0.23
Freon 114	**15**		pptv	11
Freon 114	**0.10**		ug/m3	0.077
Bromomethane	**39**		pptv	11
Bromomethane	**0.15**		ug/m3	0.043
Trichlorofluoromethane	**190**		pptv	11
Trichlorofluoromethane	**1.1**		ug/m3	0.062
Methylene Chloride	**260**		pptv	22
Methylene Chloride	**0.91**		ug/m3	0.076
Freon 113	**61**		pptv	11
Freon 113	**0.47**		ug/m3	0.084
Chloroform	**39**		pptv	11
Chloroform	**0.19**		ug/m3	0.054
1,2-Dichloroethane	**24**		pptv	11
1,2-Dichloroethane	**0.096**		ug/m3	0.045
Benzene	**550**		pptv	11
Benzene	**1.7**		ug/m3	0.035
Carbon Tetrachloride	**71**		pptv	11
Carbon Tetrachloride	**0.45**		ug/m3	0.069
Toluene	**890**		pptv	11
Toluene	**3.4**		ug/m3	0.041
Tetrachloroethene	**17**		pptv	11
Tetrachloroethene	**0.12**		ug/m3	0.075
Ethylbenzene	**170**		pptv	11
Ethylbenzene	**0.72**		ug/m3	0.048
m,p-Xylenes	**520**		pptv	11
m,p-Xylenes	**2.3**		ug/m3	0.048
Styrene	**110**		pptv	11
Styrene	**0.47**		ug/m3	0.047
o-Xylene	**200**		pptv	11
o-Xylene	**0.87**		ug/m3	0.048
1,3,5-Trimethylbenzene	**68**		pptv	11
1,3,5-Trimethylbenzene	**0.33**		ug/m3	0.054
1,2,4-Trimethylbenzene	**260**		pptv	11
1,2,4-Trimethylbenzene	**1.3**		ug/m3	0.054
1,4-Dichlorobenzene	**15**		pptv	11
1,4-Dichlorobenzene	**0.090**		ug/m3	0.066
Naphthalene	**31**		pptv	11
Naphthalene	**0.16**		ug/m3	0.058
Xylene (total)	**720**		pptv	11
Xylene (total)	**3.1**		ug/m3	0.048

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

ENTHALPY ANALYTICAL

Detection Summary

Sample ID: WB10-14D-R2	Lab ID: 522442-004	Collected: 12/16/24 14:24
	Matrix: Air	

522442-004 Analyte	Result	Qual	Units	RL
Method: EPA TO-15 SIM Prep Method: METHOD				
Freon 12	**440**		pptv	10
Freon 12	**2.2**		ug/m3	0.049
Chloromethane	**550**		pptv	100
Chloromethane	**1.1**		ug/m3	0.21
Freon 114	**15**		pptv	10
Freon 114	**0.10**		ug/m3	0.070
Bromomethane	**37**		pptv	10
Bromomethane	**0.15**		ug/m3	0.039
Trichlorofluoromethane	**190**		pptv	10
Trichlorofluoromethane	**1.1**		ug/m3	0.056
Methylene Chloride	**250**		pptv	20
Methylene Chloride	**0.87**		ug/m3	0.069
Freon 113	**60**		pptv	10
Freon 113	**0.46**		ug/m3	0.077
Chloroform	**41**		pptv	10
Chloroform	**0.20**		ug/m3	0.049
1,2-Dichloroethane	**25**		pptv	10
1,2-Dichloroethane	**0.10**		ug/m3	0.040
Benzene	**610**		pptv	10
Benzene	**1.9**		ug/m3	0.032
Carbon Tetrachloride	**71**		pptv	10
Carbon Tetrachloride	**0.45**		ug/m3	0.063
Toluene	**850**		pptv	10
Toluene	**3.2**		ug/m3	0.038
Tetrachloroethene	**17**		pptv	10
Tetrachloroethene	**0.12**		ug/m3	0.068
Ethylbenzene	**190**		pptv	10
Ethylbenzene	**0.84**		ug/m3	0.043
m,p-Xylenes	**570**		pptv	10
m,p-Xylenes	**2.5**		ug/m3	0.043
Styrene	**85**		pptv	10
Styrene	**0.36**		ug/m3	0.043
o-Xylene	**200**		pptv	10
o-Xylene	**0.87**		ug/m3	0.043
1,3,5-Trimethylbenzene	**62**		pptv	10
1,3,5-Trimethylbenzene	**0.30**		ug/m3	0.049
1,2,4-Trimethylbenzene	**220**		pptv	10
1,2,4-Trimethylbenzene	**1.1**		ug/m3	0.049
Naphthalene	**11**		pptv	10
Naphthalene	**0.060**		ug/m3	0.052
Xylene (total)	**770**		pptv	10
Xylene (total)	**3.3**		ug/m3	0.043

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

931 W. Barkley Ave., Orange, CA 92868
Phone: (714) 771-6900 Fax: (714) 538-1209

ENTHALPY ANALYTICAL

Air Chain of Custody Record

Lab Job No. 522442

Page 1 of 1

CUSTOMER INFORMATION		PROJECT INFORMATION		PO Number:
Company:	Catalyst Environmental Solutions	Name:	Walnut Bluff workplan	
Report To:	Yola Bayram	Number:		Lab Quote Number:
Email:	ybayram@ce.solutions	Address:		
Address:	315 Montana Ave, Suite 311 Santa Monica, CA 90403			
		Global ID:		
Phone:	(313) 204-8477 Fax:	Sampled By:	Elizabeth Hwang	

Special Instructions:

Analysis Request: TO-15 sim

Required Turnaround Time: Standard [X] 5 Day [ ] 3 Day [ ] 2 Day [ ] 1 Day [ ] Custom TAT: ____

	Sample ID	Air Type (I) Indoor (A) Ambient (SV) Soil Vapor	Equipment Information: Canister ID	Canister Size (6L or 1L)	Flow Controller ID	Start Sampling Information: Date	Time	Canister Pressure (in. Hg)	Stop Sampling Information: Date	Time	Canister Pressure (in. Hg)	Comments
1	WB02-14D-R2	A	C70018	6L	A70014	12/2/24	14:02	30	12/16/24	14:03	7	
2	WB03-14D-R2	A	C70038	6L	A70099	12/2/24	14:07	30	12/16/24	14:10	4	
3	WB05-14D-R2	A	C70162	6L	A70230	12/2/24	14:13	30	12/16/24	14:15	7	
4	WB10-14D-R2	A	C70039	6L	A70577	12/2/24	14:22	30	12/16/24	14:24	5	
5												
6												
7												
8												
9												
10												

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE / TIME
RELINQUISHED BY:		Elizabeth Hwang		12/16/24 1526
RECEIVED BY:		Tris Kelly	Enthalpy	12/16/24 1526
RELINQUISHED BY:				
RECEIVED BY:				
RELINQUISHED BY:				
RECEIVED BY:				

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 12/16/24 WO# 522442 Client: Catalyst Environmental Solutions

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 12/16/24 By (initials) TLK Type of ice used : ☐ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

■ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun:_____CF:_____

Cooler Temp (°C) #1:_____/_____ #2:_____/_____ #3:_____/_____ #4:_____/_____ #5:_____/_____ #6:_____/_____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☐ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☑ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other_____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			x
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?	x		
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?			x

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 12/16/24 **By (print)** Tris Kelly **(sign)** Tris Kelly

Date Labeled 12/16/24 **By (print)** Tris Kelly **(sign)** Tris Kelly

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB02-14D-R2	**Batch#:**	358120	**Prep:**	METHOD
Lab ID:	522442-001	**Sampled:**	12/16/24 14:03	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	12/16/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	12/18/24 02:12		

522442-001 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**440**	10	pptv	**2.2**	0.049	ug/m3
Chloromethane	**540**	100	pptv	**1.1**	0.21	ug/m3
Freon 114	**15**	10	pptv	**0.10**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**38**	10	pptv	**0.15**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**240**	20	pptv	**0.84**	0.069	ug/m3
Freon 113	**60**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**39**	10	pptv	**0.19**	0.049	ug/m3
1,2-Dichloroethane	**26**	10	pptv	**0.10**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**600**	10	pptv	**1.9**	0.032	ug/m3
Carbon Tetrachloride	**70**	10	pptv	**0.44**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**870**	10	pptv	**3.3**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	**15**	10	pptv	**0.10**	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**200**	10	pptv	**0.88**	0.043	ug/m3
m,p-Xylenes	**580**	10	pptv	**2.5**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**96**	10	pptv	**0.41**	0.043	ug/m3
o-Xylene	**220**	10	pptv	**0.95**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**68**	10	pptv	**0.34**	0.049	ug/m3
1,2,4-Trimethylbenzene	**240**	10	pptv	**1.2**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	**14**	10	pptv	**0.082**	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**30**	10	pptv	**0.15**	0.052	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

522442-001 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**800**	10	pptv	**3.5**	0.043	ug/m3

522442-001 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB03-14D-R2	**Batch#:**	358299	**Prep:**	METHOD
Lab ID:	522442-002	**Sampled:**	12/16/24 14:10	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	12/16/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	12/18/24 12:27		

522442-002 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**440**	10	pptv	**2.2**	0.049	ug/m3
Chloromethane	**550**	100	pptv	**1.1**	0.21	ug/m3
Freon 114	**15**	10	pptv	**0.10**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**40**	10	pptv	**0.16**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**270**	20	pptv	**0.93**	0.069	ug/m3
Freon 113	**61**	10	pptv	**0.47**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**40**	10	pptv	**0.20**	0.049	ug/m3
1,2-Dichloroethane	**24**	10	pptv	**0.097**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**540**	10	pptv	**1.7**	0.032	ug/m3
Carbon Tetrachloride	**72**	10	pptv	**0.45**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**860**	10	pptv	**3.2**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	**16**	10	pptv	**0.11**	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**170**	10	pptv	**0.73**	0.043	ug/m3
m,p-Xylenes	**540**	10	pptv	**2.3**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**110**	10	pptv	**0.46**	0.043	ug/m3
o-Xylene	**200**	10	pptv	**0.89**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**54**	10	pptv	**0.26**	0.049	ug/m3
1,2,4-Trimethylbenzene	**190**	10	pptv	**0.92**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	**15**	10	pptv	**0.092**	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**21**	10	pptv	**0.11**	0.052	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

522442-002 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**740**	10	pptv	**3.2**	0.043	ug/m3

522442-002 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	102	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB05-14D-R2	**Batch#:**	358120	**Prep:**	METHOD
Lab ID:	522442-003	**Sampled:**	12/16/24 14:15	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	12/16/24	**Analyst:**	OHD
Diln Fac:	1.100	**Analyzed:**	12/18/24 03:00		

522442-003 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**440**	11	pptv	**2.2**	0.054	ug/m3
Chloromethane	**540**	110	pptv	**1.1**	0.23	ug/m3
Freon 114	**15**	11	pptv	**0.10**	0.077	ug/m3
Vinyl Chloride	ND	11	pptv	ND	0.028	ug/m3
Bromomethane	**39**	11	pptv	**0.15**	0.043	ug/m3
Chloroethane	ND	11	pptv	ND	0.029	ug/m3
Vinyl bromide	ND	11	pptv	ND	0.048	ug/m3
Trichlorofluoromethane	**190**	11	pptv	**1.1**	0.062	ug/m3
1,1-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Methylene Chloride	**260**	22	pptv	**0.91**	0.076	ug/m3
Freon 113	**61**	11	pptv	**0.47**	0.084	ug/m3
trans-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
1,1-Dichloroethane	ND	11	pptv	ND	0.045	ug/m3
cis-1,2-Dichloroethene	ND	11	pptv	ND	0.044	ug/m3
Chloroform	**39**	11	pptv	**0.19**	0.054	ug/m3
1,2-Dichloroethane	**24**	11	pptv	**0.096**	0.045	ug/m3
1,1,1-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Benzene	**550**	11	pptv	**1.7**	0.035	ug/m3
Carbon Tetrachloride	**71**	11	pptv	**0.45**	0.069	ug/m3
1,2-Dichloropropane	ND	11	pptv	ND	0.051	ug/m3
Bromodichloromethane	ND	11	pptv	ND	0.074	ug/m3
Trichloroethene	ND	11	pptv	ND	0.059	ug/m3
cis-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
trans-1,3-Dichloropropene	ND	11	pptv	ND	0.050	ug/m3
1,1,2-Trichloroethane	ND	11	pptv	ND	0.060	ug/m3
Toluene	**890**	11	pptv	**3.4**	0.041	ug/m3
Dibromochloromethane	ND	11	pptv	ND	0.094	ug/m3
1,2-Dibromoethane	ND	11	pptv	ND	0.085	ug/m3
Tetrachloroethene	**17**	11	pptv	**0.12**	0.075	ug/m3
Chlorobenzene	ND	11	pptv	ND	0.051	ug/m3
Ethylbenzene	**170**	11	pptv	**0.72**	0.048	ug/m3
m,p-Xylenes	**520**	11	pptv	**2.3**	0.048	ug/m3
Bromoform	ND	11	pptv	ND	0.11	ug/m3
Styrene	**110**	11	pptv	**0.47**	0.047	ug/m3
o-Xylene	**200**	11	pptv	**0.87**	0.048	ug/m3
2-Chlorotoluene	ND	11	pptv	ND	0.057	ug/m3
1,3,5-Trimethylbenzene	**68**	11	pptv	**0.33**	0.054	ug/m3
1,2,4-Trimethylbenzene	**260**	11	pptv	**1.3**	0.054	ug/m3
Benzyl chloride	ND	11	pptv	ND	0.057	ug/m3
1,3-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,4-Dichlorobenzene	**15**	11	pptv	**0.090**	0.066	ug/m3
1,2-Dichlorobenzene	ND	11	pptv	ND	0.066	ug/m3
1,2,4-Trichlorobenzene	ND	11	pptv	ND	0.082	ug/m3
1,1,2,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
1,1,1,2-Tetrachloroethane	ND	11	pptv	ND	0.076	ug/m3
Naphthalene	**31**	11	pptv	**0.16**	0.058	ug/m3

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

522442-003 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	11	pptv	ND	0.12	ug/m3
Xylene (total)	**720**	11	pptv	**3.1**	0.048	ug/m3

522442-003 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	100	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Field ID:	WB10-14D-R2	**Batch#:**	358120	**Prep:**	METHOD
Lab ID:	522442-004	**Sampled:**	12/16/24 14:24	**Analysis:**	EPA TO-15 SIM
Matrix:	Air	**Received:**	12/16/24	**Analyst:**	OHD
Diln Fac:	1.000	**Analyzed:**	12/18/24 03:49		

522442-004 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	**440**	10	pptv	**2.2**	0.049	ug/m3
Chloromethane	**550**	100	pptv	**1.1**	0.21	ug/m3
Freon 114	**15**	10	pptv	**0.10**	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	**37**	10	pptv	**0.15**	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	**190**	10	pptv	**1.1**	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	**250**	20	pptv	**0.87**	0.069	ug/m3
Freon 113	**60**	10	pptv	**0.46**	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	**41**	10	pptv	**0.20**	0.049	ug/m3
1,2-Dichloroethane	**25**	10	pptv	**0.10**	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	**610**	10	pptv	**1.9**	0.032	ug/m3
Carbon Tetrachloride	**71**	10	pptv	**0.45**	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	**850**	10	pptv	**3.2**	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	**17**	10	pptv	**0.12**	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	**190**	10	pptv	**0.84**	0.043	ug/m3
m,p-Xylenes	**570**	10	pptv	**2.5**	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	**85**	10	pptv	**0.36**	0.043	ug/m3
o-Xylene	**200**	10	pptv	**0.87**	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	**62**	10	pptv	**0.30**	0.049	ug/m3
1,2,4-Trimethylbenzene	**220**	10	pptv	**1.1**	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	**11**	10	pptv	**0.060**	0.052	ug/m3

Enthalpy Analytical - Orange Analytical Report

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

522442-004 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	**770**	10	pptv	**3.3**	0.043	ug/m3

522442-004 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	96	60-140	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BS **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1212995 **Batch#:** 358120 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/17/24 09:37 **Analyst:** OHD

QC1212995 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits
Freon 12	100.0	100.6	pptv	101	70-130
Chloromethane	100.0	103.1	pptv	103	70-130
Freon 114	100.0	101.4	pptv	101	70-130
Vinyl Chloride	100.0	102.1	pptv	102	70-130
Bromomethane	100.0	100.7	pptv	101	70-130
Chloroethane	100.0	98.78	pptv	99	70-130
Vinyl bromide	100.0	103.4	pptv	103	70-130
Trichlorofluoromethane	100.0	100.9	pptv	101	70-130
1,1-Dichloroethene	100.0	104.4	pptv	104	70-130
Methylene Chloride	100.0	100.7	pptv	101	70-130
Freon 113	100.0	101.5	pptv	102	70-130
trans-1,2-Dichloroethene	100.0	101.7	pptv	102	70-130
1,1-Dichloroethane	100.0	101.2	pptv	101	70-130
cis-1,2-Dichloroethene	100.0	101.5	pptv	102	70-130
Chloroform	100.0	101.0	pptv	101	70-130
1,2-Dichloroethane	100.0	100.2	pptv	100	70-130
1,1,1-Trichloroethane	100.0	99.82	pptv	100	70-130
Benzene	100.0	96.86	pptv	97	70-130
Carbon Tetrachloride	100.0	98.68	pptv	99	70-130
1,2-Dichloropropane	100.0	101.8	pptv	102	70-130
Bromodichloromethane	100.0	98.05	pptv	98	70-130
Trichloroethene	100.0	101.5	pptv	102	70-130
cis-1,3-Dichloropropene	100.0	101.3	pptv	101	70-130
trans-1,3-Dichloropropene	100.0	101.2	pptv	101	70-130
1,1,2-Trichloroethane	100.0	100.7	pptv	101	70-130
Toluene	100.0	88.25	pptv	88	70-130
Dibromochloromethane	100.0	96.65	pptv	97	70-130
1,2-Dibromoethane	100.0	98.05	pptv	98	70-130
Tetrachloroethene	100.0	103.7	pptv	104	70-130
Chlorobenzene	100.0	100.5	pptv	101	70-130
Ethylbenzene	100.0	97.08	pptv	97	70-130
m,p-Xylenes	200.0	191.6	pptv	96	70-130
Bromoform	100.0	96.20	pptv	96	70-130
Styrene	100.0	114.0	pptv	114	70-130
o-Xylene	100.0	97.59	pptv	98	70-130
2-Chlorotoluene	100.0	98.76	pptv	99	70-130
1,3,5-Trimethylbenzene	100.0	126.4	pptv	126	70-130
1,2,4-Trimethylbenzene	100.0	110.1	pptv	110	70-130
Benzyl chloride	100.0	90.91	pptv	91	70-130
1,3-Dichlorobenzene	100.0	100.7	pptv	101	70-130
1,4-Dichlorobenzene	100.0	97.99	pptv	98	70-130
1,2-Dichlorobenzene	100.0	97.58	pptv	98	70-130
1,2,4-Trichlorobenzene	100.0	85.15	pptv	85	70-130
1,1,2,2-Tetrachloroethane	100.0	100.7	pptv	101	70-130
1,1,1,2-Tetrachloroethane	100.0	98.44	pptv	98	70-130
Naphthalene	100.0	79.44	pptv	79	70-130
Hexachlorobutadiene	100.0	90.53	pptv	91	70-130

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1212995 Surrogate	%REC	Limits
Bromofluorobenzene	104	70-130

Type: BSD **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1212996 **Batch#:** 358120 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/17/24 10:20 **Analyst:** OHD

QC1212996 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Freon 12	100.0	102.8	pptv	103	70-130	2	25
Chloromethane	100.0	105.4	pptv	105	70-130	2	25
Freon 114	100.0	103.2	pptv	103	70-130	2	25
Vinyl Chloride	100.0	104.5	pptv	105	70-130	2	25
Bromomethane	100.0	104.0	pptv	104	70-130	3	25
Chloroethane	100.0	101.2	pptv	101	70-130	2	25
Vinyl bromide	100.0	105.6	pptv	106	70-130	2	25
Trichlorofluoromethane	100.0	103.1	pptv	103	70-130	2	25
1,1-Dichloroethene	100.0	106.4	pptv	106	70-130	2	25
Methylene Chloride	100.0	102.5	pptv	102	70-130	2	25
Freon 113	100.0	103.5	pptv	103	70-130	2	25
trans-1,2-Dichloroethene	100.0	103.4	pptv	103	70-130	2	25
1,1-Dichloroethane	100.0	103.1	pptv	103	70-130	2	25
cis-1,2-Dichloroethene	100.0	103.4	pptv	103	70-130	2	25
Chloroform	100.0	103.0	pptv	103	70-130	2	25
1,2-Dichloroethane	100.0	102.6	pptv	103	70-130	2	25
1,1,1-Trichloroethane	100.0	101.4	pptv	101	70-130	2	25
Benzene	100.0	98.66	pptv	99	70-130	2	25
Carbon Tetrachloride	100.0	100.5	pptv	100	70-130	2	25
1,2-Dichloropropane	100.0	104.8	pptv	105	70-130	3	25
Bromodichloromethane	100.0	100.9	pptv	101	70-130	3	25
Trichloroethene	100.0	104.1	pptv	104	70-130	3	25
cis-1,3-Dichloropropene	100.0	103.9	pptv	104	70-130	3	25
trans-1,3-Dichloropropene	100.0	104.4	pptv	104	70-130	3	25
1,1,2-Trichloroethane	100.0	103.3	pptv	103	70-130	3	25
Toluene	100.0	90.34	pptv	90	70-130	2	25
Dibromochloromethane	100.0	99.56	pptv	100	70-130	3	25
1,2-Dibromoethane	100.0	101.1	pptv	101	70-130	3	25
Tetrachloroethene	100.0	106.4	pptv	106	70-130	3	25
Chlorobenzene	100.0	103.8	pptv	104	70-130	3	25
Ethylbenzene	100.0	99.32	pptv	99	70-130	2	25
m,p-Xylenes	200.0	196.6	pptv	98	70-130	3	25
Bromoform	100.0	98.34	pptv	98	70-130	2	25
Styrene	100.0	116.8	pptv	117	70-130	2	25
o-Xylene	100.0	100.3	pptv	100	70-130	3	25
2-Chlorotoluene	100.0	101.1	pptv	101	70-130	2	25
1,3,5-Trimethylbenzene	100.0	129.7	pptv	130	70-130	3	25
1,2,4-Trimethylbenzene	100.0	113.5	pptv	114	70-130	3	25
Benzyl chloride	100.0	94.91	pptv	95	70-130	4	25
1,3-Dichlorobenzene	100.0	104.3	pptv	104	70-130	3	25
1,4-Dichlorobenzene	100.0	102.0	pptv	102	70-130	4	25
1,2-Dichlorobenzene	100.0	101.1	pptv	101	70-130	4	25
1,2,4-Trichlorobenzene	100.0	88.47	pptv	88	70-130	4	25
1,1,2,2-Tetrachloroethane	100.0	104.1	pptv	104	70-130	3	25
1,1,1,2-Tetrachloroethane	100.0	101.8	pptv	102	70-130	3	25

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1212996 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Naphthalene	100.0	82.72	pptv	83	70-130	4	25
Hexachlorobutadiene	100.0	93.77	pptv	94	70-130	4	25

QC1212996 Surrogate	%REC	Limits
Bromofluorobenzene	103	70-130

Legend

RPD: Relative Percent Difference

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BLANK **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1212997 **Batch#:** 358120 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/17/24 11:49 **Analyst:** OHD

QC1212997 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	ND	10	pptv	ND	0.049	ug/m3
Chloromethane	ND	100	pptv	ND	0.21	ug/m3
Freon 114	ND	10	pptv	ND	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	ND	10	pptv	ND	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	ND	10	pptv	ND	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	ND	20	pptv	ND	0.069	ug/m3
Freon 113	ND	10	pptv	ND	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	ND	10	pptv	ND	0.049	ug/m3
1,2-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	ND	10	pptv	ND	0.032	ug/m3
Carbon Tetrachloride	ND	10	pptv	ND	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	ND	10	pptv	ND	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	ND	10	pptv	ND	0.043	ug/m3
m,p-Xylenes	ND	10	pptv	ND	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	ND	10	pptv	ND	0.043	ug/m3
o-Xylene	ND	10	pptv	ND	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
1,2,4-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	ND	10	pptv	ND	0.043	ug/m3

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1212997 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	90	70-130	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BS **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1213576 **Batch#:** 358299 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/18/24 07:32 **Analyst:** OHD

QC1213576 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits
Freon 12	100.0	100.2	pptv	100	70-130
Chloromethane	100.0	101.4	pptv	101	70-130
Freon 114	100.0	100.3	pptv	100	70-130
Vinyl Chloride	100.0	101.1	pptv	101	70-130
Bromomethane	100.0	98.00	pptv	98	70-130
Chloroethane	100.0	98.99	pptv	99	70-130
Vinyl bromide	100.0	103.1	pptv	103	70-130
Trichlorofluoromethane	100.0	100.2	pptv	100	70-130
1,1-Dichloroethene	100.0	104.9	pptv	105	70-130
Methylene Chloride	100.0	98.92	pptv	99	70-130
Freon 113	100.0	101.1	pptv	101	70-130
trans-1,2-Dichloroethene	100.0	101.6	pptv	102	70-130
1,1-Dichloroethane	100.0	100.6	pptv	101	70-130
cis-1,2-Dichloroethene	100.0	101.6	pptv	102	70-130
Chloroform	100.0	100.3	pptv	100	70-130
1,2-Dichloroethane	100.0	99.12	pptv	99	70-130
1,1,1-Trichloroethane	100.0	99.45	pptv	99	70-130
Benzene	100.0	97.97	pptv	98	70-130
Carbon Tetrachloride	100.0	97.79	pptv	98	70-130
1,2-Dichloropropane	100.0	100.5	pptv	100	70-130
Bromodichloromethane	100.0	96.32	pptv	96	70-130
Trichloroethene	100.0	100.0	pptv	100	70-130
cis-1,3-Dichloropropene	100.0	101.6	pptv	102	70-130
trans-1,3-Dichloropropene	100.0	100.8	pptv	101	70-130
1,1,2-Trichloroethane	100.0	98.92	pptv	99	70-130
Toluene	100.0	88.32	pptv	88	70-130
Dibromochloromethane	100.0	95.28	pptv	95	70-130
1,2-Dibromoethane	100.0	96.75	pptv	97	70-130
Tetrachloroethene	100.0	102.3	pptv	102	70-130
Chlorobenzene	100.0	100.5	pptv	101	70-130
Ethylbenzene	100.0	97.87	pptv	98	70-130
m,p-Xylenes	200.0	194.0	pptv	97	70-130
Bromoform	100.0	94.91	pptv	95	70-130
Styrene	100.0	115.8	pptv	116	70-130
o-Xylene	100.0	99.24	pptv	99	70-130
2-Chlorotoluene	100.0	99.33	pptv	99	70-130
1,3,5-Trimethylbenzene	100.0	127.0	pptv	127	70-130
1,2,4-Trimethylbenzene	100.0	110.5	pptv	110	70-130
Benzyl chloride	100.0	90.53	pptv	91	70-130
1,3-Dichlorobenzene	100.0	99.84	pptv	100	70-130
1,4-Dichlorobenzene	100.0	96.97	pptv	97	70-130
1,2-Dichlorobenzene	100.0	96.94	pptv	97	70-130
1,2,4-Trichlorobenzene	100.0	83.43	pptv	83	70-130
1,1,2,2-Tetrachloroethane	100.0	98.86	pptv	99	70-130
1,1,1,2-Tetrachloroethane	100.0	98.31	pptv	98	70-130
Naphthalene	100.0	77.14	pptv	77	70-130
Hexachlorobutadiene	100.0	88.25	pptv	88	70-130

ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1213576 Surrogate	%REC	Limits
Bromofluorobenzene	104	70-130

Type: BSD **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1213577 **Batch#:** 358299 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/18/24 08:15 **Analyst:** OHD

QC1213577 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Freon 12	100.0	100.6	pptv	101	70-130	0	25
Chloromethane	100.0	102.8	pptv	103	70-130	1	25
Freon 114	100.0	101.3	pptv	101	70-130	1	25
Vinyl Chloride	100.0	101.8	pptv	102	70-130	1	25
Bromomethane	100.0	101.9	pptv	102	70-130	4	25
Chloroethane	100.0	98.93	pptv	99	70-130	0	25
Vinyl bromide	100.0	104.2	pptv	104	70-130	1	25
Trichlorofluoromethane	100.0	101.1	pptv	101	70-130	1	25
1,1-Dichloroethene	100.0	105.4	pptv	105	70-130	0	25
Methylene Chloride	100.0	100.4	pptv	100	70-130	2	25
Freon 113	100.0	101.7	pptv	102	70-130	1	25
trans-1,2-Dichloroethene	100.0	102.4	pptv	102	70-130	1	25
1,1-Dichloroethane	100.0	101.2	pptv	101	70-130	1	25
cis-1,2-Dichloroethene	100.0	102.0	pptv	102	70-130	0	25
Chloroform	100.0	101.3	pptv	101	70-130	1	25
1,2-Dichloroethane	100.0	100.2	pptv	100	70-130	1	25
1,1,1-Trichloroethane	100.0	100.2	pptv	100	70-130	1	25
Benzene	100.0	98.41	pptv	98	70-130	0	25
Carbon Tetrachloride	100.0	98.75	pptv	99	70-130	1	25
1,2-Dichloropropane	100.0	101.4	pptv	101	70-130	1	25
Bromodichloromethane	100.0	97.14	pptv	97	70-130	1	25
Trichloroethene	100.0	101.4	pptv	101	70-130	1	25
cis-1,3-Dichloropropene	100.0	100.8	pptv	101	70-130	1	25
trans-1,3-Dichloropropene	100.0	101.1	pptv	101	70-130	0	25
1,1,2-Trichloroethane	100.0	99.73	pptv	100	70-130	1	25
Toluene	100.0	88.98	pptv	89	70-130	1	25
Dibromochloromethane	100.0	95.56	pptv	96	70-130	0	25
1,2-Dibromoethane	100.0	97.91	pptv	98	70-130	1	25
Tetrachloroethene	100.0	103.9	pptv	104	70-130	2	25
Chlorobenzene	100.0	101.7	pptv	102	70-130	1	25
Ethylbenzene	100.0	98.57	pptv	99	70-130	1	25
m,p-Xylenes	200.0	194.6	pptv	97	70-130	0	25
Bromoform	100.0	95.85	pptv	96	70-130	1	25
Styrene	100.0	116.8	pptv	117	70-130	1	25
o-Xylene	100.0	98.85	pptv	99	70-130	0	25
2-Chlorotoluene	100.0	101.0	pptv	101	70-130	2	25
1,3,5-Trimethylbenzene	100.0	128.5	pptv	129	70-130	1	25
1,2,4-Trimethylbenzene	100.0	113.2	pptv	113	70-130	2	25
Benzyl chloride	100.0	92.68	pptv	93	70-130	2	25
1,3-Dichlorobenzene	100.0	101.8	pptv	102	70-130	2	25
1,4-Dichlorobenzene	100.0	98.99	pptv	99	70-130	2	25
1,2-Dichlorobenzene	100.0	98.17	pptv	98	70-130	1	25
1,2,4-Trichlorobenzene	100.0	86.20	pptv	86	70-130	3	25
1,1,2,2-Tetrachloroethane	100.0	100.2	pptv	100	70-130	1	25
1,1,1,2-Tetrachloroethane	100.0	98.81	pptv	99	70-130	1	25

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1213577 Analyte	Spiked	Result (V)	Units (V)	%REC	Limits	RPD	Lim
Naphthalene	100.0	80.37	pptv	80	70-130	4	25
Hexachlorobutadiene	100.0	90.16	pptv	90	70-130	2	25

QC1213577 Surrogate	%REC	Limits
Bromofluorobenzene	104	70-130

Legend

RPD: Relative Percent Difference

Result (V): Result in volume units

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

Type: BLANK **Diln Fac:** 1.000 **Prep:** METHOD

Lab ID: QC1213578 **Batch#:** 358299 **Analysis:** EPA TO-15 SIM

Matrix: Air **Analyzed:** 12/18/24 09:45 **Analyst:** OHD

QC1213578 Analyte	Result (V)	RL (V)	Units (V)	Result (M)	RL (M)	Units (M)
Freon 12	ND	10	pptv	ND	0.049	ug/m3
Chloromethane	ND	100	pptv	ND	0.21	ug/m3
Freon 114	ND	10	pptv	ND	0.070	ug/m3
Vinyl Chloride	ND	10	pptv	ND	0.026	ug/m3
Bromomethane	ND	10	pptv	ND	0.039	ug/m3
Chloroethane	ND	10	pptv	ND	0.026	ug/m3
Vinyl bromide	ND	10	pptv	ND	0.044	ug/m3
Trichlorofluoromethane	ND	10	pptv	ND	0.056	ug/m3
1,1-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Methylene Chloride	ND	20	pptv	ND	0.069	ug/m3
Freon 113	ND	10	pptv	ND	0.077	ug/m3
trans-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
1,1-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
cis-1,2-Dichloroethene	ND	10	pptv	ND	0.040	ug/m3
Chloroform	ND	10	pptv	ND	0.049	ug/m3
1,2-Dichloroethane	ND	10	pptv	ND	0.040	ug/m3
1,1,1-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Benzene	ND	10	pptv	ND	0.032	ug/m3
Carbon Tetrachloride	ND	10	pptv	ND	0.063	ug/m3
1,2-Dichloropropane	ND	10	pptv	ND	0.046	ug/m3
Bromodichloromethane	ND	10	pptv	ND	0.067	ug/m3
Trichloroethene	ND	10	pptv	ND	0.054	ug/m3
cis-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
trans-1,3-Dichloropropene	ND	10	pptv	ND	0.045	ug/m3
1,1,2-Trichloroethane	ND	10	pptv	ND	0.055	ug/m3
Toluene	ND	10	pptv	ND	0.038	ug/m3
Dibromochloromethane	ND	10	pptv	ND	0.085	ug/m3
1,2-Dibromoethane	ND	10	pptv	ND	0.077	ug/m3
Tetrachloroethene	ND	10	pptv	ND	0.068	ug/m3
Chlorobenzene	ND	10	pptv	ND	0.046	ug/m3
Ethylbenzene	ND	10	pptv	ND	0.043	ug/m3
m,p-Xylenes	ND	10	pptv	ND	0.043	ug/m3
Bromoform	ND	10	pptv	ND	0.10	ug/m3
Styrene	ND	10	pptv	ND	0.043	ug/m3
o-Xylene	ND	10	pptv	ND	0.043	ug/m3
2-Chlorotoluene	ND	10	pptv	ND	0.052	ug/m3
1,3,5-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
1,2,4-Trimethylbenzene	ND	10	pptv	ND	0.049	ug/m3
Benzyl chloride	ND	10	pptv	ND	0.052	ug/m3
1,3-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,4-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2-Dichlorobenzene	ND	10	pptv	ND	0.060	ug/m3
1,2,4-Trichlorobenzene	ND	10	pptv	ND	0.074	ug/m3
1,1,2,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
1,1,1,2-Tetrachloroethane	ND	10	pptv	ND	0.069	ug/m3
Naphthalene	ND	10	pptv	ND	0.052	ug/m3
Hexachlorobutadiene	ND	10	pptv	ND	0.11	ug/m3
Xylene (total)	ND	10	pptv	ND	0.043	ug/m3

Enthalpy Analytical - Orange Analytical Report: Batch QC

Lab #: 522442 **Project#:** STANDARD

Client: Catalyst Environmental Solutions **Location:** Walnut Bluff Workplan

QC1213578 Surrogate	%REC	Limits	Units (M)
Bromofluorobenzene	90	70-130	ug/m3

Legend

ND: Not Detected

RL (V): Reporting Limit

Result (M): Result in mass units

Result (V): Result in volume units

ENTHALPY ANALYTICAL

Equipment Certification Report for 518235

Yola Bayram
Catalyst Environmental Solutions
315 Montana Avenue
Suite 311
Santa Monica, CA 90403

Lab Job #: 518235
Location: Walnut Bluff Workplan
Date Received: 10/15/24

Client Sample ID	Lab Sample ID	Equipment Cert	Equipment ID	Type	Cleaning Batch
WB01-14D	518235-001	TO15 SIM Indv.	C70196	6L Canister	5884
WB02-14D	518235-002	TO15 SIM Indv.	C70903	6L Canister	5908
WB03-14D	518235-003	TO15 SIM Indv.	C70059	6L Canister	5854
WB04-14D	518235-004	TO15 SIM Indv.	C70932	6L Canister	5914
WB05-14D	518235-005	TO15 SIM Indv.	C70800	6L Canister	5890
WB06-14D	518235-006	TO15 SIM Indv.	C70916	6L Canister	5908
WB07-14D	518235-007	TO15 SIM Indv.	C70901	6L Canister	5908
WB08-14D	518235-008	TO15 SIM Indv.	C70914	6L Canister	5908
WB09-14D	518235-009	TO15 SIM Indv.	C70012	6L Canister	5890
WB10-14D	518235-010	TO15 SIM Indv.	C70331	6L Canister	5890
WB11-14D	518235-011	TO15 SIM Indv.	C70352	6L Canister	5883
WB12-14D	518235-012	TO15 SIM Indv.	C70908	6L Canister	5908
WB13-14D	518235-013	TO15 SIM Indv.	C70249	6L Canister	5890
WB14-14D	518235-014	TO15 SIM Indv.	C70309	6L Canister	5890
WB17-14D	518235-015	TO15 SIM Indv.	C70812	6L Canister	5883
WB18-14D	518235-016	TO15 SIM Indv.	C70938	6L Canister	5914
WB19-14D	518235-017	TO15 SIM Indv.	C70081	6L Canister	5890

Cleaning Batch	Check Run	Equipment ID	Type
5854	374364761015	C70059	6L Canister
5883	504376376016	C70812	6L Canister
5883	504376376021	C70352	6L Canister
5884	504376376019	C70196	6L Canister
5890	504377891012	C70249	6L Canister
5890	504377891019	C70331	6L Canister
5890	504377891020	C70012	6L Canister
5890	504377891023	C70800	6L Canister
5890	504377891024	C70081	6L Canister
5890	504377891028	C70309	6L Canister
5908	504384909010	C70901	6L Canister
5908	504384909016	C70903	6L Canister
5908	504384909017	C70914	6L Canister
5908	504384909019	C70916	6L Canister
5908	504386383008	C70908	6L Canister
5914	504384909015	C70932	6L Canister
5914	504384909018	C70938	6L Canister

Cleaning Batch	Started	Completed	Pressure	Status
5854	09/06/24 12:41	09/09/24 06:27	<0.05 mmHg	Successful
5883	09/13/24 14:35	09/14/24 08:29	<0.05 mmHg	Successful
5884	09/14/24 09:14	09/16/24 06:17	<0.05 mmHg	Successful
5890	09/16/24 14:14	09/17/24 05:07	<0.05 mmHg	Successful
5908	09/19/24 16:35	09/20/24 05:02	<0.05 mmHg	Successful

ENTHALPY ANALYTICAL

Equipment Certification Report for 518235

Cleaning Batch	Started	Completed	Pressure	Status
5914	09/21/24 12:43	09/22/24 09:04	<0.05 mmHg	Successful

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Equipment Certification Report for 518235

Check Run:	504377891024	Analysis Date/Time:	19-SEP-2024 04:05:00	Equipment ID:	C70081

C70081 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

ENTHALPY ANALYTICAL

Equipment Certification Report for 518235

Check Run:	504384909017	Analysis Date/Time:	23-SEP-2024 19:31:00	Equipment ID:	C70914

C70914 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

ENTHALPY ANALYTICAL

Equipment Certification Report for 518235

Check Run:	504377891012	Analysis Date/Time:	18-SEP-2024 18:35:00	Equipment ID:	C70249

C70249 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

ENTHALPY ANALYTICAL

Equipment Certification Report for 518235

Check Run:	504384909010	Analysis Date/Time:	23-SEP-2024 13:58:00	Equipment ID:	C70901

C70901 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504377891020	Analysis Date/Time:	19-SEP-2024 00:55:00	Equipment ID:	C70012

C70012 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504384909019	Analysis Date/Time:	23-SEP-2024 21:06:00	Equipment ID:	C70916

C70916 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504386383008	Analysis Date/Time:	24-SEP-2024 12:53:00	Equipment ID:	C70908

C70908 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504376376021	Analysis Date/Time:	18-SEP-2024 02:07:00	Equipment ID:	C70352

C70352 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504384909018	Analysis Date/Time:	23-SEP-2024 20:18:00	Equipment ID:	C70938

C70938 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504384909016	Analysis Date/Time:	23-SEP-2024 18:43:00	Equipment ID:	C70903

C70903 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504376376016	Analysis Date/Time:	17-SEP-2024 22:10:00	Equipment ID:	C70812

C70812 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504377891023	Analysis Date/Time:	19-SEP-2024 03:17:00	Equipment ID:	C70800

C70800 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504377891019	Analysis Date/Time:	19-SEP-2024 00:07:00	Equipment ID:	C70331

C70331 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504376376019	Analysis Date/Time:	18-SEP-2024 00:32:00	Equipment ID:	C70196

C70196 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

ENTHALPY ANALYTICAL

Equipment Certification Report for 518235

Check Run:	374364761015	Analysis Date/Time:	09-SEP-2024 18:04:00	Equipment ID:	C70059

C70059 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504384909015	Analysis Date/Time:	23-SEP-2024 17:55:00	Equipment ID:	C70932

C70932 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

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Equipment Certification Report for 518235

Check Run:	504377891028	Analysis Date/Time:	19-SEP-2024 07:16:00	Equipment ID:	C70309

C70309 Analyte	Method	Result	Result
1,1,1,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,1-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1,2,2-Tetrachloroethane	EPA TO-15 SIM	<10.00 pptv	<0.06865 ug/m3
1,1,2-Trichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.05456 ug/m3
1,1-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,1-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
1,2,4-Trichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.07421 ug/m3
1,2,4-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,2-Dibromoethane	EPA TO-15 SIM	<10.00 pptv	<0.07684 ug/m3
1,2-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,2-Dichloroethane	EPA TO-15 SIM	<10.00 pptv	<0.04047 ug/m3
1,2-Dichloropropane	EPA TO-15 SIM	<10.00 pptv	<0.04621 ug/m3
1,3,5-Trimethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04916 ug/m3
1,3-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
1,4-Dichlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.06012 ug/m3
2-Chlorotoluene	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Benzene	EPA TO-15 SIM	<10.00 pptv	<0.03195 ug/m3
Benzyl chloride	EPA TO-15 SIM	<10.00 pptv	<0.05177 ug/m3
Bromodichloromethane	EPA TO-15 SIM	<10.00 pptv	<0.06701 ug/m3
Bromoform	EPA TO-15 SIM	<10.00 pptv	<0.1034 ug/m3
Bromomethane	EPA TO-15 SIM	<10.00 pptv	<0.03883 ug/m3
Carbon Tetrachloride	EPA TO-15 SIM	<10.00 pptv	<0.06291 ug/m3
Chlorobenzene	EPA TO-15 SIM	<10.00 pptv	<0.04604 ug/m3
Chloroethane	EPA TO-15 SIM	<10.00 pptv	<0.02639 ug/m3
Chloroform	EPA TO-15 SIM	<10.00 pptv	<0.04883 ug/m3
Chloromethane	EPA TO-15 SIM	<100.0 pptv	<0.2065 ug/m3
cis-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
cis-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Dibromochloromethane	EPA TO-15 SIM	<10.00 pptv	<0.08519 ug/m3
Ethylbenzene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Freon 113	EPA TO-15 SIM	<10.00 pptv	<0.07664 ug/m3
Freon 114	EPA TO-15 SIM	<10.00 pptv	<0.06991 ug/m3
Freon 12	EPA TO-15 SIM	<10.00 pptv	<0.04945 ug/m3
Hexachlorobutadiene	EPA TO-15 SIM	<10.00 pptv	<0.1067 ug/m3
m,p-Xylenes	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Methylene Chloride	EPA TO-15 SIM	<20.00 pptv	<0.06947 ug/m3
Naphthalene	EPA TO-15 SIM	<10.00 pptv	<0.05242 ug/m3
o-Xylene	EPA TO-15 SIM	<10.00 pptv	<0.04342 ug/m3
Styrene	EPA TO-15 SIM	<10.00 pptv	<0.04260 ug/m3
Tetrachloroethene	EPA TO-15 SIM	<10.00 pptv	<0.06783 ug/m3
Toluene	EPA TO-15 SIM	<10.00 pptv	<0.03769 ug/m3
trans-1,2-Dichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.03965 ug/m3
trans-1,3-Dichloropropene	EPA TO-15 SIM	<10.00 pptv	<0.04539 ug/m3
Trichloroethene	EPA TO-15 SIM	<10.00 pptv	<0.05374 ug/m3
Trichlorofluoromethane	EPA TO-15 SIM	<10.00 pptv	<0.05618 ug/m3
Vinyl bromide	EPA TO-15 SIM	<10.00 pptv	<0.04374 ug/m3
Vinyl Chloride	EPA TO-15 SIM	<10.00 pptv	<0.02556 ug/m3

Appendix F

Laboratory Analytical Reports – 24 Hour Ssamples

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG30\
Data File : 30AUG15.D
Acq On : 31 Aug 2024 5:15 am
Operator : BEP
Sample : BLK-626 241647O-01
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 03 09:56:48 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration

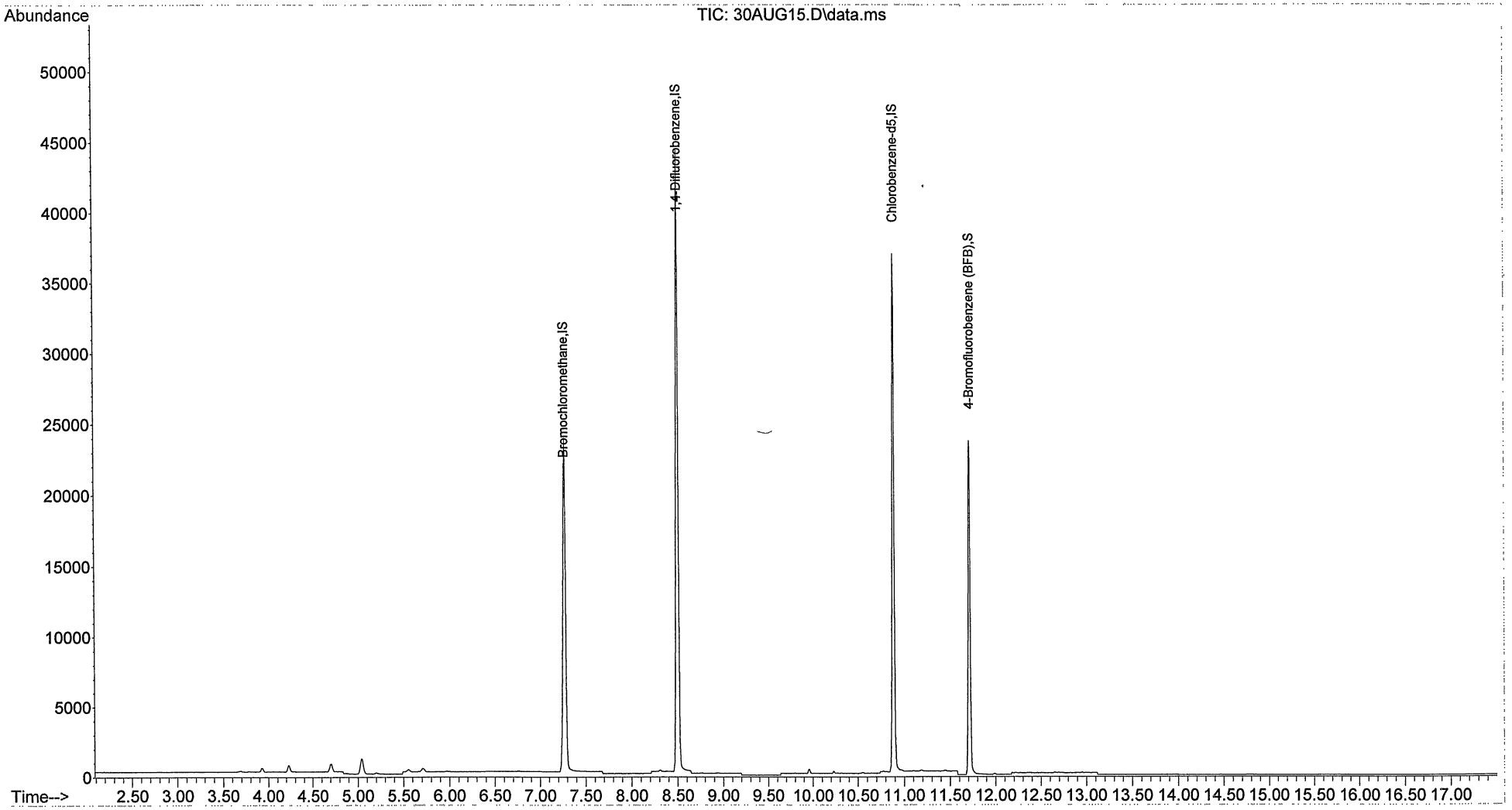
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	22673	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	48789	500.00	pptv	0.00
29) Chlorobenzene-d5	10.881	117	30168	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.711	95	16015	443.06	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 88.61%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG30\
Data File : 30AUG15.D
Acq On : 31 Aug 2024 5:15 am
Operator : BEP
Sample : BLK-626
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 03 09:56:48 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP16.D
Acq On : 12 Sep 2024 4:08 am
Operator : BEP
Sample : blk-813 241670-02
Misc : *
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 12 08:47:59 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

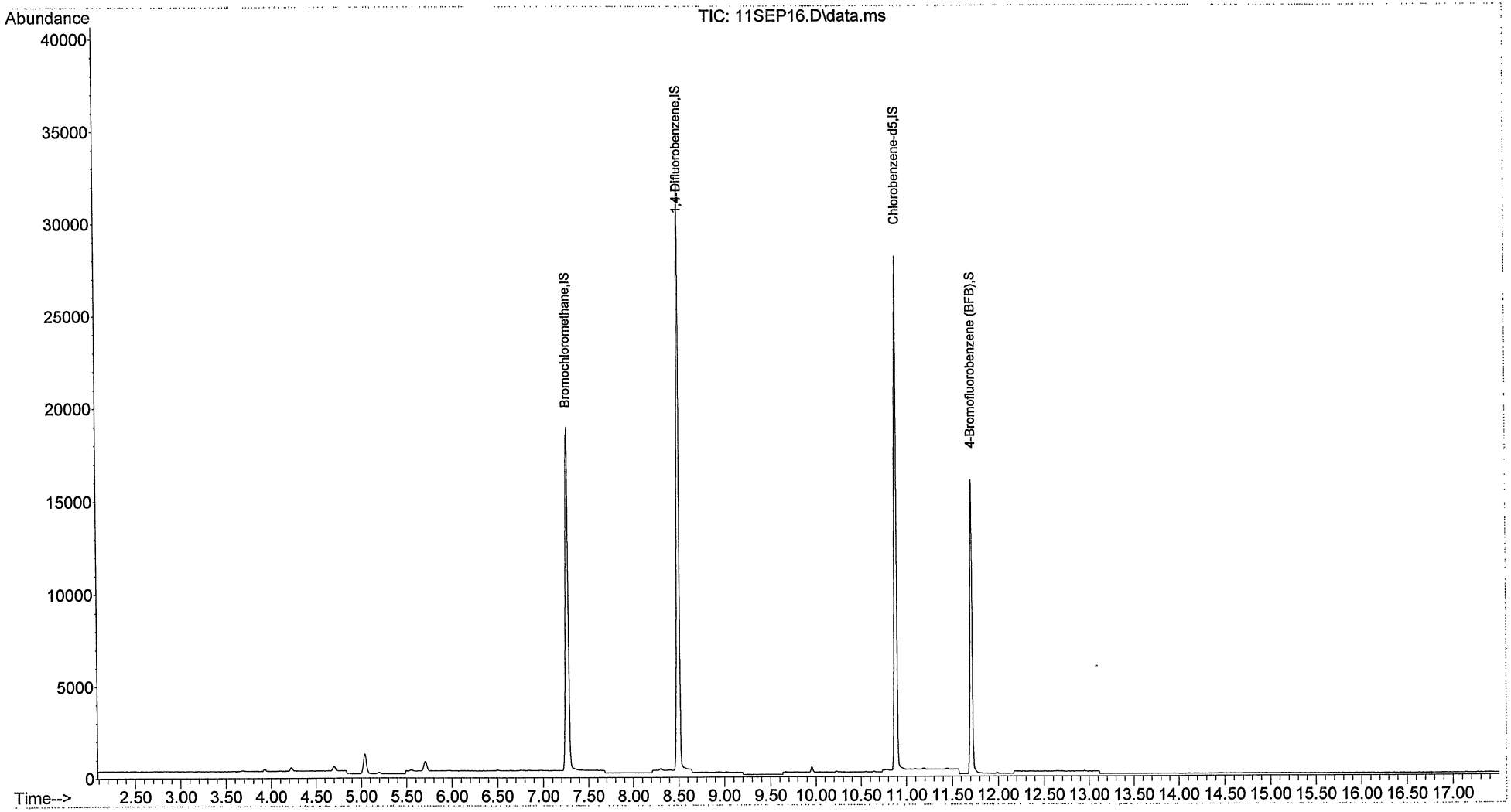
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	18517	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	36448	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	22027	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	10712	424.31	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 84.86%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP16.D
Acq On : 12 Sep 2024 4:08 am
Operator : BEP
Sample : blk-813
Misc : *
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 12 08:47:59 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP08.D
Acq On : 11 Sep 2024 11:18 pm
Operator : BEP
Sample : blk-794 2416470-03
Misc : *
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:36:31 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

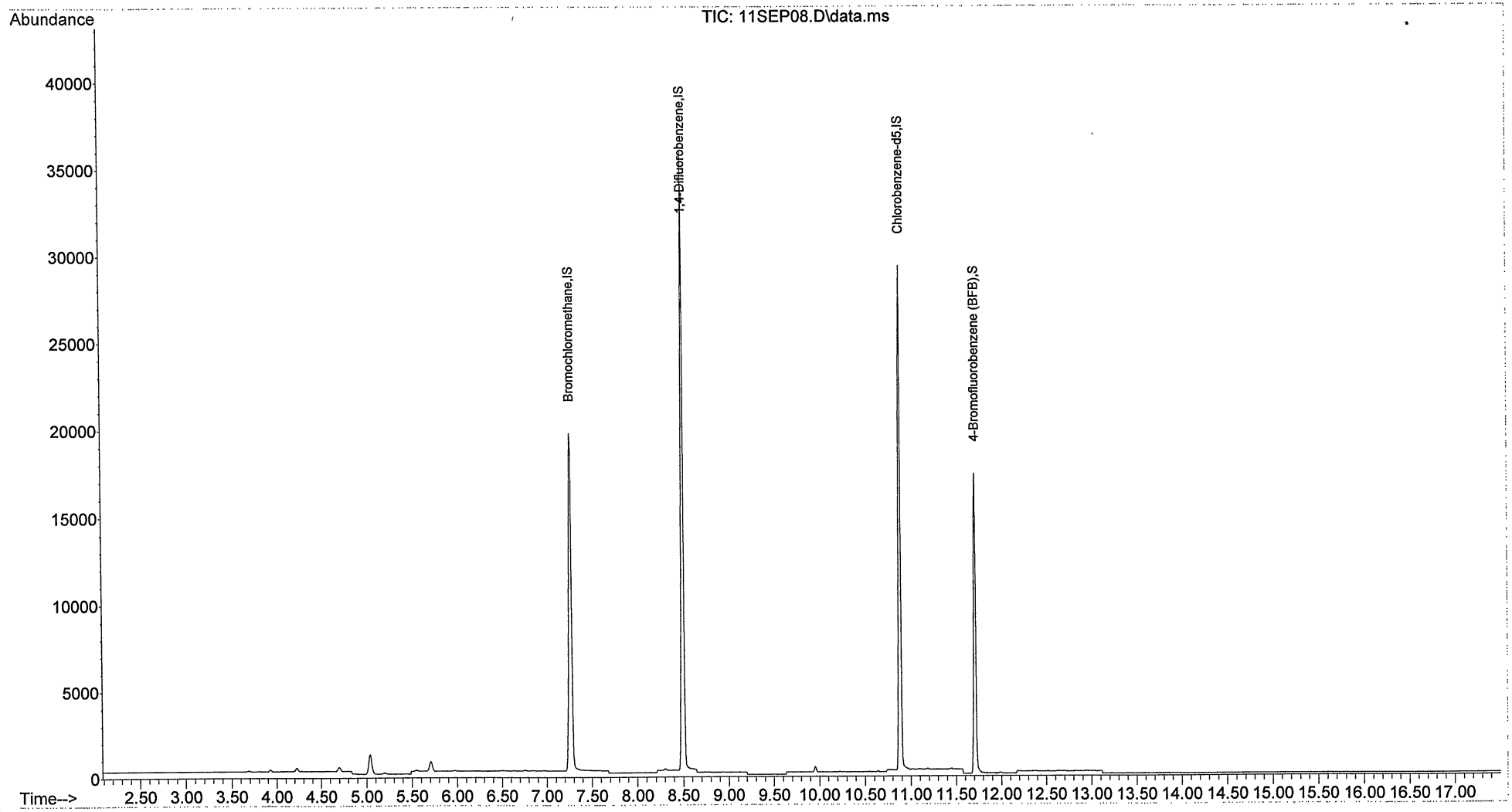
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	19100	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	38859	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	23234	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	11559	434.07	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 86.81%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP08.D
Acq On : 11 Sep 2024 11:18 pm
Operator : BEP
Sample : blk-794
Misc : *
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 09:36:31 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP07.D
Acq On : 11 Sep 2024 10:41 pm
Operator : BEP
Sample : blk-37493 241670-04
Misc : 13-919
ALS Vial : 3 Sample Multiplier: 1

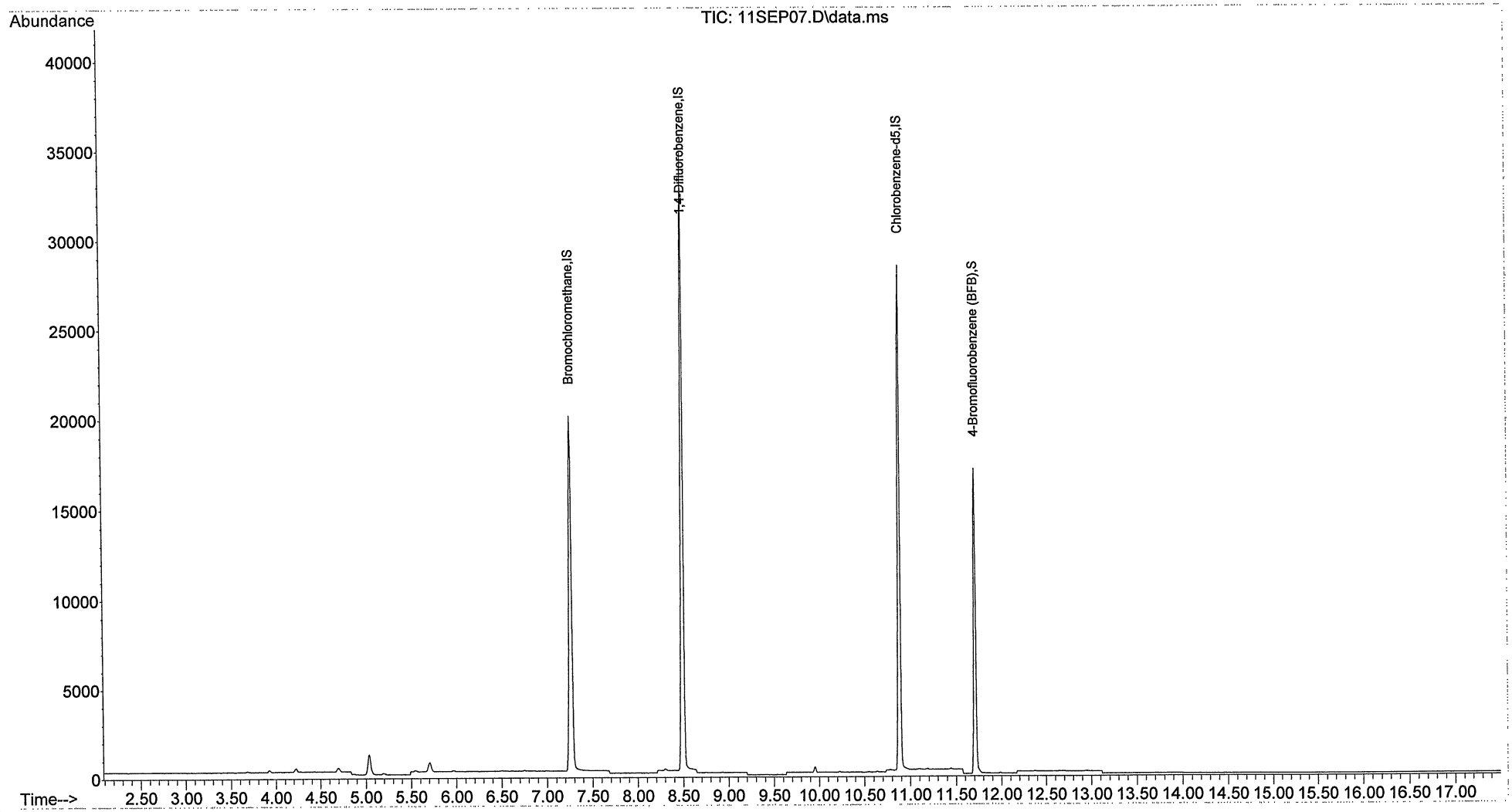
Quant Time: Sep 12 09:36:02 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.260	49	18967	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	38791	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	23172	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	11368	428.04	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 85.61%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP07.D
Acq On : 11 Sep 2024 10:41 pm
Operator : BEP
Sample : blk-37493
Misc : 13-919
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 09:36:02 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP18.D
Acq On : 12 Sep 2024 5:21 am
Operator : BEP
Sample : blk-c8346 241647D-05
Misc : *
ALS Vial : 14 Sample Multiplier: 1

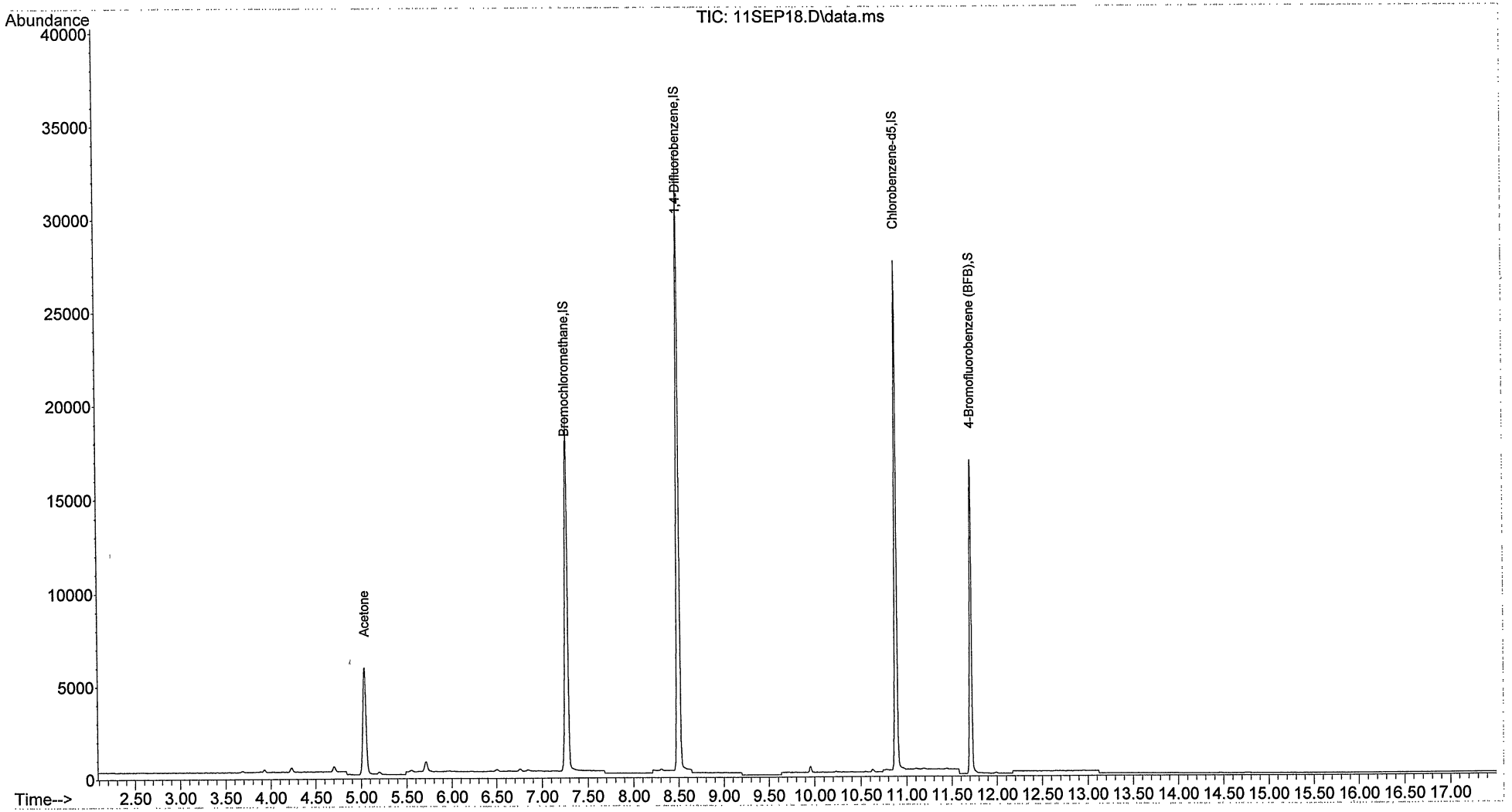
Quant Time: Sep 12 09:49:13 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	18330	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	36954	500.00	pptv	0.00
29) Chlorobenzene-d5	10.881	117	22687	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.711	95	11295	434.39	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 86.88%			
Target Compounds						Qvalue
6) Acetone	5.041	58	3173	163.8983	pptv	# 64

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP18.D
Acq On : 12 Sep 2024 5:21 am
Operator : BEP
Sample : blk-c8346
Misc : *
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 12 09:49:13 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP14.D BGV 11/04/24
Acq On : 12 Sep 2024 2:56 am
Operator : BEP
Sample : blk-747 24I7 2416470-06
Misc : *
ALS Vial : 10 Sample Multiplier: 1

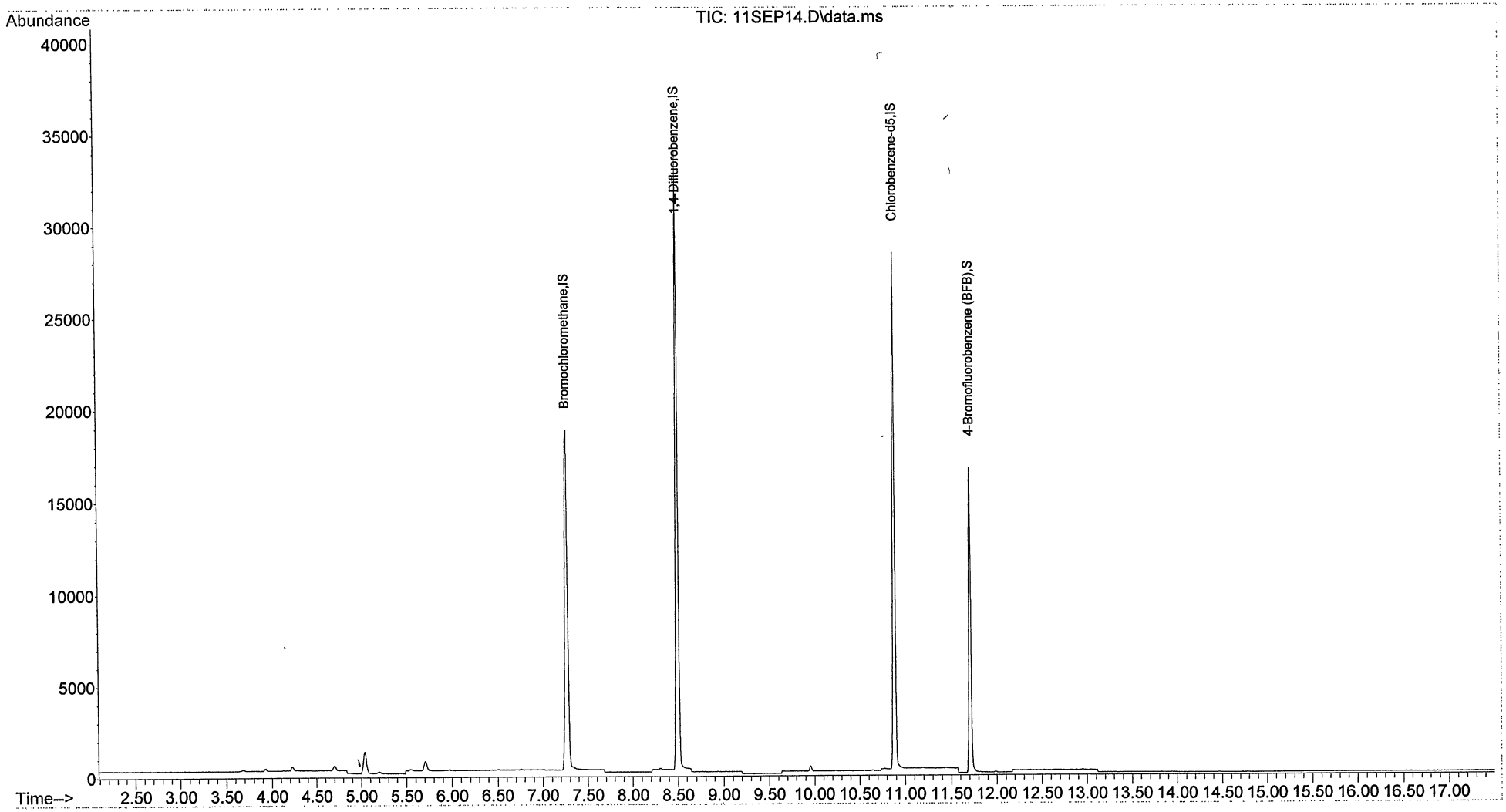
Quant Time: Sep 12 08:46:59 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	18347	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	36699	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	22358	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	11236	438.48	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 87.70%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP14.D
Acq On : 12 Sep 2024 2:56 am
Operator : BEP
Sample : blk-747
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 12 08:46:59 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL09\
Data File : 09JUL12.D
Acq On : 9 Jul 2024 9:09 pm
Operator : BEP
Sample : blk-616 2416470-07
Misc : 13-825
ALS Vial : 7 Sample Multiplier: 1

