Exhibit 7 Item 5-A
Planning Board Meeting
June 23, 2025

Initial Study/Addendum to the

Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration for the Alameda Aquatic Center

SCH #2015032026

Prepared by

SEAL OF THE CITY OF ALAMEDA
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In Consultation with

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June 2025

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All appendices are incorporated herein by reference.

Section 1.0 Introduction and Purpose

1.1 Purpose of the Initial Study/Addendum

This Initial Study (IS)/Addendum has been prepared by the City of Alameda as the Lead Agency, in conformance with the California Environmental Quality Act (CEQA), the CEQA Guidelines (Title 14, California Code of Regulations §15000 et seq.), and the regulation and policies of the City of Alameda, California.

On July 15, 2014, the City of Alameda City Council approved the Jean Sweeney Park Master Plan project (hereinafter referred to as the "approved project) and adopted Resolution 14955 approving the Initial Study/Mitigated Negative Declaration (IS/MND) (SCH # 2015032026). The approved project consists of the development of 22 acres of land with six primary uses: walking and bike trails, a community garden, natural playgrounds, open lawn, picnic areas, and natural open space.

Subsequent to the adoption of the Initial Study/MND and approval of the project, changes have been proposed (hereinafter also referred to as the "modified project"), resulting in the need for this IS/Addendum. The modified project would develop a 2.35-acre portion of the 22-acre site with an aquatic center and associated improvements. The approved project proposed to develop the 2.35-acre portion of the site with a park structure, parking lot, fruit tree orchard and lawn area.

The CEQA Guidelines Section 15162 states that when an Environmental Impact Report (EIR) has been certified or a negative declaration adopted for a project, no subsequent EIR or negative declaration shall be prepared for that project unless the Lead Agency determined, on the basis of substantial evidence in light of the whole record, one or more of the following:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

    (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

    (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

CEQA Guidelines Section 15164 states that the Lead Agency or a Responsible Agency shall prepare an addendum to a previously adopted MND if only minor or technical changes are necessary or if none of the conditions described in 15162 (see above) calling for preparation of a subsequent EIR or negative declaration have occurred.

Based on the proposed project modifications, knowledge of the project site and surrounding area, and the following discussion and analysis, the modified project would not result in a new or substantially more severe significant impact than previously disclosed in the adopted IS/MND. Therefore, the standard for subsequent environmental review has not been met, and an Addendum has been prepared consistent with CEQA Guidelines Section 15164.

This Addendum, which is to be considered together with the IS/MND prepared for the approved project, will not be formally circulated for public review, but will be attached to the IS/MND, pursuant to CEQA Guidelines Section 15164(c).

1.2 Notice of Determination

If the project is approved, the City will file a Notice of Determination (NOD), which will be available for public inspection and posted within 24 hours of receipt at the County Clerk's Office for 30 days. The filing of the NOD starts a 30-day statute of limitations on court challenges to the approval under CEQA (CEQA Guidelines Section 15075(g)).

Section 2.0 Project Information

2.1 Project Title

Alameda Aquatic Center

2.2 Lead Agency Contact

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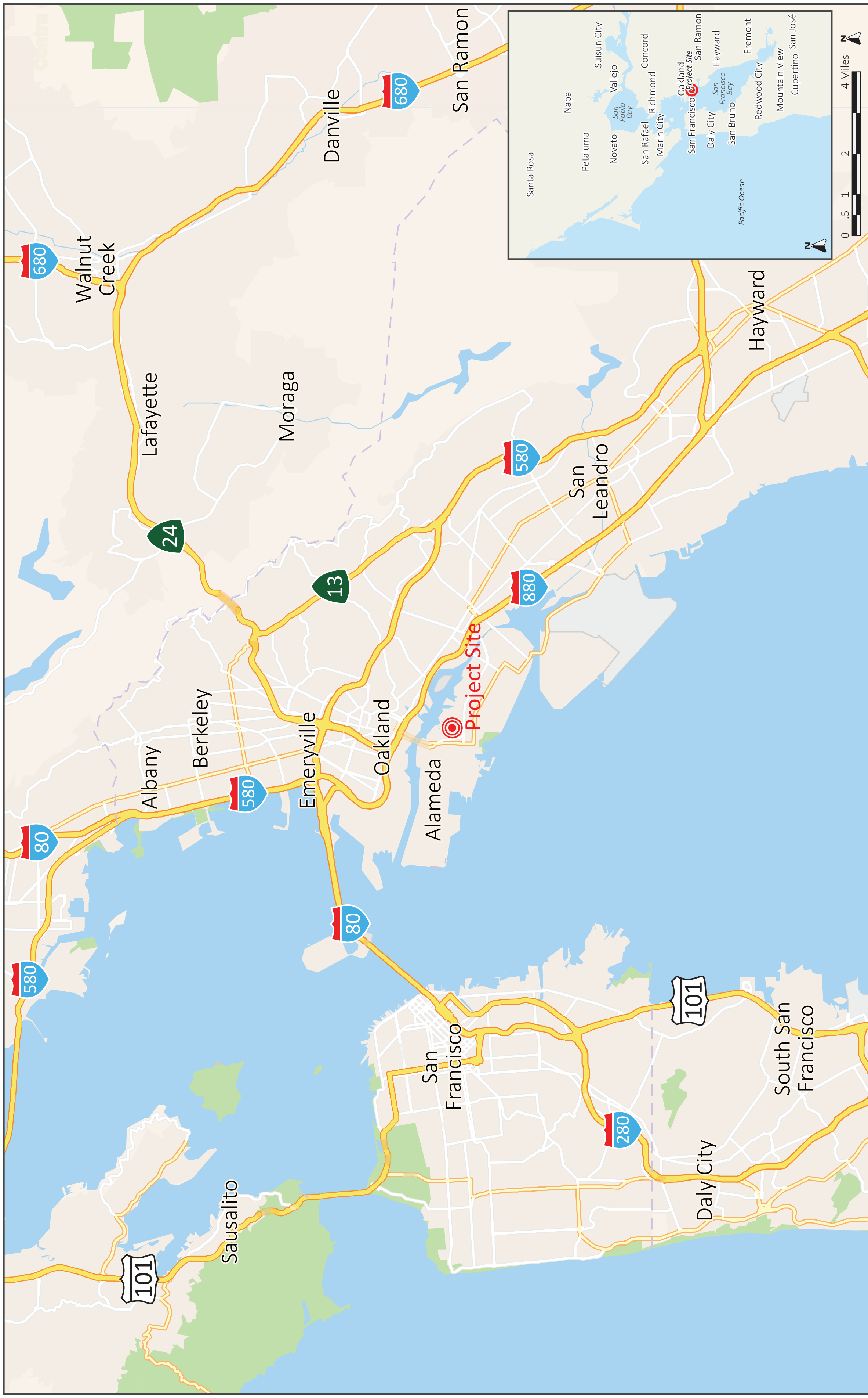
2.4 Project Location

The 2.35-acre project site is located at 800 Atlantic Avenue in the City of Alameda at the western end of the Jean Sweeney Open Space.

A regional map and vicinity map of the project site are shown in Figure 2.4-1 and Figure 2.4-2**.**, respectively. An aerial photograph with surrounding land uses is shown in Figure 2.4-3.



REGIONAL MAP

FIGURE 2.4-1

FIGURE 2.4-2

VICINITY MAP

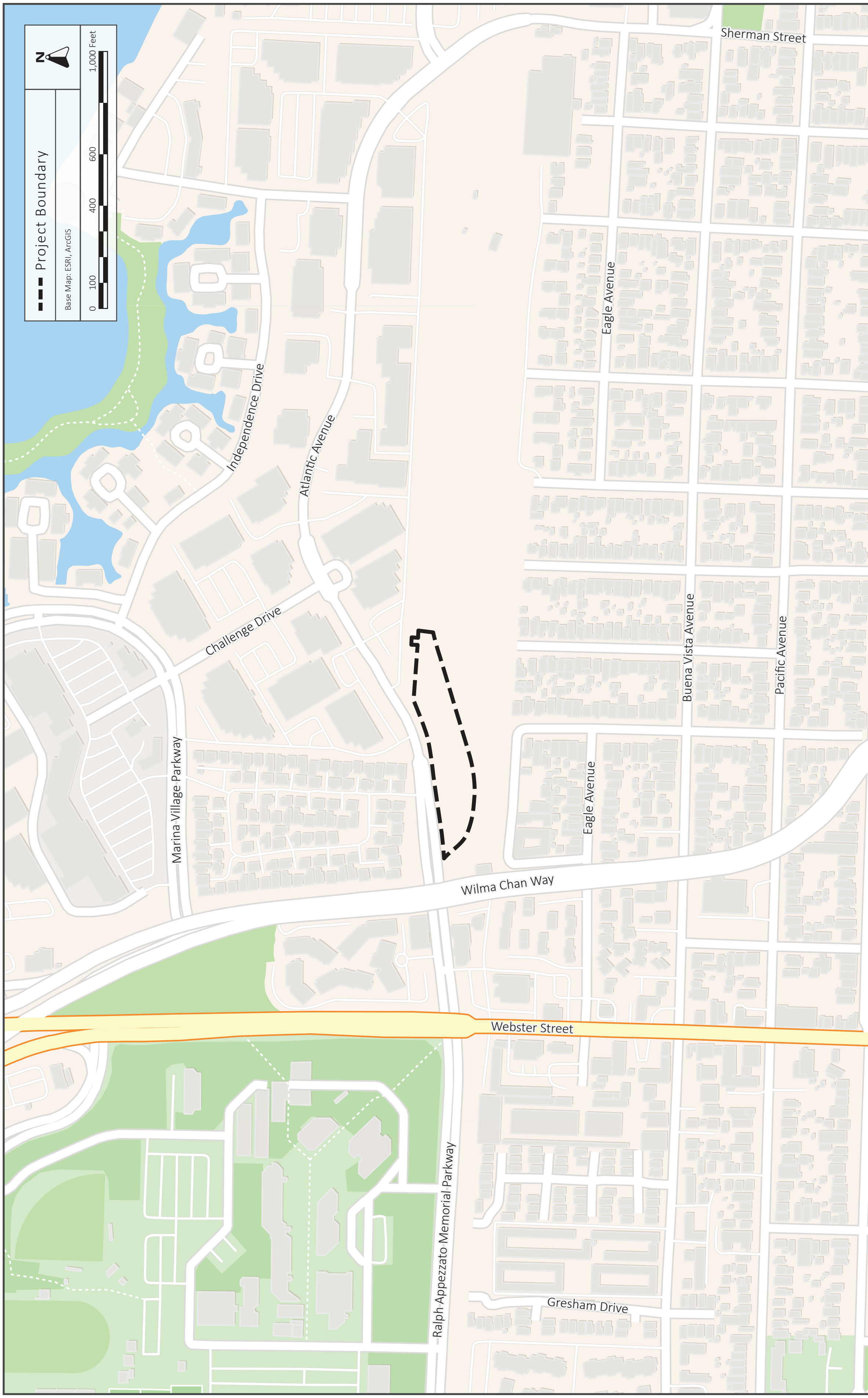


FIGURE 2.4-3

AERIAL MAP AND SURROUNDING LAND USES

Section 3.0 Project Description

3.1 Project Location

The project site is located at 800 Atlantic Avenue in the City of Alameda, east of the intersection of Wilma Chan Way and Atlantic Avenue. The project site is part of the larger 22-acre Jean Sweeney Open Space Park. The 2.35-acre portion of the site is currently vacant and undeveloped.

Surrounding land uses include residential and office to the north, residential to the south, Jean Sweeney Open Space Park to the east, and residential and commercial to the west.

3.2 Summary of Approved Project

The approved project from 2014 consists of a new 22-acre community park and open space, which would primarily support passive recreation, with some active recreation uses. The approved Park's Master Plan features six types of uses including walking and biking trails, natural open space, picnic areas, community garden, natural playgrounds, and open lawn areas. Active uses would generally be located towards the perimeter of the park, surrounding passive uses in the central area.

The approved project proposed to develop the 2.35-acre portion of the site with a restroom structure[1], 60-space parking lot, fruit tree orchard, entry garden, lawn area, and picnic tables (refer to Figure 3.2-1).[2]

3.3 Proposed Changes to the Approved Project

3.3.1 Proposed Development

The City of Alameda Recreation and Parks Department (ARPD) proposes to develop the 2.35-acre site with a new all-electric aquatic center, including a one-story building, one 30-meter competition swimming pool, one activity pool, and spectator seating (refer to Figure 3.3-1). The aquatic center is anticipated to serve as the primary swim center for the City of Alameda and would primarily be used for practices, swim meets, and public swimming.

The aquatic center would include an approximately 5,740 square foot, one-story, L-shaped building that would house a multi-purpose room, a director/manager's office, staff break room, restrooms and locker rooms, lifeguard and first aid room, electrical, and mechanical rooms.[3] The building would have a maximum height of 22 feet to the top of parapet. Proposed elevations are shown in Figure 3.3-2.

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[1] The intended use of the building included restrooms, storage, and trash collection.
[2] City of Alameda. *Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration.* June 2014. Figure 2-3.
[3] The modified project would relocate the approved storage and relocate into smaller shed structures.

The new aquatic center would house two outdoor pools, including one 30-meter swimming pool (approximately 7,500 square feet) and one activity pool (approximately 3,300 square feet). The aquatic center would include a total of 180 spectator seats around the perimeter of the 30-meter swimming pool. The typical regular hourly attendance is expected to be approximately 35 to 45 people. The aquatic center would have amplified sound during events and competitions. A permanent scoreboard would be mounted on the pool storage enclosure and would only be used during the competitions.

There would be perforated wind-wall around the exterior of the facility serving as the perimeter fencing. The fencing along the pool storage at the northern property line will be constructed of solid corrugated metal panels. It would be a maximum height of 15 feet with vegetation planting along the base and would not be lighted.

The service enclosure/trash would be located in the parking lot to the east side. It would be serviceable from both sides and approximately 10 feet tall. There would be pool storage on the south side of the building.

3.3.2 Site Access and Parking

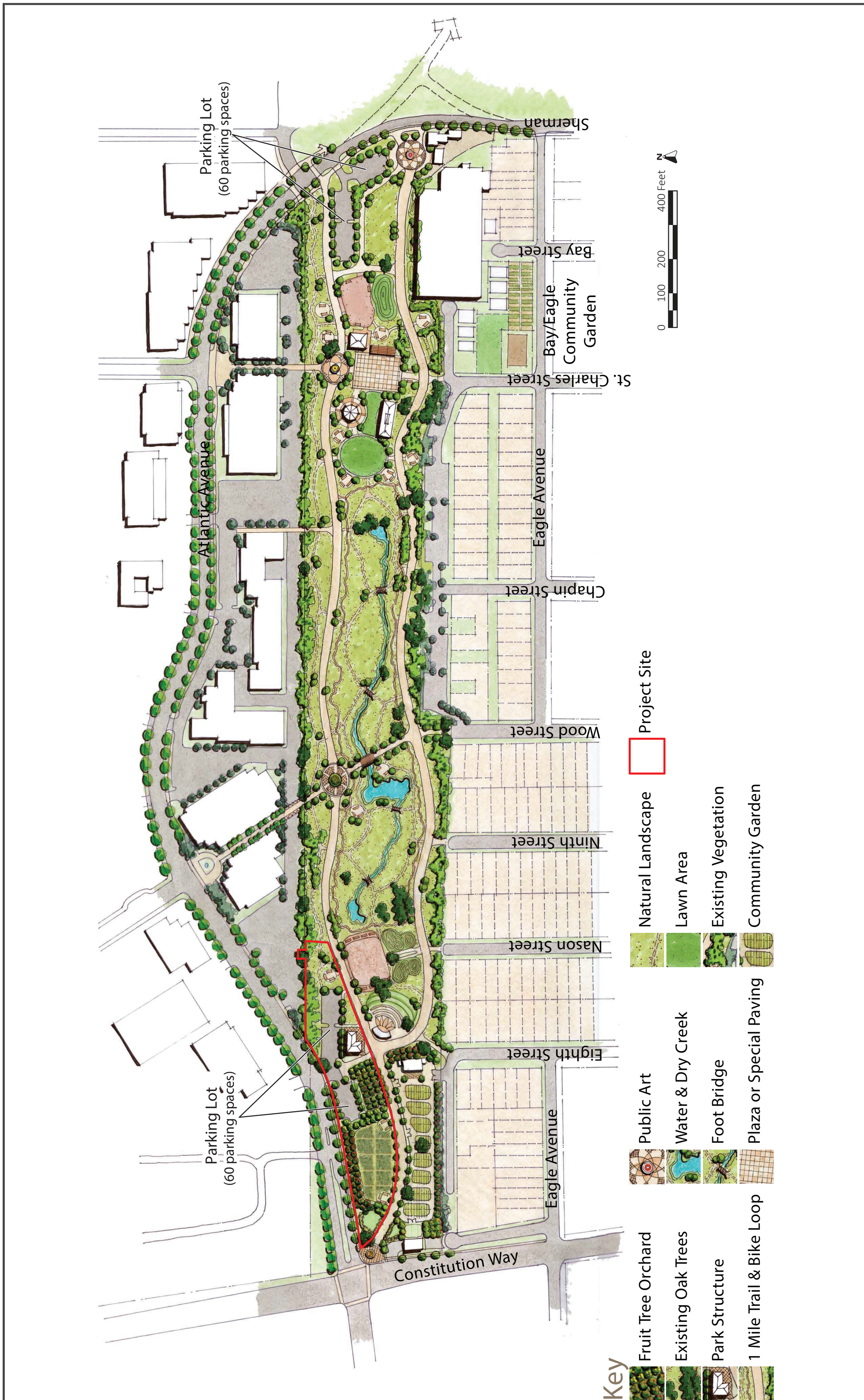
Access to the aquatic center would be provided via a new project driveway off Atlantic Avenue.

Consistent with the approved project, a 60-parking space surface parking lot would be constructed to the east of the aquatic center. The modified project proposes adding 11 additional parking spaces, for a total of 71parking spaces (including four accessible spaces and seven electric vehicle [EV] charging spaces). The adjacent parking lot to the north for the College of Alameda would accommodate 125 shared spaces for overflow parking.[4] This would be available weekends, and for special events.

The project would also include ten long-term bicycle parking spaces (south of the building) and 100 short-term bicycle spaces (west of the building).

Dependent on the availability of funding, the proposed project will include solar panels over the parking lot. If funding is not available, this aspect of the project may be constructed at a later date when funding becomes available. The solar structures would be made of steel posts and beams to support the solar array. The structures would be a maximum 18 to 20 feet tall. The array would cover the parking spaces leaving the parking path of travel open to the sky. The solar array would also have thermal heat sinks to collect thermal energy and transfer it to the mechanical room to assist heating of the water. Solar panels would also be located on the roof of the locker rooms and administrative space. There would also be solar panels over the spectator seating and pool storage area.

[4] The City will enter into a shared parking agreement with the College of Alameda.



Source: KK Design Studio.

FIGURE 3.2-1

CONCEPTUAL SITE PLAN (APPROVED PROJECT)

Source: ELS Architecture and Urban Design, November 27, 2024.

CONCEPTUAL SITE PLAN (MODIFIED PROJECT)

FIGURE 3.3-1

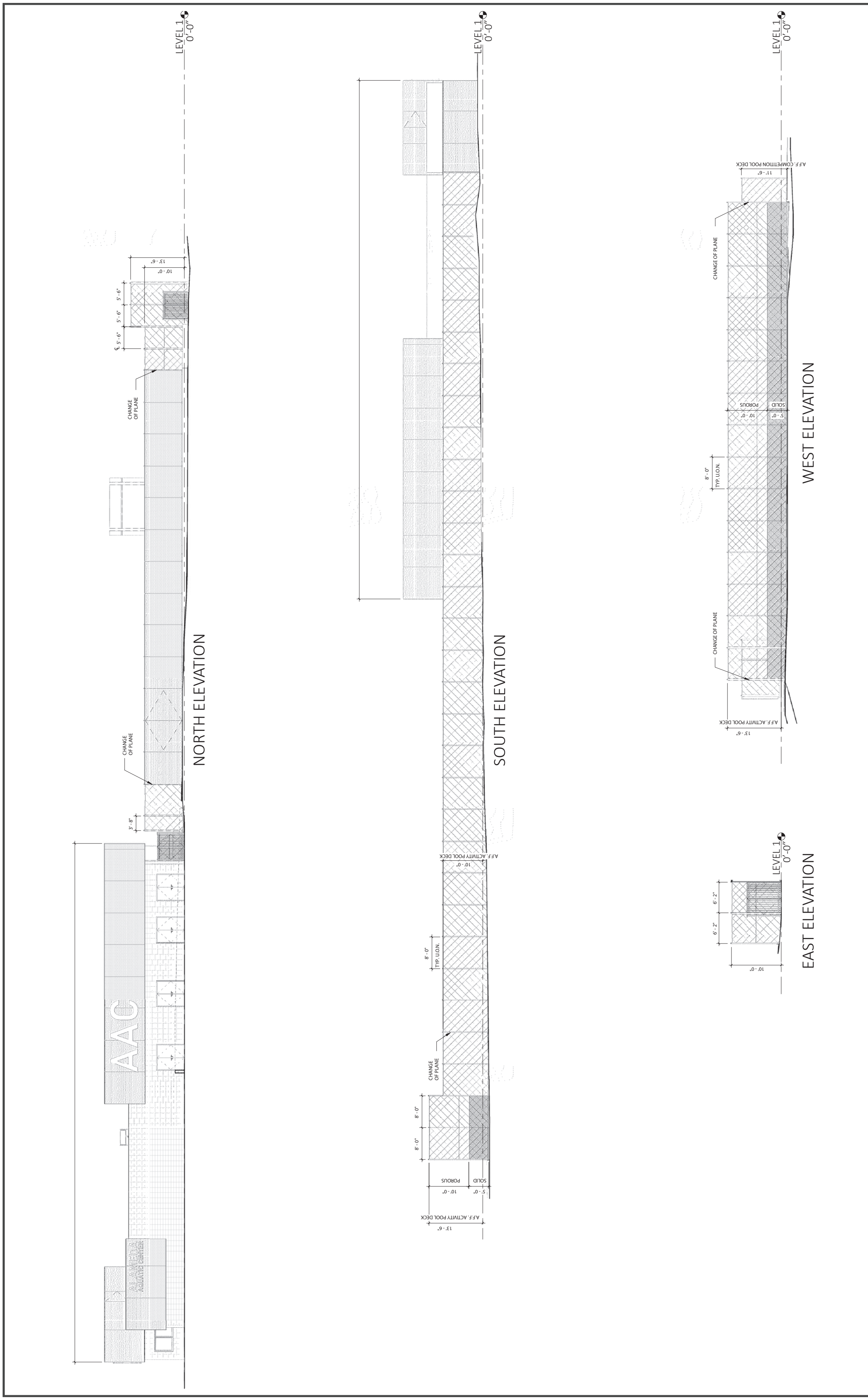


FIGURE 3.3-2

CONCEPTUAL BUILDING ELEVATIONS (MODIFIED PROJECT)

3.3.3 Lighting

The project proposes to provide lighting for the aquatic center through a combination of 30-feet tall pole lighting, illuminated building signage, wall grazer lighting, recessed down lighting, and wall mounted fixture lighting. All lighting would be down lights and the pools would have lighting in the water. The building will have exterior low-level lighting along the perimeter and walkways leading to the entrance. Typical lighting would occur on the pool deck and in the pools during winter months and dusk hours**.** The main pool deck lighting would go dark when the facility closed for the day. The building's down lighting would remain on for security purposes.

3.3.4 Landscaping and Stormwater

The project would include an entrance plaza to the east of the building that would include the bike parking. There would also be information kiosks along the north side of the plaza displaying information about the electrification of the facility and Alameda Municipal Power's programs for decarbonizing Alameda homes and businesses. The plaza would include landscaping plants, shrubs, and a small turf area for people to gather before entering the facility.

The project would remove eight existing trees. Seven on-site trees would be retained, including a large oak tree near the entrance plaza. The project would plant approximately 50 new trees on the site in the parking lot and along the perimeter fence, for a net increase of 42 trees at the site. The project would also provide landscaping in the form of a variety of trees and shrub plantings. Following completion of the project, stormwater would be treated via an onsite bioretention area.

3.3.5 Roadway Improvements

The modified projects include implementation of the following roadway, pedestrian, bicycle, and transit facility improvements:

- Install R26(S) (CA) "No Stopping Anytime" signs and paint red curb on both sides of Atlantic Avenue along Project frontage to prohibit vehicles from using the existing Class II bicycle facilities for pickups and drop-offs.
- Along the west side of the parking lot, Install R25(C) (CA) "Passenger Loading Only" signs and paint the curb white to discourage parking.
- Install the following at the proposed crosswalk across Atlantic Avenue between the Marina Village Research Park and the Project Driveways:
  - High-visibility crosswalk markings
  - Rectangular Rapid-Flashing Beacons (RRFBs) on both sides of the crosswalk
  - A raised center median between the Marina Village Research Park and the Project Driveways
- Stripe a 100-foot westbound left-turn lane with a 60-foot taper along Atlantic Avenue at the Project driveway.

3.3.6 Mechanical Equipment

The proposed building would contain mechanical equipment associated with the pool operations. Additionally, an enclosure containing a transformer is shown at the north end of the pool deck.

The roof of the mechanical equipment building would include two exhaust fans, an HVAC rooftop unit, 25 pool heating heat-pump chillers, and two heat pump water heaters. The roof of the building shows two variable refrigerant volume condensing units, one variable refrigerant flow HVAC unit, a gravity relief exhaust, and a gravity intake vent.

3.3.7 Green Building and Energy Efficiency

The project includes the following green building and energy efficiency measures:

- All electric heat-pump equipment.
- Water efficient fixtures to reduce potable water use.
- Water efficient landscaping to reduce irrigation by 50 percent.
- Recycled water for landscaping.
- Energy efficient building performance.
- On-site renewable energy sources/green power (if funding is available).
- Low Volatile Organic Compound (VOC) emitting building materials (i.e., adhesives, sealants, paints, coatings, carpet, and composite wood).
- Computer system to control lighting and temperature.

3.3.8 Chemical Equipment and Storage

Pool chemicals include chlorine[5], acid (such as muriatic acid[6]), algaecides[7], stabilizers, and other water treatment agents. The project would maintain the following storage levels for pool equipment:

- Chlorine: up to 500 gallons of chlorine (liquid or in solid form).
- Acid: approximately 350 gallons of muriatic acid, which is used periodically to maintain pH levels.
- Other Chemicals: Smaller amounts of algaecides, clarifiers, and stabilizers are stored, often in solid or concentrated liquid form.

Pool chemicals are carefully tracked to prevent overstocking or shortages. The project would implement software solutions to monitor usage and reorder chemicals. The chemical levels in the

[5] This is the most common disinfectant used to kill bacteria, viruses, and algae in pool water. It's often available in liquid, granular, or tablet form.
[6] Muriatic acid (hydrochloric acid) is commonly used to lower the pH level of pool water and reduce alkalinity. Managing pH and alkalinity levels is key to ensuring the effectiveness of chlorine and avoiding issues like corrosion or skin irritation.
[7] Algaecides are chemicals used to kill or prevent the growth of algae in various water bodies, including pools, ponds, and other aquatic systems.

pool would be regularly monitored, usually on a daily or weekly basis, to maintain water safety and quality. Spill kits and trained personnel would be required to handle accidental chemical leaks.

Pool chemicals are typically delivered in bulk by specialized chemical suppliers. Transportation of such chemicals is regulated to ensure safety, especially since chemicals like chlorine and acid are classified as hazardous materials. Chemicals are shipped in proper containers with specific labels, and in compliance with federal regulations such as the Hazardous Materials Transportation Act (HMTA) in the U.S.

The project would be required to implement a Hazardous Business Plan to ensure compliance, safety, and environmental protection. The plan would include:

- Safety Protocols:
    - Chemical safety training for employees, especially on handling chlorine and acids.
    - Personal protective equipment (PPE) like gloves, goggles, and respiratory protection.
    - Proper ventilation systems for indoor pools or storage areas.
- Spill Response: Emergency procedures for handling chemical spills or leaks, including having neutralizing agents and trained staff on-site.
- Waste Disposal: Regulations for the proper disposal of chemicals, especially for chlorine and acid waste, to avoid environmental harm.
- Emergency Plans: Detailed steps to follow in case of a fire, chemical exposure, or other hazardous incidents. These include evacuation routes, emergency contact numbers, and access to local emergency response teams.

The project would comply with the Occupational Safety and Health Administration (OSHA) standards, Environmental Protection Agency (EPA) regulations, and local safety laws, ensuring safe chemical handling, storage, and disposal.

3.3.9 Operations

The proposed aquatic center would be open seven days a week (except on City holidays). The proposed hours of operation are summarized in Table 3.3-1 below.

Table 3.3-1: Proposed Hours of Operation

Monday-Friday	5:30AM – 9:30PM
Saturday	7:00AM – 9:30PM
Sunday	7:00AM – 8:00PM

The aquatic center would be primarily used for swim lessons, practices, swim meets, and public swimming. As described above in Section 3.3.1, the pool deck and spectator seating would have a maximum occupancy of approximately 180 people. However, the typical hourly attendance is expected to be 35 to 45 people. It is anticipated that the aquatic center would have approximately

100,000 to 150,000 visitors a year, with a typical summer daily average of 450 visitors, 190 weekday average, and 225 weekend average.

Events that have the potential to generate up to 500 visitors include swim meet competitions that would occur approximately twice per year. The swim meet events are typically one to two days long and would take place primarily on weekends during the hours of 9:00 AM to 6:00 PM. The swim meet events would have approximately eight to ten teams with six to ten members per team. Not all teams would be present at the same time but rather staggered throughout the day with a maximum of 180 attendees on site at any given time. Most teams would carpool or use vans.

The facility would also host smaller community events that would be held six to eight times per year with approximately 100 people in attendance. These user events are community events such as watching a movie in the pool or holiday events such as Halloween or Santa events. These events usually occur on a Saturday or Sunday between noon and 4:00 PM with approximately 100 or less people. Movies in the pool events would take place during operating hours in the evening.

Water polo tournaments are not scheduled at this facility but may be requested by the School District if the District's pools are not available. Water polo games would include 10 to 12 players per team with approximately 20 spectating viewers, or approximately 40 people per hour throughout the day. These are typically one to two day events that usually occur on the weekend.
The facility would employ three full-time staff and would have part-time staff supporting programming. During the winter season, part-time staff numbers would range from five to 10 per day with three staff members on deck per hour per day. The summer part-time staffing would range from 20 to 30 per day, with 10 to 15 staff members on deck per hour.

3.3.10 Construction

It is anticipated that construction would take a total of approximately 20 months. Construction phases of the proposed project would include site preparation, grading/excavation, building construction, and paving. The modified project would adhere to Chapter 4-10.5 of the City's Municipal Code, which limits construction work hours to between 7:00 a.m. and 7:00 p.m. Monday through Fridays and 8:00 a.m. to 5:00 p.m. on Saturdays.

Section 4.0 Environmental Setting, Checklist, and Impact Discussion

This section presents the discussion of impacts related to the following environmental subjects in their respective subsections:

- 4.1 Resource Areas Not Analyzed Further
- 4.2 Aesthetics
- 4.3 Air Quality
- 4.4 Biological Resources
- 4.5 Cultural Resources
- 4.6 Energy
- 4.7 Geology and Soils
- 4.8 Greenhouse Gas Emissions
- 4.9 Hazards and Hazardous Materials
- 4.10 Hydrology and Water Quality
- 4.11 Noise
- 4.12 Public Services
- 4.13 Recreation
- 4.14 Transportation
- 4.15 Utilities and Service Systems

The discussion for each environmental subject includes the following subsections:

- **Environmental Setting** – This subsection 1) provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and 2) describes the existing, physical environmental conditions at the project site and in the surrounding area, as relevant.
- **Impact Discussion** – This subsection 1) includes the recommended checklist questions from Appendix G of the CEQA Guidelines to assess impacts and 2) discusses the project's impact on the environmental subject as related to the checklist questions. For significant impacts, feasible mitigation measures are identified. "Mitigation measures" are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370). Mitigation measures are numbered to correspond to the impact they address. For example, MM BIO-1.3 refers to the third mitigation measure for the first impact in the Biological Resources section. This Initial Study/Addendum evaluates the potential environmental impacts of the proposed aquatic center (as described in Section 3.0 Project Description) to determine whether the Project is within the scope of the approved project evaluated in the adopted IS/MND, and to determine whether the project has the potential to result in any new or substantially more severe environmental impacts. In comparing the proposed aquatic center to the approved project, this Initial Study/Addendum uses the following impact determinations:
  - New Potentially Significant Impact
  - New Less than Significant Impact with Mitigation Incorporated
  - New Less than Significant Impact
  - Same Impact as Approved Project

- Less Impact than Approved Project

4.1 Adopted IS/MND Mitigation Measures

The adopted IS/MND found that the approved project would not have a significant effect on the environment if the following mitigation measures were incorporated into the project.

Mitigation Measure AIR-1: During active construction, the City shall require construction contractors to implement all the BAAQMD's Basic Construction Mitigation Measures, listed below:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure BIO-1a: To the extent practicable, construction activities including vegetation and tree removal, site remediation and grading, building renovation of the former yard house, and new site construction shall be performed between September 1 and January 31 in order to avoid breeding and nesting season for birds. If these activities cannot be performed during this period, preconstruction survey for nesting birds shall be conducted by a qualified biologist.

In coordination with the City, surveys shall be performed during breeding bird season (February 1 – August 31) no more than 14 days prior to construction activities listed above in order to locate any active passerine nests within 250 feet of the project site and any active raptor nests within 500 feet of the project site. Surveys shall be performed in accessible areas within 500 feet of the project site and include suitable habitat within line of sight as access is available. Building renovation, tree and vegetation removal, and new construction activities performed between September 1 and January 31 avoid the general nesting period for birds and therefore would not require pre-construction surveys.

If active nests are found on either the project site or within the 500-foot survey buffer surrounding the project site, no-work buffer zones shall be established around the nests. Buffer distances will consider physical and visual barriers between the active nest and project activities, existing noise sources and disturbance, as well as sensitivity of the bird species to disturbance. Modification of standard buffer distances, 250 feet for active passerine nests and 500 feet for active raptor nests, will be determined by a qualified biologist in coordination with CDFW. No building renovation, vegetation removal, or ground-disturbing activities including remediation or grading shall occur within a buffer zone until young have fledged or the nest is otherwise abandoned as determined by the qualified biologist. If work during the nesting season stops for 14 days or more and then resumes, then nesting bird surveys shall be repeated, to ensure that no new birds have begun nesting in the area.

Mitigation Measure BIO-1b: Potential direct and indirect disturbances to bats shall be identified by locating colonies and instituting protective measures prior to construction. No more than two weeks in advance of initiation of building renovation activities onsite or initiation of construction within 100 feet of trees or structures providing potential bat roosting sites, a qualified biologist shall conduct pre-construction surveys for bat roosts. No activities that could disturb active roosts shall proceed prior to the completed surveys.

If a maternity colony is located within the project site during pre-construction surveys, the project shall be redesigned to avoid impacts if feasible, and a no- disturbance buffer acceptable in size to the CDFW shall be created around the roost. Bat roosts (maternity or otherwise) initiated during construction are generally presumed to be unaffected by increased noise, vibration, or human activity, and no buffer is necessary as long as roost sites are not directly altered or destroyed. However, the “take” of individuals is still prohibited at any time.

If there is a maternity colony present and the project cannot be redesigned to avoid removal of the tree or structure inhabited by the bats, removal of that tree or renovation of that structure shall not commence until after young are flying (i.e., after July 31, confirmed by a qualified bat biologist) or before maternity colonies form the following year (i.e. prior to March 1).

If a non-maternity roost must be removed as part of the project, the non-maternity roost shall be evicted prior to building renovation by a qualified biologist, using methods such as making holes in the roost to alter the air-flow or creating one-way funnel exits for the bats.

If significant (e.g., maternity roosts or large non-maternity roost sites) bat roosting habitat is destroyed during building renovation/tree removal, artificial bat roosts shall be constructed in an undisturbed area in the project site vicinity away from human activity and at least 200 feet from project demolition/construction activities. The design and location of the artificial bat roost(s) shall be determined by a qualified bat biologist.

Mitigation Measure BIO-2a: **Wetland Delineation.** In coordination with the City, a qualified wetland ecologist shall conduct a wetland delineation of the 22- acre proposed project site to identify potential waters of the state which may be present. If no waters of the state are identified onsite, no further action is required. Should waters of the state be determined present within the project site, features shall be mapped and documented in a report for submission to the Regional Water Quality Control Board (RWQCB) which retains authority over isolated wetland features.

Mitigation Measure BIO-2b: **Wetland Protection.** At the project site, the following measures shall be applied to protect state jurisdictional wetlands:

- A protective barrier (such as silt fencing) shall be erected around jurisdictional features identified on the project site to isolate and protect from impact during construction of the park features (e.g. vegetation removal and site grading).
- Signs that read "Environmentally Sensitive Area–Keep Out" shall be installed on the fencing to identify sensitive habitat.
- No equipment mobilization, grading, clearing, or storage of equipment or machinery, or similar activity shall occur at the project site until wetland protection fencing has been inspected and approved by a qualified biologist.
- Temporary fencing shall be continuously maintained until all project construction is completed.

Mitigation Measure BIO-2c: **Wetland Mitigation.** If avoidance of state jurisdictional features found on the property is not feasible under the proposed project, impacts to these features shall be mitigated through one of the following options:

- Onsite mitigation, consisting of creation, restoration, enhancement or preservation, or combination thereof;
- Payment into an approved in-lieu fee program to preserve or restore wetlands in the same watershed;
- Purchase of appropriate amount of credits at an approved wetlands mitigation bank; or
- Off-site mitigation.

Mitigation Measure BIO-3: **Coast Live Oak Tree Protection.** The City shall ensure that prior to project development and throughout each phase of project activities that have the potential to result in impacts on coast live oak trees, protected under the City ordinance and located within the project area, the project applicant shall take the following steps to avoid direct and indirect impacts to protected trees:

- A Tree Protection Zone shall be established around each tree to be preserved prior to construction. No grading, excavation, construction or storage of materials shall occur within that zone. Tree Protection Zones shall be established with fencing at the tree dripline in all directions, and remain until construction is complete. Street trees will not be fenced to allow continued vehicle and pedestrian access as necessary. The lower 8- 10' of protected street tree trunks shall be wrapped with straw wattles (or a similar material). Should excavation be necessary around street tree roots in support of street and sidewalk improvements, or should root pruning be necessary, excavation and root pruning shall be monitored by a certified arborist.

- Street tree canopy shall be pruned to allow construction and access clearance, under the supervision of a certified arborist, and prior to demolition of existing buildings. Demolition adjacent protected street trees shall be monitored by a certified arborist.
- Should protected trees become damaged during construction, tree condition shall be evaluated by a certified arborist and appropriate treatments shall be applied.
- Where feasible, underground utilities, drain lines or irrigation lines shall be routed outside tree protection zones to avoid root damage.

Mitigation Measure CUL-1: **Rehabilitation of Belt Line Yard House.** Rehabilitation of the Alameda Belt Line yard house shall conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. The Standards require the preservation of character defining features that convey a building's historical significance, and offers guidance about appropriate and compatible alterations to historical resources.

Mitigation Measure CUL-2: **Inadvertent Discovery of Archaeological Resources.** If prehistoric or historic-period archaeological resources are encountered, all ground disturbing activities within 100 feet shall halt and the City of Alameda shall be notified. A Secretary of the Interior-qualified archaeologist shall inspect the findings within 24 hours of discovery. If it is determined that the project could damage a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines), mitigation shall be implemented in accordance with PRC Section 21083.2 and Section 15126.4 of the CEQA *Guidelines*, with a preference for preservation in place. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource; incorporating the resource within open space; capping and covering the resource; or deeding the site into a permanent conservation easement. If avoidance is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan in consultation with the City of Alameda and a Native American representative. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of (but would not be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the project. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.

Mitigation Measure CULT-3: **Inadvertent Discovery of Human Remains.** If human remains are encountered, all ground disturbing activities within 100 feet of the find shall halt and the Alameda County Coroner shall be notified immediately. A qualified archaeologist shall also be contacted to evaluate the situation. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. Pursuant to Section 5097.98 of the Public Resources Code, the Native American Heritage Commission will identify a Native American Most Likely Descendent to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined whether or not the remains are subject to the coroner's authority.

Mitigation Measure HAZ-1: Prior to obtaining a grading or building permit, the City shall obtain a qualified environmental professional to complete any remaining Phase II and remediation actions consistent with the findings and recommendations of the 2014 Targeted Site Investigation by the Source Group in accordance with regulatory oversight from the Alameda County Environmental Health Department (ACEHD). Prior to receiving a building or grading permit, project applicant shall provide documentation from ACEHD that all identified contamination has been remediated to levels where no threat to human health or the environment remains based on the proposed future use of the project site.

Mitigation Measure TRAN-1a: As part of pre-construction submittals, the contractor(s) shall submit a truck route plan to the City of Alameda Public Works Department for review and approval to help minimize impacts to adjacent neighborhoods.

Mitigation Measure TRAN-1b: To the extent possible, heavy truck movements should be limited to the hours between 9:00 a.m. and 3:30 p.m. (or other times, if approved by the Public Works Department).

4.2 Resource Areas Not Analyzed Further

The following resource areas, for which the approved project's impacts are dependent on the site conditions, are not analyzed further because the modified project was determined to have the same impacts as analyzed in the adopted IS/MND.[8] A brief explanation is provided for each resource topic.

4.2.1 Agriculture and Forestry

The adopted IS/MND concluded that the approved project would have no impact on agricultural and forestry resources. The project site is located on a vacant undeveloped site in an urbanized area of Alameda that is not designated or zoned for agricultural uses, is not under a Williamson Act contract, and is not considered forest land or zoned Timberland Production. The modified project would occur within the same site as the approved project and therefore, would also have no impact on agricultural or forestry resources. **[Same Impact as Approved Project (No Impact)]**

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒	☐
d) Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	☐

[8] City of Alameda. *Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration.* June 2014. Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration. June 2014. SCH # 2015032026.

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒	☐

4.2.2 Land Use and Planning

The modified project would not involve any features that would divide an established community, such as a large roadway or walls. The modified project would be consistent with the regulations and standards of the site's Parks and Public Open Space General Plan designation and Open Space zoning. **[Same Impact as Approved Project (Less than Significant Impact)]**

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Physically divide an established community?	☐	☐	☐	☒	☐
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒	☐

4.2.3 Mineral Resources

There are no mineral resources or recovery sites on the project site.[9] Therefore, the modified project would not impact mineral resources and would not require further analysis. **[Same Impact as Approved Project (No Impact)]**

[9] Ibid.

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒	☐

4.2.4 Population and Housing

The adopted IS/MND concluded that the approved project would not induce substantial population growth, and would result in no impact. The project site is vacant and undeveloped and does not provide any housing. Consistent with the approved project, the modified project does not propose any residential uses on the site. Further, the modified project would not extend any new infrastructure to undeveloped areas located off of the project site that could indirectly induce population growth. Operation of the aquatics center would require up to three full-time staff and would have part-time staff supporting programming. Therefore, the modified project would not induce substantial population growth, and would result in no impact.

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐

4.2.5 Tribal Cultural Resources

At the time of preparation of the adopted IS/MND, no California Native American tribe had formally requested to be placed on the City's notification list for development projects undergoing review pursuant to AB 52. Therefore, no tribal consultation was required for the approved project. Tribal consultation pursuant to AB 52 is required for projects that will result in the release of a negative declaration, MND, or EIR.[10] This Addendum will be attached to the adopted IS/MND and therefore, the modified project is not subject to any further tribal consultation efforts. The City has not received any requests to consult pursuant to AB 52.

A record search was completed at the Northwest Information Center (NWIC) on May 6, 2014 (File No. 13-1693), no prehistoric archaeological sites have been recorded in the central part of Alameda or within 0.5 mile of the project area. The adopted IS/MND determined that implementation of Mitigation Measures CUL-2 and CUL-3 (described further in Section 4.5 Cultural Resources) would reduce potential impacts to unknown buried Native American resources to a less than significant impact. The modified project would implement Mitigation Measures CUL-2 and CUL-3 and therefore, would have a less than significant impact on tribal cultural resources. **[Same Impact as Approved Project (Less than Significant Impact)]**

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☐	☐	☒	☐

[10] California Public Resources Code § 21080.3.1

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒	☐

4.2.6 Wildfire

The adopted IS/MND concluded that the project site is not within a designated wildland area and would not result in increased fire hazards from implementation of the approved project.[11] The modified project would have the same less than significant wildfire impacts as the approved project. **[Same Impact as Approved Project (Less than Significant Impact)]**

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Would the project:					
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒	☐

[11] City of Alameda. *Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration.* June 2014. SCH # 2015032026.

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Would the project: d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒	☐

4.2.7 Conclusion

The modified project will incorporate all environmentally applicable mitigation measures, regulatory requirements, and conditions of approval approved by the City Council for the approved project. The requirements for the approved project are incorporated in this document by reference (refer to Appendix A).[12] Therefore, as stated above, the impacts to the above resource areas would not change from the adopted IS/MND.

[12] City of Alameda. *Resolution No. 14955 Approve the Jean Sweeney Open Space Park Mitigated Negative Declaration and Master Plan.* June 16, 2014.

4.3 Aesthetics

4.3.1 Environmental Setting

4.3.1.1 *Regulatory Framework*

State

Streets and Highway Code Sections 260 through 263

The California Scenic Highway Program (Streets and Highway Code, Sections 260 through 263) is managed by the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. There are no state-designated scenic highways in Alameda.

City of Alameda

Alameda General Plan 2040

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to aesthetics and are applicable to the project.

Policies	Description
LU-24	Universal Design. Continue to promote and require universal design in new construction and rehabilitation to protect the public health, accessibility, and safety of all regardless of ability and ensure equal access to the built environment.
LU-26	Architectural Design Excellence. Promote high quality architectural design in all new buildings and additions to complement Alameda's existing architectural assets and its historic pedestrian and transit-oriented urban fabric.
CC-34 (Action K.)	Ensure that all lighting installations are designed and installed to be fully shielded to minimize glare and obstructive light and avoid misdirected or excessive illumination.

Municipal Code

Design Review

All new buildings, additions to buildings, and exterior alterations of existing buildings in the City of Alameda require Design Review approval unless they are specifically exempted. Chapter XXX, Article II of the Alameda Municipal Code establishes the structural design review regulations that must be adhered to by covered construction projects. The City's design review process is intended to conserve "the value of property by encouraging construction of buildings which are compatible and harmonious with the decision and use of surrounding properties, and to discourage the construction of buildings which will have a deleterious effect upon, impair the occupancy of, or jeopardize the value of, such properties."

Depending on the nature of a project, design review is conducted by Design Review Staff designated by the Planning Director, or is referred to the Zoning Administrator or the Planning Board for review and approval. Notices must be posted on the project site and be mailed to all property owners within 100 feet of the site at least 10 days prior to a final Design Review decision. Although public hearings are not required on Design Review applications, the Planning Director may elect to conduct one. In order to grant Design Review approval, the City must make the following findings:

a) The proposed design is consistent with the General Plan, Zoning Ordinance, and the City of Alameda Design Review Manual.
b) The proposed design is appropriate for the site, is compatible with adjacent or neighboring buildings or surroundings, and promotes harmonious transitions in scale and character in areas between different designated land uses; and
c) The proposed design of the structure(s) and exterior materials and landscaping are visually compatible with the surrounding development, and design elements have been incorporated to ensure the compatibility of the structure with the character and uses of adjacent development.

Nighttime Lighting

The type and intensity of outdoor lighting in Alameda is regulated by the City's Dark Skies Ordinance, codified in Municipal Code Section 30-5.16(c). The Alameda Dark Skies Ordinance requires all exterior lighting to be fully shielded and downward directed except for low-voltage landscape lighting, special architectural and public art lighting, and historic lighting fixtures. Light trespass must not exceed 1 foot-candle at an adjacent property, and security lighting fixtures of more than 100 watts (or 20-watt LED) or 1,600 lumens must be controlled by a programmable motion-sensor device unless continuous lighting is required by the California Building Standards Code. Additional standards apply, including restrictions on the color temperature of light-emitting diode (LED) lighting.

4.3.1.2 *Existing Conditions*

Project Site

The project site is part of the larger 22-acre Jean Sweeney Open Space Park. The 2.35-acre portion of the site is currently vacant and undeveloped (refer to Photos 1 & 2). Portions of the larger 22-acre site have been developed with a parking lot, outdoor pavilion, picnic area, restrooms, and paved trails.

Surrounding Area

The project site is in an urban, developed area of Alameda. The project area is a mix of architectural styles and includes a variety of contemporary single-family dwellings and stucco clad utilitarian commercial properties. Structures adjacent to the project site range between one and two stories. Photos of the surrounding area are shown in Photos 3, 4, 5, and 6.

Photo 1: View of Project Site from Atlantic

Photo 2: View of Western Entry JSOS

PHOTOS 1 & 2

Photo 3: View of Office from Atlantic

Photo 4: View of Residential from Atlantic

PHOTOS 3 & 4

Photo 5: View South from Site to Residential

Photo 6: View of Commercial Intersection

PHOTOS 5 & 6

4.3.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Except as provided in Public Resources Code Section 21099, would the project:					
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?[13] If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The Jean Sweeney Open Space IS/MND concluded that implementation of the approved project would result in less than significant aesthetics impacts.[14]

a) Would the project have a substantial adverse effect on a scenic vista?

The shoreline areas of Alameda provide many scenic vistas of the surrounding waters of San Francisco Bay. Depending on the vantage point, the City of San Francisco is visible three miles to the west across the Bay, and the high-rise downtown section of Oakland is visible approximately one mile to the north. From the northern shoreline, Jack London Square and its shoreline marina are visible directly across the Oakland Estuary. The Montara Mountains and the Santa Cruz Mountains, are visible in the distance across San Francisco Bay from vantage points in Alameda. The project site, which is flat, and surrounding area have minimal to no scenic views due to the existing built environment with no designated scenic resources. **[Same Impact as Approved Project (Less than Significant Impact)]**

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[13] Public views are those that are experienced from publicly accessible vantage points.
[14] City of Alameda. *Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration.* June 2014. SCH # 2015032026. Pages 14-19.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The project site is not located along a state-designated scenic highway. Therefore, implementation of the proposed project would not damage any scenic resources, such as trees, rock outcroppings, and historic buildings within a state scenic highway. **[Same Impact as Approved Project (Less than Significant Impact)]**

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The project site is located within an urbanized area of Alameda. The project involves construction of a new all-electric aquatic center, including a one-story building, one 30-meter competition swimming pool, one activity pool, and spectator seating. The building would have a maximum height of 22 feet to the top of parapet. The adopted IS/MND evaluated structures up to 20 feet.

The modified project would be subject to the City's design review process (Chapter XXX, Article II of the Alameda Municipal Code) to ensure the proposed design is consistent with the General Plan, Zoning Ordinance, and the City of Alameda Design Review Manual. As discussed further in Section 4.4 Biological Resources, the project would remove eight trees and would be required to provide replacement trees to account for those removed during construction in accordance with Section 23-3.2 of the City's municipal code. Therefore, consistent with the approved project, the modified project would not conflict with applicable zoning and other regulations governing scenic quality. **[Same Impact as Approved Project (Less than Significant Impact)]**

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Consistent with the approved project, the modified project would install LED lighting fixtures onsite. Consistent with the City's Municipal Code, all lighting would be reviewed to ensure light and glare impacts are reduced in accordance with the City's Dark Skies Ordinance. The main pool deck lighting would go dark when the facility closed for the day. The building's down lighting would remain on for security purposes. For these reasons, the modified project would not result in new or greater light or glare impacts than what was disclosed in the adopted IS/MND. **[Same Impact as Approved Project (Less than Significant Impact)]**

4.4 Air Quality

The following discussion is based, in part, on a Construction Emissions Health Risk Assessment prepared for the project by Illingworth & Rodkin, Inc. A copy of the report, dated January 15, 2025, is included as Appendix B to this IS/Addendum.

4.4.1 Environmental Setting

4.4.1.1 *Regulatory Framework*

4.4.1.2 *Background Information*

Criteria Pollutants

Criteria air pollutants are pollutants that have established federal or State standards for outdoor concentrations to protect public health. Pursuant with the federal and State Clean Air Acts, the EPA and the California Air Resources Board (CARB) have established and enforced the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS), respectively. The NAAQS and CAAQS address the following criteria air pollutants: ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter with a diameter of 10 microns or less (PM_{10}), particulate matter with a diameter of 2.5 micros or less ($PM_{2.5}$), sulfur dioxide (SO_2), and lead. The CAAQS also includes visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

Toxic Air Contaminants

Toxic air contaminants (TACs) include airborne chemicals that are known to have short- and long-term adverse health effects. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, diesel fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Unlike criteria air pollutants, which have a regional impact, TACs are highly localized and regulated at the individual emissions source level.

DPM is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs. DPM is comprised of diesel exhaust which is a complex mixture of gases, vapors, and fine particles. Medium- and heavy-duty diesel trucks represent the bulk of DPM emissions from California highways. The majority of DPM is small enough to be inhaled into the lungs. Most inhaled particles are subsequently exhaled, but some deposit on the lung surface or are deposited in the deepest regions of the lungs (i.e., areas most susceptible to injury).[15] Chemicals in diesel exhaust, such as benzene and formaldehyde, are also TACs identified by the CARB.

An overview of the sources of criteria pollutants and TACs, as well as their associated health effects, is provided in Table 4.3-1.

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[15] California Air Resources Board. "Overview: Diesel Exhaust and Health." Accessed February 7, 2025. https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health.

Table 4.3-1: Sources and Health Effects of Criteria Air Pollutants and Toxic Air Contaminants

Pollutants	Description and Sources	Primary Effects
Ozone (O_3)	O_3 is a secondary criteria air pollutant that is the result of a photochemical (sunlight) reaction between reactive organic gases (ROG) and nitrogen oxides (NO_x). Pollutants emitted by motor vehicles, power plants, industrial boilers, refineries, and chemical plants are the common sources for this reaction. High O_3 levels are caused by the cumulative emissions of ROG and NO_X. These precursor or primary pollutants react under certain meteorological conditions to form high O_3 levels. Commons sources of ROG and NO_x are vehicles, industrial plants, and consumer products.	• Aggravation of respiratory and cardiovascular diseases • Irritation of eyes • Cardiopulmonary function impairment
Nitrogen Dioxide (NO_2)	NO_2 is a reactive gas that combines with nitric oxide (NO) to form NO_x. NO_2 is the byproduct of fuel combustion, with common sources of NO_2 being emissions from cars, trucks, buses, power plants, and off-road equipment. Other sources of NO_2 include high temperature stationary combustion and atmospheric reactions.	• Aggravation of respiratory illness • Reduced visibility
Carbon Monoxide (CO)	CO is a colorless, odorless, and toxic gas that is the product of incomplete combustion of carbon-containing substances (e.g., when something is burned). Common outdoor sources of CO include mobile vehicles (passenger cars and trucks) and machinery that burn fossil fuels.	• Interferes with oxygen delivery to the body's organ due to binding with the hemoglobin in the blood • Fatigue, headaches, confusion, and dizziness
Fine Particulate Matter ($PM_{2.5}$) and Coarse Particulate Matter (PM_{10})	PM is any material that is emitted as liquid or solid particles or a gaseous material, such as dust, soot, aerosols, and fumes. PM_{10} and $PM_{2.5}$ are both small enough particulates to be inhaled into the human lungs, and $PM_{2.5}$ is small enough to deposit into the lungs, which poses an increased health risk compared to PM_{10}. Typical sources of PM include stationary combustion of solid fuels, construction activities, vehicles, industrial processes, and atmospheric chemical reactions.	• Reduced lung function, especially in children • Aggravation of respiratory and cardiorespiratory diseases • Increased cough and chest discomfort • Reduced visibility
Sulfur Dioxide (SO_2)	SO_2 is a pungent and colorless gaseous pollutant. SO_2 is part of the sulfur oxides (SO_x) group and is the pollutant of greatest concern in the SO_x group. SO_x can react with other compounds in the atmosphere to form small particles. These particles contribute to pollution. SO_2 is primarily formed from fossil fuel combustion at power plants and other industrial facilities. Sources of SO_2 include motor vehicles, locomotives, ships, and off-road diesel equipment that are operated with fuels that contain high levels of sulfur. Industrial processes, such as natural gas and petroleum extraction, oil refining, and metal processing.	• Aggravation of respiratory illness • Respiratory irritation such as wheezing, shortness of breath and chest tightness • Increased incidence of pulmonary symptoms and disease, decreased pulmonary function
Lead	Lead is a naturally occurring element that can be found in all parts of the environment including the air, soil, and water. As an air pollutant, lead is present in small particles. The most common historic source of lead exposure was the past use of leaded gasoline in motor	• Adversely affect the nervous system, kidney function, immune system, reproductive and

Pollutants	Description and Sources	Primary Effects
	vehicles. The exhaust resulting from use of leaded gasoline would release lead emissions into the air. Now, major sources of lead in the air are from ore and metals processing plants and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters.	developmental systems and the cardiovascular system
Toxic Air Contaminants (TACs)	TACs include certain air pollutants known to increase the risk of cancer and/or a range of other serious health effects. Sources of TAC include, but are not limited to, cars and trucks, especially diesel-fueled; industrial sources, such as chrome platers; dry cleaners and service stations; and building materials and products.	• Cancer • Chronic eye, lung, or skin irritation • Neurological and reproductive disorders

Sensitive Receptors

Some groups of people are more affected by air pollution than others. CARB has identified the following groups who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. The closest sensitive receptors to the project site are the single-family homes to the north across Atlantic Avenue and the single and multi-family homes to the south. There are also young adults at the College of Alameda's Science Annex to the northeast as well as infants present at the ViVi Family Daycare to the south.

4.4.1.3 *Regulatory Framework*

Federal and State

Clean Air Act

At the federal level, the EPA is responsible for overseeing implementation of the Clean Air Act and its subsequent amendments. The federal Clean Air Act requires the EPA to set national ambient air quality standards for the six common criteria pollutants, discussed previously; PM, O_3, CO, SO_2, NO_2, and lead.[16]

CARB is the state agency that regulates mobile sources throughout the state and oversees implementation of the state air quality laws and regulations, including the California Clean Air Act. The EPA and the CARB have adopted ambient air quality standards establishing permissible levels of these pollutants to protect public health and the climate. Violations of ambient air quality standards

[16] NO_x is the group of nitrogen compounds (NO_2 and nitric oxide [NO]) that typically represents NO_2 emissions because NO_2 emissions contribute the majority of NO_x exhaust emissions emitted from fuel combustion.

are based on air pollutant monitoring data and are determined for each air pollutant. Attainment status for a pollutant means that a given air district meets the standard set by the EPA and/or CARB.

Diesel Risk Reduction Plan

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, this plan involves the application of emission control strategies to existing diesel vehicles and equipment to reduce DPM and other pollutants. Implementation of this plan, in conjunction with stringent federal and CARB-adopted emission limits for diesel fueled vehicles and equipment, including off-road equipment, will significantly reduce emissions of DPM and NO_X.

Regional and Local

2017 Clean Air Plan

The Bay Area Air District [17] is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area, which includes the project area. Regional air quality management districts, such as the Bay Area Air District, must prepare air quality plans specifying how federal and state air quality standards will be met. The Bay Area Air District's most recently adopted plan is the Bay Area 2017 Clean Air Plan (CAP).[18]The 2017 Clean Air Plan focuses on the following two related Bay Area Air District goals and how to achieve them:

- Protect air quality and health at the regional and local scale by attaining all state and national air quality standards and eliminating disparities among Bay Area communities in cancer health risk from TAC; and
- Protect the climate by reducing Bay Area greenhouse gas (GHG) emissions 40 percent below 1990 levels by 2040 and 80 percent below 1990 levels by 2050.[19]

CEQA Air Quality Guidelines

The Bay Area Air District CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. Jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing air quality impacts developed by the Bay Area Air District within their CEQA Air Quality Guidelines. The guidelines include information on legal requirements, Bay Area Air District rules, methods of analyzing impacts, and recommended mitigation measures. The latest CEQA Air Quality

[17] Formerly known as the Bay Area Air Quality Management District (BAAQMD).
[18] At the time the adopted IS/MND was prepared, the 2010 CAP was in effect.
[19] Bay Area Air Quality Management District. *Final 2017 Clean Air Plan.* April 19, 2017. Page 12.

Guidelines are the 2022 CEQA Air Quality Guidelines adopted on April 20, 2023 by the Bay Area Air District's Board of Directors.

Community Air Risk Evaluation Program

Under the Community Air Risk Evaluation (CARE) program, the Bay Area Air District has identified areas with high TAC emissions, and sensitive populations that could be adversely affected by them. The Bay Area Air District uses this information to establish policies and programs to reduce TAC emissions and exposures. The City of Alameda is part of the seven CARE program impacted communities in the Bay Area.

The main objectives of the program are to:

- Evaluate health risks associated with exposure to TACs from stationary and mobile sources;
- Assess potential exposures to sensitive receptors and identify impacted communities;
- Prioritize TAC reduction measures for significant sources in impacted communities; and
- Develop and implement mitigation measures to improve air quality in impacted communities.

Alameda General Plan 2040

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to air quality and are applicable to the project.

Policies	Description
HS-63	Continue to work with the Bay Area Air Quality Management District (BAAQMD) to reduce diesel related air quality impacts throughout the region and in Alameda.
HS-65	Protect public health by requiring best management practices at construction sites and carefully evaluating the potential health risks of projects that generate substantial toxic air contaminants or projects that propose to place a sensitive user in proximity to an existing source of contaminants.
HS-68	Minimize and avoid exposure to toxic air contaminants

4.4.1.4 *Existing Conditions*

The San Francisco Bay Area (Bay Area) Air Basin is designated a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and for the state O_3, PM_{10}, and $PM_{2.5}$ standards.[20,21] The Bay Area is designated as an attainment area for both the NAAQS and CAAQS for CO, SO_2, and NO_2. As the regional air district, the Bay Area Air District is responsible for attaining the NAAQS and CAAQS for

[20] Bay Area Air Quality Management District. "Air Quality Standards and Attainment Status." Last Updated January 5, 2017.

[21] The area has attained both state and federal ambient air quality standards for CO. The project does not include substantial new emissions of SO2 or lead. These criteria pollutants are not discussed further.

these pollutants. As part of an effort to attain and maintain ambient air quality standards for O_3, PM_{10}, and $PM_{2.5}$, the Bay Area Air District has established thresholds of significance for these air pollutants and their precursors that apply to both construction period and operational period impacts. Controlling the emissions of these precursor pollutants is the focus of the Bay Area Air District's attempts to reduce O_3 levels. The highest O_3 levels in the Bay Area occur in the eastern and southern inland valleys where temperatures are higher, there is less wind circulation, and sources of the precursor pollutants (i.e., ROG and NO_x) are prominent. In the Bay Area, most particulate matter is generated from the following activities: combustion, factories, construction, grading, demolition, agriculture, and motor vehicles. Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide emissions and localized emissions.

4.4.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The adopted IS/MND determined that the approved project would result in less than significant air quality impacts with the incorporation of the Bay Area Air District's basic construction control measures in the form of Mitigation Measure AIR-1 (refer to Section 4.1 of this Initial Study).

4.4.2.1 *Thresholds of Significance*

As discussed in CEQA Guidelines Section 15064(b), the determination of whether a project may have a significant effect on the environment calls for judgment on the part of the lead agency and must be based to the extent possible on scientific and factual data. The City of Alameda has considered the Bay Area Air District's air quality thresholds and regards these thresholds to be based on the best information available for the San Francisco Bay Area Air Basin and conservative in terms of the assessment of health effects associated with TACs and $PM_{2.5}$.[22] The Bay Area Air District CEQA Air Quality thresholds for criteria air pollutants and fugitive dust used in this analysis are identified in Table 4.3-2. Table 4.3-3 below lists the Bay Area Air District health risk and hazards thresholds for single-source and cumulative-sources.

Table 4.3-2: Bay Area Air District Air Quality Significance Thresholds

Criteria Air Pollutant	Construction Thresholds*	Operation Thresholds	Operation Thresholds
	Average Daily Emissions (pounds/day)	**Average Daily Emissions (pounds/day)**	**Annual Average Emissions (tons/year)**
ROG and NO_x	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
CO	Not Applicable	9.0 ppm (eight-hour) or 20.0 ppm (one-hour)	
Fugitive Dust	Dust Control Measures/Best Management Practices	Not Applicable	

Notes: ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; $PM_{2.5}$= fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; CO = carbon monoxide

* The Air District recommends that for construction projects that require less than one year to complete, lead agencies should annualize impacts over the scope of actual days that peak impacts would occur rather than over the full year. Additionally, for phased projects that results in concurrent construction and operational emissions. Construction-related exhaust emissions should be combined with operational emissions for all phases where construction and operations overlap.

Source: Bay Area Air Quality Management District. *2022 California Environmental Quality Act Air Quality Guidelines*. April 2023. Pages 3-5 and 3-6.

Table 4.3-3: Bay Area Air District Health Risks and Hazards Thresholds

Health Risk	Single Source	Combined Cumulative Sources
Cancer Risk	10 per one million	100 per one million
Non-Cancer Hazard Index	1.0	10.0
Annual $PM_{2.5}$ Concentration	0.3 $\mu g/m^3$	0.8 $\mu g/m^3$ (average)

Notes: $\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$= fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less

Thresholds are applicable to construction and operational activities.

Source: Bay Area Air Quality Management District. *2022 California Environmental Quality Act Air Quality Guidelines*. April 2023. Pages 3-5 and 3-6.

[22] BAAQMD updated its CEQA Guidelines in April 2023; the numeric thresholds of significance remain unchanged from those adopted in 2010.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

2017 Clean Air Plan

As noted in Section 4.3.1.3, at the time the adopted IS/MND was prepared, the 2010 CAP was in effect. The adopted IS/MND found that the approved project would not conflict with the adopted CAP. The modified project would not conflict with the 2017 CAP because it would not result in the generation of construction criteria air pollutants and/or precursors that exceed the thresholds shown in Table 4.3-4 (refer to discussion below). In addition, the proposed aquatic center (5,740 square feet) would be below the Bay Area Air District's operational criteria pollutant screening threshold of 376,000 square feet for recreation swim pools; therefore, it is assumed the project would not result in a significant operational criteria pollutant impact.[23] Thus, the modified project is not required to incorporate project-specific control measures listed in the 2017 CAP. Further, implementation of the modified project would not inhibit the Bay Area Air District or partner agencies from continuing progress toward attaining state and federal air quality standards and eliminating health-risk disparities from exposure to air pollution among Bay Area communities, as described within the 2017 CAP.

Construction Period Emissions – Criteria Pollutants

The California Emissions Estimator Model (CalEEMod) Version 2022 was used to estimate annual emissions from construction activities for the modified project. Table 4.3-4 shows the estimated average daily air emissions from construction of the modified project compared to the approved project.

Table 4.3-4: Construction Period Emissions (pounds/day)

Year	ROG	NOx	PM10 Exhaust	PM2.5 Exhaust
Approved Project				
2015	4	43	2	2
2016	3	19	1	1
Modified Project				
2025 + 2026 (305 construction workdays)	0.81	6.86	0.25	0.23
2027 (107 construction workdays)	1.10	3.30	0.06	0.05
Bay Area Air District Thresholds (pounds per day)	**54 lbs./day**	**54 lbs./day**	**82 lbs./day**	**54 lbs./day**
Exceed Threshold?	No	No	No	No

[23] Bay Area Air Quality Management District. *2022 CEQA Guidelines*. April 2023. Page 4-4.

As shown in Table 4.3-4 above, the modified project's unmitigated construction criteria pollutant emissions would not exceed the Bay Area Air District thresholds. Consistent with the approved project, the modified project would implement the Bay Area Air District's basic construction control measures (Mitigatoin Measure AIR-1) to reduce fugitive dust (refer to checklist question c below).

Operational Period Emissions – Criteria Pollutants

The Bay Area Air District developed screening criteria to provide lead agencies with an indication of whether a project could result in significant operational air quality impacts (e.g., daily or annual emissions above stated thresholds). Screening criteria are used to determine the extent of additional analysis required for a specific project. If a project is determined to be below the Bay Area Air District's screening criteria for a specific pollutant, then the project is said to have less than significant operational air quality impacts and no further analysis is required under CEQA.

Operational period criteria pollutant emissions associated with the modified project would be generated primarily from vehicles driven by future visitors to the aquatic center, and to a lesser extent by waste disposal and daily energy and water usage. The modified project, which involves 5,740 square feet, falls below the Bay Area Air District operational criteria air pollutants screening threshold of 376,000 square feet for a "Recreation Swimming Pool" land use type. Consistent with the Approved Project, the modified project would result in a less than significant air quality impact due to operational-related criteria air pollutant emissions.

For these reasons, the modified project would not disrupt or hinder the implementation of the 2017 Bay Area Air District CAP. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

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b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

As discussed under checklist question a), the project size is below the Bay Area Air District screening threshold for operational criteria air pollutant emissions, which conservatively means its operational emissions would not exceed the Bay Area Air District's operational criteria air pollutant emissions thresholds. In addition, based on the project's computed construction criteria pollutant emissions (refer to Table 4.3-4) and the Bay Area Air District construction best management practices (BMPs) that would be implemented during construction activities (Mitigation Measure AIR-1), construction criteria pollutant impacts would also be below the Bay Area Air District's emission thresholds. Because the modified project would have less than significant criteria pollutant impacts, it would not result in a cumulatively considerable contribution to any criteria pollutants for which the region is in non-attainment. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Criteria Pollutant Emissions

In a 2018 decision (*Sierra Club v. County of Fresno*), the state Supreme Court determined CEQA requires that when a project's criteria air pollutant emissions would exceed applicable thresholds and contribute a cumulatively considerable contribution to a significant cumulative regional criteria pollutant impact, the potential for the project's emissions to affect human health in the air basin must be disclosed. State and federal ambient air quality standards are health-based standards, and exceedances of those standards result in continued unhealthy levels of air pollutants. As stated in the 2017 Bay Area Air District CEQA Air Quality Guidelines, air pollution by its nature is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. In developing thresholds of significance for air pollutants, the Bay Area Air District considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project has a less than significant impact for criteria pollutants, it is assumed to have no adverse health effect.

Fugitive Dust

Construction activities associated with the project, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The Bay Area Air District CEQA Air Quality Guidelines consider these impacts to be less than significant if best management practices are implemented to reduce the emissions. Consistent with the approved project, the modified project includes Mitigation Measure AIR-1 that incorporates the Bay Area Air District best management practices to reduce fugitive dust related impacts to a less than significant level.

Toxic Air Contaminants

Project impacts related to increased health risk can occur by generating emissions of TACs and air pollutants. Temporary project construction activity would generate emissions of DPM from equipment and trucks and generate dust on a temporary basis that could affect nearby sensitive receptors. Additionally, there are existing sources of TACs and localized air pollutants in the vicinity of the project.

Health risk impacts are addressed by predicting increased lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust emissions pose health risks for sensitive receptors such as surrounding residents, school students, and daycare infants/children. The primary health risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[24] This assessment included dispersion modeling to predict the offsite and onsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with the Bay Area Air District CEQA guidance for age sensitivity factors and exposure parameters. The modeled maximum annual DPM and $PM_{2.5}$ concentrations were identified at nearby sensitive receptors (as shown in Figure 4.3-1) to find the maximally exposed individuals (MEI).

Results of this assessment indicated that the construction MEI was located on the first floor (five feet above the ground) of a single-family home north of the construction site. Table 4.3-5 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and HI for project related construction activities affecting the construction MEI.

Table 4.3-5: Construction Risk Impacts at the Off-Site MEI

Source	**Cancer Risk (per million)**	**Annual $PM_{2.5}$ ($\mu g/m^3$)**	**Hazard Index**
Project Construction	7.93 (infant)	0.09	0.01
Bay Area Air District Single-Source Threshold	>10.0	>0.3	>1.0
Exceed Threshold?	No	No	No
Maximum School/Daycare Impact – ViVi Family Daycare			
Project Construction	2.39 (infant)	0.01	<0.01
Bay Area Air District Single-Source Threshold	10	0.3	1.0
Exceed Threshold?	No	No	No

As shown in Table 4.3-5, the uncontrolled risk values at these locations do not exceed the Bay Area Air District single-source significance thresholds.

Cumulative health risk assessments look at all substantial sources of TACs located within 1,000 feet of a project site (i.e., influence area) that can affect sensitive receptors. These sources include rail lines, highways, busy surface streets, and stationary sources identified by the Bay Area Air District.

The local roadways and four existing stationary sources of TACs were identified with the potential to affect the project MEI. Figure 4.3-2 shows the locations of the sources affecting the MEI within the influence area. Health risk impacts from these sources upon the MEI are reported in Table 4.3-6.

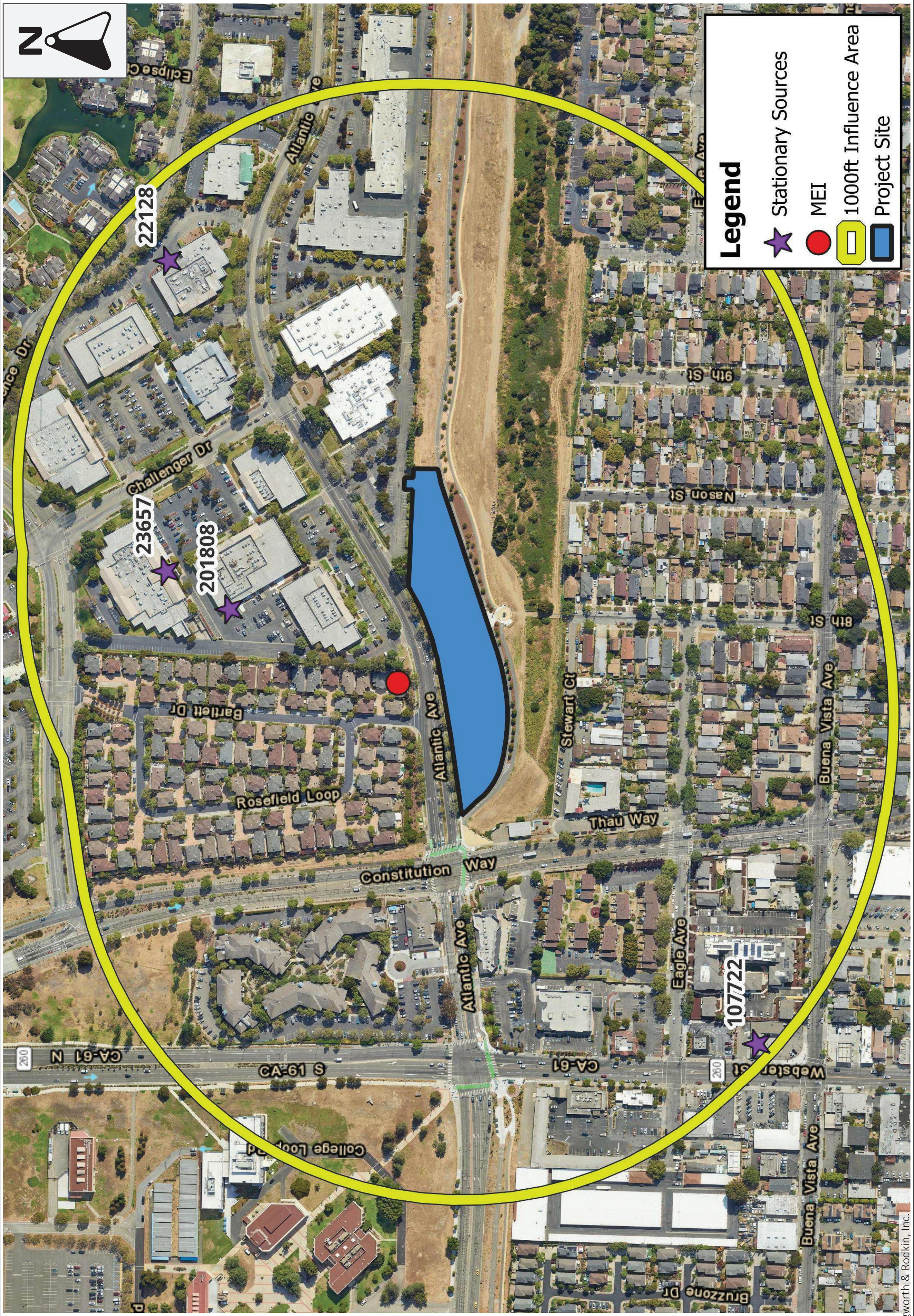
[24] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

FIGURE 4.4-1

LOCATIONS OF PROJECT CONSTRUCTION SITE, OFF-SITE SENSITIVE RECEPTORS, AND MAXIMUM TAC IMPACTS (MEI)

Source: Illingworth & Rodkin, Inc.

FIGURE 4.4-2



Source: Illingworth & Rodkin, Inc.

PROJECT SITE AND NEARBY TAC AND $PM_{2.5}$ SOURCES

Table 4.3-6: Impacts from Combined Sources at Off-Site MEI

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts			
Project Construction	7.93 (infant)	0.09	0.01
Bay Area Air District Single-Source Threshold	>10.0	>0.3	>1.0
Exceed Threshold?	No	No	No
Cumulative Impacts			
Nearby Roadways – Bay Area Air District GIS Screening Tool	13.39	0.31	0.04
G&I IX Marina Village Research (Facility ID #22128, Generator), MEI at 835 feet.	0.12	0.00	0.00
Heliotrope Technologies (Facility ID #23657, Generic Source), MEI at 600 feet.	0.00	0.00	0.00
Ology Bioservices, Inc. (Facility ID #201808, Generator), MEI at 470 feet.	0.16	0.00	0.00
Chevron Station #90290 (Facility ID #107722, Gas Dispensing Facility), MEI at 960 feet.	0.53	0.00	0.02
Cumulative Total	22.13	0.40	0.07
Bay Area Air District Cumulative Source Threshold	>100	>0.8	>10.0
Exceed Threshold?	No	No	No

As shown in Table 4.3-6, none of the Bay Area Air District single-source or cumulative-source thresholds are exceeded by the modified project.

With implementation of Mitigation Measure AIR-1 during construction, the modified project would not expose sensitive receptors to substantial pollutant concentrations. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Odors are generally considered an annoyance rather than a health hazard. Land uses that have the potential to be sources of odors that generate complaints include, but are not limited to, wastewater treatment plants, landfills, composting operations, and food manufacturing facilities. Heavy-duty construction equipment and vehicles would emit odors, such as diesel exhaust, during use and while idling. These odors would be intermittent, and the odors would disperse with distance. All construction-related odors would cease upon completion of construction. During operations, the proposed aquatic center would not generate objectionable odors. The modified project would, therefore, not create objectionable odors that would affect a substantial number of people off-site. **[Same Impact as Approved Project (Less than Significant Impact)]**

4.5 Biological Resources

4.5.1 Environmental Setting

4.5.1.1 *Regulatory Framework*

Federal and State

Endangered Species Act

Individual plant and animal species listed as rare, threatened, or endangered under state and federal Endangered Species Acts are considered special-status species. Federal and state endangered species legislation has provided the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required from both the USFWS and CDFW if activities associated with a proposed project would result in the take of a species listed as threatened or endangered. To “take” a listed species, as defined by the State of California, is “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” these species. Take is more broadly defined by the federal Endangered Species Act to include harm of a listed species.

In addition to species listed under state and federal Endangered Species Acts, Sections 15380(b) and (c) of the CEQA Guidelines provide that all potential rare or sensitive species, or habitats capable of supporting rare species, must be considered as part of the environmental review process. These may include plant species listed by the California Native Plant Society and CDFW-listed Species of Special Concern.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits killing, capture, possession, or trade of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. Hunting and poaching are also prohibited. This includes direct and indirect acts, except for harassment and habitat modification, which are not included unless they result in direct loss of birds, nests, or eggs. The CDFW also protects migratory and nesting birds under California Fish and Game Code Sections 3503, 3503.5, and 3800. The CDFW defines taking as causing abandonment and/or loss of reproductive efforts through disturbance.

Sensitive Habitat Regulations

Wetland and riparian habitats are considered sensitive habitats under CEQA. They are also afforded protection under applicable federal, state, and local regulations, and are generally subject to regulation by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, and/or the USFWS under provisions of the federal Clean Water Act (e.g., Sections 303, 304, 404) and State of California Porter-Cologne Water Quality Control Act.

Fish and Game Code Section 1602

Streambeds and banks, as well as associated riparian habitat, are regulated by the CDFW per Section 1602 of the Fish and Game Code. Work within the bed or banks of a stream or the adjacent riparian habitat requires a Streambed Alteration Agreement from the CDFW.

City of Alameda

Alameda General Plan 2024

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to biological resources and are applicable to the project.

Policy	Description
CC-26	Take actions to maintain and expand the number of trees in Alameda on public and private property to improve public health, reduce pollution, and reduce heat island effects.
CC-27	Protect and restore natural habitat in support of biodiversity and protect sensitive biological resources to prepare for climate change.
CC-33	Protect San Francisco Bay, San Leandro Bay, and the Alameda Oakland Estuary by promoting, requiring, and constructing green infrastructure that improves stormwater runoff quality, minimizes stormwater impacts on stormwater infrastructure, improves flood management, and increases groundwater recharge.
CC-34	Promote the preservation of on-site natural elements in new development, when feasible, that contribute to the community's native plant and wildlife species value and to its aesthetic character.

Bird-Safe Building Ordinance

The Alameda Bird-Safe Building Ordinance, codified at Municipal Code Section 30-5.16, is intended to reduce bird mortality from windows or other specific building features known to increase the risk of bird collisions. It requires the use of bird-safe glazing on new buildings that are taller than 35 feet and that have one or more façades in which glass constitutes 50 percent or more of the area of an individual facade. The bird-safe glazing requirement must be met on any window or unbroken glazed segment with an area of 12 square feet or more. These same criteria apply to windows replaced in existing buildings meeting the size and glazing area thresholds. Additionally, bird-safe glazing is required for new or replaced glass walls with an unbroken glazed segment 24 square feet or more in size, regardless of building size. Replacement of existing glass on historic structures is generally exempt from the requirements of this ordinance.

Dark Skies Ordinance

The Alameda Dark Skies Ordinance, codified at Municipal Code Section 30-5.16, is intended to minimize light that can be attractive, disorienting, and hazardous to migrating and local birds, while also preventing excessive light and glare on public roadways and private properties and minimizing artificial outdoor light that can have a detrimental effect on human health, the environment, astronomical research, amateur astronomy, and enjoyment of the night sky. The ordinance requires all exterior lighting fixtures to be fully shielded and downward- directed, with the exception of low voltage landscape lighting, historic lighting fixtures, and uplighting used to highlight special architectural features, historic structures, public art and monuments, and similar objects of interest. In the case of architectural uplighting, lamps used for may not exceed 100 watts, or a 20-watt equivalent LED, and must emit less than 1,600 lumens per fixture. Light trespass onto neighboring properties may not exceed 1 foot-candle as measured at the nearest property line to the light source. The ordinance also imposes restrictions on security lighting. Parking lot lighting is regulated separately under Municipal Code Section 30-7.17.

Tree Removal Policy and Ordinance

The Alameda Master Street Tree Plan adopted in February 2010 includes a Protected Tree Removal Policy that prohibits the removal of any protected tree within the public right-of-way without a certificate of approval from the Historical Advisory Board. Protected trees include the palm trees in the public right-of-way on Burbank Street and Portola Avenue, any street tree on Thompson and Central Avenues, and any Coastal Live Oak with a 10-inch or greater diameter measured 4.5 feet above the ground. In addition, Section 23-3.2 of the City's municipal code applies to street trees in general and requires that the Public Works Director permit any planting, removal, trimming, pruning, or cutting of street trees. City tree permits may specify the number, kind, and spacing for planting trees and shrubs and may limit the number of trees or shrubs to be removed or pruned and prescribe the methods to be used in any street tree or shrub removal.

4.5.1.2 *Existing Conditions*

On-Site Habitat

According to the adopted IS/MND, most of the larger 22-acre project site consists of non-native grassland, pampas grass hummocks, and acacia trees.[25] The project site is in a highly urbanized area of Alameda and is surrounded by infill development. Wildlife species utilizing urban areas are adaptive to human activities. Common wildlife species found in Alameda include common raven, northern mockingbird, racoon, striped skink, Norway rat, Virginia opossum, and feral cats.[26]

Special-Status Species

The adopted IS/MND determined that the following special-status species have a moderate to high potential to occur in the vicinity of the project site:

- Cooper's hawk
- White-tailed kite
- California horned lark

[25] City of Alameda. *Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration.* June 2014. SCH # 2015032026. Page 28.
[26] Ibid. Page 29.

- Peregrine falcon
- Loggerhead shrike
- Osprey
- Double-crested cormorant
- Caspian tern
- California least tern
- Townsend's big-eared bat

Aquatic Resources

A wetland delineation was completed in April 2015[27] pursuant to mitigation measure MM BIO-2a in the adopted IS/MND. The results of this wetland delineation survey indicate that no state or federal jurisdictional wetlands are present with the project area.

4.5.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS)?	☐	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?	☐	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☐	☒

[27] ESA. *Jean Sweeney Open Space Park Wetland Delineation Results.* April 2015.

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The adopted IS/MND determined that the approved project would have no impacts to riparian habitat or conflict with an adopted habitat conservation plan or natural communities conservation plan. The IS/MND found that the project would have less than significant impacts to special-status species, wetlands, migratory birds, and trees with incorporation of the Mitigation Measures BIO-1 through BIO-3 presented in Section 4.1 of this Initial Study.

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

As discussed in Section 4.4.1.2 Existing Conditions, the project site has the potential to support special status bird (Cooper’s hawk, White-tailed kite, California horned lark, Peregrine falcon, Loggerhead shrike, Osprey, Double-crested cormorant, Caspian tern, California least tern) and bat species (Townsend’s big eared bad). Consistent with the approved project, the modified project would be required to implement mitigation measure MM BIO-1a and 1b (refer to Section 4.1), which require pre-construction surveys for nesting birds and bats, along with the identification and protection of active nests. Therefore, with implementation of mitigation measures MM BIO-1a and 1b, the project would not result in significant impacts to special-status species and nesting birds. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

The project site does not contain riparian habitat or other sensitive natural communities.[28] Therefore, consistent with the approved project, the modified project would not adversely affect any riparian habitat or other sensitive natural communities. **[Same Impact as Approved Project (No Impact)]**

c) Would the project have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means?

As discussed in Section 4.4.1.2 Existing Conditions, no state or federal jurisdictional wetlands are present with the project area.[29] A wetland delineation was completed in April 2015 pursuant to mitigation measure MM BIO-2a in the adopted IS/MND. Therefore, consistent with the approved project, the modified project would not adversely affect state or federally protected wetlands and would not be required to implement mitigation measures MM BIO-2a or 2b. **[Less Impact as Approved Project (Less than Significant Impact)]**

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The adopted IS/MND concluded that the approved project had the potential to interfere substantially with the movement of native resident or migratory avian and bat species within the project vicinity. Consistent with the approved project, implementation of Mitigation Measures BIO-1a and BIO-1b under checklist question a) would reduce these potential project-related impacts to a less-than-significant level. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The modified project does not propose to remove any protected trees.[30] The project would retain the protected Coast Live Oak located west of the project driveway. Consistent with the approved

[28] City of Alameda. *Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration.* June 2014. SCH # 2015032026.

[29] ESA. *Jean Sweeney Open Space Park Wetland Delineation Results.* April 2015.

[30] Protected trees include the palm trees in the public right-of-way on Burbank Street and Portola Avenue, any street tree on Thompson and Central Avenues, and any Coastal Live Oak with a 10-inch or greater diameter measured 4.5 feet above the ground.

project, the modified project would implement Mitigation Measure BIO-3 to ensure that protection of the Coast live oak tree.

The project would remove a total of eight onsite trees. Trees would be removed in compliance with Section 23-3.2 of the City's Municipal Code. The project would plant approximately 50 new trees on the site in the parking lot and along the perimeter fence. Therefore, with incorporation of these measures, the project would not conflict with any local ordinances protecting biological resources. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no habitat conservation plans or natural communities conservation plans that apply to the project site.[31] Therefore, consistent with the approved project, the modified project would not conflict with an adopted habitat conservation plan. **[Same Impact as Approved Project (No Impact)]**

[31] City of Alameda. *Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration.* June 2014. SCH # 2015032026.

4.6 Cultural Resources

4.6.1 Environmental Setting

4.6.1.1 *Regulatory Framework*

Federal and State

National Historic Preservation Act

Federal protection is legislated by the National Historic Preservation Act of 1966 (NHPA) and the Archaeological Resource Protection Act of 1979. These laws maintain processes for determination of the effects on historical properties eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA and related regulations (36 Code of Federal Regulations [CFR] Part 800) constitute the primary federal regulatory framework guiding cultural resources investigations and require consideration of effects on properties that are listed or eligible for listing in the NRHP. Impacts to properties listed in the NRHP must be evaluated under CEQA.

California Register of Historical Resources

The California Register of Historical Resources (CRHR) is administered by the State Office of Historic Preservation and encourages protection of resources of architectural, historical, archeological, and cultural significance. The CRHR identifies historic resources for state and local planning purposes and affords protections under CEQA. Under Public Resources Code Section 5024.1(c), a resource may be eligible for listing in the CRHR if it meets any of the NRHP criteria.[32]

Historical resources eligible for listing in the CRHR must meet the significance criteria described previously and retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if it maintains the potential to yield significant scientific or historical information or specific data.

The concept of integrity is essential to identifying the important physical characteristics of historical resources and, therefore, in evaluating adverse changes to them. Integrity is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance." The processes of determining integrity are similar for both the CRHR and NRHP and use the same seven variables or aspects to define integrity that are used to evaluate a resource's eligibility for listing. These seven characteristics include 1) location, 2) design, 3) setting, 4) materials, 5) workmanship, 6) feeling, and 7) association.

[32] California Office of Historic Preservation. "CEQA Guidelines Section 15064.5(a)(3) and California Office of Historic Preservation Technical Assistance Series #6." Accessed October 4, 2024. https://ohp.parks.ca.gov/pages/1069/files/technical%20assistance%20bulletin%206%202011%20update.pdf.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act applies to both state and private lands. The act requires that upon discovery of human remains, construction or excavation activity must cease and the county coroner be notified.

Public Resources Code Section 5097.98

Section 15064.5 of the CEQA Guidelines specifies procedures to be used in the event of an unexpected discovery of Native American human remains on non-federal land. These procedures are outlined in Public Resources Code Section 5097.98. These codes protect such remains from disturbance, vandalism, and inadvertent destruction, establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project, and establish the Native American Heritage Commission (NAHC) as the authority to resolve disputes regarding disposition of such remains.

Pursuant to Public Resources Code Section 5097.98, in the event of human remains discovery, no further disturbance is allowed until the county coroner has made the necessary findings regarding the origin and disposition of the remains. If the remains are of a Native American, the county coroner must notify the NAHC. The NAHC then notifies those persons most likely to be related to the Native American remains. The code section also stipulates the procedures that the descendants may follow for treating or disposing of the remains and associated grave goods.

City of Alameda

Historic Preservation Ordinance

The City of Alameda Historic Preservation Ordinance is promulgated in Chapter 13, Article VII of the Alameda Municipal Code. The purpose of the ordinance is "to promote the educational, cultural, and economic welfare of the City by preserving and protecting historical structures, sites, parks, landscaping, streets, and neighborhoods which serve as visible reminders of the history and cultural heritage of the City, State or Nation. Furthermore, it is the purpose of this chapter to strengthen the economy of the City by stabilizing and improving property values in historic areas, and to encourage new buildings and developments that will be harmonious with the existing buildings and neighborhoods."

General Plan 2040

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to cultural resources and are applicable to the project.

Policy	Description
LU-25	Promote the preservation, protection and restoration of historic sites, districts, buildings of architectural significance, archaeological resources, and properties and public works

4.6.1.2 *Existing Conditions*

The project site is part of the larger 22-acre Jean Sweeney Open Space Park. The 2.35-acre portion of the site is currently vacant and undeveloped.

The project area is the location of the former Alameda Belt Line Railroad and Union Pacific Railroad yards. Most of the larger 22-acre site was formerly occupied by parallel standard gauge spur tracks. The Yard House is on Sherman Street in the southeast corner of the parcel. Concrete foundations remain from a former above ground fuel tank and the former maintenance buildings are on the west end of the parcel. Concrete foundations are also present on the northeast corner of the parcel.

Archaeological Resources

The project area is underlain by artificial fill over Holocene-age San Francisco Bay Mud and is in an area that has been highly disturbed from previous impacts related to the construction of the rail yard and associated facilities. No prehistoric archaeological sites have been recorded in the central part of Alameda or within a 0.5-mile radius of the project area.[33] The nearest prehistoric sites are approximately one mile to the southeast and consist of shell middens with burials on land that was historically bordering the Oakland marshland.

Historic Resources

The Alameda Belt Line Railway and its contributors, including the existing yard house, are considered historical resources for purposes of CEQA. However, these resources are not present on the 2.35-acre aquatic center project site. With the exception of the Yard House, the integrity of the project site, in terms of its ability to convey the historic importance of the Belt Line, is low: the tracks on and adjacent to the site have been removed, as have other structures. Moreover, under the approved project, the Yard House—the only remaining structure—was retained and rehabilitated.[34]

[33] City of Alameda. *Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration.* June 2014. SCH # 2015032026. Pages 46.
[34] Ibid. Page 45.

4.6.2 Impact Discussion

Would the project:	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The adopted IS/MND concluded that implementation of the approved project would result in less than significant cultural resources impacts with the implementation of Mitigation Measures CUL-1 through CUL-3 (refer to Section 4.1 of this Initial Study)

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?

As discussed in Section 4.5.1.2 Existing Conditions, the adopted IS/MND found that the Alameda Belt Line Railway and its contributors, including the existing Yard House, are considered historical resources for purposes of CEQA. However, these resources are not present on the 2.35-acre site where the modified project would be developed. As part of the approved project, the City implemented Mitigation Measure MM CUL-1 (see Section 4.1, above), which required rehabilitation of the Alameda Belt Line Yard House (which is approximately 0.48 acres east of the modified project site) in conformance to the Secretary of the Interior's Standards. For these reasons, the modified project would not cause an adverse change in the significance of a historical resource. **[Less Impact than the Approved Project (Less than Significant Impact)]**

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

As discussed in Section 4.5.1.2 Existing Conditions, the project site is in an area that has been highly disturbed from previous impacts related to the construction of the rail yard and associated facilities. Further, no prehistoric archaeological sites have been recorded in the central part of Alameda or within a 0.5-mile radius of the project area. Consistent with the approved project, the modified project would implement Mitigation Measure CUL-2, which would ensure that any unknown culturally significant archaeological resources encountered during construction would be identified, evaluated and appropriately treated in accordance with the recommendations of a qualified archaeologist. As such, the modified project would not result in new or greater impacts than what was disclosed in the adopted IS/MND. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

While there is no specific reason to anticipate it happening on the project site, human remains have the potential to be discovered during construction. If human remains were unearthed during project construction, damage to or destruction of culturally significant human remains would be a potentially significant impact. Consistent with the approved project, the modified project would be required to implement Mitigation Measure CUL-3, which would ensure that any human remains encountered during ground-disturbing activities are appropriately identified and treated and the impact reduced to a less than significant level. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

4.7 Energy

4.7.1 Environmental Setting

4.7.1.1 *Regulatory Framework*

Federal and State

Energy Star and Fuel Efficiency

At the federal level, energy standards set by the EPA apply to numerous consumer products and appliances (e.g., the EnergyStar™ program). The EPA also sets fuel efficiency standards for automobiles and other modes of transportation.