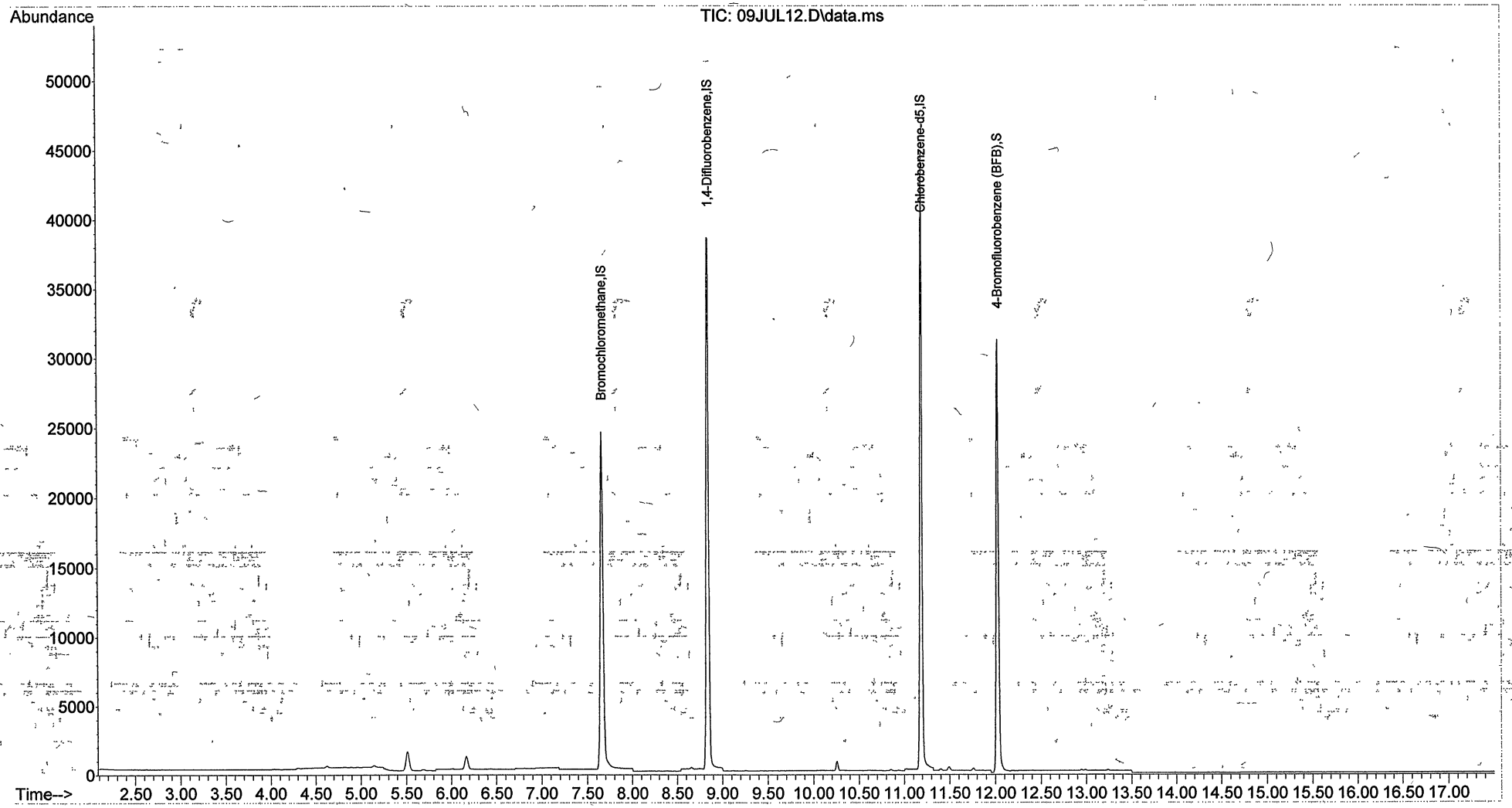
Quant Time: Jul 10 13:46:08 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.659	49	21792	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.843	114	48485	500.00	pptv	0.00
28) Chlorobenzene-d5	11.188	117	39323	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.027	95	22550	481.58	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 96.32%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL09\
Data File : 09JUL12.D
Acq On : 9 Jul 2024 9:09 pm
Operator : BEP
Sample : blk-616
Misc : 13-825
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 10 13:46:08 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP06.D
Acq On : 11 Sep 2024 10:06 pm
Operator : BEP
Sample : blk-35416 241670-08
Misc : 13-918
ALS Vial : 2 Sample Multiplier: 1

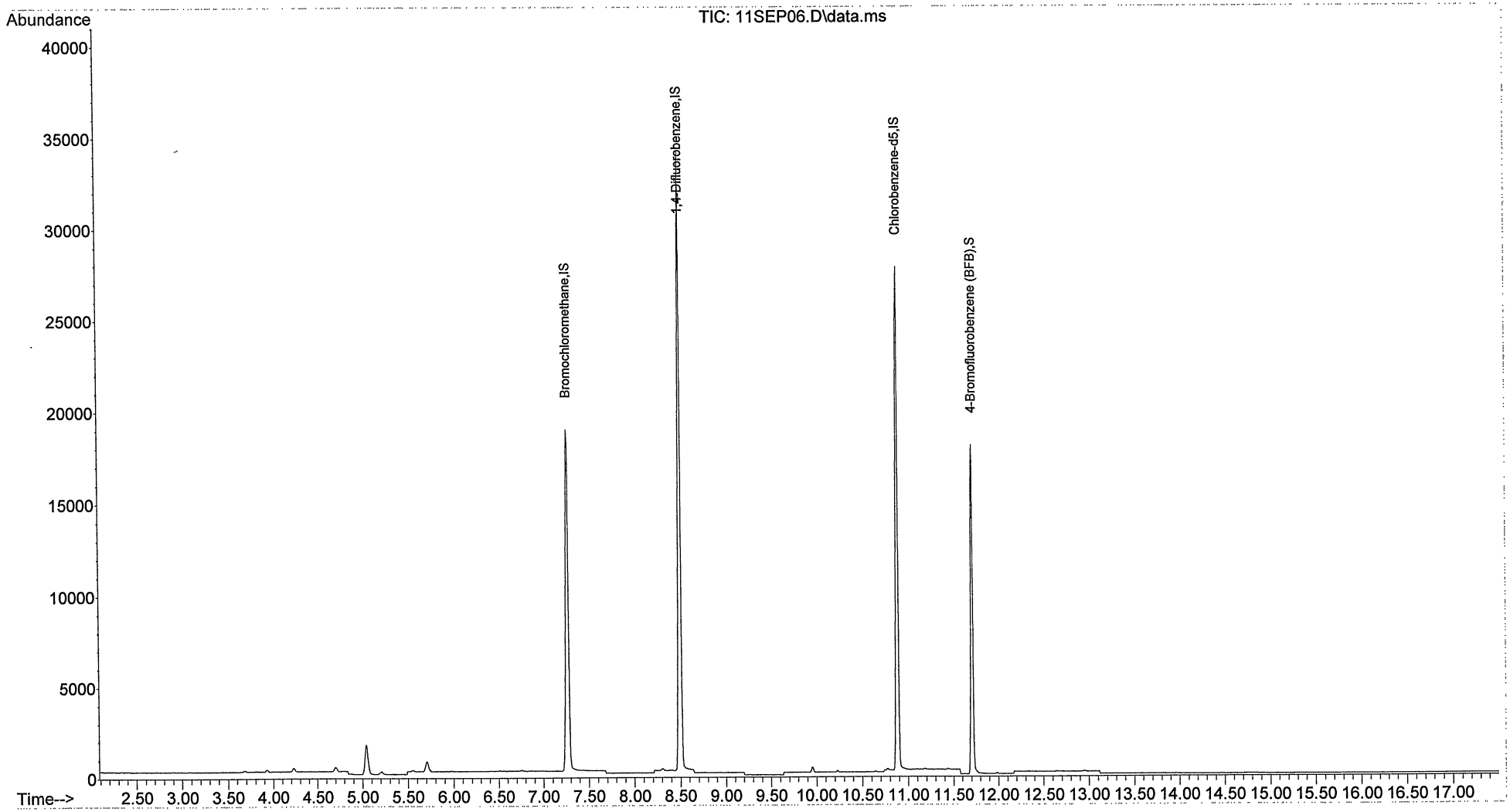
Quant Time: Sep 12 09:35:40 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.260	49	18249	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	37543	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	22820	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	12057	460.99	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 92.20%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP06.D
Acq On : 11 Sep 2024 10:06 pm
Operator : BEP
Sample : blk-35416
Misc : 13-918
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 09:35:40 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG11.D
Acq On : 6 Aug 2024 8:53 pm
Operator : BEP
Sample : blk-762 2416470-09
Misc : *
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 06 22:57:08 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

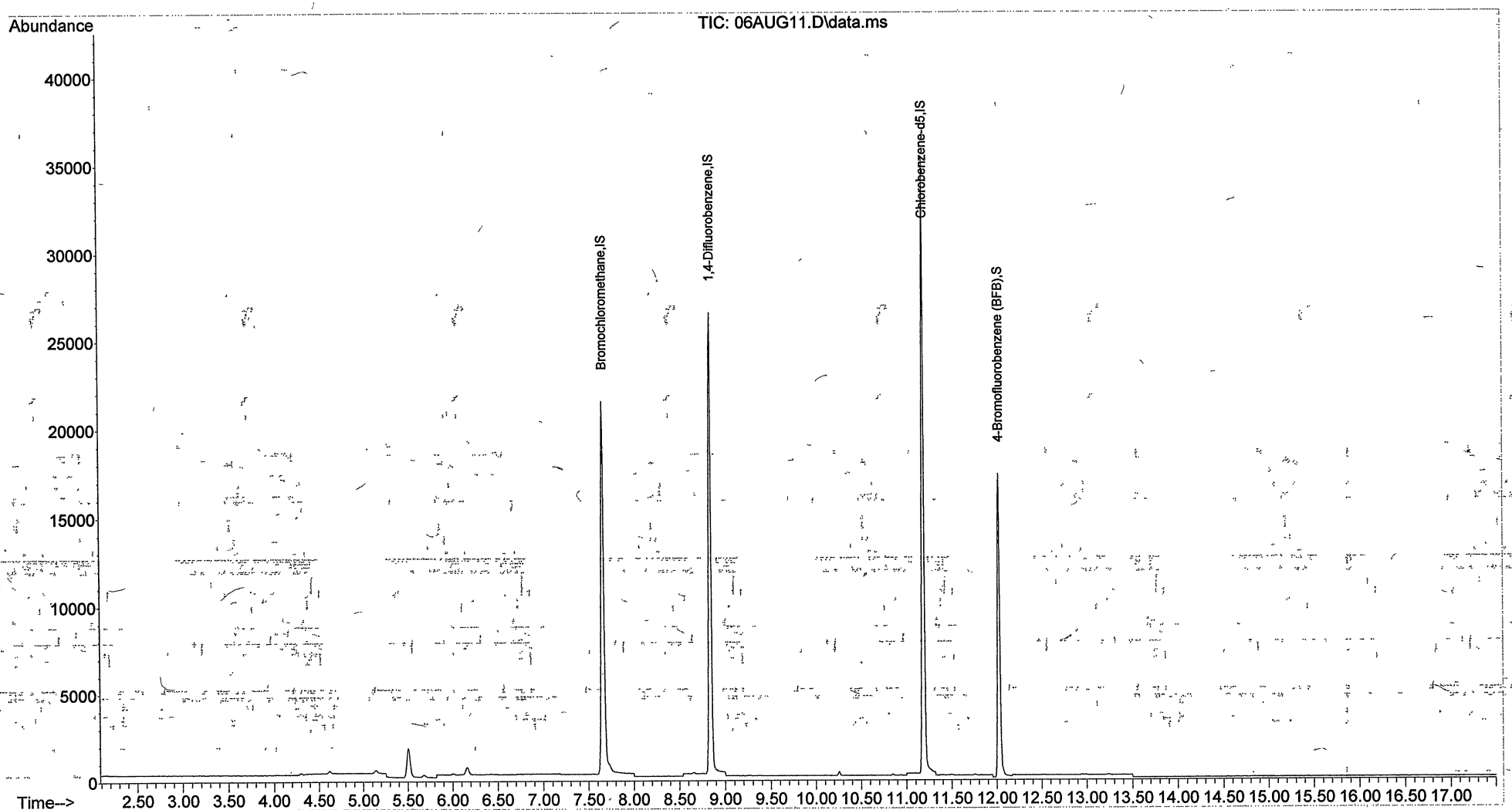
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	15836	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	32095	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29685	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	12149	369.05	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 73.81%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG11.D
Acq On : 6 Aug 2024 8:53 pm
Operator : BEP
Sample : blk-762
Misc : *
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 06 22:57:08 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP17.D
Acq On : 12 Sep 2024 4:44 am
Operator : BEP
Sample : blk-0169 241647O-1D
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 12 09:48:36 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

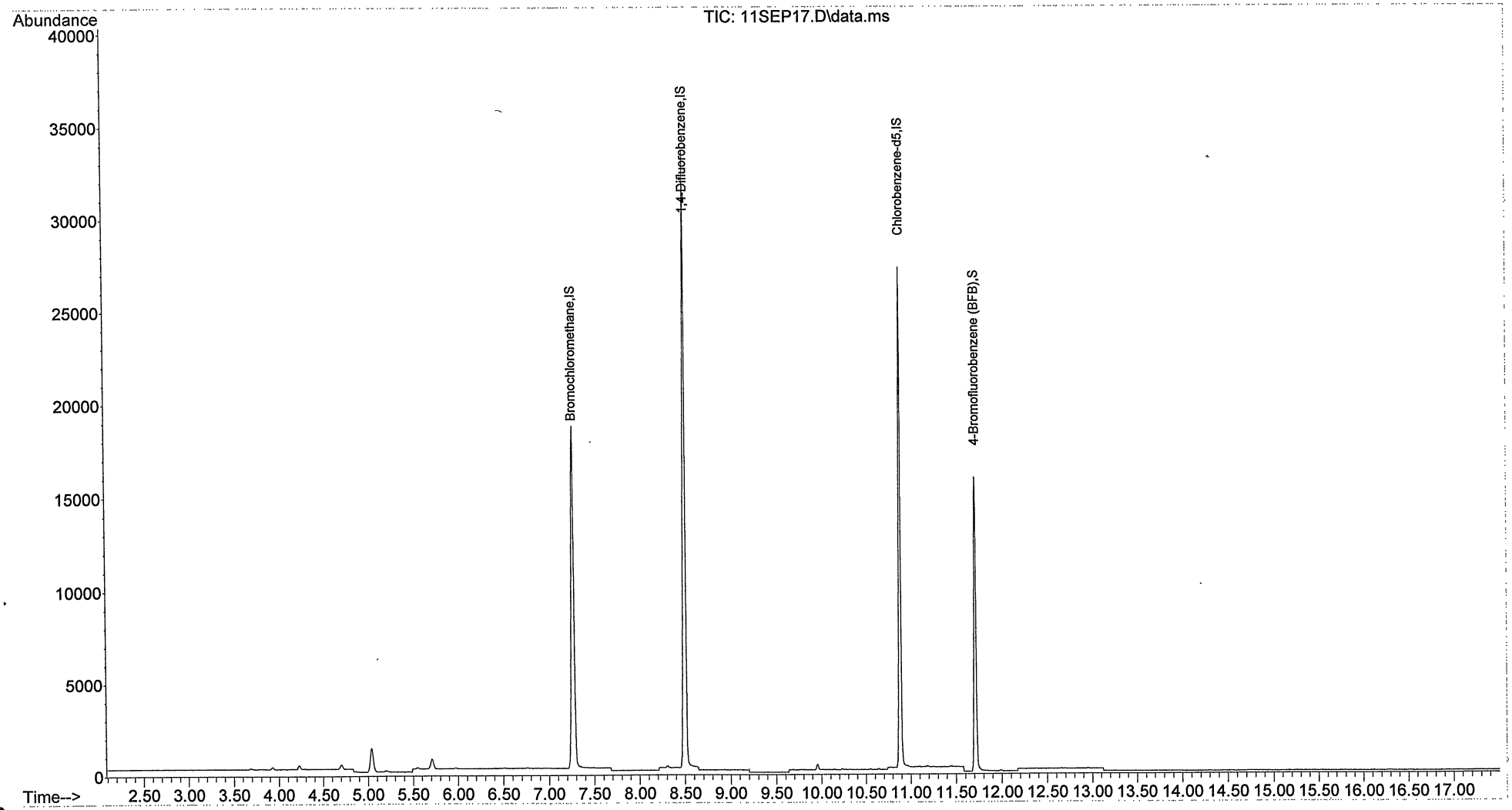
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	18011	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	35717	500.00	pptv	0.00
29) Chlorobenzene-d5	10.881	117	21862	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	10719	427.79	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 85.56%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP11\
Data File : 11SEP17.D
Acq On : 12 Sep 2024 4:44 am
Operator : BEP
Sample : blk-0169
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 12 09:48:36 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG34.D
Acq On : 2 Aug 2024 2:40 pm 11/04/24
Operator : BEP BEP
Sample : BLK-684 ~~24640~~ 2416470-11
Misc : *
ALS Vial : 10 Sample Multiplier: 1

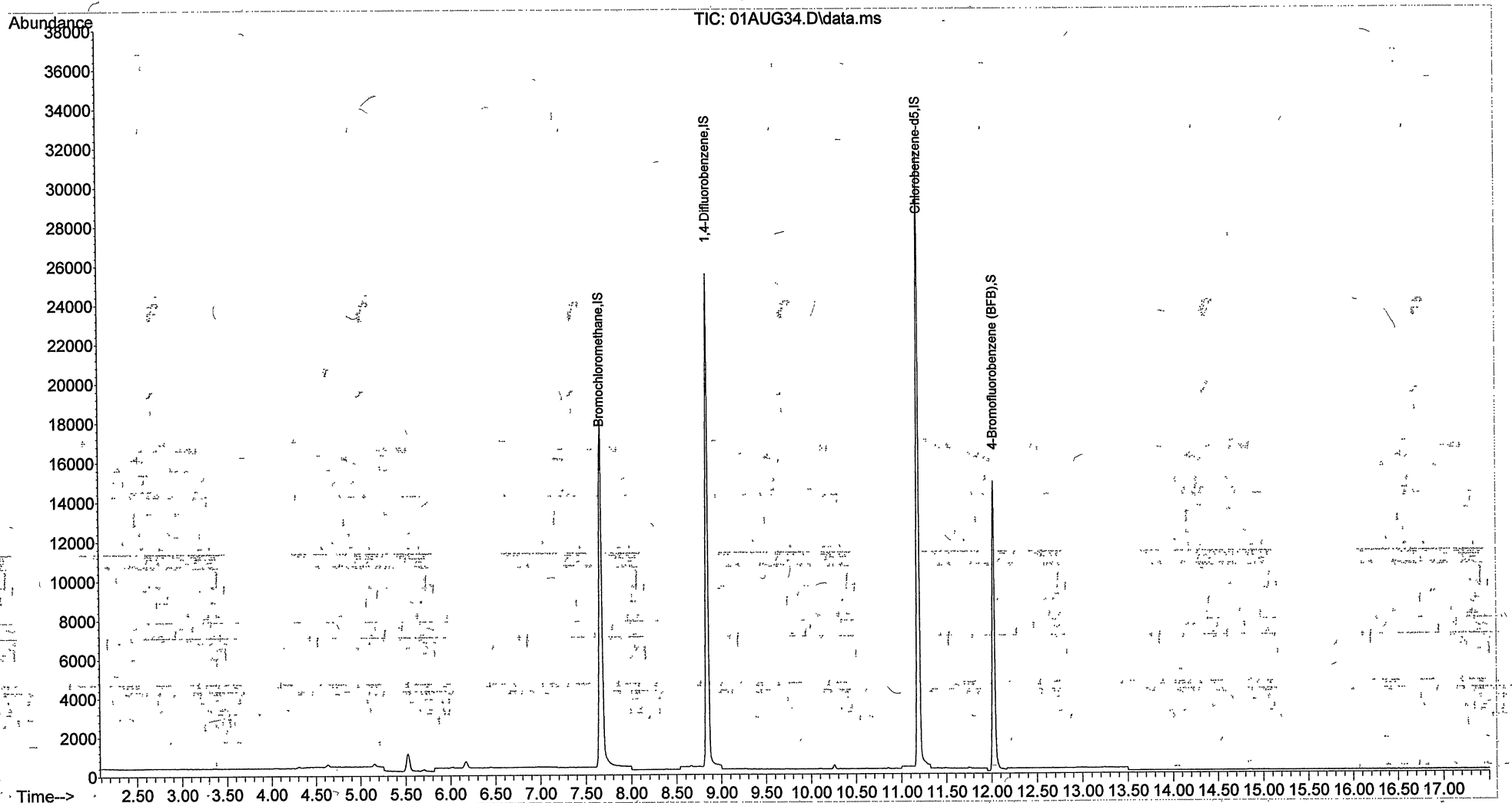
Quant Time: Aug 02 15:00:52 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	13527	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	28914	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	27068	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	10382	345.87	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 69.17%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG34.D
Acq On : 2 Aug 2024 2:40 pm
Operator : BEP
Sample : BLK-684
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 02 15:00:52 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG20.D
Acq On : 8 Aug 2024 8:29 pm
Operator : BEP
Sample : BLK-27754 2416470 - 12
Misc : 13-874
ALS Vial : 3 Sample Multiplier: 1

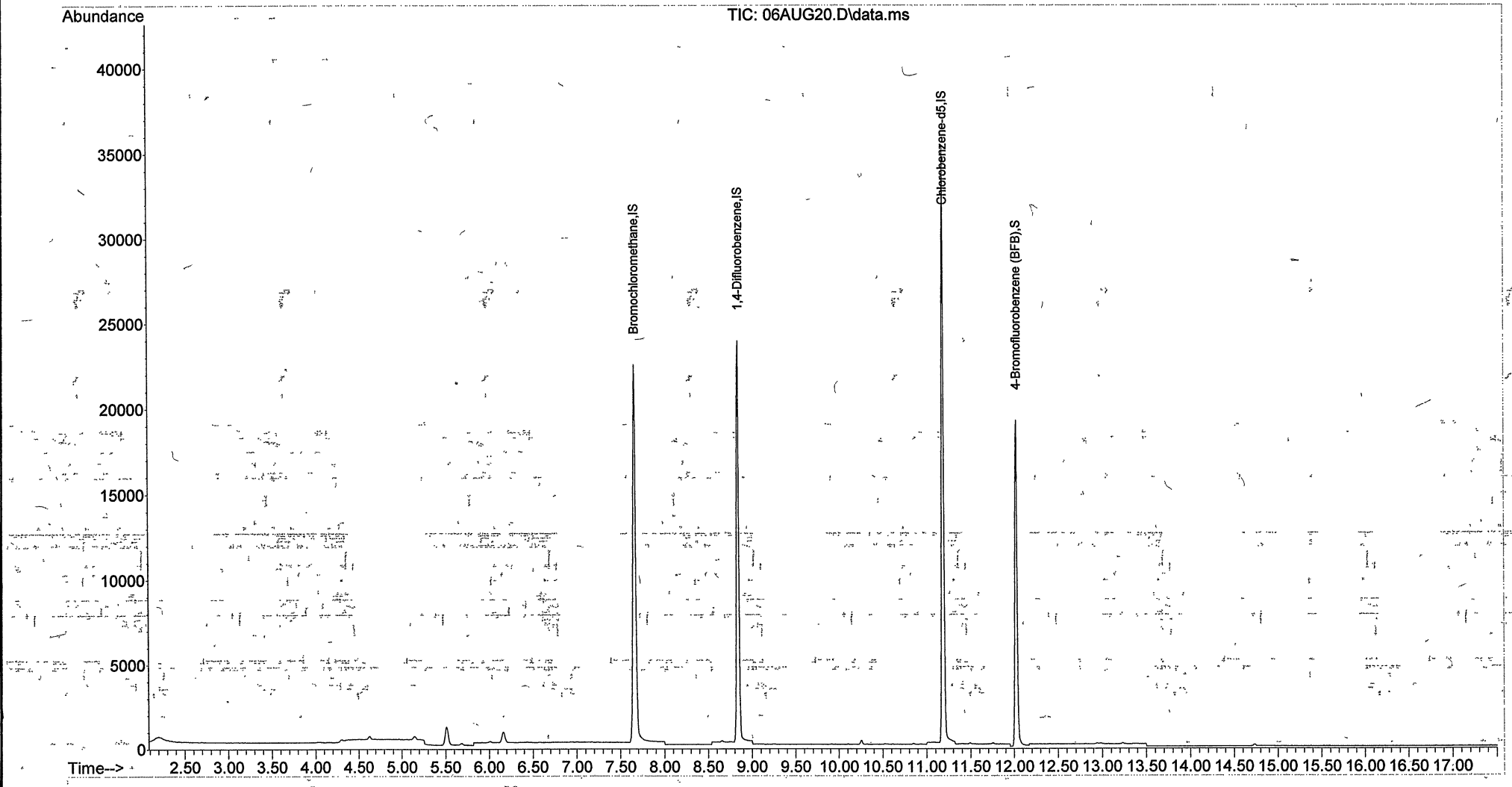
Quant Time: Aug 15 15:15:02 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	16494	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	29077	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29355	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	13169	404.53	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 80.91%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG20.D
Acq On : 8 Aug 2024 8:29 pm
Operator : BEP
Sample : BLK-27754
Misc : 13-874
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 15 15:15:02 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG10.D
Acq On : 6 Aug 2024 8:07 pm
Operator : BEP
Sample : blk-681 241647D-13
Misc : *
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 20:54:21 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

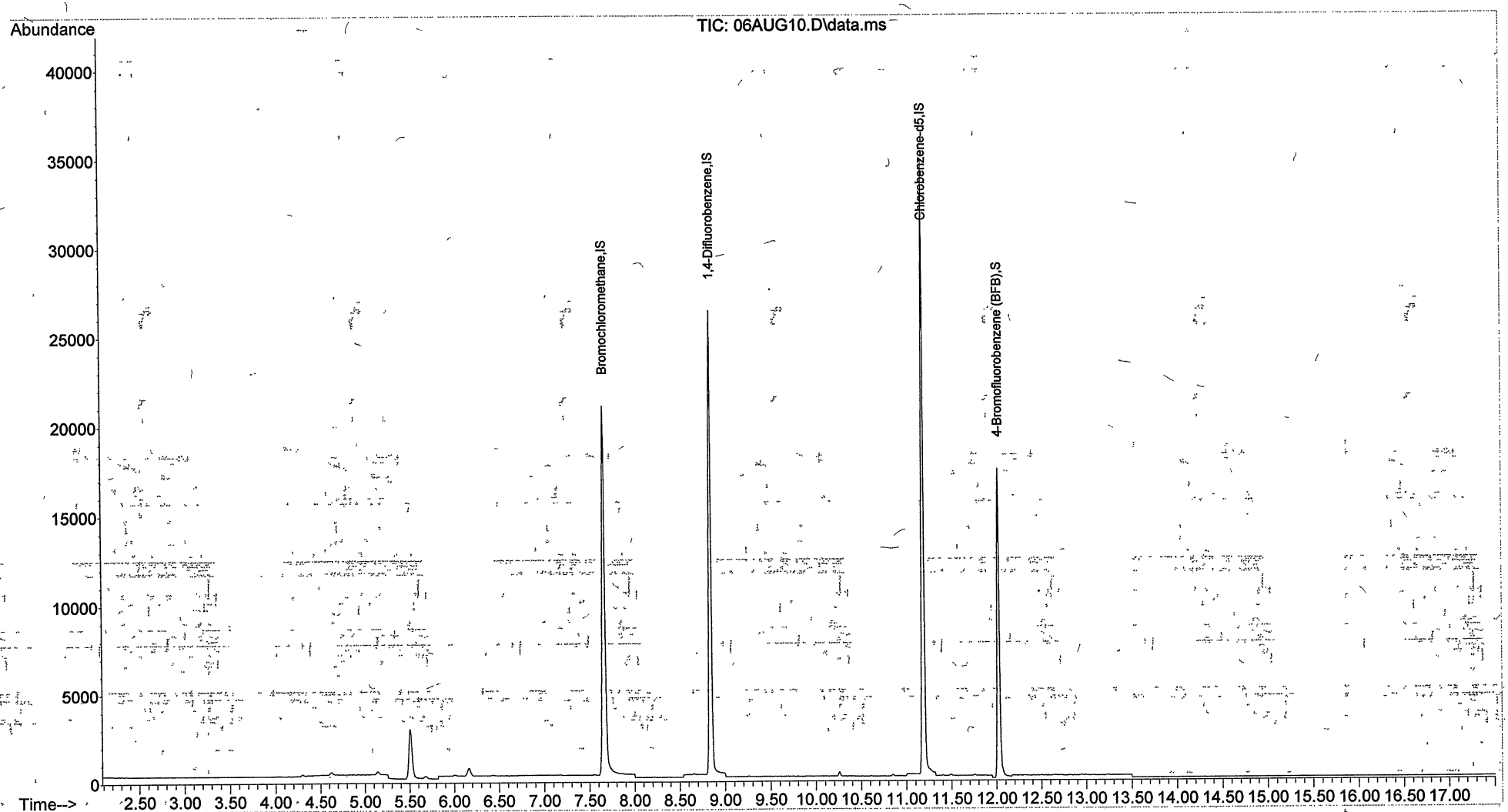
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	15588	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	31158	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29454	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	12144	371.79	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 74.36%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG10.D
Acq On : 6 Aug 2024 8:07 pm
Operator : BEP
Sample : blk-681
Misc : *
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 06 20:54:21 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL02\
Data File : 02JUL19.D
Acq On : 3 Jul 2024 6:35 am
Operator : BEP
Sample : blk-484 2416470-14
Misc : *
ALS Vial : 14 Sample Multiplier: 1

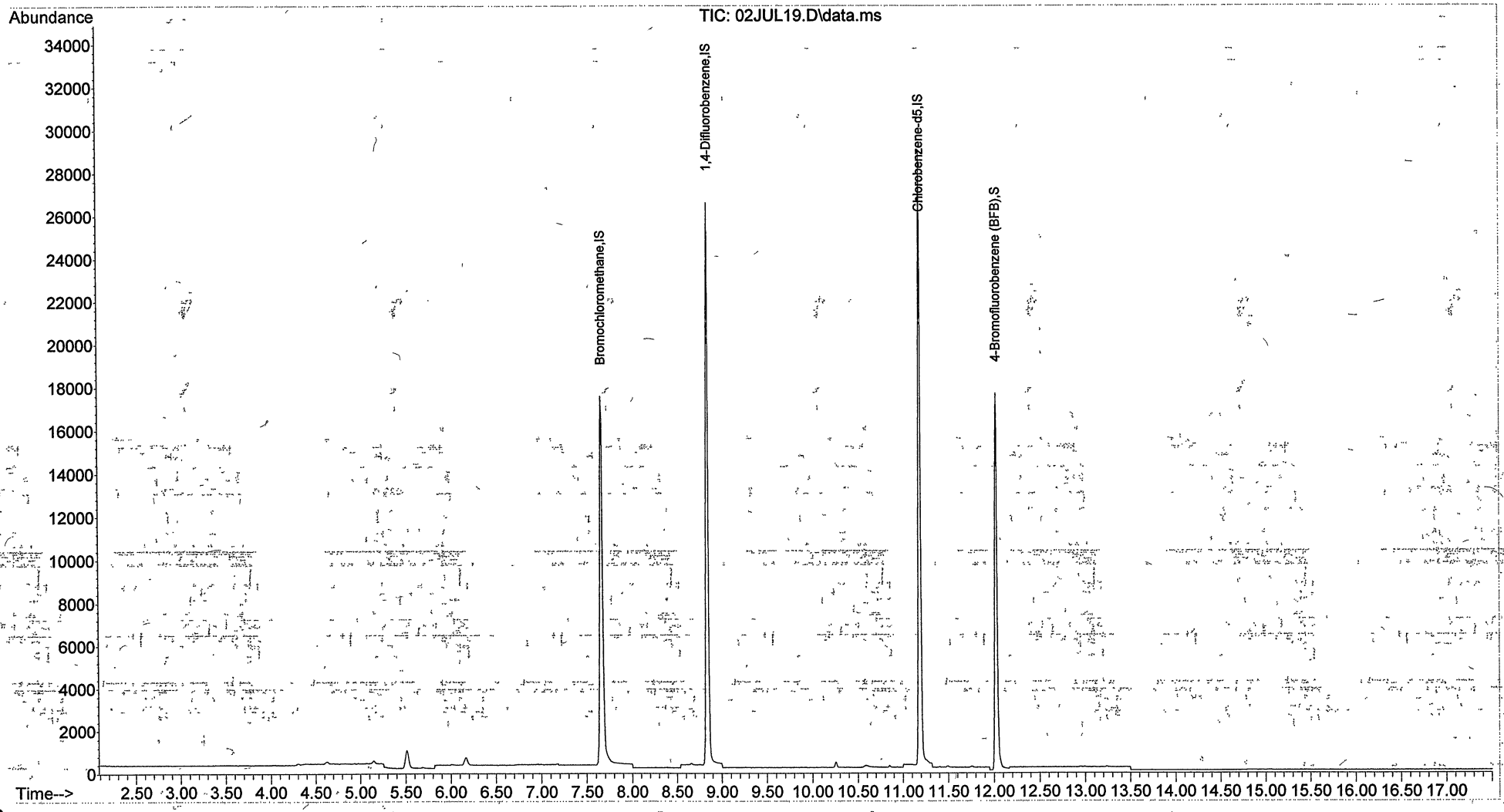
Quant Time: Jul 03 14:34:20 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	15571	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.842	114	30837	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	25519	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	12287	404.34	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 80.87%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL02\
Data File : 02JUL19.D
Acq On : 3 Jul 2024 6:35 am
Operator : BEP
Sample : blk-484
Misc : *
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 03 14:34:20 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG06.D
Acq On : 6 Aug 2024 5:00 pm
Operator : BEP
Sample : blk-685 2416470-15
Misc : 13-
ALS Vial : 2 Sample Multiplier: 1

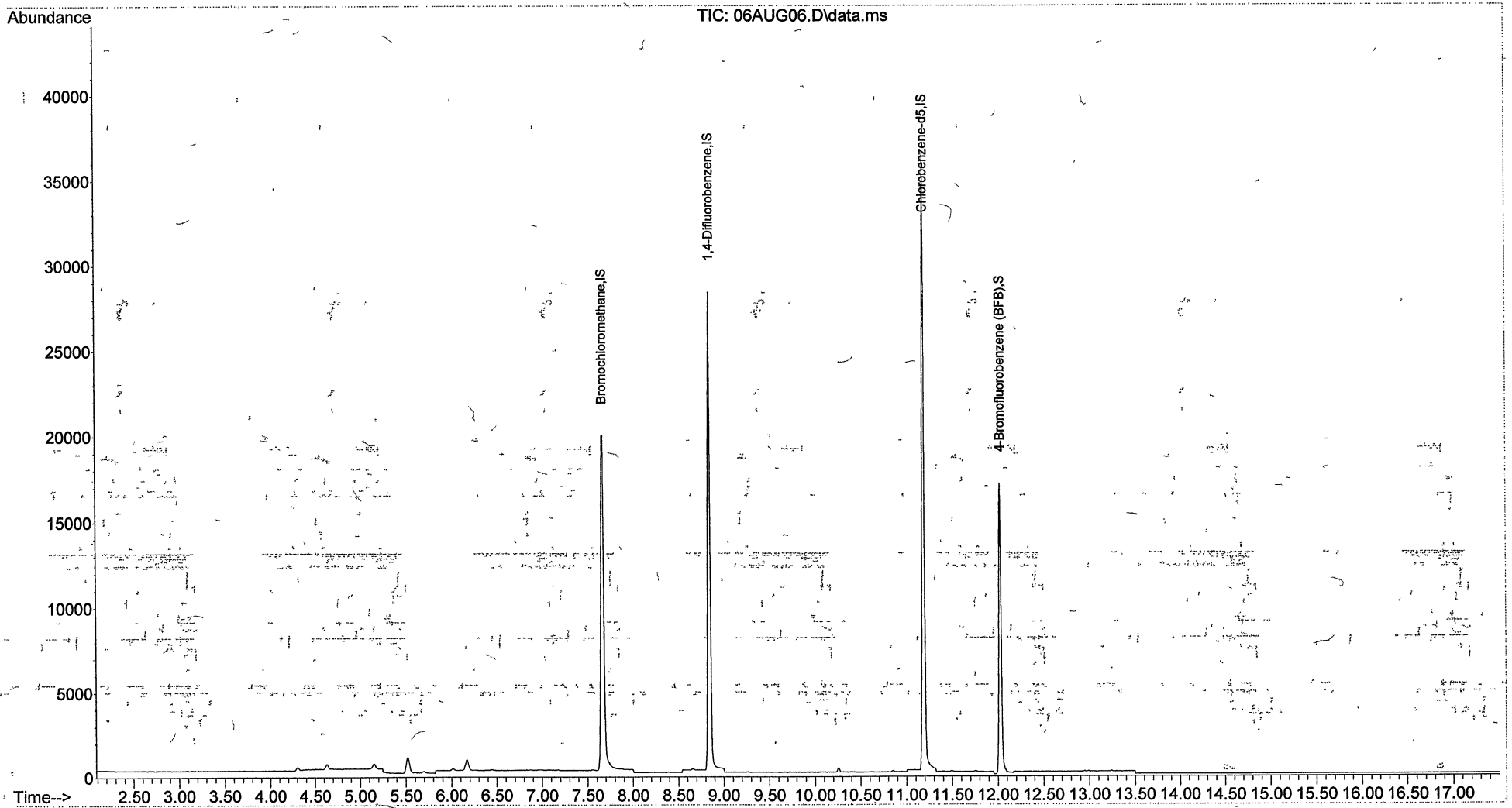
Quant Time: Aug 06 16:21:33 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.659	49	15632	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.843	114	32738	500.00	pptv	0.00
28) Chlorobenzene-d5	11.187	117	30721	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.027	95	12029	353.08	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 70.62%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG06.D
Acq On : 6 Aug 2024 5:00 pm
Operator : BEP
Sample : blk-685
Misc : 13-
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 06 16:21:33 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG07.D
Acq On : 6 Aug 2024 5:49 pm
Operator : BEP
Sample : blk-27756 24164270-16
Misc : 13-
ALS Vial : 3 Sample Multiplier: 1

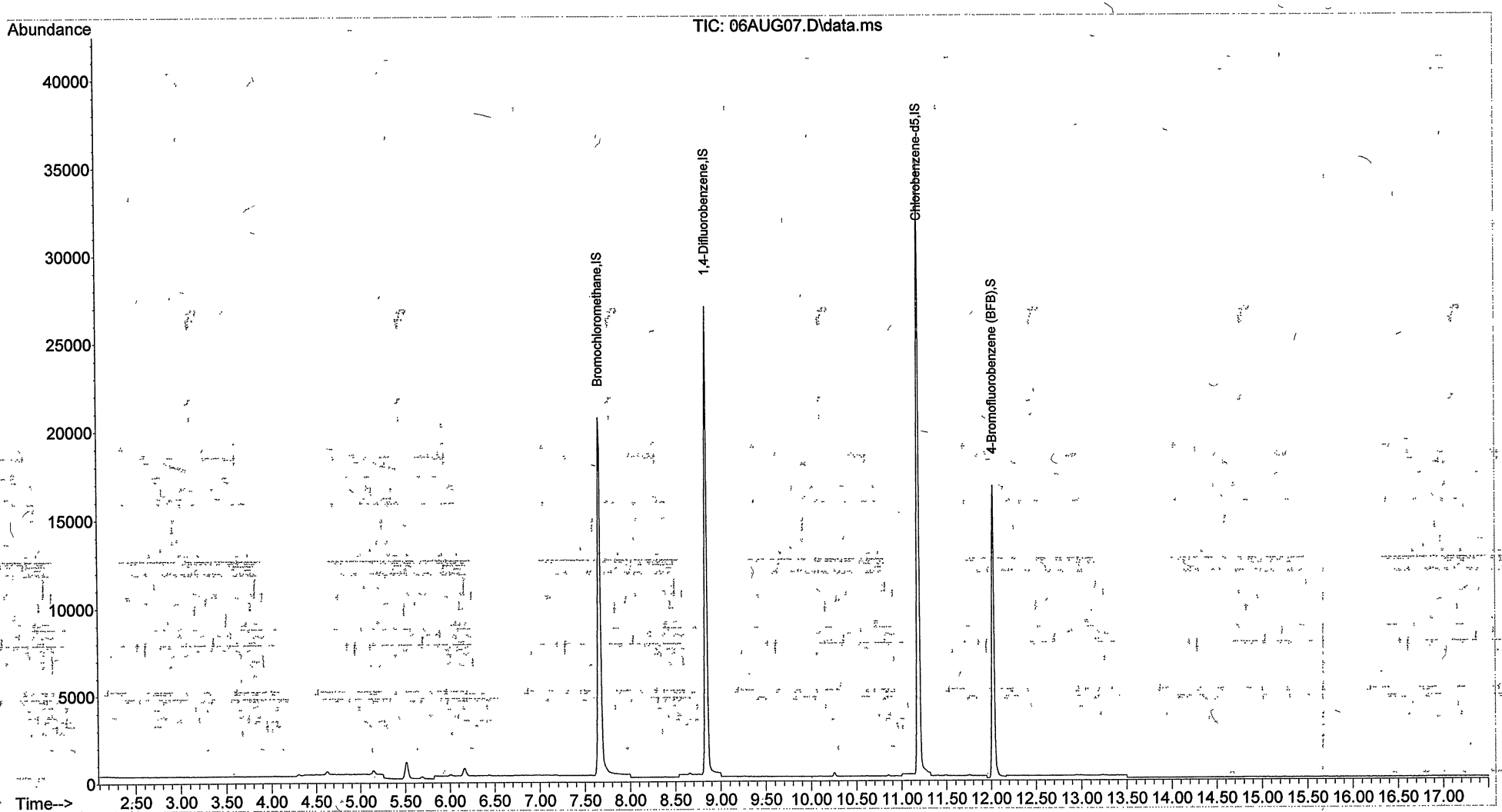
Quant Time: Aug 06 18:22:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	15667	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	31337	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29753	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	11851	359.18	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 71.84%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG07.D
Acq On : 6 Aug 2024 5:49 pm
Operator : BEP
Sample : blk-27756
Misc : 13-
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 06 18:22:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG39.D
Acq On : 2 Aug 2024 6:32 pm
Operator : BEP
Sample : BLK-819 Z416470-17
Misc : *
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 02 19:00:59 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

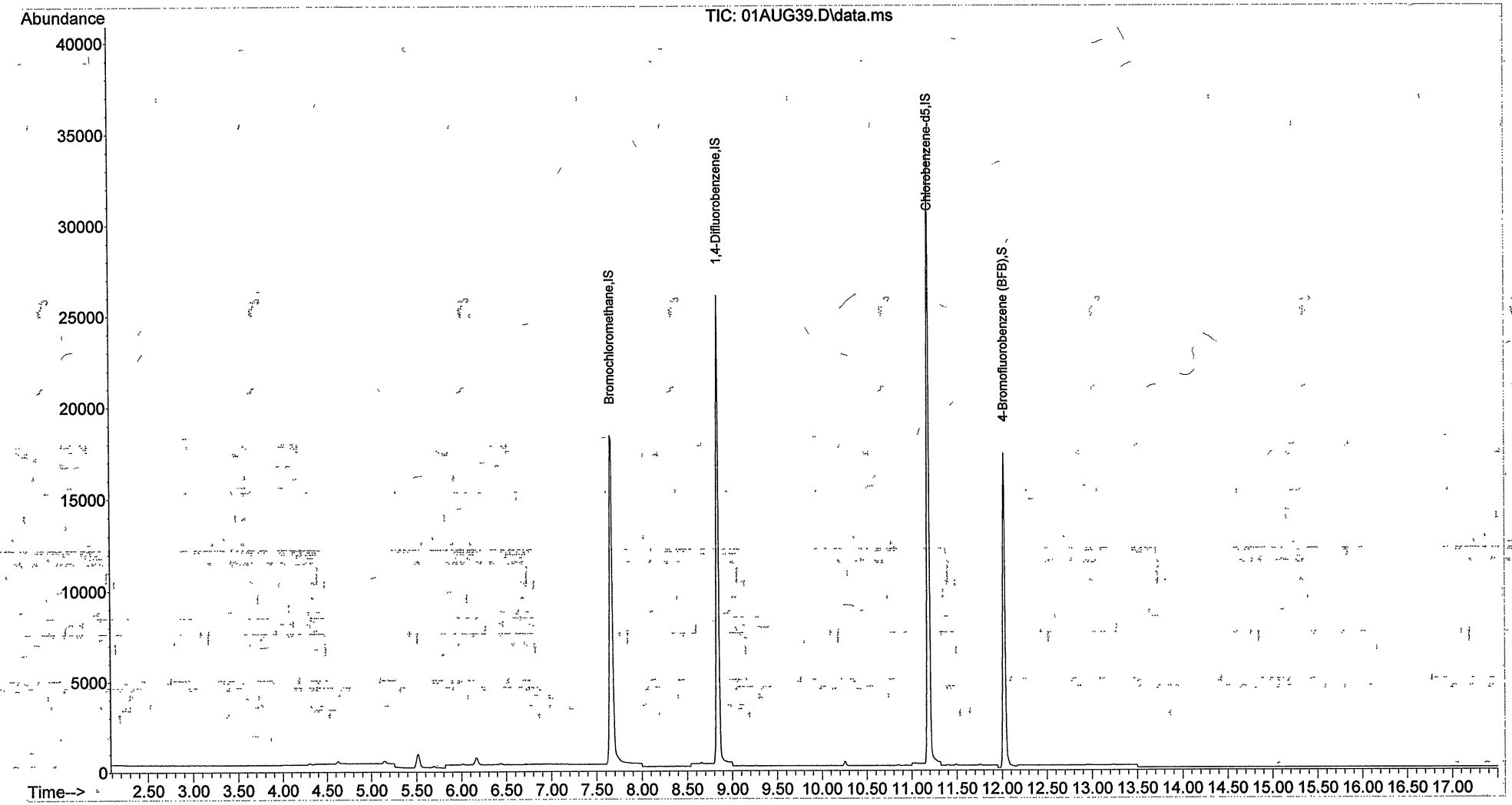
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	14119	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	29808	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	28750	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	11964	375.25	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 75.05%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG39.D
Acq On : 2 Aug 2024 6:32 pm
Operator : BEP
Sample : BLK-819
Misc : *
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 02 19:00:59 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



Pace Analytical®
ENVIRONMENTAL SCIENCES

Date of Report: 11/11/2024

Yola Byram

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Client Project:	Walnut Bluff Work Plan
Pace Project:	Walnut Bluff
Pace Work Order:	2416470
Invoice ID:	B506047, B507754

Enclosed are the results of analyses for samples received by the laboratory on 10/ 11/2024. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supersedes Report ID 1001547513

Sincerely,

Contact Person: Brianna Schutte
Client Services Rep

Steve Bennett
Operations Manager

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Pace Analytical® BAKERSFIELD

Air Chain of Custody Form

2416470

Page 1 of 2

Report To		Project #:	
Client:	Catalyst Environmental Solutions	Project Name:	Walnut Bluff Work Plan
Attn:	Yola Bayram	Sampler(s): (Print)	Elizabeth Huang
Street Address:	315 Montana Ave. Suite 311		
City, State, Zip:	Santa Monica, CA 90403		
Phone:	(310) 204-8477 Fax:		
Email:	ybayram@ceasolutions		
Work Order #:	24-1647O		

Comm

Sample #	Sample ID	Field ID / Point Of Collection	Date Sampled	Time Sampled	Analysis Requested: TO-15 SIM	Air Type: Soil Vapor (SV) Ambient (A)	Sampling Equipment: Initial Pressure ("Hg)	Sampling Equipment: Canister ID #	Sampling Equipment: Flow Controller ID #	Start Sampling Information: Time	Start Sampling Information: Canister Pressure ("Hg)	Stop Sampling Information: Time	Stop Sampling Information: Canister Pressure ("Hg)	Lab Received Pressure (psia)	CLP Level: Yes / No (If "Yes", Select one) III / IV	UNITS (select one): ppbv / µg/m3	Notes
-1		WB01-24H	10/10/24	1148	X	A	30	0626	6024fc	1233	30	1148	1				
-2		WB02-24H	10/10/24	1238	X	A	30	813	20459	1236	30	1238	2				
-3		WB03-24H	10/10/24	1242	X	A	30	0794	13897	1238	30	1242	2				
-4		WB04-24H	10/10/24	1244	X	A	30	37493	6026fc	1242	30	1244	3				
-5		WB05-24H	10/10/24	1246	X	A	29	C8346	18716	1246	29	1246	3				
-6		WB06-24H	10/10/24	1305	X	A	30	0747	6027fc	1304	30	1305	3				
-7		WB07-24H	10/10/24	1308	X	A	30	0616	10001	1306	30	1308	2				
-8		WB08-24H	10/10/24	1311	X	A	30	35416	6030fc	1312	30	1311	2				
-9		WB09-24H	10/10/24	1220	X	A	30	0762	6022fc	1317	30	1220	2				
-10		WB10-24H	10/10/24	1344	X	A	30	6161	18714	1407	30	1344	2				
-11		WB11-24H	10/10/24	1413	X	A	30	0684	10012	1410	30	1413	3				
-12		WB12-24H	10/10/24	1230	X	A	30	27754	5982	1414	30	1230	2				
-13		WB13-24H	10/10/24	1350	X	A	30	0681	6031	1416	30	1350	1				
-14		WB14-24H	10/10/24	1355	X	A	30	0484	6025fc	1419	30	1355	2				

Billing ☑ Same as above

Client:

Street Address:

City: State: Zip:

Attn: Fax:

P.O.#:

Result Request **Surcharge: ☑ STD (10 Days) ☐ 5 Day** ☐ 4 Day** ☐ 3 Day** ☐ 2 Day** ☐ 1 Day**

	Relinquished By	Date	Time	Received By	Date	Time
1.		10/10/24	1545	3:45pm	10/10/24	1545
2.		10/11/24	1300		10-11-24	1300
3.		10-11-24	1450		10-11-24	1450

4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com

10.11.24 1700

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2 of 2

Pace® Location Requested (City/State):

Air CHAIN-OF-CUSTODY Analytical Request Document
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR code for instructions

Company Name: Catalyst Environmental Solutions
Street Address: 815 Montana Ave, Suite 311
City, State Zip: Santa Monica, CA, 90403
Customer Project #:
Project Name: Walnut Bluff Work Plan
Site Collection Info/Facility ID (as applicable):
Time Zone Collected: [ ]AK [X]PT [ ]MT [ ]CT [ ]ET

Contact/Report To: Yola Bayram
Phone #: 213-204-8477
E-Mail: ybayram@ce.solutions
Cc E-Mail:
Invoice to: Susan Mc Mahon
Invoice E-Mail: smcmahon@ce solutions
Purchase Order # (if applicable):
Quote #:
State origin of sample(s):

Data Deliverables: [ ] Level II [X] Level III [ ] Level IV [ ] EQUIS [ ] Other
Regulatory Program (CAA, RCRA, etc.) as applicable:
Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2Day [ ] 3 Day Other
Date Results Requested:
Permit # as applicable:
Units for Reporting: (ug/m³) PPBV mg/m³ PPMV

Field Information

Analyses Requested: TO-15 SIM

Lab Use Only: Proj. Manager; AcctNum / Client ID:; Table #:; Profile / Template:; Prelog / Bottle Ord. ID:

* Matrix Codes (Insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Customer Sample ID	Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection Date	Begin Collection Time	End Collection Date	End Collection Time	Canister Pressure / Vacuum: Start Pressure / Vacuum (in Hg)	Canister Pressure / Vacuum: End Pressure / Vacuum (in Hg)	PUF / FILTER: Duration (minutes)	PUF / FILTER: Flow Rate m³/min or L/min	PUF / FILTER: Total Volume Sampled m³ or L	Sample Comment
WB17-24H -15	A	01685	20197	10/9/24	1447	10/10/24	1431	31	2				X
WB18-24H -16	A	27756	6029fc	10/9/24	1458	10/10/24	1445	30	1.5				X
WB19-24H -17	A	819	5980	10/9/24	1430	10/10/24	1421	30	2				X

Additional Instructions from Pace®:

Collected By: Elizabeth Hwang
Printed Name: Elizabeth Hwang
Signature: Elizabeth Hwang

Customer Remarks / Special Conditions / Possible Hazards: Standard TAT

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C):

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Elizabeth Hwang	10/10/24 1545	AJ	10/10/24 1545
Gabriel Bloomfield	10/11/24 1300	Gabriel Bloomfield	10-11-24 1300
Gabriel Bloomfield	10-11-24 1450	Walter Sneath	10-11-24 1450
Walter Sneath	10-11-24 17:00		10.11.24 1700

Tracking Number:
Delivered by: In-Person Courier FedEX UPS Other
Page: ____ of: ____

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

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Chain of Custody and Cooler Receipt Form for 2416470 Page 3 of 4

PACE ANALYTICLA — COOLER RECEIPT FORM — Page 1 Of 2

Submission #: 24-16470

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐
Pace Lab Field Service ☑ Other ☐ (Specify)_____

SHIPPING CONTAINER
Ice Chest ☐ None ☐ Box ☑
Other ☐ (Specify)_____

FREE LIQUID
YES ☐ NO ☑
W / S

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received
☑ YES ☐ NO

Emissivity: — Container: Sunny Thermometer ID: —
Temperature: (A) ROOM °C / (C) TEMP °C
Date/Time 10/11/24 1700
Analyst Init MPJ

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER 6L	A	A	A	A	A	A	A	A	A	A

DISTRIBUTION SUB OUT ☐ CHK BY

Comments:
Sample Numbering Completed By: MPJ Date/Time: 10/11/24 2137
A = Actual / C = Corrected

Rev 23 05/20/22
[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMRECrev 20]

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Chain of Custody and Cooler Receipt Form for 2416470 Page 4 of 4

PACE ANALYTICLA — **COOLER RECEIPT FORM** — Page 2 Of 2

Submission #: 24-16470

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐	Ice Chest ☐ None ☐ Box ☑	YES ☐ NO ☑
Pace Lab Field Service ☑ Other ☐ (Specify)_____	Other ☐ (Specify)_____	W / S

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑YES ☐ NO

Emissivity: — Container: Summa Thermometer ID: —

Temperature: (A) ROOM °C / (C) TEMP °C

Date/Time 10/11/24 1706

Analyst Init MP1

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER	A	A	A	A	A	A	A			

Comments:_____

Sample Numbering Completed By: MP1 Date/Time: 10/11/24 2133

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20]

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ENVIRONMENTAL SCIENCES

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416470-01	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 11:48
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB01-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-02	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:38
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB02-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-03	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:42
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB03-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-04	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:44
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB04-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-05	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:46
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB05-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-06	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:05
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB06-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-07	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:08
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB07-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416470-08	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:11
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB08-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-09	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB09-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-10	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:44
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB10-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-11	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 14:13
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB11-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-12	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 12:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB12-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-13	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB13-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-14	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 13:55
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB14-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416470-15	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 14:31
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB17-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-16	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 14:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB18-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air
2416470-17	**COC Number:**	---	**Receive Date:**	10/11/2024 17:00
	Project Number:	---	**Sampling Date:**	10/10/2024 14:21
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB19-24H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang	**Sample Type:**	Vapor or Air

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-01 | **Client Sample Name:** WB01-24H, 10/10/2024 11:48:00AM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.74**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.47**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.067**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.43**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.29**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.21**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.3**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.94**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.32**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.3**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	96.9	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	96.9	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-01 | **Client Sample Name:** WB01-24H, 10/10/2024 11:48:00AM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 19:32	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-02 | **Client Sample Name:** WB02-24H, 10/10/2024 12:38:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.88**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.46**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.17**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.078**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.070**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.44**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.36**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.43**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.9**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.50**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.0**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.38**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.4**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	81.3	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-02 | **Client Sample Name:** WB02-24H, 10/10/2024 12:38:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 20:18	BEP	MS-A2	1	B199628	EPA TO-15
2	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 15:20	BEP	MS-A2	10	B199781	EPA TO-15

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-03 | **Client Sample Name:** WB03-24H, 10/10/2024 12:42:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.70**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.48**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.17**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.064**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.48**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.25**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.16**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.79**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.29**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	112	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	112	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-03 | **Client Sample Name:** WB03-24H, 10/10/2024 12:42:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 21:05	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-04 | **Client Sample Name:** WB04-24H, 10/10/2024 12:44:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.85**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.48**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.065**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.45**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.28**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.18**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.4**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.93**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.33**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.3**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-04 | **Client Sample Name:** WB04-24H, 10/10/2024 12:44:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 21:51	BEP	MS-A2	1	B199628	EPA TO-15

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-05 | **Client Sample Name:** WB05-24H, 10/10/2024 12:46:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.91**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.067**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.45**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.39**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.19**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.0**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.4**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.50**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.9**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	111	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	111	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	83.8	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-05 | **Client Sample Name:** WB05-24H, 10/10/2024 12:46:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 22:39	BEP	MS-A2	1	B199628	EPA TO-15
2	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 16:03	BEP	MS-A2	10	B199781	EPA TO-15

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-06 | **Client Sample Name:** WB06-24H, 10/10/2024 1:05:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.68**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.48**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.16**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.065**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.42**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.25**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.14**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.82**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.28**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	102	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	102	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-06 | **Client Sample Name:** WB06-24H, 10/10/2024 1:05:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/24/24 23:25	BEP	MS-A2	1	B199628	EPA TO-15

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Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-07 | **Client Sample Name:** WB07-24H, 10/10/2024 1:08:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.71**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.47**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.16**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.064**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.45**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.25**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.14**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.51**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.75**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.27**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.0**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	101	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	101	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-07 | **Client Sample Name:** WB07-24H, 10/10/2024 1:08:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 00:13	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-08 | **Client Sample Name:** WB08-24H, 10/10/2024 1:11:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.69**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.48**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.14**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.065**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.43**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.26**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.15**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.80**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.29**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	103	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	103	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-08 | **Client Sample Name:** WB08-24H, 10/10/2024 1:11:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 01:00	BEP	MS-A2	1	B199628	EPA TO-15

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Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-09 | **Client Sample Name:** WB09-24H, 10/10/2024 12:20:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.86**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.32**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.067**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.42**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.38**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.17**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.8**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.4**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.49**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.9**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	101	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	101	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-09 | **Client Sample Name:** WB09-24H, 10/10/2024 12:20:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 01:45	BEP	MS-A2	1	B199628	EPA TO-15

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315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-10 | **Client Sample Name:** WB10-24H, 10/10/2024 1:44:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.1**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.48**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.072**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.43**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.47**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.28**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.7**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.4**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.41**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.8**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-10 | **Client Sample Name:** WB10-24H, 10/10/2024 1:44:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 02:32	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-11 | **Client Sample Name:** WB11-24H, 10/10/2024 2:13:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.69**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.14**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.065**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.44**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.27**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.12**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.85**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.29**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	96.4	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	96.4	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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315 Montana Ave Suite 311
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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-11 | **Client Sample Name:** WB11-24H, 10/10/2024 2:13:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 03:21	BEP	MS-A2	1	B199628	EPA TO-15

DCN = Data Continuation Number

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-12 | **Client Sample Name:** WB12-24H, 10/10/2024 12:30:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.73**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.2**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.065**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.44**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.27**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.17**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.3**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.89**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.32**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.2**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	99.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	99.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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315 Montana Ave Suite 311
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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-12 | **Client Sample Name:** WB12-24H, 10/10/2024 12:30:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 04:09	BEP	MS-A2	1	B199628	EPA TO-15

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-13 | **Client Sample Name:** WB13-24H, 10/10/2024 1:50:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.72**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.17**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.067**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.44**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.26**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.15**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.2**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.79**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.29**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	98.0	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	98.0	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-13 | **Client Sample Name:** WB13-24H, 10/10/2024 1:50:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 04:57	BEP	MS-A2	1	B199628	EPA TO-15

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-14 | **Client Sample Name:** WB14-24H, 10/10/2024 1:55:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.73**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.2**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.066**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.43**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.24**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.13**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.3**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**0.77**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.27**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.0**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	99.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	99.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-14 | **Client Sample Name:** WB14-24H, 10/10/2024 1:55:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 05:45	BEP	MS-A2	1	B199628	EPA TO-15

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-15 | **Client Sample Name:** WB17-24H, 10/10/2024 2:31:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.92**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.15**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.2**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.068**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.47**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.34**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.22**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.2**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.1**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.40**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.5**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	83.5	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-15 | **Client Sample Name:** WB17-24H, 10/10/2024 2:31:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 06:33	BEP	MS-A2	1	B199628	EPA TO-15
2	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 16:43	BEP	MS-A2	10	B199781	EPA TO-15

DCN = Data Continuation Number

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-16 | **Client Sample Name:** WB18-24H, 10/10/2024 2:45:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.94**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.14**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.2**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.069**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.48**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.51**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.21**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.1**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.9**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.64**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.6**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	100	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	100	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	77.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-16 | **Client Sample Name:** WB18-24H, 10/10/2024 2:45:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 07:22	BEP	MS-A2	1	B199628	EPA TO-15
2	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 17:26	BEP	MS-A2	10	B199781	EPA TO-15

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Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416470-17 | **Client Sample Name:** WB19-24H, 10/10/2024 2:21:00PM, Elizabeth Hwang

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.1**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.14**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	ND	ug/m3	0.20	0.016	EPA-TO-15-SIM	ND		1
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.076**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.45**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.33**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.16**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**1.5**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.51**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.1**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.36**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**1.4**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	102	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	102	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416470-17 | **Client Sample Name:** WB19-24H, 10/10/2024 2:21:00PM, Elizabeth Hwang

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/24/24 10:49	10/25/24 08:10	BEP	MS-A2	1	B199628	EPA TO-15

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Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals	Run #
QC Batch ID: B199628							
Benzene	B199628-BLK1	ND	ug/m3	0.050	0.0032		1
Benzyl chloride	B199628-BLK1	ND	ug/m3	0.50	0.0052		1
Carbon tetrachloride	B199628-BLK1	ND	ug/m3	0.20	0.0063		1
Chlorobenzene	B199628-BLK1	ND	ug/m3	0.10	0.0079		1
Chloroform	B199628-BLK1	ND	ug/m3	0.050	0.0058		1
1,2-Dibromoethane	B199628-BLK1	ND	ug/m3	0.20	0.014		1
1,2-Dichlorobenzene	B199628-BLK1	ND	ug/m3	0.20	0.011		1
1,3-Dichlorobenzene	B199628-BLK1	ND	ug/m3	0.20	0.013		1
1,4-Dichlorobenzene	B199628-BLK1	ND	ug/m3	0.20	0.016		1
Dichlorodifluoromethane	B199628-BLK1	ND	ug/m3	0.050	0.0052		1
1,1-Dichloroethane	B199628-BLK1	ND	ug/m3	0.050	0.0041		1
1,2-Dichloroethane	B199628-BLK1	ND	ug/m3	0.10	0.0046		1
1,1-Dichloroethene	B199628-BLK1	ND	ug/m3	0.050	0.0078		1
cis-1,2-Dichloroethene	B199628-BLK1	ND	ug/m3	0.050	0.0044		1
trans-1,2-Dichloroethene	B199628-BLK1	ND	ug/m3	0.050	0.0075		1
trans-1,3-Dichloropropene	B199628-BLK1	ND	ug/m3	0.050	0.013		1
1,1-Difluoroethane	B199628-BLK1	ND	ug/m3	5.0	0.0027		1
Ethylbenzene	B199628-BLK1	ND	ug/m3	0.050	0.017		1
Naphthalene	B199628-BLK1	ND	ug/m3	0.20	0.020		1
Tetrachloroethene	B199628-BLK1	ND	ug/m3	0.10	0.011		1
Toluene	B199628-BLK1	ND	ug/m3	0.10	0.0062		1
1,1,1-Trichloroethane	B199628-BLK1	ND	ug/m3	0.10	0.0055		1
1,1,2-Trichloroethane	B199628-BLK1	ND	ug/m3	0.10	0.0055		1
Trichloroethene	B199628-BLK1	ND	ug/m3	0.10	0.0095		1
Trichlorofluoromethane	B199628-BLK1	ND	ug/m3	0.050	0.0057		1
1,1,2-Trichloro-1,2,2-trifluoroethane	B199628-BLK1	ND	ug/m3	0.10	0.0078		1
Vinyl chloride	B199628-BLK1	ND	ug/m3	0.020	0.0046		1
p- & m-Xylenes	B199628-BLK1	ND	ug/m3	0.050	0.0082		1
o-Xylene	B199628-BLK1	ND	ug/m3	0.050	0.0044		1
Total Xylenes	B199628-BLK1	ND	ug/m3	0.10	0.013		1
4-Bromofluorobenzene (Surrogate)	**B199628-BLK1**	**86.5**	%	**50 - 150 (LCL - UCL)**			1
QC Batch ID: B199781							
Toluene	B199781-BLK1	ND	ug/m3	0.10	0.0062		2

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Project: Walnut Bluff
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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals	Run #
QC Batch ID: B199781							
4-Bromofluorobenzene (Surrogate)	**B199781-BLK1**	**83.5**	%	**50 - 150 (LCL - UCL)**			2

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B199628-BLK1	PB	EPA-TO-15-SIM	10/24/24	10/24/24 18:46	BEP	MS-A2	1
2	B199781-BLK1	PB	EPA-TO-15-SIM	10/25/24	10/25/24 14:37	BEP	MS-A2	1

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B199628											
Benzene	B199628-BS1	LCS	0.33679	0.31948	ug/m3	105		70 - 130			1
	B199628-BSD1	LCSD	0.33734	0.31948	ug/m3	106	0.2	70 - 130	25		2
Benzyl chloride	B199628-BS1	LCS	0.51450	0.51772	ug/m3	99.4		70 - 130			1
	B199628-BSD1	LCSD	0.51448	0.51772	ug/m3	99.4	0.0	70 - 130	25		2
Carbon tetrachloride	B199628-BS1	LCS	0.66978	0.62913	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.66754	0.62913	ug/m3	106	0.3	70 - 130	25		2
Chlorobenzene	B199628-BS1	LCS	0.49549	0.46036	ug/m3	108		70 - 130			1
	B199628-BSD1	LCSD	0.49226	0.46036	ug/m3	107	0.7	70 - 130	25		2
Chloroform	B199628-BS1	LCS	0.52390	0.48825	ug/m3	107		70 - 130			1
	B199628-BSD1	LCSD	0.51913	0.48825	ug/m3	106	0.9	70 - 130	25		2
1,2-Dibromoethane	B199628-BS1	LCS	0.81772	0.76835	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.80755	0.76835	ug/m3	105	1.3	70 - 130	25		2
1,2-Dichlorobenzene	B199628-BS1	LCS	0.64607	0.60124	ug/m3	107		70 - 130			1
	B199628-BSD1	LCSD	0.63009	0.60124	ug/m3	105	2.5	70 - 130	25		2
1,3-Dichlorobenzene	B199628-BS1	LCS	0.64921	0.60124	ug/m3	108		70 - 130			1
	B199628-BSD1	LCSD	0.64595	0.60124	ug/m3	107	0.5	70 - 130	25		2
1,4-Dichlorobenzene	B199628-BS1	LCS	0.64543	0.60124	ug/m3	107		70 - 130			1
	B199628-BSD1	LCSD	0.63705	0.60124	ug/m3	106	1.3	70 - 130	25		2
1,1-Dichloroethane	B199628-BS1	LCS	0.42885	0.40474	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.43366	0.40474	ug/m3	107	1.1	70 - 130	25		2
1,2-Dichloroethane	B199628-BS1	LCS	0.42902	0.40474	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.42600	0.40474	ug/m3	105	0.7	70 - 130	25		2
1,1-Dichloroethene	B199628-BS1	LCS	0.41563	0.39649	ug/m3	105		70 - 130			1
	B199628-BSD1	LCSD	0.42633	0.39649	ug/m3	108	2.5	70 - 130	25		2
cis-1,2-Dichloroethene	B199628-BS1	LCS	0.41070	0.39649	ug/m3	104		70 - 130			1
	B199628-BSD1	LCSD	0.41668	0.39649	ug/m3	105	1.4	70 - 130	25		2
Tetrachloroethene	B199628-BS1	LCS	0.67497	0.67825	ug/m3	99.5		70 - 130			1
	B199628-BSD1	LCSD	0.67019	0.67825	ug/m3	98.8	0.7	70 - 130	25		2
Toluene	B199628-BS1	LCS	0.40096	0.37684	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.39894	0.37684	ug/m3	106	0.5	70 - 130	25		2
1,1,1-Trichloroethane	B199628-BS1	LCS	0.57334	0.54562	ug/m3	105		70 - 130			1
	B199628-BSD1	LCSD	0.57571	0.54562	ug/m3	106	0.4	70 - 130	25		2
1,1,2-Trichloroethane	B199628-BS1	LCS	0.57532	0.54562	ug/m3	105		70 - 130			1
	B199628-BSD1	LCSD	0.57331	0.54562	ug/m3	105	0.3	70 - 130	25		2
Trichloroethene	B199628-BS1	LCS	0.56714	0.53737	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.56981	0.53737	ug/m3	106	0.5	70 - 130	25		2