Renewables Portfolio Standard Program

In 2002, California established its Renewables Portfolio Standard Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2010. Governor Schwarzenegger issued Executive Order (EO) S-3-05, requiring statewide emissions reductions to 80 percent below 1990 levels by 2050. In 2008, EO S-14-08 was signed into law, requiring retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. In October 2015, Governor Brown signed SB 350 to codify California's climate and clean energy goals. A key provision of SB 350 requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable sources by 2030. SB 100, passed in 2018, requires 100 percent of electricity in California to be provided by 100 percent renewable and carbon-free sources by 2045.

Executive Order B-55-18 and Assembly Bill 1279

Executive Order B-55-18 was issued in September 2018. It ordered a new statewide goal of achieving carbon neutrality no later than 2045 and to maintain net negative emissions thereafter.

Assembly Bill 1279, also known as the California Climate Crisis Act, was approved on September 16, 2022, and codifies the statewide goal set by Executive Order B-55-18 of achieving net zero GHG emissions no later than the year 2045 and maintaining net negative emissions thereafter. In addition, this bill has a statewide goal of reducing anthropogenic GHG emissions by 85 percent below the 1990 levels by the year 2045. The bill requires CARB to work with relevant state agencies to ensure that updates to the scoping plan, identify and recommend measures to achieve these policy goals, and implement strategies that enable CO_2 removal solutions and carbon capture, utilization, and storage technologies in California. The bill requires CARB to submit an annual report.

California Building Standards Code

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6 of the California Code of Regulations (Title 24), was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three years.[35] Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments.[36]

California Green Building Standards Code

CALGreen establishes mandatory green building standards for buildings in California. CALGreen was developed to reduce GHG emissions from buildings, promote environmentally responsible and healthier places to live and work, reduce energy and water consumption, and respond to state environmental directives. CALGreen covers five categories: planning and design, energy efficiency, water efficiency and conservation, material and resource efficiency, and indoor environmental quality.

Advanced Clean Cars Program

CARB adopted the Advanced Clean Cars II program in 2022 in coordination with the EPA and National Highway Traffic Safety Administration. The program combines the control of smog-causing pollutants and GHG emissions into a single coordinated set of requirements for vehicle model years 2026 through 2035. The program promotes development of environmentally superior passenger cars and other vehicles, as well as saving the consumer money through fuel savings.[37]

City of Alameda

Alameda Climate Action and Resiliency Plan

Alameda's Climate Action and Resiliency Plan (CARP), adopted in April 2025, is intended to reduce GHG emissions 50 percent below 2005 levels by 2030 and achieve carbon neutrality by 2045. Among its other provisions (discussed in more detail in Chapter 12, Greenhouse Gases), the CARP aims to decarbonize residential and nonresidential new construction and encourage the use of recycled and low embodied carbon materials, renewable energy, efficient design.

Alameda Municipal Code

Alameda Municipal Code Sections 13-10 and 13-11, respectively, adopt the California Green Building Standards Code and the California Energy Code as applicable building codes for the City of Alameda. The California Energy Code, codified at CCR Title 24, Parts 6 and 11, is discussed above under State Regulations.

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[35] California Building Standards Commission. "California Building Standards Code." Accessed February 7, 2025. https://www.dgs.ca.gov/BSC/Codes#@ViewBag.JumpTo.

[36] California Energy Commission (CEC). "2022 Building Energy Efficiency Standards." Accessed February 7, 2025. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency.

[37] California Air Resources Board. "Advanced Clean Cars II." Accessed February 7, 2025. https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii

4.7.1.2 *Existing Conditions*

Total energy usage in California was approximately 6,882 trillion British thermal units (Btu) in the year 2022, the most recent year for which this data was available.[38] Out of the 50 states, California is ranked second in total energy consumption and 49th in energy consumption per capita. The breakdown by sector was approximately 18 percent (1,204 trillion Btu) for residential uses, 17 percent (1,193 trillion Btu) for commercial uses, 22 percent (1,539 trillion Btu) for industrial uses, and 43 percent (2,916 trillion Btu) for transportation.[39] This energy is primarily supplied in the form of natural gas, petroleum, nuclear electric power, and hydroelectric power.

Electricity

Electricity in Alameda County in 2022 was consumed primarily by the non-residential sector (69 percent), followed by the residential sector consuming 31 percent. In 2022, a total of approximately 10,395 gigawatt hours (GWh) of electricity was consumed in Alameda County.[40]

Electric service in Alameda is provided by Alameda Municipal Power (AMP), which has nearly 35,000 residential and commercial customers. Electricity is delivered throughout AMP's 22.8-square-mile service area in a network of approximately 178.1 circuit miles of underground distribution lines, 86.1 pole miles of overhead distribution lines, 6.8 miles of overhead transmission lines, and 1.9 circuit miles of underground transmission lines.[41]

AMP purchases power from a variety of generators, providing 100 percent clean power to Alameda. The renewable sources include hydroelectric (46.5 percent), geothermal (9.6 percent), wind (5.8 percent), and landfill gas-generated turbines (9 percent). The remaining power is provided from unspecified sources, but AMP states that all of its power is 100 percent clean as of January 1, 2020.

Natural Gas

PG&E provides natural gas services within Alameda County. In 2024, California's natural gas supply came from a combination of in-state production and imported supplies from other western states and Canada.[42]

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[38] United States Energy Information Administration. "California State Energy Profile." Accessed February 7, 2025. https://www.eia.gov/state/print.php?sid=CA.
[39] Ibid.
[40] Ibid.
[41] City of Alameda. *General Plan 2040 Draft EIR.* May 2021. Page 19-12.
[42] California Gas and Electric Utilities. 2024 *California Gas Report.* Accessed February 7, 2025. https://www.socalgas.com/sites/default/files/2024-08/2024-California-Gas-Report-Final.pdf

Fuel for Motor Vehicles

In 2023, California produced 118 million barrels of crude oil and in 2019, 15.4 billion gallons of gasoline were sold in California.[43, 44] The average fuel economy for light-duty vehicles (autos, pickups, vans, and sport utility vehicles) in the United States has steadily increased from about 13 miles per gallon (mpg) in the mid-1970s to 27.1 mpg in 2023.[45] Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007. That standard, which originally mandated a national fuel economy standard of 35 miles per gallon by the year 2020, was updated in April 2022 to require all cars and light duty trucks achieve an overall industry average fuel economy of 49 mpg by model year 2026.[46,47]

4.7.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

At the time the adopted IS/MND was prepared, the CEQA Appendix G checklist did not include questions related to energy use. However, the approved park would consume energy during both the construction and operational phases.

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[43] U.S. Energy Information Administration. "Petroleum & Other Liquids, California Field Production of Crude Oil." February 28, 2023. https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=mcrfpca1&f=a

[44] California Department of Tax and Fee Administration. "Net Taxable Gasoline Gallons." Accessed February 7, 2025. https://www.cdtfa.ca.gov/dataportal/dataset.htm?url=VehicleTaxableFuelDist.

[45] United States Environmental Protection Agency. "The 2024 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975." November 2024. Accessed February 7, 2025. https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P101CUZD.pdf.

[46] United States Department of Energy. *Energy Independence & Security Act of 2007.* Accessed February 7, 2025. http://www.afdc.energy.gov/laws/eisa.

[47] United States Department of Transportation. USDOT Announces New Vehicle Fuel Economy Standards for Model Year 2024-2026." Accessed February 7, 2025. https://www.nhtsa.gov/press-releases/usdot-announces-new-vehicle-fuel-economy-standards-model-year-2024-2026.

a) Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Consistent with the approved project, energy is consumed during the construction and operational phases of the modified project.

Construction

The construction phase would require energy for the actual manufacture and transportation of building materials, preparation of the site (e.g., grading), and the actual construction of the project. Construction contractors would be required by Mitigation Measure AIR-1 (see Section 4.3 Air Quality) to minimize equipment idling time and maintain equipment in proper operating condition, which would ensure that fuel powering the equipment would not be used in an inefficient or wasteful manner. Further, implementation of the CARB-adopted emission limits for diesel fueled vehicles and equipment, including off-road equipment, would significantly reduce emissions of DPM and NOx. While the intent of these regulations is to reduce Nox emissions, the newer engines would also be more fuel efficient. The modified project would also be required to comply with the CALGreen Code (as reinforced by the Alameda Municipal Code), which is explicitly intended to encourage sustainable construction practices in energy efficiency and other environmental parameters, and includes provisions for energy conservation during construction activities. As part of CALGreen Code requirements, project sponsors would be required to prepare and implement a construction waste management plan that would contribute to energy conservation. Consistent with the approved project, construction of the modified project would not result in a potentially significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources.

Operation

Operation of the modified project would consume energy for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, and electronics. Electricity would also be consumed to charge EVs. Gasoline and diesel fuel would be consumed by employees, visitors, deliveries, and service vehicles traveling to and from the site.

As shown in Table 4.6-1 below, the modified project would consume approximately 612,036 kWh/yr of electricity annually. The modified project would be all electric and would not utilize any natural gas. Assuming the average fuel economy of 25.4 mg, vehicular travel to/from the modified project would consume approximately 46,515 gallons of gasoline per year.

Table 4.6-1: Estimated Annual Energy Use

Development	Electricity Use (kWh)	Natural Gas Use (kBtu)	Gasoline[1] (gallons per year)
Modified Project	612,036	--	46,515[2]

Sources: Gordon, William. Principal Director of Interior Architecture, els architecture + urban design. Personal Communication. February 26, 2025.

Notes:

[1] Gasoline use calculated based on estimated annual VMT of proposed uses in CalEEMod divided by average U.S. fuel economy. Per the 2021 EPA Automotive Trends Report, the average U.S. Fuel Economy is 25.4 mpg for light-duty vehicles.

[2] The VMT for the project was estimated to be 1,181,463 VMT per year. Source: Source: Illingworth & Rodkin, Inc. *Alameda Aquatics Center Construction Emissions and Health Risk Assessment*. January 2025.

The modified project's related energy use would be greater than the approved project (refer to Section 3.2 of this IS/Addendum), but is less than significant in comparison with state and county consumption of electricity, natural gas, and gasoline identified under Section 4.6.1.2 Existing Conditions. Furthermore, although the modified project would use more energy than the approved project, the consumption would not be wasteful, inefficient, or unnecessary.

The Alameda General Plan 2040 was developed with the explicit intention of reducing energy use and transitioning to renewable sources of energy in order to reduce environmental impacts, including greenhouse gas emissions and associated climate change. Accordingly, the Alameda Geneal Plan 2040 EIR found that compliance with the City's General Plan policies, the CALGreen Building Code and the City of Alameda General Plan and Municipal Code would ensure that future development allowed under the General Plan (including the modified project[48]) would not result in a potentially significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources. **[New Less than Significant Impact]**

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As discussed above, the modified project would comply with the CALGreen Building Code, CARB regulations, Alameda 2040 General Plan, and the City's Municipal Code. Therefore, consistent with the approved project, the modified project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **[New Less than Significant Impact]**

[48] The modified project proposes to develop a 2.35-acre portion of the site with an aquatic swim center consistent with General Plan Policy OS-15.

4.8 Geology and Soils

The following discussion is based, in part, on a Hydrogeological Investigation prepared for the project by Ninyo & Moore. A copy of the Hydrogeological Investigation report, dated May 13, 2024, is included as Appendix C to this IS/Addendum.

4.8.1 Environmental Setting

4.8.1.1 *Regulatory Framework*

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed following the 1971 San Fernando earthquake. The act regulates development in California near known active faults due to hazards associated with surface fault ruptures. Alquist-Priolo maps are distributed to affected cities, counties, and state agencies for their use in planning and controlling new construction. Areas within an Alquist-Priolo Earthquake Fault Zone require special studies to evaluate the potential for surface rupture to ensure that no structures intended for human occupancy are constructed across an active fault.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) was passed in 1990 following the 1989 Loma Prieta earthquake. The SHMA directs the California Geological Survey (CGS) to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. CGS has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, landslides, and ground shaking, including the central San Francisco Bay Area. The SHMA requires that agencies only approve projects in seismic hazard zones following site-specific geotechnical investigations to determine if the seismic hazard is present and identify measures to reduce earthquake-related hazards.

California Building Standards Code

The California Building Code (CBC) prescribes standards for constructing safe buildings. The CBC contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, ground strength, and distance to seismic sources. The CBC requires that a site-specific geotechnical investigation report be prepared for most development projects to evaluate seismic and geologic conditions such as surface fault ruptures, ground shaking, liquefaction, differential settlement, lateral spreading, expansive soils, and slope stability. The CBC is updated every three years.

California Division of Occupational Safety and Health Regulations

Excavation, shoring, and trenching activities during construction are subject to occupational safety standards for stabilization by the California Department of Industrial Relations, Cal/OSHA under Title 8 of the California Code of Regulations and Excavation Rules. These regulations minimize the potential for instability and collapse that could injure construction workers on the site.

Public Resources Code Section 5097.5

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. They range from mammoth and dinosaur bones to impressions of ancient animals and plants, trace remains, and microfossils. These materials are valued for the information they yield about the history of the earth and its past ecological settings. California Public Resources Code Section 5097.5 specifies that unauthorized removal of a paleontological resource is a misdemeanor. Under the CEQA Guidelines, a project would have a significant impact on paleontological resources if it would disturb or destroy a unique paleontological resource or site or unique geologic feature.

City of Alameda

Alameda General Plan 2040

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to geology and soils and are applicable to the project.

Policies	**Description**
HS-9	Maintain up-to-date local building codes that incorporate new standards for construction pertaining to development on areas of fill or underlain by bay mud or Merritt sand.
HS-13	Require owners of vulnerable structures, to the extent feasible, to retrofit existing structures to withstand earthquake ground shaking, and require retrofitting when such structures are substantially rehabilitated or remodeled.
HS-24	Require and enforce stringent groundwater management programs to prevent subsidence.
HS-29	Require new development to comply with the City's current fire, seismic, and sprinkler codes.

4.8.1.2 *Existing Conditions*

Regional Geology

Alameda Island was prehistorically a sand dune that formed during the last ice age over 10,000 years ago on a low-lying peninsula. These sands were eroded from the Oakland Hills and deposited when sea levels were low and San Francisco Bay was a wide river valley. When the sea level rose, the tops of the dunes remained. The Pleistocene deposits were uplifted and dissected by stream channels that were later filled with younger stream and fan deposits of the Temescal formation. During Holocene time, fluvial activity eroded these sediments and resulted in the estuary channel between Oakland and Alameda. Recent Bay mud and estuary deposits filled portions of the channel and buried near-shore portions of the Merritt Sand.

Since the mid-1800's, Alameda Island has been enlarged by placement of fill into the bay and estuaries, resulting in large sections of Alameda being underlain by artificial fill. In addition, the Oakland-Alameda Estuary was extended by man-made excavation and has been subjected to dredging to facilitate ship passage. Today, the geology of Alameda is quite uniform, with about half of Alameda Island and about three-quarters of Bay Farm Island underlain by artificial fill that was placed in the middle of the 19th century to reclaim marshland. The fill was composed mainly of Merritt sand, Bay Mud, Temescal formation debris, broken rock, and miscellaneous refuse. The central and eastern half of Alameda Island, occupying the original prehistoric peninsula, is underlain by dune sand from the Holocene and Pleistocene eras. The central portion of Bay Farm Island that occupies the original land mass is underlain by Merritt sand from the Holocene and Pleistocene eras.

On-Site Geologic Conditions

Soils and Topography

The project site is characterized by a low degree of topographic relief with a ground surface elevation that ranges between approximately 12 and 22 feet above mean sea level (MSL) with an average gradient across the site of approximately 2.3 percent to the east.

The project site is underlain by fill, and interfingered Dune Sand and Bay Mud.

Seismicity and Seismic Hazards

Alameda is located in the seismically active San Francisco Bay Region, where all locations are potentially subject to strong seismic shaking during an earthquake event on one of the regional faults that cross the region. Although there are no active faults in Alameda, there are a number of historic and Quaternary-age earthquake faults located to the west and east of the City.

The project site is not located in an Alquist-Priolo Earthquake Fault Zone.[49] The nearest active fault to Alameda is the Hayward Fault, located about three miles to the east. The San Andreas Fault, located approximately 12 miles to the west, was the origin of the Great 1906 San Francisco Earthquake.

Liquefaction and Lateral Spreading

Liquefaction occurs when clean, loose, saturated, uniformly graded, fine-grained soils within 40 feet of the ground surface are exposed to strong seismic ground shaking. The soils temporarily lose strength and cohesion due to buildup of excess pore water pressure during earthquake-induced

[49] California Geological Survey. *Earthquake Zones of Required Investigation.* Accessed February 19, 2025. https://maps.conservation.ca.gov/cgs/informationwarehouse/eqzapp/

cyclic loading, resulting in a loss of ground stability that can cause building foundations to fail. Soil liquefaction may also damage roads, pavements, pipelines, and underground cables. Soils susceptible to liquefaction include saturated, loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits.

The maps of seismic hazards prepared by the CGS under the Seismic Hazards Mapping Program that include the City of Alameda show the entire city as being within a Liquefaction Zone.[50] The project site is designated with Moderate Susceptibility for liquefaction. [51]

Landslides

Areas that are most susceptible to earthquake-induced landslides are steep slopes in poorly cemented or highly fractured rocks, areas underlain by loose, weak soils, and areas on or adjacent to existing landslide deposits. Although these geologic and terrain conditions exist in many parts of California, as an essentially level city, much of which is constructed on artificial fill, there is no potential for landslide in Alameda.

Groundwater

Groundwater was encountered during the December 2023 subsurface exploration at depths ranging between five feet and 14 feet below the ground surface. Regional groundwater records compiled by the CGS indicate that the historic high groundwater level at the site is about five feet below the ground surface. Variations or fluctuations in the groundwater levels across the site and over time may occur due to seasonal precipitation, spatial variations in topography or subsurface hydrogeologic conditions, or as a result of tidal variations or other factors.

Paleontological Resources

Most of the City of Alameda is underlain by artificial fill overlying estuarine mud (also referred to as Young Bay Mud), which is a silty clay that is rich in organic materials and is known to be soft and compressible. These soils have a very low potential for paleontological resources being present in the subsurface.

The geologic units underlying Alameda represent either historic (in the last 200 years) or Holocene-age (last 11,000 years) geologic units. Such recent deposits are unlikely to preserve the remains of organisms due to the lack of time and burial needed for the organisms to be fossilized. In addition, artificial fills are man-made, and have been mixed and reworked from native geologic materials, and therefore are not fossil-yielding.

[50] City of Alameda. *General Plan 2040 Draft EIR.* May 2021. Page 14-12.
[51] Ibid. Figure GS-5.

4.8.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
− Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42)?	☐	☐	☐	☒	☐
− Strong seismic ground shaking?	☐	☐	☐	☒	☐
− Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒	☐
− Landslides?	☐	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒	☐
d) Be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☐	☒	☐

The adopted IS/MND concluded that the approved project would have less than significant geology and soils impacts.

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides?

As discussed in Section 4.7.1.2, the project site is not located in an Alquist-Priolo Earthquake Fault Zone, making fault rupture at the site unlikely.[52] Consistent with the approved project, the project site is located in a seismically active region. The project site could experience a range of ground shaking effects during an earthquake on one of the aforementioned Bay Area faults (refer to Section 4.7.1.2). Consistent with the approved project, the modified project would be required to comply with all applicable City of Alameda regulations and standards to address potential geologic impacts associated with development of the site. As the project site is located within a liquefaction Seismic Hazard Zone according to the CGS, the City would be required to comply with the Guidelines set by CGS Special Publication. The project site is relatively level, and is not located on or adjacent to a hillside. Improvements resulting from the proposed project would therefore not be affected by potential impacts associated with landslides or mudslides. **[Same Impact as Approved Project (Less than Significant Impact)]**

b) Would the project result in substantial soil erosion or the loss of topsoil?

The potential for erosion would be highest during the grading and excavation phase of the project. These activities could increase the exposure of on-site soils to wind and water erosion. Consistent with the approved project, the modified project would disturb more than one acre and would be subject to the National Pollutant Discharge Elimination System (NPDES) requirements for construction, including preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include a description of appropriate BMPs that include erosion control measures. Construction contractor(s) are responsible for implementation of the SWPPP, which includes maintenance, inspection, and repair of erosion and sediment control measures and water quality BMPs throughout the construction period. Once constructed, disturbed areas would be protected by coverings such as structures, pavement, concrete, or vegetation such the potential for erosion or loss of topsoil is very low. Implementation of these measures would reduce impacts associated with soil erosion to a less than significant level. **[Same Impact as Approved Project (Less than Significant Impact)]**

[52] California Geological Survey. *Earthquake Zones of Required Investigation.* Accessed February 19, 2025. https://maps.conservation.ca.gov/cgs/informationwarehouse/eqzapp/

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The City of Alameda landslide hazard maps show the entire city as being within a Liquefaction Zone.[53] The project site is designated with Moderate Susceptibility for liquefaction. [54] Consistent with the approved project, the modified project would be constructed in accordance with the CBC and City grading requirements. As a result, potential impacts associated with unstable units would be less than significant. **[Same Impact as Approved Project (Less than Significant Impact)]**

d) Would the project be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property?

Hazards from expansive soils can generally be eliminated through placement of non-expansive fill and proper structural design. It is not known whether the project site is located on expansive soils. Consistent with the approved project, the modified project would be required to complete a site-specific geotechnical investigation and incorporation of geotechnical recommendations, as required by the City's Building Division and the California Building Code prior to issuance of a building permit, would ensure that site-specific information on shrink-swell capabilities of onsite soils is obtained. The site-specific geotechnical investigation would include measures to minimize hazards associated with expansive soils, if present. **[Same Impact as Approved Project (Less than Significant Impact)]**

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The project would connect to existing City sewer services and would not include the construction or operation of septic tanks or other alternative wastewater disposal systems. **[Same Impact as Approved Project (No Impact)]**

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

The project area is underlain by artificial fill overlying estuarine mud (also referred to as Young Bay Mud). These soils have a very low potential for paleontological resources being present in the subsurface. Therefore, the modified project would not directly or indirectly destroy a unique paleontological resources or site or unique geological feature. **[Same Impact as Approved Project (No Impact)]**

[53] City of Alameda. *General Plan 2040 Draft EIR.* May 2021. Page 14-12.
[54] Ibid. Figure GS-5.

4.9 Greenhouse Gas Emissions

4.9.1 Environmental Setting

4.9.1.1 *Background Information*

GHGs are gases that trap heat in the atmosphere and regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. In GHG emission inventories, the weight of each gas is multiplied by its global warming potential (GWP) and is measured in units of CO_2 equivalents (CO_2e). The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities (anthropogenic). Natural and anthropogenic sources of GHGs are generally as follows:

- CO_2 exchange between the atmosphere, ocean, and land surface
- CO_2, CH_4, and N_2O are emitted from wildfires and volcanic eruptions
- CO_2 and N_2O are byproducts of fossil fuel combustion
- N_2O is associated with agricultural operations such as fertilization of crops
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents, but their production has been stopped by international treaty
- HFCs are now used as a substitute for CFCs in refrigeration and cooling
- PFCs and SF_6 emissions are commonly created by industries such as aluminum production and semiconductor manufacturing

An expanding body of scientific research supports the theory that global climate change is currently causing changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. Per the 2022 Scoping Plan from CARB, atmospheric concentrations of CO_2 have increased by 50 percent since the Industrial Revolution and continue to increase at a rate of two parts per million each year, which will result in increased global temperatures.[55] The climate within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

[55] California Air Resources Board. *2022 Scoping Plan for Achieving Carbon Neutrality*. December 2022. Page 3.

4.9.1.2 *Regulatory Framework*

State

Assembly Bill 32 and State Bill 32

Under the California Global Warming Solutions Act, known as AB 32, CARB established a statewide GHG emissions cap for 2020, adopted mandatory reporting rules for significant sources of GHGs, and adopted a comprehensive plan, known as the Climate Change Scoping Plan, identifying how emission reductions would be achieved from significant GHG sources. The first Scoping Plan was approved by CARB in 2008 and must be updated at least every five years. Since 2008, there have been two updates to the Scoping Plan.

In 2016, SB 32 was signed into law, amending the California Global Warming Solution Act. SB 32, and accompanying Executive Order B-30-15, require CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. CARB updated its Climate Change Scoping Plan in December of 2017 to accelerate 2030 statewide target in terms of million metric tons of CO_2e ($MMTCO_2e$). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 $MMTCO_2e$.

2022 Scoping Plan

On December 15, 2022, CARB approved the 2022 Scoping Plan. The 2022 Scoping Plan provides a sector-by-sector guide on how to reduce man-made (i.e., anthropogenic) GHG emissions by 85 percent below 1990 levels and achieve carbon neutrality by 2045 over a 25-year horizon.[56] The primary focus of the 2022 Scoping Plan is to reduce the usage of fossil fuels by electricizing the transportation sector, procuring electricity from renewable resources, phasing out natural gas in land use developments, and building transit-oriented communities that encourage multi-modal transportation. If implemented successfully, the 2022 Scoping Plan would not only reduce GHG emissions but also reduce smog-forming air pollution (NO_x) by 71 percent and reduce fossil fuel demand by 94 percent. The 2022 Scoping Plan also details natural carbon capture and storage process along with mechanical carbon capture programs to address the remaining 15 of anthropogenic GHG emissions that will remain post-2045. To meet these goals, CARB also includes a revised goal of reducing state GHG emissions 48 percent below 1990 levels by 2030.

Senate Bill 375 and Plan Bay Area 2050

SB 375, known as the Sustainable Communities Strategy and Climate Protection Act, was signed into law in September 2008. SB 375 builds upon AB 32 by requiring CARB to develop regional GHG reduction targets for automobile and light truck sectors for 2020 and 2035. The per capita GHG emissions reduction targets for passenger vehicles in the Bay Area include a seven percent reduction by 2020 and a 15 percent reduction by 2035.

[56] California Air Resources Board. *2022 Scoping Plan for Achieving Carbon Neutrality*. December 2022. Page 5.

Consistent with the requirements of SB 375, the Metropolitan Transportation Commission (MTC) partnered with the Association of Bay Area Governments (ABAG), the Bay Area Air District, and the Bay Conservation and Development Commission to prepare the region's Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan process. The SCS is referred to as Plan Bay Area 2050.

Plan Bay Area 2050 is a long-range plan for the nine-county San Francisco Bay Area that provides strategies that increase the availability of affordable housing, support a more equitable and efficient economy, improve the transportation network, and enhance the region's environmental resilience. Plan Bay Area 2050 promotes the development of a variety of housing types and densities within identified priority development areas (PDAs). PDAs are areas generally near existing job centers or frequent transit that are locally identified for housing and job growth.[57]

Play Bay Area 2050 includes a goal to increase the number of households that live within 0.5 mile of frequent transit by 2050. Plan Bay Area 2050 promotes strategies that support active and shared modes, combined with a transit-supportive land use patterns, which together are forecasted to lower the share of Bay Area residents that drive to work alone from 50 percent in 2015 to 33 percent in 2050, resulting in a decrease in GHG emissions. Plan Bay Area 2050 also provides a path to emissions reductions via goals to expand TDM initiatives that support and augment employers' commute programs.

<u>SB 100</u>

SB 100, known as The 100 Percent Clean Energy Act of 2018, was adopted on September 10, 2018. The overall goal is to have all retail electricity sold in California be procured from 100 percent renewable and zero-carbon resources by the year 2045. SB 100 also modified the renewables portfolio standard to 50 percent by 2025 and 60 percent by 2030.

<u>Executive Order B-55-18 and Assembly Bill 1279</u>

Executive Order B-55-18 was issued in September 2018. It ordered a new statewide goal of achieving carbon neutrality no later than 2045 and to maintain net negative emissions thereafter.

Assembly Bill 1279, also known as the California Climate Crisis Act, was approved on September 16, 2022 and codifies the statewide goal set by Executive Order B-55-18 of achieving net zero GHG emissions no later than the year 2045 and maintaining net negative emissions thereafter. In addition, this bill has a statewide goal of reducing anthropogenic GHG emissions by 85 percent below the 1990 levels by the year 2045. The bill requires CARB to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and implement strategies that enable CO_2 removal solutions and carbon capture, utilization, and storage technologies in California. The bill requires CARB to submit an annual report.

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[57] Association of Bay Area Governments and Metropolitan Transportation Commission. *Plan Bay Area 2050*. October 21, 2021. Page 20.

Advanced Clean Cars II Regulation

To continue reducing air pollutants and GHG emissions in the transportation sector, CARB adopted the Advanced Clean Cars II Regulations (Resolution 22-12) on August 25, 2022. The new regulation requires that by 2035 all new passenger cars, trucks, and SUVs sold in California will be zero-emission vehicles. This regulation bans the sale of new gasoline or diesel passenger cars, trucks, and SUVs in California from automakers. Beginning in 2026, 35 percent of new vehicle sales must be zero-emission vehicles and plug-in hybrid EVs and that percentage will increase per year. By 2030, 70 percent of new vehicle sales will be zero-emissions vehicles and by the 2035 model year 100 percent of new vehicle sales will be zero-emissions. CARB will limit the use of plug-in hybrid EVs in the percentage requirements to keep the manufacturing of zero-emissions as the primary goal. Existing gasoline cars can continue to be driven and sold as used cars beyond 2035. CARB is required to track and report on the zero-emissions vehicle market development annually.

California Building Standards Code – Title 24 Part 11 and Part 6

The CALGreen Code is part of the California Building Standards Code under Title 24, Part 11.[58] The CALGreen Code encourages sustainable construction standards that incorporate planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2022 CALGreen Code) was effective as of January 1, 2023.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the CEC. This code includes design requirements to conserve energy in new residential and non-residential developments. This Energy Code is enforced and verified by cities during the planning and building permit process.

Requirements for EV charging infrastructure are set forth in Title 24 of the California Code of Regulations and are regularly updated on a three-year cycle. The CALGreen standards consist of a set of mandatory standards required for new development, as well as two more voluntary standards known as Tier 1 and Tier 2. The 2022 CALGreen standards require deployment of additional EV chargers in various building types, including multi-family residential, hotel, and non-residential land uses. They include requirements for both EV capable parking spaces and the installation of EV supply equipment for multi-family residential and nonresidential buildings. The 2022 CALGreen standards also include requirements for both EV readiness and the actual installation of EV chargers.

CALGreen also requires new construction and demolition projects to have a diversion of at least 65 percent of the construction waste generated.

[58] Refer to https://www.dgs.ca.gov/BSC/CALGreen.

Regional and Local

2017 Clean Air Plan

To protect the climate, the 2017 Clean Air Plan prepared by the Bay Area Air District includes control measures designed to reduce emissions of methane and other super-GHGs that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

Bay Area Air District CEQA Thresholds for Evaluating Climate Impacts from Land Use Projects and Plans

In April 2022, the Bay Area Air District Board of Directors adopted the Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. The report includes the Bay Area Air District's thresholds of significance for use in determining whether a proposed project or plan will have a significant impact on climate change and provides substantial evidence to support these thresholds. The April 2022 GHG thresholds replace the GHG thresholds set forth in the May 2017 Bay Area Air District CEQA Air Quality Guidelines and represent what is required of new land use development projects and plans to achieve California's long-term climate goal of carbon neutrality by 2045.

City of Alameda Climate Action and Resiliency Plan (CARP)

The City of Alameda CARP, adopted in April 2025, identifies mitigation and adaptation measures towards the vision of achieving net zero carbon emissions and community resiliency as soon as possible. The plan also contains a GHG reduction goal of 50 percent below 2005 levels by 2030 and achieve carbon neutrality by 2045. The CARP aims to decarbonize residential and nonresidential new construction and encourage the use of recycled and low embodied carbon materials, renewable energy, efficient design.

4.9.1.3 *Existing Conditions*

Unlike emissions of criteria and toxic air pollutants, which have regional and local impacts, emissions of GHGs have a broader, global impact. Global warming is a process whereby GHGs accumulating in the upper atmosphere contribute to an increase in the temperature of the earth and changes in weather patterns.

Given the existing site is undeveloped, it does not generate GHG emissions.

4.9.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The adopted IS/MND concluded that the approved project would result in less than significant GHG emissions.

4.9.2.1 *Thresholds of Significance*

In April of 2022, the Bay Area Air District adopted new CEQA Guidelines that included a new set of significance thresholds that are based on a qualitative analysis rather than the previously quantitative metrics, as CEQA allows for both quantitative and qualitative approaches to evaluating GHG emissions. For land use projects to result in a less than significant GHG emissions impact, the project would need to comply with threshold A or B below:

A. Projects must include, at a minimum, the following project design elements:
   1. Buildings
      a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
      b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
   2. Transportation
      a. Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's

Technical Advisory on Evaluating Transportation Impacts in CEQA:

i. Residential projects: 15 percent below the existing VMT per capita

ii. Office projects: 15 percent below the existing VMT per employee

iii. Retail projects: no net increase in existing VMT

a. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

a) Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction

Short-term GHG emissions from the construction phase of the modified project would consist primarily of heavy equipment exhaust, worker travel, materials delivery, and solid waste disposal. Neither the City nor the Bay Area Air District have adopted thresholds of significance for construction-related GHG emissions. Given that construction emissions would be temporary (20 months), project construction would not be considered a significant source of GHG emissions and would not interfere with the implementation of SB 32.

Operation

As described in Section 4.8.1.2 Regulatory Framework, the Bay Area Air District updated their recommended CEQA thresholds of significance for GHG emissions in 2022. Under these recently updated thresholds, projects must demonstrate either A) specific building design and transportation elements or B) consistency with a local GHG reduction strategy. The City of Alameda has adopted a qualified GHG reduction strategy that meets the CEQA Guidelines Section 15183.5(b) guidelines; however, the City's CARP was not adopted at the time this Initial Study analysis was completed, and therefore this analysis relies on compliance with Threshold A.

The modified project would comply with the qualitative building measures under Threshold A. The modified project does not include any natural gas appliances and the aquatic center would be 100 percent electric. As discussed in Section 4.6 Energy, the modified project complies with the CALGreen Building Code, ensuring that energy would not be used wastefully, inefficiently, or unnecessarily. As discussed further in Section 4.14 Transportation, the modified project considered a local-serving use and presumed to have a less-than-significant impact on VMT. Lastly, the modified project would provide seven EV charger parking spaces, consistent with CalGreen Tier 2 requirements.

As stated above, the modified project would result in temporary GHG emissions during construction which would not interfere with SB 32. The modified project's operational GHG emissions would be consistent with the Bay Area Air District Threshold A measures, which include building design and transportation measures. Consistency with the Bay Area Air District project design qualitative thresholds would ensure consistency with the SB 32 and carbon neutral goals set by the State. Therefore, the modified project would result in a less than significant GHG impact during construction and operations of the proposed project. **[Same Impact as Approved Project (Less than Significant Impact)]**

b) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

As described in Section 4.8.1.2 Regulatory Framework, the 2022 Scoping Plan is a document that plans how the state will achieve carbon neutrality by 2045 and reduce human caused emissions to 85 percent below 1990 levels by 2045. The Bay Area Air District qualitative thresholds were designed to ensure future projects complete their "fair share" of implementing carbon reduction design features to help achieve the state's carbon neutrality goal. A project that can meet the energy and transportation design elements outlined in the Bay Area Air District thresholds or is consistent with a qualified GHG reduction strategy is consistent with the goals outlined in the 2022 Scoping Plan and would not hinder the state from achieving carbon neutrality. As described above, the modified project would be consistent with the Bay Area Air District's qualitative thresholds. Therefore, the modified project would not exacerbate the cumulative GHG problem and the project's contribution would not be cumulatively considerable as it does not impede California's ability to achieve carbon neutrality.

As discussed in Section 4.3 Air Quality, the modified project is consistent with the 2017 Clean Air Plan because it supports the primary goals of the 2017 Clean Air Plan and is consistent with applicable control measures that reduce both criteria air pollutant and GHG emissions.

Consistent with the approved project, the modified project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. **[Same Impact as Approved Project (Less than Significant Impact)]**

4.10 Hazards and Hazardous Materials

The following discussion is based, in part, on a Hydrogeological Evaluation prepared by Ninyo & Moore and a Removal Action Completion Report prepared by SLR International Corporation. Copies of these reports, dated May 13, 2024 and July 2018, are attached to this IS/Addendum as Appendix C and D, respectively.

4.10.1 Environmental Setting

4.10.1.1 *Regulatory Framework*

Overview

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and state laws. In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (CalEPA). In turn, local agencies have been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) program.

Worker health and safety and public safety are key issues when dealing with hazardous materials. Proper handling and disposal of hazardous material is vital if it is disturbed during project construction. Cal/OSHA enforces state worker health and safety regulations related to construction activities. Regulations include exposure limits, requirements for protective clothing, and training requirements to prevent exposure to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigations and abatement.

Federal and State

<u>Comprehensive Environmental Response, Compensation, and Liability Act</u>

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over five years, $1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA accomplished the following objectives:

- Established prohibitions and requirements concerning closed and abandoned hazardous waste sites;
- Provided for liability of persons responsible for releases of hazardous waste at these sites; and

- Established a trust fund to provide for cleanup when no responsible party could be identified.

The law authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response; and
- Long-term remedial response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life-threatening. These actions can be completed only at sites listed on the EPA's National Priorities List.

CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.[59]

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), enacted in 1976, is the principal federal law in the United States governing the disposal of solid waste and hazardous waste. RCRA gives the EPA the authority to control hazardous waste from the "cradle to the grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous solid wastes.

The Federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that focused on waste minimization, phasing out land disposal of hazardous waste, and corrective action for releases. Some of the other mandates of this law include increased enforcement authority for the EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.[60]

Government Code Section 65962.5

Section 65962.5 of the Government Code requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by state and local agencies and developers to comply with CEQA requirements. The Cortese List includes hazardous

[59] United States Environmental Protection Agency. "Superfund: CERCLA Overview." Accessed May 11, 2020. https://www.epa.gov/superfund/superfund-cercla-overview.
[60] United States Environmental Protection Agency. "Summary of the Resource Conservation and Recovery Act." Accessed February 20, 2025. https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act.

substance release sites identified by the Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB).[61]

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides the EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics, and pesticides. The TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.

California Accidental Release Prevention Program

The California Accidental Release Prevention (CalARP) Program aims to prevent accidental releases of regulated hazardous materials that represent a potential hazard beyond the boundaries of a property. Facilities that are required to participate in the CalARP Program use or store specified quantities of toxic and flammable substances (hazardous materials) that can have off-site consequences if accidentally released. The Alameda County Department of Environmental Health (ACDEH) reviews CalARP risk management plans as the CUPA.

Asbestos-Containing Materials

Friable asbestos is any asbestos-containing material (ACM) that, when dry, can easily be crumbled or pulverized to a powder by hand, allowing the asbestos particles to become airborne. Common examples of products that have been found to contain friable asbestos include acoustical ceilings, plaster, wallboard, and thermal insulation for water heaters and pipes. Common examples of non-friable ACMs are asphalt roofing shingles, vinyl floor tiles, and transite siding made with cement. The EPA began phasing out use of friable asbestos products in 1973 and issued a ban in 1978 on manufacture, import, processing, and distribution of some asbestos-containing products and new uses of asbestos products.[62] The EPA is currently considering a proposed ban on on-going use of asbestos.[63] National Emission Standards for Hazardous Air Pollutants (NESHAP) guidelines require that potentially friable ACMs be removed prior to building demolition or remodeling that may disturb the ACMs.

CCR Title 8, Section 1532.1

The United States Consumer Product Safety Commission banned the use of lead-based paint in 1978. Removal of older structures with lead-based paint is subject to requirements outlined by the Cal/OSHA Lead in Construction Standard, CCR Title 8, Section 1532.1 during demolition activities.

[61] California Environmental Protection Agency. "Cortese List Data Resources." Accessed February 20, 2025. https://calepa.ca.gov/sitecleanup/corteselist/.
[62] United States Environmental Protection Agency. "EPA Actions to Protect the Public from Exposure to Asbestos." Accessed April 19, 2022. https://www.epa.gov/asbestos/epa-actions-protect-public-exposure-asbestos
[63]Ibid.

Requirements include employee training, employee air monitoring, and dust control. If lead-based paint is peeling, flaking, or blistered, it is required to be removed prior to demolition.

Regional and Local

Municipal Regional Permit Provision C.12.f

PCBs were produced in the United States between 1955 and 1978 and used in hundreds of industrial and commercial applications, including building and structure materials such as plasticizers, paints, sealants, caulk, and wood floor finishes. In 1979, the EPA banned the production and use of PCBs due to their potential harmful health effects and persistence in the environment. PCBs can still be released to the environment today during demolition of buildings that contain legacy caulks, sealants, or other PCB-containing materials.

With the adoption of the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MRP) by the San Francisco Bay Regional Water Quality Control Board on November 19, 2015, Provision C.12.f requires that permittees develop an assessment methodology for applicable structures planned for demolition to ensure PCBs do not enter municipal storm drain systems.[64] Municipalities throughout the Bay Area are currently modifying demolition permit processes and implementing PCB screening protocols to comply with Provision C.12.f. Buildings constructed between 1950 and 1980 that are proposed for demolition must be screened for the presence of PCBs prior to the issuance of a demolition permit. Single family homes and wood-frame structures are exempt from these requirements.

Regional and Local

City of Alameda Local Hazard Mitigation Plan

The City of Alameda Local Hazard Mitigation Plan (LHMP) (June 2016) was prepared in accordance with the Disaster Mitigation Act of 2000, which required states, cities, and Indian tribes to prepare a hazard mitigation plan in order to be eligible for mitigation funding from the Federal Emergency Management Agency (FEMA). The purpose of the City's LHMP is to identify the City of Alameda's natural hazards, review and assess past disaster occurrences, estimate the probability of future occurrences, and set goals to mitigate potential risks, in order to reduce or eliminate long-term risk to people and property from natural hazards.

City of Alameda Emergency Operations Plan

The Emergency Operations Plan (March 2019) sets forth the City's responsibilities during emergencies associated with natural disaster, human-caused emergencies, and technological incidents. It provides a framework for coordination of response and recovery efforts within the City in coordination and with local, State, and federal agencies. The plan establishes an emergency

[64] California Regional Water Quality Control Board. *San Francisco Bay Region Municipal Regional Stormwater NPDES Permit.* November 2015.

organization to direct and control operations during a period of emergency by assigning responsibilities to specific personnel.

Alameda General Plan 2040

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to hazards and hazardous materials and are applicable to the project.

Policies	Description
HS-38	Require adequate and safe separation between areas and uses with hazardous materials and sensitive uses such as schools, residences and public community facilities.
HS-39	Require that all facilities that handle and/or store hazardous materials are designed to minimize the possibility of environmental contamination and adverse off-site impacts and that they are in compliance with state and federal standards and requirements designed to protect public health and the environment.

4.10.1.2 *Existing Conditions*

Historic Uses of the Project Site

The larger 22-acre approved project site was formerly used as a railroad maintenance and railcar storage facility for the Alameda Belt Line (ABL) railroad. The placement of tracks appears to be extensive as early as 1939 and the site was developed with several buildings as early as 1949. The maintenance yard area, including the maintenance building and one other building, were located at the west end of the 22-acre site (in the vicinity of where the modified project would develop a 2.35-acre portion of the 22-acre site). By 1959, two additional buildings were present on the eastern side of the property, a Yard House, and a small shed.

Maintenance cranes with two underlying maintenance pits were located within the maintenance building, with railroad tracks running into the building to provide access for the rail cars. Several smaller structures and two aboveground storage tanks (ASTs) were also observed in the vicinity of the maintenance building. One AST reportedly was a diesel tank and the second was thought to contain water. The maintenance building burned in 1980 and the Yard House was relocated in the early 1990s, to facilitate realignment of adjacent Sherman Street.

ABL ran railcars at the Site until 1998, and then Union Pacific Railroad continued to run cars until 2001. The majority of the railroad ties were removed from the parcels in 2004 and 2005; the rails having been removed prior to that time (presumably between 2001 and 2004). The maintenance pits are believed to have been filled. Debris remaining on the Site, including debris illegally dumped, also was removed at that time. It is unclear when the majority of the ballast rock was removed.

Potential On-Site Sources of Contamination

As discussed above, the 22-acre approved project site's historic uses involved hazardous materials use including petroleum products associated with underground storage tanks (USTs) and the site is under DTSC oversight.[65] To date, several investigations and remedial activities have been completed for the project site and are summarized further below.

Phase I Environmental Site Assessments

A Phase I Environmental Site Assessment (Phase I ESA) conducted by URS/Greiner Woodward Clyde (URSGWC) in 1999. Recognized Environmental Concerns (RECs[66]) identified by the URSGWC Phase I ESA included: historical use of paint, gasoline and diesel, waste oil, solvents, and lubricating fluids, possible release of hazardous materials in maintenance pit at west end of the site, suspected petroleum stained surface soils in location of former rail spurs into maintenance building, petroleum stains in tenant spaces, stains in ballast rock areas in rail yard, potential hazardous materials in stockpiles of soil along northern portion of Site, possible lead-based paint on marine equipment within one tenant space, and a potential fuel release from a former UST. No other reference to this former UST was found in the report. Soil, ballast rock, stockpiled soil, and groundwater characterization were recommended, as was an asbestos survey of the Yard House building.

In 2010, the City of Alameda retained Belinda Blackie to perform a Phase I ESA of the Alameda Belt Line Parcels. The assessment included nine non-contiguous parcels, comprising approximately 39 acres of land. The assessment included a number of RECs, including the following relevant to the 22-acre approved project site:

- The possible presence of impacted soil near the former railroad tracks;
- The possible presence of impacted soil where the historic ABL maintenance building burned;
- The possible presence of elevated concentrations of lead and arsenic in dredge fill materials placed on site parcels;
- The possible presence of contaminants on the rail yard parcels, resulting from the import of potentially impacted soil from other vicinity properties.

Phase II Environmental Site Assessment

A 1999 Phase II report prepared by URSGWC summarized results of soil and groundwater characterization activities conducted to follow up on potential concerns identified by the earlier Phase I assessment. Phase II activities consisted of the advancement of 12 borings. At each boring location, soil samples were collected at the surface (zero to one feet below ground surface [bgs]) and subsurface (two to three feet bgs). The soil samples were generally spread across the site, however two soil samples were collected outside the concrete slab footprint associated with the Maintenance Pits and two were collected on the east and west side of the former AST.

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[65] The project site is included on the Cortese List pursuant to Government Code Section 65962.5.

[66] An REC is defined as the presence of likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

Remedial Investigation Report

A 1999 remedial investigation report (URSGWC) summarized results of additional ballast rock and groundwater characterization activities conducted to evaluate the extent of impacted media detected in the previous Phase II ESA. The remedial investigation report recommended no further evaluation of ballast rock or petroleum hydrocarbons and chlorinated solvents in groundwater where previously detected. The report did recommend removal of the remaining rail ties and tenant materials and demolition of the two maintenance pits, followed by collection of soil and possibly groundwater samples from the vicinity of the pits. There is no documentation that any of the recommendations were implemented.

Targeted Site Investigation

In 2014, a Targeted Site Investigation conducted a targeted soil and groundwater investigation focusing on six Areas of Potential Concern. The investigation concluded that the only remaining constituents of concern at the site are total petroleum hydrocarbons as diesel (TPHd), total petroleum hydrocarbons as motor oil (TPHmo), and lead in isolated Site soils and that previous groundwater contamination had attenuated. The report recommended either soil removal in the isolated areas of contaminant exceedance (specifically, portions of the former tenant area, maintenance building, AST area and yard area); or in-place management of contaminated soil via capping. The report recommended no further action relating to groundwater.