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Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B199628											
Vinyl chloride	B199628-BS1	LCS	0.27725	0.25562	ug/m3	108		70 - 130			1
	B199628-BSD1	LCSD	0.27433	0.25562	ug/m3	107	1.1	70 - 130	25		2
p- & m-Xylenes	B199628-BS1	LCS	0.92092	0.86843	ug/m3	106		70 - 130			1
	B199628-BSD1	LCSD	0.91407	0.86843	ug/m3	105	0.7	70 - 130	25		2
o-Xylene	B199628-BS1	LCS	0.46891	0.43421	ug/m3	108		70 - 130			1
	B199628-BSD1	LCSD	0.46565	0.43421	ug/m3	107	0.7	70 - 130	25		2
Total Xylenes	B199628-BS1	LCS	1.3898	1.3026	ug/m3	107		70 - 130			1
	B199628-BSD1	LCSD	1.3797	1.3026	ug/m3	106	0.7	70 - 130	25		2
4-Bromofluorobenzene (Surrogate)	B199628-BS1	LCS	3.76	3.58	ug/m3	105		50 - 150			1
	B199628-BSD1	LCSD	3.69	3.58	ug/m3	103	1.7	50 - 150			2
QC Batch ID: B199781											
Toluene	B199781-BS1	LCS	0.41380	0.37684	ug/m3	110		70 - 130			3
	B199781-BSD1	LCSD	0.40998	0.37684	ug/m3	109	0.9	70 - 130	25		4
4-Bromofluorobenzene (Surrogate)	B199781-BS1	LCS	3.47	3.58	ug/m3	96.9		50 - 150			3
	B199781-BSD1	LCSD	3.47	3.58	ug/m3	96.9	0.0	50 - 150			4

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B199628-BS1	LCS	EPA-TO-15-SIM	10/24/24	10/24/24 17:18	BEP	MS-A2	1
2	B199628-BSD1	LCSD	EPA-TO-15-SIM	10/24/24	10/24/24 18:00	BEP	MS-A2	1
3	B199781-BS1	LCS	EPA-TO-15-SIM	10/25/24	10/25/24 13:03	BEP	MS-A2	1
4	B199781-BSD1	LCSD	EPA-TO-15-SIM	10/25/24	10/25/24 13:48	BEP	MS-A2	1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. Pace Analytical assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: Walnut Bluff Work Plan
Project Manager: Yola Byram

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. Pace Analytical assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Appendix G

Laboratory Analytical Reports – 1 Hour Samples

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL02\
Data File : 02JUL38.D
Acq On : 4 Jul 2024 6:37 am
Operator : BEP
Sample : BLK-787 24164O4-01
Misc : *
ALS Vial : 13 Sample Multiplier: 1

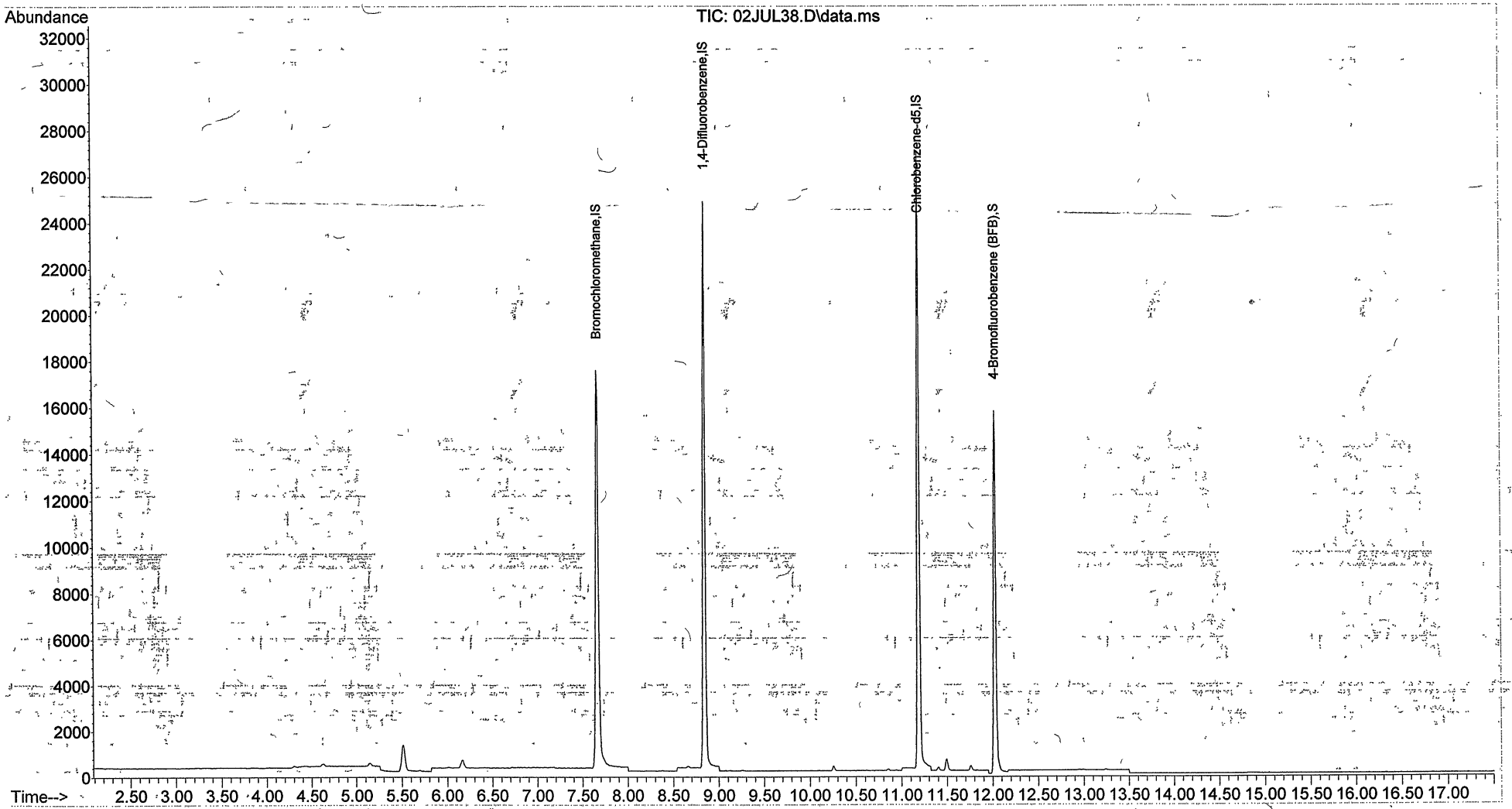
Quant Time: Jul 17 17:55:50 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	15583	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.842	114	28672	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	23863	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	11062	389.29	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 77.86%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\JUL2024\JUL02\
Data File : 02JUL38.D
Acq On : 4 Jul 2024 6:37 am
Operator : BEP
Sample : BLK-787
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 17 17:55:50 2024
Quant Method : C:\msdchem\1\methods\2024\202406\26-2146\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Jun 27 12:10:39 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP20.D
Acq On : 21 Sep 2024 4:55 am
Operator : BEP
Sample : BLK-796 241640A-02
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 23 10:34:21 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration

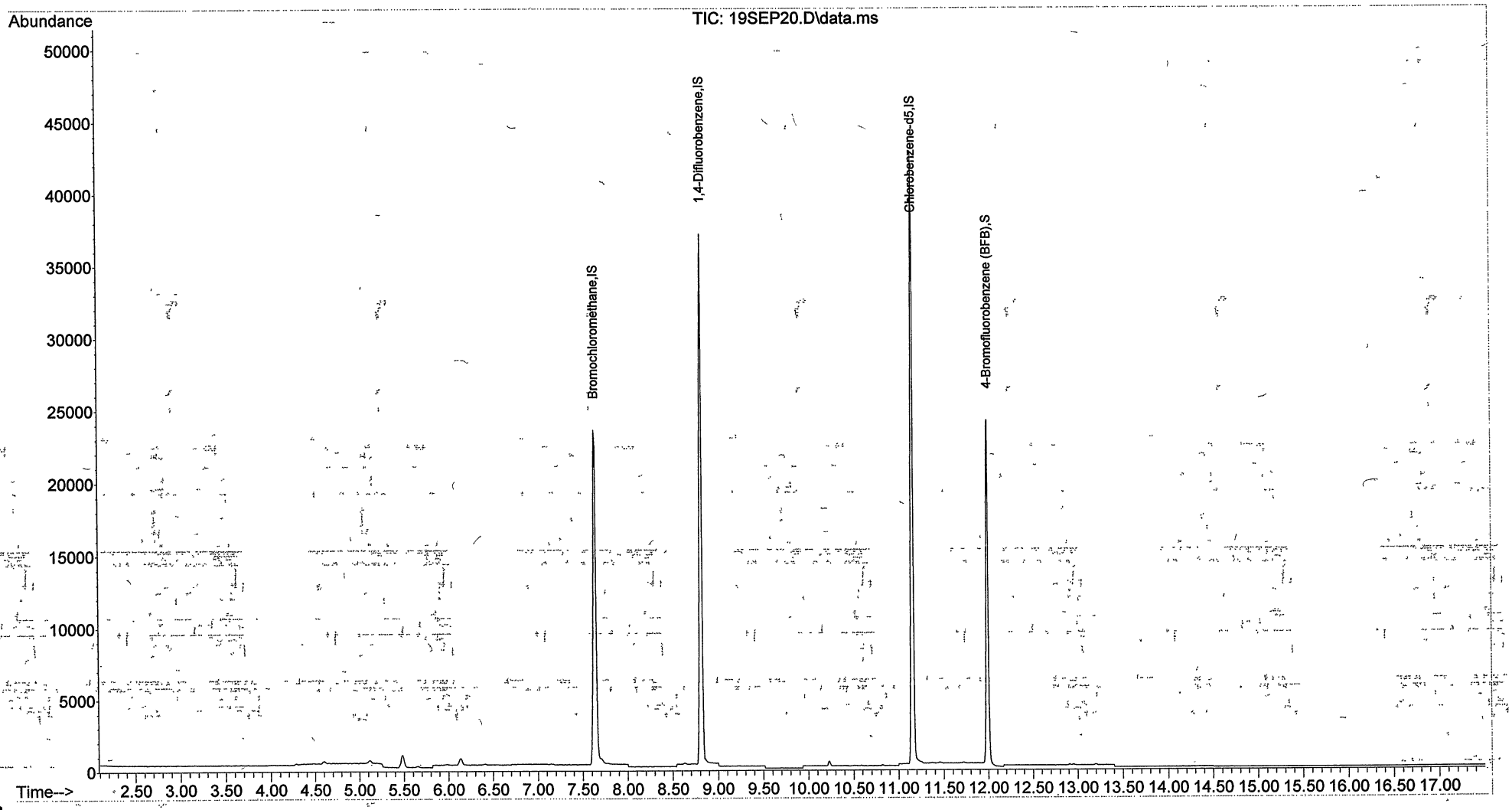
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.629	49	22920	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.813	114	41699	500.00	pptv	0.00
29) Chlorobenzene-d5	11.152	117	37081	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.991	95	17832	431.16	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 86.23%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP20.D
Acq On : 21 Sep 2024 4:55 am
Operator : BEP
Sample : BLK-796
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 23 10:34:21 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP22.D
Acq On : 21 Sep 2024 6:28 am
Operator : BEP
Sample : BLK-803 2416404-03
Misc : *
ALS Vial : 12 Sample Multiplier: 1

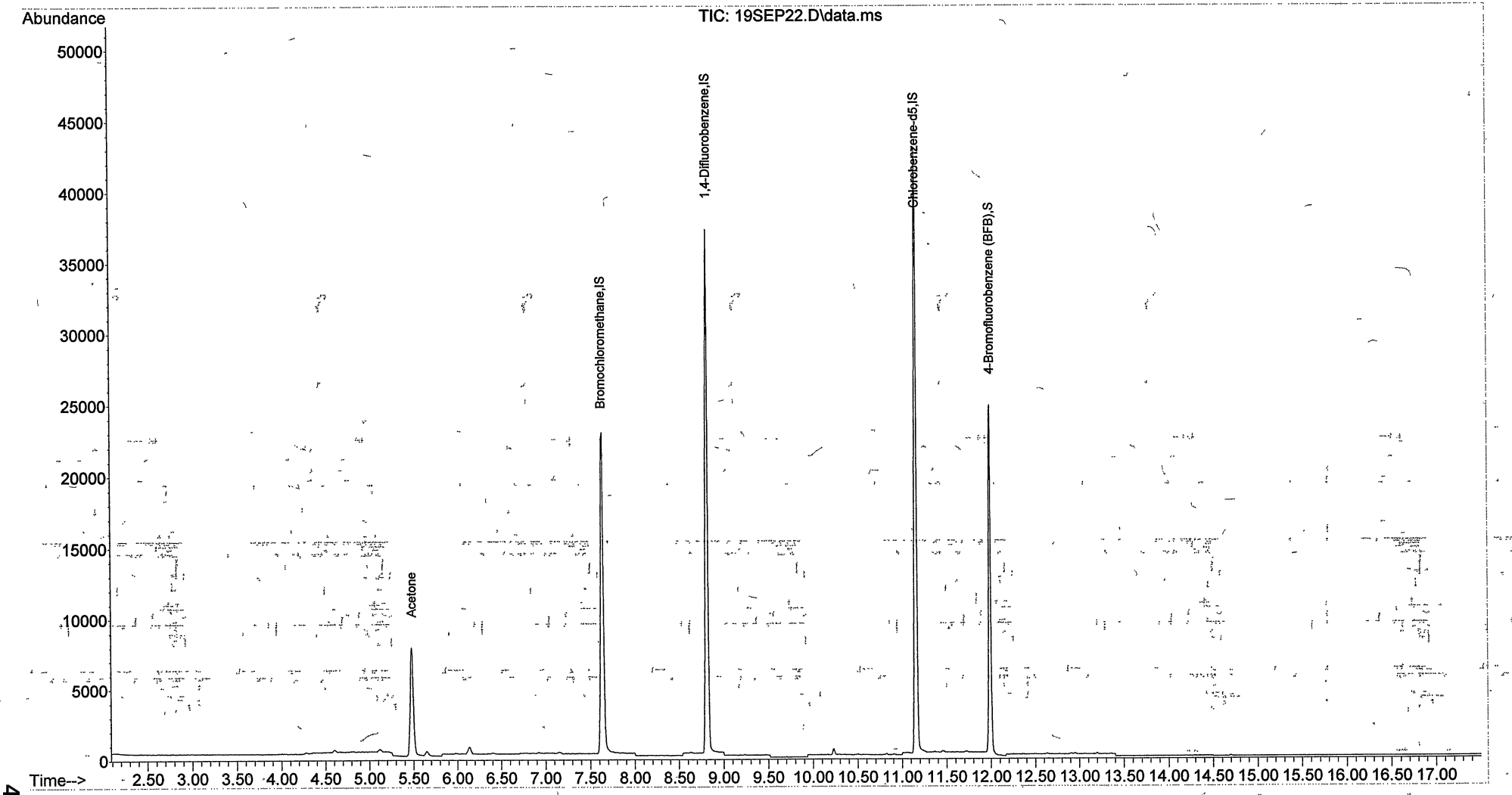
Quant Time: Sep 23 10:35:05 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.629	49	22821	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.813	114	42239	500.00	pptv	0.00
29) Chlorobenzene-d5	11.152	117	36958	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.991	95	18727	454.30	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 90.86%			
Target Compounds						Qvalue
6) Acetone	5.480	43	15762	132.2757	pptv	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP22.D
Acq On : 21 Sep 2024 6:28 am
Operator : BEP
Sample : BLK-803
Misc : *
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 23 10:35:05 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2024\AUG2024\AUG30\
Data File : 30AUG08.D
Acq On : 31 Aug 2024 1:04 am
Operator : BEP
Sample : BLK-23803 2416404-04
Misc : *
ALS Vial : 6 Sample Multiplier: 1

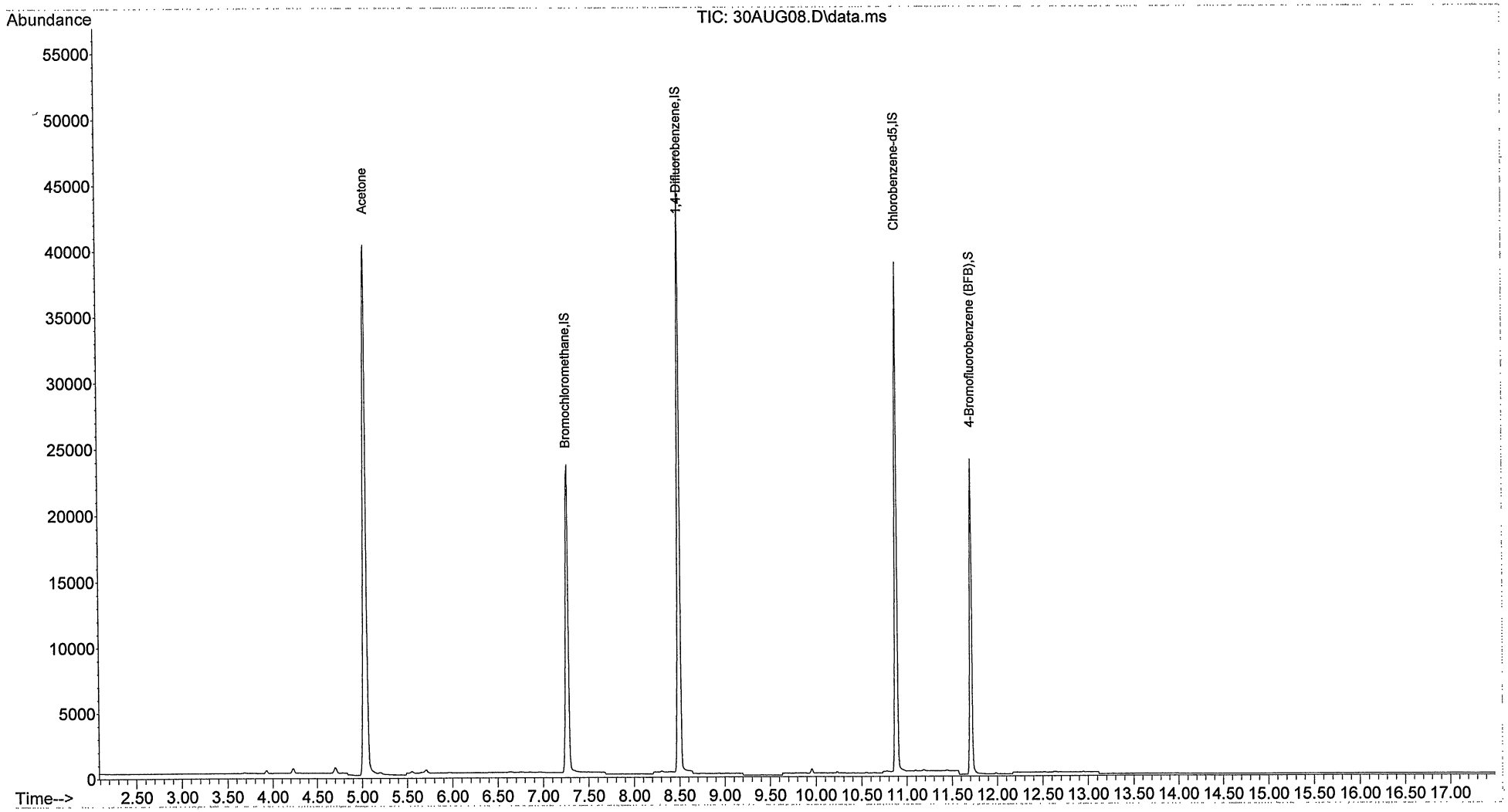
Quant Time: Sep 03 16:22:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	23162	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	51666	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	30647	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	15979	435.16	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 87.03%			
Target Compounds						Qvalue
6) Acetone	5.035	58	20889	1363.9623	pptv	73

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG30\
Data File : 30AUG08.D
Acq On : 31 Aug 2024 1:04 am
Operator : BEP
Sample : BLK-23803
Misc : *
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 03 16:22:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP24.D
Acq On : 10 Sep 2024 5:35 pm
Operator : BEP
Sample : blk-37503 2416404-05
Misc : *
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 11:28:42 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

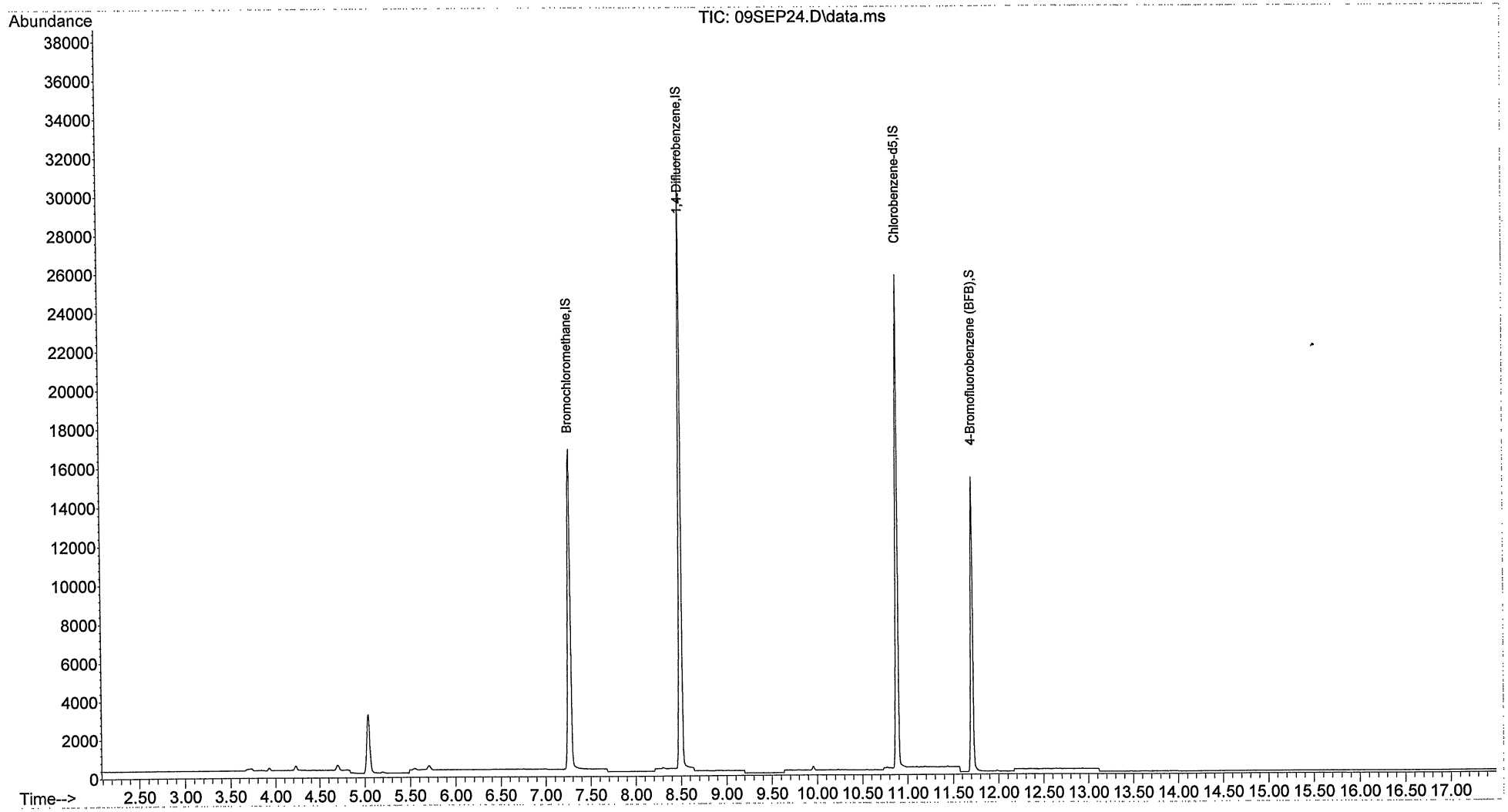
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	16267	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	34344	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	20377	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	10205	436.96	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 87.39%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP24.D
Acq On : 10 Sep 2024 5:35 pm
Operator : BEP
Sample : blk-37503
Misc : *
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 11 11:28:42 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2024\AUG2024\AUG21\
Data File : 21AUG12.D
Acq On : 22 Aug 2024 2:26 am
Operator : BEP
Sample : BLK-43531 2416404-06
Misc : *
ALS Vial : 10 Sample Multiplier: 1

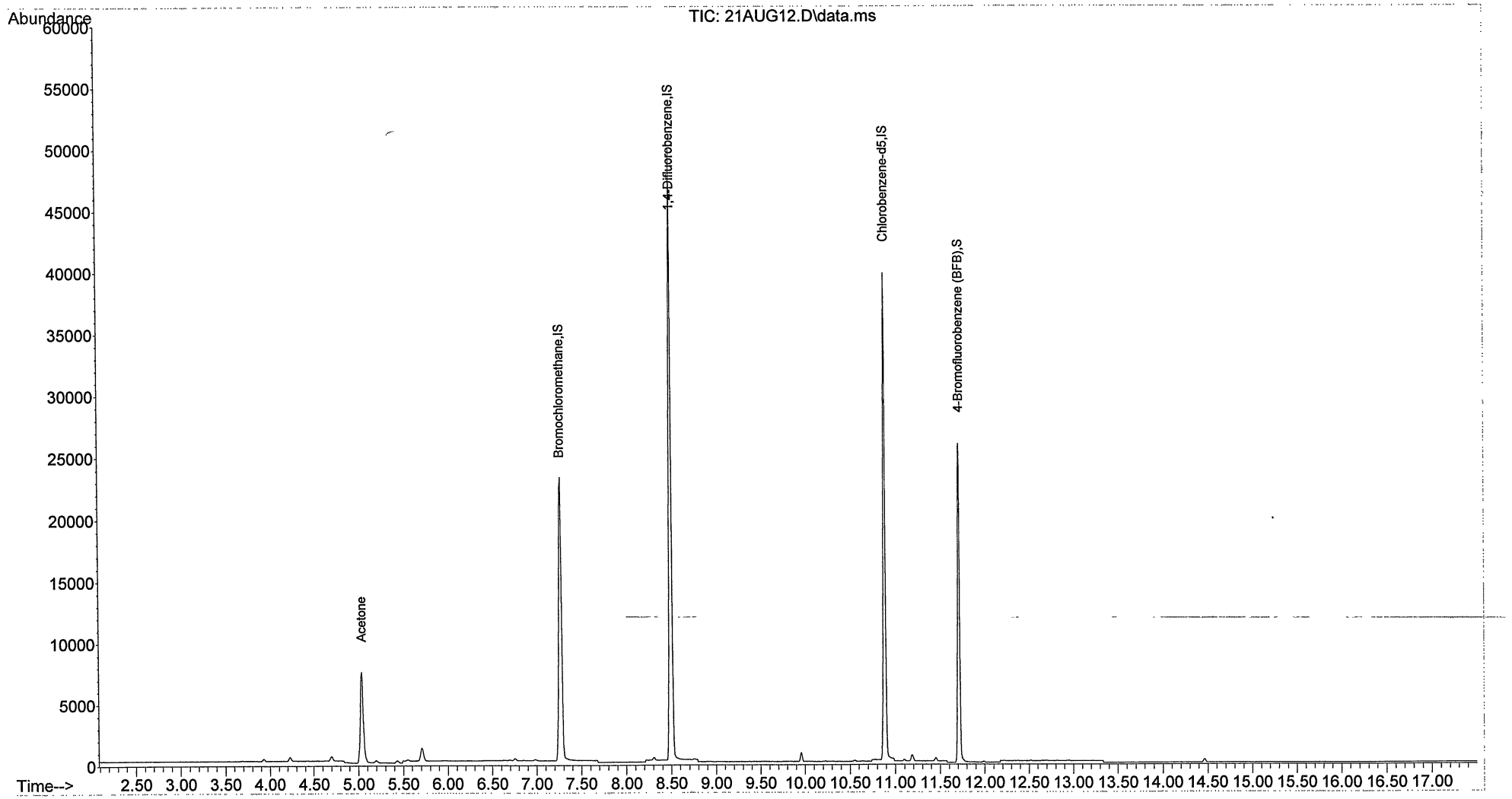
Quant Time: Aug 30 14:37:53 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	23025	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	53678	500.00	pptv	0.00
29) Chlorobenzene-d5	10.880	117	31278	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.710	95	17552	468.35	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 93.67%			
Target Compounds						Qvalue
6) Acetone	5.035	58	4095	253.7771	pptv	67

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG21\
Data File : 21AUG12.D
Acq On : 22 Aug 2024 2:26 am
Operator : BEP
Sample : BLK-43531
Misc : *
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 30 14:37:53 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG26\
Data File : 26AUG16.D
Acq On : 26 Aug 2024 10:28 pm
Operator : BEP
Sample : BLK-49958 24164O4-08
Misc : *
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 27 15:08:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration

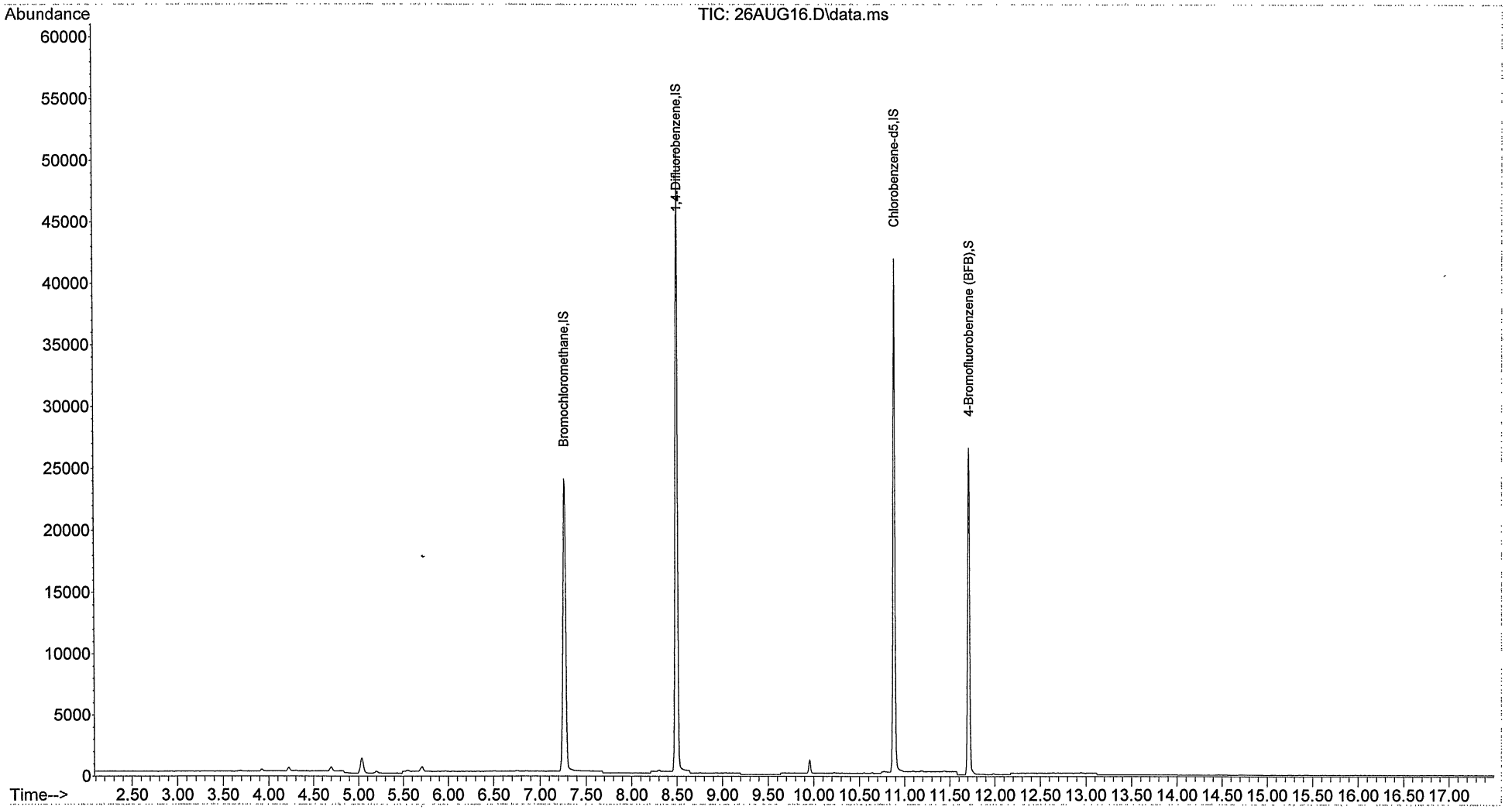
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	23698	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	55023	500.00	pptv	0.00
29) Chlorobenzene-d5	10.881	117	32653	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	18056	461.51	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 92.30%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG26\
Data File : 26AUG16.D
Acq On : 26 Aug 2024 10:28 pm
Operator : BEP
Sample : BLK-49958
Misc : *
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 27 15:08:24 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG17.D
Acq On : 7 Aug 2024 1:29 am
Operator : BEP
Sample : blk-800b 2416404-09
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 07 14:56:14 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

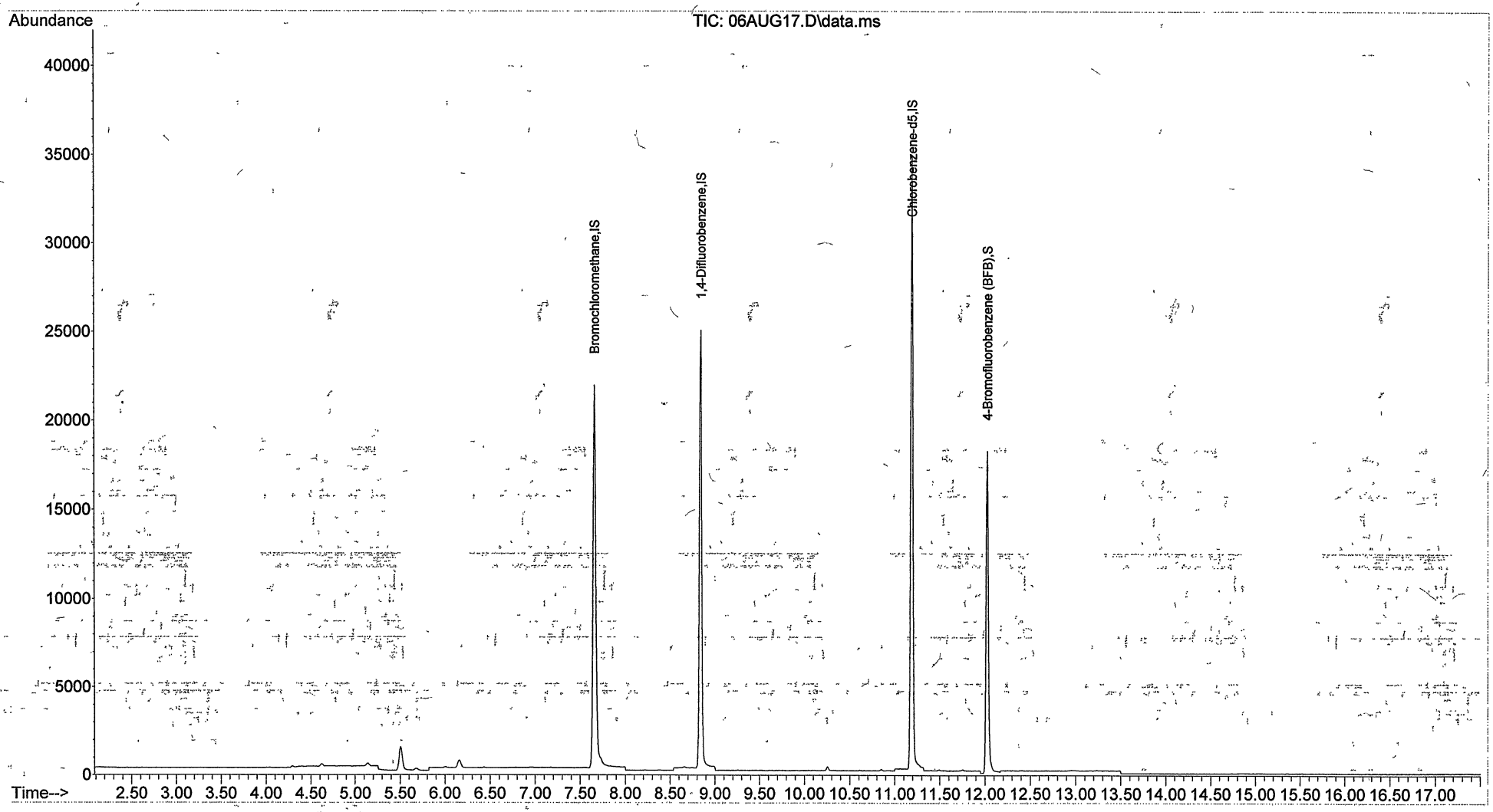
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	16129	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	30177	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29465	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	12599	385.58	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 77.12%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG17.D
Acq On : 7 Aug 2024 1:29 am
Operator : BEP
Sample : blk-800b
Misc : *
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 07 14:56:14 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP22.D
Acq On : 10 Sep 2024 4:20 pm
Operator : BEP
Sample : blk-679 2416404-10
Misc : *
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 11 11:28:01 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

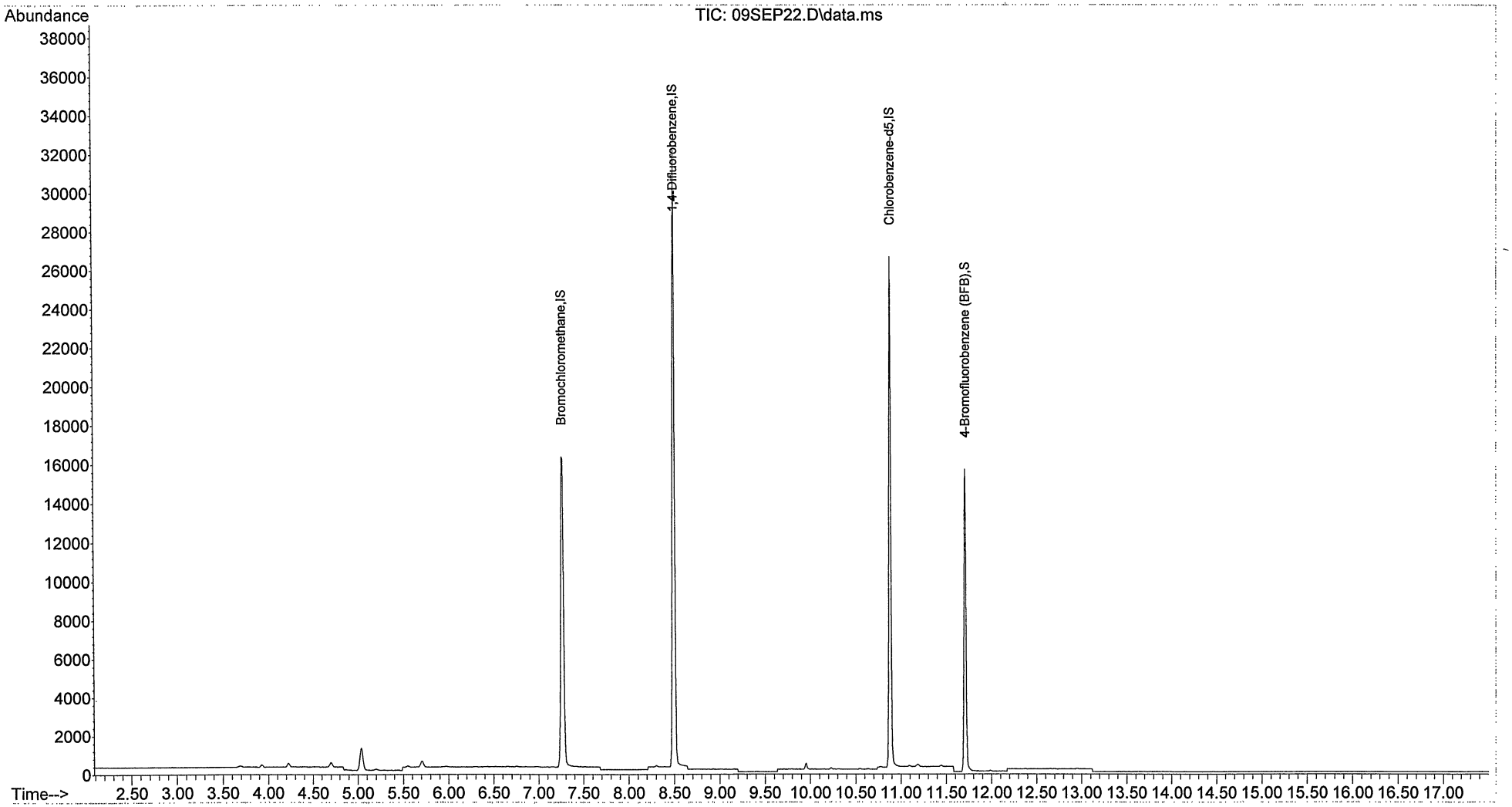
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	16094	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	34647	500.00	pptv	0.00
29) Chlorobenzene-d5	10.881	117	20750	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	10547	443.48	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 88.70%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP22.D
Acq On : 10 Sep 2024 4:20 pm
Operator : BEP
Sample : blk-679
Misc : *
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 11 11:28:01 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2024\MAY2024\MAY15\
Data File : 15MAY18.D
Acq On : 16 May 2024 7:03 pm
Operator : RMK
Sample : BLK-35427 2416404-11
Misc : 13-756
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 17 12:55:33 2024
Quant Method : C:\msdchem\1\METHODS\2024\202404\25-1228\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Tue May 14 08:57:22 2024
Response via : Initial Calibration

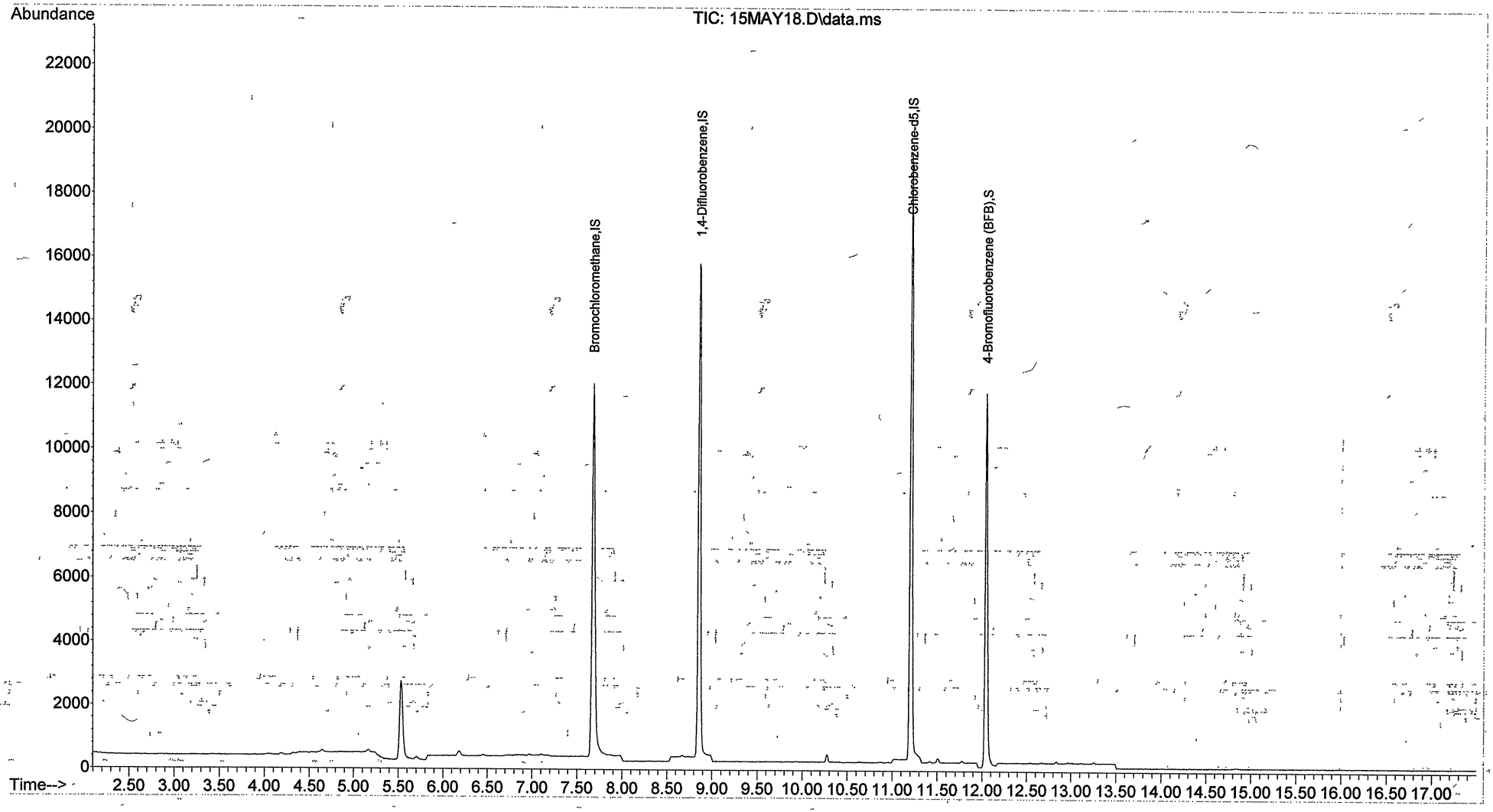
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.677	49	13667	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.861	114	18955	500.00	pptv	0.00
28) Chlorobenzene-d5	11.204	82	10296	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.043	95	8561	374.85	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 74.97%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\MAY2024\MAY15\
Data File : 15MAY18.D
Acq On : 16 May 2024 7:03 pm
Operator : RMK
Sample : BLK-35427
Misc : 13-756
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 17 12:55:33 2024
Quant Method : C:\msdchem\1\METHODS\2024\202404\25-1228\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Tue May 14 08:57:22 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG13.D
Acq On : 6 Aug 2024 10:26 pm
Operator : BEP
Sample : blk-c8345 2416404-12
Misc : *
ALS Vial : 9 Sample Multiplier: 1

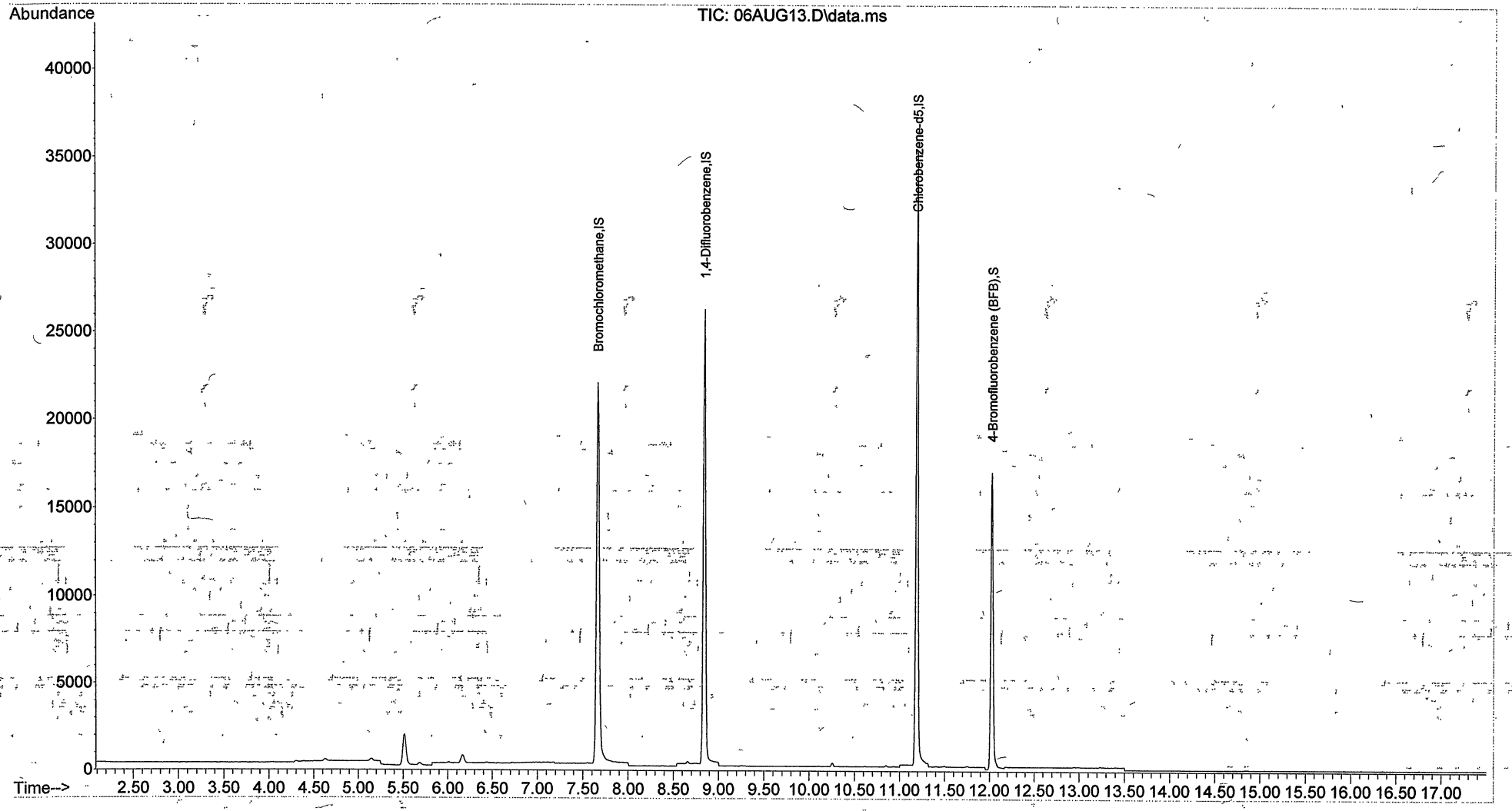
Quant Time: Aug 06 22:58:00 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.659	49	16537	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.843	114	31068	500.00	pptv	0.00
28) Chlorobenzene-d5	11.188	117	29673	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.027	95	12021	365.31	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 73.06%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG13.D
Acq On : 6 Aug 2024 10:26 pm
Operator : BEP
Sample : blk-c8345
Misc : *
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 06 22:58:00 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG15.D
Acq On : 6 Aug 2024 11:58 pm
Operator : BEP
Sample : blk-49967 2416404-13
Misc : *
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 07 14:55:09 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

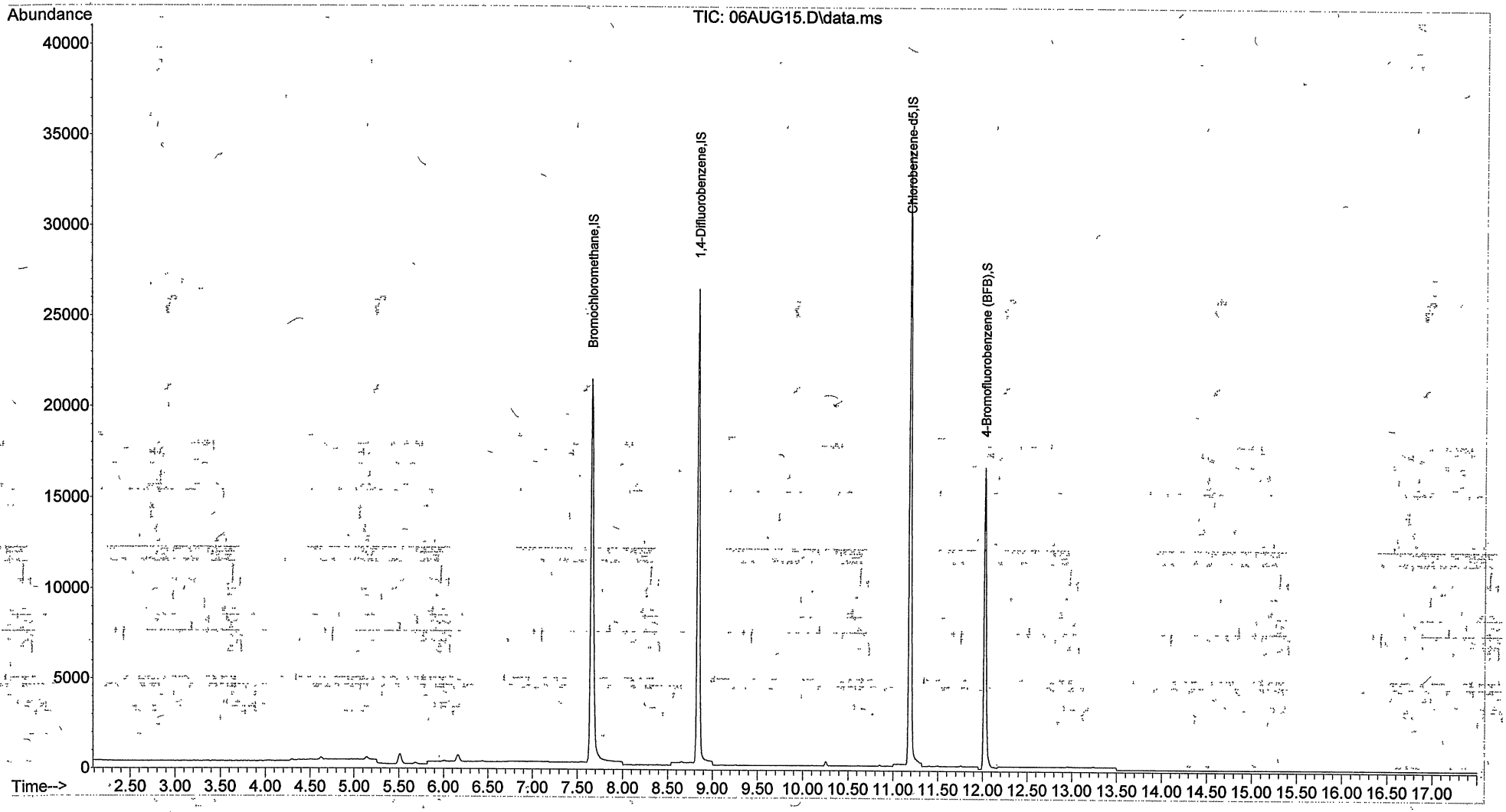
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.658	49	16136	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.842	114	30838	500.00	pptv	0.00
28) Chlorobenzene-d5	11.186	117	29107	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.025	95	11659	361.20	pptv	-0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 72.24%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG06\
Data File : 06AUG15.D
Acq On : 6 Aug 2024 11:58 pm
Operator : BEP
Sample : blk-49967
Misc : *
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 07 14:55:09 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2024\AUG2024\AUG26\
Data File : 26AUG17.D
Acq On : 26 Aug 2024 11:04 pm
Operator : BEP
Sample : BLK-802 24164O4-14
Misc : *
ALS Vial : 5 Sample Multiplier: 1

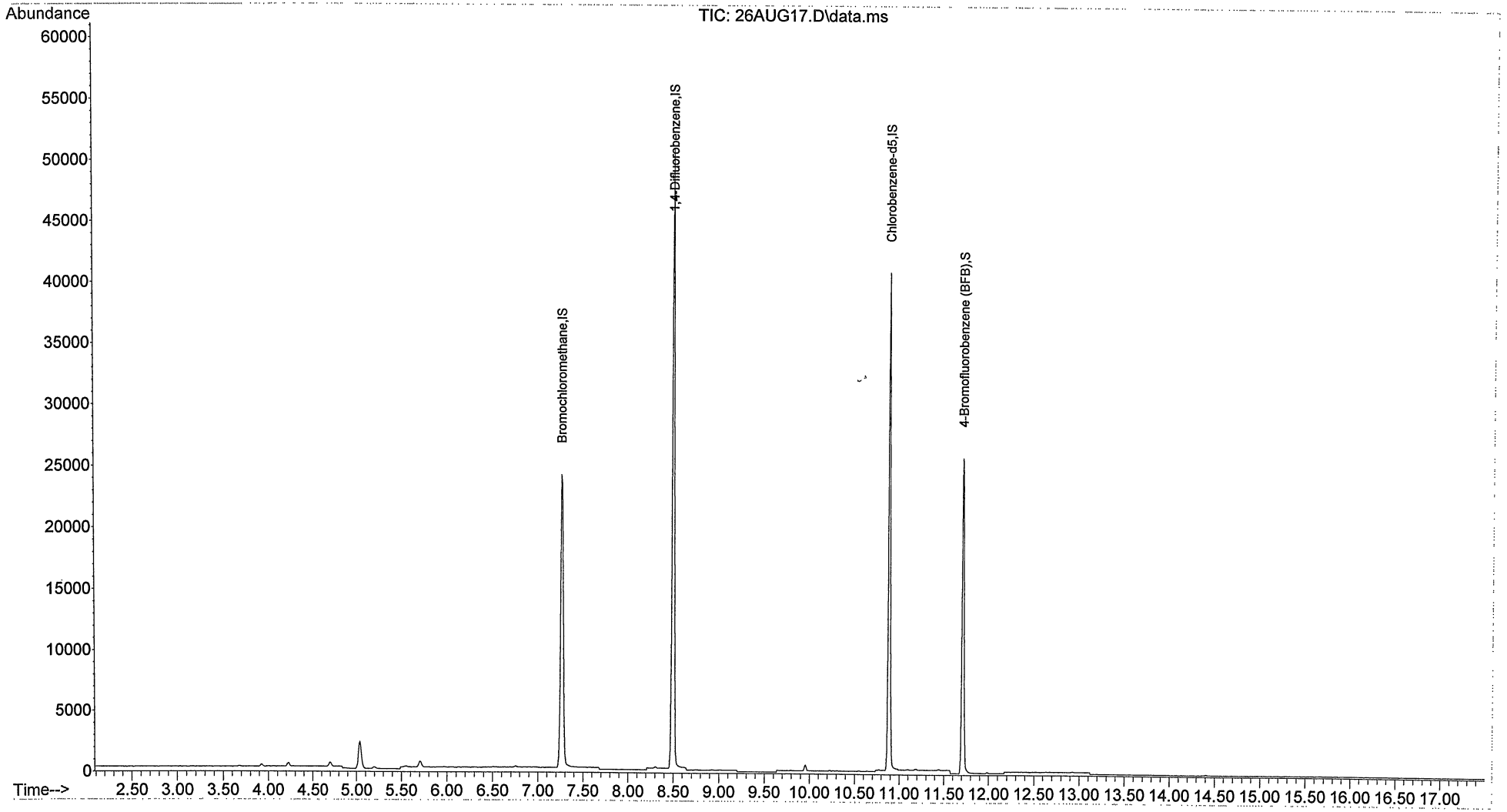
Quant Time: Aug 27 15:09:14 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.260	49	23951	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	55174	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	32400	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.707	95	17587	453.04	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 90.61%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG26\
Data File : 26AUG17.D
Acq On : 26 Aug 2024 11:04 pm
Operator : BEP
Sample : BLK-802
Misc : *
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 27 15:09:14 2024
Quant Method : C:\msdchem\1\methods\2024\202408\23-1041\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 23 14:02:10 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP23.D
Acq On : 10 Sep 2024 4:58 pm
Operator : BEP
Sample : blk-37519 2416404-15
Misc : *
ALS Vial : 4 Sample Multiplier: 1

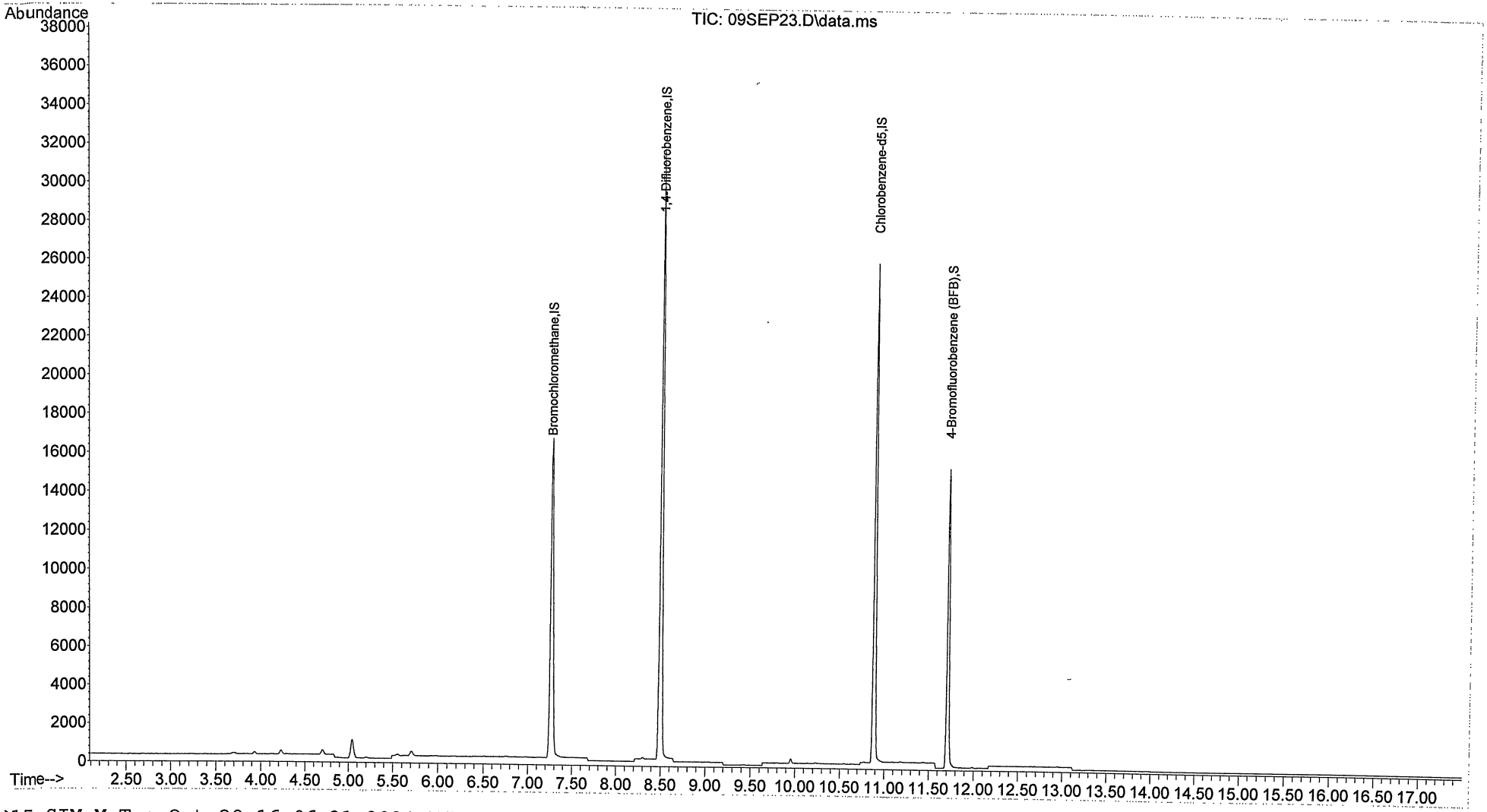
Quant Time: Sep 11 11:28:22 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.259	49	16115	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.495	114	34136	500.00	pptv	0.00
29) Chlorobenzene-d5	10.883	117	20429	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.708	95	10341	441.65	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 88.33%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP09\
Data File : 09SEP23.D
Acq On : 10 Sep 2024 4:58 pm
Operator : BEP
Sample : blk-37519
Misc : *
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 11 11:28:22 2024
Quant Method : C:\msdchem\1\methods\2024\202409\03-2116\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Wed Sep 04 09:00:16 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG31.D
Acq On : 2 Aug 2024 12:20 pm
Operator : BEP
Sample : BLK-761 2416404-16
Misc : *
ALS Vial : 7 Sample Multiplier: 1

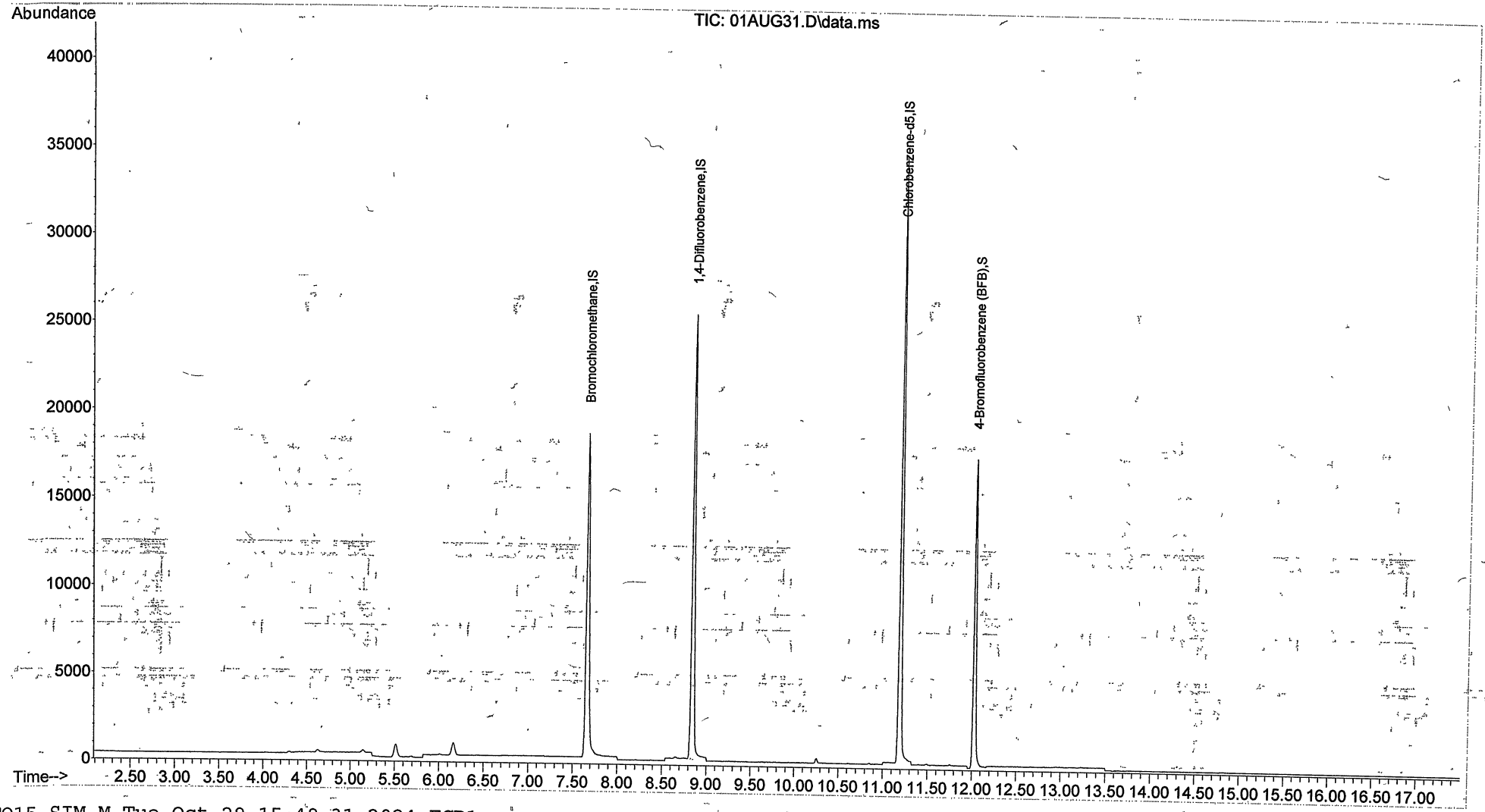
Quant Time: Aug 02 14:51:34 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.659	49	13808	500.00	pptv	# 0.00
20) 1,4-Difluorobenzene	8.843	114	30939	500.00	pptv	0.00
28) Chlorobenzene-d5	11.188	117	29094	500.00	pptv	0.00
System Monitoring Compounds						
34) 4-Bromofluorobenzene (...	12.027	95	12294	381.04	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 76.21%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\AUG2024\AUG01\
Data File : 01AUG31.D
Acq On : 2 Aug 2024 12:20 pm
Operator : BEP
Sample : BLK-761
Misc : *
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 02 14:51:34 2024
Quant Method : C:\msdchem\1\methods\2024\202408\01-2136\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Fri Aug 02 14:17:01 2024
Response via : Initial Calibration



No Name Entered Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP17.D
Acq On : 21 Sep 2024 2:35 am
Operator : BEP
Sample : BLK-744 2416404-17
Misc : *
ALS Vial : 7 Sample Multiplier: 1

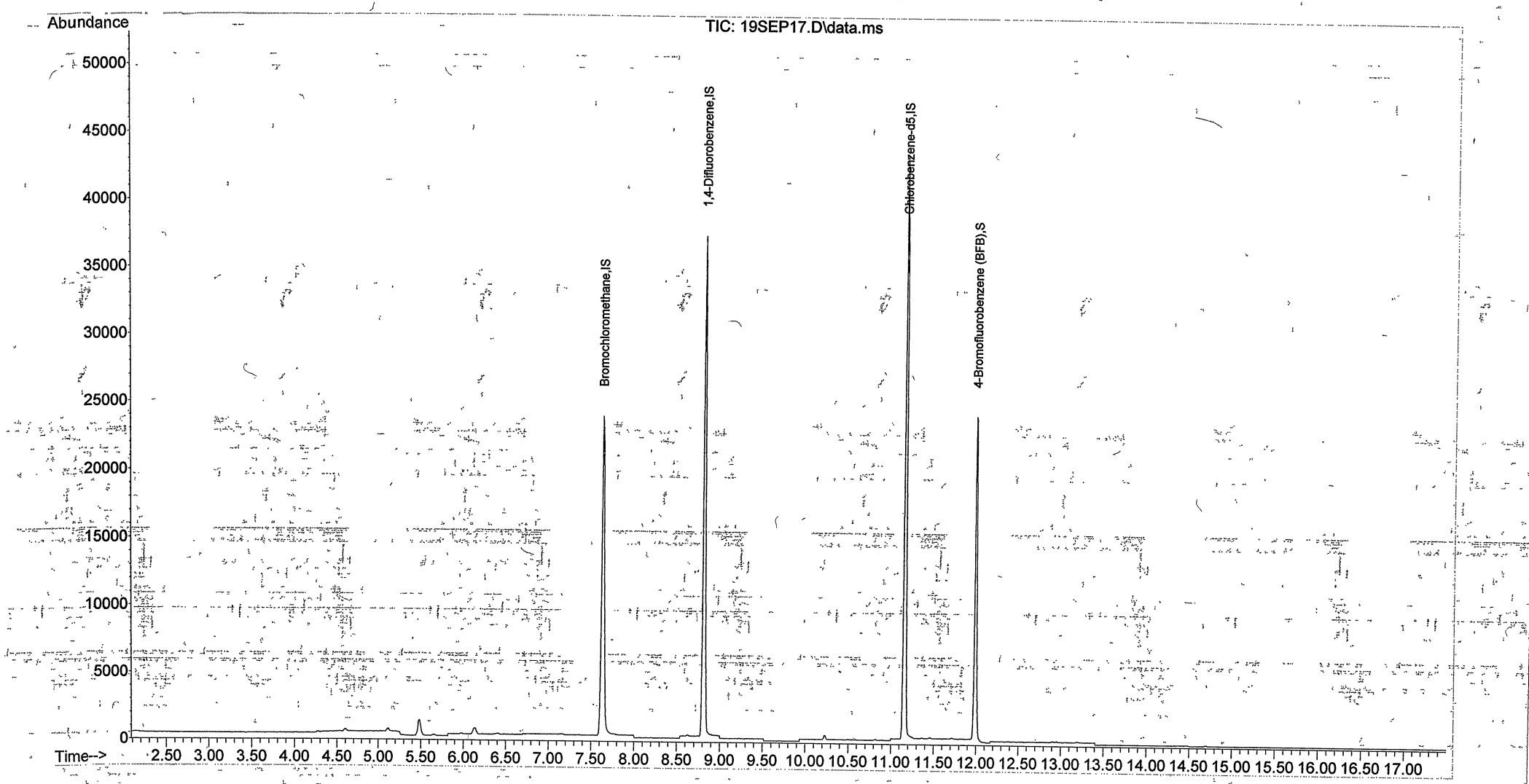
Quant Time: Sep 23 10:33:05 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	7.629	49	23065	500.00	pptv	0.00
20) 1,4-Difluorobenzene	8.813	114	42333	500.00	pptv	0.00
29) Chlorobenzene-d5	11.152	117	37348	500.00	pptv	0.00
System Monitoring Compounds						
36) 4-Bromofluorobenzene (...	11.985	95	17897	429.64	pptv	0.00
Spiked Amount 500.000	Range 50 - 150		Recovery = 85.93%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\2024\SEP2024\SEP20\
Data File : 19SEP17.D
Acq On : 21 Sep 2024 2:35 am
Operator : BEP
Sample : BLK-744
Misc : *
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 23 10:33:05 2024
Quant Method : C:\msdchem\1\methods\2024\202409\18-1821\TO15_SIM.M
Quant Title : TO-15 Vapor analysis
QLast Update : Thu Sep 19 11:48:20 2024
Response via : Initial Calibration



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ENVIRONMENTAL SCIENCES

Date of Report: 11/11/2024

Yola Byram

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Client Project:	[none]
Pace Project:	Walnut Bluff
Pace Work Order:	2416404
Invoice ID:	B506064, B507753

Enclosed are the results of analyses for samples received by the laboratory on 10/10/2024. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supersedes Report ID 1001544909

Sincerely,

Contact Person: Brianna Schutte
Client Services Rep

Steve Bennett
Operations Manager

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Case Narratives

Case Narrative for Work Order 2416404

Notified client via email sample number 2416404-07 with the sample name WB07-1H was received fully evacuated

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Case Narrative

Sample Receipt

COC Number:

Samples received refrigerated to 25 °C

Sample List

Lab Number	Date/Time Sampled	Sample Name
2416404-01	10/09/2024 09:59	WB01-1H
2416404-02	10/09/2024 11:31	WB02-1H
2416404-03	10/09/2024 11:33	WB03-1H
2416404-04	10/09/2024 11:46	WB04-1H
2416404-05	10/09/2024 12:08	WB05-1H
2416404-06	10/09/2024 11:42	WB06-1H
2416404-07	10/09/2024 09:42	WB07-1H
2416404-08	10/09/2024 12:11	WB08-1H
2416404-09	10/09/2024 12:24	WB09-1H
2416404-10	10/09/2024 12:20	WB10-1H
2416404-11	10/09/2024 12:51	WB11-1H
2416404-12	10/09/2024 12:58	WB12-1H
2416404-13	10/09/2024 10:09	WB13-1H
2416404-14	10/09/2024 10:19	WB14-1H
2416404-15	10/09/2024 14:37	WB17-1H
2416404-16	10/09/2024 14:56	WB18-1H
2416404-17	10/09/2024 10:54	WB19-1H

Requested Analysis

EPA-TO-15-SIM

Sample	Analyte	Flag

Sample Qualifier Summary

There are no qualifiers for the samples.

Holding Times

All holding time requirements were met.

Method Blanks

There were no detections in the Method Blank(s).

LCS

The LCS recoveries are within QC limits.

Discussion

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Pace Analytical® BAKERSFIELD

2A 10-10-24

Air Chain of

2416404

Report To		Project #:	
Client: Catalyst Environmental Solutions			
Attn: Yola Bayram		Project Name: Walnut	
Street Address: 315 Montana Ave Suite 311		Bluff Work Plan	
City, State, Zip: Santa Monica, CA, 90403		Sampler(s): (Print) Elizabeth Huang	
Phone: (313)204-8477 Fax:		Olivia Hogan	
Email: y bayram@ecc.solutions			
Work Order #: 24-1604 04			

Analysis Requested

Comments:

Sample #	Sample ID	Field ID / Point Of Collection	Date Sampled	Time Sampled	TO-15sim	Air Type: Soil Vapor (SV) Ambient (A)	Sampling Equipment: Initial Pressure ("Hg)	Sampling Equipment: Canister ID #	Sampling Equipment: Flow Controller ID #	Start Sampling Information: Time	Start Sampling Information: Canister Pressure ("Hg)	Stop Sampling Information: Time	Stop Sampling Information: Canister Pressure ("Hg)	Lab Received Pressure (psia)	CLP Level: Yes / No (If "Yes", Select one) III / IV	UNITS (select one) ppbv / µg/m3	Notes
	-1	WB01-1H	10/9/24	0959	X	A	29	0787	18718	9:00	29	959	5		X /	µg/m3	
	-2	WB02-1H	10/9/24	1131	X	A	29	0796	6059	1031	29	1131	4				
	-3	~~WB01~~ WB03-1H	10/9/24	1133	X	A	27	0803	5983	1035	27	1133	4				
	-4	WB04-1H	10/9/24	1146	X	A	29	23803	6016	1047	29	1146	4				
	-5	WB05-1H	10/9/24	1208	X	A	29	37503	6013	1106	29	1208	4				
	-6	WB06-1H	10/9/24	1142	X	A	30	43531	13686	1043	30	1142	4				
	-7	WB07-1H	10/9/24	0942	X	A	28	0790	13685	0836	28	0942	4				
	-8	WB08-1H	10/9/24	1211	X	A	29	49958	17517	1111	29	1211	4				
	-9	WB09-1H	10/9/24	1224	X	A	29	0800	7629	1122	29	1224	4				
	-10	WB10-1H	10/9/24	1220	X	A	28	0679	17512	1117	28	1220	3				
	-11	WB11-1H	10/9/24	1251	X	A	27	35427	18715	1152	27	1251	5				
	-12	WB12-1H	10/9/24	1258	X	A	28	C8345	13694	1158	28	1258	3				
	-13	WB13-1H	10/9/24	1009	X	A	28	49967	13676	0910	28	1009	4.5				
	-14	WB14-1H	10/9/24	1019	X	A	29	802	20201	0918	29	1019	.5				

Billing

☒ Same as above

Client:

Street Address:

City: State: Zip:

Attn: Fax:

P.O.#:

Result Request: ☒ STD (10 Days) ☐ 5 Day** ☐ 4 Day** ☐ 3 Day** ☐ 2 Day** ☐ 1 Day**

**Surcharge

	Relinquished By	Date	Time	Received By	Date	Time
1.		10/9/24	1615	4:15 PM	10/9/24	1615
2.		10/10/24	1330		10-10-24	1345
3.		10-10-24	1745		10-10-24	1745

4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com

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Chain of Custody and Cooler Receipt Form for 2416404 Page 2 of 4

Air Chain of Custody Form

24 10-10-24

Page 2 of 2

Report To
Client: Catalyst Environmental Solutions
Attn: Yola Bayram
Street Address: 515 Montana Ave. Suite 311
City, State, Zip: Santa Monica, CA, 90403
Phone: (313) 209-8477 Fax:
Email: ybayram@ce.solutions
Work Order #: 24I-16404

Project #:
Project Name: Walnut Bluff Work Plan
Sampler(s): (Print) Elizabeth Hwang, Olivia Hogan

Analysis Requested: 10-15 gas m

Sample #	Sample ID	Field ID / Point Of Collection	Date Sampled	Time Sampled	Air Type: Soil Vapor (SV) Ambient (A)	Initial Pressure ("Hg)	Sampling Equipment: Canister ID #	Sampling Equipment: Flow Controller ID #	Start Sampling Information: Time	Start Sampling Information: Canister Pressure ("Hg)	Stop Sampling Information: Time	Stop Sampling Information: Canister Pressure ("Hg)	Comments / Notes
	-15	WB18-1H	10/9/24	1437	A	29	37519	13698	1330	29	1431	2	
	-16	WB18-1H	10/9/24	14556	A	29	07161	13677	1352	29	1456	3	
	-17	WB19-1H	10/9/24	1054	A	30	07144	40032	09572	30	1054	5	

CLP Level: ☑ Yes ☐ No (If "Yes", Select one) ☒ III ☐ IV
UNITS (select one): ☐ ppbv ☒ ug/m3

CHK BY VBA DISTRIBUTION AIR SUB OUT

Billing
☒ Same as above
Client:
Street Address:
City: State: Zip:
Attn: Fax:
P.O.#:

Result Request: **Surcharge ☒ STD (10 Days) ☐ 5 Day** ☐ 4 Day** ☐ 3 Day** ☐ 2 Day** ☐ 1 Day**

	Relinquished By	Date	Time	Received By
1.		10/9/24	1615	
2.		10/10/24	1330	B. Pace
3.	B. Pace	10/10/24	1745	

	Received By	Date	Time
1.		10/10/24	1615
2.	B. Pace	10-10-24	1345
3.		10-10-24	1745

4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com

PACE ANALYTICLA

COOLER RECEIPT FORM

Submission #: 24I-16404 Page 1 Of 2

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐
Pace Lab Field Service ☑ Other ☐ (Specify)

SHIPPING CONTAINER
Ice Chest ☐ None ☐ Box ☑
Other ☐ (Specify)

FREE LIQUID
YES ☐ NO ☑
W / S

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received
☑ YES ☐ NO

Emissivity: — Container: Summa Thermometer ID: —
Temperature: (A) Room °C / (C) Temp °C
Date/Time 10/10/24
Analyst Init EC2 1745

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER 6L	A	A	A	A	A	A	A	A	A	A

Comments:
Sample Numbering Completed By: VJT Date/Time: 10/11/24 0700
A = Actual / C = Corrected

Rev 23 05/20/22
[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20]

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PACE ANALYTICLA — **COOLER RECEIPT FORM** — Page 2 Of 2

Submission #: 24-16404

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐ Pace Lab Field Service ☑ Other ☐ (Specify)_____	Ice Chest ☐ None ☐ Box ☑ Other ☐ (Specify)_____	YES ☐ NO ☑ W / S

Refrigerant: Ice ☐ Blue Ice ☐ None ☑ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: — Container: Sunny Thermometer ID: —

Temperature: (A) ROOM °C / (C) TEMP °C

Date/Time 10/10/24

Analyst Init ECL 1745

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER 1L	A	A	A	A	A	A	A			

Comments:

Sample Numbering Completed By: VBT Date/Time: 10/11/24 0700

A = Actual / C = Corrected

Rev 23 05/20/22

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ENVIRONMENTAL SCIENCES

Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416404-01	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 09:59
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB01-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-02	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 11:31
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB02-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-03	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 11:33
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB03-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-04	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 11:46
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB04-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-05	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:08
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB05-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-06	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 11:42
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB06-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-07	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 09:42
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB07-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416404-08	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:11
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB08-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-09	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:24
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB09-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-10	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:20
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB10-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-11	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:51
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB11-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-12	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 12:58
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB12-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-13	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 10:09
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB13-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-14	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 10:19
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB14-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2416404-15	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 14:37
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB17-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-16	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 14:56
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB18-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter
2416404-17	**COC Number:**	---	**Receive Date:**	10/10/2024 17:45
	Project Number:	---	**Sampling Date:**	10/09/2024 10:54
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	WB19-1H	**Lab Matrix:**	Air
	Sampled By:	Elizabeth Hwang/Olivia Hogan	**Sample Type:**	Air Filter

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315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-01 | **Client Sample Name:** WB01-1H, 10/9/2024 9:59:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.8**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.25**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.090**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.11**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.57**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.22**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		2
Toluene	**2.8**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**2.0**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.65**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**2.6**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	91.1	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	103	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	103	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-01 | **Client Sample Name:** WB01-1H, 10/9/2024 9:59:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/12/24 01:54	BEP	MS-A2	10	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 15:11	BEP	MS-A2	1	B198723	EPA TO-15

DCN = Data Continuation Number

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-02 | **Client Sample Name:** WB02-1H, 10/9/2024 11:31:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.4**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.27**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.12**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.093**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.75**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.29**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	**0.081**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Toluene	**2.8**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.6**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.86**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**3.4**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	92.5	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-02 | **Client Sample Name:** WB02-1H, 10/9/2024 11:31:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 15:57	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/12/24 02:33	BEP	MS-A2	10	B198723	EPA TO-15

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-03 | **Client Sample Name:** WB03-1H, 10/9/2024 11:33:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.4**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.23**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.11**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.093**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.81**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.20**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	**0.090**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Toluene	**2.6**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.8**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.91**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**3.7**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	106	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	106	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	97.8	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-03 | **Client Sample Name:** WB03-1H, 10/9/2024 11:33:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 16:44	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/12/24 03:13	BEP	MS-A2	10	B198723	EPA TO-15

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-04 | **Client Sample Name:** WB04-1H, 10/9/2024 11:46:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.4**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.23**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.10**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.091**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.2**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.74**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.17**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.6**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.5**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.82**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**3.4**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	113	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	113	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	92.5	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project Number: [none]
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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-04 | **Client Sample Name:** WB04-1H, 10/9/2024 11:46:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 17:30	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/14/24 20:42	BEP	MS-A2	10	B198806	EPA TO-15

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Project: Walnut Bluff
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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-05 | **Client Sample Name:** WB05-1H, 10/9/2024 12:08:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.3**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.20**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.093**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.092**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.58**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.38**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.3**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.8**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.64**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.5**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	95.0	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-05 | **Client Sample Name:** WB05-1H, 10/9/2024 12:08:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 18:16	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/14/24 21:21	BEP	MS-A2	10	B198806	EPA TO-15

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-06 | **Client Sample Name:** WB06-1H, 10/9/2024 11:42:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.4**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.49**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.23**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.10**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.093**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.2**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.66**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.23**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.6**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.2**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.74**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.9**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	89.1	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-06 | **Client Sample Name:** WB06-1H, 10/9/2024 11:42:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 19:03	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/14/24 22:01	BEP	MS-A2	10	B198806	EPA TO-15

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-08 | **Client Sample Name:** WB08-1H, 10/9/2024 12:11:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.4**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.21**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.086**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.088**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.56**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.16**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.6**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.7**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.62**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.3**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	108	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	82.7	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-08 | **Client Sample Name:** WB08-1H, 10/9/2024 12:11:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 19:49	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/14/24 22:43	BEP	MS-A2	10	B198806	EPA TO-15

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Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-09 | **Client Sample Name:** WB09-1H, 10/9/2024 12:24:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.3**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.22**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.093**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.086**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.0**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.72**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.34**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.7**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.4**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.90**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**3.3**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	93.3	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-09 | **Client Sample Name:** WB09-1H, 10/9/2024 12:24:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 20:35	BEP	MS-A2	1	B198723	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/14/24 23:22	BEP	MS-A2	10	B198806	EPA TO-15

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-10 | **Client Sample Name:** WB10-1H, 10/9/2024 12:20:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.8**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.51**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.22**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.10**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.089**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.61**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.25**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		2
Toluene	**7.2**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**1.9**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.64**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**2.5**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	93.0	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-10 | **Client Sample Name:** WB10-1H, 10/9/2024 12:20:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/15/24 00:03	BEP	MS-A2	10	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 21:21	BEP	MS-A2	1	B198723	EPA TO-15

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-11 | **Client Sample Name:** WB11-1H, 10/9/2024 12:51:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.8**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.19**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.11**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.10**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**0.89**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.67**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.31**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	**0.077**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Toluene	**2.8**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**2.1**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.75**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**2.8**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	95.3	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	115	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	115	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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315 Montana Ave Suite 311
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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-11 | **Client Sample Name:** WB11-1H, 10/9/2024 12:51:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/15/24 00:42	BEP	MS-A2	10	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 22:08	BEP	MS-A2	1	B198723	EPA TO-15

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-12 | **Client Sample Name:** WB12-1H, 10/9/2024 12:58:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.7**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.20**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.085**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.10**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**1.7**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.80**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.30**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	**0.072**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Toluene	**3.0**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**2.6**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.92**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**3.5**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	94.1	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	107	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	107	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-12 | **Client Sample Name:** WB12-1H, 10/9/2024 12:58:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/15/24 01:22	BEP	MS-A2	10	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 22:54	BEP	MS-A2	1	B198723	EPA TO-15

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-13 | **Client Sample Name:** WB13-1H, 10/9/2024 10:09:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.9**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.22**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.093**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.11**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**0.98**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.57**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.24**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		2
Toluene	**2.9**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**1.9**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.65**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**2.6**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	84.6	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	111	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	111	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-13 | **Client Sample Name:** WB13-1H, 10/9/2024 10:09:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/15/24 02:04	BEP	MS-A2	10	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/11/24 23:40	BEP	MS-A2	1	B198723	EPA TO-15

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-14 | **Client Sample Name:** WB14-1H, 10/9/2024 10:19:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.9**	**ug/m3**	**0.50**	**0.032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		2
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**2**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		2
Chloroform	**0.24**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**2**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		2
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		2
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		2
1,4-Dichlorobenzene	**0.097**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Dichlorodifluoromethane	**2.3**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		2
1,2-Dichloroethane	**0.11**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**2**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		2
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		2
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		2
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		2
1,1-Difluoroethane	**0.99**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**2**
Ethylbenzene	**0.58**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**2**
Naphthalene	**0.23**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**2**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		2
Toluene	**3.2**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		2
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		2
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.52**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**2**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		2
p- & m-Xylenes	**2.0**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**2**
o-Xylene	**0.68**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**2**
Total Xylenes	**2.7**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**2**
4-Bromofluorobenzene (Surrogate)	85.8	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2
4-Bromofluorobenzene (Surrogate)	109	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-14 | **Client Sample Name:** WB14-1H, 10/9/2024 10:19:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/15/24 02:45	BEP	MS-A2	10	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/11/24 09:33	10/12/24 00:27	BEP	MS-A2	1	B198723	EPA TO-15

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Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-15 | **Client Sample Name:** WB17-1H, 10/9/2024 2:37:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**0.88**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.19**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.080**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.070**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.67**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.61**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.18**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	**0.074**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Toluene	**1.7**	**ug/m3**	**0.10**	**0.0062**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.0**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.67**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.6**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	107	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	107	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1

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Catalyst Environmental Solutions	**Reported:** 11/11/2024 15:09
315 Montana Ave Suite 311	Project: Walnut Bluff
Santa Monica, CA 90403	Project Number: [none]
	Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID:	2416404-15	**Client Sample Name:**	WB17-1H, 10/9/2024 2:37:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/11/24 09:33	10/12/24 01:13	BEP	MS-A2	1	B198723	EPA TO-15

DCN = Data Continuation Number

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-16 | **Client Sample Name:** WB18-1H, 10/9/2024 2:56:00PM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.1**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.20**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.092**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.073**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**0.80**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.52**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.13**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Tetrachloroethene	**0.12**	**ug/m3**	**0.10**	**0.011**	**EPA-TO-15-SIM**	**ND**		**1**
Toluene	**2.5**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.3**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**1.5**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.56**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**2.0**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	106	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	106	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	86.3	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-16 | **Client Sample Name:** WB18-1H, 10/9/2024 2:56:00PM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/14/24 09:06	10/14/24 19:16	BEP	MS-A2	1	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/14/24 09:06	10/15/24 03:24	BEP	MS-A2	10	B198806	EPA TO-15

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Pace Sample ID: 2416404-17 | **Client Sample Name:** WB19-1H, 10/9/2024 10:54:00AM, Elizabeth Hwang/Olivia Hogan

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	DCN
Benzene	**1.6**	**ug/m3**	**0.050**	**0.0032**	**EPA-TO-15-SIM**	**ND**		**1**
Benzyl chloride	ND	ug/m3	0.50	0.0052	EPA-TO-15-SIM	ND		1
Carbon tetrachloride	**0.50**	**ug/m3**	**0.20**	**0.0063**	**EPA-TO-15-SIM**	**ND**		**1**
Chlorobenzene	ND	ug/m3	0.10	0.0079	EPA-TO-15-SIM	ND		1
Chloroform	**0.23**	**ug/m3**	**0.050**	**0.0058**	**EPA-TO-15-SIM**	**ND**		**1**
1,2-Dibromoethane	ND	ug/m3	0.20	0.014	EPA-TO-15-SIM	ND		1
1,2-Dichlorobenzene	ND	ug/m3	0.20	0.011	EPA-TO-15-SIM	ND		1
1,3-Dichlorobenzene	ND	ug/m3	0.20	0.013	EPA-TO-15-SIM	ND		1
1,4-Dichlorobenzene	**0.091**	**ug/m3**	**0.20**	**0.016**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Dichlorodifluoromethane	**2.4**	**ug/m3**	**0.050**	**0.0052**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethane	ND	ug/m3	0.050	0.0041	EPA-TO-15-SIM	ND		1
1,2-Dichloroethane	**0.11**	**ug/m3**	**0.10**	**0.0046**	**EPA-TO-15-SIM**	**ND**		**1**
1,1-Dichloroethene	ND	ug/m3	0.050	0.0078	EPA-TO-15-SIM	ND		1
cis-1,2-Dichloroethene	ND	ug/m3	0.050	0.0044	EPA-TO-15-SIM	ND		1
trans-1,2-Dichloroethene	ND	ug/m3	0.050	0.0075	EPA-TO-15-SIM	ND		1
trans-1,3-Dichloropropene	ND	ug/m3	0.050	0.013	EPA-TO-15-SIM	ND		1
1,1-Difluoroethane	**1.1**	**ug/m3**	**5.0**	**0.0027**	**EPA-TO-15-SIM**	**ND**	**J**	**1**
Ethylbenzene	**0.69**	**ug/m3**	**0.050**	**0.017**	**EPA-TO-15-SIM**	**ND**		**1**
Naphthalene	**0.77**	**ug/m3**	**0.20**	**0.020**	**EPA-TO-15-SIM**	**ND**		**1**
Tetrachloroethene	ND	ug/m3	0.10	0.011	EPA-TO-15-SIM	ND		1
Toluene	**2.8**	**ug/m3**	**1.0**	**0.062**	**EPA-TO-15-SIM**	**ND**		**2**
1,1,1-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
1,1,2-Trichloroethane	ND	ug/m3	0.10	0.0055	EPA-TO-15-SIM	ND		1
Trichloroethene	ND	ug/m3	0.10	0.0095	EPA-TO-15-SIM	ND		1
Trichlorofluoromethane	**1.2**	**ug/m3**	**0.050**	**0.0057**	**EPA-TO-15-SIM**	**ND**		**1**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.54**	**ug/m3**	**0.10**	**0.0078**	**EPA-TO-15-SIM**	**ND**		**1**
Vinyl chloride	ND	ug/m3	0.020	0.0046	EPA-TO-15-SIM	ND		1
p- & m-Xylenes	**2.4**	**ug/m3**	**0.050**	**0.0082**	**EPA-TO-15-SIM**	**ND**		**1**
o-Xylene	**0.78**	**ug/m3**	**0.050**	**0.0044**	**EPA-TO-15-SIM**	**ND**		**1**
Total Xylenes	**3.1**	**ug/m3**	**0.10**	**0.013**	**EPA-TO-15-SIM**	**ND**		**1**
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	105	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			1
4-Bromofluorobenzene (Surrogate)	96.6	%	50 - 150 (LCL - UCL)		EPA-TO-15-SIM			2

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Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

BCL Sample ID: 2416404-17 | **Client Sample Name:** WB19-1H, 10/9/2024 10:54:00AM, Elizabeth Hwang/Olivia Hogan

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-TO-15-SIM	10/14/24 09:06	10/14/24 20:02	BEP	MS-A2	1	B198806	EPA TO-15
2	EPA-TO-15-SIM	10/14/24 09:06	10/15/24 09:56	BEP	MS-A2	10	B198806	EPA TO-15

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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals	Run #
QC Batch ID: B198723							
Benzene	B198723-BLK1	ND	ug/m3	0.050	0.0032		1
Benzyl chloride	B198723-BLK1	ND	ug/m3	0.50	0.0052		1
Carbon tetrachloride	B198723-BLK1	ND	ug/m3	0.20	0.0063		1
Chlorobenzene	B198723-BLK1	ND	ug/m3	0.10	0.0079		1
Chloroform	B198723-BLK1	ND	ug/m3	0.050	0.0058		1
1,2-Dibromoethane	B198723-BLK1	ND	ug/m3	0.20	0.014		1
1,2-Dichlorobenzene	B198723-BLK1	ND	ug/m3	0.20	0.011		1
1,3-Dichlorobenzene	B198723-BLK1	ND	ug/m3	0.20	0.013		1
1,4-Dichlorobenzene	B198723-BLK1	ND	ug/m3	0.20	0.016		1
Dichlorodifluoromethane	B198723-BLK1	ND	ug/m3	0.050	0.0052		1
1,1-Dichloroethane	B198723-BLK1	ND	ug/m3	0.050	0.0041		1
1,2-Dichloroethane	B198723-BLK1	ND	ug/m3	0.10	0.0046		1
1,1-Dichloroethene	B198723-BLK1	ND	ug/m3	0.050	0.0078		1
cis-1,2-Dichloroethene	B198723-BLK1	ND	ug/m3	0.050	0.0044		1
trans-1,2-Dichloroethene	B198723-BLK1	ND	ug/m3	0.050	0.0075		1
trans-1,3-Dichloropropene	B198723-BLK1	ND	ug/m3	0.050	0.013		1
1,1-Difluoroethane	B198723-BLK1	ND	ug/m3	5.0	0.0027		1
Ethylbenzene	B198723-BLK1	ND	ug/m3	0.050	0.017		1
Naphthalene	B198723-BLK1	ND	ug/m3	0.20	0.020		1
Tetrachloroethene	B198723-BLK1	ND	ug/m3	0.10	0.011		1
Toluene	B198723-BLK1	ND	ug/m3	0.10	0.0062		1
1,1,1-Trichloroethane	B198723-BLK1	ND	ug/m3	0.10	0.0055		1
1,1,2-Trichloroethane	B198723-BLK1	ND	ug/m3	0.10	0.0055		1
Trichloroethene	B198723-BLK1	ND	ug/m3	0.10	0.0095		1
Trichlorofluoromethane	B198723-BLK1	ND	ug/m3	0.050	0.0057		1
1,1,2-Trichloro-1,2,2-trifluoroethane	B198723-BLK1	ND	ug/m3	0.10	0.0078		1
Vinyl chloride	B198723-BLK1	ND	ug/m3	0.020	0.0046		1
p- & m-Xylenes	B198723-BLK1	ND	ug/m3	0.050	0.0082		1
o-Xylene	B198723-BLK1	ND	ug/m3	0.050	0.0044		1
Total Xylenes	B198723-BLK1	ND	ug/m3	0.10	0.013		1
4-Bromofluorobenzene (Surrogate)	**B198723-BLK1**	**92.1**	%	**50 - 150 (LCL - UCL)**			1
QC Batch ID: B198806							
Benzene	B198806-BLK1	ND	ug/m3	0.050	0.0032		2

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315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals	Run #
QC Batch ID: B198806							
Benzyl chloride	B198806-BLK1	ND	ug/m3	0.50	0.0052		2
Carbon tetrachloride	B198806-BLK1	ND	ug/m3	0.20	0.0063		2
Chlorobenzene	B198806-BLK1	ND	ug/m3	0.10	0.0079		2
Chloroform	B198806-BLK1	ND	ug/m3	0.050	0.0058		2
1,2-Dibromoethane	B198806-BLK1	ND	ug/m3	0.20	0.014		2
1,2-Dichlorobenzene	B198806-BLK1	ND	ug/m3	0.20	0.011		2
1,3-Dichlorobenzene	B198806-BLK1	ND	ug/m3	0.20	0.013		2
1,4-Dichlorobenzene	B198806-BLK1	ND	ug/m3	0.20	0.016		2
Dichlorodifluoromethane	B198806-BLK1	ND	ug/m3	0.050	0.0052		2
1,1-Dichloroethane	B198806-BLK1	ND	ug/m3	0.050	0.0041		2
1,2-Dichloroethane	B198806-BLK1	ND	ug/m3	0.10	0.0046		2
1,1-Dichloroethene	B198806-BLK1	ND	ug/m3	0.050	0.0078		2
cis-1,2-Dichloroethene	B198806-BLK1	ND	ug/m3	0.050	0.0044		2
trans-1,2-Dichloroethene	B198806-BLK1	ND	ug/m3	0.050	0.0075		2
trans-1,3-Dichloropropene	B198806-BLK1	ND	ug/m3	0.050	0.013		2
1,1-Difluoroethane	B198806-BLK1	ND	ug/m3	5.0	0.0027		2
Ethylbenzene	B198806-BLK1	ND	ug/m3	0.050	0.017		2
Naphthalene	B198806-BLK1	ND	ug/m3	0.20	0.020		2
Tetrachloroethene	B198806-BLK1	ND	ug/m3	0.10	0.011		2
Toluene	B198806-BLK1	ND	ug/m3	0.10	0.0062		2
1,1,1-Trichloroethane	B198806-BLK1	ND	ug/m3	0.10	0.0055		2
1,1,2-Trichloroethane	B198806-BLK1	ND	ug/m3	0.10	0.0055		2
Trichloroethene	B198806-BLK1	ND	ug/m3	0.10	0.0095		2
Trichlorofluoromethane	B198806-BLK1	ND	ug/m3	0.050	0.0057		2
1,1,2-Trichloro-1,2,2-trifluoroethane	B198806-BLK1	ND	ug/m3	0.10	0.0078		2
Vinyl chloride	B198806-BLK1	ND	ug/m3	0.020	0.0046		2
p- & m-Xylenes	B198806-BLK1	ND	ug/m3	0.050	0.0082		2
o-Xylene	B198806-BLK1	ND	ug/m3	0.050	0.0044		2
Total Xylenes	B198806-BLK1	ND	ug/m3	0.10	0.013		2
4-Bromofluorobenzene (Surrogate)	**B198806-BLK1**	**95.4**	%	**50 - 150 (LCL - UCL)**			2

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Method Blank Analysis

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B198723-BLK1	PB	EPA-TO-15-SIM	10/11/24	10/11/24 14:23	BEP	MS-A2	1
2	B198806-BLK1	PB	EPA-TO-15-SIM	10/14/24	10/14/24 16:11	BEP	MS-A2	1

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
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Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B198723											
Benzene	B198723-BS1	LCS	0.33316	0.31948	ug/m3	104		70 - 130			1
	B198723-BSD1	LCSD	0.34254	0.31948	ug/m3	107	2.8	70 - 130	25		2
Benzyl chloride	B198723-BS1	LCS	0.57789	0.51772	ug/m3	112		70 - 130			1
	B198723-BSD1	LCSD	0.49353	0.51772	ug/m3	95.3	15.7	70 - 130	25	J	2
Carbon tetrachloride	B198723-BS1	LCS	0.72246	0.62913	ug/m3	115		70 - 130			1
	B198723-BSD1	LCSD	0.70909	0.62913	ug/m3	113	1.9	70 - 130	25		2
Chlorobenzene	B198723-BS1	LCS	0.53771	0.46036	ug/m3	117		70 - 130			1
	B198723-BSD1	LCSD	0.51817	0.46036	ug/m3	113	3.7	70 - 130	25		2
Chloroform	B198723-BS1	LCS	0.56905	0.48825	ug/m3	117		70 - 130			1
	B198723-BSD1	LCSD	0.56923	0.48825	ug/m3	117	0.0	70 - 130	25		2
1,2-Dibromoethane	B198723-BS1	LCS	0.91575	0.76835	ug/m3	119		70 - 130			1
	B198723-BSD1	LCSD	0.87062	0.76835	ug/m3	113	5.1	70 - 130	25		2
1,2-Dichlorobenzene	B198723-BS1	LCS	0.67972	0.60124	ug/m3	113		70 - 130			1
	B198723-BSD1	LCSD	0.64027	0.60124	ug/m3	106	6.0	70 - 130	25		2
1,3-Dichlorobenzene	B198723-BS1	LCS	0.69255	0.60124	ug/m3	115		70 - 130			1
	B198723-BSD1	LCSD	0.63229	0.60124	ug/m3	105	9.1	70 - 130	25		2
1,4-Dichlorobenzene	B198723-BS1	LCS	0.70998	0.60124	ug/m3	118		70 - 130			1
	B198723-BSD1	LCSD	0.63415	0.60124	ug/m3	105	11.3	70 - 130	25		2
1,1-Dichloroethane	B198723-BS1	LCS	0.45441	0.40474	ug/m3	112		70 - 130			1
	B198723-BSD1	LCSD	0.45405	0.40474	ug/m3	112	0.1	70 - 130	25		2
1,2-Dichloroethane	B198723-BS1	LCS	0.47149	0.40474	ug/m3	116		70 - 130			1
	B198723-BSD1	LCSD	0.47265	0.40474	ug/m3	117	0.2	70 - 130	25		2
1,1-Dichloroethene	B198723-BS1	LCS	0.42913	0.39649	ug/m3	108		70 - 130			1
	B198723-BSD1	LCSD	0.43508	0.39649	ug/m3	110	1.4	70 - 130	25		2
cis-1,2-Dichloroethene	B198723-BS1	LCS	0.42444	0.39649	ug/m3	107		70 - 130			1
	B198723-BSD1	LCSD	0.42756	0.39649	ug/m3	108	0.7	70 - 130	25		2
Tetrachloroethene	B198723-BS1	LCS	0.80707	0.67825	ug/m3	119		70 - 130			1
	B198723-BSD1	LCSD	0.80118	0.67825	ug/m3	118	0.7	70 - 130	25		2
Toluene	B198723-BS1	LCS	0.40311	0.37684	ug/m3	107		70 - 130			1
	B198723-BSD1	LCSD	0.39207	0.37684	ug/m3	104	2.8	70 - 130	25		2
1,1,1-Trichloroethane	B198723-BS1	LCS	0.63396	0.54562	ug/m3	116		70 - 130			1
	B198723-BSD1	LCSD	0.63793	0.54562	ug/m3	117	0.6	70 - 130	25		2
1,1,2-Trichloroethane	B198723-BS1	LCS	0.66127	0.54562	ug/m3	121		70 - 130			1
	B198723-BSD1	LCSD	0.64257	0.54562	ug/m3	118	2.9	70 - 130	25		2
Trichloroethene	B198723-BS1	LCS	0.62429	0.53737	ug/m3	116		70 - 130			1
	B198723-BSD1	LCSD	0.61305	0.53737	ug/m3	114	1.8	70 - 130	25		2

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B198723											
Vinyl chloride	B198723-BS1	LCS	0.29600	0.25562	ug/m3	116		70 - 130			1
	B198723-BSD1	LCSD	0.29587	0.25562	ug/m3	116	0.0	70 - 130	25		2
p- & m-Xylenes	B198723-BS1	LCS	0.93244	0.86843	ug/m3	107		70 - 130			1
	B198723-BSD1	LCSD	0.94491	0.86843	ug/m3	109	1.3	70 - 130	25		2
o-Xylene	B198723-BS1	LCS	0.47821	0.43421	ug/m3	110		70 - 130			1
	B198723-BSD1	LCSD	0.48047	0.43421	ug/m3	111	0.5	70 - 130	25		2
Total Xylenes	B198723-BS1	LCS	1.4107	1.3026	ug/m3	108		70 - 130			1
	B198723-BSD1	LCSD	1.4254	1.3026	ug/m3	109	1.0	70 - 130	25		2
4-Bromofluorobenzene (Surrogate)	B198723-BS1	LCS	3.75	3.58	ug/m3	105		50 - 150			1
	B198723-BSD1	LCSD	3.47	3.58	ug/m3	96.9	8.0	50 - 150			2
QC Batch ID: B198806											
Benzene	B198806-BS1	LCS	0.35204	0.31948	ug/m3	110		70 - 130			3
	B198806-BSD1	LCSD	0.35688	0.31948	ug/m3	112	1.4	70 - 130	25		4
Benzyl chloride	B198806-BS1	LCS	0.60417	0.51772	ug/m3	117		70 - 130			3
	B198806-BSD1	LCSD	0.59163	0.51772	ug/m3	114	2.1	70 - 130	25		4
Carbon tetrachloride	B198806-BS1	LCS	0.70353	0.62913	ug/m3	112		70 - 130			3
	B198806-BSD1	LCSD	0.72010	0.62913	ug/m3	114	2.3	70 - 130	25		4
Chlorobenzene	B198806-BS1	LCS	0.52251	0.46036	ug/m3	114		70 - 130			3
	B198806-BSD1	LCSD	0.54190	0.46036	ug/m3	118	3.6	70 - 130	25		4
Chloroform	B198806-BS1	LCS	0.57621	0.48825	ug/m3	118		70 - 130			3
	B198806-BSD1	LCSD	0.58433	0.48825	ug/m3	120	1.4	70 - 130	25		4
1,2-Dibromoethane	B198806-BS1	LCS	0.89439	0.76835	ug/m3	116		70 - 130			3
	B198806-BSD1	LCSD	0.91096	0.76835	ug/m3	119	1.8	70 - 130	25		4
1,2-Dichlorobenzene	B198806-BS1	LCS	0.70758	0.60124	ug/m3	118		70 - 130			3
	B198806-BSD1	LCSD	0.69842	0.60124	ug/m3	116	1.3	70 - 130	25		4
1,3-Dichlorobenzene	B198806-BS1	LCS	0.72037	0.60124	ug/m3	120		70 - 130			3
	B198806-BSD1	LCSD	0.71854	0.60124	ug/m3	120	0.3	70 - 130	25		4
1,4-Dichlorobenzene	B198806-BS1	LCS	0.74288	0.60124	ug/m3	124		70 - 130			3
	B198806-BSD1	LCSD	0.74449	0.60124	ug/m3	124	0.2	70 - 130	25		4
1,1-Dichloroethane	B198806-BS1	LCS	0.46873	0.40474	ug/m3	116		70 - 130			3
	B198806-BSD1	LCSD	0.46911	0.40474	ug/m3	116	0.1	70 - 130	25		4
1,2-Dichloroethane	B198806-BS1	LCS	0.47500	0.40474	ug/m3	117		70 - 130			3
	B198806-BSD1	LCSD	0.48588	0.40474	ug/m3	120	2.3	70 - 130	25		4
1,1-Dichloroethene	B198806-BS1	LCS	0.44522	0.39649	ug/m3	112		70 - 130			3
	B198806-BSD1	LCSD	0.46220	0.39649	ug/m3	117	3.7	70 - 130	25		4
cis-1,2-Dichloroethene	B198806-BS1	LCS	0.44975	0.39649	ug/m3	113		70 - 130			3
	B198806-BSD1	LCSD	0.44477	0.39649	ug/m3	112	1.1	70 - 130	25		4

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Volatile Organic Compounds by GC/MS (EPA Method TO-15 at STP)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B198806											
Tetrachloroethene	B198806-BS1	LCS	0.77710	0.67825	ug/m3	115		70 - 130			3
	B198806-BSD1	LCSD	0.80833	0.67825	ug/m3	119	3.9	70 - 130	25		4
Toluene	B198806-BS1	LCS	0.40225	0.37684	ug/m3	107		70 - 130			3
	B198806-BSD1	LCSD	0.42078	0.37684	ug/m3	112	4.5	70 - 130	25		4
1,1,1-Trichloroethane	B198806-BS1	LCS	0.64072	0.54562	ug/m3	117		70 - 130			3
	B198806-BSD1	LCSD	0.65835	0.54562	ug/m3	121	2.7	70 - 130	25		4
1,1,2-Trichloroethane	B198806-BS1	LCS	0.62359	0.54562	ug/m3	114		70 - 130			3
	B198806-BSD1	LCSD	0.64832	0.54562	ug/m3	119	3.9	70 - 130	25		4
Trichloroethene	B198806-BS1	LCS	0.60167	0.53737	ug/m3	112		70 - 130			3
	B198806-BSD1	LCSD	0.62790	0.53737	ug/m3	117	4.3	70 - 130	25		4
Vinyl chloride	B198806-BS1	LCS	0.29952	0.25562	ug/m3	117		70 - 130			3
	B198806-BSD1	LCSD	0.30319	0.25562	ug/m3	119	1.2	70 - 130	25		4
p- & m-Xylenes	B198806-BS1	LCS	0.96885	0.86843	ug/m3	112		70 - 130			3
	B198806-BSD1	LCSD	0.99360	0.86843	ug/m3	114	2.5	70 - 130	25		4
o-Xylene	B198806-BS1	LCS	0.48972	0.43421	ug/m3	113		70 - 130			3
	B198806-BSD1	LCSD	0.50139	0.43421	ug/m3	115	2.4	70 - 130	25		4
Total Xylenes	B198806-BS1	LCS	1.4586	1.3026	ug/m3	112		70 - 130			3
	B198806-BSD1	LCSD	1.4950	1.3026	ug/m3	115	2.5	70 - 130	25		4
4-Bromofluorobenzene (Surrogate)	B198806-BS1	LCS	3.86	3.58	ug/m3	108		50 - 150			3
	B198806-BSD1	LCSD	3.74	3.58	ug/m3	105	3.0	50 - 150			4

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B198723-BS1	LCS	EPA-TO-15-SIM	10/11/24	10/11/24 12:53	BEP	MS-A2	1
2	B198723-BSD1	LCSD	EPA-TO-15-SIM	10/11/24	10/11/24 13:37	BEP	MS-A2	1
3	B198806-BS1	LCS	EPA-TO-15-SIM	10/14/24	10/14/24 14:40	BEP	MS-A2	1
4	B198806-BSD1	LCSD	EPA-TO-15-SIM	10/14/24	10/14/24 16:54	BEP	MS-A2	1

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Catalyst Environmental Solutions
315 Montana Ave Suite 311
Santa Monica, CA 90403

Reported: 11/11/2024 15:09
Project: Walnut Bluff
Project Number: [none]
Project Manager: Yola Byram

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit

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Appendix H

PID Calibration Certificates

FIELD ENVIRONMENTAL INSTRUMENTS, INC.
www.fieldenvironmental.com

301 Brushton Ave
Suite A
Pittsburgh, PA 15221
Toll Free (800) 393-4009
Local (412) 436-2600
Fax (412) 436-2616

Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(98 - 102)

Pump Flow mL/min	Acceptable Range
481	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
9.94	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-000293
Barcode	U55428X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.
All calibration gas used is traceable to NIST. Additional documentation is available upon request.

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard	Reading	Acceptable Range
10 ppm	10	(98 - 102)

Pump Flow mL/min	Acceptable Range
523	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
9.96	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package — Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included — Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-900569
Barcode	U57479X
Order #	561931

Calibrated By Christian Pinto

Date of Calibration 9/25/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(9.8 - 10.2)

Pump Flow mL/min	Acceptable Range
570	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
10.01	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594900570
Barcode	U57503X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/26/2024

Rev 4.0 6/7/24

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.
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Pittsburgh, PA 15221
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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard	Reading	Acceptable Range
10 ppm	10	(9.8 - 10.2)

Pump Flow mL/min	Acceptable Range
510	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
9.94	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package — Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included — Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-900568
Barcode	U57541X
Order #	561931

Calibrated By Christian Pinto

Date of Calibration 9/26/2024

Rev 4.0 6/7/24

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.
All calibration gas used is traceable to NIST. Additional documentation is available upon request.

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Pittsburgh, PA 15221
Toll Free (800) 393-4009
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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(98 - 102)

Pump Flow mL/min	Acceptable Range
499	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
10.07	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-900641
Barcode	U58038X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.
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Fax (412) 436-2616

Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(98 - 102)

Pump Flow mL/min	Acceptable Range
523	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
10.02	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-901576
Barcode	U62797X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.
All calibration gas used is traceable to NIST. Additional documentation is available upon request.

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Pittsburgh, PA 15221
Toll Free (800) 393-4009
Local (412) 436-2600
Fax (412) 436-2616

Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading: 10 — **Acceptable Range**: (98 - 102)

Pump Flow mL/min: 555 — **Acceptable Range**: (300+)

Response Factor
1.0

Bump Test Reading: 9.94 — **Acceptable Range**: 9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-902247
Barcode	U65825X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.
All calibration gas used is traceable to NIST. Additional documentation is available upon request.

FIELD ENVIRONMENTAL INSTRUMENTS, INC.
www.fieldenvironmental.com

301 Brushton Ave
Suite A
Pittsburgh, PA 15221
Toll Free (800) 393-4009
Local (412) 436-2600
Fax (412) 436-2616

Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard	Reading	Acceptable Range
10 ppm	10	(9.8 - 10.2)

Pump Flow mL/min	Acceptable Range
427	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
10.04	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package — Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included — Yes
(4 X AA Batteries)

Model	
Lamp	10.6 eV
S/N	M01FA04151
Barcode	U85284X
Order #	561931

Calibrated By Christian Pinto

Date of Calibration 9/26/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading: 10 — **Acceptable Range**: (98 - 102)

Pump Flow mL/min: 506 — **Acceptable Range**: (300+)

Response Factor
1.0

Bump Test Reading: 10.2 — **Acceptable Range**: 9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-917344
Barcode	U107793X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading: 10 — **Acceptable Range**: (9.8 - 10.2)

Pump Flow mL/min: 483 — **Acceptable Range**: (300+)

Response Factor
1.0

Bump Test Reading: 10.06 — **Acceptable Range**: 9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included *(4 X AA Batteries)*: Yes

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-917345
Barcode	U110414X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/26/2024

Rev 4.0 6/7/24

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.
All calibration gas used is traceable to NIST. Additional documentation is available upon request.

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Photo-Ionization Detector Calibration Certificate

	Lot #	Expiration
Isobutylene Gas	22-8650	11/29/2026

ID: 107 or 1693

Cal Standard: 10 ppm

Reading	Acceptable Range
10	(98 - 102)

Pump Flow mL/min	Acceptable Range
512	(300+)

Response Factor
1.0

Bump Test Reading	Acceptable Range
9.97	9.0 - 11.0

Ensure Water Trap (ID: 2609) and Tubing Included with Rental Package: Confirmed

Alkaline Pack Batteries Checked / Removal Tool Screwdriver Included: Yes
(4 X AA Batteries)

Model	ppbRae 3000
Lamp	10.6 eV
S/N	594-912843
Barcode	U110744X
Order #	561931

Calibrated By: Christian Pinto

Date of Calibration: 9/25/2024

Rev 4.0 6/7/24

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.
All calibration gas used is traceable to NIST. Additional documentation is available upon request.

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EXCLUSIVE NEGOTIATION AGREEMENT
(National Core/Signal Hill)

THIS EXCLUSIVE NEGOTIATION AGREEMENT *("**Agreement**")* is entered into as of February [__], 2024 ("***Effective Date***"), by and between the CITY OF SIGNAL HILL ("***City***"), CITY OF SIGNAL HILL HOUSING AUTHORITY ("***HA***") and NATIONAL COMMUNITY RENAISSANCE OF CALIFORNIA, a California nonprofit public benefit corporation ("***Developer***"). City and HA are sometimes collectively referred to as "***City***" herein. HA, City and Developer are hereinafter sometimes referred to collectively as the "***Parties***" or individually as a "***Party***."

I. NEGOTIATIONS

City issued a Notice of Funding Availability *("NOFA")* to secure an affordable housing developer to work with the City and Signal Hill Petroleum, a local property owner, to develop an affordable housing project on two separate sites known as**:** "Orange Bluff" an 8.6-acre property located on the south side of East 28th Street between Orange Avenue and Gundry Avenue and "Walnut Bluff" a 2-acre property located at the northwest corner of East Willow Street and Walnut Avenue.

The sites are owned by Signal Hill Petroleum ***("SHP")*** and described in the legal description attached hereto as Exhibit A and by this reference incorporated herein (the "***Property***").

Developer's NOFA response identified the development of:

1. Approximately 85 units on 2.0 acres at Walnut Bluff

2. Approximately 290 units on 8.6 acres at Orange Bluff

The current site entitlements cap the development at 90 units at the Walnut Bluff site and 290 at the Orange Bluff site.

The City's NOFA indicated that the City has set aside approximately $10,000,000 from multiple sources specifically to reduce an anticipated funding gap relating to the development and construction of affordable housing projects on the Property. Upon the satisfaction of conditions acceptable to, and execution of agreements between, the City and the Developer acceptable to the City, the City and its Signal Hill Housing Authority (***"Authority"***) will provide the negotiated financing to assist with development and construction of the affordable housing community:

Pursuant to the terms of this Agreement, City and Developer shall negotiate in good faith, for the period stated in Section II below, the terms of an affordable housing agreement or other form of agreement or agreements ("***AHA***") to be entered into between City and Developer concerning Developer's development of the Property with a multifamily affordable housing development. Additionally, during the pendency of this Agreement Developer and SHP will negotiate a private transaction for the sale and purchase of the Property based upon the Schedule of Performance attached hereto as Exhibit B.

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City agrees, for the period stated in Section II below, not to negotiate with any other Person regarding the use of funds identified in the NOFA without the prior written consent of Developer. For purposes of this Agreement, the term "***Person(s)***" means any one or more individuals, partnerships (whether general or limited), limited liability companies, trusts, estates, associations, corporations, or any other entities recognized by law or custom.

II. NEGOTIATION PERIOD AND DEPOSIT

A. Negotiation Period.

For a period of three hundred sixty-five (365) days commencing as of the Effective Date (the ***"Exclusive Negotiation Period"***), the City and Developer agree to negotiate the terms of an AHA; provided, however that upon written request of Developer, the City may in the sole and absolute discretion of the City Manager extend the Exclusive Negotiation Period one or more times for up to a cumulative total of one hundred twenty (120) additional days. The term of the Exclusive Negotiation Period, as it may be extended, to the extent such extension(s) is/are granted, shall hereinafter be defined as the "***Negotiation Period***." At any time, Developer and City may mutually agree to terminate this Agreement without liability to either Party. Except as provided below, if, upon the expiration of the Negotiation Period, City and Developer have not each approved and executed an AHA, then this Agreement shall automatically terminate and Developer shall have no further rights regarding the subject matter of this Agreement or the funds identified in the NOFA, and City shall be free to negotiate with any other Person(s) with regard to the funds identified in the NOFA.

B. Deposit.

Concurrent with the Developer's execution of this Agreement, the Developer shall pay a deposit of Thirty Thousand Dollars ($30,000) in immediately available funds ("***Deposit***") to the City to defray certain reasonable third-party costs which may be incurred by City in pursuing the contemplated negotiations with the Developer during the Negotiation Period, such as expenses incurred by the City for the services of consultants and attorneys. In no event shall Deposit funds be used to reimburse City for internal staff costs or overhead. Developer shall be entitled to a refund of any Deposit funds remaining with the City following the termination of this Agreement. City shall provide Developer a summary accounting of expenses charged against the Deposit monthly.

III. OBLIGATIONS OF DEVELOPER

A. Schedule of Performance

Unless any time period provided therein is modified at the sole discretion of the City Manager, Developer shall commence and complete all tasks required to be completed hereunder within the times set forth in the Schedule of Performance attached hereto as Exhibit B and by this reference incorporated herein. By its execution of the Consent and Acknowledgment attached hereto as Exhibit C, SHP acknowledges the tasks and timing provided in the Schedule of Performance and additionally authorizes Developer to process with the City for entitlements necessary to develop an affordable housing project on the Property.

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B. Community Outreach

Within the time set forth in the Schedule of Performance, Developer, at its cost and in consultation with City, shall conduct community outreach designed to familiarize the community with the type of development typically developed by Developer and the type proposed by Developer for the Property. Not less than ten (10) days prior to any such meeting, Developer shall mail notice of such meeting to all property owners (and residents who are not owners but who have requested such notice) located within five hundred (500) feet of the exterior boundaries of the Property. Developer shall provide the attendees of such meetings and any other members of the community who have indicated their interest with the name and communication information of a Developer representative who may be contacted with additional questions any of such persons may have.

C. Evidence of Financing

Within the time set forth in the Schedule of Performance, Developer, at its cost, shall provide the Deputy City Manager with a schedule of proposed sources of funding for, and uses of funds and financial pro forma for, the development of the Property. In addition, during the term of this Agreement, Developer shall promptly provide the City Manager with copies of any applications for funding or other funding requests submitted by Developer to finance the development of the Property, and any response documentation received in connection with such submittals. Notwithstanding the foregoing, however, Developer shall not be required to obtain written commitments for any such financing during the term of this Agreement; the Parties anticipate that this subject will be dealt with in the AHA.

D. Development Plans, Entitlements, and CEQA Review

The Parties acknowledge that as a part of the NOFA process Developer has submitted to the City both a conceptual site plan for the Property (the "***Site Plan***") and a financing plan, copies of which are attached hereto as Exhibit D. City and Developer acknowledge that during the Negotiation Period, the Site Plan will be refined, based on discussions and meetings with City representatives and the activities to be conducted by Developer pursuant to this Agreement, including, without limitation, the neighborhood outreach described in Paragraph C above. Concurrently with such refinement, and in accordance with the timeframes set forth in the Schedule of Performance, Developer shall commence processing any entitlements necessary for development of the Property (collectively, the "***Entitlements***"), and shall furnish such information to City regarding the Site Plan as may be required by City to perform an environmental review for an AHA, the Entitlements, and any permits for the development of the Property required pursuant to the California Environmental Quality Act ("***CEQA***"). All fees and expenses for engineers, architects, financial consultants, legal, planning or other consultants retained by Developer to perform Developer's obligations set forth in this Agreement shall be the sole responsibility of Developer. City shall not be obligated to pay or reimburse any such fees and expenses incurred by Developer whether or not this Agreement is eventually terminated or extended, or whether or not an AHA is entered into between City and Developer in the future. All costs associated with any formal submittals and all costs associated with the preparation of environmental documents under CEQA shall be borne by Developer. Nothing herein reduces or eliminates any requirements

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of City or any other governmental entity with jurisdiction over the Property with respect to development of the Property.

E. Developer's Findings and Reports to City Manager

Developer, at its cost, shall, at the request of the City Manager, make periodic oral progress reports on all matters related to the Project and all studies being made related to Developer's acquisition and development of the Property, to the extent that they do not include confidential matters. Developer, at its cost, shall provide qualified representatives to participate in workshops, meetings, or presentations concerning the Property as reasonably required by the City Manager.

F. Restrictions Against Change In Ownership, Management And Control of Developer and Assignment of Agreement

1. The qualifications and identity of Developer and its principals are of particular concern to the City. It is because of these qualifications and identity that City has entered into this Agreement with Developer. Except as provided below, during the Negotiation Period, no voluntary or involuntary successor-in-interest of Developer shall acquire any rights or powers under this Agreement. Developer shall not assign or transfer all or any part of this Agreement or any rights in or under this Agreement, without the prior written approval of the City Manager, which approval may be given or withheld in the City Manager's sole and absolute discretion. Any assignment or transfer of an interest, whether voluntary or involuntary, by Developer that has not been approved in writing by the City Manager prior to the time of such assignment or transfer shall be deemed a material breach of this Agreement by Developer which shall entitle City to terminate this Agreement, without liability, by sending written notice of termination to Developer, referencing this Paragraph F. Notwithstanding the foregoing, Developer shall be permitted to assign its rights under this Agreement to a limited partnership, the general partner of which is either (i) Developer, or (ii) an entity owned by Developer and over which Developer has managerial control, provided Developer and the proposed assignee execute an assignment and assumption agreement in a form approved by the Signal Hill City Attorney, pursuant to which the proposed assignee assumes all of Developer's obligations hereunder.

2. Developer shall give prompt written notice to the City Manager of any and all changes whatsoever in the identity of the business entities or individuals in control of Developer of which information Developer or any of its members, partners or officers are notified or may otherwise have knowledge or information. Failure of Developer to so notify the City Manager in writing within five (5) business days of such changes or obtaining such knowledge shall constitute a material breach by Developer of this Agreement and City may terminate this Agreement, without liability to City, by sending written notice of termination to Developer, referencing this Paragraph F.

G. Acknowledgments and Reservations

1. If this Agreement expires or is terminated for any reason, or a future AHA is not executed by both City and Developer for any reason, neither City nor Developer shall be under any further obligation to each other regarding the disposition of the Property or the development thereof.

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2. Developer acknowledges and agrees that no provision of this Agreement shall be deemed to be an offer or proposal by City to Developer, nor an acceptance by City of any offer or proposal from Developer, for City to provide any financial or other assistance to Developer for development of the Property. The Parties anticipate that any such financial commitments will be contained in the AHA.

H. Developer Financial Disclosures

City reserves the right to obtain further information, data, and commitments to ascertain the ability and capacity of Developer to develop the Property. Developer acknowledges that it may be requested to make certain confidential financial disclosures to City, its staff or legal counsel, as part of the financial due diligence investigations of City relating to the potential disposition of the Property and its development. City and Developer recognize that such financial disclosures may contain sensitive information relating to other business transactions of Developer, that the disclosure of such information to third parties could impose commercially unreasonable and/or anti-competitive burdens on Developer and, correspondingly, diminish the value or fiscal benefit that may accrue to City upon the disposition of the Property and development thereof by Developer, if a future AHA is entered into between City and Developer. Accordingly, City agrees to maintain the confidentiality of any business records of Developer disclosed to City, except as the City Attorney reasonably determines must be disclosed pursuant to the California Public Records Act or other applicable law. The defense of any action seeking disclosure of protected business records shall be at Developer's expense and handled by legal counsel selected by Developer and reasonably acceptable to the Signal Hill City Attorney.

I. Nondiscrimination

In undertaking its obligations under this Agreement, Developer covenants by and for itself and its representatives, officers, administrators, and assigns, and all persons claiming under or through them, that there shall be no discrimination against or segregation of, any person or group of persons on account of any basis listed in subdivision (a) or (d) of Section 12955 of the Government Code as those bases are defined in Sections 12926, 12926.1, subdivision (m) and paragraph (1) of subdivision (p) of Section 12955, and Section 12955.2 of the Government Code, nor shall Developer or any person claiming under or through Developer, establish or permit any practice or practices of discrimination or segregation with reference to the selection, location, number, use or occupancy of tenants, lessees, subtenants, sublessees, or vendees.

J. Infill Infrastructure Grant

The Parties anticipate that the development of the Property for subsequent construction of an affordable housing community would be facilitated by a successful award of a grant from the State of California under its Infill Infrastructure Grant Program (***"IIG"***) administered by the California Department of Housing and Community Development (***"HCD"***). IIG awards are made to promote infill housing development by providing financial assistance for capital improvement projects to facilitate the development of affordable housing. Awards are made in response to an HCD NOFA, and IIG grants to pay project eligible costs (such as utility service relocation and improvement, streets, transit linkages, site preparation and demolition) are made based upon the competitive process outlined in such an HCD NOFA and upon the provision by the State of

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California of funding to the IIG Grant Program. The Parties acknowledge that while the award of an IIG grant would enhance the development of an affordable housing community on the Property, HCD must first issue its NOFA and the State must fund the Infill Infrastructure Grant Program. Consequently, Developer shall work with the City as early as reasonably possible during the term of this Agreement to prepare on the City's behalf an application for an IIG grant in the amount of up to $30,000,000. The Parties anticipate that IIG funding would be used to pay eligible costs to address existing shortcomings at and around the Property including utility and frontage improvements, demolition, grading, retaining wall construction, wet and dry utilities, and erosion control. If, and once, an IIG grant is awarded, Developer shall implement and administer the IIG grant funds for the City.

IV. REMEDIES

A. Default and Breach

1. Failure or delay by either Party to perform any material term or provision of this Agreement shall constitute a "default" under this Agreement. Subject to the effect of applicable force majeure provisions of Section VI, Paragraph K, if the Party who is claimed to be in default by the other Party commences to cure, correct, or remedy the default within fifteen (15) calendar days after receipt of written notice specifying such default and diligently completes such cure, correction or remedy within fifteen (15) calendar days after the expiration of the initial fifteen (15) day period (for a total of thirty (30) calendar days to cure the default), such Party shall not be in default under this Agreement. In no event shall any time to cure, correct or remedy a default extend the Negotiation Period.

2. The Party claiming that a default has occurred shall give written notice of default to the Party claimed to be in default, describing the alleged default with reasonable specificity. Delay in giving such notice shall not constitute a waiver of any default nor shall it change the time of default. However, the injured Party shall have no right to exercise any remedy permitted for a "breach" (as defined below) under this Agreement, without first delivering written notice of the default.

3. Any failure or delay by a Party in asserting any of its rights or remedies as to any default shall not operate as a waiver of any default or of any rights or remedies associated with a default. Except with respect to rights and remedies expressly declared to be exclusive in this Agreement, the rights and remedies of the Parties are cumulative and the exercise by either Party of one or more of such rights or remedies shall not preclude the exercise by such Party, at the same or different times, of any other rights or remedies for the same default or any other default by the other Party.

4. Subject to applicable force majeure provisions of this Agreement, if a Party in default fails either (i) to commence to cure, correct or remedy the default within fifteen (15) calendar days following written notice of such default, or (ii) to complete such cure, correction or remedy within fifteen (15) calendar days after the expiration of the initial fifteen (15) day period (for a total of thirty (30) calendar days to cure the default), a "breach" of this Agreement by the defaulting Party shall be deemed to have occurred. In no event shall City's disapproval or conditional approval of the Site Plan, the AHA, any CEQA review, or any other matters that

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require City's approval pursuant to this Agreement or applicable law constitute a default or breach under this Agreement by City.

B. Remedies for Breach of Agreement.

In the event of an uncured default under this Agreement, the sole remedy of the non-defaulting Party shall be to terminate this Agreement. Following the termination of this Agreement, neither Party shall have any further rights, remedies, or obligations under this Agreement, except as specifically set forth herein. Neither Party shall have any liability to the other for monetary damages for the breach of this Agreement, or failure to reach agreement on an AHA, and each Party hereby waives and releases any such rights or claims it may otherwise have at law or at equity. The Parties' rights and obligations under this Paragraph B shall survive the expiration or termination of this Agreement.

V. INDEMNIFICATION, RIGHT OF ENTRY, INSURANCE, AND OTHER ISSUES

A. Indemnification

Developer shall defend, indemnify and hold harmless the City and its officers, officials, members, employees, agents, representatives, and volunteers (when acting in an official capacity), from and against all damages and liability, including but not limited to any and all claims, demands, expenses, fees, costs, liabilities, suits, causes of action, litigation, attorney's fees, and expert witness fees (all of the foregoing, collectively, "***Claims***") arising from or related to the performance or nonperformance by Developer or its principals, directors, managers, shareholders, partners, employees, agents, or representatives in connection with this Agreement, including but not limited to Developer's investigation of the Property. Notwithstanding the foregoing, Developer shall not be responsible for any damages or liability to the extent caused by the negligence or willful misconduct of City or any of its officers, officials, members, employees, agents, representatives, or volunteers acting in an official capacity. This indemnity shall survive the termination of this Agreement.

B. Insurance

1. Within ten (10) days of the Effective Date of this Agreement, without limiting Developer's indemnification obligations as set forth in this Agreement, Developer shall procure and maintain, at its sole cost and expense, the following policies of insurance:

a. Commercial General Liability insurance written on a per occurrence basis in an amount not less than $1,000,000 per occurrence.

b. Business Auto Coverage written on a per accident basis in an amount not less than $1,000,000 per accident. If Developer or Developer's employees use personal autos in connection with the performance of work under this Agreement, Developer shall provide evidence of personal auto liability coverage for each such person or of evidence of such coverage or of reasonably similar coverage under any umbrella insurance policy maintained by Developer.

c. If applicable, Worker's Compensation insurance providing statutory benefits as required by California law.

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2. All of the insurance policies required hereunder, except the worker's compensation insurance, shall comply with the following requirements:

a. All insurance shall be written by insurers that are admitted and licensed to do business in the State of California and with A.M. Bests rating of A- or better and a minimum financial size VII.

b. The policies shall be endorsed to name as additional insureds the City and its officers, officials, members, employees, and agents.

c. All of Developer's insurance: (a) shall contain no special limitations on the scope of protection afforded to the additional insureds; and (b) shall be primary insurance with regard to additional insureds and any insurance or self-insurance maintained by the additional insureds or any of them shall be in excess of Developer's insurance and shall not contribute with it.

d. The policies shall be "occurrence" rather than "claims made" insurance.

e. The policies shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

f. The policies shall prohibit Developer from waiving the right of subrogation prior to a loss.

g. The policies shall not contain any provision or definition that would serve to eliminate so-called "third party action over" claims, including any exclusion for bodily injury to an employee of the insured.

3. Developer shall provide the City Manager with certificates of insurance evidencing the above insurance coverages and said certificates of insurance have been reasonably approved by City. In the event any of said policies of insurance are reduced in limits or cancelled for any reason, Developer shall, prior to the cancellation date, submit new evidence of insurance, in conformance with this Paragraph B.

4. The provisions of any workers' compensation or similar act shall not limit the obligations of Developer under this Agreement. Developer expressly agrees not to use any statutory immunity defenses under such laws with respect to City or its officers, officials, members, employees, agents, representatives, or volunteers acting in an official capacity.

5. Developer agrees to provide immediate notice to City of any claim or loss against Developer arising out of any acts or omissions of Developer under this Agreement. City assumes no obligation or liability by such notice, but has the right to monitor the handling of any such claim or claims if they are likely to involve the City or any officer, official, member, employee, agent, or representative of City acting in an official capacity.