Remedial Investigation and Removal Activities

A Remedial Investigation work plan was approved by DTSC in April 2016 for further site characterization in advance of removal action activities. The 2.35-acre site proposed for development with the aquatics center evaluated in this IS/Addendum was identified as one of the Areas of Potential Concern as a result of the former maintenance yard area.

Based on the DTSC-approved workplan, remedial activities were conducted between March and June 2016. The Former Maintenance Area (2.35-acre modified project site proposed for the aquatics center) contained four excavation areas labeled as Area A, Area B, Area C, and Area D. Railroad ties and other railroad-related wooden debris were removed from the Former Maintenance Area during excavation.

There are areas of capped soil on the portion of the site proposed for development with the aquatics center.

Groundwater

On December 6, 2023, two groundwater monitoring wells were installed at the project site at depths ranging between six and 26 feet. Sampling of the two groundwater monitoring wells was performed on January 15, 2024. The samples were analyzed for multi-range total petroleum hydrocarbons as gasoline (TPHg); TPHd; and TPHmo. Concentrations of TPHg, TPHd, TPHmo and VOCs were not detected above laboratory reporting limits in either of the sampled wells.

Potential Off-Site Sources of Contamination

Federal and state databases were searched to determine the potential for the project site to be affected by releases from off-site sources of contamination. The following potential off-site sources of contamination were identified:

- Stewart Court Property, 762 Stewart Court (Site Cleanup Case No. RO0002536, Geotracker ID T06019759396): According to Geotracker, the ACDEH issued a case closure in August 2021. According to the case closure, the site has residual subsurface contamination associated with total petroleum hydrocarbon compounds and volatile organic compounds from the site's former land use as a machine shop. However, according to the case closure, the site has a low threat to human health and safety and the environment and in the vicinity of the site.

Asbestos-Containing Materials, Lead Based Paints, and Polychlorinated Biphenyls

The 2.35-acre portion of the project site proposed for the aquatics center is vacant and there are no structures containing ACMs, lead-based paint (LBP) coated surfaces, or PCBs.

Other Hazards

Airport Operations

The project site is located approximately 3.8 miles northwest of the Oakland International Airport. The project site is not located within the AIA.[67] The project site is also located outside the safety and noise compatibility zones.[68]

Wildfire

The City of Alameda is not designated as being within high or very high fire hazard zones.[69]

4.10.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐	☐

[67] City of Alameda. *Alameda General Plan 2040 Draft Environmental Impact Report.* May 2021. Figure HM-1.
[68] Ibid. Figure HM-2 and Figure HM-3.
[69] Ibid.

Would the project:	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐		☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The adopted IS/MND concluded that the approved project would have less than significant hazards and hazardous material impacts with the incorporation of Mitigation Measure HAZ-1 (refer to Section 4.1 of this Initial Study).

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction of the project would involve the use of potentially hazardous materials, including vehicle fuels, oils, and fluids. All hazardous materials would be transported, contained, stored, used, and disposed of in accordance with manufacturers' instructions and would be handled in compliance with all applicable standards and regulations. Construction-related hazardous materials use would be temporary, and does not constitute routine transport, use, or disposal.

As discussed in Section 3.0 Project Description, operation of the aquatic center requires the use and transportation of chemicals to maintain the pools. Pool chemicals are typically delivered in bulk by specialized chemical suppliers. Transportation is regulated to ensure safety, especially since chemicals like chlorine and acid are classified as hazardous materials. Chemicals are shipped in proper containers with specific labels, and in compliance with federal regulations such as the HMTA in the U.S. The project would be required to implement a Hazardous Business Plan to ensure compliance, safety, and environmental protection.

Operation of the proposed project would likely include the use and storage on-site of cleaning supplies and maintenance chemicals in small quantities. The use, storage and transportation of these materials will be in accordance with local, State, and Federal laws and regulations. No other hazardous materials would be used or stored on-site. The small quantities of cleaning supplies and maintenance chemicals that would be used on-site would not pose a risk to adjacent land uses. The implementation of the proposed project in accordance with local, State, and federal laws and regulation will ensure that the on-site use of chemicals results in a less than significant hazardous materials impact. **[New Less than Significant Impact]**

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

As discussed in Section 4.9.1.2, the 22-acre site is under DTSC oversight due to residual contamination from past uses at the site as a railroad maintenance and railcar storage facility. Remedial activities were conducted between March and June 2016. There are areas of capped soil on the portion of the 2.35-acre site proposed for the aquatics center. On December 6, 2023, two groundwater monitoring wells were installed at the project site at depths ranging between six and 26 feet. Concentrations of TPHg, TPHd, TPHmo and VOCs were not detected above laboratory reporting limits in either of the sampled wells. Groundwater was encountered during the December 2023 subsurface exploration at depths ranging between five feet and 14 feet bgs. The project proposes to excavate to a maximum depth of 10 feet bg. Based on the groundwater depths, temporary construction dewatering may be required. Any dewatering required for excavation and construction activities would be required to comply with the Construction General Permit, the NPDES, and the City's requirements for the discharge of groundwater to the sanitary sewer (refer to Section 4.10 Hydrology and Water Quality).

Consistent with the approved project, the modified project shall implement Mitigation Measure HAZ-1. As part of the City's coordination with ACEHD, the project shall prepare and submit a Site Management Plan (SMP) and Health and Safety Plan (HSP) to establish appropriate management practices for handling and management of impacted groundwater that may be encountered during construction activities.

[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The project site is not located within 0.25 mile of an existing or proposed school. Therefore, the adopted IS/MND concluded that the approved project would not emit hazardous emissions or handle hazardous materials within one quarter mile of a school. However, the project site is located within 0.25 miles of ViVi Family Daycare. At the time the adopted IS/MND was prepared, the daycare facility did not exist. As discussed above, the operation of the aquatic center requires the use and transportation of chemicals to maintain the pools, and transportation of the chemicals is regulated to ensure safety, and the project would be required to implement a Hazardous Business Plan to ensure compliance, safety, and environmental protection. Additionally, with the implementation of Mitigation Measure HAZ-1 (which was required for the approved project) identified under checklist question b) the project would not emit significant hazardous emissions or handle hazardous materials from construction. For these reasons, the modified project would not emit hazardous emissions or handle hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. **[New Less than Significant Impact with Mitigation Incorporated]**

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

As discussed in Section 4.9.1.2 Existing Conditions, the project site is under DTSC oversight due to residual contamination from past uses at the site and is on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As discussed above, the modified project with the implementation of Mitigation Measure HAZ-1 identified under checklist question b), would not create a significant hazard to the public or environment. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

e) If located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The project site is not located within an airport land use plan or within two miles of an airport. As discussed in Section 4.9.1.2, the project site is located approximately 3.8 miles northwest of the

Oakland International Airport. The project site is not located within the AIA and is outside the safety and noise compatibility zones. Therefore, the modified project would not result in a safety hazard for people related to airport activities.**[Same Impact as Approved Project (No Impact)]**

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Development of the proposed project would not physically interfere with an adopted emergency response or evacuation plan. During construction and operation of the proposed project, roadways would not be permanently blocked such that emergency vehicles would be unable to access the site or surrounding sites. Compliance with the California Building and Fire Code requirements would ensure that proposed project would not impair or interfere with the implementation of an adopted emergency response plan or emergency evacuation plan. **[Same Impact as Approved Project (No Impact)]**

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

As discussed in Section 4.9.1.2, the project site is not within an area designated as a wildland fire hazard zone. In addition, the modified project would be in compliance with applicable building and fire codes. For these reasons, the modified project would not expose people or structures, either directly or indirectly, to an increased significant risk of loss, injury, or death involving wildland fires. **[Same Impact as Approved Project (Less than Significant Impact)]**

4.11 Hydrology and Water Quality

4.11.1 Environmental Setting

4.11.1.1 *Regulatory Framework*

Federal and State

The federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality in California. Regulations set forth by the EPA and the SWRCB have been developed to fulfill the requirements of this legislation. EPA regulations include the NPDES permit program, which controls sources that discharge pollutants into the waters of the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by the RWQCBs. The project site is within the jurisdiction of the San Francisco Bay RWQCB.

Under Section 303(d) of the federal Clean Water Act, the SWRCB and RWQCBs are required to identify impaired surface water bodies that do not meet water quality standards and develop total maximum daily loads (TMDLs) for contaminants of concern. The list of the state's identified impaired surface water bodies, known as the "303(d) list" can be found on the on the SWRCB's website.[70]

National Flood Insurance Program

The FEMA established the National Flood Insurance Program (NFIP) to reduce impacts of flooding on private and public properties. The program provides subsidized flood insurance to communities that comply with FEMA regulations protecting development in floodplains. As part of the program, FEMA publishes Flood Insurance Rate Maps (FIRMs) that identify Special Flood Hazard Areas (SFHAs). An SFHA is an area that would be inundated by the one-percent annual chance flood, which is also referred to as the base flood or 100-year flood.

Statewide Construction General Permit

The SWRCB has implemented an NPDES General Construction Permit for the State of California (Construction General Permit). For projects disturbing one acre or more of soil, a Notice of Intent (NOI) must be filed with the RWQCB by the project sponsor, and a SWPPP must be prepared by a qualified professional prior to commencement of construction and filed with the RWQCB by the project sponsor. The Construction General Permit includes requirements for training, inspections, record keeping, and, for projects of certain risk levels, monitoring. The general purpose of the requirements is to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges.

[70] California State Water Resources Control Board. "2020-2022 California Integrated Report (Clean Water Act Section 303(d) List and 305(b) Report)." May 11, 2022. Accessed February 20, 2024. https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2020_2022_integrated_report.html.

Regional and Local

San Francisco Bay Basin Plan

The San Francisco Bay RWQCB regulates water quality in accordance with the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan lists the beneficial uses that the San Francisco Bay RWQCB has identified for local aquifers, streams, marshes, rivers, and the San Francisco Bay, as well as the water quality objectives and criteria that must be met to protect these uses. The San Francisco Bay RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements, including permits for nonpoint sources such as the urban runoff discharged by a City's stormwater drainage system. The Basin Plan also describes watershed management programs and water quality attainment strategies.

Municipal Regional Permit Provision C.3

The San Francisco Bay RWQCB re-issued the Municipal Regional Stormwater NPDES Permit (MRP) in May 2022 to regulate stormwater discharges from municipalities and local agencies (co-permittees) in Alameda, Contra Costa, San Mateo, and Santa Clara Counties, and the cities of Fairfield, Suisun City, and Vallejo.[71] Under Provision C.3 of the MRP, new and redevelopment projects that create or replace 5,000 square feet or more of impervious surface area are required to implement site design, source control, and Low Impact Development (LID)-based stormwater treatment controls to treat post-construction stormwater runoff. LID-based treatment controls are intended to maintain or restore the site's natural hydrologic functions, maximizing opportunities for infiltration and evapotranspiration, and using stormwater as a resource (e.g., rainwater harvesting for non-potable uses). The MRP also requires that stormwater treatment measures are properly installed, operated, and maintained.

In addition to water quality controls, the MRP requires new development and redevelopment projects that create or replace one acre or more of impervious surface to manage development-related increases in peak runoff flow, volume, and duration, where such hydromodification is likely to cause increased erosion, silt pollutant generation, or other impacts to local rivers, streams, and creeks. Projects may be deemed exempt from these requirements if: (1) the post-project impervious surface area is less than, or the same as, the pre-project impervious surface area; (2) the project is located in a catchment that drains to a hardened (e.g., continuously lined with concrete) engineered channel or channels or enclosed pipes, which extend continuously to the Bay, Delta, or flow controlled reservoir, or, in a catchment that drains to channels that are tidally influenced; or (3) the project is located in a catchment or subwatershed that is highly developed (i.e., that is 70 percent or more impervious).[72]

[71] California Regional Water Quality Control Board San Francisco Region. Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008. May 11, 2022.

[72] The Hydromodification Applicability Maps developed the permittees under Order No. R2-2009-0074 were prepared using this standard, adjusted to 65 percent imperviousness to account for the presence of vegetation on the photographic references used to determine imperviousness. Thus, the maps for Order No. R2-2009-0074 are accepted as meeting the 70 percent requirement.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) of 2014 was the first State legislation enacted to regulate groundwater extraction in California. (Although AB 3030, passed in 1992, previously provided local public agencies increased management authority over their groundwater resources by enabling them to develop Groundwater Management Plans (GMPs), this legislation did not regulate groundwater extraction.) The Act, codified at Division 6, Part 2.74 of the California Water Code, requires governments and water agencies with jurisdiction over medium- and high-priority groundwater basins to prepare and adopt groundwater sustainability plans (GSPs) by June 30, 2017. The priority of the basins is based on the degree to which they are currently overdrafted.

The SGMA authorizes local governments and water agencies to create Groundwater Sustainability Agencies (GSAs) to prepare the GSPs and sustainably manage their groundwater basins. The City of Alameda is located within the East Bay Plain Subbasin, which is designated as a medium-priority basin that ranges from the Carquinez Strait in the north to the City of Hayward area in the south. The East Bay Municipal Utility District (EBMUD) is the GSA for the majority of the East Bay Plain Subbasin, except for the southern portion, for which the City of Hayward is the designated GSA. Because only the southern portion of East Bay Plain Subbasin has significant storage capacity and has seen significant municipal, industrial, and irrigation well production, the GMP focuses on the southern portion of the Basin. This plan encompasses Bay Farm Island, but does not include Alameda Island.

Construction Dewatering Waste Discharge Requirements

Each of the RWQCBs regulates construction dewatering discharges to storm drains or surface waters within its Region under the NPDES program and Waste Discharge Requirements.

Alameda General Plan 2040

The following policies in the City’s General Plan have been adopted for the purpose of reducing or avoiding impacts related to hydrology and water quality and are applicable to the project.

Policy	Description
CC-20	**Land Development**. Require new development to reduce the potential for injury, property damage, and loss of natural habitat resulting from groundwater and sea level rise.
CC-33	**Green Infrastructure**. Protect San Francisco Bay, San Leandro Bay, and the Alameda Oakland Estuary by promoting, requiring, and constructing green infrastructure that improves stormwater runoff quality, minimizes stormwater impacts on stormwater infrastructure, improves flood management, and increases groundwater recharge.
HS-19	**Public Infrastructure**. Protect and upgrade public infrastructure, including but not limited to streets, wastewater systems and pump stations, storm water systems and pump stations and electric systems and facilities to ensure capacity and resilience during storm events, high tides, and groundwater and sea level rise, to decrease the chance of flooding of nearby streets, utilities, and private property.

Policy	Description
HS-24	**Groundwater Management**. Require and enforce stringent groundwater management programs to prevent subsidence.
HS-25	**Green Infrastructure**. Require the use of "green infrastructure", landscaping, pervious surfaces, green roofs, and on-site stormwater retention facilities to reduce surface runoff and storm drain flooding during storm events.

City of Alameda Green Infrastructure Plan

The City of Alameda Green Infrastructure Plan (September 2019) is intended to guide the identification, implementation, tracking, and reporting of green infrastructure projects within Alameda, in accordance with the MRP. It was developed in accordance with Provision C.3.j of the MRP, which requires Permittees to prepare a Green Infrastructure Plan (GIP) that guides, tracks, and reports on the inclusion of LID drainage design into storm drain infrastructure on public and private lands, including streets, roads, storm drains, parking lots, building roofs, and other storm drain infrastructure elements. A GIP must describe how the Permittee will shift their impervious surfaces and storm drain infrastructure from traditional storm drain infrastructure where runoff flows directly into the storm drain and then into the receiving water, to a more-resilient, sustainable system that slows runoff by dispersing it to vegetated areas, harvests and uses runoff, promotes infiltration and evapotranspiration, and uses bioretention and other green infrastructure practices to clean stormwater runoff.

City of Alameda Storm Water Management and Discharge Control Ordinance

The City of Alameda Storm Water Management and Discharge Control Ordinance is set forth in Section 18-21 et seq. of the Alameda Municipal Code. The ordinance is intended to protect and enhance the water quality of the City's watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Clean Water Act. To accomplish this objective, it includes provisions for eliminating non-stormwater discharges to the municipal separate storm sewer; controlling the discharge to municipal separate storm sewers from spills, dumping, or disposal of materials other than stormwater; and reducing pollutants in stormwater discharges to the maximum extent practicable. It reinforces the requirements of the NPDES Construction General Permit previously discussed and establishes penalties for non-compliance. In addition, AMC Section 18-31 et seq. establishes a Water Quality and Flood Protection Fee to assist the City in maintaining its aging storm drainage infrastructure, making improvements to meet future challenges such as climatic and land use changes, and maintaining a sustainable environment in accordance with the CWA, US EPA regulations, and the City's NPDES permits. The fee is a recurring annual fee assessed to both residential and non-residential uses based on parcel size.

4.11.1.2 *Existing Conditions*

Hydrology and Drainage

Alameda is divided by the Alameda County Flood Control and Water Conservation District (ACFCWCD) into three surface watersheds: North Alameda, Southwest Alameda, and Bay Farm

Island. The project site is located in the North Almeda watershed, which encompasses an area of 3.4 square miles in the northern portion of Alameda Island.

Water Quality

A system of storm drains and underground culverts drains the northern side of Alameda Island into the Oakland Inner Harbor or estuary. Stormwater runoff in Alameda is ultimately discharged to San Francisco Bay, which is on the list of impaired water bodies compiled by the San Francisco Bay RWQCB pursuant to the federal Clean Water Act.

Groundwater

Alameda is located in the western side of the East Bay Plain Subbasin (part of the Santa Clara Valley Groundwater Basin), a northwesterly-trending alluvial plain that is bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Basement rock, and on the south by the Niles Cone Groundwater Subbasin. The East Bay Plain Subbasin aquifer system consists of unconsolidated sediments of Quaternary age that include the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation, the early Holocene Temescal Formation, and Artificial Fill. Historic water levels in the deep aquifer in the subbasin have varied between approximately 10 and 140 feet (below mean sea level) since the early 1950s.[73]

Groundwater was encountered during the December 2023 subsurface exploration at depths ranging between five feet and 14 feet bgs.

Flooding and Other Hazards

The proposed project site is otherwise not currently located within a 100-year flood hazard zone according to the FEMA Flood Insurance Rate Map.[74]

The project site is mapped in a Tsunami Hazard Area.[75]

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[73] City of Alameda. *Alameda General Plan 2040 Draft EIR*. May 2021.
[74] City of Alameda. *Jean Sweeney Open Space Park Initial Study/Mitigated Negative Declaration.* June 2014. SCH # 2015032026. Page 62.
[75] Department of Conservation California Geological Survey. *Tsunami Hazard Area Map.* Accessed December 20, 2024. https://maps.conservation.ca.gov/cgs/informationwarehouse/ts_evacuation/

4.11.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☐	☒	☐
– result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒	☐
– substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☐	☒	☐
– create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒	☐
– impede or redirect flood flows?	☐	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The adopted IS/MND concluded that approved project's construction and operation would have a less than significant impact on water quality with the implementation of stormwater management measures as required by the City of Alameda (i.e., City of Alameda Storm Water Management and Discharge Control Ordinance) as well as compliance with the State's General Construction Permit and C.3 Stormwater Standards. The adopted IS/MND concluded that the approved project would not substantially decrease groundwater supplies, would not substantially alter existing drainage patterns, would not impede or redirect flood flows, and would not pose a substantial risk related to the release of pollutants due to project inundation due to flooding, tsunami, or seiche.

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction

Construction activities (e.g. grading and excavation) on the site may result in temporary impacts to surface water quality. When disturbance to underlying soils occurs, the surface runoff that flows across the site may contain sediments that are ultimately discharged into the storm drainage system. Consistent with the approved project, the modified project would comply with the stormwater runoff control measures required by City of Alameda Storm Water Management and Discharge Control Ordinance and the State's General Construction Permit. Therefore, the modified project would not violate any water quality standards or waste discharge requirements or substantially degrade water quality during construction.

Groundwater was encountered during the December 2023 subsurface exploration at depths ranging between five feet and 14 feet bgs. The project proposes to excavate to a maximum depth of 10 feet bgs. Based on the groundwater depths, temporary construction dewatering may be required. Any dewatering required for excavation and construction activities would be required to comply with the Construction General Permit, the NPDES, and the City's requirements for the discharge of groundwater to the sanitary sewer (Section 18-22.1 of the Municipal Code). Additionally, due to the presence of contaminated groundwater (refer to Section 4.9 Hazards and Hazardous Materials) the project would be required to comply with RWQCB procedures for disposal and transport of contaminated groundwater.

Post-Construction

Development of the modified project would result in an increase in impervious surfaces on-site.[76] Consistent with the approved project, the modified project would be subject to the requirements of the C.3 Stormwater Standards. Additionally, the modified project would also be required prepare and implement a SWPPP pursuant to the NPDES Construction General Permit because it would disturb more than once acre of soil. Therefore, the modified project would have a less than significant impact on post-construction water quality. **[Same Impact as Approved Project (Less than Significant Impact)]**

[76] The adopted IS/MND did not disclose the approved project's increase in impervious surfaces compared to existing conditions at the time. The IS/MND noted that the approved project would create a limited amount of new impervious surfaces.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The use of groundwater in Alameda is limited by the effects of saltwater intrusion and contamination in shallow aquifers on groundwater quality. However, the EBMUD has begun utilizing groundwater in its service area in recent years as a supplemental domestic water supply, injecting water into the South East Bay Plain Subbasin during wet years for storage for later recovery and use during a drought. However, consistent with the approved project, development of the modified project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge given any dewatering activities would be limited in extent and short duration. **[Same Impact as Approved Project (Less than Significant Impact)]**

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?

Development of the project would result in an increase in impervious surfaces on-site. As previously discussed, the modified project would include bioretention areas to treat stormwater and would comply with the requirements of the C.3 Stormwater Standards.

The modified project would also be required to prepare and implement a SWPPP pursuant to the NPDES Construction General Permit. For these reasons, the modified project would not substantially alter the existing drainage pattern of the site or area. **[Same Impact as Approved Project (Less than Significant Impact)]**

d) Would the project risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones?

As discussed in the adopted IS/MND and in Section 4.10.1.2 Existing Conditions, the project site is located in an area of minimal flood hazard. Most of Alameda is located in a Tsunami Hazara Area, including the project site. However, as noted in the adopted IS/MND, the project site is not located immediately adjacent to the Bay and is on the inner Harbor side of the Alameda island. Tsunami waves would have to travel from the Pacific Ocean through the Golden Gate and then through the Oakland Inner Harbor to finally reach the shoreline nearest the project site. Due to natural attenuation, the probability of significant tsunami waves impacting the project site is very low. Further, geologic-induced seiche events have not been documented in the San Francisco Bay. The proposed project site is relatively flat and not subject to mudflows. Therefore, the potential impact of seiche, tsunamis and mudflows is less than significant. **[Same Impact as Approved Project (Less than Significant Impact)]**

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Water Quality Control

As previously discussed under checklist question a), the modified project would implement stormwater management measures as required by the City's Municipal Code as well as compliance with the State's General Construction Permit. The modified project would also be subject to the requirements of the C.3 Stormwater Standards, which ensures new developments follow local and regional regulations regarding the reduction of pollutants in stormwater and implement BMPs, such as stormwater filters, to reduce such pollutants. Thus, the modified project would not conflict with or obstruct implementation of the San Francisco Bay Basin Plan.

Groundwater Management Plan

The project site is located in the western side of the East Bay Plain Subbasin (part of the Santa Clara Valley Groundwater Basin). The East Bay Plain Subbasin has prepared a Groundwater Sustainability Plan per the requirements of the Sustainable Groundwater Management Act. However, as discussed in Section 4.10.1.1 Regulatory Framework, the Plan does not cover the project site. Therefore, the modified project would not conflict with a sustainable groundwater management plan. **[Same Impact as Approved Project (Less than Significant Impact)]**

4.12 Noise

The following discussion is based, in part, on a Noise and Vibration Assessment prepared by Illingworth & Rodkin, Inc. A copy of this report, dated April 14, 2025, is attached to this IS/Addendum as Appendix E.

4.12.1 Environmental Setting

4.12.1.1 *Regulatory Framework*

Noise

Factors that influence sound as it is perceived by the human ear, include the actual level of sound, period of exposure, frequencies involved, and fluctuation in the noise level during exposure. Noise is measured on a decibel scale, which serves as an index of loudness. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness. Because the human ear cannot hear all pitches or frequencies, sound levels are frequently adjusted or weighted to correspond to human hearing. This adjusted unit is known as the A-weighted decibel, or dBA.

Since excessive noise levels can adversely affect human activities and human health, federal, state, and local governmental agencies have set forth criteria or planning goals to minimize or avoid these effects. Noise guidelines are generally expressed using one of several noise averaging methods, including L_{eq}, DNL, or CNEL.[77] These descriptors are used to measure a location's overall noise exposure, given that there are times when noise levels are higher (e.g., when a jet is taking off from an airport or when a leaf blower is operating) and times when noise levels are lower (e.g., during lulls in traffic flows on freeways or in the middle of the night). L_{max} is the maximum A-weighted noise level during a measurement period.

Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Vibration amplitude can be quantified using Peak Particle Velocity (PPV), which is defined as the maximum instantaneous positive or negative peak of the vibration wave. PPV has been routinely used to measure and assess ground-borne construction vibration. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 inches/second (in/sec) PPV.

[77] L_{eq} is a measurement of average energy level intensity of noise over a given period of time. Day-Night Level (DNL) is a 24-hour average of noise levels, with a 10 dB penalty applied to noise occurring between 10:00 PM and 7:00 AM. Community Noise Equivalent Level (CNEL) includes an additional five dB applied to noise occurring between 7:00 PM and 10:00 PM. Where traffic noise predominates, the CNEL and DNL are typically within two dBA of the peak-hour L_{eq}.

4.12.1.2 *Regulatory Framework*

Federal

Federal Transit Administration Vibration Limits

The Federal Transit Administration (FTA) has developed vibration impact assessment criteria for evaluating vibration impacts associated with transit projects. The FTA has proposed vibration impact criteria based on maximum overall levels for a single event. The impact criteria for groundborne vibration are shown in Table 4.11-1 below. These criteria can be applied to development projects in jurisdictions that lack vibration impact standards.

Table 4.11-1: Groundborne Vibration Impact Criteria

Land Use Category	**Groundborne Vibration Impact Levels (VdB inch/sec)**		
	Frequent Event	**Occasional Events**	**Infrequent Events**
Category 1: Buildings where vibration would interfere with interior operations	65	65	65
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime use	75	78	83

Source: Federal Transit Administration. *Transit Noise and Vibration Assessment Manual.* September 2018.

State and Local

California Green Building Standards Code

For non-residential uses, CALGreen (Section 5.507.4.1 and 5.507.4.2) requires that wall and roof-ceiling assemblies exposed to the adjacent roadways have a composite sound transmission class (STC) rating of at least 50 or a composite outdoor/indoor transmission class (OITC) rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 when the non-residential property falls within the 65 dBA L_{dn} or greater noise contour for a freeway or expressway, railroad, or industrial or stationary noise source. The state requires interior noise levels to be maintained at 50 dBA $L_{eq(1\text{-}hr)}$ or less during hours of operation at a proposed non-residential use.

California Department of Transportation

Caltrans recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, which typically consist of buildings constructed since the 1990s. Conservative vibration limits of 0.3 in/sec PPV has been used for buildings that are found to be structurally sound but where structural damage is a major concern. For historical buildings and some old buildings (i.e. pre-WWII), a vibration limit of 0.25 in/sec PPV would apply.

City of Alameda

Alameda General Plan 2040

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to noise and vibration and are applicable to the project.

Policy	Description
HS-41:	Support state and federal legislation to reduce transportation noise from cars, trucks, and aircraft.
HS-58	To the extent feasible, through the development entitlement process, require local businesses to reduce noise impacts on the community by avoiding or replacing excessively noisy equipment and machinery, applying noise-reduction technology, and following operating procedures that limit the potential for conflicts.
HS-59	Require a vibration impact assessment for proposed projects in which heavy-duty construction equipment would be used (e.g. pile driving, bulldozing) within 200 feet of an existing structure or sensitive receptor. If applicable, the City shall require all feasible mitigation measures to be implemented to ensure that no damage to structures will occur and disturbance to sensitive receptors will be minimized.
HS-60	In making a determination of impact under the California Environmental Quality Act (CEQA), consider the following impacts to be "significant" if the proposed project causes: an increase in the day-night average sound level (Ldn) of 4 or more dBA if the resulting noise level would exceed that described as normally acceptable for the affected land use, as indicated by State guidelines, or any increase in Ldn of 6 dBA or more.

City of Alameda Municipal Code

Chapter IV of the City's Municipal Code includes noise control regulations, and the following apply to the proposed project:

- Chapter 4-10.4 – Exterior noise levels when measured at any receiving single or multiple family residential, school, hospital, church, public library or commercial property situated in the City do not conform to the provisions of this subsection when they exceed the noise level standards set forth in Table I or Table II (Table 4.11-2 and Table 4.11-3, respectively, in this report) following:

Table 4.11-2: Receiving Land Use Noise Level Standards, dB(A) – Single or Multiple Family Residential, School, Hospital, Church, or Public Library Properties

Category	Cumulative Number of Minutes in Any One (1) Hour Time Period	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
1[a]	30	55	50
2	15	60	55
3	5	65	60
4	1	70	65
5	0	75	70

[a] For example, this means the measured noise level may not exceed fifty-five (55) dB(A) for more than thirty (30) minutes out of any one (1) hour time period.

Table 4.11-3: Receiving Land Use Noise Level Standards, dB(A) – Commercial Properties

Category	Cumulative Number of Minutes in Any One (1) Hour Time Period	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
1[a]	30	65	60
2	15	70	65
3	5	75	70
4	1	80	75
5	0	85	80

In the event the measured ambient noise level exceeds the applicable noise level standard in any category above, the applicable standards shall be adjusted so as to equal said ambient noise level.

Each of the noise level standards specified above shall be reduced by five (5) dB(A) for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

- Chapter 4-10.5 – Prohibited Acts: The following acts, and the causing or permitting thereof, are a violation of this section:
  - Loading and Unloading. Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects between the hours of 10:00 p.m. and 7:00 a.m. in such a manner as to cause a noise disturbance across a residential real property line. This action shall not apply to such activities where the items handled are still in interstate commerce.
  - Vibration. Operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at one

hundred fifty (150’) feet (forty-six [46] meters) from the source if on a public space or public right-of-way.

  - Construction. Construction other than during the following hours: 7:00 a.m. to 7:00 p.m. Monday through Fridays and 8:00 a.m. to 5:00 p.m. on Saturdays.

- Chapter 4-10.7 – Special Provisions (Exceptions)

  - *Construction*. The provisions of this section shall not apply to noise sources associated with construction provided the activities take place between the hours of 7:00 a.m. to 7:00 p.m. Monday through Fridays or 8:00 a.m. to 5:00 p.m. on Saturdays.

  - *City Parks.* The provisions of this Chapter shall not apply to recreational programs or activities conducted within City parks between the hours of 9:00 a.m. and 10:15 p.m.

4.12.1.3 *Existing Conditions*

The Alameda Aquatic Center is proposed on the west side of Jean Sweeney Open Space Park, southeast of the Wilma Chan Way/Atlantic Avenue intersection, in the City of Alameda. The site is bound by Wilma Chan Way to the west; Atlantic Avenue to the north; single-family residences and small commercial uses to the south; and the park to the east. Other surrounding land uses include single-family residences and the Ismaili Cultural Center to the north, opposite Atlantic Avenue and multi-family residences and commercial uses to the west, opposite Wilma Chan Way.

The noise environment at the site and in the surrounding area results primarily from distant traffic along Webster Street and local traffic along Wilma Chan Way and Atlantic Avenue. Aircraft associated with Oakland International Airport also contributes to the noise environment.

A noise monitoring survey consisting of three long-term (LT-1 through LT-3) and three short-term (ST-1 through ST-3) noise measurements was made between Wednesday, January 15, 2025, and Friday, January 17, 2025. All measurement locations are shown in Figure 4.11-1.

Long-term noise measurement LT-1 was made in front of 1850 8th Street, approximately 20 feet east of the centerline of the roadway. Hourly average noise levels at LT-1 typically ranged from 51 to 65 dBA L_{eq} during daytime hours (7:00 a.m. and 10:00 p.m.) and from 41 to 64 dBA L_{eq} during nighttime hours (10:00 p.m. and 7:00 a.m.). The day-night average noise level on Thursday, January 16, 2025, was 57 dBA L_{dn}.

LT-2 was made along Wilma Chan Way, approximately 35 feet east of the centerline. Hourly average noise levels at LT-2 typically ranged from 68 to 72 dBA L_{eq} during daytime hours and from 59 to 71 dBA L_{eq} during nighttime hours. The day-night average noise level on Thursday, January 16, 2025, was 73 dBA L_{dn}.

LT-3 was made behind the residence at 2001 Bartlett Drive, approximately 60 feet north of the centerline of Atlantic Avenue. Hourly average noise levels at LT-3 typically ranged from 58 to 71 dBA

L_{eq} during daytime hours and from 47 to 61 dBA L_{eq} during nighttime hours. The day-night average noise level on Thursday, January 16, 2025, was 65 dBA L_{dn}.

Short-term, 10-minute noise measurements ST-1 through ST-3 were made on Wednesday, January 15, 2025, between 1:00 p.m. and 1:50 p.m. Table 4.11-4 below summarizes the noise measurement results at each location.

ST-1 was made along the walking trail located on the project site, approximately 250 feet south of the Atlantic Avenue centerline and approximately 610 feet east of the Wilma Chan Way centerline. Background traffic noise from Atlantic Avenue consisted of 48 passenger vehicles (46 to 52 dBA) and four heavy trucks (50 to 54 dBA). Additionally, a jet flying overhead generated noise levels of 59 dBA. The 10-minute L_{eq} measured at ST-1 was 50 dBA.

ST-2 was made along the northern boundary of the project site, approximately 35 feet south of the Atlantic Avenue centerline. During the ST-2 measurement, traffic along Atlantic Avenue included one bus (66 dBA) and 58 passenger cars (63 to 72 dBA). Nearby train horns (Oakland) were audible at ST-2, generating noise levels of 52 to 54 dBA. Additionally, a helicopter (64 dBA) and jet (53 dBA) contributed to the noise measurement during ST-2. The 10-minute L_{eq} measured at ST-2 was 63 dBA.

ST-3 was made in the food bank parking lot, approximately 60 feet east of the Wilma Chan Way centerline. Traffic along Wilma Chan Way included 189 passenger cars (58 to 78 dBA). Traffic noise from nearby Atlantic Avenue generated noise levels ranging from 60 to 62 dBA at ST-3. A nearby train horn generated noise levels of 57 dBA at ST-3. The 10-minute L_{eq} measured at ST-3 was 64 dBA.

Table 4.11-4: Summary of Short-Term Noise Measurements (dBA)

Noise Measurement Location	Date, Time	Measured Noise Level, dBA					
		L_{max}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{eq}
ST-1: walking trail roundabout at the park	1/15/2025, 13:00-13:10	60	55	52	50	49	50
ST-2: ~35 feet south of the Atlantic Avenue centerline	1/15/2025, 13:20-13:30	72	70	68	64	57	63
ST-3: ~60 feet east of the Wilma Chan Way centerline	1/15/2025, 13:40-13:50	78	71	69	64	61	64

FIGURE 4.11-1

NOISE MEASUREMENT LOCATIONS

4.12.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project result in:					
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The Jean Sweeney Open Space IS/MND concluded that adherence to the City's Municipal Code would ensure that construction impacts associated with the approved project would be less than significant.

The adopted IS/MND concluded that because the project would generate fewer than 110 daily vehicle trips, the approved project's traffic noise increase would be less than significant.

The adopted IS/MND concluded that operational noise associated with the approved project would be less than significant since activities conducted within City parks are exempted from City noise standards between the hours of 9:00 a.m. and 10:15 p.m.

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Temporary Construction Noise

It is anticipated that construction would take a total of approximately 20 months. Construction activities are planned to occur between the hours of 7:00 a.m. to 7:00 p.m. Monday through Fridays and 8:00 a.m. to 5:00 p.m. on Saturdays. Construction phases would include site preparation, grading, trenching, building construction, architectural coating, and paving. During each phase of construction, there would be a different mix of equipment operating, and noise levels would vary by phase and vary within phases, based on the amount of equipment in operation and the location at which the equipment is operating.

Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.
While the City of Alameda does not establish noise level thresholds for construction activities, this analysis uses the noise limits established by the Federal Transit Administration (FTA) to identify the potential for impacts due to substantial temporary construction noise. The FTA identifies construction noise limits in the *Transit Noise and Vibration Impact Assessment Manual*. During daytime hours, an exterior threshold of 80 dBA L_{eq} shall be applied at residential land uses, 85 dBA L_{eq} shall be applied at commercial and office uses, and 90 dBA L_{eq} shall be applied at industrial land uses.

Construction activities for individual projects are typically carried out in phases. During each phase of construction, there would be a different mix of equipment operating, and noise levels would vary by phase and vary within phases, based on the amount of equipment in operation and the location at which the equipment is operating. The typical range of maximum instantaneous noise levels for the proposed project would be 70 to 90 dBA L_{max} at a distance of 50 feet.

Hourly average noise levels generated by construction typically are about 71 to 89 dBA L_{eq} for recreational facilities, measured at a distance of 50 feet from the center of a busy construction site. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain often results in lower construction noise levels at distant receptors.

The typical hourly average noise levels for each phase of construction were calculated, assuming the two loudest pieces of equipment would operate simultaneously, as recommended by the FTA for construction noise evaluations (refer to Appendix E). Construction noise levels would intermittently range from 75 to 85 dBA L_{eq} at a distance of 50 feet from the operational equipment. Construction noise levels would range from 61 to 77 dBA L_{eq} at the nearest residential uses and the cultural center when activities are focused near the center of the proposed project site. Construction noise levels would range from 52 to 63 L_{eq} at the adjoining college building, from 52 to 71 dBA L_{eq} at the surrounding commercial and office buildings, and from 43 to 54 dBA L_{eq} at the park when activities are focused near the center of the proposed project site. Construction noise levels would not exceed the FTA noise thresholds.

To minimize annoyance and disruption to all surrounding receptors, the following construction best management practices shall be incorporated into the proposed project as a condition of approval.

Construction Best Management Practices

- Construction best management practices shall include, but are not limited to, the following:
    - Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
    - Prohibit unnecessary idling of internal combustion engines.
    - Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from sensitive receptors. Construct temporary noise barriers to screen stationary noise-generating equipment when located near adjoining sensitive land uses.
    - Utilize “quiet” air compressors and other stationary noise sources where technology exists.
    - Control noise from construction workers’ radios to a point where they are not audible at existing residences bordering the project site.
    - Notify all adjacent business, residences, and other noise-sensitive land uses of the construction schedule, in writing, and provide a written schedule of “noisy” construction activities to the adjacent land uses and nearby residences.
    - Designate a “disturbance coordinator” who shall be responsible for responding to any complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., bad muffler, etc.) and shall require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

Implementation of the above best management practices would ensure that construction noise levels are reduced as much as possible at the surrounding receptors, thereby minimizing disruption and annoyance. Consistent with the approved project, the modified project would adhere to Chapter 4-10.5 of the City’s Municipal Code, which limits construction work hours to between 7:00 a.m. and 7:00 p.m. Monday through Fridays and 8:00 a.m. to 5:00 p.m. on Saturdays. For these reasons, temporary construction noise impacts associated with the modified project would be less than significant.

Permanent Operational Noise

According to Policy HS-60 of the City’s General Plan, a significant impact would occur if the proposed project causes: an increase of 4 dBA L_{dn} or more if the resulting noise level would exceed the normally acceptable limit for the affected land use; or any increase of 6 dBA L_{dn} or more.

Chapter 4-10.4 of the City’s Municipal Code provides exterior noise standards for noise-sensitive uses (i.e., residences, hospitals, churches, etc.) and commercial uses. For activities occurring for more than 30 minutes in a given hour, noise levels would be limited to 55 dBA L_{50} during daytime hours (7:00 a.m. to 10 p.m.) and 50 dBA L_{50} during nighttime hours (10:00 p.m. to 7:00 a.m.) for noise-sensitive uses and to 65 dBA L_{50} during daytime hours and 60 dBA L_{50} during nighttime hours for commercial uses. For activities occurring for more than five minutes in a given hour, noise levels would be limited to 65 dBA L_{08} during daytime hours and 60 dBA L_{08} during nighttime hours for noise-sensitive uses and to 75 dBA L_{08} during daytime hours and 70 dBA L_{08} during nighttime hours for commercial uses. Maximum instantaneous noise levels would be limited to 75 dBA L_{max} during daytime hours and 70 dBA L_{max} during nighttime hours for noise-sensitive uses and to 85 dBA L_{max} during daytime hours and 80 dBA L_{max} during nighttime hours for commercial uses.

Where ambient conditions exceed these standards, ambient noise levels would be used as the daytime and nighttime standards. Additionally, a 5 dBA penalty shall be applied to the daytime and nighttime standards when the noise source consists of simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. Table 4.11-5 summarizes the applicable standards for the proposed project at each of the surrounding receptors, with the noted exception in Chapter 4-10.7 of the Municipal Code which includes exemptions for the standards in Table 4.11-5, which includes noise generated at recreational programs or activities conducted within City parks between the hours of 9:00 a.m. and 10:15 p.m. Therefore, the standards below are applicable for operation of the facility between the hours of 10:15 p.m. and 9:00 a.m.

Table 4.11-5: Standards Applied from 10:15 p.m. to 9:00 a.m.to Each of the Surrounding Receptors

Receptor	Ambient Meter	Daytime Standards (after 7:00 a.m. to 10:00 a.m.)			Nighttime Standards (10:00 p.m. to 7:00 a.m.)		
		More than 30 minutes, dBA L_{50}	More than 5 minutes, dBA L_{08}	Max. Level, dBA L_{max}	More than 30 minutes, dBA L_{50}	More than 5 minutes, dBA L_{08}	Max. Level, dBA L_{max}
South Residences	LT-1[a]	55	65	75	50	60	70
South Commercial Uses	LT-2[b]	68	75	85	60	70	83
West Alameda Food Bank	LT-2[b]	68	75	85	60	70	83
West Commercial Uses	LT-2[b]	68	75	85	60	70	83
North Residences	LT-3[c]	58	67	80	50	60	74
North Ismaili Cultural Center	LT-3[c]	58	67	80	50	60	74
East College	LT-3[c]	58	67	80	50	60	74
East Offices	LT-3[c]	65	75	85	60	70	80

[a] LT-1 represents the existing ambient noise environment at south residences. L_{50} noise levels at LT-1 typically range from 49 to 54 dBA L_{50} (average of 51 dBA L_{50}) during daytime hours and from 39 to 52 dBA L_{50} (average of 47 dBA L_{50})

during the nighttime hours; L_{08} noise levels typically range from 53 to 63 dBA L_{08} (average of 56 dBA L_{08}) during daytime hours and from 43 to 63 dBA L_{08} (average of 51 dBA L_{08}) during the nighttime hours; and L_{max} noise levels typically range from 65 to 92 dBA L_{max} (average of 72 dBA L_{max}) during daytime hours and from 53 to 91 dBA L_{max} (average of 65 dBA L_{max}) during the nighttime hours. Existing ambient L_{dn} at LT-1 is 57 dBA.

[b] LT-2 represents the existing ambient noise environment at south residences. L_{50} noise levels at LT-2 typically range from 65 to 69 dBA L_{50} (average of 68 dBA L_{50}) during daytime hours and from 47 to 66 dBA L_{50} (average of 55 dBA L_{50}) during the nighttime hours; L_{08} noise levels typically range from 73 to 77 dBA L_{08} (average of 75 dBA L_{08}) during daytime hours and from 61 to 76 dBA L_{08} (average of 69 dBA L_{08}) during the nighttime hours; and L_{max} noise levels typically range from 81 to 87 dBA L_{max} (average of 84 dBA L_{max}) during daytime hours and from 79 to 96 dBA L_{max} (average of 83 dBA L_{max}) during the nighttime hours. Existing ambient L_{dn} at LT-2 is 73 dBA.

[c] LT-3 represents the existing ambient noise environment at south residences. L_{50} noise levels at LT-3 typically range from 55 to 62 dBA L_{50} (average of 58 dBA L_{50}) during daytime hours and from 41 to 56 dBA L_{50} (average of 48 dBA L_{50}) during the nighttime hours; L_{08} noise levels typically range from 62 to 73 dBA L_{08} (average of 67 dBA L_{08}) during daytime hours and from 51 to 65 dBA L_{08} (average of 56 dBA L_{08}) during the nighttime hours; and L_{max} noise levels typically range from 73 to 91 dBA L_{max} (average of 80 dBA L_{max}) during daytime hours and from 67 to 84 dBA L_{max} (average of 74 dBA L_{max}) during the nighttime hours. Existing ambient L_{dn} at LT-1 is 65 dBA.

Project Traffic

The approved project would result in less than 110 daily trips. The adopted IS/MND concluded that the approved project's traffic noise would not be noticeable. During non-summer periods, the modified project is estimated to generate about 710 vehicle trips on a typical weekday, with about 23 trips during the weekday AM peak hour, and 66 trips during the weekday PM peak hour. During the summer months, the modified project would generate about 1,670 daily trips with about 383 trips during the weekday AM peak hour and 149 trips during the weekday PM peak hour. The modified project would generate about 840 trips on typical weekend days during both summer and non-summer months. By comparing the existing plus modified project traffic scenario to the existing scenario, the aquatic center's contribution to the modified project's noise level increase was determined to be less than one dBA L_{dn} or less along each roadway segment in the project vicinity. Therefore, consistent with the approved project, the modified project would not result in a measurable or detectable permanent noise increase at noise-sensitive receptors in the project vicinity.

Mechanical Equipment

The proposed aquatic center building would contain mechanical equipment associated with the pool operations. Additionally, an enclosure containing a transformer is shown at the north end of the pool deck. All equipment located within the building and the transformer enclosure would be adequately shielded from all surrounding receptors. The City's daytime and nighttime standards, as well as the existing ambient noise level conditions, would not be exceeded. For all existing receptors in the project vicinity, the noise level increase due to fully enclosed mechanical equipment would not be measurable or detectable (0 dBA Ldn increase).

The roof of the mechanical equipment building would include two exhaust fans, an HVAC rooftop unit, 25 pool heating heat-pump chillers, and two heat pump water heaters. The roof of the building shows two variable refrigerant volume condensing units, one variable refrigerant flow HVAC unit, a gravity relief exhaust, and a gravity intake vent. Table 4.11-6 summarizes the estimated noise levels at all surrounding receptors, assuming all equipment on the rooftops of both buildings operates continuously during daytime and nighttime hours (10 dBA attenuation is applied to all noise levels in Table 4.11-6, as explained below).

Table 4.11-6: Operational Noise Levels Due to Rooftop Mechanical Equipment

Location of Equipment		**South Res. & Comm. Uses**	**West Alameda Food Bank**	**West Comm. Uses**	**North Res. & Ismaili Cultural Center**	**East College & Offices**
Mechanical Equipment Building	Distance from Center of Roof, feet	325	415	555	100	655
	L_{50}, dBA	25[a]	23[a]	21[a]	36[a]	< 20[a]
Admin Building	Distance from Center of Roof, feet	275	490	630	165	600
	L_{50}, dBA	< 20[a]	< 20[a]	< 20[a]	23[a]	< 20[a]
Combined	**L_{50}, dBA**	**26[a]**	**23[a]**	**21[a]**	**36[a]**	**< 20[a]**
	L_{dn}, dBA	**32[a]**	**30[a]**	**27[a]**	**42[a]**	**26[a]**
	Noise Level Increase, dBA L_{dn}	**0**	**0**	**0**	**0**	**0**

[a] A conservative 10 dBA attenuation is applied to all surrounding receptors due to the elevation of the equipment and the parapet walls surrounding the rooftops.