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VI. MISCELLANEOUS

A. Compliance With Law

Developer acknowledges that any future AHA, if approved by City, will require Developer (among other things) to carry out the development of the Property in conformity with all applicable laws, including all applicable building, planning and zoning laws, environmental laws, safety laws, and, if applicable, federal and state labor and wage laws including, but not limited to, any prevailing wage requirements pursuant to California Labor Code section 1720 *et seq.*

B. Third-Party Beneficiaries

None of the terms or provisions of this Agreement are intended to benefit any person or entity other than City or Developer. No affiliate or joint venturer or partner of Developer has any rights pursuant to this Agreement.

C. No Broker or Finder

Developer shall indemnify, defend, and hold harmless City from and against any claim or lawsuit (including reasonable attorneys' fees and costs and all costs of suit, expert witness fees, costs on appeal, and for discovery) for the payment of any real estate commissions or finder's or broker's fees arising out of this Agreement.

D. Governing Law; Venue; Attorneys' Fees

City and Developer agree that this Agreement shall be governed by, interpreted under, and construed and enforced in accordance with, the internal laws of the State of California without application of principles of conflicts of law. City and Developer acknowledge and agree that this Agreement was negotiated and entered into in the City of Signal Hill, California. Any legal action brought under this Agreement must be instituted in the Superior Court of the County of Los Angeles, or in the Federal District Court of the applicable federal district of California. In the event of any litigation between the Parties, the prevailing Party shall be entitled to receive, in addition to the relief granted, its reasonable attorneys' fees and costs and such other costs incurred in investigating the action and prosecuting the same, including costs for expert witnesses, costs on appeal, and for discovery.

E. Partial Invalidity

If any term or provision or portion thereof of this Agreement or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision or portion thereof to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each such term and provision of this Agreement shall be valid and enforced to the fullest extent permitted by law.

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F. Waivers

No waiver of any breach of any covenant or provision contained in this Agreement shall be deemed a waiver of any preceding or succeeding breach of such provision, or of any other covenant or provision contained in this Agreement. Unless required by the force majeure provisions of this Agreement, no extension of the time for performance of any obligation or act or any waiver of any provision of this Agreement shall be enforceable against City or Developer, unless made in writing and executed by both City and Developer.

G. Notices.

All notices under this Agreement shall be delivered by personal delivery, by a reputable same-day or overnight courier service that provides a receipt with the date and time of delivery, or by mailing in the U.S. mail by prepaid certified mail. Notices shall be directed to the respective Parties as follows:

If to City:
City of Signal Hill
Attn: Carlo Tomaino, City Manager
2175 Cherry Ave
Signal Hill, CA 90755

If to Developer:
National Community Renaissance of California
Attn: Michael Ruane, President
9692 Haven Avenue, Suite 100
Rancho Cucamonga, CA 91730

A Party may change the address for delivery of notices to it as such Party may from time to time designate in writing to the other Party by a written notice conforming to the requirements of this section. Notices delivered by personal delivery, or same-day or overnight courier service shall be effective upon receipt (provided that any notices received after 5:00 p.m. on a business day or on a holiday or a weekend shall not be deemed received until 9:00 a.m. the next business day). Notices delivered by mail shall be effective as of noon on the second business day following deposit with the United States Postal Service.

H. Calendar Days and Business Days

As used herein, the term "days" shall mean calendar days unless the term "business days" is used. As used herein, a "business day" shall mean a day that Signal Hill City Hall is open for business to the general public. Developer acknowledges that Signal Hill City Hall is closed for holidays designated by the State of California or by ordinance or resolution of the City Council of the City. If the date on which City or Developer are required to take any action pursuant to the terms of this Agreement is not a business day, the action shall be taken on the next succeeding business day.

I. Construction

Headings at the beginning of each section and subsection of this Agreement are solely for the convenience of reference of City and Developer and are not a part of this Agreement.

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Whenever required by the context of this Agreement, the singular shall include the plural and the masculine shall include the feminine and vice versa. This Agreement shall not be construed as if it had been prepared by one or the other of City or Developer but rather as if both City and Developer prepared this Agreement. Unless otherwise indicated, all references to sections are to this Agreement. If any exhibits are referred to in this Agreement, such exhibits are either attached to this Agreement or incorporated into this Agreement by reference.

J. Nonliability of City Officials, Officers, and Employees

No officer, official, member, employee, agent, representative, or volunteer (when acting in an official capacity) of the City shall be personally liable to Developer, or any successors in interest, in the event of any default or breach by City of this Agreement, or for any amount which may become due to Developer or to any successors under this Agreement, or for a breach by City of any obligation of the terms of this Agreement.

K. Enforced Delay; Extension of Times of Performance

In addition to specific provisions of this Agreement, performance by either Party (who is not then otherwise in material default) shall not be deemed to be in default where delays or defaults are due to war, insurrection, strikes, lock-outs, riots, floods, earthquakes, fires, casualties, supernatural causes, acts of the public enemy, terrorism, epidemics, quarantine restrictions, freight embargoes, lack of transportation, governmental restrictions or priority, litigation, unusually severe weather, inability to secure necessary labor, materials or tools, delays of any contractor, subcontractor or supplies, acts of the other Party, acts or failure to act of City or any other public or governmental agency or entity, including, without limitation, unreasonable delays in the processing and issuance of required permits for a development project required by Developer (except that any act or failure to act of City shall not excuse performance by City) or any other causes beyond the reasonable control or without the fault of the Party claiming an extension of time to perform, for up to a maximum cumulative period of ninety (90) days. Notwithstanding the foregoing, inability to secure satisfactory financing, tenant or manufacturer commitments, or market and economic conditions shall not entitle Developer to an extension of time to perform. An extension of time for any such cause shall be for the period of the enforced delay and shall commence to run from the time of the commencement of the cause, if notice by the Party claiming such extension is sent to the other Party within ten (10) days of knowledge of the commencement of the cause. In addition, times of performance under this Agreement may be extended by mutual written agreement by City and Developer.

L. Time of the Essence

Time is of the essence in this Agreement and of each and every term and provision hereof, it being understood that the Parties hereto have specifically negotiated the dates or time limits for the completion of each obligation herein.

M. Entire Agreement; Amendment.

This Agreement sets forth the entire agreement between the Parties with respect to the subject matter set forth herein and supersedes all prior discussions and negotiations between the

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Parties with respect thereto. No amendment to this Agreement shall be effective unless set forth in a writing signed by an authorized signatory of each Party.

N. Counterparts.

This Agreement may be executed in any number of duplicate originals, all of which shall be of equal legal force and effect upon all of the Parties hereto signing this Agreement.

P. Warranty Against Payment of Consideration for Agreement. The Developer warrants that it has not paid or given, and will not pay or give, any third party any money or other consideration for obtaining this Agreement. Third parties, for the purposes of this Section VI, P, shall not include persons to whom fees are paid for professional services, if rendered by attorneys, financial consultants, accountants, engineers, architects, brokers and other consultants, when such fees are considered necessary by the Developer.

Q. Press Releases. The Developer agrees to obtain the approval of the City Manager or his or her designee or successor in function of any press releases Developer may propose relating to the sale or development of the Property or negotiation of an AHA with the City, prior to publication.

[Signature pages follow]

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EXCLUSIVE NEGOTIATION AGREEMENT
(National Core/Signal Hill)

IN WITNESS WHEREOF, the Parties have executed and entered into this Agreement as of the Effective Date.

DEVELOPER:

NATIONAL COMMUNITY RENAISSANCE OF CALIFORNIA,
a California non-profit public benefit corporation

By: _____
Name: Michael Ruane
Title: President

CITY:

CITY OF SIGNAL HILL ,
a public body corporate and politic

DocuSigned by:
By: Lori Y. Woods
5ED176FCFF99457...
Name: Lori Y. Woods
Title: Mayor

ATTEST:

DocuSigned by:
Kimberly Boles
A3176C4ECC2B421...
City Clerk, Kimberly Boles, Senior Deputy City Clerk

APPROVED AS TO FORM:

DocuSigned by:
Matthew Richardson
0A0E66577B674DC...
By: Matthew Richardson
Name: City Attorney

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EXHIBIT A

LEGAL DESCRIPTION

[Attached.]

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EXHIBIT A

LEGAL DESCRIPTION

ORANGE BLUFF SITE

PROPERTY ADDRESS: None assigned; 2751-71± Gundry Avenue, Signal Hill, California 90755

APNs: 7212-008-049, 051 AND 7212-010-010, 019, 020

LEGAL DESCRIPTION: Portion of Lot 60, American Colony Tract, per map recorded in Book 19, Page 89 and 90 of Miscellaneous Records; and Lots 1 and 2, Cook Tract, per map recorded in Book 10, Page 131 of Maps; and Portion of Lot 1, Block A, La Vista Tract, per map recorded in Book 6, Page 160 of Maps, in the office of the County Recorder, County of Los Angeles, California, excepting therefrom all minerals, gas, oils, petroleum, etc.

WALNUT BLUFF SITE

APN: 7212-010-038

PROPERTY ADDRESS: None assigned; 1451± Willow Avenue, Signal Hill, California 90755

LEGAL DESCRIPTION: Portion of lot 67, American Colony Tract, per map recorded in Book 19, Page 89 and 90 of Miscellaneous Records; County of Los Angeles, California, excepting therefrom all minerals, gas, oils, petroleum, etc.

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EXHIBIT B

SCHEDULE OF PERFORMANCE

ITEM OF PERFORMANCE		TIME FOR PERFORMANCE
1.	Negotiate terms of site control with Signal Hill Petroleum.	Within sixty (60) calendar days of effective date.
2.	Refine and present to HA and City staff, for review, the following for each site: (a) Site Plan. A conceptual development site plan for each proposed Projects that describes and depicts: (1) the location and orientation of proposed buildings; and (2) the architecture of the proposed buildings; and (3) floor plans including unit plans; (b) Financial Pro Forma. A preliminary financial pro forma for each Project that includes cost financing (sources and uses), development costs, income, operating expenses and a cash flow analysis; (c) Project Schedule. A proposed time schedule from commencement to completion of the Projects;	Within one hundred and twenty (120) calendar days of effective date.
3.	Enter into a valid, enforceable contingent purchase and sale agreement or option agreement to establish site control.	Within sixty (60) calendar days of finalizing the terms for site control.
4.	Conduct HA Board/City Council/Community workshop.	Within sixty (60) calendar days of submitting the refined development plan, Developer shall facilitate at least one workshop for the HA Board, City Council, and community in a format to be designed in concert with HA and City staff.
5.	Negotiation of Affordable Housing Agreement.	Within three hundred and sixty-five (365) calendar days of effective date, or as required for funding applications, whichever is first.

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EXHIBIT C

Signal Hill Petroleum Consent and Acknowledgement

[Attached.]

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CONSENT AND ACKNOWLEDGEMENT

I, _____, in my capacity as _____ for Signal Hill Petroleum consent to the City and Developer, as those terms are defined in the Exclusive Negotiation Agreement among the City of Signal Hill and National Community Renaissance of Southern California, pursuing and processing all necessary applications and entitlements for the development of an affordable housing project at the following locations:

1._____

2._____

Additionally, I, on behalf of Signal Hill Petroleum, acknowledge and agree to use best efforts to comply the Schedule of Performance and to complete the land transaction between Signal Hill Petroleum and Developer consistent with the timeframe set forth therein.

By: _____
Name: _____
Title: _____

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EXHIBIT D
SITE PLAN AND FINANCING PLAN

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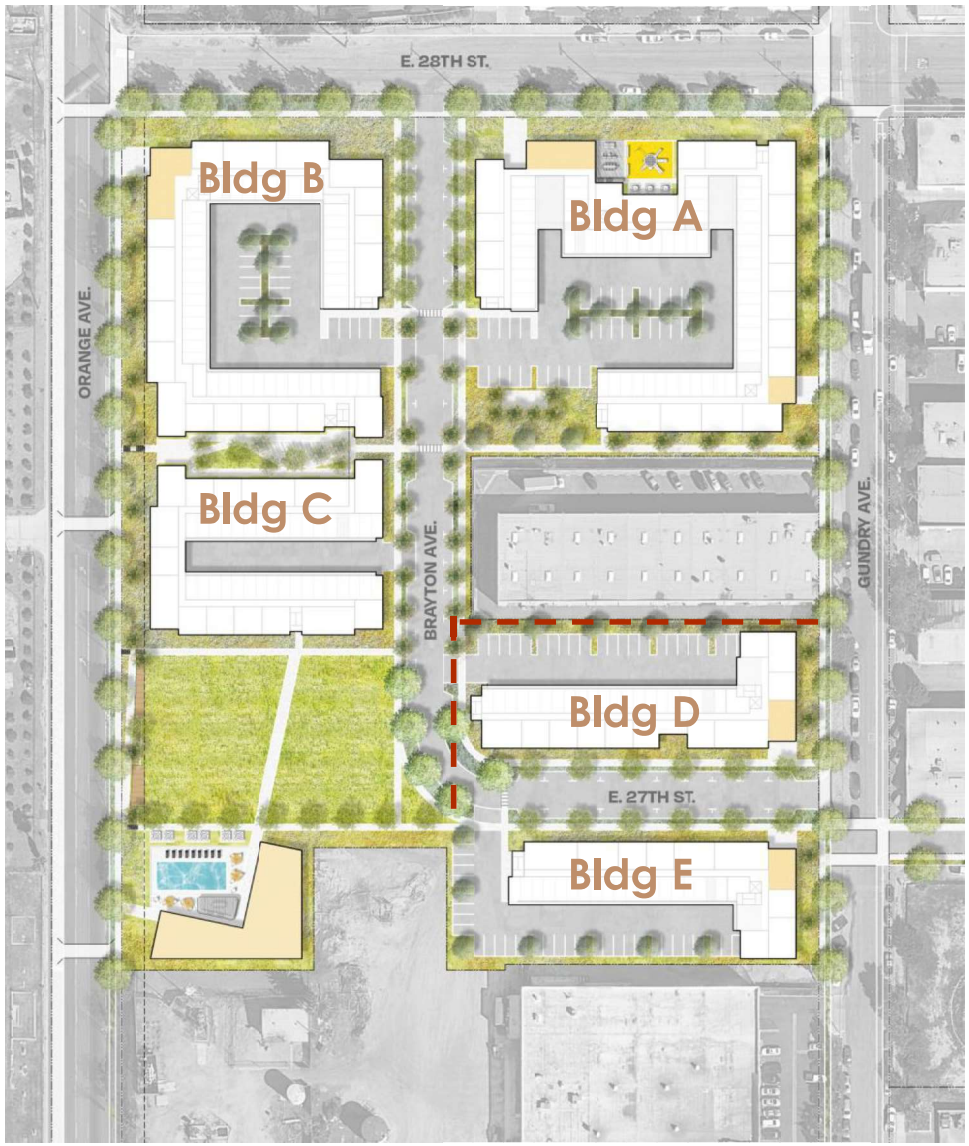
Conceptual Site Plan

ORANGE BLUFF



297 units in three buildings

- **Phase 1 (Bldg A,B,C):** 205 units (90 one-bedroom, 62 two-bedroom, 53 three-bedroom)
- **Phase 2 (Bldg D+E):** 92 units (42 one-bedroom, 26 two-bedroom, 24 three-bedroom)

3-story Contemporary design

Parking – 309 spaces per code

Community Amenities:

- 5,160 SF Boys & Girls Club/ Community Center
- Central Lawn
- Swimming Pool
- Playground
- BBQ Lounge Areas
- Pet Pocket Parks

CITY OF SIGNAL HILL

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Rendering

ORANGE BLUFF

DocuSign Envelope ID: 4B1F479B-EEAD-4E3F-91F3-408B9FCC847A

Rendering

ORANGE BLUFF

DocuSign Envelope ID: 4B1F479B-EEAD-4E3F-91F3-408B9FCC847A

Conceptual Site Plan

WALNUT BLUFF

85 units in one courtyard building:

- 38 one-bedrooms
- 25 two-bedrooms
- 22 three-bedrooms

4-story Contemporary design

Parking – 88 spaces per code

Community Amenities:

- 3,000 SF Community Center
- Playground
- Shaded BBQ Lounge Areas
- Fitness Area
- Community Gardens

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Rendering

WALNUT BLUFF

DocuSign Envelope ID: 4B1F479B-EEAD-4E3F-91F3-408B9FCC847A

Rendering

WALNUT BLUFF

DocuSign Envelope ID: 4B1F479B-EEAD-4E3F-91F3-408B9FCC847A

Rendering

WALNUT BLUFF

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Approach to Financing

- Concurrently develop the Walnut and Orange Bluff sites while avoiding competing funding cycles
- Maximize leveraging of City's $10M for a $183M development delivering 382 apartment homes + 5,000 SF Boys & Girls Club Facility
- Reduce risk by undertaking infrastructure improvements with long lead times early
  - Phase O: Infrastructure
- Prioritize sources that do not require state and/or federal pre-vailing wages to contain costs
- Utilize CORE's bond proceeds for predevelopment

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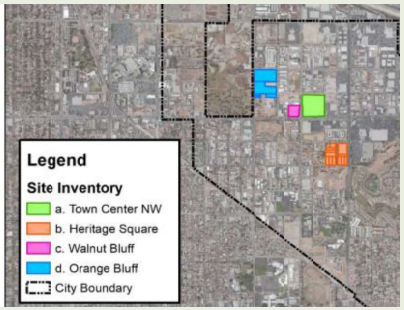
Phase 0 – Infrastructure

INFILL INFRASTRUCTURE GRANT (IIG) – Up to $30M

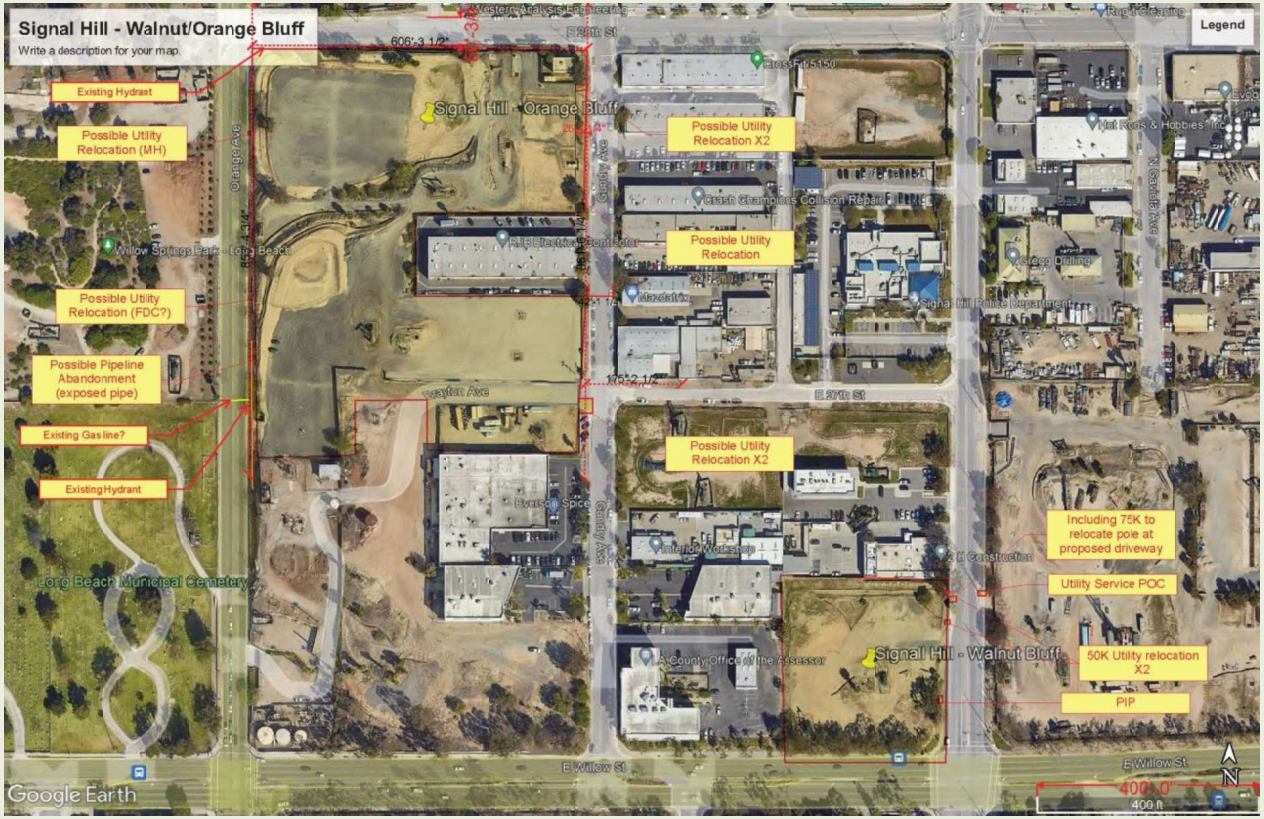


Offsite

- Utilities
- Frontage Improvements

Onsite

- Demolition
- Grading
- Retaining Wall
- Wet Utility
- Dry Utility
- Erosion Control



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Walnut Bluff Financing

85 units on 2.0 acres

UNIT MIX
- 38 one-bedroom
- 25 two-bedroom
- 22 three-bedroom

AFFORDABILITY
- 30% AMI - 24 units
- 40% AMI – 11 units
- 50% AMI - 18 units
- 60% AMI – 11 units
- 70% AMI – 12 units
- 80% AMI – 8 units
- 1 managers unit

Potential Funding Sources	Estimated Amount
LIHTC – 9%	$ 30,107,459
Permanent Loan	$ 3,492,256
DTSC / EPA Grant	$ 3,000,000
Gateway Cities Housing Trust	$ 2,500,000
FLHB AHP	$ 850,000
Affordable Housing In-Lieu	$ 745,419
PLHA	$ 167,262
TOTAL	$ 40,862,496

[1] TCAC Rents
[2] Assumes 8 Project Based Vouchers
[3] Standard Wages
[4] Tax Credit Pricing (Federal) $0.95 / (State) $0.88

CITY OF SIGNAL HILL

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Orange Bluff Phase 1 Financing

205 units on 6.4 acres

UNIT MIX
- 90 one-bedroom
- 62 two-bedroom
- 53 three-bedroom

AFFORDABILITY
- 30% AMI - 63 units
- 45% AMI – 62 units
- 55% AMI - 40 units
- 70% AMI – 22 units
- 80% AMI – 16 units
- 2 managers units

Potential Funding Sources	Estimated Amount
LIHTC – 4%	$ 57,618,480
Permanent Loan	$ 4,654,199
CalHFA MIP	$ 8,000,000
City Loan	$ 6,400,000
DTSC / EPA Grant	$ 9,000,000
Gateway Cities Housing Trust	$ 3,000,000
FHLB AHP	$ 1,000,000
Deferred Developer Fee	$ 7,036,424
TOTAL	$ 97,585,568

[1] HSC Rents: 30% units at 30% AMI and 18% units above 60% AMI
[2] Assumes 8 Project Based Vouchers
[3] Standard Wages
[4] Tax Credit Pricing (Federal) $0.95 / (State) $0.88

CITY OF SIGNAL HILL

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Orange Bluff Phase 2 Financing

92 units on 2.2 acres

Unit Mix
- 42 one-bedroom
- 26 two-bedroom
- 24 three-bedroom

AFFORDABILITY
- 30% AMI – 28 units
- 45% AMI – 28 units
- 55% AMI - 22 units
- 70% AMI – 5 units
- 80% AMI – 8 units
- 1 managers units

Potential Funding Sources	Estimated Amount
LIHTC – 9%	$ 31,619,097
Permanent Loan	$ 2,864,187
City Loan	$ 3,000,000
DTSC / EPA Grant	$ 3,000,000
Gateway Cities Housing Trust	$ 2,500,000
FHLB AHP	$ 920,000
TOTAL	$ 43,903,384

[1] HSC Rents – 30% units at 30% AMI and 14% units above 60% AMI
[2] Assumes 8 Project Based Vouchers
[3] Standard Wages
[4] Tax Credit Pricing (Federal) $0.95 / (State) $0.88

CITY OF SIGNAL HILL

EXCLUSIVE NEGOTIATION AGREEMENT
(National Core/Signal Hill)

THIS EXCLUSIVE NEGOTIATION AGREEMENT *("**Agreement**")* is entered into as of November [__], 2025 ("***Effective Date***"), by and between the CITY OF SIGNAL HILL ("***City***"), CITY OF SIGNAL HILL HOUSING AUTHORITY ("***HA***") and NATIONAL COMMUNITY RENAISSANCE OF CALIFORNIA, a California nonprofit public benefit corporation ("***Developer***"). City and HA are sometimes collectively referred to as "***City***" herein. HA, City and Developer are hereinafter sometimes referred to collectively as the "***Parties***" or individually as a "***Party***."

I. NEGOTIATIONS

In 2023 and 2024, City issued a Notice of Funding Availability *("NOFA")* to secure an affordable housing developer to work with the City and Signal Hill Petroleum, a local property owner, to develop an affordable housing project on two separate sites known as**:** "Orange Bluff" an 8.6-acre property located on the south side of East 28th Street between Orange Avenue and Gundry Avenue and "Walnut Bluff" a 2-acre property located at the northwest corner of East Willow Street and Walnut Avenue.

Developer and City entered into an Affordable Housing Agreement for the development of the Walnut Bluff location. The ENA governing the Orange Bluff site expires on November 15, 2025.

The Parties would now like to enter into a new ENA regarding the Orange Bluff site and an additional property, publicly or privately owned. The City has identified a potential site, known as the 28th Street Property. The Orange Bluff site is owned by Signal Hill Petroleum ***("SHP")*** and described in the legal description attached hereto as Exhibit A and by this reference incorporated herein (the "***OB Property***"). The City owns the 28th Street site and it is described in the legal description attached hereto as Exhibit A-1 and by this reference incorporated herein (the "***28th Street*** Property"). The OB Property and 28th Street Property or alternative site are referred to as "***Property***" herein. Additionally, City and Developer will continue to work to identify another site within the City that could accommodate the proposed 28th St project (or something similar) to ensure the Parties have identified the most advantageous site for the development of an affordable housing project.

Pursuant to the terms of this Agreement, City and Developer shall negotiate in good faith, for the period stated in Section II below, the terms of an affordable housing agreement or other form of agreement or agreements ("***AHA***") to be entered into between City and Developer concerning Developer's development of the 28th Street Property or alternative identified site with a multifamily affordable housing development based on the Schedule of Performance attached hereto as Exhibit B-1. Additionally, during the pendency of this Agreement Developer and SHP will negotiate a private transaction for the sale and purchase of the OB Property based upon the Schedule of Performance attached hereto as Exhibit B.

City agrees, for the period stated in Section II below, not to negotiate with any other Person regarding the use of the remaining funds identified in the NOFA or the 28th Street Property without the prior written consent of Developer. For purposes of this Agreement, the term "***Person(s)***" means any one or more individuals, partnerships (whether general or limited), limited liability companies, trusts, estates, associations, corporations, or any other entities recognized by law or custom.

II. NEGOTIATION PERIOD AND DEPOSIT

A. Negotiation Period.

For a period of three hundred sixty-five (365) days commencing as of the Effective Date (the ***"Exclusive Negotiation Period"***), the City and Developer agree to negotiate the terms of an AHA for the 28th Street Property or other identified site and seven hundred –thirty (730) days to negotiate the terms of an AHA for the OB Property; provided, however that upon written request of Developer, the City may in the sole and absolute discretion of the City Manager extend the Exclusive Negotiation Period one or more times for up to a cumulative total of one hundred twenty (120) additional days for each property. The term of the Exclusive Negotiation Period, as it may be extended, to the extent such extension(s) is/are granted, shall hereinafter be defined as the "***Negotiation Period***." Upon identification of an alternative to the 28th Street Property, the Parties will present an amendment to this ENA to the City Council for consideration. At any time, Developer and City may mutually agree to terminate this Agreement without liability to either Party. Except as provided below, if, upon the expiration of the Negotiation Period, City and Developer have not each approved and executed an AHA, then this Agreement shall automatically terminate and Developer shall have no further rights regarding the subject matter of this Agreement or the remaining funds identified in the NOFA, and City shall be free to negotiate with any other Person(s) with regard to the remaining funds identified in the NOFA or the City owned property identified herein.

B. Deposit.

Concurrent with the Developer's execution of this Agreement, the Developer shall pay a deposit of Thirty Thousand Dollars ($30,000) in immediately available funds ("***Deposit***") to the City to defray certain reasonable third-party costs which may be incurred by City in pursuing the contemplated negotiations with the Developer during the Negotiation Period, such as expenses incurred by the City for the services of consultants and attorneys. In no event shall Deposit funds be used to reimburse City for internal staff costs or overhead. Developer shall be entitled to a refund of any Deposit funds remaining with the City following the termination of this Agreement. City shall provide Developer a summary accounting of expenses charged against the Deposit monthly.

III. OBLIGATIONS OF DEVELOPER

A. Schedule of Performance

Unless any time period provided therein is modified at the sole discretion of the City Manager, Developer shall commence and complete all tasks required to be completed hereunder within the times set forth in the respective Schedules of Performance attached hereto as Exhibit B

and Exhibit B-1 and by this reference incorporated herein. By its execution of the Consent and Acknowledgment attached hereto as Exhibit C, SHP acknowledges the tasks and timing provided in the Schedule of Performance concerning the OB Property and additionally authorizes Developer to process with the City for entitlements necessary to develop an affordable housing project on the OB Property.

B. Evidence of Financing

Within the time set forth in the applicable Schedule of Performance, Developer, at its cost, shall provide the Deputy City Manager with a schedule of proposed sources of funding for, and uses of funds and financial pro forma for, the development of the Property. In addition, during the term of this Agreement, Developer shall promptly provide the City Manager with copies of any applications for funding or other funding requests submitted by Developer to finance the development of the Property, and any response documentation received in connection with such submittals. Notwithstanding the foregoing, however, Developer shall not be required to obtain written commitments for any such financing during the term of this Agreement; the Parties anticipate that this subject will be dealt with in the AHA.

C. Development Plans, Entitlements, and CEQA Review

The Parties acknowledge that Developer has submitted to the City a, project description for the 28th Street Property (the "***Site Plan***") which is attached hereto as Exhibit D. City and Developer acknowledge that during the Negotiation Period, a Site Plan will be refined, based on discussions and meetings with City representatives and the activities to be conducted by Developer pursuant to this Agreement. Concurrently with such refinement, and in accordance with the timeframes set forth in the Schedule of Performance, Developer shall commence processing any entitlements necessary for development of the Property (collectively, the "***Entitlements***"), and shall furnish such information to City regarding a Site Plan as may be required by City to perform an environmental review for an AHA, the Entitlements, and any permits for the development of the 28th Street Property or alternative site required pursuant to the California Environmental Quality Act ("***CEQA***"). All fees and expenses for engineers, architects, financial consultants, legal, planning or other consultants retained by Developer to perform Developer's obligations set forth in this Agreement shall be the sole responsibility of Developer. City shall not be obligated to pay or reimburse any such fees and expenses incurred by Developer whether or not this Agreement is eventually terminated or extended, or whether or not an AHA is entered into between City and Developer in the future. All costs associated with any formal submittals and all costs associated with the preparation of environmental documents under CEQA shall be borne by Developer. Nothing herein reduces or eliminates any requirements of City or any other governmental entity with jurisdiction over the Property with respect to development of the Property.

D. Developer's Findings and Reports to City Manager

Developer, at its cost, shall, at the request of the City Manager, make periodic oral progress reports on all matters related to the Project and all studies being made related to Developer's acquisition and development of the Property, to the extent that they do not include confidential matters. Developer, at its cost, shall provide qualified representatives to participate in workshops, meetings, or presentations concerning the Property as reasonably required by the City Manager.

E. Restrictions Against Change In Ownership, Management And Control of Developer and Assignment of Agreement

1. The qualifications and identity of Developer and its principals are of particular concern to the City. It is because of these qualifications and identity that City has entered into this Agreement with Developer. Except as provided below, during the Negotiation Period, no voluntary or involuntary successor-in-interest of Developer shall acquire any rights or powers under this Agreement. Developer shall not assign or transfer all or any part of this Agreement or any rights in or under this Agreement, without the prior written approval of the City Manager, which approval may be given or withheld in the City Manager's sole and absolute discretion. Any assignment or transfer of an interest, whether voluntary or involuntary, by Developer that has not been approved in writing by the City Manager prior to the time of such assignment or transfer shall be deemed a material breach of this Agreement by Developer which shall entitle City to terminate this Agreement, without liability, by sending written notice of termination to Developer, referencing this Paragraph F. Notwithstanding the foregoing, Developer shall be permitted to assign its rights under this Agreement to a limited partnership, the general partner of which is either (i) Developer, or (ii) an entity owned by Developer and over which Developer has managerial control, provided Developer and the proposed assignee execute an assignment and assumption agreement in a form approved by the Signal Hill City Attorney, pursuant to which the proposed assignee assumes all of Developer's obligations hereunder.

2. Developer shall give prompt written notice to the City Manager of any and all changes whatsoever in the identity of the business entities or individuals in control of Developer of which information Developer or any of its members, partners or officers are notified or may otherwise have knowledge or information. Failure of Developer to so notify the City Manager in writing within five (5) business days of such changes or obtaining such knowledge shall constitute a material breach by Developer of this Agreement and City may terminate this Agreement, without liability to City, by sending written notice of termination to Developer, referencing this Paragraph F.

F. Acknowledgments and Reservations

1. If this Agreement expires or is terminated for any reason, or a future AHA is not executed by both City and Developer for any reason, neither City nor Developer shall be under any further obligation to each other regarding the disposition of the Property or the development thereof.

2. Developer acknowledges and agrees that no provision of this Agreement shall be deemed to be an offer or proposal by City to Developer, nor an acceptance by City of any offer or proposal from Developer, for City to provide any financial or other assistance to Developer for development of the Property. The Parties anticipate that any such financial commitments will be contained in the AHA.

G. Developer Financial Disclosures

City reserves the right to obtain further information, data, and commitments to ascertain the ability and capacity of Developer to develop the Property. Developer acknowledges that it

may be requested to make certain confidential financial disclosures to City, its staff or legal counsel, as part of the financial due diligence investigations of City relating to the potential disposition of the Property and its development. City and Developer recognize that such financial disclosures may contain sensitive information relating to other business transactions of Developer, that the disclosure of such information to third parties could impose commercially unreasonable and/or anti-competitive burdens on Developer and, correspondingly, diminish the value or fiscal benefit that may accrue to City upon the disposition of the Property and development thereof by Developer, if a future AHA is entered into between City and Developer. Accordingly, City agrees to maintain the confidentiality of any business records of Developer disclosed to City, except as the City Attorney reasonably determines must be disclosed pursuant to the California Public Records Act or other applicable law. The defense of any action seeking disclosure of protected business records shall be at Developer's expense and handled by legal counsel selected by Developer and reasonably acceptable to the Signal Hill City Attorney.

H. Nondiscrimination

In undertaking its obligations under this Agreement, Developer covenants by and for itself and its representatives, officers, administrators, and assigns, and all persons claiming under or through them, that there shall be no discrimination against or segregation of, any person or group of persons on account of any basis listed in subdivision (a) or (d) of Section 12955 of the Government Code as those bases are defined in Sections 12926, 12926.1, subdivision (m) and paragraph (1) of subdivision (p) of Section 12955, and Section 12955.2 of the Government Code, nor shall Developer or any person claiming under or through Developer, establish or permit any practice or practices of discrimination or segregation with reference to the selection, location, number, use or occupancy of tenants, lessees, subtenants, sublessees, or vendees.

IV. REMEDIES

A. Default and Breach

1. Failure or delay by either Party to perform any material term or provision of this Agreement shall constitute a "default" under this Agreement. Subject to the effect of applicable force majeure provisions of Section VI, Paragraph K, if the Party who is claimed to be in default by the other Party commences to cure, correct, or remedy the default within fifteen (15) calendar days after receipt of written notice specifying such default and diligently completes such cure, correction or remedy within fifteen (15) calendar days after the expiration of the initial fifteen (15) day period (for a total of thirty (30) calendar days to cure the default), such Party shall not be in default under this Agreement. In no event shall any time to cure, correct or remedy a default extend the Negotiation Period.

2. The Party claiming that a default has occurred shall give written notice of default to the Party claimed to be in default, describing the alleged default with reasonable specificity. Delay in giving such notice shall not constitute a waiver of any default nor shall it change the time of default. However, the injured Party shall have no right to exercise any remedy permitted for a "breach" (as defined below) under this Agreement, without first delivering written notice of the default.

3. Any failure or delay by a Party in asserting any of its rights or remedies as to any default shall not operate as a waiver of any default or of any rights or remedies associated with a default. Except with respect to rights and remedies expressly declared to be exclusive in this Agreement, the rights and remedies of the Parties are cumulative and the exercise by either Party of one or more of such rights or remedies shall not preclude the exercise by such Party, at the same or different times, of any other rights or remedies for the same default or any other default by the other Party.

4. Subject to applicable force majeure provisions of this Agreement, if a Party in default fails either (i) to commence to cure, correct or remedy the default within fifteen (15) calendar days following written notice of such default, or (ii) to complete such cure, correction or remedy within fifteen (15) calendar days after the expiration of the initial fifteen (15) day period (for a total of thirty (30) calendar days to cure the default), a "breach" of this Agreement by the defaulting Party shall be deemed to have occurred. In no event shall City's disapproval or conditional approval of the Site Plan, the AHA, any CEQA review, or any other matters that require City's approval pursuant to this Agreement or applicable law constitute a default or breach under this Agreement by City.

B. Remedies for Breach of Agreement.

In the event of an uncured default under this Agreement, the sole remedy of the non-defaulting Party shall be to terminate this Agreement. Following the termination of this Agreement, neither Party shall have any further rights, remedies, or obligations under this Agreement, except as specifically set forth herein. Neither Party shall have any liability to the other for monetary damages for the breach of this Agreement, or failure to reach agreement on an AHA, and each Party hereby waives and releases any such rights or claims it may otherwise have at law or at equity. The Parties' rights and obligations under this Paragraph B shall survive the expiration or termination of this Agreement.

V. INDEMNIFICATION, RIGHT OF ENTRY, INSURANCE, AND OTHER ISSUES

A. Indemnification

Developer shall defend, indemnify and hold harmless the City and its officers, officials, members, employees, agents, representatives, and volunteers (when acting in an official capacity), from and against all damages and liability, including but not limited to any and all claims, demands, expenses, fees, costs, liabilities, suits, causes of action, litigation, attorney's fees, and expert witness fees (all of the foregoing, collectively, "***Claims***") arising from or related to the performance or nonperformance by Developer or its principals, directors, managers, shareholders, partners, employees, agents, or representatives in connection with this Agreement, including but not limited to Developer's investigation of the Property. Notwithstanding the foregoing, Developer shall not be responsible for any damages or liability to the extent caused by the negligence or willful misconduct of City or any of its officers, officials, members, employees, agents, representatives, or volunteers acting in an official capacity. This indemnity shall survive the termination of this Agreement.

B. Insurance

1. Within ten (10) days of the Effective Date of this Agreement, without limiting Developer's indemnification obligations as set forth in this Agreement, Developer shall procure and maintain, at its sole cost and expense, the following policies of insurance:

a. Commercial General Liability insurance written on a per occurrence basis in an amount not less than $1,000,000 per occurrence.

b. Business Auto Coverage written on a per accident basis in an amount not less than $1,000,000 per accident. If Developer or Developer's employees use personal autos in connection with the performance of work under this Agreement, Developer shall provide evidence of personal auto liability coverage for each such person or of evidence of such coverage or of reasonably similar coverage under any umbrella insurance policy maintained by Developer.

c. If applicable, Worker's Compensation insurance providing statutory benefits as required by California law.

2. All of the insurance policies required hereunder, except the worker's compensation insurance, shall comply with the following requirements:

a. All insurance shall be written by insurers that are admitted and licensed to do business in the State of California and with A.M. Bests rating of A- or better and a minimum financial size VII.

b. The policies shall be endorsed to name as additional insureds the City and its officers, officials, members, employees, and agents.

c. All of Developer's insurance: (a) shall contain no special limitations on the scope of protection afforded to the additional insureds; and (b) shall be primary insurance with regard to additional insureds and any insurance or self-insurance maintained by the additional insureds or any of them shall be in excess of Developer's insurance and shall not contribute with it.

d. The policies shall be "occurrence" rather than "claims made" insurance.

e. The policies shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

f. The policies shall prohibit Developer from waiving the right of subrogation prior to a loss.

g. The policies shall not contain any provision or definition that would serve to eliminate so-called "third party action over" claims, including any exclusion for bodily injury to an employee of the insured.

3. Developer shall provide the City Manager with certificates of insurance evidencing the above insurance coverages and said certificates of insurance have been reasonably approved by City. In the event any of said policies of insurance are reduced in limits or cancelled for any reason, Developer shall, prior to the cancellation date, submit new evidence of insurance, in conformance with this Paragraph B.

4. The provisions of any workers' compensation or similar act shall not limit the obligations of Developer under this Agreement. Developer expressly agrees not to use any statutory immunity defenses under such laws with respect to City or its officers, officials, members, employees, agents, representatives, or volunteers acting in an official capacity.

5. Developer agrees to provide immediate notice to City of any claim or loss against Developer arising out of any acts or omissions of Developer under this Agreement. City assumes no obligation or liability by such notice, but has the right to monitor the handling of any such claim or claims if they are likely to involve the City or any officer, official, member, employee, agent, or representative of City acting in an official capacity.

VI. MISCELLANEOUS

A. Compliance With Law

Developer acknowledges that any future AHA, if approved by City, will require Developer (among other things) to carry out the development of the real property subject thereto in conformity with all applicable laws, including all applicable building, planning and zoning laws, environmental laws, safety laws, and, if applicable, federal and state labor and wage laws including, but not limited to, any prevailing wage requirements pursuant to California Labor Code section 1720 *et seq.*

B. Third-Party Beneficiaries

None of the terms or provisions of this Agreement are intended to benefit any person or entity other than City or Developer. No affiliate or joint venturer or partner of Developer has any rights pursuant to this Agreement.

C. No Broker or Finder

Developer shall indemnify, defend, and hold harmless City from and against any claim or lawsuit (including reasonable attorneys' fees and costs and all costs of suit, expert witness fees, costs on appeal, and for discovery) for the payment of any real estate commissions or finder's or broker's fees arising out of this Agreement.

D. Governing Law; Venue; Attorneys' Fees

City and Developer agree that this Agreement shall be governed by, interpreted under, and construed and enforced in accordance with, the internal laws of the State of California without application of principles of conflicts of law. City and Developer acknowledge and agree that this Agreement was negotiated and entered into in the City of Signal Hill, California. Any legal action brought under this Agreement must be instituted in the Superior Court of the County of Los

Angeles, or in the Federal District Court of the applicable federal district of California. In the event of any litigation between the Parties, the prevailing Party shall be entitled to receive, in addition to the relief granted, its reasonable attorneys' fees and costs and such other costs incurred in investigating the action and prosecuting the same, including costs for expert witnesses, costs on appeal, and for discovery.

E. Partial Invalidity

If any term or provision or portion thereof of this Agreement or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision or portion thereof to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each such term and provision of this Agreement shall be valid and enforced to the fullest extent permitted by law.

F. Waivers

No waiver of any breach of any covenant or provision contained in this Agreement shall be deemed a waiver of any preceding or succeeding breach of such provision, or of any other covenant or provision contained in this Agreement. Unless required by the force majeure provisions of this Agreement, no extension of the time for performance of any obligation or act or any waiver of any provision of this Agreement shall be enforceable against City or Developer, unless made in writing and executed by both City and Developer.

G. Notices.

All notices under this Agreement shall be delivered by personal delivery, by a reputable same-day or overnight courier service that provides a receipt with the date and time of delivery, or by mailing in the U.S. mail by prepaid certified mail. Notices shall be directed to the respective Parties as follows:

If to City:	City of Signal Hill Attn: Carlo Tomaino, City Manager 2175 Cherry Ave Signal Hill, CA 90755
If to Developer:	National Community Renaissance of California Attn: Michael Ruane, President 9692 Haven Avenue, Suite 100 Rancho Cucamonga, CA 91730

A Party may change the address for delivery of notices to it as such Party may from time to time designate in writing to the other Party by a written notice conforming to the requirements of this section. Notices delivered by personal delivery, or same-day or overnight courier service shall be effective upon receipt (provided that any notices received after 5:00 p.m. on a business day or on a holiday or a weekend shall not be deemed received until 9:00 a.m. the next business day). Notices delivered by mail shall be effective as of noon on the second business day following deposit with the United States Postal Service.

H. Calendar Days and Business Days

As used herein, the term "days" shall mean calendar days unless the term "business days" is used. As used herein, a "business day" shall mean a day that Signal Hill City Hall is open for business to the general public. Developer acknowledges that Signal Hill City Hall is closed for holidays designated by the State of California or by ordinance or resolution of the City Council of the City. If the date on which City or Developer are required to take any action pursuant to the terms of this Agreement is not a business day, the action shall be taken on the next succeeding business day.

I. Construction

Headings at the beginning of each section and subsection of this Agreement are solely for the convenience of reference of City and Developer and are not a part of this Agreement. Whenever required by the context of this Agreement, the singular shall include the plural and the masculine shall include the feminine and vice versa. This Agreement shall not be construed as if it had been prepared by one or the other of City or Developer but rather as if both City and Developer prepared this Agreement. Unless otherwise indicated, all references to sections are to this Agreement. If any exhibits are referred to in this Agreement, such exhibits are either attached to this Agreement or incorporated into this Agreement by reference.

J. Nonliability of City Officials, Officers, and Employees

No officer, official, member, employee, agent, representative, or volunteer (when acting in an official capacity) of the City shall be personally liable to Developer, or any successors in interest, in the event of any default or breach by City of this Agreement, or for any amount which may become due to Developer or to any successors under this Agreement, or for a breach by City of any obligation of the terms of this Agreement.

K. Enforced Delay; Extension of Times of Performance

In addition to specific provisions of this Agreement, performance by either Party (who is not then otherwise in material default) shall not be deemed to be in default where delays or defaults are due to war, insurrection, strikes, lock-outs, riots, floods, earthquakes, fires, casualties, supernatural causes, acts of the public enemy, terrorism, epidemics, quarantine restrictions, freight embargoes, lack of transportation, governmental restrictions or priority, litigation, unusually severe weather, inability to secure necessary labor, materials or tools, delays of any contractor, subcontractor or supplies, acts of the other Party, acts or failure to act of City or any other public or governmental agency or entity, including, without limitation, unreasonable delays in the processing and issuance of required permits for a development project required by Developer (except that any act or failure to act of City shall not excuse performance by City) or any other causes beyond the reasonable control or without the fault of the Party claiming an extension of time to perform, for up to a maximum cumulative period of ninety (90) days. Notwithstanding the foregoing, inability to secure satisfactory financing, tenant or manufacturer commitments, or market and economic conditions shall not entitle Developer to an extension of time to perform. An extension of time for any such cause shall be for the period of the enforced delay and shall commence to run from the time of the commencement of the cause, if notice by the Party claiming

such extension is sent to the other Party within ten (10) days of knowledge of the commencement of the cause. In addition, times of performance under this Agreement may be extended by mutual written agreement by City and Developer.

L. Time of the Essence

Time is of the essence in this Agreement and of each and every term and provision hereof, it being understood that the Parties hereto have specifically negotiated the dates or time limits for the completion of each obligation herein.

M. Entire Agreement; Amendment.

This Agreement sets forth the entire agreement between the Parties with respect to the subject matter set forth herein and supersedes all prior discussions and negotiations between the Parties with respect thereto. No amendment to this Agreement shall be effective unless set forth in a writing signed by an authorized signatory of each Party.

N. Counterparts.

This Agreement may be executed in any number of duplicate originals, all of which shall be of equal legal force and effect upon all of the Parties hereto signing this Agreement.

P. Warranty Against Payment of Consideration for Agreement. The Developer warrants that it has not paid or given, and will not pay or give, any third party any money or other consideration for obtaining this Agreement. Third parties, for the purposes of this Section VI, P, shall not include persons to whom fees are paid for professional services, if rendered by attorneys, financial consultants, accountants, engineers, architects, brokers and other consultants, when such fees are considered necessary by the Developer.

Q. Press Releases. The Developer agrees to obtain the approval of the City Manager or his or her designee or successor in function of any press releases Developer may propose relating to the sale or development of the Property or negotiation of an AHA with the City, prior to publication.

[Signature pages follow]

IN WITNESS WHEREOF, the Parties have executed and entered into this Agreement as of the Effective Date.

DEVELOPER:

NATIONAL COMMUNITY RENAISSANCE OF CALIFORNIA,
a California non-profit public benefit corporation

By: _____
Name: _____
Title: _____

CITY:

CITY OF SIGNAL HILL ,
a public body corporate and politic

By: _____
Name: _____
Title: _____

ATTEST:

_____
City Clerk,

APPROVED AS TO FORM:

_____

By: _____
Name: _____

EXHIBIT A AND A-1

LEGAL DESCRIPTION

[Attached.]

EXHIBIT A

OB PROPERTY

EXHIBIT A-1

28TH ST PROPERTY

EXHIBIT B

SCHEDULE OF PERFORMANCE – ORANGE BLUFF

Effective Date is November 15, 2025

ITEM OF PERFORMANCE		TIME FOR PERFORMANCE
1.	Conduct due diligence to determine feasibility of development.	By October 15, 2026.
2.	Establish site control with Signal Hill Petroleum.	Within thirty (30) calendar days of completing due diligence. *(November 15, 2026)*
3.	Refine and present to HA and City staff, for review, the following for each site: (a) Site Plan. A conceptual development site plan for each proposed Projects that describes and depicts: (1) the location and orientation of proposed buildings; and (2) the architecture of the proposed buildings; and (3) floor plans including unit plans; (b) Financial Pro Forma. A preliminary financial pro forma for each Project that includes cost financing (sources and uses), development costs, income, operating expenses and a cash flow analysis; (c) Project Schedule. A proposed time schedule from commencement to completion of the Projects;	Within one hundred and eighty (180) calendar days of completing due diligence. *(May 15, 2027)*
4.	Conduct HA Board/City Council/Community workshop.	Within sixty (60) calendar days of submitting the refined development plan, Developer shall facilitate at least one workshop for the HA Board, City Council, and community in a format to be designed in concert with HA and City staff. *(July 15, 2027)*
5.	Negotiation of Affordable Housing Agreement.	Within ninety (60) calendar days of HA Board/City Council workshop, or as required for funding applications, whichever is first. *(September 15, 2027)*

EXHIBIT B-1

SCHEDULE OF PERFORMANCE–

28TH & WALNUT OR ALTERNATIVE SITE

Effective Date is November 15, 2025

ITEM OF PERFORMANCE		TIME FOR PERFORMANCE
1.	Conduct due diligence to determine feasibility of development.	By March 1, 2026.
2.	Refine and present to HA and City staff, for review, the following for each site: (a) Site Plan. A conceptual development site plan for each proposed Projects that describes and depicts: (1) the location and orientation of proposed buildings; and (2) the architecture of the proposed buildings; and (3) floor plans including unit plans; (b) Financial Pro Forma. A preliminary financial pro forma for each Project that include cost financing (sources and uses), development costs, income, operating expenses and a cash flow analysis; (c) Project Schedule. A proposed time schedule from commencement to completion of the Projects.	Within forty-five (45) calendar days of completing due diligence. *(April 15, 2026)*
3.	Conduct HA Board/City Council/Community workshop.	Within thirty (30) calendar days of submitting the refined development plan, Developer shall facilitate at least one workshop for the HA Board, City Council, and community in a format to be designed in concert with HA and City staff. *(May 15, 2026)*
4.	Negotiation of Affordable Housing Agreement.	Within sixty (60) calendar days of HA Board/City Council workshop or as required for funding applications, whichever is first. *(July 15, 2026)*

EXHIBIT C

Signal Hill Petroleum Consent and Acknowledgement

CONSENT AND ACKNOWLEDGEMENT

I, _____, in my capacity as _____ for Signal Hill Petroleum consent to the City and Developer, as those terms are defined in the Exclusive Negotiation Agreement among the City of Signal Hill and National Community Renaissance of Southern California, pursuing and processing all necessary applications and entitlements for the development of an affordable housing project at the following locations:

1._____

2._____

Additionally, I, on behalf of Signal Hill Petroleum, acknowledge and agree to use best efforts to comply the Schedule of Performance and to complete the land transaction between Signal Hill Petroleum and Developer consistent with the timeframe set forth therein.

By: _____
Name: _____
Title: _____

EXHIBIT D
PROJECT DESCRIPTION–
28TH STREET PROPERTY

PROJECT DESCRIPTION

The 28th & Walnut apartment home community will be a new construction located on a 1.3-acre property at the southwest corner of East 28th Street and Walnut Avenue in Signal Hill, CA. The project site will support a single 3-4-story residential building with approximately 60 units and a leasing and property management office, a 1,000 square foot community room and a private office for support services. A surface parking lot accommodates approximately 64 stalls. The project will include a total of 59 affordable apartment homes for individuals and families earning below 80% of the area median income (AMI) with a mix of one-, two-, and three-bedroom units. One (1) three-bedroom unit will be reserved for an onsite property manager and is not rent or occupancy restricted.

2175 Cherry Avenue • Signal Hill, California 90755-3799

CITY OF SIGNAL HILL

STAFF REPORT

11/13/2025

AGENDA ITEM

TO: **HONORABLE MAYOR**
AND MEMBERS OF THE CITY COUNCIL

FROM: **CARLO TOMAINO**
CITY MANAGER

BY: **ALFA LOPEZ**
ASSISTANT TO THE CITY MANAGER/
ECONOMIC DEVELOPMENT MANAGER

SUBJECT:

2026 COMMEMORATIVE FLAG DISPLAY SCHEDULE

Summary:

Pursuant to Resolution No. 2021-10-6642, the City Council will consider the display of commemorative flags for the upcoming calendar year. After this initial agendized discussion, staff will return to a subsequent City Council meeting with a resolution supporting the City's display of the selected flags.

Strategic Plan Goal(s):

Goal No. 5 High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendations:

1. Consider new/alternate commemorative flags for calendar year 2026.

2. Direct staff to return and bring to a future City Council meeting a Resolution memorializing the commemorative flags for calendar year 2026.

Fiscal Impact:

There is no fiscal impact associated with the recommended actions. The City's practice is for the requesting party to purchase flags and provide them to the City for the duration of the display period.

Background:

On October 8, 2019, the City Council adopted Resolution No. 2019-10-6444 establishing the Commemorative Flag Policy. Subsequently, at its meeting on October 26, 2021, the City Council adopted Resolution No. 2021-10-6642, amending the Commemorative Flag Policy by shifting the review process earlier in the year to allow the month of January to be considered as part of the annual display calendar and clarifying where flags would be displayed in the event the City receives fewer than three flags (Attachment A).

Analysis:

Pursuant to the amended Resolution, in November of each year, the City Council considers the display of commemorative flags for the following year. After an initial agendized discussion, staff will return to a subsequent City Council meeting with a Resolution supporting the City's display of the flags chosen. A majority of the City Council must vote affirmatively, for said Resolution, in order for the City to officially display the selected commemorative flags. The adopted 2025 Commemorative Flag Display Schedule is attached for the City Council's information (Attachment B).

Recommendation:

Staff recommends the City Council review and consider new proposed commemorative flags for display during the 2026 calendar year. As noted, the City's Commemorative Flag Policy requires adoption of a Resolution at a subsequent City Council meeting supporting the City's display of the flags chosen for Calendar Year 2026.

Reviewed for Fiscal Impact:

_____
Siamlu Cox
Administrative Services Officer/Finance Director

Attachments:

A. Resolution Amending the Commemorative Flag Policy
B. 2025 Commemorative Flag Schedule

RESOLUTION NO. 2021-10-6642

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, AMENDING RESOLUTION NO. 2019-10-6444 ESTABLISHING A COMMEMORATIVE FLAG POLICY

WHEREAS, the City of Signal Hill displays flags at City facilities in accordance with Federal and State law; and

WHEREAS, on October 8, 2019, City Council adopted a Commemorative Flag Policy regarding the display of commemorative flags; and

WHEREAS, staff proposes a change to the month of the annual consideration for the display of commemorative flags for the upcoming year and a change to the location the commemorative flags are displayed if fewer than three flags are received from the sponsor; and

WHEREAS, the City's flagpoles are not intended to serve as a forum for free expression by the public, but rather for the display of federal, state, and city flags, and any commemorative flag as may be authorized by resolution of the City Council as an expression of the City's official sentiments.

NOW, THEREFORE THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. The Commemorative Flag Policy is amended as follows:

Section 2. The month for annual consideration of commemorative flags for the upcoming year is amended to November.

Section 3. If fewer than three commemorative flags are received from the sponsor they will be displayed in the following order: (1) City Hall, (2) Library, and (3) Police Station.

Section 4. The City Clerk shall certify to the adoption of this Resolution.

This Resolution and the amended policy attached hereto as Exhibit A shall take effect immediately.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the City Council this 26th day of October, 2021.

EDWARD H.J. WILSON
MAYOR

ATTEST:

CARMEN R. BROOKS
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss.
CITY OF SIGNAL HILL)

I, CARMEN R. BROOKS, City Clerk of the City of Signal Hill, California, hereby certify that Resolution No. 2021-10-6642 was adopted by the City Council of the City of Signal Hill at a regular meeting held on the 26th day of October, 2021, and that the same was adopted by the following vote:

AYES:	MAYOR EDWARD H.J. WILSON, VICE MAYOR KEIR JONES, COUNCIL MEMBERS ROBERT D. COPELAND, TINA L. HANSEN, LORI Y. WOODS
NOES:	NONE
ABSENT:	NONE
ABSTAIN:	NONE

CARMEN R. BROOKS
CITY CLERK

CITY OF SIGNAL HILL
Policy & Procedure

Commemorative Flag Policy

DATE: October 26, 2021

APPROVED:

Exhibit A

1. PURPOSE

To establish a policy and procedures regarding the display of commemorative flags.

2. AUTHORIZATION FOR DISPLAY

Commemorative flags may be displayed only as authorized by resolution of the City Council and as an expression of the City's official sentiments with respect to subject matters important to community members and residents. The City will not display a commemorative flag based on a request from a third party, nor will the City use its flagpoles to sponsor the expression of a third party.

3. ANNUAL CONSIDERATION OF DISPLAY

In November of each year, the City Council will consider the display of commemorative flags for the following year. After an initial agendized discussion, staff will return to a subsequent City Council meeting with a resolution supporting the City's display of the flag(s) chosen. A majority of the City Council must vote affirmatively for said resolution.

4. UNSCHEDULED DISPLAYS

In addition to the annual consideration, a Council Member may, at any time during the year, suggest the display of additional flags meeting the criteria of this policy. Consideration would be by a two-step process where on an agenda the Council considers the request, and if supported by a motion approved by a majority of the Councilmembers, staff would return with a formal resolution authorizing display of a commemorative flag. A majority of the City Council must vote affirmatively for said resolution.

5. TYPE OF DISPLAY

Commemorative flags shall be displayed beneath the City of Signal Hill flag on the same flagpole.

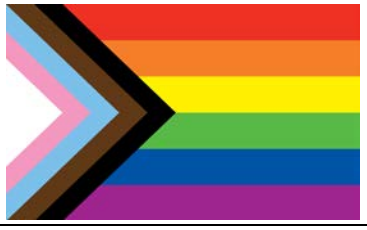
6. DURATION OF DISPLAY

In general, commemorative flags will be rotated on a monthly basis, with the flag displayed on the first business day following the beginning of the month and removed on the first business day following the end of the month. However, the City Council may, as part of the resolution authorizing display of a commemorative flag, adjust the duration of display as desired. If multiple flags are authorized to be displayed in a given month, the City Council will direct staff as to the desired term of display for each flag.

7. LOCATION OF DISPLAY

Commemorative flags shall be displayed at City Hall, the Library, and the Police Station. If less than three commemorative flags are received for display, they will be displayed in the following order: one flag: City Hall, two flags: City Hall and Library, three flags: City Hall, Library, and Police Station.

2025 Commemorative Flag Display Schedule

Time Period	Flag Image	Notes
February		Commemorating Black History Month
March		Commemorating Women's History Month
April		Commemorating Cambodian New Year
April		Commemorating Thai New Year
May 1		Commemorating National Day of Prayer – May 1
May 6 – May 22		Commemorating Older Americans Month
May 22 – July 1		Commemorating LGBTQ Pride month and LGBTQ social movements (per Resolution No. 2019-05-6319)

2025 Commemorative Flag Display Schedule

August		Commemorating Women's Equality Day
September 15 – October 15		Commemorating National Hispanic Heritage Month
November 3 – November 20		Commemorating International Men's Day
November 24 – December 31		Commemorating Interfaith Month of Gratitude

11/13/2025

AGENDA ITEM

TO: **HONORABLE MAYOR**
AND MEMBERS OF THE CITY COUNCIL

FROM: **CARLO TOMAINO**
CITY MANAGER

BY: **GABINO C. LUNA**
DEPUTY DIRECTOR - PUBLIC WORKS

SUBJECT:

PUBLIC WORKS CONTRACT WITH OAK HOLLOW RESTORATION, INCORPORATED FOR EXTERIOR VERTICAL WALL REPAIR AND INSTALLATION OF RETROFIT STEEL WINDOWS AT CITY HALL

Summary:

On November 12, 2024, the City Council awarded the City Hall Interior Renovation Project to Estate Design & Construction (EDC). After the execution of all contract documents and the relocation of City staff to a temporary location, construction activities commenced on November 25, 2024. The project has reached a critical point, where a significant milestone requires coordinated work, including specialized materials and a general contractor with a background in historical building retrofit and repair. Specifically, the repair of the exterior shell, primarily composed of gunite, a material commonly used in the late 1800s to early 1900s, was required. In contrast, modern construction typically utilizes stucco, fiber cement, or concrete. The repair became necessary following the removal of existing windows and installation of new ones, which required additional steel framing and partial removal of the exterior shell. This work was not included in the original project scope, as the existing window framing and related structural conditions were not visible at the time of bid or contract award in November 2024.

To ensure a proper installation process and meet project deadlines, the City has contacted a limited pool of general contractors capable of performing the required scope of work for the repair of the vertical walls and the installation of steel windows. Staff engaged in several discussions with Thirtieth Street Architects (TSA), the City's historical architectural consultant, whom the City retained explicitly to retrofit new windows while preserving the historical appearance of City Hall. Due to the specialized nature of the work, TSA recommended that the City hire Oak Hollow Restoration, Incorporated, a general contractor specializing in historical restoration and construction.

With several other trades coordinated, the critical path moving forward is to secure the right historical restoration contractor to ensure the timely completion of the City Hall Renovation Project. Staff recommends the City Council award a Public Works Contract to Oak Hollow Restoration,

Incorporated for a not-to-exceed amount of $486,974 and authorize a 10% contingency for a total construction budget of $535,671.40.
Staff also requests supplemental funding to cover the related incidentals needed to complete this work. These costs include third-party material testing, special inspections, and abatement activities necessary to rebuild the openings correctly and ensure compliance with structural, safety, and historical-preservation standards. When added to the construction contract and contingency, these incidentals bring the total funding request to $660,412. If approved by City Council, Oak Hollow Restoration, Incorporated would immediately mobilize to meet project milestone deadlines and position the City to reopen this essential public facility in February 2026.

Strategic Plan Goal(s):

Goal No. 4 Infrastructure: Maintain and improve the City's physical infrastructure, water system, and recreational spaces.

Goal No. 5 High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendations:

1. Authorize the City Manager, or his designee, to enter into a Public Works Contract with Oak Hollow Restoration, Incorporated, for the exterior vertical wall repair and installation of energy-efficient steel windows at City Hall for a term of 60 working days and a not-to-exceed contract amount of $486,974 in a form approved by the City Attorney.

2. Authorize a contingency of 10% or $48,697.40 and up to a 15-working-day extension to accommodate additional scope of work, changes, or any unforeseen conditions, to be utilized if approved by the Public Works Director, for a total construction budget of $535,671.40.

3. Adopt a Resolution, entitled:

   A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA AWARDING A CONTRACT FOR THE CITY HALL RENOVATION -WINDOW INSTALLATION PROJECT.

4. Adopt a Resolution, entitled:

   A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, AMENDING THE ADOPTED BUDGET AND AUTHORIZING BUDGET APPROPRIATIONS FOR FISCAL YEAR 2025-26.

Fiscal Impact:

Project (Project No. 90.19004) is funded by the 400-40-5896 CIP Fund, with a total project budget of

$2,850,000. Of this amount, $1,241,395.34 has been expended to date. The proposed contract with Oak Hollow Restoration, Incorporated, covers exterior vertical wall repairs and the installation of energy-efficient steel windows at an estimated cost of $486,974. Including a 10% contingency of $48,697.40, the contract's not-to-exceed amount totals $535,671.40.

The specialized work needed to repair the window openings and install the new steel windows, as outlined in the agreement with Oak Hollow Restoration, extends beyond the scope of the original renovation contract. This work also requires the City to perform additional material testing, special inspections, and abatement activities to properly reconstruct the openings and ensure compliance with structural, safety, and historical preservation requirements. These additional tasks, combined with the remaining exterior wall repairs and installation needs, result in a total additional budget appropriation need of $660,412 necessary to complete the renovation.

The proposed budget adjustment accounts for the following items:

Account	Description of Work	$ Total
400-40-5896	Exterior Wall Repair/Window Installation	$535,671.40
400-40-5896	Material Testing (Third Party Testing)	$35,000.00
400-40-5896	Unforeseen Abatement Costs	$65,000.00
400-40-5896	Special Inspection, Reviews, RFI Support	$24,740.60
Total		$660,412.00

To support this funding request, staff recommends transferring the remaining $660,412 from the Civic Center Master Plan Reserve to support the timely completion of the City Hall Renovation Project, which is part of the Civic Center Master Plan - Phase 1. This funding request would also cover unforeseen costs associated with the window installation work described above.

Staff has identified potential savings that would result in a reduction in the proposed budget adjustment from $660,412 to $440,412. The savings include $100,000 from a revised IT replacement schedule and an anticipated reduction of approximately $120,000 from the prime contractor's remaining window installation scope and associated materials. If the City Council approves the contract with Oak Hollow Restoration, City staff would apply any realized savings and reconcile the project budget before completion, and document all expenditures and savings when presenting the Notice of Completion in Spring 2026.

Completion of the City Hall remodel will not only modernize our facilities but also demonstrate our commitment to progress and responsiveness to the community's needs, laying a strong foundation for future developments that ultimately benefit all residents.

Background:

Originally built in 1934, City Hall has undergone periodic improvements to maintain its functionality and appearance. Major renovations in 1986 and 1991 addressed essential needs, including exterior coatings, electrical and air-conditioning upgrades, interior repainting, new furnishings, enhanced lighting, and ceiling grid replacements. In recent years, the City has completed limited maintenance

items, including partial carpet replacements, a condenser unit replacement, and security access control upgrades. However, prior to this renovation effort, the building had not undergone substantial interior improvements for over 28 years. Office layouts remained essentially unchanged, furniture reached the end of its useful life, and routine wear and tear diminished the overall building condition. Several electrical components, including fluorescent lighting, also became outdated and inefficient.

On September 26, 2023, the City Council adopted the 2023-2028 Strategic Plan, which identifies the City Hall Renovation Project as a key initiative to enhance the building's appearance, functionality, and infrastructure, thereby better supporting public services. The project focuses on upgrading outdated facilities through the installation of energy-efficient windows, new paint, improved lighting, refurbished flooring, and enhanced front-counter security. These improvements support a more efficient, functional, and welcoming environment for staff and visitors.

The City released a competitive bid through PlanetBids on September 27, 2024, and received three bids. On November 12, 2024, the City Council awarded a Public Works Contract to Estate Design and Construction, Inc. (EDC) for a total construction budget of $1,087,680. The construction phase commenced on November 25, 2024, for a 150-calendar-day project duration, slated for completion in May 2025. During demolition in December 2024, City staff and EDC uncovered an unusual wall system consisting of a vertical steel truss embedded between two six-inch-thick gunite layers mixed with glued wood chips. The use of this type of framing and insulation is more commonly found in structures from the late 1800s and early 1900s, requiring specialized carpentry and metalwork expertise. EDC explored several retrofit options; however, the complexity of the conditions prompted the City to seek expert guidance.

City staff contacted multiple firms and ultimately selected TSA, a firm experienced in historic building repair and previously involved in the 1980s renovation of Signal Hill City Hall. After several months of investigation and a detailed review of material submittals for steel windows, the City and TSA finalized and issued an approved submittal package to EDC on June 4, 2025. Follow-up meetings addressed plan interpretation, installation sequencing, and field measurements. EDC placed the steel -window order on August 15, 2025, with an estimated lead time of 13 to 15 weeks. The complexity of the remaining work prompted staff to assess the specialized expertise required for the next stage of construction.

Analysis:

The remaining repairs require specialized equipment, skilled carpenters, and a unique application of materials. Based on these needs, staff contacted the limited pool of contractors capable of performing this type of work. TSA recommended Oak Hollow Restoration, Incorporated, a general contractor with expertise in historic restoration and a strong understanding of the project timeline, application methods, and similar projects.

Staff conducted reference checks on Oak Hollow Restoration, Incorporated, which demonstrated the capability, experience, and workforce capacity to perform the required work within the necessary timeframe and submitted a complete proposal. Oak Hollow Restoration initially proposed a cost of $522,964. After multiple rounds of negotiation with the Public Works Department, staff refined the scope and confirmed that all required tasks were included. Staff determined that the final not-to-exceed cost of $486,974 is reasonable, competitive, and consistent with the City’s engineering

estimate for the anticipated work.

Given these findings, staff evaluated the appropriate procurement path for this phase of the project. Consistent with the City's Purchasing Guidelines, contracts above a certain threshold require City Council approval. Staff also reviewed the procurement exceptions outlined in SHMC Section 3.20.120 and determined that a best-interest procurement is appropriate for this phase of work. The time-sensitive nature of the project and the significant operational risks associated with additional delays support the use of this procurement method.

Staff recommends best-interest procurement for the following reasons:

1. Protection of City Facilities

City Hall remains temporarily boarded with limited waterproofing. As the project approaches the winter season, prolonged exposure to the elements increases the risk of water intrusion and property damage. Advancing the window installation prevents deterioration of the building envelope and avoids additional repair costs.

2. Impacts to the construction schedule and public services

City Hall operations continue to operate from multiple temporary locations. Additional schedule delays could increase temporary setup costs, hinder workflow efficiency, and further affect staff's ability to serve residents and businesses. Advancing this work supports continuity of City operations and minimizes further disruption.

3. Coordination and cost impacts to the broader project

Window installation is the most critical task milestone in the sequencing process. Several trades cannot proceed until this work is complete. Re-mobilization or time extensions could significantly increase project costs and disrupt coordination with other trades.

The conditions outlined above, combined with the complexity of the remaining repairs, support a finding that awarding the work through an alternative procurement method serves the best interest of the City and the public. SHMC Section 3.20.120 authorizes the City Council to approve contract awards outside standard procurement methods when doing so protects the public interest or supports public health, safety, or welfare.

Beyond the construction work assigned to Oak Hollow Restoration, this phase also requires focused oversight and quality-control measures to ensure long-term performance of the reconstructed wall assemblies and steel-window frames. These measures include material testing to assess the condition of the historic gunite walls, special inspections to verify steel-frame installation, and limited abatement activities linked to rebuilding the window openings. Staff incorporated these services, together with the construction contract and contingency, into the total funding request of $660,412.

<u>Recommendation:</u>

Staff recommends the award of contract to Oak Hollow Restoration, Incorporated in the amount of

$486,974 for a term of 60 working days; staff also recommends authorizing a 10% contingency as part of the project. In addition, staff also recommends approving the supplemental funding for incidentals, including material testing, special inspections, and abatement activities, bringing the total funding request for this phase of work to $660,412.

Upon the City Council's approval, staff would immediately issue a Notice to Proceed and begin coordinating with the contractor. If approved, construction of the project is expected to commence on December 1, 2025, with completion anticipated by early February 2026.

Reviewed for Fiscal Impact:

_____
Siamlu Cox
Administrative Services Officer/Finance Director

Attachments:

A. Agreement
B. Resolution
C. Budget Resolution

CITY OF SIGNAL HILL

SHORT FORM CONSTRUCTION CONTRACT

CITY HALL RENOVATION – WINDOW REPLACEMENT

1. PARTIES AND DATE.

This Contract is made and entered into this 13th day of November, 2025, by and between the City of Signal Hill, a municipal corporation, organized under the laws of the State of California, with its principal place of business at 2175 Cherry Avenue Signal Hill, CA 90755 ("City") and **Oak Hollow Restoration, Inc.**, a **Corporation**, with its principal place of business at **32438 Oak Hollow Ct., Wildomar, CA 92595** ("Contractor"). City and Contractor are sometimes individually referred to herein as "Party" and collectively as "Parties."

2. RECITALS.

2.1 City. City is a municipal corporation organized under the laws of the State of California, with power to contract for services necessary to achieve its purpose.

2.2 Contractor. Contractor desires to perform and assume responsibility for the provision of **Window Replacement** services required by the City on the terms and conditions set forth in this Contract. Contractor represents that it is experienced in providing **Window Replacement** services to public clients, that it and its employees or subcontractors have all necessary licenses and permits to perform such **Window Replacement** services in the State of California, and that it is familiar with the plans of City.

2.3 Project. City desires to engage Contractor to render such services for the **City Hall Renovation – Window Replacement** Project ("Project") as set forth in this Contract.

2.4 Project Documents & Certifications. Contractor has obtained, and delivers concurrently herewith, Performance Bond, Payment Bond, Insurance Documents and Other Certifications as required by the Contract.

3. TERMS

3.1 Term. The term of this Contract shall be a period of 60 working days beginning on the effective date of the Notice to Proceed, unless earlier terminated as provided herein. The term may be extended administratively by up to 15 working days (“Term Contingency”) at the sole discretion of the City. Contractor shall complete the Work within the term of this Contract, and shall meet any other established schedules and deadlines.

3.2 Incorporation of Documents. This Contract includes and hereby incorporates in full by reference the following documents, including all exhibits, drawings, specifications and documents therein, and attachments and addenda thereto: Performance Bond and Payment Bond.

3.3 Contractor's Basic Obligation; Scope of Work. Contractor promises and agrees, at its own cost and expense, to furnish to the Owner all labor, materials, tools, equipment, services, and incidental and customary work necessary to fully and adequately complete the

Project, including all structures and facilities necessary for the Project or described in the Contract (hereinafter sometimes referred to as the "Work"), for a Total Contract Price as specified pursuant to this Contract. All Work shall be subject to, and performed in accordance with the above referenced documents, as well as the exhibits attached hereto and incorporated herein by reference. The plans and specifications for the Work are further described in Exhibit "A" attached hereto and incorporated herein by this reference.

3.4 Change in Scope of Work. Any change in the scope of the Work, method of performance, nature of materials or price thereof, or any other matter materially affecting the performance or nature of the Work shall not be paid for or accepted unless such change, addition or deletion is approved in advance and in writing by a valid change order executed by the City.

3.5 Period of Performance and Liquidated Damages. Contractor shall perform and complete all Work under this Contract within **60**, beginning the effective date of the Notice to Proceed ("Contract Time"). Contractor shall perform its Work in strict accordance with any completion schedule, construction schedule or project milestones developed by the City. Such schedules or milestones may be included as part of Exhibits "A" or "B" attached hereto, or may be provided separately in writing to the Contractor. Contractor agrees that if such Work is not completed within the aforementioned Contract Time and/or pursuant to any such completion schedule, construction schedule or project milestones developed pursuant to provisions of the Contract, it is understood, acknowledged and agreed that the City will suffer damage. Pursuant to Government Code Section 53069.85, Contractor shall pay to the City as fixed and liquidated damages the sum of **Five Hundred Dollars ($500) per day** for each and every calendar day of delay beyond the Contract Time or beyond any completion schedule, construction schedule or Project milestones established pursuant to the Contract.

3.6 Standard of Performance; Performance of Employees. Contractor shall perform all Work under this Contract in a skillful and workmanlike manner, and consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Contractor represents and maintains that it is skilled in the professional calling necessary to perform the Work. Contractor warrants that all employees and subcontractors shall have sufficient skill and experience to perform the Work assigned to them. Finally, Contractor represents that it, its employees and subcontractors have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Work, and that such licenses and approvals shall be maintained throughout the term of this Contract. As provided for in the indemnification provisions of this Contract, Contractor shall perform, at its own cost and expense and without reimbursement from the City, any work necessary to correct errors or omissions which are caused by the Contractor's failure to comply with the standard of care provided for herein. Any employee who is determined by the City to be uncooperative, incompetent, a threat to the safety of persons or the Work, or any employee who fails or refuses to perform the Work in a manner acceptable to the City, shall be promptly removed from the Project by the Contractor and shall not be re-employed on the Work.

3.7 Independent Contractor; Control and Payment of Subordinates. The Work shall be performed by Contractor or under its supervision. Contractor will determine the means, methods and details of performing the Work subject to the requirements of this Contract. City retains Contractor on an independent contractor basis and not as an employee. Contractor retains the right to perform similar or different work for others during the term of this Contract. Any additional personnel performing the Work under this Contract on behalf of Contractor shall also not be employees of City and shall at all times be under Contractor's exclusive direction and

control. Neither City, or any of its officials, officers, directors, employees or agents shall have control over the conduct of Contractor or any of Contractor's officers, employees or agents, except as set forth in this Contract. Contractor shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of the Work under this Contract and as required by law. Contractor shall be responsible for all reports and obligations respecting such additional personnel, including, but not limited to: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.

3.8 City's Basic Obligation. City agrees to engage and does hereby engage Contractor as an independent contractor to furnish all materials and to perform all Work according to the terms and conditions herein contained for the sum set forth above. Except as otherwise provided in the Contract, the City shall pay to Contractor, as full consideration for the satisfactory performance by the Contractor of the services and obligations required by this Contract, the above referenced compensation in accordance with compensation provisions set forth in the Contract.

3.9 Compensation and Payment.

3.9.1 Amount of Compensation. As consideration for performance of the Work required herein, City agrees to pay Contractor the Total Contract Price of **Four Hundred Eighty-Six Thousand Nine Hundred Seventy-Four Dollars ($486,974)** ("Total Contract Price") provided that such amount shall be subject to adjustment pursuant to the applicable terms of this Contract or written change orders approved and signed in advance by the City.

3.9.2 Payment of Compensation. If the Work is scheduled for completion in thirty (30) or less calendar days, City will arrange for payment of the Total Contract Price upon completion and approval by City of the Work. If the Work is scheduled for completion in more than thirty (30) calendar days, City will pay Contractor on a monthly basis as provided for herein. On or before the fifth (5th) day of each month, Contractor shall submit to the City an itemized application for payment in the format supplied by the City indicating the amount of Work completed since commencement of the Work or since the last progress payment. These applications shall be supported by evidence which is required by this Contract and such other documentation as the City may require. The Contractor shall certify that the Work for which payment is requested has been done and that the materials listed are stored where indicated. Contractor may be required to furnish a detailed schedule of values upon request of the City and in such detail and form as the City shall request, showing the quantities, unit prices, overhead, profit, and all other expenses involved in order to provide a basis for determining the amount of progress payments.

City shall review and pay all progress payment requests in accordance with the provisions set forth in Section 20104.50 of the California Public Contract Code. No progress payments will be made for Work not completed in accordance with this Contract.

3.9.3 Contract Retentions. From each approved progress estimate, five percent (5%) will be deducted and retained by the City, and the remainder will be paid to Contractor. All Contract retainages shall be released and paid to the Contractor and subcontractors pursuant to California Public Contract Code Section 7107.

3.9.4 Other Retentions. In addition to Contract retentions, the City may deduct from each progress payment an amount necessary to protect City from loss because of: (1) liquidated damages which have accrued as of the date of the application for payment; (2) any sums expended by the City in performing any of Contractor's obligations under the Contract which

Contractor has failed to perform or has performed inadequately; (3) defective Work not remedied; (4) stop payment notices as allowed by state law; (5) reasonable doubt that the Work can be completed for the unpaid balance of the Total Contract Price or within the scheduled completion date; (6) unsatisfactory prosecution of the Work by Contractor; (7) unauthorized deviations from the Contract; (8) failure of the Contractor to maintain or submit on a timely basis proper and sufficient documentation as required by the Contract or by City during the prosecution of the Work; (9) erroneous or false estimates by the Contractor of the value of the Work performed; (10) any sums representing expenses, losses, or damages as determined by the City, incurred by the City for which Contractor is liable under the Contract; and (11) any other sums which the City is entitled to recover from Contractor under the terms of the Contract or pursuant to state law, including Section 1727 of the California Labor Code. The failure by the City to deduct any of these sums from a progress payment shall not constitute a waiver of the City's right to such sums.

3.9.5 Substitutions for Contract Retentions. In accordance with California Public Contract Code Section 22300, the City will permit the substitution of securities for any monies withheld by the City to ensure performance under the Contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the City, or with a state or federally chartered bank in California as the escrow agent, and thereafter the City shall then pay such monies to the Contractor as they come due. Upon satisfactory completion of the Contract, the securities shall be returned to the Contractor. For purposes of this Section and Section 22300 of the Public Contract Code, the term "satisfactory completion of the contract" shall mean the time the City has issued written final acceptance of the Work and filed a Notice of Completion as required by law and provisions of this Contract. The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon. The escrow agreement used for the purposes of this Section shall be in the form provided by the City.

3.9.6 Payment to Subcontractors. Contractor shall pay all subcontractors for and on account of work performed by such subcontractors in accordance with the terms of their respective subcontracts and as provided for in Section 7108.5 of the California Business and Professions Code. Such payments to subcontractors shall be based on the measurements and estimates made and progress payments provided to Contractor pursuant to this Contract.

3.9.7 Title to Work. As security for partial, progress, or other payments, title to Work for which such payments are made shall pass to the City at the time of payment. To the extent that title has not previously been vested in the City by reason of payments, full title shall pass to the City at delivery of the Work at the destination and time specified in this Contract. Such transferred title shall in each case be good, free and clear from any and all security interests, liens, or other encumbrances. Contractor promises and agrees that it will not pledge, hypothecate, or otherwise encumber the items in any manner that would result in any lien, security interest, charge, or claim upon or against said items. Such transfer of title shall not imply acceptance by the City, nor relieve Contractor from the responsibility to strictly comply with the Contract, and shall not relieve Contractor of responsibility for any loss of or damage to items.

3.10 Termination. This Contract may be terminated by City at any time by giving Contractor three (3) days advance written notice. In the event of termination by City for any reason other than the fault of Contractor, City shall pay Contractor for all Work performed up to that time as provided herein. In the event of breach of the Contract by Contractor, City may terminate the Contract immediately without notice, may reduce payment to the Contractor in the

amount necessary to offset City's resulting damages, and may pursue any other available recourse against Contractor. Contractor may not terminate this Contract except for cause.

In the event this Contract is terminated in whole or in part as provided, City may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated. Further, if this Contract is terminated as provided, City may require Contractor to provide all finished or unfinished documents, data, diagrams, drawings, materials or other matter prepared or built by Contractor in connection with its performance of this Contract.

3.11 Completion of Work. When the Contractor determines that it has completed the Work required herein, Contractor shall so notify City in writing and shall furnish all labor and material releases required by this Contract. City shall thereupon inspect the Work. If the Work is not acceptable to the City, the City shall indicate to Contractor in writing the specific portions or items of Work which are unsatisfactory or incomplete. Once Contractor determines that it has completed the incomplete or unsatisfactory Work, Contractor may request a re-inspection by the City. Once the Work is acceptable to City, City shall pay to Contractor the Total Contract Price remaining to be paid, less any amount which City may be authorized or directed by law to retain. Payment of retention proceeds due to Contractor shall be made in accordance with Section 7107 of the California Public Contract Code.

3.12 City's Representative. The City hereby designates **Gabino Luna, Public Works Deputy Director**, or his/her designee, to act as its representative for the performance of this Contract ("City's Representative"). City's Representative shall have the power to act on behalf of the City for all purposes under this Contract. Contractor shall not accept direction or orders from any person other than the City's Representative or his/her designee.

3.13 Contractor's Representative. Before starting the Work, Contractor shall submit in writing the name, qualifications and experience of its proposed representative who shall be subject to the review and approval of the City ("'Contractor's Representative"). Following approval by the City, the Contractor's Representative shall have full authority to represent and act on behalf of the Contractor for all purposes under this Contract. The Contractor's Representative shall supervise and direct the Work, using his best skill and attention, and shall be responsible for all construction means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the Work under this Contract. Contractor's Representative shall devote full time to the Project and either he or his designee, who shall be acceptable to the City, shall be present at the Work site at all times that any Work is in progress and at any time that any employee or subcontractor of Contractor is present at the Work site. Arrangements for responsible supervision, acceptable to the City, shall be made for emergency Work which may be required. Should Contractor desire to change its Contractor's Representative, Contractor shall provide the information specified above and obtain the City's written approval.

3.14 Contract Interpretation. Should any question arise regarding the meaning or import of any of the provisions of this Contract or written or oral instructions from City, the matter shall be referred to City's Representative, whose decision shall be binding upon Contractor.

3.15 Loss and Damage. Contractor shall be responsible for all loss and damage which may arise out of the nature of the Work agreed to herein, or from the action of the elements, or from any unforeseen difficulties which may arise or be encountered in the prosecution of the Work until the same is fully completed and accepted by City. However, Contractor shall be responsible for damage proximately caused by Acts of God, within the meaning of Section 7105 of the

California Public Contract Code, only to the extent of five percent (5%) of the Total Contract Price as specified herein. In the event of damage proximately caused by "Acts of God," the City may terminate this Contract upon three (3) days advanced written notice.

3.16 Indemnification. Contractor shall defend (with counsel of City Council's choosing), indemnify and hold City, its officials, officers, agents, employees and representatives free and harmless from any and all claims, demands, causes of action, costs, expenses, liabilities, losses, damages or injuries, in law or equity, regardless of whether the allegations are false, fraudulent, or groundless, to property or persons, including wrongful death, to the extent arising out of or incident to any acts, omissions or willful misconduct of Contractor, its officials, officers, employees, agents, consultants and contractors arising out of or in connection with the performance of the Work or this Contract, including claims made by subcontractors for nonpayment, including without limitation the payment of all consequential damages and attorneys' fees and other related costs and expenses. To the fullest extent permitted by law, Contractor shall defend, at Contractor's own cost, expense and risk, with City Council's choosing, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against City, its officials, officers, agents, employees and representatives. To the extent of its liability, Contractor shall pay and satisfy any judgment, award or decree that may be rendered against City, its officials, officers, employees, agents, employees and representatives, in any such suit, action or other legal proceeding. Contractor shall reimburse City, its officials, officers, agents, employees, and representatives, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. The only limitations on this provision shall be those imposed by Civil Code Section 2782.

3.17 Insurance. Contractor agrees to procure and maintain, at Contractor's expense all insurance specified in Exhibit "C" attached hereto and by this reference incorporated herein. Contractor shall require all subcontractors to carry the same policies and limits of insurance that the Contractor is required to maintain, unless otherwise approved in writing by the City.

3.18 Bond Requirements.

3.18.1 Payment Bond. If required by law or otherwise specifically requested by City in Exhibit "B" attached hereto and incorporated herein by reference, Contractor shall execute and provide to City concurrently with this Contract a Payment Bond in an amount required by the City and in a form provided or approved by the City. If such bond is required, no payment will be made to Contractor until the bond has been received and approved by the City.

3.18.2 Performance Bond. If specifically requested by City in Exhibit "B" attached hereto and incorporated herein by reference, Contractor shall execute and provide to City concurrently with this Contract a Performance Bond in an amount required by the City and in a form provided or approved by the City. If such bond is required, no payment will be made to Contractor until the bond has been received and approved by the City.

3.18.3 Bond Provisions. Should, in City's sole opinion, any bond become insufficient or any surety be found to be unsatisfactory, Contractor shall renew or replace the affected bond within (ten) 10 days of receiving notice from City. In the event the surety or Contractor intends to reduce or cancel any required bond, at least thirty (30) days prior written notice shall be given to the City, and Contractor shall post acceptable replacement bonds at least ten (10) days prior to expiration of the original bonds. No further payments shall be deemed due or will be made under this Contract until any replacement bonds required by this Section are

accepted by the City. To the extent, if any, that the Total Contract Price is increased in accordance with the Contract, the Contractor shall, upon request of the City, cause the amount of the bond to be increased accordingly and shall promptly deliver satisfactory evidence of such increase to the City. To the extent available, the bonds shall further provide that no change or alteration of the Contract (including, without limitation, an increase in the Total Contract Price, as referred to above), extensions of time, or modifications of the time, terms, or conditions of payment to the Contractor, will release the surety. If the Contractor fails to furnish any required bond, the City may terminate the Contract for cause.

3.18.4 Surety Qualifications. Only bonds executed by an admitted surety insurer, as defined in California Code of Civil Procedure Section 995.120, shall be accepted. The surety must be a California-admitted surety and satisfactory to the City. If a California-admitted surety insurer issuing bonds does not meet these requirements, the insurer will be considered qualified if it is in conformance with Section 995.660 of the California Code of Civil Procedure, and proof of such is provided to the City.

3.19 Safety. Contractor shall execute and maintain its work so as to avoid injury or damage to any person or property. Contractor shall comply with the requirements of the specifications relating to safety measures applicable in particular operations or kinds of work. In carrying out its Work, the Contractor shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the Work and the conditions under which the Work is to be performed. Safety precautions as applicable shall include, but shall not be limited to, adequate life protection and lifesaving equipment; adequate illumination for underground and night operations; instructions in accident prevention for all employees, such as machinery guards, safe walkways, scaffolds, ladders, bridges, gang planks, confined space procedures, trenching and shoring, fall protection and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accidents or injuries; and adequate facilities for the proper inspection and maintenance of all safety measures. Furthermore, Contractor shall prominently display the names and telephone numbers of at least two medical doctors practicing in the vicinity of the Project, as well as the telephone number of the local ambulance service, adjacent to all telephones at the Project site.

3.20 Warranty. Contractor warrants all Work under the Contract (which for purposes of this Section shall be deemed to include unauthorized work which has not been removed and any non-conforming materials incorporated into the Work) to be of good quality and free from any defective or faulty material and workmanship. Contractor agrees that for a period of one year (or the period of time specified elsewhere in the Contract or in any guarantee or warranty provided by any manufacturer or supplier of equipment or materials incorporated into the Work, whichever is later) after the date of final acceptance, Contractor shall within ten (10) days after being notified in writing by the City of any defect in the Work or non-conformance of the Work to the Contract, commence and prosecute with due diligence all Work necessary to fulfill the terms of the warranty at its sole cost and expense. Contractor shall act sooner as requested by the City in response to an emergency. In addition, Contractor shall, at its sole cost and expense, repair and replace any portions of the Work (or work of other contractors) damaged by its defective Work or which becomes damaged in the course of repairing or replacing defective Work. For any Work so corrected, Contractor's obligation hereunder to correct defective Work shall be reinstated for an additional one year period, commencing with the date of acceptance of such corrected Work. Contractor shall perform such tests as the City may require to verify that any corrective actions, including, without limitation, redesign, repairs, and replacements comply with the requirements of

the Contract. All costs associated with such corrective actions and testing, including the removal, replacement, and reinstitution of equipment and materials necessary to gain access, shall be the sole responsibility of the Contractor. All warranties and guarantees of subcontractors, suppliers and manufacturers with respect to any portion of the Work, whether express or implied, are deemed to be obtained by Contractor for the benefit of the City, regardless of whether or not such warranties and guarantees have been transferred or assigned to the City by separate agreement and Contractor agrees to enforce such warranties and guarantees, if necessary, on behalf of the City. In the event that Contractor fails to perform its obligations under this Section, or under any other warranty or guaranty under this Contract, to the reasonable satisfaction of the City, the City shall have the right to correct and replace any defective or non-conforming Work and any work damaged by such work or the replacement or correction thereof at Contractor's sole expense. Contractor shall be obligated to fully reimburse the City for any expenses incurred hereunder upon demand.

3.21 Laws and Regulations. Contractor shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Contract or the Work, including all Cal/OSHA requirements, and shall give all notices required by law. Contractor shall be liable for all violations of such laws and regulations in connection with Work. If the Contractor observes that the drawings or specifications are at variance with any law, rule or regulation, it shall promptly notify the City in writing. Any necessary changes shall be made by written change order. If the Contractor performs any work knowing it to be contrary to such laws, rules and regulations, the Contractor shall be solely responsible for all costs arising therefrom. Contractor shall defend, indemnify and hold City, its officials, officers, employees and agents free and harmless, pursuant to the indemnification provisions of this Contract, from any claim or liability arising out of any failure or alleged failure to comply with such laws, rules or regulations.

3.22 Permits and Licenses. Contractor shall be responsible for securing City permits and licenses necessary to perform the Work described herein.

3.23 Water Quality Management and Compliance.

3.23.1 Stormwater Management. Storm, surface, ground, nuisance, or other waters may be encountered at various times during the Work. Contractor hereby acknowledges that it has investigated the risk arising from such waters and assumes any and all risks and liabilities arising therefrom.

3.23.2 Compliance with Water Quality Laws, Ordinances and Regulations. Contractor must keep itself and all subcontractors, staff, and employees fully informed of and in compliance with all local, state and federal laws, rules and regulations that may impact, or be implicated by the performance of the Work including, without limitation, all applicable provisions of the City's ordinances regulating discharges of stormwater; the Federal Water Pollution Control Act (33 U.S.C. § 1251 *et seq.*); the California Porter-Cologne Water Quality Control Act (Water Code § 13000 *et seq.*); and any and all regulations, policies, or permits issued pursuant to any such authority. Contractor must additionally comply with the lawful requirements of the City, and any other municipality, drainage district, or other local agency with jurisdiction over the location where the Work is to be conducted, regarding discharges of stormwater to separate storm drain systems or other watercourses, including applicable requirements in municipal stormwater management programs.

3.23.3 Compliance with NPDES and Construction General Permit. Municipal NPDES Permit compliance: The contractor shall implement and maintain activity specific Best Management Practices (BMPs) to prevent pollutant loading from stormwater and non-stormwater discharges to receiving waters as required in Municipal NPDES Permit No. CAS004004. Contracting staff whose primary job duties are related to implementation of BMPs shall be adequately trained to effectively implement, operate, and maintain such BMPs and must be versed in factors affecting BMP effectiveness. The contractor shall certify they have received all applicable training to implement the requirements in Municipal NPDES Permit No. CAS004004 and shall provide documentation to that effect. For projects subject to the Construction General Permit (Order No. 2022-0057-DWQ), the contractor shall read, understand, and implement all the requirements of the Permit, as it relates to this project.

3.23.4 Standard of Care. Contractor warrants that all employees and subcontractors have sufficient skill and experience to perform the work assigned to them without impacting water quality in violation of the laws, regulations and policies described in Sections 3.23.2 and 3.23.3 of this Contract. Contractor further warrants that it, its employees and subcontractors will receive adequate training, as determined by the City, regarding the requirements of the laws, regulations and policies described in Sections 3.23.2 and 3.23.3 of this Contract as they may relate to the Work.

3.23.5 Liability for Non-compliance.

(A) Indemnity. Failure to comply with laws, regulations, standards, and ordinances listed in Sections 3.23.2, 3.23.3, and 3.23.4 of this Contract is a violation of federal and state law. Notwithstanding any other indemnity contained in this Contract, Contractor agrees to indemnify and hold harmless the City, its officials, officers, agents, employees and authorized volunteers from and against any and all claims, demands, losses or liabilities of any kind or nature which the City, its officials, officers, agents, employees and authorized volunteers may sustain or incur for noncompliance with the laws, regulations, standards and ordinances listed in Sections 3.23.2, 3.23.3, and 3.23.4 of this Contract arising out of or in connection with the Work, except for liability resulting from the sole established negligence, willful misconduct or active negligence of the City, its officials, officers, agents, employees or authorized volunteers.

(B) Defense. City reserves the right to defend any enforcement action or civil action brought against the City for Contractor's failure to comply with any applicable water quality law, regulation, or policy. Contractor hereby agrees to be bound by, and to reimburse the City for the costs associated with, any settlement reached between the City and the relevant enforcement entity.

(C) Damages. City may seek damages from Contractor for delay in completing the Work caused by Contractor's failure to comply with the laws, regulations, standards, and policies described in Sections 3.23.2, 3.23.3 and 3.23.4 of this Contract, or any other relevant water quality law, regulation, or policy.

3.24 Trenching Work. If the Total Contract Price exceeds $25,000 and if the Work governed by this Contract entails excavation of any trench or trenches five (5) feet or more in depth, Contractor shall comply with all applicable provisions of the California Labor Code, including Section 6705. To this end, Contractor shall submit for City's review and approval a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for

worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer.

3.25 Hazardous Materials and Differing Conditions. As required by California Public Contract Code Section 7104, if this Contract involves digging trenches or other excavations that extend deeper than four (4) feet below the surface, Contractor shall promptly, and prior to disturbance of any conditions, notify City of: (1) any material discovered in excavation that Contractor believes to be a hazardous waste that is required to be removed to a Class I, Class II or Class III disposal site; (2) subsurface or latent physical conditions at the site differing from those indicated by City; and (3) unknown physical conditions of an unusual nature at the site, significantly different from those ordinarily encountered in such contract work. Upon notification, City shall promptly investigate the conditions to determine whether a change order is appropriate. In the event of a dispute, Contractor shall not be excused from any scheduled completion date and shall proceed with all Work to be performed under the Contract, but shall retain all rights provided by the Contract or by law for making protests and resolving the dispute.

3.26 Underground Utility Facilities. To the extent required by Section 4215 of the California Government Code, City shall compensate Contractor for the costs of: (1) locating and repairing damage to underground utility facilities not caused by the failure of Contractor to exercise reasonable care; (2) removing or relocating underground utility facilities not indicated in the construction drawings; and (3) equipment necessarily idled during such work. Contractor shall not be assessed liquidated damages for delay caused by failure of City to provide for removal or relocation of such utility facilities.

3.27 Labor

3.27.1 Prevailing Wages. Contractor is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq., as well as California Code of Regulations, Title 8, Section 16000, et seq., ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on "public works" and "maintenance" projects. Since the Work is being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is $1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. City shall provide Contractor with a copy of the prevailing rates of per diem wages in effect at the commencement of this Contract. Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to execute the Work available to interested parties upon request, and shall post copies at the Contractor's principal place of business and at the project site. Contractor shall defend, indemnify and hold the City, its elected officials, officers, employees and agents free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

3.27.2 Registration. Pursuant to Labor Code sections 1725.5 and 1771.1, Contractor and all subcontractors must be registered with the Department of Industrial Relations (“DIR”). Contractor shall maintain registration for the duration of the project and require the same of any subcontractors. A certification form for this purpose, which is attached to this Contract as Exhibit "D" and incorporated herein by reference. This project may also be subject to compliance monitoring and enforcement by the DIR. It shall be Contractor’s sole responsibility to comply with all applicable registration and labor compliance requirements. Notwithstanding the foregoing, the contractor registration requirements mandated by Labor Code Sections 1725.5 and 1771.1 shall

not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Sections 1725.5 and 1771.1.

3.27.3 Apprenticeable Crafts. When Contractor employs workmen in an apprenticeable craft or trade, Contractor shall comply with the provisions of Section 1777.5 of the California Labor Code with respect to the employment of properly registered apprentices upon public works. The primary responsibility for compliance with said section for all apprenticeable occupations shall be with Contractor.

3.27.4 Hours of Work. Contractor is advised that eight (8) hours labor constitutes a legal day's work. Pursuant to Section 1813 of the California Labor Code, Contractor shall forfeit a penalty of $25.00 per worker for each day that each worker is permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week, except when payment for overtime is made at not less than one and one-half (1-1/2) times the basic rate for that worker.

3.27.5 Payroll Records. In accordance with the requirements of California Labor Code Section 1776, Contractor shall keep accurate payroll records which are either on forms provided by the Division of Labor Standards Enforcement or which contain the same information required by such forms. Responsibility for compliance with California Labor Code Section 1776 shall rest solely with Contractor, and Contractor shall make all such records available for inspection at all reasonable hours. In accordance with Labor Code section 1771.4, the Contractor and each subcontractor shall furnish the certified payroll records directly to the DIR on a weekly basis and in the format prescribed by the DIR, which may include electronic submission. The requirement to submit certified payroll records directly to the Labor Commissioner under Labor Code section 1771.4 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Section 1771.4.

3.27.6 Contractor's Labor Certification. By its signature hereunder, Contractor certifies that he is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of that Code, and agrees to comply with such provisions before commencing the performance of the Work. A certification form for this purpose, which is attached to this Contract as Exhibit "E" and incorporated herein by reference, shall be executed simultaneously with this Contract.

3.27.7 Labor and Material Releases. Contractor shall furnish City with labor and material releases from all subcontractors performing work on, or furnishing materials for, the work governed by this Contract prior to final payment by City.

3.28 Claims & Disputes

3.28.1 Contractor shall timely comply with all notices and requests for additional compensation and extensions of time, including but not limited to all requirements of Article 43, as a prerequisite to filing any claim governed by this Article. The failure to timely submit a notice of delay or notice of change, or to timely a change to the Contract Price or Contract Time, or to timely provide any other notice or request required herein shall constitute a waiver of the right to further pursue the claim under the Contract or at law.

3.28.2 **Intent.** Effective January 1, 1991, Section 20104 et seq., of the California Public Contract Code prescribes a process utilizing informal conferences, non-binding judicial supervised mediation, and judicial arbitration to resolve disputes on construction claims of $375,000 or less. Effective January 1, 2017, Section 9204 of the Public Contract Code prescribes a process for negotiation and mediation to resolve disputes on construction claims. The intent of this Article is to implement Sections 20104 et seq. and Section 9204 of the California Public Contract Code. This Article shall be construed to be consistent with said statutes.

3.28.3 **Claims.** For purposes of this Article, "Claim" means a separate demand by the Contractor, after a change order duly requested in accordance with Article 49 has been denied by the City, for (1) a time extension, (2) payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Contract, or (3) an amount the payment of which is disputed by the City. A "Claim" does not include any demand for payment for which the Contractor has failed to provide notice, request a change order, or otherwise failed to follow any procedures contained in the Contract Documents.

3.28.4 **Filing Claims.** Claims governed by this Article may not be filed unless and until the Contractor completes all procedures for giving notice of delay or change and for the requesting of a time extension or change order, including but not necessarily limited to the procedures contained in Article 49, and Contractor's request for a change has been denied in whole or in part. Claims governed by this Article must be filed no later than fourteen (14) days after a request for change has been denied in whole or in part or after any other event giving rise to the Claim. Any claim must be submitted in writing to the City and shall include on its first page the following in 16 point capital font: "THIS IS A CLAIM." Furthermore, the claim shall include the documents necessary to substantiate the claim. Nothing herein is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims, including all requirements pertaining to compensation or payment for extra work, disputed work, and/or changed conditions. Failure to follow such contractual requirements shall bar any claims or subsequent lawsuits for compensation or payment thereon.

3.28.5 **Supporting Documentation.** The Contractor shall submit all Claims in the following format:

3.28.5.1 Summary of claim merit and price, and Contract clause pursuant to which the claim is made.

3.28.5.2 List of documents relating to claim

(A) Specifications

(B) Drawings

(C) Clarifications (Requests for Information)

(D) Schedules

(E) Other

3.28.5.3 Chronology of events and correspondence

3.28.5.4 Narrative analysis of claim merit

3.28.5.5 Analysis of claim cost, including calculations and supporting documents

3.28.5.6 Analysis of time impact analysis in CPM format if a time extension is requested

3.28.5.7 Cover letter and certification of validity of the claim, including any claims from subcontractors of any tier, in accordance with the Government Code sections 12650 et seq.

3.28.6 City Response to Claim.

3.28.6.1 Upon receipt of a Claim pursuant to this Article, the City shall conduct a reasonable review of the Claim and, within a period not to exceed 45 days of receipt of the claim, or as extended by mutual agreement, shall provide a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Any payment due on an undisputed portion of the Claim will be processed and made within 60 days after the City issues its written response.

3.28.6.2 If the City needs approval from City Council to provide Contractor a written statement as set forth above, and City Council does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a Claim, the City shall have up to three (3) days following the next publicly noticed meeting of City Council after the 45-day period, or extension, expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim.

3.28.6.3 The City may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the City may have. If additional information is needed thereafter, it shall be provided upon mutual agreement of the City and the claimant. The City's written response shall be submitted 30 days (15 days if the Claim is less than $50,000) after receiving the additional documentation, or within the same period of time taken by the claimant to produce the additional information, whichever is greater.

3.28.7 Meet & Confer Conference. If the Contractor disputes the City's response, or if the City fails to respond within the statutory time period(s), the Contractor may so notify the City within 15 days of the receipt of the response or the failure to respond, and demand an informal conference to meet and confer for settlement of those portions of the Claim that remain in dispute. Upon such demand, the City shall schedule a meet and confer conference within 30 Days.

3.28.8 Mediation. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion thereof remains in dispute, the City shall provide the Contractor with a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 Days after the City issues its written statement. Any portion of the claim that remains in dispute shall be submitted to nonbinding mediation and the City and the Contractor shall equally share the associated mediator fees. The City and Contractor shall

mutually agree to a mediator within 10 business Days after the disputed portion of the claim has been identified in writing, unless the parties agree to select a mediator at a later time.

3.28.8.1 If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.

3.28.8.2 For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

3.28.8.3 Unless otherwise agreed to by the public entity and the Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

3.28.8.4 The mediation shall be held no earlier than the date the Contractor completes the Work or the date that the Contractor last performs Work, whichever is earlier. All unresolved claims shall be considered jointly in a single mediation, unless a new unrelated claim arises after mediation is completed.

3.28.9 **Procedures After Mediation.** If following the mediation, the claim or any portion remains in dispute, the Contractor must file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code prior to initiating litigation. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference.

3.28.10 **Civil Actions.** The following procedures are established for all civil actions filed to resolve Claims of $375,000 or less:

3.28.10.1 Within 60 Days, but no earlier than 30 Days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties or unless mediation was held prior to commencement of the action in accordance with Public Contract Code section 9204 and the terms of this Agreement. The mediation process shall provide for the selection within 15 Days by both parties of a disinterested third person as mediator, shall be commenced within 30 Days of the submittal, and shall be concluded within 15 Days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.

3.28.10.2 If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1114.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration. In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, (A) arbitrators shall, when

possible, be experienced in construction law, and (B) any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees on appeal of the other party.

3.28.11 In addition to any and all requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, construction claims and/or changed conditions, the Contractor must comply with the claim procedures set forth in Government Code section 900 et seq. prior to filing any lawsuit against the City. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, construction claims, and/or changed conditions have been followed by Contractor. If no such Government Code claim is submitted, or if the prerequisite contractual requirements are not otherwise satisfied as specified herein, Contractor shall be barred from bringing and maintaining a valid lawsuit against the City.

3.29 State License Board Notice. Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four (4) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

3.30 Equal Opportunity Employment. Contractor represents that it is an equal opportunity employer and that it shall not discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, sex, age or other interests protected by the State or Federal Constitutions. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination.

3.31 Anti-Trust Claims. This provision shall be operative if this Contract is applicable to California Public Contract Code Section 7103.5. In entering into this Contract to supply goods, services or materials, the Contractor hereby offers and agrees to assign to the City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2, commencing with Section 16700, of Part 2 of Division 7 of the Business and Professions Code) arising from purchases of goods, services, or materials pursuant to the Contract. This assignment shall be made and become effective at the time the City tender final payment to the Contractor, without further acknowledgment by the Parties.

3.32 Notices. All notices hereunder and communications regarding interpretation of the terms of the Contract or changes thereto shall be provided by the mailing thereof by registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

CONTRACTOR: OAK HOLLOW RESTORATION, INC.
32438 OAK HOLLOW CT.
WILDOMAR, CA 92595
ATTN: TROY PARRY, OWNER

CITY: CITY OF SIGNAL HILL
2175 CHERRY AVENUE
SIGNAL HILL, CA 90755
ATTN: GABINO LUNA, PUBLIC WORKS DEPUTY DIRECTOR

Any notice so given shall be considered received by the other Party forty-eight (48) hours after deposit in the U.S. Mail as stated above and addressed to the Party at the above address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

3.33 Entire Contract; Modification. This Contract contains the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements. This Contract may only be modified by a writing signed by both Parties.

3.34 Time of Essence. Time is of the essence in the performance of this Contract.

3.35 Assignment Forbidden. Contractor shall not, either voluntarily or by action of law, assign or transfer this Contract or any obligation, right, title or interest assumed by Contractor herein without the prior written consent of City. If Contractor attempts an assignment or transfer of this Contract or any obligation, right, title or interest herein, City may, at its option, terminate and revoke the Contract and shall thereupon be relieved from any and all obligations to Contractor or its assignee or transferee.

3.36 Governing Law. This Contract shall be governed by the laws of the State of California. Venue shall be in Orange County.

3.37 Counterparts. This Contract may be executed in counterparts, each of which shall constitute an original.

3.38 Successors. The Parties do for themselves, their heirs, executors, administrators, successors, and assigns agree to the full performance of all of the provisions contained in this Contract.

3.39 Attorneys' Fees. If either Party commences an action against the other Party, either legal administrative or otherwise, arising out of or in connection with this Contract, the prevailing Party in such action shall be entitled to have and recover from the losing Party reasonable attorneys' fees and all other costs of such action.

3.40 Prohibited Interests.

3.40.1 Solicitation. Contractor maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Contractor, to solicit or secure this Contract. Further, Contractor warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Contractor, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, City shall have the right to terminate this Contract without liability.

3.40.2 Conflict of Interest. For the term of this Contract, no official, officer or employee of City, during the term of his or her service with City, shall have any direct interest in this Contract, or obtain any present or anticipated material benefit arising therefrom.

3.41 Certification of License. Contractor certifies that as of the date of execution of this Contract, Contractor has a current contractor's license of the classification indicated below under Contractor's signature.

3.42 Authority to Enter Contract. Contractor has all requisite power and authority to conduct its business and to execute, deliver and perform the Contract. Each Party warrants that the individuals who have signed this Contract have the legal power, right and authority to make this Contract and bind each respective Party.

IN WITNESS WHEREOF, each of the Parties has caused this Contract to be executed on the day and year first above written.

CITY OF SIGNAL HILL

By: _____
Carlo Tomaino
City Manager

ATTEST:

By: _____
Tina Knapp
Assistant City Clerk

APPROVED AS TO FORM:

By: _____
Matthew E. Richardson
City Attorney

OAK HOLLOW RESTORATION, INC.

By: _____
Troy Parry,
Owner

By: _____
Secretary or Treasurer

EXHIBIT "A"

PLANS AND SPECIFICATIONS

The following plans and specifications are incorporated into this Contract herein by this reference:

I. Site Protection, Supervision and Temp Controls
   a. Provide Supervision, Project Management and Administrative services to properly execute our full scope of work
   b. Install Temp Waterproofing at any portion of work that we open, protection of the existing Building at areas where we have not performed Removals is by others. OHR will not be responsible for Protection of any portion of the Building until OHR performs removals.
   c. Generator, Fuel and Equipment for the Proper Execution of all work
   d. Provide Aerial Lifts and Scaffolding as required to complete OHR's Scope

II. Selective Removals
   a. Remove Plaster and Gunite at Perimeter of Windows to expose 2" of Wire Lath and 4" of intact Waterproofing
   b. Remove in a Random Pattern at alternating angles to Key in Repairs
   c. Removals will not be Sawcut, and Straight Lines will be avoided to the Greatest Extent Possible
   d. Clean Up of all Dust and Debris Created during Removals
   e. Dispose of all Debris in Proper Dumpster to be staged onsite.

III. Waterproofing, Flashings and Lath
   a. Utilizing a Self-Adhered Membrane style Flashing to create positive water proofing to all flashing, sill dam's and window edge for fully positively waterproofed system
   b. Install Flashing to integrate into window design and kickout water as required to mitigate water infiltration at Window System
   c. Install Expanded Metal Lath Tied to Existing Lath, Framing and Break Metal Framing to bond Gunite to Structure

IV. Brake Metal Forming and Framing
   a. Install Brake Metal Shapes to Form the profile of the exterior wall
   b. Brake Metal will allow for corners and faces as needed for proper reveals at all Windows matching the Historic Character of the Building
   c. Brake Metal will be Field Bent as needed for a fully customizable install

V. Gunite Installation and Plaster Finish
   a. In accordance with the Plans and Specs install Gunite Structural Section at all areas indicated to receive this Repair. Mix Design shall match the Specified design in Content, PSI, Slump and Elasticity
   b. Apply a Finish Plaster Coat over all Gunite to match the existing Finish as close as possible.
   c. We have allowed for 4 Onsite Mockups of the Gunite and Plaster Finish

VI. Window Installation and Perimeter Sealant
   a. Install Pinky's Windows which are to be Furnished and Delivered to the Jobsite by Others.
   b. Windows shall go into Steel Framework Furnished and Installed by others.

c. Steel Framework shall be a minimum of a ¼" larger than the Window Frame at all sides (1/2") in each direction
d. Steel Framework shall all be installed with the Heads aligned, Plumb, Level and True. With a Max Tolerance of 1/8" in 10 Feet
e. Glaze Panes only where indicated as "Field Glazed" in the Window Shop Drawings, all other Panes shall come Glazed from the Manufacturer
f. Install Structural Urethane Sealant at the Perimeter of all Windows

Refer to Attachment A. All items listed in the proposal submitted by Oak Hollow Restoration, Inc. on October 22, 2025.

Refer to Attachment B. Technical Specifications for the construction of Signal Hill City Hall Steel Window Replacement/Wall Repair at Windows dated June 4, 2025.

All work must be completed by January 31, 2026, unless otherwise approved in accordance with section 3.1.

EXHIBIT "B"

COMPENSATION

Total compensation due to Oak Hollow Restoration shall be pursuant to section 3.9.1 and as shown below.
The City requires contractor to furnish payment and performance bonds pursuant to sections 3.18.1 and 3.18.2 of the contract.

ITEM NO	DESCRIPTION	AMOUNT
1	Site Protection, Supervision and Temp Controls	$77,350
2	Selective Removals	$43,228
3	Waterproofing, Flashings and Lath	$77,746
4	Brake Metal Forming and Framing	$35,614
5	Gunite Installation and Plaster Finish	$171,376
6	Window Installation and Perimeter Sealant	$81,660
	Total	**$486,974**

EXHIBIT "C"

INSURANCE REQUIREMENTS

1.1 Insurance.

1.1.1 Time for Compliance. Contractor shall not commence work under this Contract until it has provided evidence satisfactory to the City that it has secured all insurance required under this section. In addition, Contractor shall not allow any subcontractor to commence work on any subcontract until it has provided evidence satisfactory to the City that the subcontractor has secured all insurance required under this section.

1.1.2 Types of Insurance Required. As a condition precedent to the effectiveness of this Contract for work to be performed hereunder, and without limiting the indemnity provisions of the Contract, the Contractor, in partial performance of its obligations under such Contract, shall procure and maintain in full force and effect during the term of the Contract the following policies of insurance. If the existing policies do not meet the insurance requirements set forth herein, Contractor agrees to amend, supplement or endorse the policies to do so.

(A) Commercial General Liability: Commercial General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 0001, or the exact equivalent, and shall be no less than $2,000,000 per occurrence and no less than $4,000,000 in the general aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions limiting coverage for (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) contain any other exclusion contrary to the Contract.

(B) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 0001 covering "Any Auto" (Symbol 1), or the exact equivalent, covering bodily injury and property damage for all activities shall be in an amount of not less than $1,000,000 combined limit for each occurrence.

(C) Workers' Compensation: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than $1,000,000 per accident for bodily injury and disease.

(D) Builder's Risk Insurance [“All Risk”]: The City has obtained Builder’s Risk [“All Risk”] extended coverage insurance for the Project. Contractor shall **NOT** procure Builder’s Risk [“All Risk”] insurance for this Project, and shall **NOT** include the cost of said coverage in its bid price/the Contract Price.

(E) Contractors Pollution Liability: Contractor’s pollution liability insurance. Coverage shall provide for liability arising out of sudden, accidental, and gradual pollution, and remediation. The policy limit shall be no less than $1,000,000 per claim and in the aggregate. All activities contemplated in this agreement shall be specifically scheduled on the policy as “covered operations.” The policy shall provide coverage for remediation of the site in the event of an environmental contamination event arising out of the materials, supplies, products, work, operations, or workmanship.

1.1.3 Endorsements. Required insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

(A) Commercial General Liability:

(1) Additional Insured: The City, its officials, officers, employees, agents, and volunteers shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Contract.

Additional Insured Endorsements shall not (1) be restricted to "ongoing operations"; (2) exclude "contractual liability"; (3) restrict coverage to "sole" liability of Contractor; or (4) contain any other exclusions contrary to the terms of purposes of this Contract. For all policies of Commercial General Liability insurance, Contractor shall provide endorsements in the form of ISO CG 20 10 10 01 and 20 37 10 01 (or endorsements providing the exact same coverage) to effectuate this requirement.

(2) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(B) Automobile Liability:

(1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(C) Workers' Compensation:

(1) Waiver of Subrogation: A waiver of subrogation stating that the insurer waives all rights of subrogation against the City, its officials, officers, employees, agents and volunteers.

(2) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

1.1.4 Primary and Non-Contributing Insurance. All policies of Commercial General Liability, Automobile Liability insurance (if required) shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees agents or volunteers shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

1.1.5 Waiver of Subrogation. All policies of Commercial General Liability, Automobile Liability insurance (if required) shall contain or be endorsed to waive subrogation against the City, its officials, officers, employees, agents, and volunteers or shall specifically allow Contractor or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Contractor hereby waives its own right of recovery against City, and shall require similar written express waivers and insurance clauses from each of its subcontractors.

1.1.6 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be approved in writing by the City and shall protect the City, its officials, officers, employees, agents and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

1.1.7 Evidence of Insurance. The Contractor, concurrently with the execution of the Contract, and as a condition precedent to the effectiveness thereof, shall deliver either certified copies of the required policies, or original certificates on forms approved by the City, together with all endorsements affecting each policy. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15 days) prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced, and not replaced immediately so as to avoid a lapse in the required coverage, Contractor shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies.

1.1.8 Failure to Maintain Coverage. In the event any policy of insurance required under this Contract does not comply with these specifications or is canceled and not replaced immediately so as to avoid a lapse in the required coverage, City has the right but not the duty to obtain the insurance it deems necessary and any premium paid by City will be promptly reimbursed by Contractor or City will withhold amounts sufficient to pay premium from Contractor payments. In the alternative, City may cancel this Contract, effective upon notice.

1.1.9 Acceptability of Insurers. Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and authorized to transact business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

1.1.10 Enforcement of Contract Provisions (non estoppel). Contractor acknowledges and agrees that actual or alleged failure on the part of the City to inform Contractor of non-compliance with any requirement imposes no additional obligation on the City nor does it waive any rights hereunder.

1.1.11 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this Appendix are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance.

1.1.12 Insurance for Subcontractors. Consultant shall include all Subcontractors as additional insureds under the Contractor's policies, or the Contractor shall be responsible for causing Subcontractors to purchase the appropriate insurance in compliance with the terms of these Insurance Requirements, including adding the City, its officials, officers, employees, agents and volunteers as additional insureds to the Subcontractor's policies. All policies of Commercial General Liability insurance provided by Subcontractors shall be endorsed to name the City, its officials, officers, employees, agents and volunteers as additional insureds using endorsement form ISO CG 20 38 04 13. Contractor shall not allow any Subcontractor to commence work until it has received satisfactory evidence of Subcontractor's compliance with all insurance requirements under this Contract, to the extent applicable. The Contractor shall provide satisfactory evidence of compliance with this section upon request of the City.

EXHIBIT "D"
PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. See http://www.dir.ca.gov/Public-Works/PublicWorks.html for additional information.

No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work.

Contractor hereby certifies that it is aware of the registration requirements set forth in Labor Code sections 1725.5 and 1771.1 and is currently registered as a contractor with the Department of Industrial Relations.[1]

Name of Bidder: _____

DIR Registration Number: _____

Small Project Exemption: _____ Yes or _____ No

Unless Contractor is exempt pursuant to the small project exemption, Contractor further acknowledges:

(1) Contractor shall maintain a current DIR registration for the duration of the project.

(2) Contractor shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.

Name of Contractor _____

Signature _____

Name and Title _____

Dated _____

1 If the Project is exempt from the contractor registration requirements pursuant to the small project exemption under Labor Code Sections 1725.5 and 1771.1, please mark "Yes" in response to "Small Project Exemption."

EXHIBIT "E"

LABOR CERTIFICATION

LABOR CODE - SECTION 1861

I, the undersigned Contractor, am aware of the provisions of Section 3700, et seq., of the California Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of the Code, and I, the undersigned Contractor, agree to and will comply with such provisions before commencing the performance of the Work on this Contract.

Oak Hollow Restoration, Inc.

Signature_____

Name_____

Title_____

Dated_____

EXHIBIT F

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the City of Signal Hill (hereinafter referred to as "City") has awarded to _____, (hereinafter referred to as the "Contractor") an agreement for _____ (hereinafter referred to as the "Project").

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Contractor is required by said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.

NOW, THEREFORE, we, _____, the undersigned Contractor and _____as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the City in the sum of _____ _____ DOLLARS and _____ CENTS ($_____), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including, if provided as part of the Contract Documents, the one-year guarantee of all materials and workmanship; and shall indemnify and save harmless the City, its officers and agents, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the guarantee obligation shall hold good for a period of one (1) year after the acceptance of the work by City, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the City from loss or damage resulting from or caused by defective materials or faulty workmanship the above obligation in penal sum thereof shall remain in full force and effect. However, anything in this paragraph to the contrary notwithstanding, the obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the City's rights or the Contractor or Surety's obligations under the Contract Documents, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

Whenever Contractor shall be, and is declared by the City to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the City's option:

(1) Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or

(2) Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a contract between such bidder, the Surety and the City, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract Documents and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.

(3) Permit the City to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract Documents and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the City may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Contractor.

Surety shall not utilize Contractor in completing the Project nor shall Surety accept a bid from Contractor for completion of the Project if the City, when declaring the Contractor in default, notifies Surety of the City's objection to Contractor's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project and the provisions of Section 2819 and 2845 of the California Civil Code. Without limiting the foregoing, such changes, extensions of time and alterations or additions shall include, but are not limited to, changes or alterations to the Contract Documents (including, without limitation, an increase in the total dollar amount of the Contract Documents), extensions of time, or modifications of the time, terms, or conditions of payment to the Contractor.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20___.

CONTRACTOR/PRINCIPAL
(Corporate Seal of Contractor/
Principal, if a Corporation)

_____
Name of Contractor/Principal (Type or Print)

By: _____
Name (Signature)

_____
Name (Type or Print)

_____
Title (Type or Print)

SURETY
(Seal of Surety)

_____
Name of Surety (Type or Print)

By:_____
Attorney-In-Fact

Signatures of those signing for the Contractor and Surety must be notarized and evidence of corporate authority attached.

The rate of premium on this bond is _____ per thousand. The total amount of premium charges, $_____.

(The above must be filled in by corporate attorney.)

THIS IS A REQUIRED FORM
Any claims under this bond may be addressed to:

(Name and Address of Surety) _____
_____
_____

(Name and Address of Agent or Representative for service of process in California, if different from above) _____
_____
_____

(Telephone number of Surety and Agent or Representative for service of process in California) _____
_____
_____

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20___, before me, _____, Notary Public, personally

appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

☐ Individual
☐ Corporate Officer

_____
Title(s)

☐ Partner(s) ☐ Limited ☐ General
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

_____

_____

DESCRIPTION OF ATTACHED DOCUMENT

_____
Title or Type of Document

_____
Number of Pages

_____
Date of Document

_____
Signer(s) Other Than Named Above

NOTE: A copy of the Power-of-Attorney to local representatives of the bonding company must be attached hereto.

END OF PERFORMANCE BOND FORM

EXHIBIT G
PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS That

WHEREAS, the City of Signal Hill (hereinafter designated as the "City"), by action taken or a resolution passed _____ , 20____ has awarded to _____ _____ hereinafter designated as the "Principal," a contract for the work described as follows: _____ _____ (the "Project"); and

WHEREAS, the work to be performed by the Principal is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, said Principal is required to furnish a bond in connection with said Contract Documents; providing that if said Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of said Principal and its Subcontractors with respect to such work or labor, the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and _____ as Surety, are held and firmly bound unto the City in the penal sum of _____ _____ DOLLARS and _____ CENTS ($_____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in Section 9100 of the Civil Code, fail to pay for any materials, provisions or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract Documents, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Section 18663 of the Revenue and Taxation Code, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by the City in such suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Section 9100 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition,

alteration or modification in, to, or of any contract (including the Contract Documents), plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement herein above described, nor by any rescission or attempted rescission or attempted rescission of the Contract Documents, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the owner or City and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Section 9100 of the Civil Code, and has not been paid the full amount of his claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

Notwithstanding any other provision of this bond, it is expressly understood, acknowledged and agreed that it shall provide all of the protections required by California Civil Code Sections 9550 through 9566, including the specific coverage protections required by Section 9554.

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SIGNATURES ON FOLLOWING PAGE

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____ 20_____ the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

CONTRACTOR/PRINCIPAL
(Corporate Seal of Contractor/
Principal, if a Corporation)

_____
Name of Contractor/Principal (Type or Print)

By: _____
Name (Signature)

_____
Name (Type or Print)

_____
Title (Type or Print)

SURETY
(Seal of Surety)

_____
Name of Surety (Type or Print)

By:_____
Attorney-In-Fact

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20___, before me, _____, Notary Public, personally

appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

☐ Individual
☐ Corporate Officer

_____
Title(s)

☐ Partner(s) ☐ Limited ☐ General
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

_____

_____

DESCRIPTION OF ATTACHED DOCUMENT

_____
Title or Type of Document

_____
Number of Pages

_____
Date of Document

_____
Signer(s) Other Than Named Above

NOTE: A copy of the Power-of-Attorney to local representatives of the bonding company must be attached hereto.

END OF PAYMENT BOND FORM

RESOLUTION NO. 2025-11-XXXX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, AWARDING A CONTRACT FOR THE CITY HALL RENOVATION WINDOW INSTALLATION PROJECT

WHEREAS, the City of Signal Hill ("City") is a general law municipal corporation duly organized under the constitution and laws of the State of California;

WHEREAS, the City previously awarded a competitively bid contract to **Estate Design Construction Incorporation** ("Original Contractor") for the **City Hall Interior Renovation** ("Original Project");

WHEREAS, Original Contractor mobilized for the Original Project on **November 25, 2024**, and since such date has prosecuted the Original Project;

WHEREAS, on or about **September 2025**, the City identified additional work necessary for the renovation of City Hall, which is set forth in Attachment A attached hereto and incorporated by reference as if fully set forth herein ("New Project");

WHEREAS, the Original Project cannot be completed without the New Project;

WHEREAS, in the absence of the actions contemplated by this Resolution, City staff is of the opinion that the Original Project would be substantially delayed, either through a termination for convenience or rebidding of both projects separately or together, and that the cost of such delay to the public would substantially exceed $100,000 (the "Prejudice");

WHEREAS, City staff has consulted with numerous qualified contractors to ascertain the cost of the New Project, and has determined that the cost of the contract set forth in Attachment A attached hereto and incorporated by reference as if fully set forth herein is likely equal to or better than the cost of a competitively bid contract, especially when considering the likely Prejudice associated with delay and rebidding;

WHEREAS, "[a] public entity's award of a contract, and all of the acts leading up to the award, are legislative in character. [T]he letting of contracts by a governmental entity necessarily requires an exercise of discretion guided by consideration of the public welfare[]". (*Mike Moore's 24-Hour Towing v. City of San Diego* (1996) 45 Cal.App.4th 1294, 1303);

WHEREAS, "where competitive proposals work an incongruity and are unavailing as affecting the final result, or where competitive proposals do not produce any advantage, or where it is practically impossible to obtain what is required and to observe

such form, competitive bidding is not applicable." (*Graydon v. Pasadena Redevelopment Agency* (1980) 104 Cal.App. 3d 631, 636);

WHEREAS, "[t]he law neither does nor requires idle acts." (Civil Code, § 3532); and

WHEREAS, City staff finds that the foregoing is true and correct, and that on that basis dispensing with competitive bidding and awarding the contract for the New Project to **City Hall Renovation Window Installation** ("New Contractor") in the form set forth in Attachment A attached hereto and incorporated by reference as if fully set forth herein (the "Proposed Contract") under these circumstances is in the best interest of the City and will achieve cost-efficiency, avoid delay, and result in the Original Project and the New Project being constructed at the lowest cost to the public ("Staff Findings").

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. Recitals. The Recitals set forth above are true and correct and incorporated herein by reference.

Section 2. Council Findings. The City Council adopts the Staff Findings as its own ("Council Findings").

Section 3. Authorization. The City Manager or their designee is hereby authorized and directed to enter into the contract ("New Contractor") consistent with the proposed contract set forth in Exhibit A attached hereto and incorporated by reference as if fully set forth herein (the "Proposed Contract").

Section 4. Severability. If any provision of this Resolution or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this Resolution which can be given effect without the invalid provision or application, and to this end the provisions of this Resolution are severable. The City Council hereby declares that it would have adopted this Resolution irrespective of the invalidity of any particular portion thereof.

Section 5. Certification. The City Clerk shall certify to the adoption of this Resolution.

Section 6. Effective Date. This Resolution shall become effective upon its adoption.

PASSED, APPROVED, AND ADOPTED at a special meeting of the City Council of the City of Signal Hill, California, on this 13th day of November, 2025.

_____
KEIR JONES
MAYOR

ATTEST:

_____
DARITZA PEREZ
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss.
CITY OF SIGNAL HILL)

I, DARITZA PEREZ, City Clerk of the City of Signal Hill, California, hereby certify that Resolution No. 2025-11-XXXX was adopted by the City Council of the City of Signal Hill at a special meeting held on the 13th day of November, 2025, and that the same was adopted by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
DARITZA PEREZ
CITY CLERK

ATTACHMENT A

PROPOSED CONTRACT

CITY OF SIGNAL HILL

SHORT FORM CONSTRUCTION CONTRACT

CITY HALL RENOVATION – WINDOW REPLACEMENT

PARTIES AND DATE.

This Contract is made and entered into this 13th day of November, 2025, by and between the City of Signal Hill, a municipal corporation, organized under the laws of the State of California, with its principal place of business at 2175 Cherry Avenue Signal Hill, CA 90755 ("City") and **Oak Hollow Restoration, Inc.**, a **Corporation**, with its principal place of business at **32438 Oak Hollow Ct., Wildomar, CA 92595** ("Contractor"). City and Contractor are sometimes individually referred to herein as "Party" and collectively as "Parties."

RECITALS.

City. City is a municipal corporation organized under the laws of the State of California, with power to contract for services necessary to achieve its purpose.

Contractor. Contractor desires to perform and assume responsibility for the provision of **Window Replacement** services required by the City on the terms and conditions set forth in this Contract. Contractor represents that it is experienced in providing **Window Replacement** services to public clients, that it and its employees or subcontractors have all necessary licenses and permits to perform such **Window Replacement** services in the State of California, and that it is familiar with the plans of City.

Project. City desires to engage Contractor to render such services for the **City Hall Renovation – Window Replacement** Project ("Project") as set forth in this Contract.

Project Documents & Certifications. Contractor has obtained, and delivers concurrently herewith, Performance Bond, Payment Bond, Insurance Documents and Other Certifications as required by the Contract.

TERMS

Term. The term of this Contract shall be a period of 60 working days beginning on the effective date of the Notice to Proceed, unless earlier terminated as provided herein. The term may be extended administratively by up to 15 working days (“Term Contingency”) at the sole discretion of the City. Contractor shall complete the Work within the term of this Contract, and shall meet any other established schedules and deadlines.

Incorporation of Documents. This Contract includes and hereby incorporates in full by reference the following documents, including all exhibits, drawings, specifications and documents therein, and attachments and addenda thereto: Performance Bond and Payment Bond.

Contractor's Basic Obligation; Scope of Work. Contractor promises and agrees, at its own cost and expense, to furnish to the Owner all labor, materials, tools, equipment, services, and incidental and customary work necessary to fully and adequately complete the Project, including all structures and facilities necessary for the Project or described in the Contract (hereinafter sometimes referred to as the "Work"), for a Total Contract Price as specified pursuant to this Contract. All Work shall be subject to, and performed in accordance with the above referenced documents, as well as the exhibits attached hereto and incorporated herein by reference. The plans and specifications for the Work are further described in Exhibit "A" attached hereto and incorporated herein by this reference.

Change in Scope of Work. Any change in the scope of the Work, method of performance, nature of materials or price thereof, or any other matter materially affecting the performance or nature of the Work shall not be paid for or accepted unless such change, addition or deletion is approved in advance and in writing by a valid change order executed by the City.

Period of Performance and Liquidated Damages. Contractor shall perform and complete all Work under this Contract within **60**, beginning the effective date of the Notice to Proceed ("Contract Time"). Contractor shall perform its Work in strict accordance with any completion schedule, construction schedule or project milestones developed by the City. Such schedules or milestones may be included as part of Exhibits "A" or "B" attached hereto, or may be provided separately in writing to the Contractor. Contractor agrees that if such Work is not completed within the aforementioned Contract Time and/or pursuant to any such completion schedule, construction schedule or project milestones developed pursuant to provisions of the Contract, it is understood, acknowledged and agreed that the City will suffer damage. Pursuant to Government Code Section 53069.85, Contractor shall pay to the City as fixed and liquidated damages the sum of **Five Hundred Dollars ($500) per day** for each and every calendar day of delay beyond the Contract Time or beyond any completion schedule, construction schedule or Project milestones established pursuant to the Contract.

Standard of Performance; Performance of Employees. Contractor shall perform all Work under this Contract in a skillful and workmanlike manner, and consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Contractor represents and maintains that it is skilled in the professional calling necessary to perform the Work. Contractor warrants that all employees and subcontractors shall have sufficient skill and experience to perform the Work assigned to them. Finally, Contractor represents that it, its employees and subcontractors have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Work, and that such licenses and approvals shall be maintained throughout the term of this Contract. As provided for in the indemnification provisions of this Contract, Contractor shall perform, at its own cost and expense and without reimbursement from the City, any work necessary to correct errors or omissions which are caused by the Contractor's failure to comply with the standard of care provided for herein. Any employee who is determined by the City to be uncooperative, incompetent, a threat to the safety of persons or the Work, or any employee who fails or refuses to perform the Work in a manner acceptable to the City, shall be promptly removed from the Project by the Contractor and shall not be re-employed on the Work.

Independent Contractor; Control and Payment of Subordinates. The Work shall be performed by Contractor or under its supervision. Contractor will determine the means, methods and details of performing the Work subject to the requirements of this Contract. City retains

Contractor on an independent contractor basis and not as an employee. Contractor retains the right to perform similar or different work for others during the term of this Contract. Any additional personnel performing the Work under this Contract on behalf of Contractor shall also not be employees of City and shall at all times be under Contractor's exclusive direction and control. Neither City, or any of its officials, officers, directors, employees or agents shall have control over the conduct of Contractor or any of Contractor's officers, employees or agents, except as set forth in this Contract. Contractor shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of the Work under this Contract and as required by law. Contractor shall be responsible for all reports and obligations respecting such additional personnel, including, but not limited to: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.

City's Basic Obligation. City agrees to engage and does hereby engage Contractor as an independent contractor to furnish all materials and to perform all Work according to the terms and conditions herein contained for the sum set forth above. Except as otherwise provided in the Contract, the City shall pay to Contractor, as full consideration for the satisfactory performance by the Contractor of the services and obligations required by this Contract, the above referenced compensation in accordance with compensation provisions set forth in the Contract.

Compensation and Payment.

Amount of Compensation. As consideration for performance of the Work required herein, City agrees to pay Contractor the Total Contract Price of **Four Hundred Eighty-Six Thousand Nine Hundred Seventy-Four Dollars ($486,974)** ("Total Contract Price") provided that such amount shall be subject to adjustment pursuant to the applicable terms of this Contract or written change orders approved and signed in advance by the City.

Payment of Compensation. If the Work is scheduled for completion in thirty (30) or less calendar days, City will arrange for payment of the Total Contract Price upon completion and approval by City of the Work. If the Work is scheduled for completion in more than thirty (30) calendar days, City will pay Contractor on a monthly basis as provided for herein. On or before the fifth (5th) day of each month, Contractor shall submit to the City an itemized application for payment in the format supplied by the City indicating the amount of Work completed since commencement of the Work or since the last progress payment. These applications shall be supported by evidence which is required by this Contract and such other documentation as the City may require. The Contractor shall certify that the Work for which payment is requested has been done and that the materials listed are stored where indicated. Contractor may be required to furnish a detailed schedule of values upon request of the City and in such detail and form as the City shall request, showing the quantities, unit prices, overhead, profit, and all other expenses involved in order to provide a basis for determining the amount of progress payments.

City shall review and pay all progress payment requests in accordance with the provisions set forth in Section 20104.50 of the California Public Contract Code. No progress payments will be made for Work not completed in accordance with this Contract.

Contract Retentions. From each approved progress estimate, five percent (5%) will be deducted and retained by the City, and the remainder will be paid to Contractor. All Contract retainages shall be released and paid to the Contractor and subcontractors pursuant to California Public Contract Code Section 7107.

Other Retentions. In addition to Contract retentions, the City may deduct from each progress payment an amount necessary to protect City from loss because of: (1) liquidated damages which have accrued as of the date of the application for payment; (2) any sums expended by the City in performing any of Contractor's obligations under the Contract which Contractor has failed to perform or has performed inadequately; (3) defective Work not remedied; (4) stop payment notices as allowed by state law; (5) reasonable doubt that the Work can be completed for the unpaid balance of the Total Contract Price or within the scheduled completion date; (6) unsatisfactory prosecution of the Work by Contractor; (7) unauthorized deviations from the Contract; (8) failure of the Contractor to maintain or submit on a timely basis proper and sufficient documentation as required by the Contract or by City during the prosecution of the Work; (9) erroneous or false estimates by the Contractor of the value of the Work performed; (10) any sums representing expenses, losses, or damages as determined by the City, incurred by the City for which Contractor is liable under the Contract; and (11) any other sums which the City is entitled to recover from Contractor under the terms of the Contract or pursuant to state law, including Section 1727 of the California Labor Code. The failure by the City to deduct any of these sums from a progress payment shall not constitute a waiver of the City's right to such sums.