While the aquatic center's noise affecting surrounding receptors would not be subject to the City's standards between 9:00 a.m. and 10:15 p.m., the City noise standards would apply during morning hours before 9:00 a.m. and nighttime hours after 10:15 p.m.

The City's daytime and nighttime noise standards (see Table 4.11-5) would not be exceeded at the surrounding receptors. For all surrounding receptors, the noise level increase due to mechanical equipment operations would not be measurable or detectable (0 dBA L_{dn} increase).

Pool Activities

The proposed Aquatics Center is expected to have approximately 35 to 45 people per hour during typical operations. Proposed hours of operation are from 5:30 a.m. to 9:30 p.m. Monday through Friday, 7:00 a.m. to 9:30 p.m. on Saturdays, and 7:00 a.m. to 8:00 p.m. on Sundays.

During large swim meet competition events, up to 185 people would be at the aquatic center at any given time between 9:00 a.m. and 6:00 p.m. These large events would occur up to twice a year. Smaller events would host up to 100 attendees six to eight times a year, with operating hours in the afternoon and evenings (i.e., between noon and 4:00 p.m. or between 7:00 p.m. and 10:00 p.m.).

Typical Daily Activities

On typical days, the facility will support swim team practices, open lap swim, swim lessons, and open family swim. A typical day would include the following activities:

- Between 5:30 a.m. and 7:00 a.m., when all activities would be subject to the City's nighttime thresholds summarized in Table 11 given activities between the hours of 10:15 p.m. and 9:00 a.m. are not exempt from the Muni Code noise standards, swim team practice or lap swimming would occur at the 30-meter pool;
- Between 7:00 a.m. and 9:00 a.m., when all activities would be subject to the City's daytime thresholds summarized in Table 11 given activities between the hours of 10:15 p.m. and 9:00 a.m. are not exempt from the Muni Code noise standards, swim team practice or lap swimming would occur at the 30-meter pool;
- Between 9:00 a.m. and 10:00 a.m., when all activities would be exempt from City thresholds, in accordance with Chapter 4-10.7 of the City's Municipal Code given activities between the hours of 9:00 a.m. and 10:15 p.m. are exempt from the Muni Code noise standards, swim team practice or lap swimming would occur at the 30-meter pool and swim lessons would occur at the recreational pool;
- Between 10:00 a.m. and 10:00 p.m., when all activities would be exempt from City thresholds, in accordance with Chapter 4-10.7 of the City's Municipal Code given activities between the hours of 9:00 a.m. and 10:15 p.m. are exempt from the Muni Code noise standards, lap swimming would occur at the 30-meter pool and swim lessons and open swim would occur at the recreational pool.

Table 4.11-7 summarizes the expected L_{50} and L_{max} noise levels for each time period described above propagated to the nearest property lines of the surrounding receptors, as well as the total L_{dn} generated by the proposed aquatics center activities on typical days and the future L_{dn} expected at the surrounding receptors when the project is operational. The facility's buildings would be located to the east of both pools and to the north of the recreational pool. The buildings would provide a minimum attenuation of 10 dBA for the east receptors during all activities at the pool deck and for the north receptors for activities occurring at the recreational pool. Additionally, the pool storage area on the north side of the pool would have a 10-foot-tall corrugated solid metal panel fence along the north side, which would be attached to the facility's building by a gate. Assuming the fence and gates (when closed) to be solid from ground to top, the fence would provide a minimum attenuation of 9 dBA for lap pool activities at the north receptors. These attenuations are applied in Table 4.11-7.

Table 4.11-7: Operational Noise Levels for the Aquatics Center on Typical Days

Pool Activity		South Res. & Comm. Uses	West Alameda Food Bank	West Comm. Uses	North Res. & Ismaili Cultural Center	East College & Offices
Lap Swim/ Swim Practice (5:30 a.m. to 9:00 a.m.)	Distance from Center of Pool, feet	255[a]	300[a]	445[a]	175[a]	770[a]
	L_{max}, dBA	63	62	58	57[b]	44[c]
	L_{50}, dBA	50	49	45	44[b]	31[c]
Lap Swim/Swim Practice & Swim Lessons (9:00 a.m. to 10:00 a.m.)	Distance from Center of Pool, feet	255[a,d]	300[a] 405[d]	445[a] 555[d]	175[a] 180[d]	770[a] 675[d]
	L_{max}, dBA	63	62	58	57[b]	44[c]
	L_{50}, dBA	53	51	47	47[b,c]	34[c]
Lap Swim/Swim Practice, Swim Lessons & Recreational Swim (10:00 a.m. to 10:00 p.m.)	Distance from Center of Pool, feet	255[a,d]	300[a] 405[d]	445[a] 555[d]	175[a] 180[d]	770[a] 675[d]
	L_{max}, dBA	72	68	65	65[c]	53[c]
	L_{50}, dBA	56	53	50	49[b,c]	37[c]
Combined	**Operational L_{dn}, dBA[e]**	**55**	**52**	**49**	**48**	**36**
	Future L_{dn}, dBA[f]	**59**	**73**	**73**	**65**	**65**
	Noise Level Increase, dBA L_{dn}	**2**	**0**	**0**	**0**	**0**

[a] Distance measured from the center of lap pool, which represents the center of the combined noise source.

[b] A conservative 9 dBA attenuation is applied for the north receptors due to the 10-foot solid corrugated fence along the north side of the pool storage area, which partially shields the lap pool.

[c] A conservative 10 dBA attenuation is applied for the north and east receptors due to the intervening project buildings, which partially shields the recreational pool for the north receptors and both pools for the east receptors.

[d] Distance measured from the center of recreational pool, which represents the center of the combined noise source.

[e] Operational Ldn is generated by typical daily operations at the Alameda Aquatic Center.

[d] Future Ldn is calculated by adding the Operational Ldn to the existing ambient Ldn at each of the receptors.

While the noise generated by the aquatic center affecting surrounding receptors would not be subject to the City's noise standards between 9:00 a.m. and 10:15 p.m., the City standards would apply during morning activities prior to 9:00 a.m.

The City's nighttime noise standards (see Table 4.11-5) would not be exceeded by lap swimming occurring between 5:30 a.m. and 7:00 a.m. at the surrounding receptors. The City's daytime noise standards (see Table 4.11-5) would not be exceeded by lap swimming and swim lessons occurring between 7:00 a.m. and 9:00 a.m. at the surrounding receptors. As explained above, all combined activities at the Alameda Aquatic Center on a typical day (i.e., lap swimming, swim lessons, and recreational swim) would be exempt per the Muni Code from the City's noise standards between 9:00 a.m. and 10:15 p.m.

Typical daily activities would result in a 2 dBA L_{dn} increase in noise levels at the south residences, which would not exceed the City's 4 dBA L_{dn} threshold per GP Policy HS-60. For all other receptors, the noise level increase due to the proposed aquatic center's typical daily activities would not be measurable or detectable (0 dBA L_{dn} increase).

Swim Meet Tournaments

The larger swim meet events would typically be one to two days long and would take place primarily on weekends between 9:00 a.m. and 6:00 p.m. The swim meet events would have approximately eight to 10 teams with six to 10 members per team. Not all teams would be present at the same time but rather staggered throughout the day, with a maximum of 185 attendees on site at any given time.

Table 4.11-8 summarizes the worst-case hourly average noise levels and total L_{dn} generated at the proposed swim meet tournaments propagated to the property lines of the surrounding receptors. The facility's building and pool storage fence provide a minimum attenuation of 10 dBA for the east receptors and a minimum attenuation of 9 dBA for the north receptors. This attenuation is applied in Table 4.11-8.

Since park activities are not subject to the City's noise standards between 9:00 a.m. and 10:15 p.m., swim meet tournaments at the facility would be exempt from the City Municipal Code standards.

Table 4.11-8: Operational Noise Levels for the Aquatics Center during Swim Meet Tournaments

Pool Activity		South Res. & Comm. Uses	West Alameda Food Bank	West Comm. Uses	North Res. & Ismaili Cultural Center	East College & Offices
Swim Meet Tournaments	Dist., feet	255[a]	300[a]	445[a]	175[a]	770[a]
	L_{max}, dBA	75	73	70	69[b]	55[c]
	L_{50}, dBA	65	63	60	59[b]	45[c]
	Operational L_{dn}, dBA[d]	60	59	56	55	41
	Future L_{dn}, dBA[e]	62	73	73	65	65
	Noise Level Increase, dBA L_{dn}	5	0	0	0	0

[a] A conservative 10 dBA attenuation is applied for the north and east receptors due to the intervening project buildings.

The noise level increase during days with large swim meet tournaments would result in a 5 dBA L_{dn} increase at the south residences, which would exceed the City's 4 dBA L_{dn} threshold. As noted in Section 3.0 Project Description, the facility would host two large swim meet tournaments per year, and during these two days per year, the facility would result in a 5 dBA L_{dn} increase at the south residences, which would not represent a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the General Plan. For all other receptors, the noise level increase on days with swim meet tournaments would not be measurable or detectable (0 dBA L_{dn} increase).

Small Events

The facility would host smaller community events six to eight times per year, with approximately 100 people in attendance. These community events would include movie in the pool events (occurring during operating hours in the evening) or holiday related, such as Halloween or Santa events (occurring on Saturdays or Sundays between noon and 4:00 p.m.).

Table 4.11-9 summarizes the worst-caseL_{50} and L_{max} noise levels, the operational L_{dn}, the future L_{dn}, and the estimated noise level increase at the proposed aquatics center during small events propagated to the property lines of the surrounding receptors, assuming a minimum attenuation of 10 dBA for the east receptors and 9 dBA at the north receptors.

Table 4.11-9: Operational Noise Levels for the Aquatics Center during Small Events

Pool Activity		South Res. & Comm. Uses	West Alameda Food Bank	West Comm. Uses	North Res. & Ismaili Cultural Center	East College & Offices
Local Events with up to 100 visitors	Dist., feet	270[a]	455[a]	600[a]	170[a]	630[a]
	L_{50}, dBA	45	40	38	40[b]	27[c]
	Operational L_{dn}, dBA[d]	37	32	30	32[b]	< 20[c]
	Future L_{dn}, dBA[e]	57	73	73	65	65
Amplified Sound	Dist., feet	270[a]	455[a]	600[a]	170[a]	630[a]
	L_{50}, dBA	57	53	50	52[b]	40[c]
	Operational L_{dn}, dBA[d]	50	45	43	45[b]	32[c]
	Future L_{dn}, dBA[e]	58	73	73	65	65

[a] Distance measured from the center of pool deck, which represents the center of the combined noise source.
[b] A conservative 9 dBA attenuation is applied for the north receptors due to the 10-foot solid corrugated fence along the north side of the pool storage area, which partially shields the lap pool.
[c] A conservative 10 dBA attenuation is applied for the north and east receptors due to the intervening project buildings, which partially shields the recreational pool for the north receptors and both pools for the east receptors.
[d] Operational Ldn is generated by small event operations at the Alameda Aquatic Center.
[e] Future Ldn is calculated by adding the Operational Ldn to the existing ambient Ldn at each of the receptors.

The L_{50} standards summarized in Table 4.11-5 would be exceeded at the south residences during the small events using amplified sound. Since all park activities are not subject to the City's standards between 9:00 a.m. and 10:15 p.m., small community events at the facility, which would not occur outside those hours, would be exempt from the City standards.

The noise level increase during small gatherings would not be measurable or detectable (i.e., 0 dBA L_{dn} increase). The use of amplified sound would result in a noise level increase of 1 dBA L_{dn} at the south residences, which would not exceed the City's 4 dBA L_{dn} threshold. For all other receptors, the noise level increase due to amplified sound would not be measurable or detectable (0 dBA L_{dn} increase).

Truck Loading and Unloading

While the site plan does not show loading zones, concessions at the Aquatics Center would require regular deliveries. It is assumed that loading and unloading activities would occur at the trash enclosures and along the curb of Atlantic Avenue.

Truck maneuvering noise would include a combination of engine, exhaust, and tire noise, as well as the intermittent sounds of back-up alarms and releases of compressed air associated with truck/trailer air brakes. For uses such as the Aquatics Center, medium-sized delivery and trash trucks would be expected. Medium-sized delivery trucks typically generate maximum noise levels of 60 to 65 dBA at 50 feet. The noise level of backup alarms can vary depending on the type and directivity of the sound, but maximum noise levels are typically in the range of 65 to 75 dBA at a distance of 50 feet.

For all loading and unloading activities, including trash pickup, truck maneuvering would take up to five minutes per delivery. The proposed project would be operated in accordance with Chapter 4-10.5 of the City's Municipal Code, which prohibits loading and unloading activities between the hours of 10:00 p.m. and 7:00 a.m. Therefore, the daytime L_{08} standards provided in Table 4.11-5 for each receptor would apply to this noise source.

For all existing receptors, the noise level increase due to truck loading/unloading activities would not be measurable or detectable (0 dBA L_{dn} increase).

<u>Total Combined Project-Generated Noise</u>

Operational L_{50} and L_{max} noise levels due to project-generated activities (i.e., traffic, mechanical equipment, typical daily activities, swim meets, small events, and truck loading/unloading) would be exempt from City's standards between 9:00 a.m. and 10:15 p.m., and activities occurring between 5:30 a.m. and 9:00 a.m. on typical days would not exceed the City's noise standards identified in Table 4.11-5.

For all existing receptors in the project vicinity, the noise level increase due to project traffic, mechanical equipment, truck loading/unloading, typical daily activities, and small events, would result in a permanent noise level increase of 2 dBA L_{dn} or less.

During large swim meet tournaments held twice per year, the noise level increase would potentially be up to 5 dBA L_{dn} at the south residences. However, this increase would occur for a maximum of four days per year. While this would be a significant increase, it would not be considered a permanent noise increase since the overwhelming majority of the year (361/365 = 99%), surrounding receptors would not be subject to an increase more than 2 dBA L_{dn} over existing ambient conditions. Therefore, this would be a less-than-significant impact. **[Same Impact as Approved Project (Less than Significant Impact)]**

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g., jackhammers, hoe rams) are used. Construction activities would include demolition, site preparation work, foundation work, and new building framing and finishing. Pile driving equipment, which can cause excessive vibration, is not expected to be required for the proposed project.

As discussed in Section 4.11.1.1, Caltrans recommends vibration limits for different building types. No historical buildings, ancient monuments or ruins have been identified within 200 feet of the aquatic center construction. The nearest historic building is the Yard House, located on Sherman Street in the southeast corner of the 22-acre park parcel, 0.48 miles east from the aquatic center. Conservatively, the 0.3 in/sec PPV threshold would be applied for all structures in the project vicinity.

Project construction activities, such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), may generate substantial vibration in the immediate vicinity. Jackhammers typically generate vibration levels of 0.035 in/sec PPV, and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet. Vibration levels would vary depending on soil conditions, construction methods, and equipment used.

The nearest off-site building would be the nearest residence to the north, which would be approximately 70 feet from the northern property line of the project site, across Atlantic Avenue. When construction equipment is used along the northern property line, vibration levels would be below 0.07 in/sec PPV. All other buildings in the project vicinity would be 100 feet or more from the project site and would be exposed to construction vibration levels below 0.05 in/sec PPV. Therefore, vibration due to construction activities at the project site would be well below the 0.3 in/sec PPV threshold for conventional buildings. **[Same Impact as Approved Project (Less than Significant Impact)]**

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Oakland International Airport is a public-use airport located more than four miles southeast of the project site, and the Hayward Executive Airport is located more than 11 miles southeast of the project. According to the Alameda County ALUC, the project site lies well outside the 60 dBA CNEL/L_{dn} contour line. The modified project would be compatible with the City's exterior noise standards for aircraft noise and aircraft would not produce excessive noise levels for persons at the site. **[Same Impact as Approved Project (No Impact)]**

4.13 Public Services

4.13.1 Environmental Setting

4.13.1.1 *Regulatory Framework*

State

Government Code Section 66477

The Quimby Act (included within Government Code Section 66477) requires local governments to set aside parkland and open space for recreational purposes. It provides provisions for the dedication of parkland and/or payment of fees in lieu of parkland dedication to help mitigate the impacts from new residential developments. The Quimby Act authorizes local governments to establish ordinances requiring developers of new residential subdivisions to dedicate parks, pay a fee in lieu of parkland dedication, or perform a combination of the two.

Government Code Section 65995 through 65998

California Government Code Section 65996 specifies that an acceptable method of offsetting a project's effect on the adequacy of school facilities is the payment of a school impact fee prior to the issuance of a building permit. Government Code Sections 65995 through 65998 set forth provisions for the payment of school impact fees by new development by "mitigating impacts on school facilities that occur (as a result of the planning, use, or development of real property" (Section 65996[a]). The legislation states that the payment of school impact fees "are hereby deemed to provide full and complete school facilities mitigation" under CEQA (Section 65996[b]).

Developers are required to pay a school impact fee to the school district to offset the increased demands on school facilities caused by the proposed residential development project. The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

Local

Alameda General Plan 2040

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to public services and are applicable to the project.

Policy	Description
OS-1	Secure adequate and reliable funding for the development, rehabilitation, programming and maintenance of parks, community and recreation facilities, trails, greenways, and open space areas.
OS-5	Continue to upgrade parks, trails, and community facilities to ensure accessibility and inclusivity for all residents.

Policy	Description
OS-13	Support the completion of the last two phases of the 25-acre Jean Sweeney Open Space Park to include a community garden, demonstration gardens, walking trails, a bicycle skills loop, an outdoor classroom, picnic areas, and large areas of open space and trees.
OS-15	Partner with the Alameda Unified School District to develop a City Aquatic Center to serve the community's swimming needs and AUSD swim programs

Development Impact Fee Ordinance

The Alameda Development Impact Fee Ordinance, codified in Municipal Code Section 27-3, allows the City to assess development impact fees to mitigate the impacts of new residential development and new or intensified industrial and commercial development on transportation, parks and recreation, general public facilities, and public safety, including police and fire protection services. The fees are adjusted each year to reflect the change in the appropriate Construction Cost Index. Although the City's development impact fees are generally for construction of new or expanded parks, recreation, and public safety (e.g., road improvements) facilities, the ordinance notes public facility improvements are necessary to maintain adequate levels of police and fire protection services.

4.13.1.2 *Existing Conditions*

Fire Protection Services

Fire protection and emergency medical response services are provided to the City of Alameda by the Alameda Fire Department (AFD), which has 110 sworn firefighters and 7 non-sworn personnel. There are a minimum of 25 firefighters on duty daily.[78] The AFD maintains automatic and mutual aid agreements with the City of Oakland as well as the California Office of Emergency Services and California Task Force 4–The Urban Search and Rescue.

The Department had an average first responder response time of 4 minutes 50 seconds to all fire calls in 2019. The average response time for all calls was 4 minutes 37seconds.[79]

Police Protection Services

Police protection services in Alameda are provided by the Alameda Police Department (APD), which operates out of headquarters located at 1555 Oak Street. The APD budgeted positions for 88 sworn officers and 33 non-sworn personnel, though actual current staffing levels are lower.[80] Staffing shortfalls are made up through overtime work by existing officers. The APD's target staffing ratio is one officer per thousand population. The department-wide average response time for Priority calls is under three minutes.

[78] City of Alameda. Alameda General Plan 2040 Draft Environmental Impact Report. May 2021.
[79] Ibid.
[80] Ibid.

Schools

Public school services in Alameda are provided by the Alameda Unified School District (AUSD), which has nine elementary schools, four middle schools, and four high schools. The project would not generate any new students; therefore, schools are not discussed further.

Parks

The City of Alameda maintains nine community parks, representing approximately 98.1 acres of parkland; 17 neighborhood parks, encompassing 66.59 acres; and 7 regional parks, providing 344.93 acres of parkland. Citywide, there are 509.62 acres of parks and recreation facilities.[81]

The city has not adopted a standard for the provision of parkland pursuant to the Quimby Act. However, based on the City's January 2020 population of 81,312 people and the 509.62 acres of existing parkland, the City currently has 6.26 acres of park land per 1,000 residents.[82]

The project site is part of the Jean Sweeney Open Space Park.

Libraries

Library services in Alameda are provided by the Alameda Free Library, which has a main branch located at 1550 Oak Street, a West End Branch located at 788 Santa Clara Avenue, and a Bay Farm Island branch located at 3221 Mecartney Road.

[81] City of Alameda. Alameda General Plan 2040 Draft Environmental Impact Report. May 2021.
[82] Ibid.

4.13.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:					
a) Fire Protection?	☐	☐	☐	☒	☐
b) Police Protection?	☐	☐	☐	☒	☐
c) Schools?	☐	☐	☐	☒	☐
d) Parks?	☐	☐	☐	☒	☐
e) Other Public Facilities?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The adopted IS/MND concluded that approved project would result in less than significant impacts to public services.

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services?

The Alameda General Plan 2040 EIR concluded that future population growth facilitated by the General Plan could require the AFD to acquire new equipment and add firefighting staff, and construction of new facilities to house this staff and equipment could be required. New residential, industrial, and commercial development would be required to pay the City's development impact fees, which would provide the funding needed for increased staffing, equipment, and facilities. When and if the City makes a decision to build new facilities, such a proposal will be subject to separate environmental review.

Consistent with the approved project, the modified project would not be anticipated to lead to a substantial increase in calls for emergency medical services and fire suppression services. The Fire Department would review all project designs at the time building permits are issued to ensure that adequate fire and life safety measures are incorporated into the project in compliance with all applicable state and city fire safety requirements and to ensure that Fire Department personnel would have adequate access to the site. Therefore, the project would not require the construction of new or expanded fire facilities. **[Same Impact as Approved Project (Less than Significant Impact)]**

b) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services?

The Alameda General Plan 2040 EIR concluded that increased population and development would generate increased calls for police protection services, which would require the Alameda Police Department to add additional police officers to the force in order to maintain an adequate staffing ratio. To accommodate this growth in staff, the General Plan 2040 EIR concluded it is likely that construction of new police facilities could be required in the future. However, there are currently no plans for construction of a new station, and any future project for this purpose would be subject to separate environmental review under CEQA. The General Plan 2040 EIR determined that payment of the City's Development Impact Fees by future development would contribute to the improvements necessary to maintain adequate levels of police protection.

Consistent with the approved project, the modified project could result in an incremental increase in calls for police services but the increase would not be sufficient to require construction of new police stations in order to maintain adequate response times. **[Same Impact as Approved Project (Less than Significant Impact)]**

c) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools?

The modified project consists of development and operation of an aquatic swim center. No residential units would be constructed and the project would not increase school-aged children in the area. Therefore, the proposed project would have a less than significant impact on school services and would not result in an adverse physical impact to new or physically altered governmental facilities or result in the need for new or physically altered governmental facilities. **[Same Impact as Approved Project (No Impact)]**

d) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks?

The approved project consists of a new 22-acre community park and open space, which would primarily support passive recreation, with some active recreation uses. The modified project proposes to develop a 2.35-acre portion of the site with an aquatic swim center consistent with General Plan Policy OS-15. The environmental impacts associated with the construction of the proposed aquatic center and associated mitigation measures are evaluated in this IS/Addendum. Implementation of this project would ensure that the City has adequate park and recreation facilities to service its residents and would not contribute to physical deterioration to other parks in the City. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

e) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities?

The modified project would not create new demand for libraries or other public facilities. Therefore, the modified project would not require the construction of new libraries or other public facilities. **[Same Impact as Approved Project (No Impact)]**

4.14 Recreation

4.14.1 Environmental Setting

4.14.1.1 *Regulatory Framework*

State

Government Code Section 66477

The Quimby Act (included within Government Code Section 66477) requires local governments to set aside parkland and open space for recreational purposes. It provides provisions for the dedication of parkland and/or payment of fees in lieu of parkland dedication to help mitigate the impacts from new residential developments. The Quimby Act authorizes local governments to establish ordinances requiring developers of new residential subdivisions to dedicate parks, pay a fee in lieu of parkland dedication, or perform a combination of the two.

Local

Alameda General Plan 2040

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to public services and are applicable to the project.

Policy	Description
OS-1	Secure adequate and reliable funding for the development, rehabilitation, programming and maintenance of parks, community and recreation facilities, trails, greenways, and open space areas.
OS-5	Continue to upgrade parks, trails, and community facilities to ensure accessibility and inclusivity for all residents.
OS-13	Support the completion of the last two phases of the 25-acre Jean Sweeney Open Space Park to include a community garden, demonstration gardens, walking trails, a bicycle skills loop, an outdoor classroom, picnic areas, and large areas of open space and trees.
OS-15	Partner with the Alameda Unified School District to develop a City Aquatic Center to serve the community's swimming needs and AUSD swim programs

Development Impact Fee Ordinance

The Alameda Development Impact Fee Ordinance, codified in Municipal Code Section 27-3, allows the City to assess development impact fees to mitigate the impacts of new residential development and new or intensified industrial and commercial development on transportation, parks and recreation, general public facilities, and public safety, including police and fire protection services. The fees are adjusted each year to reflect the change in the appropriate Construction Cost Index. Although the City's development impact fees are generally for construction of new or expanded parks, recreation, and public safety (e.g., road improvements) facilities, the ordinance notes public facility improvements are necessary to maintain adequate levels of police and fire protection services.

4.14.1.2 *Existing Conditions*

The City of Alameda maintains nine community parks, representing approximately 98.1 acres of parkland; 17 neighborhood parks, encompassing 66.59 acres; and 7 regional parks, providing 344.93 acres of parkland. Citywide, there are 509.62 acres of parks and recreation facilities.[83]

The city has not adopted a standard for the provision of parkland pursuant to the Quimby Act. However, based on the City's January 2020 population of 81,312 people and the 509.62 acres of existing parkland, the City currently has 6.26 acres of park land per 1,000 residents.[84]

The project site is part of the Jean Sweeney Open Space Park.

4.14.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The adopted IS/MND concluded that approved project would result in less than significant impacts to recreation.

[83] City of Alameda. Alameda General Plan 2040 Draft Environmental Impact Report. May 2021.
[84] Ibid.

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The approved project consists of a new 22-acre community park and open space, which would primarily support passive recreation, with some active recreation uses. The modified project proposes to develop a 2.35-acre portion of the site with an aquatic swim center consistent with General Plan Policy OS-15. Implementation of this project would ensure that the City has adequate park and recreation facilities to service its residents and would not contribute to physical deterioration to other parks in the City. **[Same Impact as Approved Project (Less than Significant Impact)]**

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The approved project consists of a new 22-acre community park and open space, which would primarily support passive recreation, with some active recreation uses. The modified project proposes to develop a 2.35-acre portion of the site with an aquatic swim center consistent with General Plan Policy OS-15. The environmental impacts associated with the construction of the proposed aquatic center and associated mitigation measures are evaluated in this IS/Addendum. Implementation of this project would ensure that the City has adequate park and recreation facilities to service its residents and would not contribute to physical deterioration to other parks in the City. **[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]**

4.15 Transportation

The following discussion is based, in part, on a Transportation Impact Analysis prepared by Fehr & Peers. A copy of this report, dated May 14, 2025, is attached to this IS/Addendum as Appendix F.

4.15.1 Environmental Setting

4.15.1.1 *Regulatory Framework*

State

Senate Bill 743

SB 743 establishes criteria for determining the significance of transportation impacts using a vehicle miles traveled (VMT) metric intended to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. Specifically, SB 743 requires analysis of VMT in determining the significance of transportation impacts. Local jurisdictions were required by the Governor's Office of Planning and Research (OPR) to implement a VMT policy by July 1, 2020.

SB 743 did not authorize OPR to set specific VMT impact thresholds, but it did direct OPR to develop guidelines for jurisdictions to utilize. CEQA Guidelines Section 15064.3(b)(1) describes factors that might indicate whether a development project's VMT may be significant.

Regional and Local

Regional Transportation Plan

MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area, including Alameda County. MTC is charged with regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities in the region. MTC and ABAG adopted Plan Bay Area 2050 in October 2021, which includes a Regional Transportation Plan to guide regional transportation investment for revenues from federal, state, regional and local sources through 2050.

Congestion Management Program

The Alameda County Transportation Commission (Alameda CTC) oversees the Congestion Management Program (CMP), which is aimed at reducing regional traffic congestion. The relevant state legislation requires that urbanized counties in California prepare a CMP in order to obtain each county's share of gas tax revenues. State legislation requires that each CMP define traffic LOS standards, transit service standards, a trip reduction and transportation demand management plan, a land use impact analysis program, and a capital improvement element. Alameda CTC has review responsibility for proposed development projects that are expected to affect CMP-designated intersections.

Alameda General Plan 2040

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to transportation and are applicable to the project.

Policy	Description
LU-3	Promote safe and walkable neighborhoods with inter-connected well-designed streets that serve the needs of all Alamedans and all modes of transportation.
CC-9	Support and encourage vehicle sharing to reduce the demand for vehicle parking and increase access to mobility.
CC-10	Reduce reliance on automobile use and reduce vehicle miles traveled by prioritizing walkable, transit-oriented, medium and high density mixed-use development in transit-oriented areas and commercial corridors.
ME-5	Maintain and implement Vision Zero as the guiding principle for transportation planning, design of streets and sidewalks, and the maintenance of the public rights-of-way.
ME-6	When designing, redesigning or resurfacing streets, provide safe and convenient access for vulnerable users including children, seniors, people with disabilities, and people walking and bicycling.
ME-7	Reduce collisions resulting in severe injuries and fatalities on Alameda streets by reducing automobile speeds and decreasing collisions between people driving, riding a motorcycle, biking, walking, or wheeling.
ME-9	Preserve access for emergency response vehicles to people and property and for evacuation.
ME-13	Manage and extend the Alameda street grid to maintain the character of Alameda, reduce traffic, and maximize mobility, access, and safety for all modes of transportation.
ME-14	Reduce traffic, improve public health, increase transportation equity, reduce greenhouse gas emissions, air and noise pollution, increase access to transit, enhance quality of life, and improve the efficiency of the transportation system by making Alameda a city where people of all ages and abilities can safely, conveniently, and comfortably walk, bike, and roll to their destinations.
ME-16	Improve mobility and reduce greenhouse gas emissions and air and noise pollution by making Alameda a city where more people have access to safe, reliable, high quality transit.
ME-17	Promote shared mobility devices programs such as bicycle share, car share, and electric scooter share programs that reduce the need for an automobile trip. (
ME-20	Require that new development support citywide traffic reduction, greenhouse gas reduction, and sustainable transportation.
ME-21	Manage parking and allocate curb space to reduce congestion, reduce vehicle miles traveled, and increase safety.
ME-22	Reduce traffic, pollution, and greenhouse gas emissions by reducing reliance on the single occupancy vehicle and reducing vehicle miles traveled (VMT).

Alameda Active Transportation Plan

The City Council adopted the Active Transportation Plan on December 20, 2022. The Active Transportation Plan establishes a vision and concrete actions to provide safe, comfortable, and accessible ways for people of all ages and all abilities to get around Alameda by walking, biking, or using wheelchairs and mobility scooters, pedal and electric scooters, electric bikes, skateboards, and the like.

City of Alameda Transportation Choices Plan

The 2018 City of Alameda Transportation Choices Plan establishes goals of increasing the morning peak-hour non-drive-alone trip share from 27 percent to 39 percent; and increasing the share of walking, bicycling, transit, and carpooling trips in Alameda by 5 percent, from 37 percent to 42 percent. It includes prioritized projects for the near-term, mid-term, and long-term in support of these goals.

Alameda Climate Action and Resiliency Plan

The 2025 Alameda CARP identifies mitigation and adaptation measures towards the vision of achieving net zero carbon emissions and community resiliency as soon as possible. The plan also contains a GHG reduction goal of 50 percent below 2005 levels by 2030 and achieve carbon neutrality by 2045. The CARP identifies the following actions related to transportation:

- T-2: Active Transportation
- T-3: Transportation Demand Management
- T-4: Parking and Curb Management
- T-5 Public Transit Service
- T-6: Vehicle Electrification

4.15.1.2 *Existing Conditions*

Roadway Network

No freeways are located within the City of Alameda, but Interstate-880 (I-880) in neighboring Oakland provides connections to the City of Alameda. From the project site, I-880 can be accessed via the Webster and Posey Tubes. Primary access to the project site is provided via Atlantic Avenue and Wilma Chan Way.

Bicycle and Pedestrian Facilities

The following bicycle facilities are currently provided in the vicinity of the project site:

- Bike lanes in both directions on Atlantic Avenue between Wilma Chan Way and Sherman Street
- Bike lanes in both directions on Challenger Drive between Atlantic Avenue and Marina Village Parkway

- Bike path directly south of the Project through the Jean Sweeney Open Space Park between the Atlantic Avenue/Wilma Chan Way intersection and the Atlantic Avenue/
- Sherman Street intersection (part of the Cross Alameda Trail, which is an approximately 4-mile low-stress bicycling and walking corridor that will extend between east and west sides of the Alameda island at buildout).
- Shared-use path on the east side of Wilma Chan Way extending between Atlantic Avenue in the south and Mariner Square Drive in the north and connecting to the Posey Tube path.

The Bikeway Vision network in City of Alameda Active Transportation Plan includes the following in the project vicinity:

- Convert the existing bike lanes on Atlantic Avenue to buffered bike lanes.
- Convert the existing bike lanes on Challenger Drive to separated bike lanes.
- Complete north-south shared-use paths through the Jean Sweeney Open Space Park connecting the Cross Alameda Trail to nearby streets including Challenger Drive to the east of the Project site and to Eighth Street just south of the Project site.

Pedestrian access to the project site would be provided via Atlantic Avenue and the Cross Alameda Trail on the south side of the project site. There are existing sidewalks in the project vicinity.

Transit Services

AC Transit is the primary bus service provider in the City of Alameda. Although there are no transit stops adjacent to the Project site, AC Transit operates lines at the following transit stops in the project vicinity:

- Both directions of Webster Street at Atlantic Avenue (approximately 0.2 miles, walking distance, west of the Project site):
    - Line 20: 30-minute headways on weekdays and weekends.
    - Line 51A: 15-minute headways on weekdays and weekends. Line 96: 30-minute headways on weekdays and weekends.
    - Line 851: 60-minute headways every day from approximately 12:00 AM to 5:00 AM.
    - Line O: 30-minute headways on weekdays and weekends.
    - Line W: 30-minute headways on weekdays from approximately 4:30 PM to 7:00 PM.
- Atlantic Avenue/Challenger Drive (approximately 0.2 miles, walking distance, east of the project site):
    - Line 19: 60-minute headways on weekdays and weekends the Project would not modify access between the Project site and these bus stops.

4.15.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian facilities?	☐	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The Jean Sweeney Open Space IS/MND concluded that implementation of the approved project would result in less than significant transportation impacts with the implementation of Mitigatoin Measure TRAN-1a and 1B (refer to Section 4.1 of this Initial Study).

The approved project, involving the construction of a new 22-acre community park and open space, was evaluated against the level of service (LOS) standard as that was the applicable method of CEQA transportation analysis in 2014, prior to the adoption of SB 743, which required a move away from LOS to evaluate projects for transportation impacts under CEQA using VMT, refer to Section 4.14.3 Non-CEQA Effects.

The adopted IS/MND concluded that traffic generated by the approved project would be spread out throughout the day, and the increased traffic volume in any one hour on any one roadway is not expected to be high. In addition, trips to recreational facilities tend not to occur during peak commute periods when there is more traffic on roadways. Therefore, roadways in the project vicinity were determined to have sufficient capacity to carry the increase in vehicle trips to the park.

The adopted IS/MND concluded that the approved project would not conflict with a program, plan, ordinance or policy regarding roadway, transit, bicycle, or pedestrian facilities and result in a less than significant impact to emergency access to and around the project site.

a) Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian facilities?

Roadway Network

Construction of the project would take approximately 20 months. Construction activities would include daily vehicle trips generated by the arrival and departure of construction workers, as well as haul trucks carrying demolition debris, soil, and building materials. Construction of the proposed project would not require any lane closures. However, consistent with the approved project, construction of the modified project would impede pedestrian access near the site and block traffic, unless measures were taken. The modified project would implement Mitigation Measures TRAN-1a and TRAN-1b (listed in Section 4.1, above) to reduce this impact to less than significant.

Although transportation analysis under CEQA no longer recognizes vehicle delay as an environmental impact, intersection LOS was evaluated to help identify potential transportation system improvements that could be implemented as part of the modified project, to evaluate whether any transportation system improvements associated with the aquatics center would have the potential to themselves result in environmental impacts. Under all evaluated scenarios, the study intersections, including the project Driveway on Atlantic Avenue, would operate at LOS D or better during both the AM and PM peak hours, and therefore not require physical improvements.

Bicycle and Pedestrian Facilities

The Project does not propose any modifications to the existing or proposed bicycle facilities. Considering the Project location on Atlantic Avenue and that Atlantic Avenue does not provide on-street parking, it is possible that the bike lanes may be used for passenger loading. As discussed in Section 3.3.5, the project would install “No Stopping Anytime” signs and paint red curb on both sides of Atlantic Avenue along Project frontage to prohibit vehicles from using the existing Class II bicycle facilities for pickups and drop-offs .

As discussed in section 3.2.2 Site Access and Parking, the project proposes to include two long-term bicycle parking spaces (south of the building) and 100 short-term bicycle spaces (west of the building). There would be space for the installation of long-term bike racks that can accommodate 10 bikes for long term/staff bike parking.

The project proposes a marked crosswalk across Atlantic Avenue just west of the project driveway and just east of the Marina Village Research Park driveway which is on the north side of the street. The crosswalk would connect to the entry plaza through a diagonal path. The crosswalk would exceed the minimum stopping sight distance for drivers on both directions of Atlantic Avenue.

While the modified project would exceed the minimum stopping sight distance for drivers on both directions, to better accommodate pedestrians crossing Atlantic Avenue, the modified project would implement crosswalk improvements across Atlantic Avenue between the Marina Village Research Park and the project driveways (refer to Section 3.3.5).

Transit System

As discussed in Section 3.14.1.2 Existing Conditions, AC Transit provides bus service in the project vicinity. There are no stops adjacent to the project site and the project would not modify access between the project site and any of these bus stops.

Based on the above, the proposed project would not conflict with a program, plan, ordinance or policy regarding roadway, transit, bicycle, or pedestrian facilities.
[Same Impact as Approved Project (Less than Significant Impact with Mitigation Incorporated)]

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b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Since the City has not yet adopted a VMT policy or significance thresholds related to VMT, the VMT analysis is based on the guidance provided by the Office of Land Use and Climate Innovation (LCI) (formerly the Office of Planning and Research). According to LCI's guidance, screening criteria can be used to identify projects that can be expected to cause a less-than-significant impact without conducting a detailed analysis. Based on the guidance provided by the LCI, local-serving uses such as parks are considered to have less than significant VMT impacts. Local-serving uses can be presumed to have a less-than-significant impact on VMT absent substantial evidence to the contrary. Local serving uses, such as grocery stores, local schools, and community centers, can be considered to have a less-than-significant impact on VMT because they would draw most of their users, customers, and/or visitors from a relatively small geographical area.

The approved project involved the construction of a new 22-acre community park and open space. Based on the guidance provided by the LCI, local-serving uses such as parks are considered to have less than significant VMT impacts. The modified project proposes to develop an aquatic center that primarily serves the City of Alameda residents. Most of the trips generated by the modified project under typical conditions are expected to be local Alameda residents. In addition, the project site is easily accessible by non-automobile modes. Class II bicycle lanes on Atlantic Avenue and the Class I Cross Alameda Trail provide non-motorized access adjacent to the site, and Webster Street, about 0.2 miles walking distance west of the Project site, provides high-frequency transit service. Considering the Project use and availability of non-automobile modes, the modified project can be considered a local-serving use and presumed to have a less-than-significant impact on VMT. **[New Less than Significant Impact]**

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Geometric Design

Site Access and On-site Circulation

Automobile access would be provided via one main driveway on the south side of Atlantic Avenue, offset about 60 feet east of an existing driveway for the Marina Village Research Park, which is on the north side of Atlantic Avenue. The project driveway would be 20 feet wide and provide direct access to a 71-space surface parking lot. The driveway would accommodate all turns into and out of the Project. A second driveway on the east side of the parking lot would connect the proposed parking lot and the existing parking lot for the College of Alameda Science Annex.

The driveway on Atlantic Avenue would provide a clear line-of-sight between a motorist 10 feet back from the sidewalk exiting the driveway and pedestrians on the sidewalk 10 feet away on either side. Additionally, according to the Caltrans Highway Design Manual, the stopping sight distance for Atlantic Avenue (with a 25-mph posted speed limit) is 150 feet. The project driveway meets this sight distance for both motor vehicles and bicycles in both directions of Atlantic Avenue.

The project driveway on Atlantic Avenue would connect to two two-way drive aisles generally parallel to Atlantic Avenue, which would accommodate 71 parking spaces generally along both sides of the two drive aisles. All parking spaces would be perpendicular to the 24-foot-wide two-way drive aisles, which would meet the dimensional requirement in the City of Alameda Municipal Code (Section 30-7.8), such that passenger vehicles would be able to maneuver into and out of all parking spaces.

Currently, Atlantic Avenue provides a painted median (two double yellow lines) east of the Marina Village Research Park driveway. To better accommodate left-turns from westbound Atlantic Avenue into the project site, the modified project would stripe a 100-foot westbound left-turn lane with a 60-foot taper along Atlantic Avenue at the project driveway (refer to Section 3.3.5).

The project driveway would also provide access to an approximately 100-foot passenger loading area on the west side of the parking lot and adjacent to the project entry plaza. Thus, passengers can be dropped off or picked up without crossing any vehicles. The project would install R25(C) (CA) "Passenger Loading Only" signs and paint the curb white to discourage parking along the west side of the parking lot (refer to Section 3.3.5).

Incompatible Uses

As discussed under Section 4.1.2 Land Use and Planning, the modified project is consistent with the project site's land use designation and, therefore, has been found programmatically compatible with the surrounding developments by the General Plan FEIR. Since the project's land use is compatible with uses in the area, the project's use of circulation systems also would be compatible and would not create a hazard. The project does not propose a use that would bring unusual equipment on the roadways (e.g., farm equipment). Therefore, the project would not result in a significant impact due to incompatible uses.

Based on the above analysis, the project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Impacts would be less than significant. **[Same Impact as Approved Project (Less than Significant Impact)]**

d) Would the project result in inadequate emergency access?

The modified project would not result in changes to surrounding circulation systems or established evacuation routes. Emergency vehicles would access the project site through the same vehicular access points on Atlantic Avenue and use the surface parking lot to access the Project site. The modified project would not modify the existing roadway network, and the streets surrounding the project site would continue to accommodate fire apparatuses. According to the current California Fire Code, fire apparatus access roads need to be no less than 20-feet-wide and shall always be unobstructed, which the modified project meets. The project parking lot would provide two access points; thus, if one access point is blocked, emergency vehicles can use the other access points to access the site. The modified project would not interfere with the emergency response to the project area; therefore, the proposed project would result in a less than significant impact to emergency access to and around the project site. **[Same Impact as Approved Project (Less than Significant Impact)]**

4.16 Utilities and Service Systems

4.16.1 Environmental Setting

4.16.1.1 *Regulatory Framework*

State

State Water Code

Pursuant to the State Water Code, water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (approximately 980 million gallons) of water annually must prepare and adopt an urban water management plan (UWMP) and update it every five years. As part of a UWMP, water agencies are required to evaluate and describe their water resource supplies and projected needs over a 20-year planning horizon, water conservation, water service reliability, water recycling, opportunities for water transfers, and contingency plans for drought events. The EBMUD adopted its most recent UWMP on June 22, 2021.

Assembly Bill 939

The California Integrated Waste Management Act of 1989, or AB 939, established the California Integrated Waste Management Board (CIWMB), required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of solid waste generated (from 1990 levels) by 2000 and thereafter. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures.

Assembly Bill 341

AB 341 sets forth the requirements of the statewide mandatory commercial recycling program. Businesses that generate four or more cubic yards of garbage per week and multi-family dwellings with five or more units in California are required to recycle.

Senate Bill 1383

SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The bill grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that at least 20 percent of currently disposed edible food is recovered for human consumption by 2025. CalRecycle released an analysis titled “Analysis of the Progress Toward the SB 1383 Organic Wase Reduction Goals” in August of 2020 (revised November 2020), which recommended maintaining the disposal reduction targets set forth in SB 1383.[85]

[85] CalRecycle. “Analysis of the Progress Toward the SB 1383 Organic Wase Reduction Goals (DRRR-2020-1693).” Accessed March 5, 2025. https://www2.calrecycle.ca.gov/Publications/Details/1693.

California Green Building Standards Code

CALGreen establishes mandatory green building standards for all buildings in California. The code is updated every three years.[86] CALGreen covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and indoor environmental quality. These standards include the following mandatory set of measures, as well as more rigorous voluntary guidelines, for new construction projects to achieve specific green building performance levels:

- Reducing indoor water use by 20 percent;
- Reducing wastewater by 20 percent;
- Recycling and/or salvaging 65 percent of nonhazardous construction and demolition debris; and
- Providing readily accessible areas for recycling by occupants.

Regional and Local

EBMUD Wastewater Control Ordinance

EBMUD adopted its Wastewater Control Ordinance in August 2013 to regulate the interception of wastewater and industrial wastes and to control wastewater to provide the maximum public benefit of its wastewater disposal facilities. The regulations include provisions for source control in order to monitor and control quantity, quality, and flow of wastewater and industrial waste. The Wastewater Control Ordinance establishes fees for use of EBMUD's wastewater treatment facilities and includes provisions for enforcement and penalties for violations.

The ordinance only allows community sewers to connect to EBMUD interceptors, and prohibits the discharge of stormwater or groundwater without authorization. Discharge of garbage or wastewater that creates a fire or explosion hazard is prohibited. The ordinance also establishes discharge limits on pH, temperature, heavy metals, oil and grease, chlorinated hydrocarbons, and cyanide.

EBMUD Private Sewer Lateral Ordinance

In 2011 EBMUD established a Regional Private Sewer Lateral Program, intended to help fix old, cracked sanitary sewer pipes that need repair to prevent the infiltration of rainwater, which can overwhelm wastewater treatment facilities and lead to the release of partially treated wastewater into the Bay. EBMUD adopted a Regional Private Sewer Lateral (PSL) Ordinance that year that requires affected property owners to obtain a certificate from EBMUD certifying that all of their PSLs are leak-free. To obtain certification, a contractor has to conduct a closed-circuit television (CCTV) inspection of the PSL that must be witnessed by an EBMUD inspector and must pass an EBMUD verification test.

[86] California Building Standards Commission. "California Building Standards Code." Accessed March 5, 2025. https://www.dgs.ca.gov/BSC/Codes#@ViewBag.JumpTo.

The PSL Ordinance applies to Alameda property transfers, building permits, remodeling permits (for projects over $100,000), or changes to meter size occurring on or after January 1, 2015. Owners are exempt from the ordinance if their PSL is less than 10 years old, verified by the permitting agency, at the date of final permit sign-off. EBMUD also encourages property owners to voluntarily seek certification of their PSLs without meeting any of the mandatory triggers. Other cities in the EBMUD service area were subject to the ordinance on earlier dates, with August 22, 2011 being the earliest effective date. The City of Berkeley has its own PSL ordinance, and is not subject to the EBMUD ordinance.

Alameda County Mandatory Recycling Ordinance

The Waste Reduction and Recycling Act of 1990 (Measure D), a charter amendment passed by the voters of Alameda County, established the Alameda County Source Reduction and Recycling Board and adopted the goal of reducing the total tonnage of landfilled materials generated in Alameda County by 75 percent by a date to be chosen by the Recycling Board. In 2003, the Recycling Board and Authority approved 2010 as the date by which 75-percent diversion was to be achieved, and in July 2010 the Recycling Board established the target year 2020 for reducing the amount of readily recyclable and compostable materials originating in Alameda County and deposited in landfills to no more than 10 percent of total materials originating in Alameda County and disposed of in landfills.