Substitutions for Contract Retentions. In accordance with California Public Contract Code Section 22300, the City will permit the substitution of securities for any monies withheld by the City to ensure performance under the Contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the City, or with a state or federally chartered bank in California as the escrow agent, and thereafter the City shall then pay such monies to the Contractor as they come due. Upon satisfactory completion of the Contract, the securities shall be returned to the Contractor. For purposes of this Section and Section 22300 of the Public Contract Code, the term "satisfactory completion of the contract" shall mean the time the City has issued written final acceptance of the Work and filed a Notice of Completion as required by law and provisions of this Contract. The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon. The escrow agreement used for the purposes of this Section shall be in the form provided by the City.

Payment to Subcontractors. Contractor shall pay all subcontractors for and on account of work performed by such subcontractors in accordance with the terms of their respective subcontracts and as provided for in Section 7108.5 of the California Business and Professions Code. Such payments to subcontractors shall be based on the measurements and estimates made and progress payments provided to Contractor pursuant to this Contract.

Title to Work. As security for partial, progress, or other payments, title to Work for which such payments are made shall pass to the City at the time of payment. To the extent that title has not previously been vested in the City by reason of payments, full title shall pass to the City at delivery of the Work at the destination and time specified in this Contract. Such transferred title shall in each case be good, free and clear from any and all security interests, liens, or other encumbrances. Contractor promises and agrees that it will not pledge, hypothecate, or otherwise encumber the items in any manner that would result in any lien, security interest, charge, or claim upon or against said items. Such transfer of title shall not imply acceptance by the City, nor relieve Contractor from the responsibility to strictly comply with the Contract, and shall not relieve Contractor of responsibility for any loss of or damage to items.

Termination. This Contract may be terminated by City at any time by giving Contractor three (3) days advance written notice. In the event of termination by City for any reason other than the fault of Contractor, City shall pay Contractor for all Work performed up to that time as provided herein. In the event of breach of the Contract by Contractor, City may terminate the Contract immediately without notice, may reduce payment to the Contractor in the amount necessary to offset City's resulting damages, and may pursue any other available recourse against Contractor. Contractor may not terminate this Contract except for cause.

In the event this Contract is terminated in whole or in part as provided, City may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated. Further, if this Contract is terminated as provided, City may require Contractor to provide all finished or unfinished documents, data, diagrams, drawings, materials or other matter prepared or built by Contractor in connection with its performance of this Contract.

Completion of Work. When the Contractor determines that it has completed the Work required herein, Contractor shall so notify City in writing and shall furnish all labor and material releases required by this Contract. City shall thereupon inspect the Work. If the Work is not acceptable to the City, the City shall indicate to Contractor in writing the specific portions or items of Work which are unsatisfactory or incomplete. Once Contractor determines that it has completed the incomplete or unsatisfactory Work, Contractor may request a re-inspection by the City. Once the Work is acceptable to City, City shall pay to Contractor the Total Contract Price remaining to be paid, less any amount which City may be authorized or directed by law to retain. Payment of retention proceeds due to Contractor shall be made in accordance with Section 7107 of the California Public Contract Code.

City's Representative. The City hereby designates **Gabino Luna, Public Works Deputy Director**, or his/her designee, to act as its representative for the performance of this Contract ("City's Representative"). City's Representative shall have the power to act on behalf of the City for all purposes under this Contract. Contractor shall not accept direction or orders from any person other than the City's Representative or his/her designee.

Contractor's Representative. Before starting the Work, Contractor shall submit in writing the name, qualifications and experience of its proposed representative who shall be subject to the review and approval of the City ("'Contractor's Representative"). Following approval by the City, the Contractor's Representative shall have full authority to represent and act on behalf of the Contractor for all purposes under this Contract. The Contractor's Representative shall supervise and direct the Work, using his best skill and attention, and shall be responsible for all construction means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the Work under this Contract. Contractor's Representative shall devote full time to the Project and either he or his designee, who shall be acceptable to the City, shall be present at the Work site at all times that any Work is in progress and at any time that any employee or subcontractor of Contractor is present at the Work site. Arrangements for responsible supervision, acceptable to the City, shall be made for emergency Work which may be required. Should Contractor desire to change its Contractor's Representative, Contractor shall provide the information specified above and obtain the City's written approval.

Contract Interpretation. Should any question arise regarding the meaning or import of any of the provisions of this Contract or written or oral instructions from City, the matter shall be referred to City's Representative, whose decision shall be binding upon Contractor.

Loss and Damage. Contractor shall be responsible for all loss and damage which may arise out of the nature of the Work agreed to herein, or from the action of the elements, or from any unforeseen difficulties which may arise or be encountered in the prosecution of the Work until the same is fully completed and accepted by City. However, Contractor shall be responsible for damage proximately caused by Acts of God, within the meaning of Section 7105 of the California Public Contract Code, only to the extent of five percent (5%) of the Total Contract Price as specified herein. In the event of damage proximately caused by "Acts of God," the City may terminate this Contract upon three (3) days advanced written notice.

Indemnification. Contractor shall defend (with counsel of City Council's choosing), indemnify and hold City, its officials, officers, agents, employees and representatives free and harmless from any and all claims, demands, causes of action, costs, expenses, liabilities, losses, damages or injuries, in law or equity, regardless of whether the allegations are false, fraudulent, or groundless, to property or persons, including wrongful death, to the extent arising out of or incident to any acts, omissions or willful misconduct of Contractor, its officials, officers, employees, agents, consultants and contractors arising out of or in connection with the performance of the Work or this Contract, including claims made by subcontractors for nonpayment, including without limitation the payment of all consequential damages and attorneys' fees and other related costs and expenses. To the fullest extent permitted by law, Contractor shall defend, at Contractor's own cost, expense and risk, with City Council's choosing, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against City, its officials, officers, agents, employees and representatives. To the extent of its liability, Contractor shall pay and satisfy any judgment, award or decree that may be rendered against City, its officials, officers, employees, agents, employees and representatives, in any such suit, action or other legal proceeding. Contractor shall reimburse City, its officials, officers, agents, employees, and representatives, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. The only limitations on this provision shall be those imposed by Civil Code Section 2782.

Insurance. Contractor agrees to procure and maintain, at Contractor's expense all insurance specified in Exhibit "C" attached hereto and by this reference incorporated herein. Contractor shall require all subcontractors to carry the same policies and limits of insurance that the Contractor is required to maintain, unless otherwise approved in writing by the City.

Bond Requirements.

Payment Bond. If required by law or otherwise specifically requested by City in Exhibit "B" attached hereto and incorporated herein by reference, Contractor shall execute and provide to City concurrently with this Contract a Payment Bond in an amount required by the City and in a form provided or approved by the City. If such bond is required, no payment will be made to Contractor until the bond has been received and approved by the City.

Performance Bond. If specifically requested by City in Exhibit "B" attached hereto and incorporated herein by reference, Contractor shall execute and provide to City concurrently with this Contract a Performance Bond in an amount required by the City and in a form provided or approved by the City. If such bond is required, no payment will be made to Contractor until the bond has been received and approved by the City.

Bond Provisions. Should, in City's sole opinion, any bond become insufficient or any surety be found to be unsatisfactory, Contractor shall renew or replace the affected bond within (ten) 10 days of receiving notice from City. In the event the surety or Contractor intends to reduce or cancel any required bond, at least thirty (30) days prior written notice shall be given to the City, and Contractor shall post acceptable replacement bonds at least ten (10) days prior to expiration of the original bonds. No further payments shall be deemed due or will be made under this Contract until any replacement bonds required by this Section are accepted by the City. To the extent, if any, that the Total Contract Price is increased in accordance with the Contract, the Contractor shall, upon request of the City, cause the amount of the bond to be increased accordingly and shall promptly deliver satisfactory evidence of such increase to the City. To the extent available, the bonds shall further provide that no change or alteration of the Contract (including, without limitation, an increase in the Total Contract Price, as referred to above), extensions of time, or modifications of the time, terms, or conditions of payment to the Contractor, will release the surety. If the Contractor fails to furnish any required bond, the City may terminate the Contract for cause.

Surety Qualifications. Only bonds executed by an admitted surety insurer, as defined in California Code of Civil Procedure Section 995.120, shall be accepted. The surety must be a California-admitted surety and satisfactory to the City. If a California-admitted surety insurer issuing bonds does not meet these requirements, the insurer will be considered qualified if it is in conformance with Section 995.660 of the California Code of Civil Procedure, and proof of such is provided to the City.

Safety. Contractor shall execute and maintain its work so as to avoid injury or damage to any person or property. Contractor shall comply with the requirements of the specifications relating to safety measures applicable in particular operations or kinds of work. In carrying out its Work, the Contractor shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the Work and the conditions under which the Work is to be performed. Safety precautions as applicable shall include, but shall not be limited to, adequate life protection and lifesaving equipment; adequate illumination for underground and night operations; instructions in accident prevention for all employees, such as machinery guards, safe walkways, scaffolds, ladders, bridges, gang planks, confined space procedures, trenching and shoring, fall protection and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accidents or injuries; and adequate facilities for the proper inspection and maintenance of all safety measures. Furthermore, Contractor shall prominently display the names and telephone numbers of at least two medical doctors practicing in the vicinity of the Project, as well as the telephone number of the local ambulance service, adjacent to all telephones at the Project site.

Warranty. Contractor warrants all Work under the Contract (which for purposes of this Section shall be deemed to include unauthorized work which has not been removed and any non-conforming materials incorporated into the Work) to be of good quality and free from any defective or faulty material and workmanship. Contractor agrees that for a period of one year (or the period of time specified elsewhere in the Contract or in any guarantee or warranty provided by any manufacturer or supplier of equipment or materials incorporated into the Work, whichever is later) after the date of final acceptance, Contractor shall within ten (10) days after being notified in writing by the City of any defect in the Work or non-conformance of the Work to the Contract, commence and prosecute with due diligence all Work necessary to fulfill the terms of the warranty

at its sole cost and expense. Contractor shall act sooner as requested by the City in response to an emergency. In addition, Contractor shall, at its sole cost and expense, repair and replace any portions of the Work (or work of other contractors) damaged by its defective Work or which becomes damaged in the course of repairing or replacing defective Work. For any Work so corrected, Contractor's obligation hereunder to correct defective Work shall be reinstated for an additional one year period, commencing with the date of acceptance of such corrected Work. Contractor shall perform such tests as the City may require to verify that any corrective actions, including, without limitation, redesign, repairs, and replacements comply with the requirements of the Contract. All costs associated with such corrective actions and testing, including the removal, replacement, and reinstitution of equipment and materials necessary to gain access, shall be the sole responsibility of the Contractor. All warranties and guarantees of subcontractors, suppliers and manufacturers with respect to any portion of the Work, whether express or implied, are deemed to be obtained by Contractor for the benefit of the City, regardless of whether or not such warranties and guarantees have been transferred or assigned to the City by separate agreement and Contractor agrees to enforce such warranties and guarantees, if necessary, on behalf of the City. In the event that Contractor fails to perform its obligations under this Section, or under any other warranty or guaranty under this Contract, to the reasonable satisfaction of the City, the City shall have the right to correct and replace any defective or non-conforming Work and any work damaged by such work or the replacement or correction thereof at Contractor's sole expense. Contractor shall be obligated to fully reimburse the City for any expenses incurred hereunder upon demand.

Laws and Regulations. Contractor shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Contract or the Work, including all Cal/OSHA requirements, and shall give all notices required by law. Contractor shall be liable for all violations of such laws and regulations in connection with Work. If the Contractor observes that the drawings or specifications are at variance with any law, rule or regulation, it shall promptly notify the City in writing. Any necessary changes shall be made by written change order. If the Contractor performs any work knowing it to be contrary to such laws, rules and regulations, the Contractor shall be solely responsible for all costs arising therefrom. Contractor shall defend, indemnify and hold City, its officials, officers, employees and agents free and harmless, pursuant to the indemnification provisions of this Contract, from any claim or liability arising out of any failure or alleged failure to comply with such laws, rules or regulations.

Permits and Licenses. Contractor shall be responsible for securing City permits and licenses necessary to perform the Work described herein.

Water Quality Management and Compliance.

Stormwater Management. Storm, surface, ground, nuisance, or other waters may be encountered at various times during the Work. Contractor hereby acknowledges that it has investigated the risk arising from such waters and assumes any and all risks and liabilities arising therefrom.

Compliance with Water Quality Laws, Ordinances and Regulations. Contractor must keep itself and all subcontractors, staff, and employees fully informed of and in compliance with all local, state and federal laws, rules and regulations that may impact, or be implicated by the performance of the Work including, without limitation, all applicable provisions of the City's

ordinances regulating discharges of stormwater; the Federal Water Pollution Control Act (33 U.S.C. § 1251 *et seq.*); the California Porter-Cologne Water Quality Control Act (Water Code § 13000 *et seq.*); and any and all regulations, policies, or permits issued pursuant to any such authority. Contractor must additionally comply with the lawful requirements of the City, and any other municipality, drainage district, or other local agency with jurisdiction over the location where the Work is to be conducted, regarding discharges of stormwater to separate storm drain systems or other watercourses, including applicable requirements in municipal stormwater management programs.

Compliance with NPDES and Construction General Permit. Municipal NPDES Permit compliance: The contractor shall implement and maintain activity specific Best Management Practices (BMPs) to prevent pollutant loading from stormwater and non-stormwater discharges to receiving waters as required in Municipal NPDES Permit No. CAS004004. Contracting staff whose primary job duties are related to implementation of BMPs shall be adequately trained to effectively implement, operate, and maintain such BMPs and must be versed in factors affecting BMP effectiveness. The contractor shall certify they have received all applicable training to implement the requirements in Municipal NPDES Permit No. CAS004004 and shall provide documentation to that effect. For projects subject to the Construction General Permit (Order No. 2022-0057-DWQ), the contractor shall read, understand, and implement all the requirements of the Permit, as it relates to this project.

Standard of Care. Contractor warrants that all employees and subcontractors have sufficient skill and experience to perform the work assigned to them without impacting water quality in violation of the laws, regulations and policies described in Sections 3.23.2 and 3.23.3 of this Contract. Contractor further warrants that it, its employees and subcontractors will receive adequate training, as determined by the City, regarding the requirements of the laws, regulations and policies described in Sections 3.23.2 and 3.23.3 of this Contract as they may relate to the Work.

Liability for Non-compliance.

Indemnity. Failure to comply with laws, regulations, standards, and ordinances listed in Sections 3.23.2, 3.23.3, and 3.23.4 of this Contract is a violation of federal and state law. Notwithstanding any other indemnity contained in this Contract, Contractor agrees to indemnify and hold harmless the City, its officials, officers, agents, employees and authorized volunteers from and against any and all claims, demands, losses or liabilities of any kind or nature which the City, its officials, officers, agents, employees and authorized volunteers may sustain or incur for noncompliance with the laws, regulations, standards and ordinances listed in Sections 3.23.2, 3.23.3, and 3.23.4 of this Contract arising out of or in connection with the Work, except for liability resulting from the sole established negligence, willful misconduct or active negligence of the City, its officials, officers, agents, employees or authorized volunteers.

Defense. City reserves the right to defend any enforcement action or civil action brought against the City for Contractor's failure to comply with any applicable water quality law, regulation, or policy. Contractor hereby agrees to be bound by, and to reimburse the City for the costs associated with, any settlement reached between the City and the relevant enforcement entity.

Damages. City may seek damages from Contractor for delay in completing the Work caused by Contractor's failure to comply with the laws, regulations, standards, and policies described in Sections 3.23.2, 3.23.3 and 3.23.4 of this Contract, or any other relevant water quality law, regulation, or policy.

Trenching Work. If the Total Contract Price exceeds $25,000 and if the Work governed by this Contract entails excavation of any trench or trenches five (5) feet or more in depth, Contractor shall comply with all applicable provisions of the California Labor Code, including Section 6705. To this end, Contractor shall submit for City's review and approval a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer.

Hazardous Materials and Differing Conditions. As required by California Public Contract Code Section 7104, if this Contract involves digging trenches or other excavations that extend deeper than four (4) feet below the surface, Contractor shall promptly, and prior to disturbance of any conditions, notify City of: (1) any material discovered in excavation that Contractor believes to be a hazardous waste that is required to be removed to a Class I, Class II or Class III disposal site; (2) subsurface or latent physical conditions at the site differing from those indicated by City; and (3) unknown physical conditions of an unusual nature at the site, significantly different from those ordinarily encountered in such contract work. Upon notification, City shall promptly investigate the conditions to determine whether a change order is appropriate. In the event of a dispute, Contractor shall not be excused from any scheduled completion date and shall proceed with all Work to be performed under the Contract, but shall retain all rights provided by the Contract or by law for making protests and resolving the dispute.

Underground Utility Facilities. To the extent required by Section 4215 of the California Government Code, City shall compensate Contractor for the costs of: (1) locating and repairing damage to underground utility facilities not caused by the failure of Contractor to exercise reasonable care; (2) removing or relocating underground utility facilities not indicated in the construction drawings; and (3) equipment necessarily idled during such work. Contractor shall not be assessed liquidated damages for delay caused by failure of City to provide for removal or relocation of such utility facilities.

Labor

Prevailing Wages. Contractor is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq., as well as California Code of Regulations, Title 8, Section 16000, et seq., ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on "public works" and "maintenance" projects. Since the Work is being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is $1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. City shall provide Contractor with a copy of the prevailing rates of per diem wages in effect at the commencement of this Contract. Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to execute the Work available to interested parties upon request, and shall post copies at the Contractor's principal place of business and at the project site. Contractor shall defend, indemnify and hold the City, its elected officials, officers, employees

and agents free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

Registration. Pursuant to Labor Code sections 1725.5 and 1771.1, Contractor and all subcontractors must be registered with the Department of Industrial Relations ("DIR"). Contractor shall maintain registration for the duration of the project and require the same of any subcontractors. A certification form for this purpose, which is attached to this Contract as Exhibit "D" and incorporated herein by reference. This project may also be subject to compliance monitoring and enforcement by the DIR. It shall be Contractor's sole responsibility to comply with all applicable registration and labor compliance requirements. Notwithstanding the foregoing, the contractor registration requirements mandated by Labor Code Sections 1725.5 and 1771.1 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Sections 1725.5 and 1771.1.

Apprenticeable Crafts. When Contractor employs workmen in an apprenticeable craft or trade, Contractor shall comply with the provisions of Section 1777.5 of the California Labor Code with respect to the employment of properly registered apprentices upon public works. The primary responsibility for compliance with said section for all apprenticeable occupations shall be with Contractor.

Hours of Work. Contractor is advised that eight (8) hours labor constitutes a legal day's work. Pursuant to Section 1813 of the California Labor Code, Contractor shall forfeit a penalty of $25.00 per worker for each day that each worker is permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week, except when payment for overtime is made at not less than one and one-half (1-1/2) times the basic rate for that worker.

Payroll Records. In accordance with the requirements of California Labor Code Section 1776, Contractor shall keep accurate payroll records which are either on forms provided by the Division of Labor Standards Enforcement or which contain the same information required by such forms. Responsibility for compliance with California Labor Code Section 1776 shall rest solely with Contractor, and Contractor shall make all such records available for inspection at all reasonable hours. In accordance with Labor Code section 1771.4, the Contractor and each subcontractor shall furnish the certified payroll records directly to the DIR on a weekly basis and in the format prescribed by the DIR, which may include electronic submission. The requirement to submit certified payroll records directly to the Labor Commissioner under Labor Code section 1771.4 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Section 1771.4.

Contractor's Labor Certification. By its signature hereunder, Contractor certifies that he is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of that Code, and agrees to comply with such provisions before commencing the performance of the Work. A certification form for this purpose, which is attached to this Contract as Exhibit "E" and incorporated herein by reference, shall be executed simultaneously with this Contract.

Labor and Material Releases. Contractor shall furnish City with labor and material releases from all subcontractors performing work on, or furnishing materials for, the work governed by this Contract prior to final payment by City.

Claims & Disputes

Contractor shall timely comply with all notices and requests for additional compensation and extensions of time, including but not limited to all requirements of Article 43, as a prerequisite to filing any claim governed by this Article. The failure to timely submit a notice of delay or notice of change, or to timely a change to the Contract Price or Contract Time, or to timely provide any other notice or request required herein shall constitute a waiver of the right to further pursue the claim under the Contract or at law.

Intent. Effective January 1, 1991, Section 20104 et seq., of the California Public Contract Code prescribes a process utilizing informal conferences, non-binding judicial supervised mediation, and judicial arbitration to resolve disputes on construction claims of $375,000 or less. Effective January 1, 2017, Section 9204 of the Public Contract Code prescribes a process for negotiation and mediation to resolve disputes on construction claims. The intent of this Article is to implement Sections 20104 et seq. and Section 9204 of the California Public Contract Code. This Article shall be construed to be consistent with said statutes.

Claims. For purposes of this Article, "Claim" means a separate demand by the Contractor, after a change order duly requested in accordance with Article 49 has been denied by the City, for (1) a time extension, (2) payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Contract, or (3) an amount the payment of which is disputed by the City. A "Claim" does not include any demand for payment for which the Contractor has failed to provide notice, request a change order, or otherwise failed to follow any procedures contained in the Contract Documents.

Filing Claims. Claims governed by this Article may not be filed unless and until the Contractor completes all procedures for giving notice of delay or change and for the requesting of a time extension or change order, including but not necessarily limited to the procedures contained in Article 49, and Contractor's request for a change has been denied in whole or in part. Claims governed by this Article must be filed no later than fourteen (14) days after a request for change has been denied in whole or in part or after any other event giving rise to the Claim. Any claim must be submitted in writing to the City and shall include on its first page the following in 16 point capital font: "THIS IS A CLAIM." Furthermore, the claim shall include the documents necessary to substantiate the claim. Nothing herein is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims, including all requirements pertaining to compensation or payment for extra work, disputed work, and/or changed conditions. Failure to follow such contractual requirements shall bar any claims or subsequent lawsuits for compensation or payment thereon.

Supporting Documentation. The Contractor shall submit all Claims in the following format:

Summary of claim merit and price, and Contract clause pursuant to which the claim is made.

List of documents relating to claim

Specifications

Drawings

Clarifications (Requests for Information)

Schedules

Other

Chronology of events and correspondence

Narrative analysis of claim merit

Analysis of claim cost, including calculations and supporting documents

Analysis of time impact analysis in CPM format if a time extension is requested

Cover letter and certification of validity of the claim, including any claims from subcontractors of any tier, in accordance with the Government Code sections 12650 et seq.

City Response to Claim.

Upon receipt of a Claim pursuant to this Article, the City shall conduct a reasonable review of the Claim and, within a period not to exceed 45 days of receipt of the claim, or as extended by mutual agreement, shall provide a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Any payment due on an undisputed portion of the Claim will be processed and made within 60 days after the City issues its written response.

If the City needs approval from City Council to provide Contractor a written statement as set forth above, and City Council does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a Claim, the City shall have up to three (3) days following the next publicly noticed meeting of City Council after the 45-day period, or extension, expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim.

The City may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the City may have. If additional information is needed thereafter, it shall be provided upon mutual agreement of the City and the claimant. The City's written response shall be submitted 30 days (15 days if the Claim is less than $50,000) after receiving the additional documentation, or within the same period of time taken by the claimant to produce the additional information, whichever is greater.

Meet & Confer Conference. If the Contractor disputes the City's response, or if the City fails to respond within the statutory time period(s), the Contractor may so notify the City within 15 days of the receipt of the response or the failure to respond, and demand an informal

conference to meet and confer for settlement of those portions of the Claim that remain in dispute. Upon such demand, the City shall schedule a meet and confer conference within 30 Days.

Mediation. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion thereof remains in dispute, the City shall provide the Contractor with a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 Days after the City issues its written statement. Any portion of the claim that remains in dispute shall be submitted to nonbinding mediation and the City and the Contractor shall equally share the associated mediator fees. The City and Contractor shall mutually agree to a mediator within 10 business Days after the disputed portion of the claim has been identified in writing, unless the parties agree to select a mediator at a later time.

If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.

For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

Unless otherwise agreed to by the public entity and the Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

The mediation shall be held no earlier than the date the Contractor completes the Work or the date that the Contractor last performs Work, whichever is earlier. All unresolved claims shall be considered jointly in a single mediation, unless a new unrelated claim arises after mediation is completed.

Procedures After Mediation. If following the mediation, the claim or any portion remains in dispute, the Contractor must file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code prior to initiating litigation. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference.

Civil Actions. The following procedures are established for all civil actions filed to resolve Claims of $375,000 or less:

Within 60 Days, but no earlier than 30 Days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties or unless mediation was held prior to commencement of the action in accordance with Public Contract Code section 9204 and the terms of this Agreement. The mediation process shall provide for the selection within 15 Days by both parties of a disinterested third person as mediator, shall be commenced within 30 Days of the submittal, and

shall be concluded within 15 Days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.

If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1114.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration. In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, (A) arbitrators shall, when possible, be experienced in construction law, and (B) any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees on appeal of the other party.

In addition to any and all requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, construction claims and/or changed conditions, the Contractor must comply with the claim procedures set forth in Government Code section 900 et seq. prior to filing any lawsuit against the City. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, construction claims, and/or changed conditions have been followed by Contractor. If no such Government Code claim is submitted, or if the prerequisite contractual requirements are not otherwise satisfied as specified herein, Contractor shall be barred from bringing and maintaining a valid lawsuit against the City.

State License Board Notice. Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four (4) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

Equal Opportunity Employment. Contractor represents that it is an equal opportunity employer and that it shall not discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, sex, age or other interests protected by the State or Federal Constitutions. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination.

Anti-Trust Claims. This provision shall be operative if this Contract is applicable to California Public Contract Code Section 7103.5. In entering into this Contract to supply goods, services or materials, the Contractor hereby offers and agrees to assign to the City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2, commencing with Section 16700, of Part 2 of Division 7 of the Business and Professions Code) arising from purchases of goods, services, or materials pursuant to the Contract. This assignment shall be made and become effective at the time the City tender final payment to the Contractor, without further acknowledgment by the Parties.

Notices. All notices hereunder and communications regarding interpretation of the terms of the Contract or changes thereto shall be provided by the mailing thereof by registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

CONTRACTOR:	OAK HOLLOW RESTORATION, INC. 32438 OAK HOLLOW CT. WILDOMAR, CA 92595 ATTN: TROY PARRY, OWNER
CITY:	CITY OF SIGNAL HILL 2175 CHERRY AVENUE SIGNAL HILL, CA 90755 ATTN: GABINO LUNA, PUBLIC WORKS DEPUTY DIRECTOR

Any notice so given shall be considered received by the other Party forty-eight (48) hours after deposit in the U.S. Mail as stated above and addressed to the Party at the above address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

Entire Contract; Modification. This Contract contains the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements. This Contract may only be modified by a writing signed by both Parties.

Time of Essence. Time is of the essence in the performance of this Contract.

Assignment Forbidden. Contractor shall not, either voluntarily or by action of law, assign or transfer this Contract or any obligation, right, title or interest assumed by Contractor herein without the prior written consent of City. If Contractor attempts an assignment or transfer of this Contract or any obligation, right, title or interest herein, City may, at its option, terminate and revoke the Contract and shall thereupon be relieved from any and all obligations to Contractor or its assignee or transferee.

Governing Law. This Contract shall be governed by the laws of the State of California. Venue shall be in Orange County.

Counterparts. This Contract may be executed in counterparts, each of which shall constitute an original.

Successors. The Parties do for themselves, their heirs, executors, administrators, successors, and assigns agree to the full performance of all of the provisions contained in this Contract.

Attorneys' Fees. If either Party commences an action against the other Party, either legal administrative or otherwise, arising out of or in connection with this Contract, the prevailing Party in such action shall be entitled to have and recover from the losing Party reasonable attorneys' fees and all other costs of such action.

Prohibited Interests.

Solicitation. Contractor maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Contractor, to solicit or secure this Contract. Further, Contractor warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Contractor, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, City shall have the right to terminate this Contract without liability.

Conflict of Interest. For the term of this Contract, no official, officer or employee of City, during the term of his or her service with City, shall have any direct interest in this Contract, or obtain any present or anticipated material benefit arising therefrom.

Certification of License. Contractor certifies that as of the date of execution of this Contract, Contractor has a current contractor's license of the classification indicated below under Contractor's signature.

Authority to Enter Contract. Contractor has all requisite power and authority to conduct its business and to execute, deliver and perform the Contract. Each Party warrants that the individuals who have signed this Contract have the legal power, right and authority to make this Contract and bind each respective Party.

IN WITNESS WHEREOF, each of the Parties has caused this Contract to be executed on the day and year first above written.

CITY OF SIGNAL HILL

By: _____
Carlo Tomaino
City Manager

ATTEST:

By: _____
Tina Knapp
Assistant City Clerk

APPROVED AS TO FORM:

By: _____
Matthew E. Richardson
City Attorney

OAK HOLLOW RESTORATION, INC.

By: _____
Troy Parry
Owner

By: _____
Secretary or Treasurer

EXHIBIT A

PLANS AND SPECIFICATIONS

The following plans and specifications are incorporated into this Contract herein by this reference:

I. Site Protection, Supervision and Temp Controls
   a. Provide Supervision, Project Management and Administrative services to properly execute our full scope of work
   b. Install Temp Waterproofing at any portion of work that we open, protection of the existing Building at areas where we have not performed Removals is by others. OHR will not be responsible for Protection of any portion of the Building until OHR performs removals.
   c. Generator, Fuel and Equipment for the Proper Execution of all work
   d. Provide Aerial Lifts and Scaffolding as required to complete OHR's Scope

II. Selective Removals
   a. Remove Plaster and Gunite at Perimeter of Windows to expose 2" of Wire Lath and 4" of intact Waterproofing
   b. Remove in a Random Pattern at alternating angles to Key in Repairs
   c. Removals will not be Sawcut, and Straight Lines will be avoided to the Greatest Extent Possible
   d. Clean Up of all Dust and Debris Created during Removals
   e. Dispose of all Debris in Proper Dumpster to be staged onsite.

III. Waterproofing, Flashings and Lath
   a. Utilizing a Self-Adhered Membrane style Flashing to create positive water proofing to all flashing, sill dam's and window edge for fully positively waterproofed system
   b. Install Flashing to integrate into window design and kickout water as required to mitigate water infiltration at Window System
   c. Install Expanded Metal Lath Tied to Existing Lath, Framing and Break Metal Framing to bond Gunite to Structure

IV. Brake Metal Forming and Framing
   a. Install Brake Metal Shapes to Form the profile of the exterior wall
   b. Brake Metal will allow for corners and faces as needed for proper reveals at all Windows matching the Historic Character of the Building
   c. Brake Metal will be Field Bent as needed for a fully customizable install

V. Gunite Installation and Plaster Finish
   a. In accordance with the Plans and Specs install Gunite Structural Section at all areas indicated to receive this Repair. Mix Design shall match the Specified design in Content, PSI, Slump and Elasticity
   b. Apply a Finish Plaster Coat over all Gunite to match the existing Finish as close as possible.
   c. We have allowed for 4 Onsite Mockups of the Gunite and Plaster Finish

VI. Window Installation and Perimeter Sealant
   a. Install Pinky's Windows which are to be Furnished and Delivered to the Jobsite by Others.

b. Windows shall go into Steel Framework Furnished and Installed by others.
c. Steel Framework shall be a minimum of a ¼" larger than the Window Frame at all sides (1/2") in each direction
d. Steel Framework shall all be installed with the Heads aligned, Plumb, Level and True. With a Max Tolerance of 1/8" in 10 Feet
e. Glaze Panes only where indicated as "Field Glazed" in the Window Shop Drawings, all other Panes shall come Glazed from the Manufacturer
f. Install Structural Urethane Sealant at the Perimeter of all Windows

Refer to Attachment A. All items listed in the proposal submitted by Oak Hollow Restoration, Inc. on October 22, 2025.

Refer to Attachment B. Technical Specifications for the construction of Signal Hill City Hall Steel Window Replacement/Wall Repair at Windows dated June 4, 2025.

All work must be completed by January 31, 2026, unless otherwise approved in accordance with section 3.1.

EXHIBIT B

COMPENSATION

Total compensation due to Oak Hollow Restoration shall be pursuant to section 3.9.1 and as shown below.
The City requires contractor to furnish payment and performance bonds pursuant to sections 3.18.1 and 3.18.2 of the contract.

ITEM NO	DESCRIPTION	AMOUNT
1	Site Protection, Supervision and Temp Controls	$77,350
2	Selective Removals	$43,228
3	Waterproofing, Flashings and Lath	$77,746
4	Brake Metal Forming and Framing	$35,614
5	Gunite Installation and Plaster Finish	$171,376
6	Window Installation and Perimeter Sealant	$81,660
	Total	**$486,974**

EXHIBIT C
INSURANCE REQUIREMENTS

1.1 Insurance.

1.1.1 Time for Compliance. Contractor shall not commence work under this Contract until it has provided evidence satisfactory to the City that it has secured all insurance required under this section. In addition, Contractor shall not allow any subcontractor to commence work on any subcontract until it has provided evidence satisfactory to the City that the subcontractor has secured all insurance required under this section.

1.1.2 Types of Insurance Required. As a condition precedent to the effectiveness of this Contract for work to be performed hereunder, and without limiting the indemnity provisions of the Contract, the Contractor, in partial performance of its obligations under such Contract, shall procure and maintain in full force and effect during the term of the Contract the following policies of insurance. If the existing policies do not meet the insurance requirements set forth herein, Contractor agrees to amend, supplement or endorse the policies to do so.

(A) Commercial General Liability: Commercial General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 0001, or the exact equivalent, and shall be no less than $2,000,000 per occurrence and no less than $4,000,000 in the general aggregate and a $4,000,000 completed operations aggregate Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions limiting coverage for (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) contain any other exclusion contrary to the Contract.

(B) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 0001 covering "Any Auto" (Symbol 1), or the exact equivalent, covering bodily injury and property damage for all activities shall be in an amount of not less than $1,000,000 combined single limit for accident.

(C) Workers' Compensation: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than $1,000,000 per accident for bodily injury and disease.

(D) Builder's Risk Insurance [“All Risk”]: The City has obtained Builder’s Risk [“All Risk”] extended coverage insurance for the Project. Contractor shall **NOT** procure Builder’s Risk [“All Risk”] insurance for this Project, and shall **NOT** include the cost of said coverage in its bid price/the Contract Price.

(E) Contractors Pollution Liability: Contractor’s pollution liability insurance. Coverage shall provide for liability arising out of sudden, accidental, and gradual pollution, and remediation. The policy limit shall be no less than $1,000,000 per claim and in the aggregate. All activities contemplated in this agreement shall be specifically scheduled on the policy as “covered operations.” The policy shall provide coverage for remediation of the site in the event of an environmental contamination event arising out of the materials, supplies, products, work, operations, or workmanship.

1.1.3 Endorsements. Required insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

(A) Commercial General Liability:

(1) Additional Insured: The City, its officials, officers, employees, agents, and volunteers shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Contract.

Additional Insured Endorsements shall not (1) be restricted to "ongoing operations"; (2) exclude "contractual liability"; (3) restrict coverage to "sole" liability of Contractor; or (4) contain any other exclusions contrary to the terms of purposes of this Contract. For all policies of Commercial General Liability insurance, Contractor shall provide endorsements in the form of ISO CG 20 10 10 01 and 20 37 10 01 (or endorsements providing the exact same coverage) to effectuate this requirement.

(2) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(B) Automobile Liability:

(1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(C) Workers' Compensation:

(1) Waiver of Subrogation: A waiver of subrogation stating that the insurer waives all rights of subrogation against the City, its officials, officers, employees, agents and volunteers.

(2) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

1.1.4 Primary and Non-Contributing Insurance. All policies of Commercial General Liability, Automobile Liability insurance (if required) shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees agents or volunteers shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

1.1.5 Waiver of Subrogation. All policies of Commercial General Liability, Automobile Liability insurance (if required) shall contain or be endorsed to waive subrogation against the City, its officials, officers, employees, agents, and volunteers or shall specifically allow Contractor or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Contractor hereby waives its own right of recovery against City, and shall require similar written express waivers and insurance clauses from each of its subcontractors.

1.1.6 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be approved in writing by the City and shall protect the City, its officials, officers, employees, agents and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

1.1.7 Evidence of Insurance. The Contractor, concurrently with the execution of the Contract, and as a condition precedent to the effectiveness thereof, shall deliver either certified copies of the required policies, or original certificates on forms approved by the City, together with all endorsements affecting each policy. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15 days) prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced, and not replaced immediately so as to avoid a lapse in the required coverage, Contractor shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies.

1.1.8 Failure to Maintain Coverage. In the event any policy of insurance required under this Contract does not comply with these specifications or is canceled and not replaced immediately so as to avoid a lapse in the required coverage, City has the right but not the duty to obtain the insurance it deems necessary and any premium paid by City will be promptly reimbursed by Contractor or City will withhold amounts sufficient to pay premium from Contractor payments. In the alternative, City may cancel this Contract, effective upon notice.

1.1.9 Acceptability of Insurers. Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and authorized to transact business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

1.1.10 Enforcement of Contract Provisions (non estoppel). Contractor acknowledges and agrees that actual or alleged failure on the part of the City to inform Contractor of non-compliance with any requirement imposes no additional obligation on the City nor does it waive any rights hereunder.

1.1.11 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this Appendix are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance.

1.1.12 Insurance for Subcontractors. Consultant shall include all Subcontractors as additional insureds under the Contractor's policies, or the Contractor shall be responsible for causing Subcontractors to purchase the appropriate insurance in compliance with the terms of these Insurance Requirements, including adding the City, its officials, officers, employees, agents and volunteers as additional insureds to the Subcontractor's policies. All policies of Commercial General Liability insurance provided by Subcontractors shall be endorsed to name the City, its officials, officers, employees, agents and volunteers as additional insureds using endorsement form ISO CG 20 38 04 13. Contractor shall not allow any Subcontractor to commence work until it has received satisfactory evidence of Subcontractor's compliance with all insurance requirements under this Contract, to the extent applicable. The Contractor shall provide satisfactory evidence of compliance with this section upon request of the City.

1.1.13 Products/completed operations coverage**.** Products liability coverage shall extend for a minimum of three years (3) after project completion, and completed operations coverage for construction agreements shall extend for 10 years from the date of substantial completion of the project or the statute of repose, whichever is longer. Coverage shall be included on behalf of the insured for covered claims arising out of the actions of independent contractors. If the insured is using subcontractors, the Policy must include work performed "by or on behalf" of the insured. Policy shall contain no language that would invalidate or remove the insurer's duty to defend or indemnify for claims or suits expressly excluded from coverage. Policy shall specifically provide for a duty to defend on the part of the insurer. The Agency, its officials, officers, agents, and employees, shall be included as additional insureds under the Products and Completed Operations coverage.

EXHIBIT D
PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. See http://www.dir.ca.gov/Public-Works/PublicWorks.html for additional information.

No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work.

Contractor hereby certifies that it is aware of the registration requirements set forth in Labor Code sections 1725.5 and 1771.1 and is currently registered as a contractor with the Department of Industrial Relations.[1]

Name of Bidder: _____

DIR Registration Number: _____

Small Project Exemption: _____ Yes or _____ No

Unless Contractor is exempt pursuant to the small project exemption, Contractor further acknowledges:

(1) Contractor shall maintain a current DIR registration for the duration of the project.

(2) Contractor shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.

Name of Contractor _____

Signature _____

Name and Title _____

Dated _____

1 If the Project is exempt from the contractor registration requirements pursuant to the small project exemption under Labor Code Sections 1725.5 and 1771.1, please mark "Yes" in response to "Small Project Exemption."

EXHIBIT E

LABOR CERTIFICATION

LABOR CODE - SECTION 1861

I, the undersigned Contractor, am aware of the provisions of Section 3700, et seq., of the California Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of the Code, and I, the undersigned Contractor, agree to and will comply with such provisions before commencing the performance of the Work on this Contract.

Oak Hollow Restoration, Inc.

Signature_____

Name_____

Title_____

Dated_____

EXHIBIT F

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the City of Signal Hill (hereinafter referred to as "City") has awarded to _____, (hereinafter referred to as the "Contractor") an agreement for _____ (hereinafter referred to as the "Project").

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Contractor is required by said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.

NOW, THEREFORE, we, _____, the undersigned Contractor and _____as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the City in the sum of _____ _____ DOLLARS and _____ CENTS ($_____), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including, if provided as part of the Contract Documents, the one-year guarantee of all materials and workmanship; and shall indemnify and save harmless the City, its officers and agents, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the guarantee obligation shall hold good for a period of one (1) year after the acceptance of the work by City, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the City from loss or damage resulting from or caused by defective materials or faulty workmanship the above obligation in penal sum thereof shall remain in full force and effect. However, anything in this paragraph to the contrary notwithstanding, the obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the City's rights or the Contractor or Surety's obligations under the Contract Documents, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

Whenever Contractor shall be, and is declared by the City to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the City's option:

(1) Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or

(2) Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a contract between such bidder, the Surety and the City, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract Documents and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.

(3) Permit the City to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract Documents and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the City may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Contractor.

Surety shall not utilize Contractor in completing the Project nor shall Surety accept a bid from Contractor for completion of the Project if the City, when declaring the Contractor in default, notifies Surety of the City's objection to Contractor's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project and the provisions of Section 2819 and 2845 of the California Civil Code. Without limiting the foregoing, such changes, extensions of time and alterations or additions shall include, but are not limited to, changes or alterations to the Contract Documents (including, without limitation, an increase in the total dollar amount of the Contract Documents), extensions of time, or modifications of the time, terms, or conditions of payment to the Contractor.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20___.

CONTRACTOR/PRINCIPAL
(Corporate Seal of Contractor/
Principal, if a Corporation)

_____
Name of Contractor/Principal (Type or Print)

By: _____
Name (Signature)

_____
Name (Type or Print)

_____
Title (Type or Print)

SURETY
(Seal of Surety)

_____
Name of Surety (Type or Print)

By:_____
Attorney-In-Fact

Signatures of those signing for the Contractor and Surety must be notarized and evidence of corporate authority attached.

The rate of premium on this bond is _____ per thousand. The total amount of premium charges, $_____.

(The above must be filled in by corporate attorney.)

THIS IS A REQUIRED FORM
Any claims under this bond may be addressed to:

(Name and Address of Surety) _____
_____
_____

(Name and Address of Agent or Representative for service of process in California, if different from above) _____
_____
_____

(Telephone number of Surety and Agent or Representative for service of process in California) _____
_____
_____

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20___, before me, _____, Notary Public, personally

appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

☐ Individual
☐ Corporate Officer

_____
Title(s)

☐ Partner(s) ☐ Limited ☐ General
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

_____

_____

DESCRIPTION OF ATTACHED DOCUMENT

_____
Title or Type of Document

_____
Number of Pages

_____
Date of Document

_____
Signer(s) Other Than Named Above

NOTE: A copy of the Power-of-Attorney to local representatives of the bonding company must be attached hereto.

END OF PERFORMANCE BOND FORM

EXHIBIT G
PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS That

WHEREAS, the City of Signal Hill (hereinafter designated as the "City"), by action taken or a resolution passed _____ , 20____ has awarded to _____ _____ hereinafter designated as the "Principal," a contract for the work described as follows: _____ _____ (the "Project"); and

WHEREAS, the work to be performed by the Principal is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, said Principal is required to furnish a bond in connection with said Contract Documents; providing that if said Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of said Principal and its Subcontractors with respect to such work or labor, the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and _____ as Surety, are held and firmly bound unto the City in the penal sum of _____ _____ DOLLARS and _____ CENTS ($_____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in Section 9100 of the Civil Code, fail to pay for any materials, provisions or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract Documents, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Section 18663 of the Revenue and Taxation Code, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by the City in such suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Section 9100 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition,

alteration or modification in, to, or of any contract (including the Contract Documents), plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement herein above described, nor by any rescission or attempted rescission or attempted rescission of the Contract Documents, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the owner or City and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Section 9100 of the Civil Code, and has not been paid the full amount of his claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

Notwithstanding any other provision of this bond, it is expressly understood, acknowledged and agreed that it shall provide all of the protections required by California Civil Code Sections 9550 through 9566, including the specific coverage protections required by Section 9554.

REMAINDER OF PAGE LEFT INTENTIONALLY BLANK

SIGNATURES ON FOLLOWING PAGE

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____ 20_____ the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

CONTRACTOR/PRINCIPAL
(Corporate Seal of Contractor/
Principal, if a Corporation)

_____
Name of Contractor/Principal (Type or Print)

By: _____
Name (Signature)

_____
Name (Type or Print)

_____
Title (Type or Print)

SURETY
(Seal of Surety)

_____
Name of Surety (Type or Print)

By:_____
Attorney-In-Fact

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 20___, before me, _____, Notary Public, personally

appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

☐ Individual
☐ Corporate Officer

_____
Title(s)

☐ Partner(s) ☐ Limited ☐ General
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

_____

_____

DESCRIPTION OF ATTACHED DOCUMENT

_____
Title or Type of Document

_____
Number of Pages

_____
Date of Document

_____
Signer(s) Other Than Named Above

NOTE: A copy of the Power-of-Attorney to local representatives of the bonding company must be attached hereto.

END OF PAYMENT BOND FORM

RESOLUTION 2025-11-XXXX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA AMENDING THE ADOPTED BUDGET AND AUTHORIZING BUDGET APPROPRIATIONS FOR FISCAL YEAR 2025-26

WHEREAS, the City Council approves the appropriation of funds for the purpose stated below.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SIGNAL HILL, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. To authorize budget adjustment 26-011 of the FY 2025-26 Budget as follows:

Purpose: City Hall Renovation Project

Fund	Dept	Object	Project	Description	Amount
1) City Hall Renovation Project					
400	40	5896	90.19004.CCMPR.119	Facilities Capital Improvement	$660,412
2) Transfer of funds to cover expenses					
119	99	7939		Transfer to Capital Projects	$660,412
400	00	6946		Transfer from GF Reserve Funds	$660,412

Section 2. To add the above-referenced adjustments to the Budget Adjustment Status Report (Exhibit A).

PASSED, APPROVED, AND ADOPTED at a special meeting of the City Council on this 13th day of November, 2025.

_____
KEIR JONES
MAYOR

ATTEST:

_____
DARITZA PEREZ
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss.
CITY OF SIGNAL HILL)

I, DARITZA GONZALEZ, City Clerk of the City of Signal Hill, California, hereby certify that Resolution No. 2025-11-XXXX was adopted at a special meeting of the City Council of the City of Signal Hill held on the 13th day of November 2025 and that the same was adopted by the following roll call vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
DARITZA PEREZ
CITY CLERK

CITY OF SIGNAL HILL - SUMMARY OF BUDGET ADJUSTMENTS - FY 2025-26

Budget Adjustment #	Council Date	Description		Revenues	Expenditures	Capital Outlay	Transfers In	Transfers Out	Net Change	
General Fund - 100			Adopted	38,418,037.53	37,735,806.60	682,230.93	1,250,540.00	1,622,770.93		
BA 26-004	7/8/2025	Custodial Maintenance Agreement			37,063.00					(37,063.00)
BA 26-005	7/8/2025	Police Investigation Services Increase - Amendment 1			50,000.00					(50,000.00)
BA 26-006	8/26/2025	Awarded Emergency Management Performance Grant (EMPG)		6,000.00	6,000.00					-
BA 26-007	9/9/2025	Tenant Relocation and Compliance Costs					123,167.00	123,167.00		-
			Adjusted	38,424,037.53	37,828,869.60	682,230.93	1,373,707.00	1,745,937.93	Total	(87,063.00)
Capital Improvement Reserves - 113			Adopted	-	-	-	-	2,230,541.58		
BA 26-003	7/8/2025	Increase Project Budget for the Willow Median Improvements CIP						220,972.15		(220,972.15)
BA 26-007	9/9/2025	Tenant Relocation and Compliance Costs					123,167.00	123,167.00		-
BA 26-008	9/23/2025	Carryover Appr from FY24-25 for Police HVAC System Upgrade						35,000.00		(35,000.00)
			Adjusted	-	-	-	123,167.00	2,609,680.73	Total	(255,972.15)
Park Reserve - 117			Adopted	-	-	-	400,000.00	-		
BA 26-007	9/9/2025	Tenant Relocation and Compliance Costs						123,167.00		(123,167.00)
			Adjusted	-	-	-	400,000.00	123,167.00	Total	(123,167.00)
Prop A - 202			Adopted	321,190.00	320,375.38	-	-	-		
BA 26-002	6/24/2025	Increase Expenditures Budget for Proposition A Fund			120,802.00					(120,802.00)
			Adjusted	321,190.00	441,177.38	-	-	-	Total	(120,802.00)
Capital Grants Fund - 240			Adopted	3,774,998.00	-	-	-	3,774,998.00		
BA 26-003	7/8/2025	Increase Project Budget for the Willow Median Improvements CIP		70,000.00				70,000.00		-
			Adjusted	3,844,998.00	-	-	-	3,844,998.00	Total	-
State Police Grant Fund - OTS - 275			Adopted	90,000.00	90,000.00	-	-	-		
BA 26-010	10/14/2025	Awarded OTS & Step Grant for Traffic Safety Enforcement		10,000.00	10,000.00					-
										-
			Adjusted	100,000.00	100,000.00	-	-	-	Total	-
Capital Improvements - CIP - 400			Adopted	-	-	13,609,635.02	13,609,635.02	-		
BA 26-003	7/8/2025	Increase Project Budget for the Willow Median Improvements CIP				290,972.15	290,972.15			-
BA 26-007	9/9/2025	Tenant Relocation and Compliance Costs				123,167.00	123,167.00			-
BA 26-008	9/23/2025	Carryover Appr from FY24-25 for Police HVAC System Upgrade				35,000.00	35,000.00			-
			Adjusted	-	-	14,058,774.17	14,058,774.17	-	Total	-
Water Operations Fund - 500			Adopted	8,096,487.00	7,955,525.00	6,837,795.00	79,742.00	-		
BA 26-001	6/24/2025	Increase Project Budget for Gundry Reservoir Roof Replacement & Coating CIP				1,765,577.00				(1,765,577.00)
			Adjusted	8,096,487.00	7,955,525.00	8,603,372.00	79,742.00	-	Total	(1,765,577.00)

Notes: If the net change is positive, there is an overall increase to the Fund Balance. If negative, there is an overall reduction to the Fund Balance.
The summary does not inlcude prior year carryovers and positive fund balance appropriations.

11/13/2025

AGENDA ITEM

TO: **HONORABLE MAYOR**
AND MEMBERS OF THE CITY COUNCIL

FROM: **CARLO TOMAINO**
CITY MANAGER

SUBJECT:

RECREATIONAL USE OF HILL STREET BETWEEN TEMPLE AVENUE AND OBISPO AVENUE

Summary:

At the City Council meeting of October 28, 2025, Vice Mayor Hansen received support from Mayor Jones to enable further discussion of potential public safety concerns on Hill Street between Temple Avenue and Obispo Avenue when Hill Street is used for recreational purposes. Staff is placing this item on the agenda pursuant to the City Council's adopted policy and has not provided analysis of the request. This agenda item provides the City Council with the opportunity to discuss the item further and provide direction to staff as desired.

Strategic Plan Goal(s):

Goal No. 5 High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendation:

Discuss the proposed City Council request and provide direction to staff as desired.

Fiscal Impact:

There is no fiscal impact associated with the recommended action.

Reviewed for Fiscal Impact:

_____
Siamlu Cox
Administrative Services Officer/Finance Director

Attachment(s):

None.

2175 Cherry Avenue • Signal Hill, California 90755-3799

CITY OF SIGNAL HILL

STAFF REPORT

11/13/2025

AGENDA ITEM

TO: **HONORABLE MAYOR**
AND MEMBERS OF THE CITY COUNCIL

FROM: **CARLO TOMAINO**
CITY MANAGER

BY: **THOMAS BEKELE**
PUBLIC WORKS DIRECTOR/CITY ENGINEER

SUBJECT:

FINAL ACCEPTANCE OF CALIFORNIA AVENUE IMPROVEMENTS PROJECT PURSUANT TO THE PUBLIC WORKS CONTRACT WITH EXCEL PAVING COMPANY

Summary:

On March 11, 2025, the City Council awarded the Fiscal Year (FY) 2024-2025 Pavement Management Program Project related to California Avenue Improvements (Project No. 90.25003) to PALP Incorporated, dba Excel Paving Company (Excel Paving). The project included removing and reconstructing approximately 44,640 square feet of pavement along California Avenue, from Spring Street to 28th Street, with pavement removal depths ranging from 17 to 22.5 inches. Excel Paving completed the scope of work in accordance with City standards, ADA guidelines, and the approved project specifications meeting the requirements of the Public Works Department. Staff requests the City Council declare final acceptance of the Pavement Management Project for a final contract amount of $896,032.35 and direct staff to record a Notice of Completion with the Los Angeles County Recorder's office and process the contract retention release.

Strategic Plan Goal(s):

Goal No. 4 Infrastructure: Maintain and improve the City's physical infrastructure, water system, and recreational spaces.

Recommendations:

1. Accept the work in conformance with the plans and specifications for the California Avenue Improvements Project in accordance with the contract entered into between PALP Incorporated, dba Excel Paving Company, and the City of Signal Hill, and authorize the City Manager to execute the Notice of Completion; and

2. Direct staff to record the Notice of Completion with the Los Angeles County Registrar-

Recorder's office.

Fiscal Impact:

The budget for the Fiscal Year (FY) 2024-25 Pavement Management Program (PMP) was $1,209,145 (Project No. 90.25003). Funding for the PMP consisted of Proposition C (Fund 203), Measure M (Fund 237), Measure R (Fund 236), RMRA (Fund 238), and CIP Reserves (Fund 113). The contract amount awarded for the construction of California Avenue Improvements related to the PMP project was $946,725.98 plus a contract contingency of $129,479.19, for a total construction budget of $1,076,205.17. The actual field-installed quantities required to complete the excavation and paving work were less than the original bid quantities. As a result, the final contract amount totaled $896,032.35.

Unforeseen conditions during construction, including the removal and relocation of unidentified utility pipelines, caused project delays. According to the Notice to Proceed executed by the City, the original project completion date was June 26, 2025. However, other utility companies required additional time to remove abandoned infrastructure and relocate existing pipelines, which extended the completion date to July 21, 2025. As a result, the City expended a portion of the project costs in the FY 2025-26 PMP budget. The City incurred $566,088.38 in FY 2024-25 and $329,943.97 in FY 2025-26.

Excel Paving Contract	**FY 2024-25**	**FY 2025-26**	**Total**
Prop C	$242,146.79	$0.00	$242,146.79
Measure M	$170,000.00	$0.00	$170,000.00
Measure R	$150,000.00	$0.00	$150,000.00
RMRA	$3,941.59	$329,943.97	$333,885.56
CIP Reserves	$0.00	$0.00	$0.00
Total	$566,088.38	$329,943.97	$896,032.35

Background and Analysis:

On March 11, 2025, the City Council approved a Public Works contract with Excel Paving for the California Avenue Improvements Project. The City extended the contract term for 60 calendar days, with a not-to-exceed contract amount of $946,725.98, plus a contingency of $129,479.19. The City Council authorized staff to utilize up to a 30-calendar day extension, and a total approved construction budget of $1,076,205.17, consistent with the City's Purchasing and Contracting Guidelines.

This Project included the complete reconstruction of approximately 44,640 square feet of pavement on California Avenue, from Spring Street to 28th Street, with pavement removal and replacement depths ranging from 17 inches to 22.5 inches. The Project also included the installation of six new traffic loops, striping and markings, valve and manhole adjustments, and the removal and reconstruction of 332 linear feet of metal beam guardrail. Due to conservative engineering bid estimates, the actual field-installed quantities required to complete the excavation and paving work were lower than the contracted bid amount. The final contract amount, including approved change

orders for additional scope of work and final quantities authorized by the Public Works Director during construction, was $896,032.35, resulting in a net cost lower than the original estimate.

Excel Paving completed the Project in conformance with the City's specifications, including approval of the final quantities. The City completed its final inspection of the Project's punch list. Staff recommends that the City Council declare final acceptance of the Project based on the contractor's successful completion of the Project to the City's satisfaction, and upon final acceptance, staff would record a notice of completion with the Los Angeles County Recorder's office.

Reviewed for Fiscal Impact:

_____
Siamlu Cox
Administrative Services Office/Finance Director

Attachment:

A. Notice of Completion

Recording requested by
and when recorded mail to:

City of Signal Hill
2175 Chery Avenue, CA 90755
Attn: Jesus Saldana, Associate Engineer

(Space Above for Recorder's Use Only)

[FEE EXEMPT PURSUANT TO GOVERNMENT CODE §§ 6103, 27383 & 27361, SUBD. (e)]

NOTICE OF COMPLETION

NOTICE IS HEREBY GIVEN by City of Signal Hill ("City"), which on or about on March 11th, 2025, entered into a contract with PALP, Incorporated, dba Excel Paving Company ("Direct Contractor"), whose address is 2230 Lemon Avenue, Long Beach, CA 90806, for construction of the public work of the California Avenue Improvements, Project ("Project") on the real property owned by the City located on California Avenue, between 28th Street and Spring Street, Signal Hill, CA 90755, as follows:

A. The City accepted the Project on November 13, 2025.

B. That the nature of the interest of the undersigned is as an interest in fee in the above-described real property.

C. That the name and address of the undersigned owner of the above-described property is:

City of Signal Hill
2175 Cherry Avenue
Signal Hill, CA 90755

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

CITY OF SIGNAL HILL

By:_____
Name & Title: Carlo Tomaino, City Manager
Dated: November 13, 2025

VERIFICATION

I, Carlo Tomaino, state that I am the authorized agent of the City identified in the foregoing Notice of Completion. I have read said Notice of Completion and know the contents thereof; the same is true of my own knowledge. I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed on this 13th day of November, 2025, at City of Signal Hill, California.

CITY OF SIGNAL HILL

By:_____
Name & Title: Carlo Tomaino, City Manager
Dated: November 13, 2025

[Exempt from notarial acknowledgement per Civil Code section 9208]

2175 Cherry Avenue • Signal Hill, California 90755-3799

CITY OF SIGNAL HILL

STAFF REPORT

11/13/2025

AGENDA ITEM

TO: **HONORABLE MAYOR**
AND MEMBERS OF THE CITY COUNCIL

FROM: **CARLO TOMAINO**
CITY MANAGER

BY: **DAVID HOPPER**
CITY TREASURER

SIAMLU COX
ADMINISTRATIVE SERVICES OFFICER/FINANCE DIRECTOR

SUBJECT:

WARRANT REGISTER DATED NOVEMBER 13, 2025

Summary:

The Warrant Register is a listing of all general disbursements issued since the prior warrant register and are requested to be approved by the City Council.

Strategic Plan Goal(s):

Goal No. 1 Financial Stability: Ensure the City's long-term financial stability and resilience.

Recommendation:

Authorize payment of the Warrant Registers dated November 11, 2025

Fiscal Impact:

The City has sufficient funds budgeted and available for payment.

Analysis:

Staff is submitting all warrants for approval; invoices and supporting documentation are available for review in the Finance Department.