Alameda General Plan 2040

The following policies in the City's General Plan have been adopted for the purpose of reducing or avoiding impacts related to utilities and service systems and are applicable to the project.

Policy	Description
CC-4	Take actions to make Alameda a net zero GHG community.
CC-16	Minimize water use in new construction and landscaped areas to make Alameda more resilient to drought and generate less wastewater.
CC-17	Create a zero waste culture by implementing the City of Alameda's 2018 Zero Waste Implementation Plan.

Alameda Water Reuse Ordinance

The Alameda Water Reuse Ordinance (Municipal Code Chapter XXX, Article IIIA, Section 30.57 et seq.) requires new industrial, commercial, and residential subdivisions requiring a tentative map or parcel map, and that are located within a City-Designated Water Reuse Area, to provide a separate plumbing system to serve recycled water uses in the common landscape areas of the subdivision, such as golf courses, parks, greenbelts, and landscaped medians. This system must be independent of the plumbing system serving the domestic, residential, and other potable uses in the subdivision. City-Designated Water Reuse Areas are generally designated by EBMUD, though they can be modified by the City Council.

Alameda Bay-Friendly and Water-Efficient Landscape Ordinance

The Alameda Bay-Friendly and Water-Efficient Landscape Ordinance (Municipal Code Chapter XXX, Article IV, Section 30-58.1 et seq.) is intended to achieve the following:

a) Promote quality, water-efficient landscaping, while recognizing Alameda's unique climate, soil conditions, and development patterns;
b) Support EBMUD in its efforts to promote and implement water conservation measures;
c) Implement the most recently adopted State Model Water-Efficient Landscape Ordinance (MWELO);
d) Establish standards for sustainable landscape practices in accord with the current version of the StopWaste.Org Bay Friendly Landscape protocols;
e) Divert plant debris from landfills;
f) Promote the use of greywater systems; and
g) Discourage the planting of invasive plants.

The ordinance adopts and codifies the requirements of the MWELO.

Alameda Climate Action and Resiliency Plan

In addition to providing a roadmap for the City of Alameda to follow in reducing the City's GHG emissions and assist the State in meeting the GHG reduction goals established by AB 32 and SB 32 and also help the City address the growing threats posed by climate change, such as sea level rise, the Alameda CARP, adopted in September 2019, includes GHG reduction measures that will contribute to water conservation and reduce the City's overall water demand. The CARP also includes measures to reduce solid waste generation, thereby reducing demand for landfill disposal capacity. For example, the application of compost to Alameda parks and open spaces is projected to divert 13,238 tons of organic waste from landfill disposal by 2030.

Alameda Municipal Code – Solid Waste and Recycling

Chapter XXI of the Alameda Municipal Code requires the occupant or owner of any premises in the City where solid waste is generated to contract with and pay the City's franchised waste hauler for weekly collection of solid waste and separate weekly collection, respectively, of recyclable materials and organic materials, unless exempted due to negligible waste generation. The City's franchise agreements require the franchisee to recycle recyclable waste, compost compostable waste, and provide quarterly and annual reports to the Public Works Director on the tonnage and quantities, by type, of materials diverted from landfill disposal.

Article VI of Chapter XXI of the Alameda Municipal Code (Section 21-24 et seq.) requires sponsors of all construction projects in the City that will cost $100,000 or more to prepare and implement a Waste Management Plan (WMP) that details provisions for the diversion of at least 50 percent of the project-generated construction and demolition debris from landfill disposal. It also encourages voluntary compliance by projects that will cost less than $100,000 to construct. The requirements of Article VI apply to City-sponsored projects as well as private projects.

Alameda Sewer Master Plan

The City adopted a Sewer Master Plan SMP in November 2015 that is intended to confirm that the wastewater collection system has adequate capacity to handle peak wet-weather flows, as required for the System Evaluation and Capacity Assurance Plan element of the Sewer System Management Plan (SSMP). It is also intended to satisfy the Rehabilitation and Replacement Plan requirements of the SSMP and CD and establish a firm basis for project priorities and budgets in the City's 20-year Capital Improvement Program.

4.16.1.2 *Existing Conditions*

Water

Potable water is provided to the City of Alameda by EBMUD, which serves incorporated and unincorporated areas in much of Contra Costa and Alameda counties, encompassing 332 square miles of land area. EBMUD serves 20 cities and 15 unincorporated communities, with a service population of about 1.4 million people. EBMUD's water system infrastructure includes a network of storage reservoirs, pumping plants, aqueducts, and 4,200 miles of delivery pipes.[87] In addition to five major storage reservoirs with a total capacity of 151,670 acre-feet (AF) of water, the distribution network includes 165 neighborhood reservoirs storing treated potable water, with a combined total capacity of 830 million gallons.[88]

The EBMUD obtains about 90 percent of its water supply from the Mokelumne River watershed in the Sierra Nevada, with the remainder collected from protected watershed lands in the East Bay area. The District has water rights to a maximum of 325 mgd of Mokelumne River water, subject to availability of Mokelumne River runoff, senior water rights of other users, and downstream fishery flow requirements.[89] Local runoff provides 15 to 25 mgd of EBMUD's water supply during normal rainfall years, but it provides a negligible amount during drought years. Although the water supply is currently adequate to meet demand within the EBMUD, in the long term, the Mokelumne River supply cannot meet projected customer demand, even with mandatory water use restrictions.

EBMUD operates six treatment facilities with a combined daily capacity of 375 million gallons per day (mgd).[90] Two plants—the Walnut Creek Water Treatment Plant (WTP) and the Orinda WTP—operate year-round, while the Lafayette WTP, Sobrante WTP, and Upper San Leandro WTP are seasonal WTPs. Water delivered to the City of Alameda is treated at both the Orinda and Upper San Leandro WTPs.

[87] City of Alameda. *Alameda General Plan 2040 Draft EIR.* May 2021.
[88] Ibid.
[89] Ibid.
[90] Ibid.

As of December 2020, the Orinda, Lafayette, and Walnut Creek WTPs were all operating at less than half their capacity, while the Upper San Leandro WTP was operating at about 65 percent capacity.[91]

Although EBMUD does not currently have any recycled water service in Alameda, the City is located within EBMUD's East Bayshore Recycled Water Project service boundaries.

Sanitary Sewer/Wastewater Treatment

Wastewater in Alameda is collected in a network of sewer pipes and conveyed to EBMUD’s South Interceptor in Oakland via inverted siphon pipelines underneath the Oakland Estuary; from there the flow is conveyed north to EBMUD’s Main Wastewater Treatment Plant (WWTP) located near the eastern terminus of the San Francisco-Oakland Bay Bridge. The EBMUD plant treats wastewater from the cities of Alameda, Albany, Berkeley, El Cerrito, Emeryville, Kensington, Oakland, Piedmont, and part of Richmond, serving approximately 685,000 people in an 88-square-mile service area.

The WWTP provides secondary treatment for a maximum flow of 168 MGD.[92] Primary treatment is provided for up to 320 MGD. Storage basins provide plant capacity for a short-term hydraulic peak of 415 MGD. On average, about 63 million gallons of wastewater is treated every day.

There are approximately 140 miles of City-owned sanitary sewers and 42 sewage pump stations in Alameda, including 14 miles of pipes and 9 pump stations located in Alameda Point. In addition, there are over 10 miles of pipelines and 7 pump stations located in Alameda that are part of the EBMUD wastewater system, which serves as the “backbone” of Alameda’s sewer network. Wastewater collected in the system is conveyed to EBMUD’s WWTP via the South Interceptor, as described above.

Storm Drainage

The City operates and maintains a complex stormwater drainage system comprised of integrated storm drainage pipes, inlets, outfalls, culverts, pump stations, lagoons, sea walls, and perimeter levees, all intended to prevent flooding. Alameda is divided into eight major drainage areas, the project site is located in the Northside drainage area.

Due to Alameda’s relatively flat geography, pump stations are a critical component to managing storm runoff and preventing flooding. The City operates ten pump stations distributed throughout the two islands that convey storm runoff to San Francisco Bay.

The Natural Resources Conservation Service has classified all soils within the City of Alameda as group D, which have very slow infiltration rates.[93] This factor increases the volume and rate of runoff during peak storm events, amplifying the magnitude of flood risk experienced throughout the City.

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[91] Ibid.
[92] City of Alameda. *Alameda General Plan 2040 Draft EIR*. May 2021.
[93] Ibid.

Solid Waste

Commercial and residential solid waste generated in Alameda is collected by Alameda County Industries (ACI). Garbage collected throughout Alameda is hauled to the Davis Street Transfer Station in San Leandro, where it is loaded into higher-capacity trailer trucks and hauled to Altamont Landfill in eastern Alameda County. Recyclable materials, which are collected from residential and commercial customers in separate bins, are hauled to ACI's Aladdin Materials Recovery Facility (MRF) and Transfer Facility in the City of San Leandro, which sorts, separates, and bundles the recyclables for sale to secondary markets. The Aladdin MRF processes 11,572 tons of materials annually.[94] The capacity of the facility was expanded in 2019 from a permitted capacity of 412 tons per day (TPD) to 620 TPD, with an allowance for temporary exceedances up to 10 percent for a maximum of 20 days per year.[95] Organics are transferred to Newby Island Landfill.

As noted above, garbage in Alameda is hauled to the Davis Street Transfer Station, then transferred to Altamont Landfill, operated by Waste Management, Inc. (WMI). Altamont Landfill occupies 2,170 acres of hilly land outside of Livermore. This Class II/III landfill accepts mixed municipal waste as well as tires (shredded and whole), other designated waste, industrial waste, green waste, contaminated soil, construction and demolition debris, asbestos-containing waste, and ash. It has a daily permitted capacity of 11,150 TPD and remaining capacity of 65,400,000 tons.[96]

4.16.2 Impact Discussion

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒	☐
b) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒	☐

[94] City of Alameda. *Alameda General Plan 2040 Draft EIR.* May 2021.
[95] Ibid.
[96] Ibid.

	New Potentially Significant Impact	New Less than Significant with Mitigation Incorporated	New Less than Significant Impact	Same Impact as Approved Project	Less Impact than Approved Project
Would the project:					
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒	☐
e) Be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒	☐

Jean Sweeney Open Space Initial Study/Mitigated Negative Declaration

The adopted IS/MND concluded that approved project would result in less than significant impacts to utilities and service systems. The adopted IS/MND also concluded that the approved project would not exceed existing capacities for water, wastewater, or solid waste utilities given the abundant capacities of the existing utility infrastructures/providers.

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water

The modified project would install a new six-inch water line connection from the project site that would connect to an existing eight-inch water line in Atlantic Avenue. The project would not require the construction or expansion of water delivery systems or the expansion of the boundaries of the EBMUD service area. Therefore, the project would not result in significant environmental effects related to the relocation or construction of new or expanded water facilities.

Wastewater

Sewer collection for the modified project would be provided by a new eight-inch sanitary sewer line connecting to the existing eight-inch sanitary sewer line in Stewart Court. Wastewater would then be treated at the WWTP which has adequate capacity to accommodate the increased demand created by the project (refer to discussion under checklist question c). No relocation or construction of new or expanded treatment facilities would be required to serve the proposed project. The proposed project does not include the construction of any additional sewer mains or sewer lines, aside from lateral connections to existing mains. Installation of sanitary sewer laterals for the new building would occur during grading of the site and would result in minimal impacts.

Stormwater Drainage

As discussed in Section 4.10 Hydrology and Water Quality, following completion of the project, stormwater would be treated via an onsite bioretention area. The modified project would connect to an existing 48-inch storm main in Stewart Court. Consistent with the approved project, the modified project would be subject to the requirements of the C.3 Stormwater Standards. With the project's adherence to these requirements, the existing storm drainage system would have sufficient capacity to support the proposed project. For these reasons, no new storm water treatment or disposal facilities would need to be constructed to accommodate the proposed project.

Electricity, Natural Gas and Telecommunication Facilities

Existing utility lines would be utilized by the project for electric power and telecommunications services. No natural gas connections would be required since the building would be 100 percent electric. Although the project would increase the demand on existing facilities in the City, relocation of existing or construction of new facilities would not be needed to serve the modified project. The City, in designing and implementing the project, would coordinate with the appropriate electric power and telecommunication providers on providing service to the site. Therefore, the modified project would not result in significant impacts from construction or relocation of new or expanded electric power, natural gas, or telecommunications utilities.

For the reasons above, the project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities. Impacts would be less than significant. **[Same Impact as Approved Project (Less than Significant Impact)]**

b) Would the project have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Total water demand for the approved project was not quantified in the 2014 IS/MND. The proposed aquatic center would consume approximately 2.85 million gallons per year (mgy) or 7,800 gallons per day (gpd).[97] EBMUD can meet customer demand out to 2050 during normal years and single dry years; however, during multi-year droughts, even with customer demand reduction measures in place, EBMUD would need to obtain supplemental supplies to meet customer demands. As part of EBMUD's Water Shortage Contingency Plan, EBMUD would implement water use reduction strategies to achieve a 15 percent reduction in water use during an extreme drought. The 2040 General Plan EIR concluded that water demand in the City would be reduced through General Plan Policy CC-16. As discussed above, EBMUD's water planning factors in projected growth in Alameda and the other cities it serves, and continues to adjust its water demand forecasts in response to changing conditions. **[Same Impact as Approved Project (Less than Significant Impact)]**

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Total wastewater generation for the approved project was not quantified in the 2014 IS/MND. The proposed aquatic center would generate approximately 7,410 gpd of wastewater[98]. As discussed in Section 4.15.1.2, the WWTP has secondary treatment capacity of 168 MGD and primary treatment capacity of 320 MGD. The WWTP currently has excess secondary treatment capacity of 105 MGD and excess primary treatment capacity of 257 MGD.[99] The General Plan 2040 EIR concluded that there was adequate treatment capacity given that that the WWTP operates at well under half of its permitted capacity and EBMUD would continue to make improvements to the WWTP.[100] The modified project would represent an incremental portion of the available capacity. Therefore, consistent with the approved project, there would be adequate capacity to serve the project's projected wastewater demand. **[Same Impact as Approved Project (Less than Significant Impact)]**

d) Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Total solid waste generation was not quantified for the approved project in the 2014 IS/MND. The proposed aquatic center would generate approximately 18.42 tons of solid waste per year, or 101 pounds per day. As noted in Section 4.15.1.2, garbage in Alameda is hauled to the Davis Street Transfer Station, then transferred to Altamont Landfill, which has a remaining capacity of 65,400,000 tons. Therefore, the modified project's incremental increase in solid waste would be accommodated by existing facilities. In addition, the project would be required to conform to City plans and policies to reduce solid waste generation and increase waste diversion, such as the Zero Waste Implementation Plan and General Plan policy CC-17. The project would be required to meet

[97] Gordon, William. Principal Director of Interior Architecture, els architecture + urban design. Personal Communication. February 26, 2025.

[98] Wastewater is assumed to be 95 percent of the total on-site water use (7,800 gpd of water*0.95 = 7,410 gpd of wastewater).

[99] City of Alameda. *Alameda General Plan 2040 Draft EIR.* May 2021.

[100] EBMUD approved a $2.5 billion Capital Improvement Program (CIP) for fiscal years 2020 through 2024, including $184 million in improvements to its wastewater system.

the City's current diversion goal of 65 percent for construction debris and 75 percent from landfills. The 2040 General Plan EIR concluded that there was adequate waste disposal to accommodate future growth proposed by the General Plan and compliance with applicable statutes and regulations related to solid waste, including the City's construction and demolition debris recycling ordinance and relevant CALGreen requirements, would further ensure adequate solid waste disposal capacity. For these reasons, consistent with the approved project, the modified project would not generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals. **[Same Impact as Approved Project (Less than Significant Impact)]**

e) Would the project be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste?

The modified project would comply with all applicable statutes and regulations related to solid waste, including the City's construction and demolition debris recycling ordinance and relevant CALGreen requirements. Therefore, consistent with the approved project, the modified project would not be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste. **[Same Impact as Approved Project (Less than Significant Impact)]**

Section 5.0 References

The analysis in this IS/Addendum is based on the professional judgement and expertise of the environmental specialists preparing this document, based upon review of the site, surrounding conditions, site plans, and the following references:

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Section 6.0 Lead Agency and Consultants

6.1 Lead Agency

City of Alameda

Allen Tai, Director
Steven Buckley, Planning Services Manager
Justin Long, Recreation and Parks Director
Henry Dong, Planner III

6.2 Consultants

David J. Powers & Associates, Inc.
Environmental Consultants and Planners

Akoni Danielsen, President/Principal Project Manager
Natalie Noyes, Senior Project Manager
Ryan Osako, Graphic Artist

Fehr & Peers
Transportation Consultants

Sam Tabibnia, Traffic Engineer
Henry Helmuth, Traffic Engineer

Illingworth & Rodkin, Inc.
Acoustical & Air Quality Consultants

James Reyff, Principal
Michael Thill, Principal
Carrie Janello, Senior Acoustical Consultant
Zachary Palm, Air Quality Consultant

Section 7.0 Acronyms and Abbreviations

ABAG	Association of Bay Area Governments
ABL	Alameda Belt Line
ACDEH	Alameda County Department of Environmental Health
ACFWCD	Alameda County Flood Control and Water Conservation District
ACI	Alameda County Industries
ACM	asbestos-containing material
AF	acre-feet
AFD	Alameda Fire Department
AIA	Airport Influence Area
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMP	Alameda Municipal Power
APD	Alameda Police Department
ARPD	City of Alameda Recreation and Parks Department
AST	aboveground storage tank
AUSD	Alameda Unified School District
Bgs	below ground surface
BMPs	best management practices
Btu	British thermal units
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CARE	Community Air Risk Evaluation
CARP	Climate Action and Resiliency Plan
CBC	California Building Code
CDFW	California Department of Fish and Wildlife

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQA	California Environmental Quality Act
CFC	chlorofluorocarbons
CH_4	methane
CGS	California Geological Survey
CIWMB	California Integrated Waste Management Board
CRHR	California Register of Historical Resources
CO	carbon monoxide
CO_2	carbon dioxide
CUPA	Certified Unified Program Agency
cy	cubic yards
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EBMUD	East Bay Municipal Utility District
EIR	Environmental Impact Report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EV	Electric vehicle
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GHG	greenhouse gas
GIP	Green Infrastructure Plan
GMP	Groundwater Management Plan
gpd	gallons per day
GSP	groundwater sustainability plan
GWh	gigawatt hours
GWP	global warming potential
HI	Hazard Index
HFC	hydrofluorocarbon
HMTA	Hazardous Materials Transportation Act

HSP	Health and Safety Plan
HSWA	Federal Hazardous and Solid Waste Amendments
IS	Initial Study
LBP	lead-based paint
LED	light-emitting diode
LHMP	City of Alameda Local Hazard Mitigation Plan
LID	Low Impact Development
LOS	Level of service
MBTA	Migratory Bird Treaty Act
MEI	maximally exposed individuals
mgd	million gallons per day
mgy	million gallons per year
$MMTCO_2e$	million metric tons of CO_2e
MND	Mitigated Negative Declaration
mpg	miles per gallon
MRF	Materials Recovery Facility
MRP	Municipal Regional Permit
MSL	mean sea level
MTC	Metropolitan Transportation Commission
MWELO	Model Water-Efficient Landscape Ordinance
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCP	National Contingency Plan
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act of 1966
NO_2	nitrogen dioxide
NO	nitric oxide
NOx	nitrogen oxides
N_2O	nitrous oxide
NOD	Notice of Determination

NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
O_3	ozone
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PDA	priority development area
PFC	perfluorocarbon
PM	particulate matter
PPE	Personal protective equipment
PSL	Private Sewer Lateral
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Concerns
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCS	Sustainable Communities Strategy
SFHA	Special Flood Hazard Area
SGMA	Sustainable Groundwater Management Act
SHMA	Seismic Hazards Mapping Act
SMP	Site Management Plan
SO_2	sulfur dioxide
SOx	sulfur oxide
SSMP	Sewer System Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminants
TMDL	total maximum daily loads
TPD	tons per day
TPHd	total petroleum hydrocarbons as diesel

TPHg	total petroleum hydrocarbons as gasoline
TPHmo	total petroleum hydrocarbons as motor oil
TSCA	Toxic Substances Control Act
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
UWMP	urban water management plan
VMT	Vehicle miles travelled
VOC	Volatile organic compound
WMP	Waste Management Plan
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Appendix A:
Resolution No. 14955

Approved as to Form

Janet C. Kern, City Attorney

CITY OF ALAMEDA RESOLUTION NO. 14955

APPROVE THE JEAN SWEENEY OPEN SPACE PARK MITIGATED NEGATIVE DECLARATION AND MASTER PLAN

WHEREAS, the Jean Sweeney Open Space Park is a 22-acre property in Central Alameda bounded by Constitution Way, Atlantic Avenue and Sherman Street; and

WHEREAS, the property was acquired through a rail-banking agreement in which a 30' strip of contiguous land must be available for potential future rail use; and

WHEREAS, this right of way is designated between the Cross Alameda Trail and the park's northern boundary; and

WHEREAS, the City conducted an extensive community input process for conceptual use types and on the draft Master Plan; and

WHEREAS, based on community input, the Jean Sweeney Open Space Park use types are focused on passive recreational uses that include:

- Pedestrian and bicycle trails
- Natural open space
- Picnic areas
- Community gardens
- Playgrounds
- Open lawn areas; and

WHEREAS, the Jean Sweeney Open Space Park Master Plan incorporates all of these conceptual uses and is planned to be as environmentally responsible as is feasible; and

WHEREAS, the City has proposed a Mitigated Negative Declaration that evaluated the potential environmental impacts of the proposed Master Plan and finds that the project has minimal environmental impacts, those that do occur are related to the construction period, such as dust and construction traffic, and those potential impacts are identified and mitigations are recommended to minimize those impacts.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Alameda adopts the Mitigated Negative Declaration for the Jean Sweeney Open Space Park Master Plan.

BE IT FURTHER RESOLVED, that the City Council of the City of Alameda approves the Jean Sweeney Open Space Park Master Plan.

* * * * * * *

I, the undersigned, hereby certify that the foregoing Resolution was duly and regularly adopted and passed by the Council of the City of Alameda in a regular meeting assembled on the 15th day of July 2014 by the following vote to wit:

AYES: Councilmembers Chen, Daysog, Ezzy Ashcraft, Tam and Mayor Gilmore – 5.

NOES: None.

ABSENT: None.

ABSTENTIONS: None.

IN WITNESS, WHEREOF, I have hereunto set my hand and affixed the official seal of said City this 16th day of July 2014.

Lara Weisiger

Lara Weisiger, City Clerk
City of Alameda

Appendix B:

Construction Air Quality Assessment

ALAMEDA AQUATICS CENTER CONSTRUCTION EMISSIONS AND HEALTH RISK ASSESSMENT

Alameda, California

January 15, 2025

Prepared for:

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I&R Project#: 24-179

Introduction

The purpose of this report is to address construction air quality and health risk impacts associated with the proposed aquatic center located at the western end of the Jean Sweeney Open Space Park in Alameda, California. Air quality impacts from this project would be associated with the construction of the new buildings and infrastructure. Air pollutants associated with construction of the project were estimated using appropriate computer models. In addition, the potential project health risks and the impacts of existing toxic air contaminant (TAC) sources affecting nearby sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The 2.25-acre project site is currently undeveloped park land at the western end of the Jean Sweeney Open Space Park. The project proposes constructing an aquatic center consisting of two pools, a 9,800 square foot (sf) building to support operation of the pools, and a parking lot that will provide 100 parking spaces. One pool will be approximately 7,500 square feet (sf) in size while the other will be approximately 4,500-sf. Construction is expected to begin as early as November 2025 and be completed by May 2027.

Setting

Ambient Air Quality Standards

The Federal and California Clean Air Acts have established ambient air quality standards for different pollutants. National ambient air quality standards (NAAQS) were established by the Federal Clean Air Act of 1970 (amended in 1977 and 1990) for six "criteria" pollutants. These criteria pollutants now include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), respirable particulate matter with a diameter less than 10 microns (PM_{10}), sulfur dioxide (SO_2), and lead (Pb). In 1997, The Environmental Protection Agency (EPA) added fine particulate matter ($PM_{2.5}$) as a criteria pollutant. The air pollutants for which standards have been established are considered the most prevalent air pollutants known to be hazardous to human health. California ambient air quality standards (CAAQS) include the NAAQS pollutants and also hydrogen sulfide, sulfates, vinyl chloride, and visibility reducing particles. These additional CAAQS pollutants tend to have unique sources and are not typically included in environmental air quality assessments. In addition, lead concentrations have decreased dramatically since it was removed from motor vehicle fuels. The Bay Area has attained the CO standard and monitoring data from the last 30 years show relatively low concentrations throughout the Bay Area. Therefore, CO is not an air quality issue for land use type projects such as this one.

Air Pollutants of Concern

High ozone concentrations in the air basin are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain

[1] Bay Area Air Quality Management District, *2022 CEQA Guidelines*, April 2023

meteorological conditions to form ozone concentrations. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ambient ozone concentrations. The highest ozone concentrations in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone concentrations aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant in the air basin. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter concentrations aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality, often because they cause cancer. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure of TACs can result in adverse health effects, they are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects from diesel exhaust exposure a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. Health risks from TACs are estimated using the Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines, which were published in February of 2015 and incorporated in BAAQMD's current CEQA guidance.[2]

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, people over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, infants and small children are the

[2] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are the single-family homes to the north across Atlantic Avenue and the single and multi-family homes to the south. There are also young adults at the College of Alameda's Science Annex to the northeast as well as infants present at the ViVi Family Daycare to the south. There are additional sensitive receptors at further distances. This project would not introduce new sensitive receptors (i.e., residents) to the area.

Project Air Quality Conditions

The project is located in Alameda County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[3] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program has been implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses has been used to develop emission reduction activities in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Seven areas have been identified by BAAQMD as impacted communities. They include Eastern San Francisco, Richmond/San Pablo, Western Alameda, San José, Vallejo, Concord, and Pittsburgh/Antioch. The project site is not within any CARE areas.

[3] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program.

Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[4] The BAAQMD has identified several overburdened areas within its boundaries. The project site is not within an overburdened area as the Project site is scored at the 67th percentile on CalEnviroScreen.[5]

BAAQMD CEQA Air Quality Guidelines

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. In 2023, the BAAQMD revised the *California Environmental Quality Act* (*CEQA) Air Quality Guidelines* that include significance thresholds to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The current BAAQMD guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They include assessment methodologies for criteria air pollutants and air toxics emissions as shown in Table 1.[6] Air quality impacts and health risks are considered potentially significant if they exceed these thresholds.

The BAAQMD recommends all projects include a "basic" set of best management practices (BMPs) to manage fugitive dust and consider impacts from dust (i.e., fugitive PM_{10} and $PM_{2.5}$) to be less than significant if BMPs are implemented (listed below). BAAQMD strongly encourages enhanced BMPs for construction sites near schools, residential areas, other sensitive land uses, or if air quality impacts were found to be significant.

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[4] See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en.

[5] OEHAA, CalEnviroScreen 4.0 Maps https://experience.arcgis.com/experience/11d2f52282a54ceebcac7428e6184203/page/CalEnviroScreen-4_0/

[6] Bay Area Air Quality Management District, 2023. *2022 CEQA Guidelines*. April.

Table 1. BAAQMD CEQA Significance Thresholds

<table>
<tr><th rowspan="2">Criteria Air Pollutant</th><th colspan="4">Construction Thresholds</th></tr>
<tr><th colspan="4">Average Daily Emissions (lbs./day)</th></tr>
<tr><td>ROG</td><td colspan="4">54</td></tr>
<tr><td>NO_x</td><td colspan="4">54</td></tr>
<tr><td>PM_{10}</td><td colspan="4">82 (Exhaust)</td></tr>
<tr><td>$PM_{2.5}$</td><td colspan="4">54 (Exhaust)</td></tr>
<tr><td>CO</td><td colspan="4">Not Applicable</td></tr>
<tr><td>Fugitive Dust (PM_{10}/$PM_{2.5}$)</td><td colspan="4">Best Management Practices (BMPs)*</td></tr>
<tr><th>Health Risks and Hazards</th><th colspan="2">Single Sources/ Individual Project</th><th colspan="2">Combined Sources (Cumulative from all sources within 1000-foot zone of influence)</th></tr>
<tr><td>Excess Cancer Risk</td><td>>10 in a million</td><td rowspan="3">OR Compliance with Qualified Community Risk Reduction Plan</td><td>>100 in a million</td><td rowspan="3">OR Compliance with Qualified Community Risk Reduction Plan</td></tr>
<tr><td>Hazard Index</td><td>>1.0</td><td>>10.0</td></tr>
<tr><td>Incremental annual $PM_{2.5}$</td><td>>0.3 µg/m^3</td><td>>0.8 µg/m^3</td></tr>
<tr><td colspan="5">Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less.
* BAAQMD strongly recommends implementing all feasible fugitive dust management practices especially when construction projects are located near sensitive communities, including schools, residential areas, or other sensitive land uses.</td></tr>
</table>

Source: Bay Area Air Quality Management District, 2022

Alameda General Plan 2040

The Alameda General Plan 2040 was adopted by the City Council on November 30, 2021[7]. It includes objectives, policies, and actions designed to guide and manage change to the physical, environmental, economic, and social conditions in the City of Alameda. The following objectives, goals, and actions are applicable to the proposed project:

Objective 7: Protect Alamedans from the harmful effects of air pollutants.

- *Policy HS-65*: **Construction Air Pollution.** Protect public health by requiring best management practices at construction sites and carefully evaluating the potential health risks of projects that generate substantial toxic air contaminants or projects that propose to place a sensitive user in proximity to an existing source of contaminants.

[7] City of Alameda, URL: https://www.alameda2040.org/, General Plan URL: https://irp.cdn-website.com/f1731050/files/uploaded/AGP_Book_June2022_Amend-1.pdf

- *Actions*:
  a. Construction Dust. Reduce dust and harmful air pollutants resulting from construction activities by requiring compliance with best management practices (BMPs) as recommended by the BAAQMD.

  b. Health Risk Assessment. Require preparation of a Health Risk Assessment in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment and the BAAQMD. Adopt recommended health risk mitigations for projects that generate substantial TAC emissions within 1,000 feet of sensitive receptors or for sensitive receptor uses proposed to be located within 1,000 feet of an existing major source of toxic air contaminants.

- *Policy HS-68:* **Toxic Air Contaminants.** Minimize and avoid exposure to toxic air contaminants.

  - ***Actions:***
    a. New Sources. As a condition of approval, future discretionary projects that generate substantial TAC emissions (that are not regulated by the BAAQMD, such as construction activities lasting greater than two months or facilities that include more than 100 truck trips per day, 40 trucks with transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week)) that are located within 1,000 feet of sensitive receptors shall submit a Health Risk Assessment (HRA) prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment and the BAAQMD prior to discretionary project approval. If the HRA shows that the incremental cancer risk, PM2.5 concentrations, or the appropriate non-cancer hazard index exceeds BAAQMD's project-level thresholds, then the applicant shall be required to identify and demonstrate that mitigation measures are capable of reducing potential PM2.5 concentrations, cancer risks, and non-cancer risks to below BAAQMD's project-level significance thresholds.

    b. New Sensitive Receptors. As a condition of approval, proposed new sensitive receptor uses proposed within 1,000 feet of existing major sources of TACs (e.g., permitted stationary sources, highways, freeways and roadways with over 10,000 annual average daily traffic (AADT)) shall submit a Health Risk Assessment (HRA) to the City prior to future discretionary project approval. If the HRA shows that the incremental cancer risk, PM2.5 concentrations, or the appropriate non-cancer hazard index exceeds BAAQMD's cumulative-level thresholds, then the applicant shall be required to identify and demonstrate that mitigation measures (e.g., electrostatic filtering systems) are capable of reducing potential cancer and non-cancer risks to below BAAQMD's significance thresholds.

- *Policy HS*-69: **Construction Period Air Quality Impacts.** Minimize air quality impacts as the result of construction activities.

- ***Actions:***
  a. **Construction Mitigations.** As a condition of approval, future discretionary projects shall implement the following measures or equivalent, expanded, or modified measures based on project- and site-specific conditions: all exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered at least two times per day; all haul trucks transporting soil, sand, or other loose material off-site shall be covered; all visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping shall be prohibited; all vehicle speeds on unpaved roads shall be limited to 15 mph; all roadways, driveways, and sidewalks to be paved shall be completed as soon as possible; idling times shall be minimized either by shutting equipment off when not in use or reducing maximum idling time to 5 minutes; clear signage shall be provided for construction workers at all access points; all construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation; a publicly visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours; and the Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2022 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The CalEEMod model output along with construction inputs are included in *Attachment 1*.

CalEEMod Modeling

Land Use Inputs

The proposed project land uses were entered into CalEEMod as described in Table 2.

Table 2. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet (sf)	Acreage
Recreational Swimming Pool[1]	14.3	1,000-sf	14,300	2.25
Parking Lot	100	Parking Spaces	-	

[1]Includes 9,800-sf building input under the Recreational Building Area portion of the CalEEMod input for this land use. See *Attachment 1*.

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario, including the equipment quantities, average hours per day, total number of workdays, and schedule, were based on information provided by the project applicant (included in *Attachment 1*). The project applicant estimates the earliest possible start date to be November 2025 and the project would be built out over a period of approximately 19 months, or 412 construction workdays. The earliest year of full operation was assumed to be 2028.

Construction Truck Traffic Emissions

Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on the amount of demolition material to be exported, soil imported and/or exported to the site, and the amount of concrete and asphalt truck trips to and from the site. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. Daily haul trips for demolition and grading were developed by CalEEMod using the estimated demolition and soil import/export volumes. The number of total concrete/asphalt round haul trips were estimated for the project and converted to daily one-way trips, assuming two trips per delivery. These values are shown in the project construction equipment worksheet included in *Attachment 1.*

Summary of Computed Construction Period Emissions

Average daily emissions were annualized for each year of construction by dividing the annual construction emissions by the number of active workdays during that year. Table 3 shows the average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 3, predicted daily project construction emissions would not exceed the BAAQMD significance thresholds during construction.

Table 3. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Per Year (Tons)				
2025 + 2026	0.12	1.05	0.04	0.04
2027	0.06	0.18	<0.01	<0.01
Average Daily Construction Emissions Per Year (pounds/day)				
2025 + 2026 (305 construction workdays)	0.81	6.86	0.25	0.23
2027 (107 construction workdays)	1.10	3.30	0.06	0.05
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD recommends all projects include a "basic" set of BMPs to manage fugitive dust and considers impacts from dust (i.e., fugitive PM_{10} and $PM_{2.5}$) to be less-than-significant if BMPs are implemented to reduce these emissions. The City of Alameda's General Plan Health and Safety Policy 65 Action A would implement the following BAAQMD basic BMPs during construction:

HS-65 Action A: **Include measures to control dust and exhaust during construction.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. The contractor shall implement the following BMPs that are required of all projects under General Plan Policy HS-65:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.

7. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.

8. Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.

9. Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of HS-65 Action A

The measures above are consistent with BAAQMD-recommended basic BMPs for reducing fugitive dust contained in the BAAQMD CEQA Air Quality Guidelines. For this analysis, only the basic set of BMPs are required as the Project emissions and $PM_{2.5}$ impacts were below the BAAQMD thresholds. Enhanced BMPs would be required as mitigation if air quality impacts were found to be significant.

Construction Health Risk Impacts

Project impacts related to increased health risk can occur by generating emissions of TACs and air pollutants. Temporary project construction activity would generate emissions of DPM from equipment and trucks and generate dust on a temporary basis that could affect nearby sensitive receptors. Additionally, there are existing sources of TACs and localized air pollutants in the vicinity of the project. The cumulative impact of the Project and existing TAC sources was assessed.

Health risk impacts are addressed by predicting increased lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust emissions pose health risks for sensitive receptors such as surrounding residents, school students, and daycare infants/children. The primary health risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[8] This assessment included dispersion modeling to predict the offsite and onsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

<u>Modeled Sensitive Receptors</u>

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the nearby existing residences, College of Alameda Science Annex, and ViVi Family Daycare as shown in Figure 1. Residential receptors are assumed to include all receptor groups (i.e., third trimester, infants, children, and adults) with almost continuous exposure to project emissions. Adult exposures were assumed to occur at the College of Alameda Science Annex and infant exposures at the ViVi Family Daycare. While there are additional sensitive receptors within 1,000 feet of the project site, the receptors chosen are adequate to identify maximum impacts from the project.

<u>Construction Emissions</u>

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages being 0.04 tons (75 pounds). The on-road vehicle emissions are a result of haul truck travel on-site during demolition and grading activities, worker travel on-

[8] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

site, and vendor travel on-site during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as less than 0.03 tons (58 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (i.e., residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[9] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

Construction Emission Sources

To represent the construction equipment exhaust emissions, an area source was used with an emission release height of 20 feet (6 meters).[10] The release height incorporates both the physical release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would do for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, was based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

For modeling fugitive $PM_{2.5}$ emissions, an area source with a near-ground level release height of 7 feet (2 meters) was used. Fugitive dust emissions at construction sites come from a variety of sources, including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plume will tend to rise as it moves downwind across the site and exit the site at a higher elevation than when it was generated. For all these reasons, a 7-foot release height was used as the average release height across the construction site. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources.

AERMOD Inputs and Meteorological Data

The modeling used a five-year data set (2013 - 2017) of hourly meteorological data from the Oakland International Airport prepared for use with the AERMOD model by BAAQMD. Construction emissions were modeled as occurring Monday through Friday between 7:00 a.m. to 4:00 p.m., as stated by the project applicant. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2025 – 2027 period were calculated at nearby sensitive receptors using the model. Receptor heights of 5 feet (1.5 meters), 15 feet (4.5 meters), and 25 feet (7.6

[9] BAAQMD, 2023, *Appendix E of the 2022 BAAQMD CEQA Guidelines.* April.
[10] California Air Resource Board, 2007. *Proposed Regulation for In-Use Off-Road Diesel Vehicles, Appendix D: Health Risk Methodology*. April. Web: https://ww3.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm

meters) were used to represent the breathing heights of receptors on the first through third floors of nearby single and multi-family residences and college.[11] A receptor height of 3 feet (1 meter) was used to represent the breathing height of infants at the nearby daycare.

Summary of Construction Health Risk Impacts

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with the BAAQMD CEQA guidance for age sensitivity factors and exposure parameters. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Third trimester, infant, child, and adult exposures were assumed to occur at all residences during the entire construction period, while infant exposures were assumed at the nearby daycare and adults only exposures at the college annex.

Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated. The maximum modeled annual $PM_{2.5}$ concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI value was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation refence exposure level of 5 $\mu g/m^3$.

The modeled maximum annual DPM and $PM_{2.5}$ concentrations were identified at nearby sensitive receptors (as shown in Figure 1) to find the maximally exposed individuals (MEI). Results of this assessment indicated that the construction MEI was located on the first floor (5 feet above the ground) of a single-family home north of the construction site. Table 4 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and HI for project related construction activities affecting the construction MEI. *Attachment 2* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations.

Construction health risk impacts are shown in Table 4. The uncontrolled maximum cancer risks from construction activities at the construction MEI would not exceed the BAAQMD single-source significance threshold.

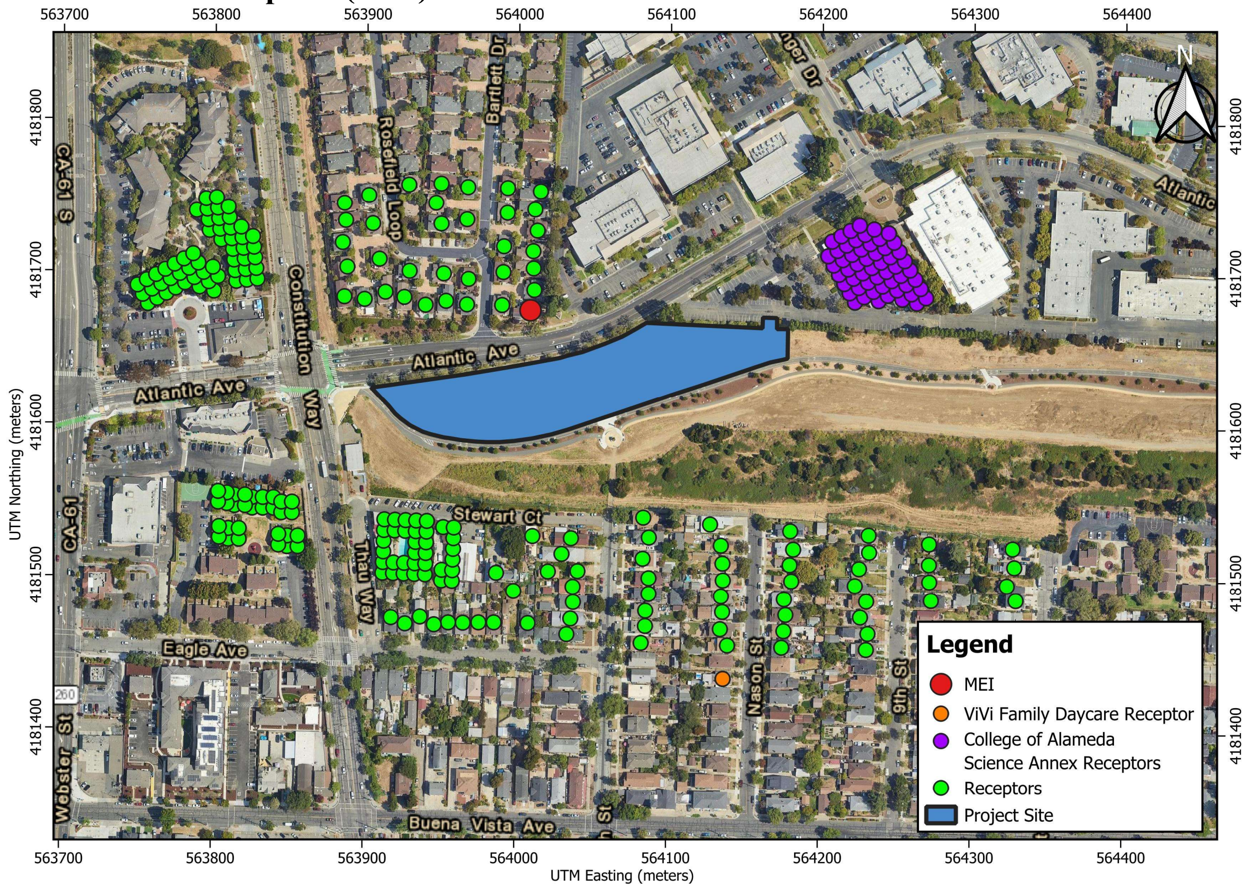
Additionally, modeling was conducted to predict the cancer risks, non-cancer health hazards, and maximum $PM_{2.5}$ concentrations associated with construction activities at the nearby college annex and daycare. The maximum increased cancer risks were adjusted using infant exposure parameters at the daycare and adult exposure parameters at the college annex. As shown in Table 4, the uncontrolled risk values at these locations do not exceed the BAAQMD single-source significance thresholds.

[11] Bay Area Air Quality Management District, 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0. May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

Table 4. Construction Risk Impacts at the Off-Site MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction	Unmitigated	7.93 (infant)	0.09	0.01
	BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
Maximum School/Daycare Impact – ViVi Family Daycare				
Project Construction	Unmitigated	2.39 (infant)	0.01	<0.01
	BAAQMD Single-Source Threshold	***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

Figure 1. Locations of Project Construction Site, Off-Site Sensitive Receptors, and Maximum TAC Impacts (MEI)

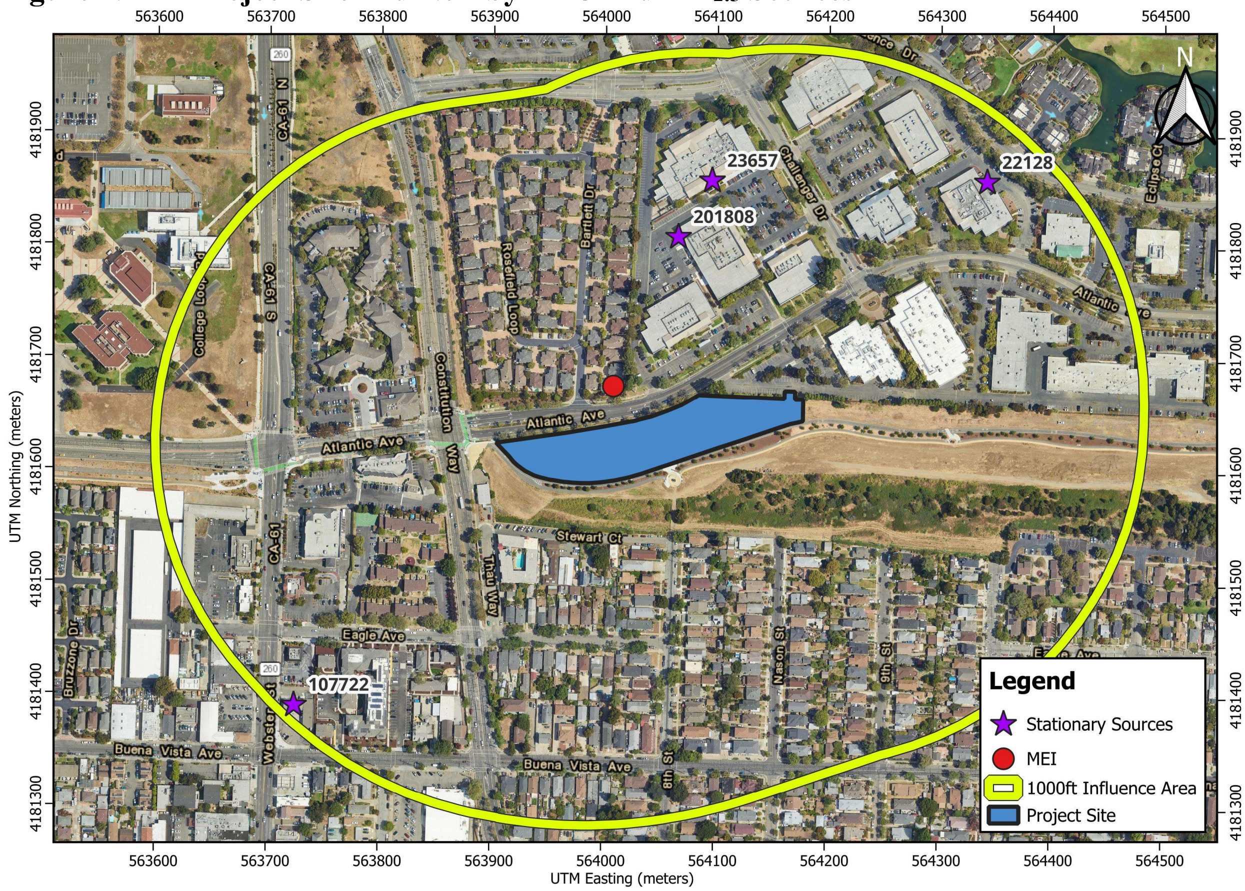


<u>Cumulative Health Risks of all TAC Sources at the Off-Site MEI</u>

Cumulative health risk assessments look at all substantial sources of TACs located within 1,000 feet of a project site (i.e., influence area) that can affect sensitive receptors. These sources include rail lines, highways, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area using BAAQMD's geographic information systems (GIS) screening tools indicated that the nearby roadways and stationary sources within the 1,000-foot influence area could have cumulative health risk impacts at the MEI. The local roadways and four existing stationary sources of TACs were identified with the potential to affect the project MEI. Figure 2 shows the locations of the sources affecting the MEI within the influence area. Health risk impacts from these sources upon the MEI are reported in Table 5. Details of the cumulative screening and health risk calculations are included in *Attachment 3.*

Figure 2. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Nearby Local Roadways

The project site is located near multiple intersecting streets. Cancer risk, $PM_{2.5}$ concentrations, and HI associated with traffic on the nearby roadways were estimated using BAAQMD screening values provided via GIS data files (i.e., raster files).[12] BAAQMD raster files provide screening-level cancer risk, $PM_{2.5}$ concentrations, and HI for roadways within the Bay Area and were produced using AERMOD and 20x20-meter emissions grid. The raster file uses EMFAC2021 data for vehicle emissions and fleet mix for roadways and includes Appendix E of the Air District's CEQA Air Quality Guidance for risk assessment assumptions. These estimates represent conservative risks reflective of 2022 conditions and are meant to provide a conservative estimate of future conditions, which do not reflect the increased proportion of zero emission motor vehicles that will result in lower future emissions.[13] These screening values are considered higher than

[12] https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools/health-risk-screening-and-modeling

[13] BAAQMD, 2022. BAAQMD CEQA Air Quality Guidelines Appendix E, Section 9. April 2023

values that would be obtained with refined modeling methods. These raster data are based on region-wide emissions rather than just those that occur within 1,000 feet of the project. More information regarding the assumptions used to develop the screening layers can be found in Sections 6 and 7 in Appendix E of BAAQMD's 2022 CEQA guidance.[14] Screening-level cancer risk, $PM_{2.5}$ concentration, and HI for the roadway impacts at the MEI are listed in Table 5.

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2022* GIS map website.[15] This mapping tool identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for OEHHA guidance. Four sources were identified using this tool, two diesel generators, one generic source, and one gasoline dispensing facility. A stationary source information request was submitted to BAAQMD in order to estimate health risk impacts from the gasoline dispensing facility.[16] The screening risk and hazard levels provided by BAAQMD for the stationary sources were adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines* and *Generic Sources* and CARB's *Gasoline Station Risk Screening Tool.* Health risk impacts from the stationary sources upon the MEI are reported in Table 5.

Summary of Cumulative Health Risk Impacts

Table 5 reports both the project and cumulative health risk impacts. As shown in Table 5, none of the BAAQMD single-source or cumulative-source thresholds are exceeded by the project.

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[14] BAAQMD, 2022. BAAQMD CEQA Air Quality Guidelines Appendix E. April 2023.
[15] BAAQMD, Web: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3
[16] Email from BAAQMD, December 17, 2024. Subject: "RE_ Public Records Request No_ 2024-11-0190 CRM_0249335".

Table 5. Impacts from Combined Sources at Off-Site MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts				
Project Construction	Unmitigated	7.93 (infant)	0.09	0.01
	BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
Cumulative Impacts				
Nearby Roadways – BAAQMD GIS Screening Tool		13.39	0.31	0.04
G&I IX Marina Village Research (Facility ID #22128, Generator), MEI at 835 feet.		0.12	0.00	0.00
Heliotrope Technologies (Facility ID #23657, Generic Source), MEI at 600 feet.		0.00	0.00	0.00
Ology Bioservices, Inc. (Facility ID #201808, Generator), MEI at 470 feet.		0.16	0.00	0.00
Chevron Station #90290 (Facility ID #107722, Gas Dispensing Facility), MEI at 960 feet.		0.53	0.00	0.02
Cumulative Total	Unmitigated	22.13	0.40	0.07
	BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

Supporting Documentation

Attachment 1 includes the CalEEMod output for project construction emissions. Also included are any modeling assumptions.

Attachment 2 is the construction health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 3 includes the cumulative health screening and modeling results from sources affecting the construction MEI.

Attachment 1: CalEEMod Modeling Inputs and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: **Alameda Aquatics Center, Alameda DEFAULTS**

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size	______ **Dwelling Units**	**2.25** **total project acres disturbed**	
	______ **s.f. residential**		**Pile Driving? Y/N? Yes**
	______ **s.f. retail**		
	______ **s.f. office/commercial**		**Project include on-site GENERATOR OR FIRE PUMP during project OPERATION (not construction)? Y/N? No**
	14,300 **s.f. other, specify: Aquatic Center and Pool Deck**		**IF YES (if BOTH separate values) -->**
	______ **s.f. parking garage**	______ **spaces**	**Kilowatts/Horsepower:** ______
	______ **s.f. parking lot**	**100** **spaces**	**Fuel Type:** ______
Construction Days (i.e, M-F)	**Nov-25** **to**	**Jul-27**	**Location in project (Plans Desired if Available):**
Construction Hours	**7** **am** **to**	**4** **pm**	

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP Annual Hours	Comments
	Demolition	**Start Date:**	**11/1/2025**	**Total phase:**	**20**			**Overall Import/Export Volumes**
		End Date:	**11/15/2025**					
1	Concrete/Industrial Saws	81	0.73	8	20	8	9461	**Demolition Volume**
1	Excavators	158	0.38	8	20	8	9606	Square footage of buildings to be demolished : No building demolition
1	Rubber-Tired Dozers	247	0.4	8	20	8	15808	(*or* total tons to be hauled)
1	Tractors/Loaders/Backhoes	97	0.37	8	20	8	5742	0 square feet *or*
	Other Equipment?							0 Hauling volume (tons)
								Any pavement demolished and hauled? 0 **tons**
	Site Preparation	**Start Date:**	**11/16/2025**	**Total phase:**	**10**			
		End Date:	**11/30/2026**					
1	Graders	187	0.41	8	10	8	6134	
1	Rubber Tired Dozers	247	0.4	8	10	8	7904	
1	Tractors/Loaders/Backhoes	97	0.37	8	10	8	2871	
	Other Equipment?							
	Grading / Excavation	**Start Date:**	**12/1/2025**	**Total phase:**	**30**			
		End Date:	**1/15/2026**					**Soil Hauling Volume**
2	Excavators	158	0.38	8	30	8	28819	Export volume = 0 cubic yards
1	Graders	187	0.41	8	30	8	18401	Import volume = 4,481 cubic yards
1	Rubber Tired Dozers	247	0.4	8	30	8	23712	
	Concrete/Industrial Saws	81	0.73	0		0	0	
0	Tractors/Loaders/Backhoes	97	0.37	8	0	0	0	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**1/16/2026**	**Total phase:**	**20**			
		End Date:	**2/15/2026**					
1	Tractor/Loader/Backhoe	97	0.37	8	20	8	5742	
2	Excavators	158	0.38	8	20	8	19213	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**2/15/2026**	**Total phase:**	**180**			**Cement Trucks? _Est. 220_ Total Round-Trips**
		End Date:	**11/30/2026**					
0	Cranes	231	0.29	8	180	8	0	Electric? (Y/N) N Otherwise assumed diesel
3	Forklifts	89	0.2	8	180	8	76896	Liquid Propane (LPG)? (Y/N) Y Otherwise Assumed diesel
0	Generator Sets	84	0.74	8	180	8	0	Or temporary line power? (Y/N) Y
1	Tractors/Loaders/Backhoes	97	0.37	8	180	8	51682	
2	Welders	46	0.45	8	180	8	59616	
	Other Equipment?							
Building - Interior/Architectural Coating		**Start Date:**	**12/1/2026**	**Total phase:**	**100**			
		End Date:	**5/30/2027**					
1	Air Compressors	78	0.48	8	100	8	29952	
2	Aerial Lift	62	0.31	8	100	8	30752	
	Other Equipment?							
	Paving	**Start Date:**	**4/1/2027**	**Total phase:**	**20**			
		Start Date:	**4/30/2027**					
0	Cement and Mortar Mixers	9	0.56	8	20	8	0	
0	Pavers	130	0.42	8	20	8	0	**Asphalt? 582 cubic yards**
1	Paving Equipment	132	0.36	8	20	8	7603	
1	Rollers	80	0.38	8	20	8	4864	
1	Tractors/Loaders/Backhoes	97	0.37	8	20	8	5742	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs

Complete one sheet for each project component

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Construction Criteria Air Pollutants							
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Year	Tons					MT	
Construction Equipment							
2025-2026	0.12	1.05	0.04	0.04	0.03	219.40	
2027	0.06	0.18	0.003	0.003	0.001	36.38	
	Total Construction Emissions						
Tons	0.18	1.22	0.04	0.04		255.79	
Pounds/Workdays	*Average Daily Emissions*					Workdays	
2025-2026	0.81	6.86	0.25	0.23			**305**
2027	1.10	3.30	0.06	0.05			**107**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			
	Total Construction Emissions						
Pounds	365.47	2443.83	83.10	76.23		0.00	
Average	0.89	5.93	0.20	0.19		0.00	412.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			

24-179 Alameda Aquatics Center, Alameda BMPS T4F Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	24-179 Alameda Aquatics Center, Alameda BMPS T4F
Construction Start Date	11/1/2025
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	1.20
Location	Wilma Chan Wy, Alameda, CA 94501, USA
County	Alameda
City	Alameda
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1463
EDFZ	1
Electric Utility	Alameda Power & Telecom
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Recreational Swimming Pool	14.3	1000sqft	2.25	14,300	0.00	—	—	—

Parking Lot	100	Space	0.00	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	1.38	6.12	0.21	0.20	0.35	0.19	0.05	0.22	1,777
Mit.	0.98	3.77	0.03	0.20	0.23	0.03	0.05	0.08	1,777
% Reduced	29%	38%	85%	—	34%	85%	—	63%	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	1.57	15.3	0.64	3.16	3.80	0.59	1.44	2.03	3,534
Mit.	0.87	4.17	0.06	3.16	3.22	0.06	1.44	1.50	3,534
% Reduced	45%	73%	90%	—	15%	89%	—	26%	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.51	4.09	0.14	0.27	0.34	0.13	0.12	0.19	989
Mit.	0.26	1.84	0.02	0.27	0.28	0.02	0.12	0.13	989
% Reduced	48%	55%	88%	—	19%	87%	—	31%	—
Annual (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.09	0.75	0.03	0.05	0.06	0.02	0.02	0.03	164
Mit.	0.05	0.34	< 0.005	0.05	0.05	< 0.005	0.02	0.02	164

% Reduced	48%	55%	88%	—	19%	87%	—	31%	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—
2026	0.68	5.96	0.21	0.11	0.32	0.19	0.03	0.22	1,456
2027	1.38	6.12	0.15	0.20	0.35	0.14	0.05	0.19	1,777
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—
2025	1.57	15.3	0.64	3.16	3.80	0.59	1.44	2.03	3,534
2026	1.49	14.2	0.59	3.16	3.74	0.53	1.44	1.97	3,509
2027	1.02	2.56	0.04	0.01	0.05	0.03	< 0.005	0.04	484
Average Daily	—	—	—	—	—	—	—	—	—
2025	0.17	1.63	0.07	0.27	0.34	0.06	0.12	0.19	336
2026	0.51	4.09	0.14	0.16	0.30	0.13	0.06	0.19	989
2027	0.32	0.97	0.02	0.01	0.03	0.02	< 0.005	0.02	220
Annual	—	—	—	—	—	—	—	—	—
2025	0.03	0.30	0.01	0.05	0.06	0.01	0.02	0.03	55.7
2026	0.09	0.75	0.03	0.03	0.05	0.02	0.01	0.03	164
2027	0.06	0.18	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	36.4

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—
2026	0.16	2.66	0.03	0.11	0.14	0.02	0.03	0.05	1,456

2027	0.98	3.77	0.03	0.20	0.23	0.03	0.05	0.08	1,777
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—
2025	0.28	3.79	0.06	3.16	3.22	0.06	1.44	1.50	3,534
2026	0.87	4.17	0.06	3.16	3.22	0.06	1.44	1.50	3,509
2027	0.87	2.25	0.01	0.01	0.02	0.01	< 0.005	0.01	484
Average Daily	—	—	—	—	—	—	—	—	—
2025	0.03	0.33	0.01	0.27	0.28	0.01	0.12	0.13	336
2026	0.16	1.84	0.02	0.16	0.18	0.02	0.06	0.08	989
2027	0.26	0.75	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	220
Annual	—	—	—	—	—	—	—	—	—
2025	0.01	0.06	< 0.005	0.05	0.05	< 0.005	0.02	0.02	55.7
2026	0.03	0.34	< 0.005	0.03	0.03	< 0.005	0.01	0.01	164
2027	0.05	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	36.4

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	1.58	1.05	0.02	2.76	2.78	0.02	0.70	0.72	3,197
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	1.47	1.22	0.02	2.76	2.78	0.02	0.70	0.72	3,022
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	1.28	0.95	0.02	2.28	2.30	0.01	0.58	0.59	2,541
Annual (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.23	0.17	< 0.005	0.42	0.42	< 0.005	0.11	0.11	421

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Mobile	1.28	1.04	0.02	2.76	2.78	0.02	0.70	0.72	3,039
Area	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.76
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	3.14
Waste	—	—	—	—	—	—	—	—	154
Refrig.	—	—	—	—	—	—	—	—	0.07
Total	1.58	1.05	0.02	2.76	2.78	0.02	0.70	0.72	3,197
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Mobile	1.23	1.22	0.02	2.76	2.78	0.02	0.70	0.72	2,866
Area	0.24	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	3.14
Waste	—	—	—	—	—	—	—	—	154
Refrig.	—	—	—	—	—	—	—	—	0.07
Total	1.47	1.22	0.02	2.76	2.78	0.02	0.70	0.72	3,022
Average Daily	—	—	—	—	—	—	—	—	—
Mobile	1.00	0.95	0.01	2.28	2.30	0.01	0.58	0.59	2,383
Area	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.87
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	3.14
Waste	—	—	—	—	—	—	—	—	154
Refrig.	—	—	—	—	—	—	—	—	0.07

Total	1.28	0.95	0.02	2.28	2.30	0.01	0.58	0.59	2,541
Annual	—	—	—	—	—	—	—	—	—
Mobile	0.18	0.17	< 0.005	0.42	0.42	< 0.005	0.11	0.11	395
Area	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.14
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	0.52
Waste	—	—	—	—	—	—	—	—	25.4
Refrig.	—	—	—	—	—	—	—	—	0.01
Total	0.23	0.17	< 0.005	0.42	0.42	< 0.005	0.11	0.11	421

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Mobile	1.28	1.04	0.02	2.76	2.78	0.02	0.70	0.72	3,039
Area	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.76
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	3.14
Waste	—	—	—	—	—	—	—	—	154
Refrig.	—	—	—	—	—	—	—	—	0.07
Total	1.58	1.05	0.02	2.76	2.78	0.02	0.70	0.72	3,197
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Mobile	1.23	1.22	0.02	2.76	2.78	0.02	0.70	0.72	2,866
Area	0.24	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	3.14
Waste	—	—	—	—	—	—	—	—	154

Refrig.	—	—	—	—	—	—	—	—	0.07
Total	1.47	1.22	0.02	2.76	2.78	0.02	0.70	0.72	3,022
Average Daily	—	—	—	—	—	—	—	—	—
Mobile	1.00	0.95	0.01	2.28	2.30	0.01	0.58	0.59	2,383
Area	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.87
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	3.14
Waste	—	—	—	—	—	—	—	—	154
Refrig.	—	—	—	—	—	—	—	—	0.07
Total	1.28	0.95	0.02	2.28	2.30	0.01	0.58	0.59	2,541
Annual	—	—	—	—	—	—	—	—	—
Mobile	0.18	0.17	< 0.005	0.42	0.42	< 0.005	0.11	0.11	395
Area	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.14
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Water	—	—	—	—	—	—	—	—	0.52
Waste	—	—	—	—	—	—	—	—	25.4
Refrig.	—	—	—	—	—	—	—	—	0.01
Total	0.23	0.17	< 0.005	0.42	0.42	< 0.005	0.11	0.11	421

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	12.6	0.51	—	0.51	0.47	—	0.47	2,061
Demolition	—	—	—	0.00	0.00	—	0.00	0.00	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.34	0.01	—	0.01	0.01	—	0.01	56.5
Demolition	—	—	—	0.00	0.00	—	0.00	0.00	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	< 0.005	—	< 0.005	< 0.005	—	< 0.005	9.35
Demolition	—	—	—	0.00	0.00	—	0.00	0.00	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.00	0.08	0.08	0.00	0.02	0.02	81.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	2.65	0.04	—	0.04	0.04	—	0.04	2,061
Demolition	—	—	—	0.00	0.00	—	0.00	0.00	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	< 0.005	—	< 0.005	< 0.005	—	< 0.005	56.5
Demolition	—	—	—	0.00	0.00	—	0.00	0.00	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	9.35
Demolition	—	—	—	0.00	0.00	—	0.00	0.00	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.00	0.08	0.08	0.00	0.02	0.02	81.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.43	13.2	0.61	—	0.61	0.56	—	0.56	2,244
Dust From Material Movement	—	—	—	2.76	2.76	—	1.34	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.36	0.02	—	0.02	0.02	—	0.02	61.5
Dust From Material Movement	—	—	—	0.08	0.08	—	0.04	0.04	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.07	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.2
Dust From Material Movement	—	—	—	0.01	0.01	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.06	0.06	0.00	0.01	0.01	61.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.69
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.21	1.09	0.04	—	0.04	0.04	—	0.04	2,244
Dust From Material Movement	—	—	—	2.76	2.76	—	1.34	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.03	< 0.005	—	< 0.005	< 0.005	—	< 0.005	61.5
Dust From Material Movement	—	—	—	0.08	0.08	—	0.04	0.04	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.2
Dust From Material Movement	—	—	—	0.01	0.01	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.06	0.06	0.00	0.01	0.01	61.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.69
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.52	13.8	0.62	—	0.62	0.57	—	0.57	2,237
Dust From Material Movement	—	—	—	2.77	2.77	—	1.34	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.84	0.04	—	0.04	0.03	—	0.03	136
Dust From Material Movement	—	—	—	0.17	0.17	—	0.08	0.08	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.01	—	0.01	0.01	—	0.01	22.5
Dust From Material Movement	—	—	—	0.03	0.03	—	0.01	0.01	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.00	0.08	0.08	0.00	0.02	0.02	81.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.48	0.02	0.31	0.33	0.02	0.08	0.11	1,215
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	4.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.09	< 0.005	0.02	0.02	< 0.005	0.01	0.01	73.8
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	12.2

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.28	0.04	—	0.04	0.04	—	0.04	2,237
Dust From Material Movement	—	—	—	2.77	2.77	—	1.34	1.34	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.14	< 0.005	—	< 0.005	< 0.005	—	< 0.005	136
Dust From Material Movement	—	—	—	0.17	0.17	—	0.08	0.08	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	< 0.005	—	< 0.005	< 0.005	—	< 0.005	22.5
Dust From Material Movement	—	—	—	0.03	0.03	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.00	0.08	0.08	0.00	0.02	0.02	81.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.48	0.02	0.31	0.33	0.02	0.08	0.11	1,215
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	4.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.09	< 0.005	0.02	0.02	< 0.005	0.01	0.01	73.8
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	12.2

3.7. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	12.7	0.57	—	0.57	0.52	—	0.52	2,238
Dust From Material Movement	—	—	—	2.77	2.77	—	1.34	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.37	0.02	—	0.02	0.02	—	0.02	65.7
Dust From Material Movement	—	—	—	0.08	0.08	—	0.04	0.04	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.9
Dust From Material Movement	—	—	—	0.01	0.01	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.00	0.08	0.08	0.00	0.02	0.02	79.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.43	0.02	0.31	0.33	0.01	0.08	0.10	1,191
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	35.0
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	5.79

3.8. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.28	0.04	—	0.04	0.04	—	0.04	2,238
Dust From Material Movement	—	—	—	2.77	2.77	—	1.34	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	< 0.005	—	< 0.005	< 0.005	—	< 0.005	65.7

Dust From Material Movement	—	—	—	0.08	0.08	—	0.04	0.04	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.9
Dust From Material Movement	—	—	—	0.01	0.01	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.00	0.08	0.08	0.00	0.02	0.02	79.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.43	0.02	0.31	0.33	0.01	0.08	0.10	1,191
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	35.0
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	5.79

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	5.67	0.20	—	0.20	0.19	—	0.19	1,167
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	5.67	0.20	—	0.20	0.19	—	0.19	1,167
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	3.20	0.11	—	0.11	0.10	—	0.10	658
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.58	0.02	—	0.02	0.02	—	0.02	109
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	0.05	0.05	0.00	0.01	0.01	51.8
Vendor	< 0.005	0.07	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	64.3
Hauling	< 0.005	0.20	< 0.005	0.04	0.05	< 0.005	0.01	0.01	173
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.05	0.05	0.00	0.01	0.01	48.0
Vendor	< 0.005	0.08	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	64.2
Hauling	< 0.005	0.21	< 0.005	0.04	0.05	< 0.005	0.01	0.01	173
Average Daily	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.00	0.03	0.03	0.00	0.01	0.01	27.3
Vendor	< 0.005	0.04	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	36.3
Hauling	< 0.005	0.12	< 0.005	0.03	0.03	< 0.005	0.01	0.01	97.8
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	4.52
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	6.00
Hauling	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	16.2

3.10. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	2.38	0.02	—	0.02	0.02	—	0.02	1,167
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	2.38	0.02	—	0.02	0.02	—	0.02	1,167
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	1.34	0.01	—	0.01	0.01	—	0.01	658
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.24	< 0.005	—	< 0.005	< 0.005	—	< 0.005	109
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	0.05	0.05	0.00	0.01	0.01	51.8
Vendor	< 0.005	0.07	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	64.3
Hauling	< 0.005	0.20	< 0.005	0.04	0.05	< 0.005	0.01	0.01	173
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.05	0.05	0.00	0.01	0.01	48.0
Vendor	< 0.005	0.08	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	64.2
Hauling	< 0.005	0.21	< 0.005	0.04	0.05	< 0.005	0.01	0.01	173
Average Daily	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.00	0.03	0.03	0.00	0.01	0.01	27.3
Vendor	< 0.005	0.04	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	36.3
Hauling	< 0.005	0.12	< 0.005	0.03	0.03	< 0.005	0.01	0.01	97.8
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	4.52
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	6.00
Hauling	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	16.2

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	2.99	0.11	—	0.11	0.10	—	0.10	733
Paving	0.00	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.01	—	0.01	0.01	—	0.01	44.2
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	< 0.005	—	< 0.005	< 0.005	—	< 0.005	7.31
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	0.06	0.06	0.00	0.01	0.01	63.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.56	0.01	0.13	0.14	0.01	0.04	0.04	496
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	29.8
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	4.94

3.12. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.95	0.01	—	0.01	0.01	—	0.01	733
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.06	< 0.005	—	< 0.005	< 0.005	—	< 0.005	44.2
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	7.31
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	0.06	0.06	0.00	0.01	0.01	63.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.56	0.01	0.13	0.14	0.01	0.04	0.04	496
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	29.8
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	4.94

3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	2.59	0.04	—	0.04	0.04	—	0.04	475
Architectural Coatings	0.79	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.16	< 0.005	—	< 0.005	< 0.005	—	< 0.005	28.8
Architectural Coatings	0.05	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.77

Architectural Coatings	0.01	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.60
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	2.24	0.01	—	0.01	0.01	—	0.01	475

Architectural Coatings	0.79	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.14	< 0.005	—	< 0.005	< 0.005	—	< 0.005	28.8
Architectural Coatings	0.05	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.77
Architectural Coatings	0.01	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.60
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.55	0.04	—	0.04	0.03	—	0.03	475
Architectural Coatings	0.79	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	2.55	0.04	—	0.04	0.03	—	0.03	475
Architectural Coatings	0.79	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.75	0.01	—	0.01	0.01	—	0.01	139
Architectural Coatings	0.23	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.14	< 0.005	—	< 0.005	< 0.005	—	< 0.005	23.1
Architectural Coatings	0.04	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	10.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	2.24	0.01	—	0.01	0.01	—	0.01	475
Architectural Coatings	0.79	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	2.24	0.01	—	0.01	0.01	—	0.01	475
Architectural Coatings	0.79	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.66	< 0.005	—	< 0.005	< 0.005	—	< 0.005	139
Architectural Coatings	0.23	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.12	< 0.005	—	< 0.005	< 0.005	—	< 0.005	23.1
Architectural Coatings	0.04	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	10.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.79

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Trenching (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	2.68	0.08	—	0.08	0.08	—	0.08	576
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	< 0.005	—	< 0.005	< 0.005	—	< 0.005	33.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.48
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

Worker	0.02	0.02	0.00	0.06	0.06	0.00	0.01	0.01	59.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.18. Trenching (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	1.47	0.01	—	0.01	0.01	—	0.01	576
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.08	< 0.005	—	< 0.005	< 0.005	—	< 0.005	33.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.48

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.06	0.06	0.00	0.01	0.01	59.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	1.28	1.04	0.02	2.76	2.78	0.02	0.70	0.72	3,039
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total	1.28	1.04	0.02	2.76	2.78	0.02	0.70	0.72	3,039
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	1.23	1.22	0.02	2.76	2.78	0.02	0.70	0.72	2,866
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.23	1.22	0.02	2.76	2.78	0.02	0.70	0.72	2,866
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	0.18	0.17	< 0.005	0.42	0.42	< 0.005	0.11	0.11	395
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.18	0.17	< 0.005	0.42	0.42	< 0.005	0.11	0.11	395

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	1.28	1.04	0.02	2.76	2.78	0.02	0.70	0.72	3,039
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.28	1.04	0.02	2.76	2.78	0.02	0.70	0.72	3,039
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	1.23	1.22	0.02	2.76	2.78	0.02	0.70	0.72	2,866
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.23	1.22	0.02	2.76	2.78	0.02	0.70	0.72	2,866
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	0.18	0.17	< 0.005	0.42	0.42	< 0.005	0.11	0.11	395

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.18	0.17	< 0.005	0.42	0.42	< 0.005	0.11	0.11	395

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00

Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Consumer Products	0.21	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.76
Total	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.76
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Consumer Products	0.21	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—
Total	0.24	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Consumer Products	0.04	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.14
Total	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.14

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Consumer Products	0.21	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.76
Total	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.76
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Consumer Products	0.21	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—
Total	0.24	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Consumer Products	0.04	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.14
Total	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.14

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Recreational Swimming Pool	—	—	—	—	—	—	—	—	3.14
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	3.14
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	3.14
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	3.14
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.52
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.52

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	3.14
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	3.14
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	3.14
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	3.14

Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.52
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.52

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	154
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	154
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	154
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	25.4
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	25.4

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	154
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	154
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	154
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	25.4
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	25.4

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.07
Total	—	—	—	—	—	—	—	—	0.07

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.07
Total	—	—	—	—	—	—	—	—	0.07
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.01
Total	—	—	—	—	—	—	—	—	0.01

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.07
Total	—	—	—	—	—	—	—	—	0.07
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.07
Total	—	—	—	—	—	—	—	—	0.07
Annual	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	0.01
Total	—	—	—	—	—	—	—	—	0.01

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	11/1/2025	11/15/2025	5.00	10.0	—
Site Preparation	Site Preparation	11/16/2025	11/30/2025	5.00	10.0	—
Grading	Grading	12/1/2025	1/15/2026	5.00	34.0	—
Building Construction	Building Construction	2/15/2026	11/30/2026	5.00	206	—
Paving	Paving	4/1/2027	4/30/2027	5.00	22.0	—
Architectural Coating	Architectural Coating	12/1/2026	5/30/2027	5.00	129	—
Trenching	Trenching	1/16/2026	2/15/2026	5.00	21.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Demolition	Tractors/Loaders/Back	Diesel	Average	1.00	8.00	84.0	0.37
Demolition	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Architectural Coating	Aerial Lifts	Diesel	Average	2.00	8.00	46.0	0.31
Trenching	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.00	84.0	0.37
Trenching	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37

Demolition	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	2.00	8.00	46.0	0.45
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	8.00	37.0	0.48
Architectural Coating	Aerial Lifts	Diesel	Tier 4 Final	2.00	8.00	46.0	0.31
Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Trenching	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT

Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	16.5	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	6.01	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	2.34	8.40	HHDT,MHDT
Building Construction	Hauling	2.40	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	7.50	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	7.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.20	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	7.50	11.7	LDA,LDT1,LDT2

Trenching	Vendor	—	8.40	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	16.5	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	6.01	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	2.34	8.40	HHDT,MHDT
Building Construction	Hauling	2.40	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	7.50	11.7	LDA,LDT1,LDT2

Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	7.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.20	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	7.50	11.7	LDA,LDT1,LDT2
Trenching	Vendor	—	8.40	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	14,700	4,900	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	10.0	0.00	—
Grading	4,481	0.00	34.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Recreational Swimming Pool	0.00	0%
Parking Lot	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO_2	CH_4	N_2O
2026	0.00	453	0.03	< 0.005
2025	0.00	453	0.03	< 0.005
2027	0.00	453	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Recreational Swimming Pool	412	130	194	124,373	3,915	1,236	1,847	1,181,463
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Recreational Swimming Pool	412	130	194	124,373	3,915	1,236	1,847	1,181,463
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	14,700	4,900	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Recreational Swimming Pool	0.00	453	0.0330	0.0040	0.00
Parking Lot	0.00	453	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Recreational Swimming Pool	0.00	453	0.0330	0.0040	0.00
Parking Lot	0.00	453	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Recreational Swimming Pool	266,144	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Recreational Swimming Pool	266,144	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Recreational Swimming Pool	81.5	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Recreational Swimming Pool	81.5	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Recreational Swimming Pool	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Recreational Swimming Pool	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

Recreational Swimming Pool	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Recreational Swimming Pool	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	5.62	annual days of extreme heat
Extreme Precipitation	6.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.25	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	3.12
AQ-PM	44.5
AQ-DPM	73.7
Drinking Water	4.21
Lead Risk Housing	59.3

Pesticides	0.00
Toxic Releases	48.5
Traffic	35.1
Effect Indicators	—
CleanUp Sites	91.2
Groundwater	98.5
Haz Waste Facilities/Generators	95.9
Impaired Water Bodies	94.6
Solid Waste	0.00
Sensitive Population	—
Asthma	74.0
Cardio-vascular	51.8
Low Birth Weights	71.0
Socioeconomic Factor Indicators	—
Education	28.1
Housing	29.2
Linguistic	64.4
Poverty	34.9
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	56.94854356
Employed	84.28076479
Median HI	66.44424484
Education	—

Bachelor's or higher	73.80982933
High school enrollment	2.566405749
Preschool enrollment	95.7141024
Transportation	—
Auto Access	16.15552419
Active commuting	91.77466958
Social	—
2-parent households	16.24534839
Voting	66.99602207
Neighborhood	—
Alcohol availability	14.14089568
Park access	81.35506224
Retail density	90.96625176
Supermarket access	58.46272296
Tree canopy	71.3845759
Housing	—
Homeownership	38.02130117
Housing habitability	47.41434621
Low-inc homeowner severe housing cost burden	64.71192095
Low-inc renter severe housing cost burden	58.66803542
Uncrowded housing	50.16040036
Health Outcomes	—
Insured adults	45.81034262
Arthritis	8.9
Asthma ER Admissions	29.3
High Blood Pressure	26.8
Cancer (excluding skin)	18.5
Asthma	43.1

Coronary Heart Disease	15.5
Chronic Obstructive Pulmonary Disease	20.5
Diagnosed Diabetes	28.6
Life Expectancy at Birth	46.8
Cognitively Disabled	60.3
Physically Disabled	38.4
Heart Attack ER Admissions	38.2
Mental Health Not Good	52.8
Chronic Kidney Disease	35.4
Obesity	68.0
Pedestrian Injuries	73.0
Physical Health Not Good	40.7
Stroke	19.7
Health Risk Behaviors	—
Binge Drinking	93.1
Current Smoker	52.6
No Leisure Time for Physical Activity	42.3
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	15.6
Children	61.0
Elderly	34.5
English Speaking	18.2
Foreign-born	67.3
Outdoor Workers	65.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	22.3
Traffic Density	48.1

Traffic Access	87.4
Other Indices	—
Hardship	43.3
Other Decision Support	—
2016 Voting	63.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	62.0
Healthy Places Index Score for Project Location (b)	62.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Information from provided project description and construction worksheet.
Construction: Construction Phases	Information from filled out construction worksheet.
Construction: Off-Road Equipment	Information from filled out construction worksheet.

Construction: Trips and VMT	Building Construction = Est. 220 concrete truck rounds trips (2.4 trips/day), Paving = 582cy (140 asphalt truck trips (7 trips/day).
Construction: On-Road Fugitive Dust	Air District recommended BMPs 15 mph. Required by Alameda General Plan Health & Safety policy 65 Action A.
Operations: Water and Waste Water	Wastewater treatment 100% aerobic - no septic tanks or lagoons.

2. Emissions Summary - HRA

2.2 Construction Emissions by Year, Unmitigated

Year	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO_2e
Daily - Summer (Max)									
2026	0.6731152	5.7474409	0.2018093	0.0084342	0.2102435	0.1856326	0.0021469	0.1877795	1194.8080801267824
2027	1.3756608	5.6721620	0.1432832	0.0126367	0.1559199	0.1317032	0.0032175	0.1349208	1251.8498768706788
Daily - Winter (Max)									
2025	1.5564006	14.119991	0.6216448	2.7894002	3.4110451	0.5720006	1.3422225	1.9142231	2335.7197084228424
2026	1.4754148	13.008220	0.5667272	2.7894002	3.3561275	0.5211126	1.3422225	1.8633351	2334.4161961373056
2027	1.0226352	2.5531176	0.0355847	0.0008486	0.0364334	0.0327379	0.0001989	0.0329368	475.8849587313865
Average Daily									
2025	0.1720079	1.5631230	0.0684227	0.2452345	0.3136572	0.0629542	0.1180986	0.1810528	260.07508985924903
2026	0.5032166	3.9381714	0.1377772	0.0869931	0.2247703	0.1267288	0.0406941	0.1674230	805.0708807321895
2027	0.3213737	0.9376708	0.0169370	0.0009589	0.0178960	0.0155750	0.0002401	0.0158151	186.44346822261096
Annual									
2025	0.0313914	0.2852699	0.0124871	0.0447553	0.0572424	0.0114891	0.0215529	0.0330421	43.058399088562155
2026	0.0918370	0.7187162	0.0251443	0.0158762	0.0410205	0.0231280	0.0074266	0.0305546	133.28867172902775
2027	0.0586507	0.1711249	0.0030910	0.0001750	0.0032660	0.0028424	0.0000438	0.0028862	30.86784384667335

5.3. Construction Vehicles - HRA

5.3.1 Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition				
Demolition	Worker	10	1	LDA,LDT1,LDT2
Demolition	Vendor		1	HHDT,MHDT
Demolition	Hauling	0	1	HHDT
Demolition	Onsite truck			HHDT
Site Preparation				
Site Preparation	Worker	7.5	1	LDA,LDT1,LDT2
Site Preparation	Vendor		1	HHDT,MHDT
Site Preparation	Hauling	0	1	HHDT
Site Preparation	Onsite truck			HHDT
Grading				
Grading	Worker	10	1	LDA,LDT1,LDT2
Grading	Vendor		1	HHDT,MHDT
Grading	Hauling	16.5	1	HHDT
Grading	Onsite truck			HHDT
Building Construction				
Building Construction	Worker	6.006	1	LDA,LDT1,LDT2
Building Construction	Vendor	2.34377	1	HHDT,MHDT
Building Construction	Hauling	2.4	1	HHDT
Building Construction	Onsite truck			HHDT
Paving				
Paving	Worker	7.5	1	LDA,LDT1,LDT2
Paving	Vendor		1	HHDT,MHDT
Paving	Hauling	7	1	HHDT
Paving	Onsite truck			HHDT
Architectural Coating				
Architectural Coating	Worker	1.2012	1	LDA,LDT1,LDT2
Architectural Coating	Vendor		1	HHDT,MHDT
Architectural Coating	Hauling	0	1	HHDT
Architectural Coating	Onsite truck			HHDT
Trenching				
Trenching	Worker	7.5	1	LDA,LDT1,LDT2
Trenching	Vendor		1	HHDT,MHDT
Trenching	Hauling	0	1	HHDT
Trenching	Onsite truck			HHDT

Attachment 2: Project Construction Emissions and Health Risk Calculations

Alameda Aquatics Center, Alameda, CA
Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2025 + 2026	0.0414	0.0446	7.37	0.01	0.09
2027	0.0034	0.0000	0.56	0.00	0.00
Total	-	-	**7.93**		-
Maximum	0.0414	0.0446	**-**	**0.01**	**0.09**

Maximum Impacts at ViVi Family Daycare

Construction Year	Unmitigated Emissions: Maximum Concentrations Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Child Cancer Risk (per million)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2025 + 2026	0.0041	0.0032	2.21	0.007
2027	0.0003	0.0008	0.18	0.001
Total	-	-	**2.39**	-
Maximum	0.0041	0.0032	**-**	**0.007**

Alameda Aquatics Center, Alameda, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2025	Construction	0.0125	CON_DPM	25.0	0.01067	1.34E-03	10,926	1.23E-07
2026	Construction	0.0251	CON_DPM	50.3	0.02148	2.71E-03	10,926	2.48E-07
2027	Construction	0.0031	CON_DPM	6.2	0.00264	3.33E-04	10,926	3.04E-08
Total		***0.0407***		***81.4***	***0.0348***	***0.0044***		

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	260	
hours/year =	2340	

Alameda Aquatics Center, Alameda, CA

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2025	Construction	CON_FUG	0.0216	43.1	0.01842	2.32E-03	10,926	2.12E-07
2026	Construction	CON_FUG	0.0074	14.9	0.00635	8.00E-04	10,926	7.32E-08
2027	Construction	CON_FUG	0.0000	0.1	0.00002	2.94E-06	10,926	2.69E-10
Total			***0.0290***	***58.0***	***0.0248***	***0.0031***		

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	260	
hours/year =	2340	

Alameda Aquatics Center, Alameda, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 7.6 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult		Maximum	
	Exposure				Age	Cancer	Modeled		Age	Cancer			
Exposure	Duration		DPM Conc (ug/m3)		Sensitivity	Risk	DPM Conc (ug/m3)		Sensitivity	Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2025 + 2026	0.0043	10	0.06	2025 + 2026	0.0043	-	-			
1	1	0 - 1	2025 + 2026	0.0043	10	0.70	2025 + 2026	0.0043	1	0.01	0.00	0.004	0.01
2	1	1 - 2	2027	0.0004	10	0.06	2027	0.0004	1	0.00	0.00	0.000	0.00
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**0.82**				**0.01**			

* Third trimester of pregnancy

Alameda Aquatics Center, Alameda, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult		Maximum	
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m3) Year**	**Annual**	**Age Sensitivity Factor**	**Cancer Risk (per million)**	**Modeled DPM Conc (ug/m3) Year**	**Annual**	**Age Sensitivity Factor**	**Cancer Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2025 + 2026	0.0094	10	0.13	2025 + 2026	0.0094	-	-			
1	1	0 - 1	2025 + 2026	0.0094	10	1.55	2025 + 2026	0.0094	1	0.03	0.00	0.009	0.02
2	1	1 - 2	2027	0.0008	10	0.13	2027	0.0008	1	0.00	0.00	0.000	0.00
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**1.80**				**0.03**			

* Third trimester of pregnancy

Alameda Aquatics Center, Alameda, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			**Adult**
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			**Infant/Child**	**Adult - Exposure Information**			**Adult**			
	Exposure				**Age**	**Cancer**	**Modeled**		**Age**	**Cancer**		**Maximum**	
Exposure	**Duration**		**DPM Conc (ug/m3)**		**Sensitivity**	**Risk**	**DPM Conc (ug/m3)**		**Sensitivity**	**Risk**	**Hazard**	**Fugitive**	**Total**
Year	**(years)**	**Age**	**Year**	**Annual**	**Factor**	**(per million)**	**Year**	**Annual**	**Factor**	**(per million)**	**Index**	**PM2.5**	**PM2.5**
0	0.25	-0.25 - 0*	2025 + 2026	0.0414	10	0.56	2025 + 2026	0.0414	-	-			
1	1	0 - 1	2025 + 2026	0.0414	10	6.81	2025 + 2026	0.0414	1	0.12	0.01	0.045	0.09
2	1	1 - 2	2027	0.0034	10	0.56	2027	0.0034	1	0.01	0.00	0.000	0.00
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**7.93**				**0.13**			

* Third trimester of pregnancy

Alameda Aquatics Center, Alameda, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at ViVi Family Daycare - 1 meter - Infant Exposure

Student Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)

Inhalation Dose = C_{air} x SCAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
SCAF = School Child Adjustment Factor (unitless) for source operation and exposures different than 8 hours/day
= (24/SHR) x (7days/SDay) x (SCHR/8 hrs)
SHR = Hours/day of emission source operation
SDay = Number of days per week of source operation
SCHR = School operation hours while emission source in operation
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	**Child**
Age -->	**0 - <2**	**2 - <16**
Parameter		
ASF =	10	3
DPM CPF =	1.10E+00	1.10E+00
8-Hr BR* =	1200	520
SCHR =	9	9
SHR =	9	9
SDay =	5	5
A =	1	1
EF =	250	250
AT =	70	70
SCAF =	4.20	4.20

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Preschool Impact Receptor Location

			Child - Exposure Information			**Child**	**Maximum**		
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m3) Year**	**Annual**	**Age* Sensitivity Factor**	**Cancer Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
1	1	0 - 1	2025 + 2026	0.0041	10	2.21	0.0008	0.003	0.01
2	1	1 - 2	2027	0.0003	10	0.18	0.0001	0.001	0.00
Total Increased Cancer Risk						**2.39**			

* Children assumed to be 2 months of age with 2 years of exposure to construction emissions

Attachment 3: Cumulative Screening Information and Calculations

BAAQMD Roadway Raster Cancer Risk at MEI

BAAQMD Roadway Raster Annual $PM_{2.5}$ Concentration at MEI

BAAQMD Roadway Raster Hazard Index at MEI

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**11/21/2024**
Contact Name	Jordyn Bauer
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	jbauer@illingworthrodkin.com
Project Name	Alameda Aquatics Center
Address	1900 Thau Way
City	Alameda
County	Alameda
Type (residential, commercial, mixed use, industrial, etc.)	Recreational
Project Size (# of units or building square feet)	9.8ksf
Comments:	

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in **Table A** omplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in **Table B** e section only.

6. Note that a small percentage of the stationary Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Ma If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Matthew Hanson at 415-749-8733, or mhanson@baaqmd.gov

Table B: Google Earth data

Project MEI

Distance from Receptor (feet) or MEI[1]	Plant No.	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
1000+	22128	G&I IX Marina Village Research	965 Atlantic Avenue	2.88	0	0		Generator		2022 Dataset	0.04	0.12	0.00000	0.0000
500	23657	Heliotrope Technologies	850 Marina Village Pkwy	0	0	0		Electric Bulk Power Transmission and Conti		2022 Dataset	0.35	0.00	0.00000	0.0000
400	201808	Ology Bioservices Inc.	2061 CHALLENGER DR	0.99	0	0		Generator		2022 Dataset	0.16	0.16	0.00000	0.0000
1000+	107722-1	Chevron Station #90290	1802 Webster St	16.24	0.07	0		Gas Dispensing Facility		2022 Dataset	CARB TOOL	0.53	0.02000	0.0000

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.

8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or less.
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010.
    Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect the
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

Date last updated:
03/13/2018

2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
Version 1.0 - February 18, 2022

Required Value	User Defined Input	Instructions
Annual Throughput (gallons/year)	**6000000**	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.
Hourly Dispensing Throughput (gallons/hour)	**2000**	The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4.
Hourly Loading Throughput (gallons/hour)	**8800**	The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5.
Meteorological Data	**San Jose**	Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool.
Distance to Nearest Resident (meters)	**304**	Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Nearest Business (meters)	**304**	Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Acute Receptor (meters)	**304**	Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Control Scenario	**EVR Phase I & EVR Phase II**	Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls.
Include Building Downwash Adjustments	**yes**	Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment.

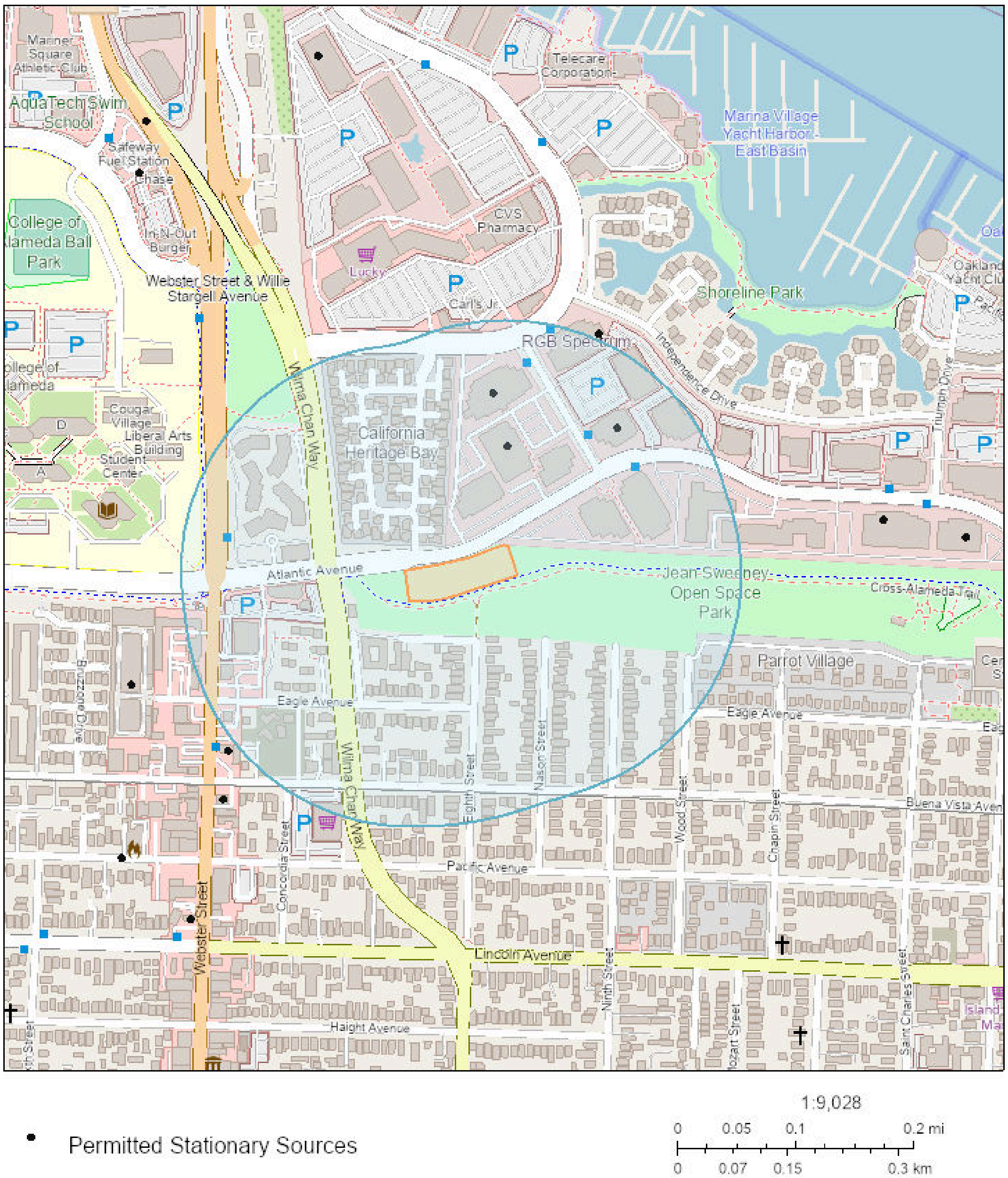
Risk Value	Results
Max Residential Cancer Risk (chances/million)	**0.53**
Max Worker Cancer Risk (chances/million)	**0.04**
Chronic HI	**0.00**
Acute HI	**0.02**

Screening Report

Area of Interest (AOI) Information

Area : 4,465,892.78 ft²

Nov 21 2024 12:09:50 Pacific Standard Time



Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	3	N/A	N/A

Permitted Stationary Sources

#	Address	Cancer_Ris	Chronic_Ha	City	County
1	965 Atlantic Avenue	2.88	0.00	Alameda	Alameda
2	850 Marina Village Pkwy	0.00	0.00	Alameda	Alameda
3	2061 CHALLENGER DR	0.99	0.00	Alameda	Alameda

#	Details	Facility_I	Facility_N	Latitude	Longitude
1	Generator	22128	G&I IX Marina Village Research	37.78	-122.27
2	*No Data*	23657	Heliotrope Technologies	37.78	-122.27
3	Generator	201808	Ology Bioservices Inc.	37.78	-122.27

#	NAICS	NAICS_Indu	NAICS_Sect	NAICS_Subs	PM25
1	621511	Medical Laboratories	Health Care and Social Assistance	Ambulatory Health Care Services	0.00
2	221121	Electric Bulk Power Transmission and Control	Utilities	Utilities	0.00
3	334118	Computer Terminal and Other Computer Peripheral Equipment Manufacturing	Manufacturing	Computer and Electronic Product Manufacturing	0.00

#	State	Zip	Count
1	CA	94501	1
2	CA	94501	1
3	CA	94501	1

NOTE: A larger buffer than 1,000 may be warranted depending on proximity to significant sources.