Attachment:

Warrant Register for Council Meeting

Payment Type	Payment Date	Payment Numbers	Total
Regular Check	10.16.2025	120685 THRU 120751	$ 162,561.99
Regular EFT	10.16.2025	105002 THRU 105039	$ 640,490.83
Manual DFT*	10.14.25 - 10.23.25	VARIOUS	$ 1,233,626.48
Manual DFT*	10.17.2025	VARIOUS	$ 93,906.32
Manual DFT*	10.23.2025	VARIOUS	$ 174,317.30
Subtotal			$ 2,304,902.92
Utility Billing Refund	10.16.2025	120676 THRU 120683	$ 1,807.83
Subtotal			$ 1,807.83
Payroll Net**	10.23.2025	VARIOUS	$ 399,334.02
Subtotal			$ 399,334.02
Grand Total			**$ 2,706,044.77**

** EFT/Draft - Electronic/Draft Funds Transfer*

*** Represents the total net payroll direct deposit on pay date*

A. Warrant Register

City of Signal Hill

Warrant Register

By Vendor Name

Payment Dates 10/11/2025 - 10/24/2025

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
Vendor: 9603 - 4IMPRINT, INC							
120685	10/16/2025	14008726	07/07/2025	PROMOTION ITEMS	100-47-5740	General Supplies	2,007.38
						Vendor 9603 - 4IMPRINT, INC Total:	**2,007.38**
Vendor: 0007 - ABC PRESS							
120686	10/16/2025	250412	09/30/2025	OFFICE SUPPLIES: ENVELOPES	100-53-5740	General Supplies	163.54
						Vendor 0007 - ABC PRESS Total:	**163.54**
Vendor: 9221 - ABRAHAM LEON							
120687	10/16/2025	20251025-1	08/18/2025	HALLOWEEN CARNIVAL: PHOTOBOOTH	100-82-5723	Event/Program Costs	450.00
						Vendor 9221 - ABRAHAM LEON Total:	**450.00**
Vendor: 9360 - ADAMS S MARK							
120688	10/16/2025	2577	09/18/2025	DECAL INSTALL: UTILITY BOX	100-94-5400	Contract Services - General	910.00
						Vendor 9360 - ADAMS S MARK Total:	**910.00**
Vendor: 9807 - ALASKA WATER PRODUCTS INC							
120689	10/16/2025	10450	09/29/2025	WATER OPERATOR CONSULTING SVCS: SEP 2025	500-40-5400	Contract Services - General	7,042.50
						Vendor 9807 - ALASKA WATER PRODUCTS INC Total:	**7,042.50**
Vendor: 1151 - ALL CITY MANAGEMENT SRVCS INC.							
105002	10/16/2025	103326	09/17/2025	CROSSING GUARD SVCS: 8/31 - 9/13/25	100-74-5400	Contract Services - General	5,631.12
105002	10/16/2025	103670	10/01/2025	CROSSING GUARD SVCS: 9/14 - 9/27/25	100-74-5400	Contract Services - General	6,226.08
						Vendor 1151 - ALL CITY MANAGEMENT SRVCS INC. Total:	**11,857.20**
Vendor: 9907 - ALL IN ONE ENTERTAINMENT							
120690	10/16/2025	FDDEOYC6 0001	09/24/2025	HALLOWEEN CARNIVAL: ENTERTAINMENT	100-82-5723	Event/Program Costs	700.00
						Vendor 9907 - ALL IN ONE ENTERTAINMENT Total:	**700.00**
Vendor: 8241 - ALLIED UNIVERSAL SECURITY SERVICES							
105003	10/16/2025	17601957	09/25/2025	SECURITY SERVICES: 9/12 - 9/25/25	100-72-5400	Contract Services - General	4,409.60
						Vendor 8241 - ALLIED UNIVERSAL SECURITY SERVICES Total:	**4,409.60**
Vendor: 1055 - AMERICAN LEGAL PUBLISH CORP							
120691	10/16/2025	45064	09/11/2025	INTERNET RENEWAL PERIOD: 10/17/25 - 10/17/26	100-43-5400	Contract Services - General	500.00
						Vendor 1055 - AMERICAN LEGAL PUBLISH CORP Total:	**500.00**

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
Vendor: 5136 - AMERICA'S TIRE COMPANY							
120692	10/16/2025	1893467	09/25/2025	VEHICLE TIRES: UNIT 60117	601-40-5740	General Supplies	327.87
						Vendor 5136 - AMERICA'S TIRE COMPANY Total:	**327.87**
Vendor: 5511 - ARVIN PACHECO							
120693	10/16/2025	10012025	10/01/2025	REIMBURSEMENT: TRAINING PARKING	100-95-5320	Travel & Training	25.00
						Vendor 5511 - ARVIN PACHECO Total:	**25.00**
Vendor: 1008 - ASSOCIATED SOILS ENGINEERING							
120694	10/16/2025	48805	08/31/2025	ON-CALL SVCS: CITY HALL WINDOW REPLACEMENT	400-40-5896	Facilities Capital Improvement	1,540.00
						Vendor 1008 - ASSOCIATED SOILS ENGINEERING Total:	**1,540.00**
Vendor: 8740 - BANK OF AMERICA - OPEB							
105040	10/23/2025	INV0015660	10/23/2025	110156 CITY OF SIGNAL HILL OPEB INV TRUST ACCT -EE	100-21525	OPEB Employee Paid W/ Wa...	601.00
105040	10/23/2025	INV0015661	10/23/2025	110156 CITY OF SIGNAL HILL OPEB INV TRUST ACCT -ER	100-21525	OPEB Employee Paid W/ Wa...	649.00
105040	10/23/2025	INV0015662	10/23/2025	110156 CITY OF SIGNAL HILL OPEB INV TRUST ACCT -EE	100-21525	OPEB Employee Paid W/ Wa...	2,797.00
105040	10/23/2025	INV0015663	10/23/2025	110156 CITY OF SIGNAL HILL OPEB INV TRUST ACCT -ER	100-21525	OPEB Employee Paid W/ Wa...	2,797.00
						Vendor 8740 - BANK OF AMERICA - OPEB Total:	**6,844.00**
Vendor: 0519 - BEE BUSTERS							
120695	10/16/2025	155123	09/03/2025	PROFESSIONAL SVCS: COLONY ABATEMENT	100-95-5400	Contract Services - General	185.00
						Vendor 0519 - BEE BUSTERS Total:	**185.00**
Vendor: 9450 - BOOT BARN HOLDINGS							
120696	10/16/2025	INV00525971	09/26/2025	BOOTS	100-92-5730	Uniforms	193.89
						Vendor 9450 - BOOT BARN HOLDINGS Total:	**193.89**
Vendor: 4368 - BROADWAY LOCKSMITH SHOP							
120697	10/16/2025	0000143645	08/27/2025	PUBLIC WORKS SUPPLIES	100-92-5740	General Supplies	40.06
120697	10/16/2025	0000143740	09/15/2025	PUBLIC WORKS SUPPLIES	100-92-5740	General Supplies	13.15
120697	10/16/2025	0000143769	09/17/2025	PUBLIC WORKS SUPPLIES	100-92-5740	General Supplies	13.15
120697	10/16/2025	0000143876	10/06/2025	PUBLIC WORKS SUPPLIES	100-94-5740	General Supplies	13.95
						Vendor 4368 - BROADWAY LOCKSMITH SHOP Total:	**80.31**
Vendor: 0062 - BRODART CO							
120698	10/16/2025	B7067977	09/27/2025	LIBRARY BOOK SUPPLIES (1)	100-81-5721	Special Department Supplies	14.75
120698	10/16/2025	B7067982	09/27/2025	LIBRARY BOOK SUPPLIES (3)	100-81-5721	Special Department Supplies	60.17
120698	10/16/2025	B7067983	09/27/2025	LIBRARY BOOK SUPPLIES (10)	100-81-5721	Special Department Supplies	305.75
120698	10/16/2025	B7067984	09/27/2025	LIBRARY BOOK SUPPLIES (13)	100-81-5721	Special Department Supplies	284.03
120698	10/16/2025	B7067986	09/27/2025	LIBRARY BOOK SUPPLIES (27)	100-81-5721	Special Department Supplies	361.81
120698	10/16/2025	B7067987	09/27/2025	LIBRARY BOOK SUPPLIES (8)	100-81-5721	Special Department Supplies	118.14
120698	10/16/2025	B7067988	09/27/2025	LIBRARY BOOK SUPPLIES (5)	100-81-5721	Special Department Supplies	106.62

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
120698	10/16/2025	B7068083	09/27/2025	LIBRARY BOOK SUPPLIES (1)	100-81-5721	Special Department Supplies	16.00
120698	10/16/2025	B7068114	09/27/2025	LIBRARY BOOK SUPPLIES (1)	100-81-5721	Special Department Supplies	23.00
120698	10/16/2025	B7068116	09/27/2025	LIBRARY BOOK SUPPLIES (1)	100-81-5721	Special Department Supplies	20.04
						Vendor 0062 - BRODART CO Total:	**1,310.31**
Vendor: 0471 - CALIF DEPT JUSTICE							
120699	10/16/2025	842575	09/05/2025	FINGERPRINTS - AUG 20225	100-46-5400	Contract Services - General	674.00
						Vendor 0471 - CALIF DEPT JUSTICE Total:	**674.00**
Vendor: 1464 - CALIFORNIA BUILDING STANDARDS							
DFT0015708	10/22/2025	10172025	10/17/2025	BSC FEES - 2ND QTR	100-24202	Building Standards Commissi...	192.00
						Vendor 1464 - CALIFORNIA BUILDING STANDARDS Total:	**192.00**
Vendor: 0203 - CALIFORNIA,STATE OF							
DFT0015637	10/23/2025	CM0000281	10/23/2025	State Income Tax Withholding	100-21513	State Withholding Taxes Pay...	-76.01
DFT0015641	10/23/2025	INV0015620	10/23/2025	State Income Tax Withholding	100-21513	State Withholding Taxes Pay...	308.19
DFT0015704	10/23/2025	INV0015693	10/23/2025	State Income Tax Withholding	100-21513	State Withholding Taxes Pay...	24,366.61
						Vendor 0203 - CALIFORNIA,STATE OF Total:	**24,598.79**
Vendor: 0407 - CALPERS							
DFT0015558	10/17/2025	INV0015563	10/09/2025	PERS Survivor Benefit	100-21520	PERS - City Paid	23.25
DFT0015559	10/17/2025	INV0015564	10/09/2025	PERS 25143	100-21520	PERS - City Paid	1,372.33
DFT0015559	10/17/2025	INV0015564	10/09/2025	PERS 25143	100-21520	PERS - City Paid	10,611.91
DFT0015559	10/17/2025	INV0015564	10/09/2025	PERS 25143	100-51-5230	Retirement Contributions	-0.09
DFT0015560	10/17/2025	INV0015565	10/09/2025	PERS 25143	100-21520	PERS - City Paid	11,510.48
DFT0015561	10/17/2025	INV0015566	10/09/2025	PERS 26091	100-21520	PERS - City Paid	14,708.69
DFT0015562	10/17/2025	INV0015567	10/09/2025	PERS 26091	100-21520	PERS - City Paid	15,107.28
DFT0015563	10/17/2025	INV0015568	10/09/2025	PERS 8703	100-21520	PERS - City Paid	1,647.97
DFT0015564	10/17/2025	INV0015569	10/09/2025	PERS 8703	100-21520	PERS - City Paid	2,961.64
DFT0015565	10/17/2025	INV0015570	10/09/2025	PERS 8704	100-21520	PERS - City Paid	4,929.14
DFT0015566	10/17/2025	INV0015571	10/09/2025	PERS 8704	100-21520	PERS - City Paid	7,576.81
DFT0015567	10/17/2025	INV0015572	10/09/2025	PERS 9063	100-21520	PERS - City Paid	6,266.72
DFT0015568	10/17/2025	INV0015573	10/09/2025	PERS 9063 Management	100-21520	PERS - City Paid	804.84
DFT0015569	10/17/2025	INV0015574	10/09/2025	PERS 9063	100-21520	PERS - City Paid	13,760.68
DFT0015570	10/17/2025	INV0015575	10/09/2025	PERS 9063 Management	100-21520	PERS - City Paid	2,624.67
						Vendor 0407 - CALPERS Total:	**93,906.32**
Vendor: 8274 - CANON SOLUTIONS AMERICA, INC							
120700	10/16/2025	6011865994A	05/12/2025	COPIER USAGE: BALANCE DUE	100-51-5552	Rental/Lease of Equipment	7.33
						Vendor 8274 - CANON SOLUTIONS AMERICA, INC Total:	**7.33**
Vendor: 5027 - CARLY FISHER							
105004	10/16/2025	09122025	09/12/2025	TRAINING REIMBURSEMENT: MEALS	100-75-5320	Travel & Training	69.00
						Vendor 5027 - CARLY FISHER Total:	**69.00**

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
Vendor: 1560 - CARUSO FORD							
105005	10/16/2025	13343	09/12/2025	FLEET DEPT SUPPLIES	601-40-5721	Vehicle Supplies	184.81
						Vendor 1560 - CARUSO FORD Total:	**184.81**
Vendor: 0111 - CENTRAL BASIN MUNI WATER DIST							
105006	10/16/2025	SH-AUG25	09/15/2025	WATER AND SVCS CHARGES: AUG 2025	500-40-5780	Water Supply Costs	149,452.53
						Vendor 0111 - CENTRAL BASIN MUNI WATER DIST Total:	**149,452.53**
Vendor: 5039 - CENTRAL BASIN WATER ASSOCIATION							
120701	10/16/2025	712025	07/01/2025	MEMBERSHIP DUES AND ASSESSMENT: FY 25-26	500-40-5310	Dues & Memberships	1,121.66
						Vendor 5039 - CENTRAL BASIN WATER ASSOCIATION Total:	**1,121.66**
Vendor: 0714 - CIRCLE MARINA CW LLC							
105007	10/16/2025	100325	10/03/2025	CAR WASH: SEP 2025	100-74-5540	Vehicle Maintenance	136.00
						Vendor 0714 - CIRCLE MARINA CW LLC Total:	**136.00**
Vendor: 5780 - CITY EMPLOYEES ASSOCIATES LLC							
105041	10/23/2025	INV0015685	10/23/2025	PT Employee Association	100-21050	Accrued Liabilities Payable	10.00
						Vendor 5780 - CITY EMPLOYEES ASSOCIATES LLC Total:	**10.00**
Vendor: 0377 - CITY OF LONG BEACH							
120702	10/16/2025	07302025L	07/30/2025	RADIO TRANSMISSION LEASE: 7/1 - 9/30/25	100-75-5552	Rental of Equipment & Vehic...	5,590.95
120702	10/16/2025	42579	07/01/2025	JOINT TRAFFIC SIGNAL MAINTENANCE: JAN-MAR 2025	100-95-5400	Contract Services - General	7,865.64
DFT0015597	10/15/2025	10152025	10/15/2025	EDA WIRE: JAN - JUN 2025	100-31-4131	Contra Sales Tax Agreements	737,740.00
DFT0015618	10/14/2025	1784-092325	09/23/2025	WATER SVCS - 6475 ORANGE AVE	500-40-5512	Utility Services	591.63
DFT0015619	10/14/2025	8237-092225	09/22/2025	GAS SVCS - 2175 E 28TH ST	100-92-5512	Utility Services	19.07
DFT0015620	10/14/2025	8387-092225	09/22/2025	WATER SVCS - 6059 CHERRY AVE	500-40-5512	Utility Services	29.80
DFT0015621	10/14/2025	8906-092325	09/23/2025	GAS SVCS - 2175 CHERRY AVE	100-92-5512	Utility Services	17.42
DFT0015622	10/14/2025	9816-092225	09/22/2025	GAS SVCS - 1780 E HILL ST	100-92-5512	Utility Services	86.61
DFT0015623	10/14/2025	7236-092225	09/22/2025	GAS SVCS - 2745 WALNUT AVE	100-92-5512	Utility Services	71.79
DFT0015624	10/14/2025	4016-092225	09/22/2025	GAS SVCS - 1919 E HILL ST	100-92-5512	Utility Services	15.78
						Vendor 0377 - CITY OF LONG BEACH Total:	**752,028.69**
Vendor: 7313 - CITY OF SIGNAL HILL							
DFT0015594	10/15/2025	09302025	10/15/2025	MONTHLY WATER CHARGES - SEPT 2025	100-13001	Accrued Accounts Receivable	798.36
DFT0015594	10/15/2025	09302025	10/15/2025	MONTHLY WATER CHARGES - SEPT 2025	100-47-5512	Utility Services	29.62
DFT0015594	10/15/2025	09302025	10/15/2025	MONTHLY WATER CHARGES - SEPT 2025	100-92-5512	Utility Services	9,007.14

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
DFT0015594	10/15/2025	09302025	10/15/2025	MONTHLY WATER CHARGES - SEPT 2025	100-94-5512	Utility Services	30,966.15
DFT0015594	10/15/2025	09302025	10/15/2025	MONTHLY WATER CHARGES - SEPT 2025	100-95-5512	Utility Services	30.00
DFT0015594	10/15/2025	09302025	10/15/2025	MONTHLY WATER CHARGES - SEPT 2025	260-40-5512	Utility Services	1,329.02
DFT0015594	10/15/2025	09302025	10/15/2025	MONTHLY WATER CHARGES - SEPT 2025	500-40-5512	Utility Services	882.10
						Vendor 7313 - CITY OF SIGNAL HILL Total:	**43,042.39**
Vendor: 1136 - CLEANSTREET, LLC							
105008	10/16/2025	CA25001957	08/31/2025	STREET SWEEPING SVCS: AUG 2025	100-93-5525	Street Sweeping Services	26,237.25
						Vendor 1136 - CLEANSTREET, LLC Total:	**26,237.25**
Vendor: 0336 - CONSERVATION CORP OF LB							
105009	10/16/2025	8887	08/31/2025	CLEAN UP & MAINT: CHERRY & WILLOW - AUG 2025	100-93-5400	Contract Services - General	912.76
105009	10/16/2025	8888	08/31/2025	CLEAN UP & MAINT: BUS STOPS - AUG 2025	202-40-5400	Contract Services - General	1,826.40
						Vendor 0336 - CONSERVATION CORP OF LB Total:	**2,739.16**
Vendor: 8215 - CONSOLIDATED ELECTRICAL DISTRIBUTORS							
105010	10/16/2025	4208-1025008	10/02/2025	CITY HALL RENO SUPPLIES: CIP	400-40-5896	Facilities Capital Improvement	344.80
						Vendor 8215 - CONSOLIDATED ELECTRICAL DISTRIBUTORS Total:	**344.80**
Vendor: 5149 - CYRUN							
105011	10/16/2025	SGH-2501	06/17/2025	RENEWAL OF EXISTING SOFTWARE SERVICES	100-75-5570	Software Licensing & Support	69,500.00
						Vendor 5149 - CYRUN Total:	**69,500.00**
Vendor: 9147 - DANIA B CALDERON							
105012	10/16/2025	202	09/29/2025	LIBRARY PROGRAM: HEALTH WELLNESS	100-81-5723	Event/Program Costs	80.00
105012	10/16/2025	203	09/29/2025	LIBRARY PROGRAM: HEALTH WELLNESS	100-81-5723	Event/Program Costs	80.00
105012	10/16/2025	204	09/29/2025	LIBRARY PROGRAM: HEALTH WELLNESS	100-81-5723	Event/Program Costs	80.00
105012	10/16/2025	205	09/29/2025	LIBRARY PROGRAM: HEALTH WELLNESS	100-81-5723	Event/Program Costs	80.00
105012	10/16/2025	206	09/29/2025	LIBRARY PROGRAM: HEALTH WELLNESS	100-81-5723	Event/Program Costs	80.00
						Vendor 9147 - DANIA B CALDERON Total:	**400.00**
Vendor: 9809 - DELTA ELECTRIC LLC							
120703	10/16/2025	2.0	08/19/2025	INSTALLATION OF CHARGING STATIONS	601-21150	Retention Payable	-856.92

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
120703	10/16/2025	2.0	08/19/2025	INSTALLATION OF CHARGING STATIONS	601-40-5840	Capital Outlay	6,932.40
						Vendor 9809 - DELTA ELECTRIC LLC Total:	**6,075.48**
Vendor: 1202 - DISPENSING TECHNOLOGY CORP							
120704	10/16/2025	17671	09/18/2025	PUBLIC WORKS SUPPLIES	100-95-5740	General Supplies	1,328.47
						Vendor 1202 - DISPENSING TECHNOLOGY CORP Total:	**1,328.47**
Vendor: 1121 - EWING IRRIGATION PRODUCTS INC.							
120705	10/16/2025	27743784	09/24/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	6.00
						Vendor 1121 - EWING IRRIGATION PRODUCTS INC. Total:	**6.00**
Vendor: 3580 - EXCEL PAVING COMPANY							
105013	10/16/2025	6041	09/01/2025	CONSTRUCTION SERVICES: CA AVE 28th - SPRING	400-21150	Retention Payable	-1,137.32
105013	10/16/2025	6041	09/01/2025	CONSTRUCTION SERVICES: CA AVE 28th - SPRING	400-40-5894	Street Capital Improvements	22,746.47
						Vendor 3580 - EXCEL PAVING COMPANY Total:	**21,609.15**
Vendor: 5121 - FERGUSON ENTERPRISES INC. #1350							
105014	10/16/2025	5579870	07/31/2025	FACILITIES SUPPLIES	100-92-5740	General Supplies	1,861.93
105014	10/16/2025	5684338	08/22/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	397.50
105014	10/16/2025	5713914	09/04/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	407.67
105014	10/16/2025	5765781	09/23/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	175.70
105014	10/16/2025	5768735	09/24/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	8.80
105014	10/16/2025	5787186	10/01/2025	WATER DEPT SUPPLIES	100-92-5740	General Supplies	27.66
						Vendor 5121 - FERGUSON ENTERPRISES INC. #1350 Total:	**2,879.26**
Vendor: 1651 - FLEMING ENVIRONMENTAL INC							
120706	10/16/2025	22894	07/09/2025	MONTHLY & QUARTERLY INSPECTION: JUL 2025	601-40-5400	Contract Services - General	345.00
120706	10/16/2025	23103	09/03/2025	MONTHLY INSPECTION: AUG 2025	601-40-5400	Contract Services - General	155.00
120706	10/16/2025	23195	09/29/2025	MONTHLY INSPECTION: SEP 2025	601-40-5400	Contract Services - General	155.00
						Vendor 1651 - FLEMING ENVIRONMENTAL INC Total:	**655.00**
Vendor: 5303 - FRONTIER							
DFT0015598	10/15/2025	5226-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	43.19
DFT0015599	10/15/2025	9203-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	43.19
DFT0015600	10/15/2025	6947-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	66.62
DFT0015601	10/15/2025	6071-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	13.85
DFT0015602	10/15/2025	0920-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	79.03
DFT0015603	10/15/2025	8708-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	79.03
DFT0015604	10/15/2025	5908-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	79.03
DFT0015605	10/15/2025	3609-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	155.35
DFT0015606	10/15/2025	3247-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	155.35
DFT0015607	10/15/2025	2864-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	79.03

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
DFT0015608	10/15/2025	2538-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	105.98
DFT0015609	10/15/2025	1652-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	155.35
DFT0015610	10/15/2025	4539-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	79.03
DFT0015611	10/15/2025	9331-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	939.47
DFT0015612	10/15/2025	1920-091725	09/17/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	1,003.52
DFT0015613	10/15/2025	0106-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	1,028.28
DFT0015613	10/15/2025	0106-091925	09/19/2025	FRONTIER SVCS: OCT 2025	500-40-5511	Telephone/Data	1,636.80
DFT0015614	10/15/2025	0842-091725	09/17/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	517.59
DFT0015614	10/15/2025	0842-091725	09/17/2025	FRONTIER SVCS: OCT 2025	500-40-5511	Telephone/Data	2,049.80
DFT0015615	10/15/2025	7290-092025	09/20/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	380.02
DFT0015616	10/15/2025	4902-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	838.80
DFT0015617	10/15/2025	1854-091925	09/19/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	242.70
DFT0015706	10/16/2025	1887-092125	09/21/2025	FRONTIER SVCS: SEP 2025	100-74-5511	Telephone	697.59
DFT0015707	10/21/2025	0259-082525	08/25/2025	FRONTIER SVCS: SEP 2025	100-74-5511	Telephone	544.15
DFT0015711	10/23/2025	9470-092825	09/28/2025	FRONTIER SVCS: OCT 2025	100-51-5511	Telephone/Internet	359.30
						Vendor 5303 - FRONTIER Total:	**11,372.05**
Vendor: 9604 - GOMEZ GROWERS INC							
120707	10/16/2025	20250904-3	09/04/2025	PUBLIC WORKS SUPPLIES	100-94-5740	General Supplies	109.95
						Vendor 9604 - GOMEZ GROWERS INC Total:	**109.95**
Vendor: 9299 - GRACE ENVIROMENTAL SERVICES, INC							
120708	10/16/2025	2004	07/31/2025	RESIDENTIAL WATER METER READING SVCS: JUL 2025	500-40-5400	Contract Services - General	4,904.72
120708	10/16/2025	2024	08/31/2025	RESIDENTIAL WATER METER READING SVCS: AUG 2025	500-40-5400	Contract Services - General	4,879.20
120708	10/16/2025	2026	09/08/2025	VALVE EXERCISING ON CALL: JUL AND AUG 2025	500-40-5400	Contract Services - General	15,569.14
120708	10/16/2025	2046	09/30/2025	RESIDENTIAL WATER METER READING SVCS: SEP 2025	500-40-5400	Contract Services - General	4,809.25
						Vendor 9299 - GRACE ENVIROMENTAL SERVICES, INC Total:	**30,162.31**
Vendor: 5046 - GRAFIX SYSTEMS							
105015	10/16/2025	34139	08/25/2025	VEHICLE PRINTING SVCS: DUI ENFORCEMENT TRAILER	275-40-5740	General Supplies	1,200.00
105015	10/16/2025	34139	08/25/2025	VEHICLE PRINTING SVCS: DUI ENFORCEMENT TRAILER	601-40-5842	Vehicles & Large Equipment	22.46
105015	10/16/2025	34279	09/18/2025	VEHICLE PRINTING SVCS: UNIT #741	601-40-5842	Vehicles & Large Equipment	871.92
						Vendor 5046 - GRAFIX SYSTEMS Total:	**2,094.38**
Vendor: 1194 - GRAINGER							
105016	10/16/2025	9661861014	10/02/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	202.72
105016	10/16/2025	9665901295	10/06/2025	PUBLIC WORKS SUPPLIES	100-94-5740	General Supplies	3.61
						Vendor 1194 - GRAINGER Total:	**206.33**

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
Vendor: 0225 - HACH COMPANY							
105017	10/16/2025	14691470	09/29/2025	WATER DEPT SUPPLIES	500-40-5721	Special Department Supplies	428.46
						Vendor 0225 - HACH COMPANY Total:	**428.46**
Vendor: 9787 - HARRINGTON INDUSTRIAL PLASTICS, LLC							
105018	10/16/2025	001IB998	09/25/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	155.42
105018	10/16/2025	001JB193	09/30/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	159.12
105018	10/16/2025	001JB195	09/30/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	301.47
						Vendor 9787 - HARRINGTON INDUSTRIAL PLASTICS, LLC Total:	**616.01**
Vendor: 8907 - HARRY & SALLY INC							
120709	10/16/2025	5695	10/04/2025	LIVESCAN FINGERPRINTS: SEP 2025	100-46-5400	Contract Services - General	198.00
						Vendor 8907 - HARRY & SALLY INC Total:	**198.00**
Vendor: 8595 - HEALTHEQUITY, INC.							
105019	10/16/2025	INV8263559	09/23/2025	FSA ADMIN FEE: SEP 2025	100-53-5273	Health Benefits	150.00
						Vendor 8595 - HEALTHEQUITY, INC. Total:	**150.00**
Vendor: 9826 - HEBER MENDOZA							
120710	10/16/2025	08112025	08/11/2025	TRAINING REIMBURSEMENT: MEALS	100-72-5320	Travel & Training	16.00
120710	10/16/2025	08222025	08/22/2025	TRAINING REIMBURSEMENT: MEALS	100-72-5320	Travel & Training	8.00
120710	10/16/2025	09082025	09/08/2025	TRAINING REIMBURSEMENT: MEALS & FUEL	100-72-5320	Travel & Training	60.04
						Vendor 9826 - HEBER MENDOZA Total:	**84.04**
Vendor: 1840 - ICREATE GRAPHIX							
120711	10/16/2025	05_9750-	08/24/2025	UNIFORMS: REC DIVISION SHIRTS	100-83-5730	Uniforms	1,045.33
						Vendor 1840 - ICREATE GRAPHIX Total:	**1,045.33**
Vendor: 8818 - INFINITY TECHNOLOGIES							
105020	10/16/2025	4440	10/08/2025	IT SVCS: SEP 2025	100-52-5440	Technology Technical Services	9,250.00
105020	10/16/2025	4440	10/08/2025	IT SVCS: SEP 2025	100-74-5440	IT Services	9,250.00
105020	10/16/2025	4441	10/08/2025	DATTO OFFICE 365: SEP 2025	100-52-5570	Software Licensing & Support	461.25
						Vendor 8818 - INFINITY TECHNOLOGIES Total:	**18,961.25**
Vendor: 9216 - iWATER INC							
120712	10/16/2025	10218	09/01/2025	INFRAMAP CLOUD SOFTWARE ADMIN 12/1/25-11/30/26	500-40-5570	Software Licensing & Support	3,000.00
120712	10/16/2025	10219	09/01/2025	INFRAMAP CLOUD SOFTWARE: ANNUAL RENEWAL	500-40-5570	Software Licensing & Support	600.00
						Vendor 9216 - iWATER INC Total:	**3,600.00**

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
Vendor: 9582 - JESSE LEE							
120713	10/16/2025	1283	09/21/2025	CITY HALL RENOVATION: POWER OUTLETS/MEDIA BOXES	400-40-5896	Facilities Capital Improvement	1,532.50
120713	10/16/2025	1285	09/22/2025	ELECTRICIAN LABOR: 8/28/25	100-92-5400	Contract Services - General	632.86
120713	10/16/2025	1286	09/22/2025	CITY HALL RENOVATION: POWER OUTLETS/MEDIA BOXES	400-40-5896	Facilities Capital Improvement	1,935.00
						Vendor 9582 - JESSE LEE Total:	**4,100.36**
Vendor: 1661 - JOE A. GONSALVES & SON							
120714	10/16/2025	162813	09/25/2025	STATE LEGISLATIVE ADVOCACY: OCT 2025	100-44-5400	Contract Services - General	4,000.00
						Vendor 1661 - JOE A. GONSALVES & SON Total:	**4,000.00**
Vendor: 8644 - JOE MAR POLYGRAPH							
120715	10/16/2025	25-016-SHPD	09/22/2025	POLYGRAPH EXAM SVCS: DISPATCH	100-74-5722	Pre-Employment Expense	250.00
120715	10/16/2025	25-017-SHPD	09/22/2025	POLYGRAPH EXAM SVCS: DISPATCH	100-74-5722	Pre-Employment Expense	250.00
						Vendor 8644 - JOE MAR POLYGRAPH Total:	**500.00**
Vendor: 4316 - JOHNSTONE SUPPLY							
120716	10/16/2025	3119323	10/02/2025	PUBLIC WORKS SUPPLIES	100-92-5740	General Supplies	56.58
						Vendor 4316 - JOHNSTONE SUPPLY Total:	**56.58**
Vendor: 9900 - KORMEX CONSTRUCTION INC							
105021	10/16/2025	002	09/30/2025	WILLOW ST MEDIAN PROJECT: SEP 2025	400-21150	Retention Payable	-8,154.10
105021	10/16/2025	002	09/30/2025	WILLOW ST MEDIAN PROJECT: SEP 2025	400-40-5894	Street Capital Improvements	70,000.00
105021	10/16/2025	002	09/30/2025	WILLOW ST MEDIAN PROJECT: SEP 2025	400-40-5894	Street Capital Improvements	93,082.00
						Vendor 9900 - KORMEX CONSTRUCTION INC Total:	**154,927.90**
Vendor: 8790 - L.N. CURTIS AND SONS							
120717	10/16/2025	INV994509	09/29/2025	UNIFORMS	100-72-5730	Uniforms	1,553.41
120717	10/16/2025	INV994552	09/29/2025	UNIFORMS	100-72-5730	Uniforms	839.61
120717	10/16/2025	INV996049	10/02/2025	UNIFORMS	100-72-5730	Uniforms	26.58
						Vendor 8790 - L.N. CURTIS AND SONS Total:	**2,419.60**
Vendor: 0655 - LA COUNTY SHERIFF'S DEPARTMENT							
120718	10/16/2025	260399BL	09/17/2025	INMATE MEAL SVCS: AUG 2025	100-75-5721	Special Department Supplies	235.20
						Vendor 0655 - LA COUNTY SHERIFF'S DEPARTMENT Total:	**235.20**
Vendor: 9466 - LBG EXPRESS CAR WASH, LLC							
120719	10/16/2025	866	08/31/2025	CITYWIDE CAR WASH: AUG 2025	601-40-5540	Vehicle Maintenance	118.00

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
120719	10/16/2025	875	09/30/2025	CITYWIDE CAR WASH: SEP 2025	601-40-5540	Vehicle Maintenance	80.00
						Vendor 9466 - LBG EXPRESS CAR WASH, LLC Total:	**198.00**
Vendor: 8720 - LIEBERT CASSIDY WHITMORE							
120720	10/16/2025	298156	06/30/2025	CONSORTIUM MEMBERSHIP: FY 25-26	100-46-5420	Professional Services	4,195.00
						Vendor 8720 - LIEBERT CASSIDY WHITMORE Total:	**4,195.00**
Vendor: 0496 - LINDE GAS & EQUIPMENT INC							
120721	10/16/2025	52178639	09/23/2025	WATER DEPT RENTAL	500-40-5552	Rental/Lease of Equipment	177.09
						Vendor 0496 - LINDE GAS & EQUIPMENT INC Total:	**177.09**
Vendor: 2902 - LONG BEACH WATER DEPARTMENT							
120722	10/16/2025	53353	06/30/2025	RESERVOIR PARK RECLAIMED WATER: 05/20 - 6/17/25	100-94-5512	Utility Services	1,674.92
						Vendor 2902 - LONG BEACH WATER DEPARTMENT Total:	**1,674.92**
Vendor: 1545 - LOOMIS							
120723	10/16/2025	13814800	09/30/2025	ARMORED CAR SVCS: OCT 2025	100-51-5435	Banking Services	216.73
120723	10/16/2025	13814800	09/30/2025	ARMORED CAR SVCS: OCT 2025	500-45-5420	Professional Services	216.73
						Vendor 1545 - LOOMIS Total:	**433.46**
Vendor: 0230 - M. HARA LAWNMOWER CENTER							
105022	10/16/2025	52054	06/27/2025	HEDGETRIMMER REPAIR	601-40-5721	Vehicle Supplies	293.21
105022	10/16/2025	52315	09/02/2025	GENERATOR	601-40-5842	Vehicles & Large Equipment	2,999.99
						Vendor 0230 - M. HARA LAWNMOWER CENTER Total:	**3,293.20**
Vendor: 9726 - MAGIC JUMP RENTALS INC							
120724	10/16/2025	430223	08/15/2025	HALLOWEEN CARNIVAL: JUMPERS	100-82-5723	Event/Program Costs	2,053.30
						Vendor 9726 - MAGIC JUMP RENTALS INC Total:	**2,053.30**
Vendor: 8821 - MARIPOSA LANDSCAPES, INC.							
105023	10/16/2025	116110	09/30/2025	CITYWIDE LANDSCAPE MAINT SVCS: SEP 2025	100-47-5400	Contract Services - General	3,230.10
105023	10/16/2025	116110	09/30/2025	CITYWIDE LANDSCAPE MAINT SVCS: SEP 2025	100-94-5530	Lawn Care Services	41,765.19
						Vendor 8821 - MARIPOSA LANDSCAPES, INC. Total:	**44,995.29**
Vendor: 9919 - MCCi, LLC							
120725	10/16/2025	RN24977	09/30/2025	LASERFICHE ANNUAL RENEWAL: FY 25-26	100-43-5631	Software Purchases	18,786.25
						Vendor 9919 - MCCi, LLC Total:	**18,786.25**
Vendor: 0498 - MEARNS CONSULTING CORP							
105024	10/16/2025	2562-1917 Junipero	09/03/2025	PROFESSIONAL SVCS: ENVIRONMENTAL CONSULTING	100-23530	Deposits-Community Develo…	610.00

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
105024	10/16/2025	2562-1917 Junipero	09/03/2025	PROFESSIONAL SVCS: ENVIRONMENTAL CONSULTING	100-23530	Deposits-Community Develo…	122.00
105024	10/16/2025	2562-1917 Junipero	09/03/2025	PROFESSIONAL SVCS: ENVIRONMENTAL CONSULTING	100-34-4600	Administrative Fee (CD)	-122.00
						Vendor 0498 - MEARNS CONSULTING CORP Total:	**610.00**
Vendor: 5673 - MEDICO PROFESSIONAL LINEN SERVICE							
105025	10/16/2025	21306149	09/24/2025	SHPD SUPPLIES	100-75-5721	Special Department Supplies	117.15
105025	10/16/2025	21314452	10/08/2025	SHPD SUPPLIES	100-75-5721	Special Department Supplies	122.98
						Vendor 5673 - MEDICO PROFESSIONAL LINEN SERVICE Total:	**240.13**
Vendor: 4862 - NAPA AUTO PARTS							
120726	10/16/2025	559094	09/16/2025	VEHICLE SUPPLIES	601-40-5721	Vehicle Supplies	45.84
120726	10/16/2025	559483	09/19/2025	CHARGING STATIONS	601-40-5840	Capital Outlay	2,677.57
						Vendor 4862 - NAPA AUTO PARTS Total:	**2,723.41**
Vendor: 0170 - OFFICE DEPOT							
105026	10/16/2025	432847930001	08/01/2025	OFFICE SUPPLIES: ADMIN	100-51-5710	Office Supplies	92.80
105026	10/16/2025	436243856001	09/04/2025	OFFICE SUPPLIES: PRL	100-82-5740	General Supplies	60.05
105026	10/16/2025	437343111001	09/26/2025	OFFICE SUPPLIES: FINANCE	100-53-5740	General Supplies	56.91
105026	10/16/2025	438042770001	08/26/2025	OFFICE SUPPLIES: PUBLIC WORKS	100-92-5740	General Supplies	177.62
105026	10/16/2025	438145850001	09/12/2025	OFFICE SUPPLIES: PD	100-76-5740	General Supplies	345.88
105026	10/16/2025	438151696001	09/12/2025	OFFICE SUPPLIES: PD	100-76-5740	General Supplies	79.53
105026	10/16/2025	438154722001	09/12/2025	OFFICE SUPPLIES: PD	100-76-5740	General Supplies	26.51
105026	10/16/2025	439482324001	09/10/2025	OFFICE SUPPLIES: PUBLIC WORKS	100-92-5740	General Supplies	98.19
105026	10/16/2025	439482324002	09/23/2025	OFFICE SUPPLIES: PUBLIC WORKS	100-92-5740	General Supplies	4.71
105026	10/16/2025	439872204001	09/19/2025	OFFICE SUPPLIES: PD	100-74-5740	General Supplies	143.52
105026	10/16/2025	441374218001	09/25/2025	OFFICE SUPPLIES: FINANCE	100-53-5740	General Supplies	93.51
DFT0015596	10/15/2025	10152025	10/15/2025	EDA WIRE: JAN - JUN 2025	100-31-4131	Contra Sales Tax Agreements	414,213.00
						Vendor 0170 - OFFICE DEPOT Total:	**415,392.23**
Vendor: 8819 - PARKWOOD LANDSCAPE MAINTENANCE, INC.							
120727	10/16/2025	110161	09/30/2025	LLMD LANDSCAPE MAINT: SEP 2025	260-40-5530	Lawn Care Services	2,611.97
						Vendor 8819 - PARKWOOD LANDSCAPE MAINTENANCE, INC. Total:	**2,611.97**
Vendor: 9411 - PERRIS FENCE & SUPPLY, INC							
120728	10/16/2025	22635	09/17/2025	PUBLIC WORKS SUPPLIES	100-95-5740	General Supplies	969.63
						Vendor 9411 - PERRIS FENCE & SUPPLY, INC Total:	**969.63**

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
Vendor: 1236 - PLATT SECURITY SYSTEMS INC							
105027	10/16/2025	49018	10/01/2025	ALARM MONITORING: 11/1/25 - 01/31/26	100-92-5400	Contract Services - General	165.00
						Vendor 1236 - PLATT SECURITY SYSTEMS INC Total:	**165.00**
Vendor: 9362 - PRINTMASTERS, INC							
120729	10/16/2025	72006	09/23/2025	CERTIFICATE SUPPLIES	100-51-5710	Office Supplies	936.72
						Vendor 9362 - PRINTMASTERS, INC Total:	**936.72**
Vendor: 1841 - PROJECT PARTNERS INC							
120730	10/16/2025	12806-A	08/07/2025	WATER QUALITY COORDINATOR SVCS: JUL 2025	500-40-5423	Engineering Services	2,695.00
120730	10/16/2025	28259-A	09/04/2025	WATER QUALITY COORDINATOR SVCS: AUG 2025	500-40-5423	Engineering Services	3,740.00
120730	10/16/2025	28302	10/06/2025	WATER QUALITY COORDINATOR SVCS: SEP 2025	500-40-5423	Engineering Services	2,805.00
						Vendor 1841 - PROJECT PARTNERS INC Total:	**9,240.00**
Vendor: 9364 - REBECCA LOPEZ							
120731	10/16/2025	09182025	09/18/2025	TRAINING REIMBURSEMENT: CONFERENCE EXPENSES	100-77-5320	Travel & Training	284.19
						Vendor 9364 - REBECCA LOPEZ Total:	**284.19**
Vendor: 5033 - RIO HONDO COLLEGE							
120732	10/16/2025	F25-FF-ZSGH	09/23/2025	ENROLLMENT FEES	100-72-5320	Travel & Training	25.00
120732	10/16/2025	F25-FF-ZSGH	09/23/2025	ENROLLMENT FEES	100-73-5320	Travel & Training	25.00
						Vendor 5033 - RIO HONDO COLLEGE Total:	**50.00**
Vendor: 1377 - ROADLINE PRODUCTS							
120733	10/16/2025	21836	08/20/2025	PUBLIC WORKS SUPPLIES	100-95-5740	General Supplies	359.93
120733	10/16/2025	21932	09/09/2025	PUBLIC WORKS SUPPLIES	100-95-5740	General Supplies	801.40
120733	10/16/2025	21975	09/17/2025	PUBLIC WORKS SUPPLIES	100-95-5740	General Supplies	2,465.48
						Vendor 1377 - ROADLINE PRODUCTS Total:	**3,626.81**
Vendor: 1884 - ROBERT COPELAND							
120734	10/16/2025	09152025	09/15/2025	CELL PHONE REIMBURSEMENT: THRU 9/24/25	100-41-5511	Telephone	614.62
						Vendor 1884 - ROBERT COPELAND Total:	**614.62**
Vendor: 1554 - ROBERTSON'S READY MIX, LTD							
120735	10/16/2025	731106	10/01/2025	PUBLIC WORKS SUPPLIES	100-95-5740	General Supplies	1,168.49
						Vendor 1554 - ROBERTSON'S READY MIX, LTD Total:	**1,168.49**
Vendor: 0992 - RUSSELL ROBINETT							
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	958.00
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	1,313.42

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	22,233.33
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	6,125.08
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	956.83
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	955.25
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	716.42
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	671.67
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	642.33
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	3,681.67
105028	10/16/2025	10162025	10/16/2025	RENT PAYMENTS: NOV 2025	100-47-5551	Rental of Land & Buildings Exp	3,441.67
						Vendor 0992 - RUSSELL ROBINETT Total:	**41,695.67**
Vendor: 5677 - SHOETERIA							
120736	10/16/2025	0091975-IN	09/19/2025	BOOTS	100-92-5730	Uniforms	286.45
						Vendor 5677 - SHOETERIA Total:	**286.45**
Vendor: 0446 - SIGNAL HILL EMPLOYEES ASSOC							
105042	10/23/2025	INV0015686	10/23/2025	Signal Hill Employees Assn	100-21555	SHEA Union Dues Deductions...	922.50
						Vendor 0446 - SIGNAL HILL EMPLOYEES ASSOC Total:	**922.50**
Vendor: 3048 - SIGNAL HILL PETTY CASH							
120737	10/16/2025	10092025	10/09/2025	PETTY CASH: HALLOWEEN CARNIVAL 2025	100-10400	Petty Cash	500.00
						Vendor 3048 - SIGNAL HILL PETTY CASH Total:	**500.00**
Vendor: 0447 - SIGNAL HILL POLICE OFFICERS							
105043	10/23/2025	INV0015683	10/23/2025	Police Officer Assn Dues	100-21550	POA Union Dues Deductions ...	1,656.00
						Vendor 0447 - SIGNAL HILL POLICE OFFICERS Total:	**1,656.00**
Vendor: 4432 - SIGNAL HILL,CITY OF							
105044	10/23/2025	INV0015654	10/23/2025	Child Care	100-21538	Flex Spending Payable	312.50
105044	10/23/2025	INV0015655	10/23/2025	Flex Spending	100-21538	Flex Spending Payable	989.98
						Vendor 4432 - SIGNAL HILL,CITY OF Total:	**1,302.48**
Vendor: 5191 - SONICLEAR TRIO SYSTEMS LLC							
105029	10/16/2025	75508	10/01/2025	ANNUAL SOFTWARE RENEWAL: 11/6/25 - 11/5/26	100-43-5400	Contract Services - General	653.06
						Vendor 5191 - SONICLEAR TRIO SYSTEMS LLC Total:	**653.06**
Vendor: 1761 - SONSRAY MACHINERY LLC							
120738	10/16/2025	SWO079065-1	08/29/2025	VEHICLE SERVICE	601-40-5540	Vehicle Maintenance	1,113.12
						Vendor 1761 - SONSRAY MACHINERY LLC Total:	**1,113.12**
Vendor: 0464 - SOUTHERN CALIFORNIA EDISON							
DFT0015625	10/14/2025	5614-093025	09/30/2025	ELECTRIC SVCS: SEP 2025	100-92-5512	Utility Services	6,943.72
DFT0015626	10/14/2025	1820-092925	09/29/2025	ELECTRIC SVCS: SEP 2025	100-47-5512	Utility Services	2,839.58
DFT0015627	10/14/2025	1487-100125	10/01/2025	ELECTRIC SVCS: SEP 2025	100-92-5512	Utility Services	12,348.67
DFT0015628	10/14/2025	1222-093025	09/30/2025	ELECTRIC SVCS: SEP 2025	500-40-5512	Utility Services	3,202.37
DFT0015629	10/14/2025	9189-100125	10/01/2025	ELECTRIC SVCS: SEP 2025	100-95-5510	Electricity	871.50

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
DFT0015630	10/14/2025	6288-100125	10/01/2025	ELECTRIC SVCS: SEP 2025	100-95-5510	Electricity	29.10
						Vendor 0464 - SOUTHERN CALIFORNIA EDISON Total:	**26,234.94**
Vendor: 9323 - SOUTHERN TIRE MART LLC							
120739	10/16/2025	7100048409	09/30/2025	TIRE DISPOSAL	601-40-5750	Gasoline, Oil, & Tires	700.00
						Vendor 9323 - SOUTHERN TIRE MART LLC Total:	**700.00**
Vendor: 5718 - State of California Franchise Tax Board							
DFT0015710	10/23/2025	INV0015653	10/23/2025	CASE#604053007 Franchise Tax Board	100-21590	Other Deductions Payable	326.12
						Vendor 5718 - State of California Franchise Tax Board Total:	**326.12**
Vendor: 3130 - STEAMX LLC							
105030	10/16/2025	73623	09/30/2025	FLEET DEPT SUPPLIES	601-40-5721	Vehicle Supplies	913.96
						Vendor 3130 - STEAMX LLC Total:	**913.96**
Vendor: 5227 - STUDIO SPECTRUM							
105031	10/16/2025	193195	10/01/2025	CITY COUNCIL PRODUCTION SVCS: SEP 2025	100-43-5400	Contract Services - General	1,500.00
						Vendor 5227 - STUDIO SPECTRUM Total:	**1,500.00**
Vendor: 9125 - SUNBELT RENTALS INC							
120740	10/16/2025	173282640-0001	09/02/2025	WATER DEPT EQUIPMENT RENTAL	500-40-5552	Rental/Lease of Equipment	1,457.76
120740	10/16/2025	173668162-0001	09/04/2025	WATER DEPT SUPPLIES	500-40-5552	Rental/Lease of Equipment	1,457.76
						Vendor 9125 - SUNBELT RENTALS INC Total:	**2,915.52**
Vendor: 0554 - SUSAN SAXE-CLIFFORD PH.D							
120741	10/16/2025	25-0925-8	09/25/2025	PSYCH EVAL: PO	100-74-5722	Pre-Employment Expense	450.00
						Vendor 0554 - SUSAN SAXE-CLIFFORD PH.D Total:	**450.00**
Vendor: 9636 - SVA ARCHITECTS, INC							
105032	10/16/2025	63932	08/31/2025	PROFESSIONAL SVCS: AMPHITHEATER PROJECT	400-40-5896	Facilities Capital Improvement	49,854.42
						Vendor 9636 - SVA ARCHITECTS, INC Total:	**49,854.42**
Vendor: 8702 - THAT SOUND GUY							
120742	10/16/2025	0371.5	10/08/2025	HALLOWEEN CARNIVAL: SOUND	100-82-5723	Event/Program Costs	1,200.00
						Vendor 8702 - THAT SOUND GUY Total:	**1,200.00**
Vendor: 9346 - THE JAMES WORKSHOP							
120743	10/16/2025	2025-120638	10/02/2025	YOUTH SPORTS BANNER	100-83-5723	Event/Program Costs	221.82
						Vendor 9346 - THE JAMES WORKSHOP Total:	**221.82**
Vendor: 8859 - TLC LUXURY TRANSPORTATION							
105033	10/16/2025	125047	07/21/2025	YOUTH EXCURSION: SUMMER CAMP 7/17/25	202-40-5670	Recreational Transit	900.00
105033	10/16/2025	125455	09/23/2025	STATE OF THE CITY SHUTTLE	100-41-5330	Meetings	1,990.00
105033	10/16/2025	125469	09/24/2025	YOUTH EXCURSION: SUMMER CAMP 9/12/25	202-40-5670	Recreational Transit	1,300.00

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
105033	10/16/2025	125596	09/30/2025	YOUTH EXCURSION: SUMMER CAMP 9/24/25	202-40-5670	Recreational Transit	1,300.00
						Vendor 8859 - TLC LUXURY TRANSPORTATION Total:	**5,490.00**
Vendor: 1723 - TRAFFIC MANAGEMENT INC							
120744	10/16/2025	06-118738	09/30/2025	PUBLIC WORKS SUPPLIES	100-95-5740	General Supplies	229.00
						Vendor 1723 - TRAFFIC MANAGEMENT INC Total:	**229.00**
Vendor: 5621 - TYLER TECHNOLOGIES							
120745	10/16/2025	025-531604	09/30/2025	ADDT'L MRI METER READING: SEP 2025	500-45-5570	Software Licensing & Support	145.00
						Vendor 5621 - TYLER TECHNOLOGIES Total:	**145.00**
Vendor: 1088 - U.S. ARMOR CORPORATION							
105034	10/16/2025	51005	10/03/2025	UNIFORMS	100-72-5730	Uniforms	1,005.61
						Vendor 1088 - U.S. ARMOR CORPORATION Total:	**1,005.61**
Vendor: 0801 - U.S. BANK - PARS							
105045	10/23/2025	INV0015664	10/23/2025	PARS Contributions	100-21514	Part-time Employee PARS Pa...	1,808.86
						Vendor 0801 - U.S. BANK - PARS Total:	**1,808.86**
Vendor: 0497 - UNDERGROUND SERVICE ALERT							
120746	10/16/2025	25-261141	10/01/2025	CA STATE REGULATORY COSTS: OCT 2025	500-40-5400	Contract Services - General	54.59
120746	10/16/2025	920250701	10/01/2025	MONTHLY DATABASE MAINT: OCT 2025	500-40-5400	Contract Services - General	110.00
						Vendor 0497 - UNDERGROUND SERVICE ALERT Total:	**164.59**
Vendor: 0237 - UNIVERSITY TROPHIES							
105035	10/16/2025	72919	10/07/2025	ENGRAVING SVCS	100-74-5740	General Supplies	25.00
						Vendor 0237 - UNIVERSITY TROPHIES Total:	**25.00**
Vendor: 8417 - URSULA R PASCUA							
120747	10/16/2025	PY-032026	10/03/2025	LIBRARY PROGRAM: MINDFULNESS WORKSHOP	100-81-5723	Event/Program Costs	125.00
						Vendor 8417 - URSULA R PASCUA Total:	**125.00**
Vendor: 5452 - US TREASURY							
DFT0015636	10/23/2025	CM0000280	10/23/2025	Medicare	100-21511	Medicare Taxes Payable	-72.99
DFT0015638	10/23/2025	CM0000282	10/23/2025	Federal Income Tax Withholding	100-21512	US Withholding Taxes Payable	-166.07
DFT0015639	10/23/2025	INV0015618	10/23/2025	Social Security	100-21510	FICA Taxes Payable	926.84
DFT0015640	10/23/2025	INV0015619	10/23/2025	Medicare	100-21511	Medicare Taxes Payable	216.76
DFT0015642	10/23/2025	INV0015621	10/23/2025	Federal Income Tax Withholding	100-21512	US Withholding Taxes Payable	961.15
DFT0015702	10/23/2025	INV0015691	10/23/2025	Social Security	100-21510	FICA Taxes Payable	31,931.26
DFT0015703	10/23/2025	INV0015692	10/23/2025	Medicare	100-21511	Medicare Taxes Payable	15,975.92
DFT0015705	10/23/2025	INV0015694	10/23/2025	Federal Income Tax Withholding	100-21512	US Withholding Taxes Payable	61,143.95
						Vendor 5452 - US TREASURY Total:	**110,916.82**

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
Vendor: 4842 - USA BLUEBOOK							
120748	10/16/2025	INV00723739	05/29/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	1,914.17
120748	10/16/2025	INV00723774	05/29/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	401.20
120748	10/16/2025	INV00723850	05/29/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	28.68
120748	10/16/2025	INV00728568	06/03/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	1,824.50
120748	10/16/2025	INV00728684	06/03/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	643.50
120748	10/16/2025	INV00839000	09/25/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	424.93
120748	10/16/2025	INV00839069	09/25/2025	WATER DEPT SUPPLIES	500-40-5740	General Supplies	1,997.65
						Vendor 4842 - USA BLUEBOOK Total:	**7,234.63**
Vendor: 8896 - VITAL RECORDS CONTROL							
105036	10/16/2025	5458041	09/30/2025	OFFSITE STORAGE SVCS: OCT 2025	100-43-5420	Professional Services	281.92
						Vendor 8896 - VITAL RECORDS CONTROL Total:	**281.92**
Vendor: 1393 - VORTEX INDUSTRIES INC							
120749	10/16/2025	07-2066752	07/31/2025	REPAIR PEDESTRIAN DOORS: CITY YARD OFFICE	100-92-5830	Furniture and Fixtures	10,675.30
						Vendor 1393 - VORTEX INDUSTRIES INC Total:	**10,675.30**
Vendor: 5703 - VOYA 401A PLAN 664281							
DFT0015643	10/23/2025	INV0015622	10/23/2025	401A	100-21570	Deferred Compensation Ded...	1,180.68
DFT0015644	10/23/2025	INV0015623	10/23/2025	401A%	100-21570	Deferred Compensation Ded...	1,313.45
						Vendor 5703 - VOYA 401A PLAN 664281 Total:	**2,494.13**
Vendor: 5704 - VOYA 457 PLAN 664280							
DFT0015645	10/23/2025	INV0015624	10/23/2025	457	100-21570	Deferred Compensation Ded...	2,147.35
DFT0015646	10/23/2025	INV0015625	10/23/2025	457	100-21570	Deferred Compensation Ded...	10,280.70
DFT0015647	10/23/2025	INV0015626	10/23/2025	457 Benefit	100-21570	Deferred Compensation Ded...	2,947.20
DFT0015647	10/23/2025	INV0015626	10/23/2025	457 Benefit	100-21570	Deferred Compensation Ded...	6,332.35
DFT0015648	10/23/2025	INV0015627	10/23/2025	457	100-21570	Deferred Compensation Ded...	500.00
DFT0015649	10/23/2025	INV0015628	10/23/2025	457 ROTH	100-21570	Deferred Compensation Ded...	1,230.00
						Vendor 5704 - VOYA 457 PLAN 664280 Total:	**23,437.60**
Vendor: 1110 - W.G. ZIMMERMAN ENGINEERING INC.							
105037	10/16/2025	25-08-843	09/09/2025	ON CALL SVCS FY 25-26: AUG 2025	100-91-5400	Contract Services - General	2,247.50
105037	10/16/2025	25-08-844	09/09/2025	ON CALL SVCS FY 25-26: METRO	400-40-5894	Street Capital Improvements	1,462.50
						Vendor 1110 - W.G. ZIMMERMAN ENGINEERING INC. Total:	**3,710.00**
Vendor: 5161 - WECK LABORATORIES							
120750	10/16/2025	W5I1558	09/24/2025	WATER ANALYSIS	500-40-5400	Contract Services - General	501.00
120750	10/16/2025	W5I1559	09/24/2025	WATER ANALYSIS	500-40-5400	Contract Services - General	255.00
120750	10/16/2025	W5J0043	10/01/2025	WATER ANALYSIS	500-40-5400	Contract Services - General	375.00
120750	10/16/2025	W5J0044	10/01/2025	WATER ANALYSIS	500-40-5400	Contract Services - General	30.00
						Vendor 5161 - WECK LABORATORIES Total:	**1,161.00**

Payment Number	Payment Date	Payable Number	Payable Date	Description (Payable)	Account Number	Account Name	Amount
Vendor: 0010 - WEST COAST ARBORISTS INC							
105038	10/16/2025	1-11513	09/22/2025	TREE INSPECTIONS	260-40-5400	Contract Services - General	1,230.00
105038	10/16/2025	233031	08/15/2025	TREE TRIMMING: 08/01 - 08/15/25	100-95-5531	Arborist Services	7,836.50
105038	10/16/2025	233219	08/31/2025	TREE TRIMMING: 08/16 - 08/31/25	100-95-5531	Arborist Services	719.55
105038	10/16/2025	234245	09/15/2025	TREE TRIMMING: 09/01 - 09/15/25	100-95-5531	Arborist Services	5,904.00
						Vendor 0010 - WEST COAST ARBORISTS INC Total:	**15,690.05**
Vendor: 5530 - YARY PHOTOGRAPHY							
120751	10/16/2025	12765R	09/04/2025	DEPARTMENT PHOTOS	100-74-5400	Contract Services - General	425.00
						Vendor 5530 - YARY PHOTOGRAPHY Total:	**425.00**
Vendor: 8846 - ZONES, LLC							
105039	10/16/2025	K31660450101	10/01/2025	GOV ACROBAT PRO - ANNUAL SUBSCRIPTION	100-52-5725	Software	1,985.20
						Vendor 8846 - ZONES, LLC Total:	**1,985.20**
						Grand Total:	**2,304,902.92**

Report Summary

Fund Summary

Fund	Payment Amount
100 - General Fund	1,819,651.11
202 - Transportation	5,326.40
260 - Lighting and Landscape	5,170.99
275 - OTS Grant	1,200.00
400 - Capital Improvement	233,206.27
500 - Water Operations Fund	223,268.92
601 - Vehicle and Equipment	17,079.23
Grand Total:	**2,304,902.92**

Account Summary

Account Number	Account Name	Payment Amount
100-10400	Petty Cash	500.00
100-13001	Accrued Accounts Recei…	798.36
100-21050	Accrued Liabilities Payab…	10.00
100-21510	FICA Taxes Payable	32,858.10
100-21511	Medicare Taxes Payable	16,119.69
100-21512	US Withholding Taxes Pa…	61,939.03
100-21513	State Withholding Taxes…	24,598.79
100-21514	Part-time Employee PAR…	1,808.86
100-21520	PERS - City Paid	93,906.41
100-21525	OPEB Employee Paid W/…	6,844.00
100-21538	Flex Spending Payable	1,302.48
100-21550	POA Union Dues Deduct…	1,656.00
100-21555	SHEA Union Dues Deduct..	922.50
100-21570	Deferred Compensation…	25,931.73
100-21590	Other Deductions Payab…	326.12
100-23530	Deposits-Community De…	732.00
100-24202	Building Standards Com…	192.00
100-31-4131	Contra Sales Tax Agree…	1,151,953.00
100-34-4600	Administrative Fee (CD)	-122.00
100-41-5330	Meetings	1,990.00
100-41-5511	Telephone	614.62
100-43-5400	Contract Services - Gene…	2,653.06
100-43-5420	Professional Services	281.92
100-43-5631	Software Purchases	18,786.25
100-44-5400	Contract Services - Gene…	4,000.00
100-46-5400	Contract Services - Gene…	872.00
100-46-5420	Professional Services	4,195.00
100-47-5400	Contract Services - Gene…	3,230.10
100-47-5512	Utility Services	2,869.20

Account Summary

Account Number	Account Name	Payment Amount
100-47-5551	Rental of Land & Buildin…	41,695.67
100-47-5740	General Supplies	2,007.38
100-51-5230	Retirement Contributions	-0.09
100-51-5435	Banking Services	216.73
100-51-5511	Telephone/Internet	6,443.71
100-51-5552	Rental/Lease of Equipm…	7.33
100-51-5710	Office Supplies	1,029.52
100-52-5440	Technology Technical Se…	9,250.00
100-52-5570	Software Licensing & Su…	461.25
100-52-5725	Software	1,985.20
100-53-5273	Health Benefits	150.00
100-53-5740	General Supplies	313.96
100-72-5320	Travel & Training	109.04
100-72-5400	Contract Services - Gene…	4,409.60
100-72-5730	Uniforms	3,425.21
100-73-5320	Travel & Training	25.00
100-74-5400	Contract Services - Gene…	12,282.20
100-74-5440	IT Services	9,250.00
100-74-5511	Telephone	1,241.74
100-74-5540	Vehicle Maintenance	136.00
100-74-5722	Pre-Employment Expense	950.00
100-74-5740	General Supplies	168.52
100-75-5320	Travel & Training	69.00
100-75-5552	Rental of Equipment & V…	5,590.95
100-75-5570	Software Licensing & Su…	69,500.00
100-75-5721	Special Department Supp..	475.33
100-76-5740	General Supplies	451.92
100-77-5320	Travel & Training	284.19
100-81-5721	Special Department Supp..	1,310.31
100-81-5723	Event/Program Costs	525.00
100-82-5723	Event/Program Costs	4,403.30
100-82-5740	General Supplies	60.05
100-83-5723	Event/Program Costs	221.82
100-83-5730	Uniforms	1,045.33
100-91-5400	Contract Services - Gene…	2,247.50
100-92-5400	Contract Services - Gene…	797.86
100-92-5512	Utility Services	28,510.20
100-92-5730	Uniforms	480.34
100-92-5740	General Supplies	2,293.05
100-92-5830	Furniture and Fixtures	10,675.30
100-93-5400	Contract Services - Gene…	912.76
100-93-5525	Street Sweeping Services	26,237.25

Account Summary

Account Number	Account Name	Payment Amount
100-94-5400	Contract Services - Gene…	910.00
100-94-5512	Utility Services	32,641.07
100-94-5530	Lawn Care Services	41,765.19
100-94-5740	General Supplies	127.51
100-95-5320	Travel & Training	25.00
100-95-5400	Contract Services - Gene…	8,050.64
100-95-5510	Electricity	900.60
100-95-5512	Utility Services	30.00
100-95-5531	Arborist Services	14,460.05
100-95-5740	General Supplies	7,322.40
202-40-5400	Contract Services - Gene…	1,826.40
202-40-5670	Recreational Transit	3,500.00
260-40-5400	Contract Services - Gene…	1,230.00
260-40-5512	Utility Services	1,329.02
260-40-5530	Lawn Care Services	2,611.97
275-40-5740	General Supplies	1,200.00
400-21150	Retention Payable	-9,291.42
400-40-5894	Street Capital Improvem…	187,290.97
400-40-5896	Facilities Capital Improv…	55,206.72
500-40-5310	Dues & Memberships	1,121.66
500-40-5400	Contract Services - Gene…	38,530.40
500-40-5423	Engineering Services	9,240.00
500-40-5511	Telephone/Data	3,686.60
500-40-5512	Utility Services	4,705.90
500-40-5552	Rental/Lease of Equipm…	3,092.61
500-40-5570	Software Licensing & Su…	3,600.00
500-40-5721	Special Department Supp..	428.46
500-40-5740	General Supplies	9,049.03
500-40-5780	Water Supply Costs	149,452.53
500-45-5420	Professional Services	216.73
500-45-5570	Software Licensing & Su…	145.00
601-21150	Retention Payable	-856.92
601-40-5400	Contract Services - Gene…	655.00
601-40-5540	Vehicle Maintenance	1,311.12
601-40-5721	Vehicle Supplies	1,437.82
601-40-5740	General Supplies	327.87
601-40-5750	Gasoline, Oil, & Tires	700.00
601-40-5840	Capital Outlay	9,609.97
601-40-5842	Vehicles & Large Equipm…	3,894.37
	Grand Total:	**2,304,902.92**

Project Account Summary

Project Account Key	Payment Amount
None	2,043,543.77
6232	732.00
804	4,403.30
806	221.82
90.19004.CIPR.113	5,352.30
90.22008.TIF.233	1,462.50
90.24013.CIPG.240	49,854.42
90.25011	9,609.97
90.26003.RMRA.238	22,746.47
90.26006.CIPG.240	70,000.00
90.26006.CIPR.113	93,082.00
V-25001	22.46
V-26002	871.92
V-26010	2,999.99
Grand Total:	**2,304,902.92**

Authorization Signatures

STAFF REPORT

Verify accuracy of the Warrant Register.

Dated

Finance Director

City Manager

City of Signal Hill

Refund Check Register

Refund Check Detail

UBPKT02929 - Refunds 10/1/25 1 UBPKT02927 Regular

Account	Name	Date	Check #	Amount	Code	Receipt	Amount	Type
103-01405-03		10/16/2025	120676	15.11			15.11	Generated From Billing
103-03303-09		10/16/2025	120677	11.94			11.94	Generated From Billing
105-01490-03		10/16/2025	120678	46.90			46.90	Generated From Billing
106-01052-02		10/16/2025	120679	29.80			29.80	Generated From Billing
109-01844-03		10/16/2025	120680	26.96			26.96	Generated From Billing
113-03559-02		10/16/2025	120681	30.02			30.02	Generated From Billing
113-03749-13		10/16/2025	120682	189.98			189.98	Generated From Billing
120-51025-00		10/16/2025	120683	1,457.12			1457.12	Generated From Billing
Total Refunds: 8			**Total Refunded Amount:**	1,807.83				

Revenue Code Summary

Revenue Code	Amount
996 - UNAPPLIED CREDITS / REFUNDS	1807.83
Revenue Total:	1807.83

General Ledger Distribution

Posting Date: 09/25/2025

	Account Number	Account Name	Posting Amount	IFT
Fund: 500 - Water Operations Fund				
	500-10100	Cash - Combined Fund	-1,807.83	Yes
	500-13001	Customer Accounts Receivable	1,807.83	
		500 Total:	0.00	
Fund: 990 - Combined Cash Fund				
	990-10201	Wells Fargo - General Account	-1,807.83	
	990-24100	Due To Other Funds	1,807.83	Yes
		990 Total:	0.00	
		Distribution Total:	0.00	

2175 Cherry Avenue • Signal Hill, California 90755-3799

CITY OF SIGNAL HILL

STAFF REPORT

11/13/2025

AGENDA ITEM

TO: **HONORABLE MAYOR**
AND MEMBERS OF THE CITY COUNCIL

FROM: **CARLO TOMAINO**
CITY MANAGER

SUBJECT:

APPROVAL OF MEETING MINUTES

Summary:

Regular Meeting of October 28, 2025.

Strategic Plan Goal(s):

Goal No. 5. High-Functioning Government: Strengthen internal communication, recruitment, retention, systems, and processes to increase the effectiveness and efficiency of City services.

Recommendation:

Approve the meeting minutes.

CITY OF SIGNAL HILL

2175 Cherry Avenue • Signal Hill, California 90755-3799

MINUTES OF A REGULAR MEETING
SIGNAL HILL CITY COUNCIL
October 28, 2025

A Regular Meeting of the Signal Hill City Council was held in-person in the Council Chamber on October 28, 2025.

(1) CALL TO ORDER – 6:30 P.M.

(2) ROLL CALL

PRESENT: MAYOR KEIR JONES
COUNCIL MEMBER ROBERT COPELAND
COUNCIL MEMBER CHARLIE HONEYCUTT
COUNCIL MEMBER LORI WOODS

ABSENT: NONE

LATE ARRIVAL: VICE MAYOR TINA HANSEN

(3) CLOSED SESSION

a. A CLOSED SESSION WILL BE HELD PURSUANT TO GOVERNMENT CODE SECTION 54956.8.

CONFERENCE WITH REAL PROPERTY NEGOTIATORS

PROPERTY: APPROXIMATELY 1.6 ACRES OF CITY-OWNED, INDUSTRIAL OPEN SPACE ADJACENT TO I-405 FREEWAY; APN: 7212-001-933.

AGENCY NEGOTIATORS: MAYOR AND CITY MANAGER.

NEGOTIATING PARTIES: CITY OF SIGNAL HILL; CLEAR CHANNEL OUTDOOR HOLDINGS, INCORPORATED; AND THEIR AUTHORIZED AGENTS OR REPRESENTATIVES.

UNDER NEGOTIATION: PRICE AND TERMS OF PAYMENT.

(4) PUBLIC BUSINESS FROM THE FLOOR ON CLOSED SESSION ITEMS

There was no public business from the floor.

(5) RECESSED TO CLOSED SESSION at 6:31 P.M.

It was moved by COUNCIL MEMBER COPELAND and seconded by COUNCIL MEMBER WOODS to recess to Closed Session.

Vice Mayor Hansen arrived at 6:40 p.m.

(6) RECONVENED REGULAR MEETING – 7:03 P.M.

Mayor Jones reconvened the meeting and led the audience in the Pledge of Allegiance.

(7) PLEDGE OF ALLEGIANCE

(8) CLOSED SESSION REPORT

The City Attorney reported on the closed session item; there was no reportable action taken.

(9) PUBLIC BUSINESS FROM THE FLOOR ON ITEMS NOT LISTED ON THE AGENDA

Signal Hill residents Lou Rosen and Sheila Estrada; Long Beach residents Nicole Ferris, Laura, M, Melanie Sinclair, and Ana Espinoza; and Lakewood resident Jennifer spoke about ongoing immigration activity in the City of Signal Hill.

(10) PRESENTATIONS

a. THE CITY OF LONG BEACH, LONG BEACH ANIMAL CARE SERVICES STAFF WILL INTRODUCE A PET AVAILABLE FOR ADOPTION.

Item 10a was pulled from the agenda and not heard.

b. THE CITY OF SIGNAL HILL AND JKA WERE RECOGNIZED BY THE AMERICAN PLANNING ASSOCIATION CALIFORNIA CHAPTER FOR URBAN DESIGN FOR THE CIVIC CENTER MASTER PLAN. JKA ACCEPTED THE AWARD AND REPRESENTED THE CITY AT THE ANNUAL CONFERENCE IN SEPTEMBER. JKA WILL PRESENT THE CITY WITH THE AWARD.

John Kaliski, JKA, presented the American Planning Association California Chapter for Urban Design award to the City for the Civic Center Master Plan.

c. CITY LIBRARIAN CHARLES HUGHES WILL PROVIDE A PRESENTATION ABOUT SCHEDULED PROGRAMMING TO COMMEMORATE INTERNATIONAL MEN'S DAY.

City Librarian Charles Hughes presented agenda item 10c.

d. MAYOR KEIR JONES WILL PRESENT A PROCLAMATION TO COLLEEN T. DOAN, COMMUNITY DEVELOPMENT DIRECTOR, IN RECOGNITION OF HER RETIREMENT AND 13 YEARS OF SERVICE AND DEDICATION TO THE CITY OF SIGNAL HILL.

Mayor Jones presented agenda item 10d.

(11) CITY MANAGER REPORTS

a. ADOPT A RESOLUTION DESIGNATING THE COMMUNITY ROOM OF THE SIGNAL HILL PUBLIC LIBRARY AS THE LOCATION OF MEETINGS FOR THE CITY COUNCIL AND OTHER LEGISLATIVE BODIES TEMPORARILY DURING REMODELING OF CITY HALL

City Manager Carlo Tomaino provided a presentation on this item. It was moved by COUNCIL MEMBER WOODS and seconded by COUNCIL MEMBER COPELAND to:

Adopt Resolution No. 2025-10-6907, entitled:

A RESOLUTION OF THE CITY OF SIGNAL HILL, CALIFORNIA, TO DESIGNATE THE COMMUNITY ROOM OF THE SIGNAL HILL PUBLIC LIBRARY AS THE LOCATION OF MEETINGS FOR THE CITY COUNCIL AND OTHER LEGISLATIVE BODIES TEMPORARILY DURING REMODELING OF CITY HALL.

The following vote resulted:

AYES:	MAYOR JONES VICE MAYOR HANSEN COUNCIL MEMBER COPELAND COUNCIL MEMBER HONEYCUTT COUNCIL MEMBER WOODS
NOES:	NONE
ABSENT:	NONE
ABSTAIN:	NONE

b. OPPORTUNITY STUDY AREAS PROJECT UPDATE

City Manager Carlo Tomaino; Suzanne Schwab, Associate Principal with PlaceWorks; and City Attorney Matthew Richardson provided a presentation on this item and the City Council discussed various components of the Oppoortunity Study Areas project, including Planning Commission involvement, similar projects in other cities, resources that may be impacted by the project, potential financial incentives and processes needed to pursue and/or implement the options, and names for Opportunity Study Area 1.

It was moved by COUNCIL MEMBER HONEYCUTT and seconded by VICE MAYOR HANSEN to:

1. Advance preparation of zoning code amendments to establish the three Opportunity Study Area overlay zones consistent with the land use scenarios approved by the City Council and return with a draft Ordinance effectuating the proposed amendments.

2. Issue a Request for Proposals to initiate preparation of a program-level California Environmental Quality Act (CEQA) document to evaluate the proposed overlay zones and streamline future environmental review for development consistent with the Opportunity Study Area framework.

3. Initiate discussions with the County of Los Angeles regarding the potential formation of an Enhanced Infrastructure Financing District (EIFD) focused on Opportunity Study Area 1 and report back to the City Council with an update.

4. Engage with the Governor's Office of Business and Economic Development (GO-Biz) and the United States Department of the Treasury to assess eligibility and pursue Federal Economic Opportunity Zone (OZ) designation for Census Tract 06037573401 (5734.01) within Opportunity Study Area 1 as part of the upcoming Round 2 nomination cycle.

5. Provide direction regarding proposed branding opportunities for the Opportunity Study Areas and return to the City Council with a plan to brand and promote these areas to future developers.

The following vote resulted:

AYES:	MAYOR JONES VICE MAYOR HANSEN COUNCIL MEMBER COPELAND COUNCIL MEMBER HONEYCUTT COUNCIL MEMBER WOODS
NOES:	NONE
ABSENT:	NONE
ABSTAIN:	NONE

(12) CONSENT CALENDAR

a. THIRD AMENDMENT TO THE MEMORANDUM OF UNDERSTANDING BETWEEN THE LOS ANGELES GATEWAY REGION INTEGRATED REGIONAL WATER MANAGEMENT JOINT POWERS AUTHORITY AND THE CITY OF SIGNAL HILL FOR THE LOWER LOS ANGELES RIVER WATERSHED

b. RESOLUTION AUTHORIZING STAFF TO FILE APPLICATIONS FOR GRANT FUNDS FROM THE LOS ANGELES COUNTY REGIONAL PARK AND OPEN SPACE DISTRICT FOR MEASURE A PROJECTS AND PROGRAMS

c. CONTRACT AMENDMENT REGISTER DATED OCTOBER 28, 2025

d. WARRANT REGISTER PRESENTED OCTOBER 28, 2025

e. APPROVAL OF MEETING MINUTES

It was moved by COUNCIL MEMBER WOODS and seconded by COUNCIL MEMBER COPELAND to approve the Consent Calendar.

The following vote resulted:

AYES:	MAYOR JONES VICE MAYOR HANSEN COUNCIL MEMBER COPELAND COUNCIL MEMBER HONEYCUTT COUNCIL MEMBER WOODS
NOES:	NONE
ABSENT:	NONE
ABSTAIN:	NONE

(13) COUNCIL AGENDA--NEW BUSINESS

Council Member Woods shared that there is a PCH Long Beach Bike Project Public Workshop on Wednesday, October 29. Council Member Woods also shared that Calvary Chapel Signal Hill is hosting a family event on Friday, October 31.

Council Member Honeycutt thanked staff for coordinating the Well 10 ribbon cutting and Halloween carnival. He said both were excellent events. Council Member Honeycutt also expressed concern about recreational use of Hill Street between Temple Avenue and Obispo Avenue that he witnessed over the weekend; the concern being safety for all.

Council Member Copeland reported that there was a recent case of West Nile Virus found in a mosquito in Signal Hill. Council Member Copeland asked if staff received notification of this and suggested sharing the information on the City's website. He also indicated that signage was posted in the area about the case.

It was moved by VICE MAYOR HANSEN and seconded by MAYOR JONES to agendize a discussion of recreational use of Hill Street between Temple Avenue and Obsipo Avenue, indicating that it has been a long time concern. Vice Mayor Hansen also reminded everyone of the presence of coyotes in the area and to be mindful of pet and human safety.

Mayor Jones thanked staff for the excellent Fletcher Jones Audi and Halloween carnival events. Mayor Jones also reminded everyone of the Signal Hill Community Foundation (SHCF) "A Night of Magic" fundraiser event on Thursday, October 30. Mayor Jones shared that the SHCF is committed to filling gaps in resources available

to the community. He further shared that the Signal Hill Police Department is available to all to ensure the safety of the community and suggested following the Department on social media. Mayor Jones also expressed interest, along with Council Member Honeycutt, in discussing plans to celebrate the 250th birthday of the United States, happening next year.

(14) ADJOURNMENT

It was moved by COUNCIL MEMBER COPELAND and seconded by VICE MAYOR HANSEN to adjourn tonight's meeting to a Special meeting of the City Council on Thursday, November 13, 2025 at 6:00 p.m.

MAYOR JONES adjourned the meeting at 9:04 p.m.

_____
KEIR JONES
MAYOR

Attest:

_____
DARITZA PEREZ
CITY CLERK