Appendix C: Hydrogeological Evaluation

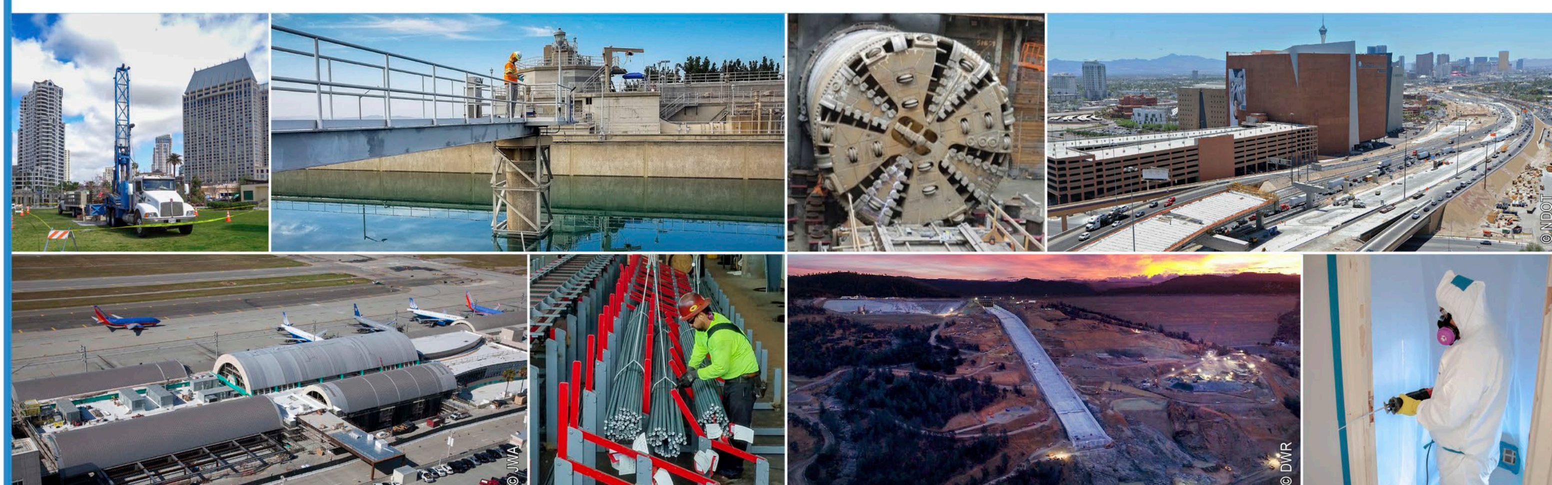
Hydrogeological Evaluation

City of Alameda New Aquatic Center
Jean Sweeney Open Space Park
1100 Atlantic Avenue

Alameda, California 94501

City of Alameda
950 West Mall Square | Alameda, California 94501

May 13, 2024 | Project No. 403773006



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

35+ YEARS

Hydrogeological Evaluation

City of Alameda New Aquatic Center
Jean Sweeney Open Space Park
1100 Atlantic Avenue

Alameda, California

Mr. Jack Dybas
City of Alameda
950 West Mall Square | Alameda, California 94501

May 13, 2024 | Project No. 403773006

Brian Busch
Principal Environmental Scientist

Court Brooks, PG, CEM
Principal Hydrogeologist

Ryan Bast, PG
Project Geologist

PROFESSIONAL GEOLOGIST
RYAN D. BAST
No. 9985
STATE OF CALIFORNIA

BEB/CJB/RDB/gvr

CONTENTS

TABLE

FIGURES

APPENDICES

1 INTRODUCTION

As specified in our November 17, 2023 Proposal for Hydrogeological Study, Dewatering Design & Discharge Permitting Support, and Monitoring Well Destructions, Ninyo & Moore is pleased to present the results of a hydrogeological study performed for the proposed City of Alameda New Aquatic Center project at Jean Sweeney Open Space Park in Alameda, California (the Site, Figure 1). The hydrogeological study was performed in February 2024 from two groundwater monitoring wells installed at the Site in December 2023 (Figure 2). Presented in the following sections are the Site background and history, Site geologic and subsurface conditions, details on the installation and sampling of groundwater monitoring wells MW-1 and MW-2, a description of Site hydrogeology and hydrogeologic aquifer study performed from wells MW-1 and MW-2, and the groundwater model design and output. Information from the hydrogeological study is intended to be used for the design and construction of a temporary dewatering system necessary for the installation of swimming pools at the Aquatic Center.

2 SITE BACKGROUND AND HISTORY

The Site is situated on the northwest portion of the Jean Sweeney Open Space Park located at 1100 Atlantic Avenue in Alameda, California. The Site is bounded by residential homes to the north and south, commercial businesses to the northeast, food stores and parking lots to the west, and Putter's Goat Track Miniature Golf, associated parking lot and Bay backwaters to the east. Preliminary plans for the new Aquatic Center include two swimming pools, turf fields, bleachers, and on-Site parking lots.

During the subsurface exploration performed by Ninyo & Moore in December 2023, the Site was an open space park with grass fields and pedestrian asphalt concrete paved walking trails. The Site is characterized by a low degree of topographic relief with a ground surface elevation that ranges between approximately 12 and 22 feet above mean sea level (MSL) with an average gradient across the site of approximately 2.3 percent to the east (Google, 2023).

Based on our correspondence with the City of Alameda and review of the provided conceptual Site improvements plan, we understand that the new Aquatic Center will include support, administration, and service buildings as well as two swimming pools. The final swimming pool designs are still under development; for the purpose of this study, we have assumed that the pools will be constructed to a depth of no greater than 12 feet. Other associated improvements include turf fields, bleachers and on-Site parking lots. The total building and Site area will be approximately 15,000 square feet (SF) and 123,000 square feet (SF), respectively. We understand that the type(s) and depth(s) of pools and details of other aspects of the Site improvements are not yet finalized.

3 GEOLOGIC AND SUBSURFACE CONDITIONS

3.1 Regional Geologic Setting

The Site is on the eastern margin of San Francisco Bay in the Coast Ranges geomorphic province of California. The Coast Ranges are comprised of several mountain ranges and structural valleys formed by tectonic processes commonly found around the Circum-Pacific belt. Basement rocks have been sheared, faulted, metamorphosed, and uplifted, and are separated by thick blankets of Cretaceous and Cenozoic sediments that fill structural valleys and line continental margins. The San Francisco Bay Area has several ranges that trend northwest, parallel to major strike-slip faults such as the San Andreas, Hayward, and Calaveras. Major tectonic activity associated with these and other faults within the region consists primarily of right-lateral, strike-slip movement.

3.2 Site Geology

Regional geologic mapping indicates that the project Site is underlain by artificial fill (Graymer, 2000). Originally wetlands, the western portion of Alameda Island was filled in the late 1920s in part to form the Alameda Airport. The material used as fill varies in composition depending upon the source of the material. Per Graymer (2000), some fills are compacted and quite firm, but fills placed before about 1965 are typically loose and poorly compacted consisting of dumped materials.

Graymer (2000) maps the natural portions of Alameda Island as Dune Sand from the Holocene and Pleistocene, with deposition likely ending around 6,000 years ago. Radbruch (1957) classifies it as Merritt sand. The material is described as fine-grained, very well sorted (poorly graded), well drained eolian deposits, mainly occurring in large sheets or small hills. Graymer distinguishes the two sand units based on morphology, stating that the Merritt sand displays yardang morphology. In both cases, the sand interfingers with Holocene Bay Mud deposits.

As described by Graymer (2000), Bay Mud consists of water saturated estuarine mud, predominantly gray, green, and blue clay and silty clay. The mud interfingers with and grades into fine-grained deposits at the distal edges of Holocene fans.

The findings of our December 2023 subsurface exploration, described below, indicate that the Site is underlain by fill, and interfingered Dune Sand and Bay Mud.

3.3 Subsurface Conditions

The following sections provide a generalized description of the geologic units encountered during Ninyo & Moore's December 2023 subsurface evaluation performed at the Site.

3.3.1 Artificial Fill

Artificial fill was encountered in the borings advanced at the Site at ground surface and extended to depths varying from approximately 5 to 9 feet below existing grade. As encountered, the artificial fill generally consisted of brown and gray, moist to wet, loose to dense, silty sand and clayey sand; and very stiff, sandy lean clay.

3.3.2 Bay Mud

Bay Mud was encountered below the artificial fill in Borings B-1/MW-1, B-2, and B-3/MW-2, and was interlayered with Dune Sand in Borings B-1/MW-1 and B-2. In general, the Bay Mud consisted of black, gray, and bluish-gray, moist to wet, clay, clayey sand, and silty sand. The shallow sandy layers encountered within the upper 19 feet were loose to medium dense, and sandy layers encountered below this depth in Borings B-1/MW-1 and B-3/MW-2 were dense to very dense.

3.3.3 Dune Sand

As mentioned above, Dune Sand was interlayered with the Bay Mud. Dune Sand, of Holocene & Pleistocene age was encountered in Borings B-1/MW-1 and B-2. The Dune Sand, as encountered, generally consisted of olive brown and brown, wet, loose to very dense, silty sand and clayey sand. The Dune Sand encountered below depths of about 19 feet was typically dense to very dense.

3.3.4 CPT Summary

The CPT data recorded in boring CPT-1 is generally consistent with the subsurface materials encountered in Boring B-1/MW-1, which is located near CPT-1.

In general, the CPT data indicates materials of low tip resistance and/or low friction, consistent with low strength clayey or organic and loose sandy materials, extending to depths varying from about 16 to 18 feet below grade. The subsurface materials below this upper weaker zone generally consist of interbedded fine-grained and sandy layers in which the CPTs encountered refusal at depths varying from about 49 to 53 feet below grade suggesting the presence of dense zones or inclusions which are restrictive to penetration.

3.4 Groundwater

Groundwater was encountered during the December 2023 subsurface exploration at depths ranging between 5 feet and 7.75 feet below the ground surface in the CPT soundings, and approximately between 13 feet and 14 feet below the ground surface in the borings. In January 2024, groundwater was observed in wells MW-1 and MW-2 at 3.91 and 3.57 feet below ground surface, respectively. Regional groundwater records compiled by the California Geological Survey (CGS, 2003a), indicate that the historic high groundwater level at the Site is about 5 feet below the ground surface.

Variations or fluctuations in the groundwater levels across the Site and over time may occur due to seasonal precipitation, spatial variations in topography or subsurface hydrogeologic conditions, or as a result of tidal variations or other factors. In addition, seeps may be encountered at elevations above the groundwater levels encountered due to perched groundwater conditions, leaking pipes, preferential drainage, or other factors not evident at the time of our exploration.

4 GROUNDWATER MONITORING WELL INSTALLATION AND SAMPLING

On December 6, 2023, Ninyo & Moore personnel oversaw the installation of groundwater monitoring wells MW-1 and MW-2 at the Site in geotechnical borings B-1 and B-3, respectively. Following soil sampling and lithologic logging, the wells were constructed with 2-inch diameter schedule 40 polyvinyl chloride (PVC) blank casing and 0.010-inch slotted PVC well screen. The screened intervals for the wells are 20 feet in length, extending from approximately 6 to 26 feet bgs. Well filter packs consist of #2/12 sand placed within the annulus of each boring from the bottom of each boring to approximately 1 foot above the top of each well screen, followed by an approximate 2 foot well transition seal consisting of bentonite. The remaining open borehole annulus in each well was sealed with neat cement to near ground surface. Boring logs are presented in Appendix A. Upon well completion, each wellhead was finished at the ground surface with a locking well cap and traffic-rated bolt-down well vault. The vaults were installed and finished with a concrete apron.

Well development activities were performed on wells MW-1 and MW-2 on January 11, 2024. Prior to development, Ninyo & Moore measured the total well depth and depth to water in each well using a water level indicator calibrated to within 0.01 foot. The wells were developed by alternately swabbing and surging the well casing using a hand-held surge block, then purged by pumping using an electric submersible pump until approximately 10 casing volumes of water were removed and groundwater parameters (pH, conductivity, and temperature) stabilized.

Sampling of the two groundwater monitoring wells was performed on January 15, 2024. The collected groundwater samples were submitted to McCampbell Analytical, Inc. of Pittsburg, California for laboratory analysis under chain-of-custody protocols. The samples were analyzed for multi-range total petroleum hydrocarbons as gasoline (TPHg); total petroleum hydrocarbons as diesel (TPHd); and total petroleum hydrocarbons as motor oil (TPHmo) by United States Environmental Protection Agency (EPA) Method 8015, a full scan for volatile organic compounds (VOCs) by EPA Method 8260B, and CAM 17 metals by EPA Method 6020/7470A. Concentrations of TPHg, TPHd, TPHmo and VOCs were not detected above laboratory reporting limits in either of the sampled wells. Laboratory analytical reports for the groundwater samples are included in Appendix B.

5 SITE HYDROGEOLOGY

Based on the borehole lithologic logs and results of the December 2023 geotechnical investigation, the shallow saturated material beneath the Site includes a thin layer (approximately 5 to 9 feet thick) of imported silty and clayey sand over the Bay Mud Complex interlayered with dune sands. To obtain detailed information which will be used to calculate the anticipated volume and flow rates of groundwater to be extracted and discharged to the sanitary sewer under permit during installation of the Aquatic Center pools, Ninyo & Moore performed aquifer testing of the two monitoring wells, the output of which was analyzed by Ninyo & Moore using the hydrogeologic platform AQTESOLV. The estimated hydraulic conductivity values ranged from 1.3 feet per day (ft/d) to 2.8 ft/d. For this study, Ninyo & Moore used the higher, more conservative, hydraulic conductivity estimate in the groundwater model. Table 1 below presents the model design data derived from field measurements and review of the available Aquatic Center conceptual test fit drawing:

Table 1 – Dewatering Target Elevation Data	
Parameter Description	**Model Input**
MW-1 and MW-2 Elevation*	15' AMSL
MW-1/MW-2 Depth to Groundwater	2' / 3'
MW-1/MW-2 Groundwater Elevation	13' / 12' AMSL
Presumed Swimming Pool Invert Elevation**	0' AMSL
Target Dewatering Elevation***	-2' AMSL
Target Dewatering Drawdown	14' to 15'
Hydraulic Conductivity Estimate Low	1.3 ft/day
Hydraulic Conductivity Estimate High	2.8 ft/day

Notes:
* = Extrapolated from geotechnical borings B-1 and B-2 (Ninyo & Moore, 2023).
** = Estimated, presently unknown.
*** = Includes 2' safety factor.
AMSL = above mean sea level (NAVD 88); all elevations are approximate.

6 HYDROGEOLOGIC AQUIFER TESTING

On February 13 and 14, 2024, Ninyo & Moore performed a constant rate aquifer pumping test from monitoring wells MW-1 and MW-2 to estimate aquifer characteristics to provide information to aid with preparation of a design for a dewatering system which will be required during construction of the Aquatic Center. The testing was performed using a 12-volt DC electric submersible pump and controller to pump groundwater, Solinst 3001 Levellogger 5, and Solinst Barologger 5 transducers to record changes in water levels and atmospheric pressure, respectively, and a Solinst Model 101 water level meter used to measure groundwater depth in the wells during testing. The water level displacement during testing and subsequent rate of recovery following cessation of pumping were recorded and later analyzed to estimate the hydraulic conditions of the aquifer in the vicinity of the location of the Jean Sweeney Park Aquatic Center.

During testing performed from well MW-1 (Test 1), an initial water level reading of 2.75 feet was measured in the well, and the depth to the bottom of the well casing was recorded at 25.25 feet. The submersible pump was lowered into the well to a point approximately 6 inches from the bottom of the well to ensure sediment would not clog the pump intake. The Solinst 3001 Levellogger 5 was then set up and lowered into the well until it was sitting just above the top of the pump. The Levelloger 5, along with the water meter was used to track how much drawdown occurred during pumping. The Barologger 5 was placed at the top of the well casing. Groundwater was pumped at flow rates between 1 and 2 gallons per minute, and the depth to water was recorded by the Levelloger 5 every two minutes. The groundwater pumping period lasted approximately 20 minutes until an equilibrium was created where there was no change in water depth. Once the water depth equilibrated, the well was allowed to recharge for approximately 10 minutes before pumping was resumed.

During testing performed from well MW-2 (Test 2), an initial water level reading of 1.56 feet was measured and the depth to the bottom of the well casing was recorded at 24.70 feet. The submersible pump, Levelloger 5, and Barlogger 5 were set up in the well in a similar manner to what was done in MW-1. Groundwater was pumped at flow rates between 1 and 2 gallons per minute and the depth to water was recorded by the Levelloger 5 every two minutes. The groundwater pumping period lasted approximately 20 minutes until an equilibrium was created where there was no change in water depth. As with testing from well MW-1, well MW-2 was allowed to recharge for approximately 10 minutes before pumping was resumed.

7 GROUNDWATER MODEL DESIGN AND OUTPUT

For the purpose of this study, a target dewatering elevation of approximately -2 feet above mean sea level (AMSL; all elevations are based on NAVD 88) was assumed to be two feet below the maximum projected excavation elevation, assuming the pools are 12 feet deep, plus a 3-foot over-excavated portion to account for sub-drain piping.

The groundwater model processing platform, Groundwater Vistas, was utilized to create groundwater simulations utilizing the Modflow method (2007). A computerized finite difference groundwater model was set out on a grid with uniform 20-foot row and column spacing over an area of 5,280 feet wide and 5,280 feet long centered on the project Site. The model assumes that homogeneous and isotropic aquifer conditions exist horizontally across the grid. The model was designed to estimate the approximate number and configuration of wells expected to dewater an approximately 120-foot wide by 400-foot long excavation to the target dewatering elevation of approximately -2 feet AMSL. The model was run until steady-state groundwater conditions were achieved. Modelling data included in Appendix C presents a screen image of the formatted test data and plotted graphs, aquifer testing data analysis output, and model output static and pumping contours and profiles. The model simulates the effect of four dewatering wells pumping at a combined flow rate of 20 gallons per minute (gpm), i.e., 5 gpm/dewatering well. Based on this information, it appears that the Site can be adequately dewatered by a network of four dewatering wells to achieve the target dewatering elevation of approximately -2 feet AMSL. However, more dewatering wells may be needed, depending on the actual size, depth, and configuration of the planned improvements.

Note that the inter-layering of Dune Sand and Bay Mud may introduce isolated areas of higher or lower hydraulic conductivity, which could reduce the effectiveness of the dewatering system. Ninyo & Moore recommends that the construction contractor factor this possibility into its dewatering plans by including additional wells as a contingency. Additionally, the relatively low permeability of the saturated media may require a longer than usual time to achieve steady-state conditions. However, the target dewatering elevation between dewatering wells should be achieved within 7 to 10 days of continuous pumping. The dewatering contractor should plan accordingly to avoid unnecessary delays.

During development of the dewatering system design for the project, consideration should be given to the installation of a cut-off shoring wall in the excavation to reduce the amount of groundwater inflow, as this option may result in lower dewatering well installation, water treatment, and water disposal costs. Based on previous experience, installation of cut-off shoring walls in excavations similar to the anticipated excavation size planned for the Aquatic Center has resulted in lower groundwater flow rates into excavations by up to 90 percent.

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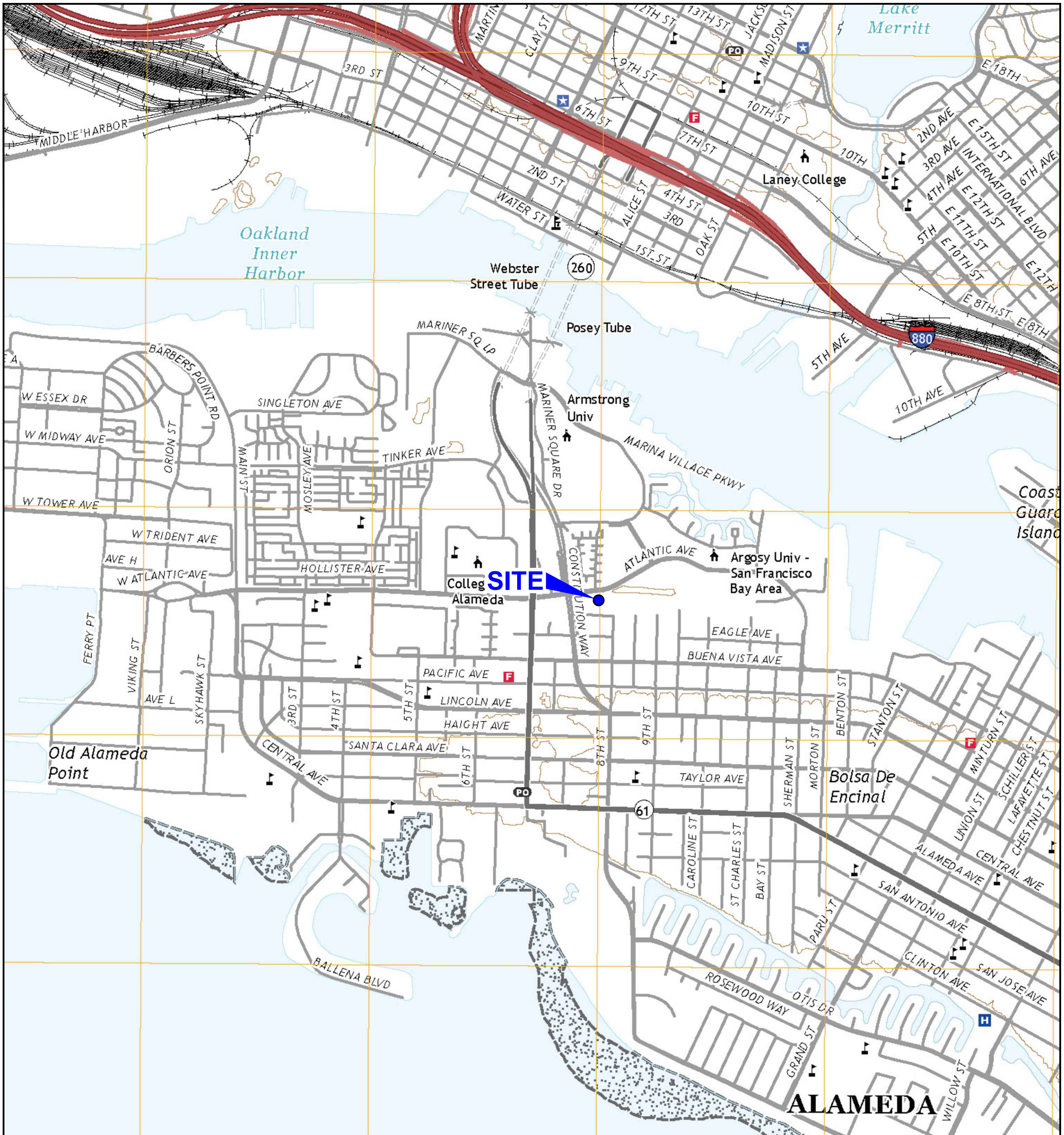
FIGURES



NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE I REFERENCE: USGS, 2018

N

SCALE (FEET)

0 2,000 4,000

403773004.dwg 01/12/2024 AEK

FIGURE 1

SITE LOCATION

CITY OF ALAMEDA NEW AQUATICS CENTER
1100 ATLANTIC AVENUE
ALAMEDA, CALIFORNIA
403773004 I 01/24

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE | REFERENCE: GOOGLE EARTH, 2024

403773004.dwg 01/12/2024 AEK

FIGURE 2

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

EXPLORATION LOCATIONS

CITY OF ALAMEDA NEW AQUATICS CENTER
1100 ATLANTIC AVENUE
ALAMEDA, CALIFORNIA
403773004 | 01/24

APPENDIX A

Boring Logs

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							SP	ALLUVIUM: Brown, moist, loose, poorly graded SAND.
			19					
			15					Very moist - almost wet.
10			6				SC	Gray, moist, very loose, clayey SAND.
								Wet.
			24				CH	Blackish gray, wet, very stiff, fat CLAY.
20			82/12"				SP	Olive brown, wet, dense, poorly graded SAND.
			52					Brown; very dense.
30			40					Dense.
			48				SC	Olive brown, wet, medium dense, clayey SAND.
40							SP	Bluish gray, wet, dense, poorly graded SAND.

DATE DRILLED 12/5/2023 BORING NO. B-1

GROUND ELEVATION 15' ± MSL SHEET 1 OF 2

METHOD OF DRILLING 8" HSA, B-53R Truck Mounted (Exploration Geo.)

DRIVE WEIGHT 140 lbs (wireline) DROP 30 inches

SAMPLED BY SSA LOGGED BY SSA REVIEWED BY RPM/MKW

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
40		■	42				SP	ALLUVIUM (Continued): Bluish gray, wet, dense, poorly graded SAND.
		■	31					
50		■	50/6"					Very dense.
								Total depth = 50.5 feet.
								Backfilled with neat cement to approx. 26 ft bgs, monitoring well MW-1 constructed in boring.
								Notes:
								Groundwater was measured at a depth of approximately 13.0 feet in the borehole shortly after completion of drilling.
								Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.
60								The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents (Google, 2023).
70								
80								

DATE DRILLED 12/5/2023 BORING NO. B-1

GROUND ELEVATION 15' ± MSL SHEET 2 OF 2

METHOD OF DRILLING 8" HSA, B-53R Truck Mounted (Exploration Geo.)

DRIVE WEIGHT 140 lbs (wireline) DROP 30 inches

SAMPLED BY SSA LOGGED BY SSA REVIEWED BY RPM/MKW

DATE DRILLED	12/5/2023	BORING NO.	B-3
GROUND ELEVATION	15' ± MSL	SHEET	1 OF 1
METHOD OF DRILLING	8" HSA, B-53R Truck Mounted (Exploration Geo.)		
DRIVE WEIGHT	140 lbs (wireline)	DROP	30 inches
SAMPLED BY	SSA	LOGGED BY SSA	REVIEWED BY RPM/MKW

DEPTH (feet)	SAMPLES Bulk	SAMPLES Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0	X						SP	ALLUVIUM: Light brown and bluish gray, moist, medium dense, poorly graded SAND.
	X	X	26					
		X	40				CL	Bluish gray, moist, hard, lean CLAY.
10		X	10					Firm.
				▼				Wet.
							SP	Bluish gray, wet, loose, poorly graded SAND.
		X	20					
20							SC	Bluish gray and brown, wet, dense, clayey SAND.
		X	42					
		X	35					
								Total depth = 26.5 feet.
30								Monitoring well MW-2 constructed in boring.
40								

Total depth = 26.5 feet.

Monitoring well MW-2 constructed in boring.

Notes:

Groundwater was measured at a depth of approximately 13.0 feet in the borehole shortly after completion of drilling.

Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.

The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents (Google, 2023).

APPENDIX B

Laboratory Analytical Results - Groundwater Samples

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2401970

Report Created for: Ninyo & Moore

1301 Marina Village Parkway, Suite 110
Alameda, CA 94501

Project Contact: Sean Igoe
Project P.O.:
Project: 403773004; Alameda Aquatic Center

Project Received: 01/16/2024

Analytical Report reviewed & approved for release on 01/24/2024 by:

Jena Alfaro
Project Manager

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

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

Glossary of Terms & Qualifier Definitions

Client: Ninyo & Moore **WorkOrder:** 2401970

Project: 403773004; Alameda Aquatic Center

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CCV	Continuing Calibration Verification.
CCV REC (%)	% recovery of Continuing Calibration Verification.
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 μm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LCS2	Second LCS for the batch. Spike level is lower than that for the first LCS; applicable to method 1633.
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit [1]
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NA	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit [2]
RPD	Relative Percent Difference
RRT	Relative Retention Time
RSD	Relative Standard Deviation
SNR	Surrogate is diluted out of the calibration range
SPK Val	Spike Value

[1] MDL is the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. Definition and Procedure for the Determination of the Method Detection Limit, Revision 2, 40CFR, Part 136, Appendix B, EPA 821-R-16-006, December 2016. Values are based upon our default extraction volume/amount and are subject to change.

[2] RL is the lowest level that can be reliably determined within specified limits of precision and accuracy during routine laboratory operating conditions. (The RL cannot be lower than the lowest calibration standard used in the initial calibration of the instrument and must be greater than the MDL.) Values are based upon our default extraction volume/amount and are subject to change.

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Glossary of Terms & Qualifier Definitions

Client: Ninyo & Moore **WorkOrder:** 2401970

Project: 403773004; Alameda Aquatic Center

SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TNTC	“Too Numerous to Count;” greater than 250 colonies observed on the plate.
TZA	TimeZone Net Adjustment for sample collected outside of MAI’s UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Quality Control Qualifiers

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

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW5030B
Date Prepared:	01/23/2024	**Analytical Method:**	SW8260D
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	2401970-001A	Water	01/15/2024 14:45	GC45 01222425.D	286330

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	40	1	01/23/2024 00:17
tert-Amyl methyl ether (TAME)	ND	0.50	1	01/23/2024 00:17
Benzene	ND	0.20	1	01/23/2024 00:17
Bromobenzene	ND	0.50	1	01/23/2024 00:17
Bromochloromethane	ND	0.50	1	01/23/2024 00:17
Bromodichloromethane	ND	0.050	1	01/23/2024 00:17
Bromoform	ND	0.50	1	01/23/2024 00:17
Bromomethane	ND	0.50	1	01/23/2024 00:17
2-Butanone (MEK)	ND	5.0	1	01/23/2024 00:17
t-Butyl alcohol (TBA)	ND	5.0	1	01/23/2024 00:17
n-Butyl benzene	ND	0.50	1	01/23/2024 00:17
sec-Butyl benzene	ND	0.50	1	01/23/2024 00:17
tert-Butyl benzene	ND	0.50	1	01/23/2024 00:17
Carbon Disulfide	ND	0.50	1	01/23/2024 00:17
Carbon Tetrachloride	ND	0.050	1	01/23/2024 00:17
Chlorobenzene	ND	0.50	1	01/23/2024 00:17
Chloroethane	ND	0.50	1	01/23/2024 00:17
Chloroform	ND	0.10	1	01/23/2024 00:17
Chloromethane	ND	0.50	1	01/23/2024 00:17
2-Chlorotoluene	ND	0.50	1	01/23/2024 00:17
4-Chlorotoluene	ND	0.50	1	01/23/2024 00:17
Dibromochloromethane	ND	0.15	1	01/23/2024 00:17
1,2-Dibromo-3-chloropropane	ND	0.020	1	01/23/2024 00:17
1,2-Dibromoethane (EDB)	ND	0.040	1	01/23/2024 00:17
Dibromomethane	ND	0.50	1	01/23/2024 00:17
1,2-Dichlorobenzene	ND	0.50	1	01/23/2024 00:17
1,3-Dichlorobenzene	ND	0.50	1	01/23/2024 00:17
1,4-Dichlorobenzene	ND	0.50	1	01/23/2024 00:17
Dichlorodifluoromethane	ND	0.50	1	01/23/2024 00:17
1,1-Dichloroethane	ND	0.50	1	01/23/2024 00:17
1,2-Dichloroethane (1,2-DCA)	ND	0.020	1	01/23/2024 00:17
1,1-Dichloroethene	ND	0.010	1	01/23/2024 00:17
cis-1,2-Dichloroethene	ND	0.50	1	01/23/2024 00:17
trans-1,2-Dichloroethene	ND	0.50	1	01/23/2024 00:17
1,2-Dichloropropane	ND	0.20	1	01/23/2024 00:17
1,3-Dichloropropane	ND	0.50	1	01/23/2024 00:17

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW5030B
Date Prepared:	01/23/2024	**Analytical Method:**	SW8260D
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	2401970-001A	Water	01/15/2024 14:45	GC45 01222425.D	286330

Analytes	Result	RL	DF	Date Analyzed
2,2-Dichloropropane	ND	0.50	1	01/23/2024 00:17
1,1-Dichloropropene	ND	0.50	1	01/23/2024 00:17
cis-1,3-Dichloropropene	ND	0.50	1	01/23/2024 00:17
trans-1,3-Dichloropropene	ND	0.50	1	01/23/2024 00:17
Diisopropyl ether (DIPE)	ND	0.50	1	01/23/2024 00:17
Ethylbenzene	ND	0.50	1	01/23/2024 00:17
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	01/23/2024 00:17
Freon 113	ND	0.50	1	01/23/2024 00:17
Hexachlorobutadiene	ND	0.50	1	01/23/2024 00:17
Hexachloroethane	ND	0.20	1	01/23/2024 00:17
2-Hexanone	ND	0.50	1	01/23/2024 00:17
Isopropylbenzene	ND	0.50	1	01/23/2024 00:17
4-Isopropyl toluene	ND	0.50	1	01/23/2024 00:17
Methyl-t-butyl ether (MTBE)	ND	0.50	1	01/23/2024 00:17
Methylene chloride	ND	2.0	1	01/23/2024 00:17
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	01/23/2024 00:17
Naphthalene	ND	0.30	1	01/23/2024 00:17
n-Propyl benzene	ND	0.50	1	01/23/2024 00:17
Styrene	ND	2.0	1	01/23/2024 00:17
1,1,1,2-Tetrachloroethane	ND	0.50	1	01/23/2024 00:17
1,1,2,2-Tetrachloroethane	ND	0.020	1	01/23/2024 00:17
Tetrachloroethene	ND	0.20	1	01/23/2024 00:17
Toluene	ND	0.50	1	01/23/2024 00:17
1,2,3-Trichlorobenzene	ND	0.50	1	01/23/2024 00:17
1,2,4-Trichlorobenzene	ND	0.50	1	01/23/2024 00:17
1,1,1-Trichloroethane	ND	0.50	1	01/23/2024 00:17
1,1,2-Trichloroethane	ND	0.20	1	01/23/2024 00:17
Trichloroethene	ND	0.50	1	01/23/2024 00:17
Trichlorofluoromethane	ND	0.50	1	01/23/2024 00:17
1,2,3-Trichloropropane	ND	0.0050	1	01/23/2024 00:17
1,2,4-Trimethylbenzene	ND	0.50	1	01/23/2024 00:17
1,3,5-Trimethylbenzene	ND	0.50	1	01/23/2024 00:17
Vinyl Chloride	ND	0.0050	1	01/23/2024 00:17
m,p-Xylene	ND	0.50	1	01/23/2024 00:17
o-Xylene	ND	0.50	1	01/23/2024 00:17
Xylenes, Total	ND	0.50	1	01/23/2024 00:17

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW5030B
Date Prepared:	01/23/2024	**Analytical Method:**	SW8260D
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	**2401970-001A**	**Water**	**01/15/2024 14:45**	**GC45 01222425.D**	**286330**

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	108	70-130		01/23/2024 00:17
Toluene-d8	101	70-130		01/23/2024 00:17
4-BFB	95	70-130		01/23/2024 00:17

Analyst(s): PRE

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW5030B
Date Prepared:	01/23/2024	**Analytical Method:**	SW8260D
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	**2401970-002A**	**Water**	**01/15/2024 12:45**	**GC45 01222426.D**	**286330**

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	40	1	01/23/2024 00:56
tert-Amyl methyl ether (TAME)	ND	0.50	1	01/23/2024 00:56
Benzene	ND	0.20	1	01/23/2024 00:56
Bromobenzene	ND	0.50	1	01/23/2024 00:56
Bromochloromethane	ND	0.50	1	01/23/2024 00:56
Bromodichloromethane	ND	0.050	1	01/23/2024 00:56
Bromoform	ND	0.50	1	01/23/2024 00:56
Bromomethane	ND	0.50	1	01/23/2024 00:56
2-Butanone (MEK)	ND	5.0	1	01/23/2024 00:56
t-Butyl alcohol (TBA)	ND	5.0	1	01/23/2024 00:56
n-Butyl benzene	ND	0.50	1	01/23/2024 00:56
sec-Butyl benzene	ND	0.50	1	01/23/2024 00:56
tert-Butyl benzene	ND	0.50	1	01/23/2024 00:56
Carbon Disulfide	ND	0.50	1	01/23/2024 00:56
Carbon Tetrachloride	ND	0.050	1	01/23/2024 00:56
Chlorobenzene	ND	0.50	1	01/23/2024 00:56
Chloroethane	ND	0.50	1	01/23/2024 00:56
Chloroform	ND	0.10	1	01/23/2024 00:56
Chloromethane	ND	0.50	1	01/23/2024 00:56
2-Chlorotoluene	ND	0.50	1	01/23/2024 00:56
4-Chlorotoluene	ND	0.50	1	01/23/2024 00:56
Dibromochloromethane	ND	0.15	1	01/23/2024 00:56
1,2-Dibromo-3-chloropropane	ND	0.020	1	01/23/2024 00:56
1,2-Dibromoethane (EDB)	ND	0.040	1	01/23/2024 00:56
Dibromomethane	ND	0.50	1	01/23/2024 00:56
1,2-Dichlorobenzene	ND	0.50	1	01/23/2024 00:56
1,3-Dichlorobenzene	ND	0.50	1	01/23/2024 00:56
1,4-Dichlorobenzene	ND	0.50	1	01/23/2024 00:56
Dichlorodifluoromethane	ND	0.50	1	01/23/2024 00:56
1,1-Dichloroethane	ND	0.50	1	01/23/2024 00:56
1,2-Dichloroethane (1,2-DCA)	ND	0.020	1	01/23/2024 00:56
1,1-Dichloroethene	ND	0.010	1	01/23/2024 00:56
cis-1,2-Dichloroethene	ND	0.50	1	01/23/2024 00:56
trans-1,2-Dichloroethene	ND	0.50	1	01/23/2024 00:56
1,2-Dichloropropane	ND	0.20	1	01/23/2024 00:56
1,3-Dichloropropane	ND	0.50	1	01/23/2024 00:56

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW5030B
Date Prepared:	01/23/2024	**Analytical Method:**	SW8260D
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	2401970-002A	Water	01/15/2024 12:45	GC45 01222426.D	286330

Analytes	Result	RL	DF	Date Analyzed
2,2-Dichloropropane	ND	0.50	1	01/23/2024 00:56
1,1-Dichloropropene	ND	0.50	1	01/23/2024 00:56
cis-1,3-Dichloropropene	ND	0.50	1	01/23/2024 00:56
trans-1,3-Dichloropropene	ND	0.50	1	01/23/2024 00:56
Diisopropyl ether (DIPE)	ND	0.50	1	01/23/2024 00:56
Ethylbenzene	ND	0.50	1	01/23/2024 00:56
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	01/23/2024 00:56
Freon 113	ND	0.50	1	01/23/2024 00:56
Hexachlorobutadiene	ND	0.50	1	01/23/2024 00:56
Hexachloroethane	ND	0.20	1	01/23/2024 00:56
2-Hexanone	ND	0.50	1	01/23/2024 00:56
Isopropylbenzene	ND	0.50	1	01/23/2024 00:56
4-Isopropyl toluene	ND	0.50	1	01/23/2024 00:56
Methyl-t-butyl ether (MTBE)	ND	0.50	1	01/23/2024 00:56
Methylene chloride	ND	2.0	1	01/23/2024 00:56
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	01/23/2024 00:56
Naphthalene	ND	0.30	1	01/23/2024 00:56
n-Propyl benzene	ND	0.50	1	01/23/2024 00:56
Styrene	ND	2.0	1	01/23/2024 00:56
1,1,1,2-Tetrachloroethane	ND	0.50	1	01/23/2024 00:56
1,1,2,2-Tetrachloroethane	ND	0.020	1	01/23/2024 00:56
Tetrachloroethene	ND	0.20	1	01/23/2024 00:56
Toluene	ND	0.50	1	01/23/2024 00:56
1,2,3-Trichlorobenzene	ND	0.50	1	01/23/2024 00:56
1,2,4-Trichlorobenzene	ND	0.50	1	01/23/2024 00:56
1,1,1-Trichloroethane	ND	0.50	1	01/23/2024 00:56
1,1,2-Trichloroethane	ND	0.20	1	01/23/2024 00:56
Trichloroethene	ND	0.50	1	01/23/2024 00:56
Trichlorofluoromethane	ND	0.50	1	01/23/2024 00:56
1,2,3-Trichloropropane	ND	0.0050	1	01/23/2024 00:56
1,2,4-Trimethylbenzene	ND	0.50	1	01/23/2024 00:56
1,3,5-Trimethylbenzene	ND	0.50	1	01/23/2024 00:56
Vinyl Chloride	ND	0.0050	1	01/23/2024 00:56
m,p-Xylene	ND	0.50	1	01/23/2024 00:56
o-Xylene	ND	0.50	1	01/23/2024 00:56
Xylenes, Total	ND	0.50	1	01/23/2024 00:56

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW5030B
Date Prepared:	01/23/2024	**Analytical Method:**	SW8260D
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	**2401970-002A**	**Water**	**01/15/2024 12:45**	**GC45 01222426.D**	**286330**

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	107	70-130		01/23/2024 00:56
Toluene-d8	102	70-130		01/23/2024 00:56
4-BFB	92	70-130		01/23/2024 00:56

Analyst(s): PRE

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW3005
Date Prepared:	01/17/2024	**Analytical Method:**	SW6020
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	**2401970-001C**	**Water**	**01/15/2024 14:45**	**ICP-MS6 328SMPL.d**	**285941**

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	01/17/2024 23:07
Arsenic	**3.5**	0.50	1	01/17/2024 23:07
Barium	**100**	5.0	1	01/17/2024 23:07
Beryllium	ND	0.50	1	01/17/2024 23:07
Cadmium	ND	0.50	1	01/17/2024 23:07
Chromium	ND	2.0	1	01/17/2024 23:07
Cobalt	**1.2**	0.50	1	01/17/2024 23:07
Copper	ND	1.5	1	01/17/2024 23:07
Lead	ND	0.50	1	01/17/2024 23:07
Molybdenum	**2.3**	1.0	1	01/17/2024 23:07
Nickel	**3.0**	0.50	1	01/17/2024 23:07
Selenium	ND	0.50	1	01/17/2024 23:07
Silver	ND	0.50	1	01/17/2024 23:07
Thallium	ND	0.50	1	01/17/2024 23:07
Vanadium	**4.2**	0.50	1	01/17/2024 23:07
Zinc	ND	20	1	01/17/2024 23:07

Surrogates	REC (%)	Limits		
Terbium	107	70-130		01/17/2024 23:07

Analyst(s): DB

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW3005
Date Prepared:	01/17/2024	**Analytical Method:**	SW6020
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	2401970-002C	Water	01/15/2024 12:45	ICP-MS6 331SMPL.d	285941

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	01/17/2024 23:17
Arsenic	**8.9**	0.50	1	01/17/2024 23:17
Barium	**290**	5.0	1	01/17/2024 23:17
Beryllium	ND	0.50	1	01/17/2024 23:17
Cadmium	ND	0.50	1	01/17/2024 23:17
Chromium	ND	2.0	1	01/17/2024 23:17
Cobalt	ND	0.50	1	01/17/2024 23:17
Copper	ND	1.5	1	01/17/2024 23:17
Lead	ND	0.50	1	01/17/2024 23:17
Molybdenum	**2.6**	1.0	1	01/17/2024 23:17
Nickel	**1.6**	0.50	1	01/17/2024 23:17
Selenium	ND	0.50	1	01/17/2024 23:17
Silver	ND	0.50	1	01/17/2024 23:17
Thallium	ND	0.50	1	01/17/2024 23:17
Vanadium	**1.2**	0.50	1	01/17/2024 23:17
Zinc	ND	20	1	01/17/2024 23:17

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	107	70-130	01/17/2024 23:17

Analyst(s): DB

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW5030B
Date Prepared:	01/23/2024	**Analytical Method:**	SW8021B/8015Bm
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	**2401970-001B**	**Water**	**01/15/2024 14:45**	**GC3 01232429.D**	**286471**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	01/23/2024 21:55
MTBE	---	1.0	1	01/23/2024 21:55
Benzene	---	0.50	1	01/23/2024 21:55
Toluene	---	0.50	1	01/23/2024 21:55
Ethylbenzene	---	0.50	1	01/23/2024 21:55
m,p-Xylene	---	1.0	1	01/23/2024 21:55
o-Xylene	---	0.50	1	01/23/2024 21:55
Xylenes	---	0.50	1	01/23/2024 21:55

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	101	76-115	01/23/2024 21:55

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	**2401970-002B**	**Water**	**01/15/2024 12:45**	**GC3 01232430.D**	**286471**

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	01/23/2024 22:25
MTBE	---	1.0	1	01/23/2024 22:25
Benzene	---	0.50	1	01/23/2024 22:25
Toluene	---	0.50	1	01/23/2024 22:25
Ethylbenzene	---	0.50	1	01/23/2024 22:25
m,p-Xylene	---	1.0	1	01/23/2024 22:25
o-Xylene	---	0.50	1	01/23/2024 22:25
Xylenes	---	0.50	1	01/23/2024 22:25

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	100	76-115	01/23/2024 22:25

Analyst(s): IA

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW7470A
Date Prepared:	01/19/2024	**Analytical Method:**	SW7470A
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

Mercury by Cold Vapor Atomic Absorption

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	**2401970-001C**	**Water**	**01/15/2024 14:45**	**AA1 _34**	**286203**

Analytes	Result	RL	DF	Date Analyzed
Mercury	ND	0.20	1	01/22/2024 14:22

Analyst(s): DMA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	**2401970-002C**	**Water**	**01/15/2024 12:45**	**AA1 _04**	**286203**

Analytes	Result	RL	DF	Date Analyzed
Mercury	ND	0.20	1	01/22/2024 17:00

Analyst(s): DMA

NELAP 4033ORELAP

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Analytical Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Received:	01/16/2024 15:30	**Extraction Method:**	SW3510C
Date Prepared:	01/16/2024	**Analytical Method:**	SW8015B
Project:	403773004; Alameda Aquatic Center	**Unit:**	µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	**2401970-001B**	**Water**	**01/15/2024 14:45**	**GC6B 01222423.D**	**285964**

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	100	1	01/22/2024 16:19
TPH-Motor Oil (C18-C36)	ND	500	1	01/22/2024 16:19

Surrogates	REC (%)	Limits	
C9	77	53-149	01/22/2024 16:19

Analyst(s): JNG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	**2401970-002B**	**Water**	**01/15/2024 12:45**	**GC6A 01222422.D**	**285964**

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	100	1	01/22/2024 15:41
TPH-Motor Oil (C18-C36)	ND	500	1	01/22/2024 15:41

Surrogates	REC (%)	Limits	
C9	87	53-149	01/22/2024 15:41

Analyst(s): JNG

Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/22/2024	**BatchID:**	286330
Date Analyzed:	01/22/2024	**Extraction Method:**	SW5030B
Instrument:	GC45	**Analytical Method:**	SW8260D
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-286330

QC Summary Report for SW8260D

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	6.4	40	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.11	0.50	-	-	-
Benzene	ND	0.034	0.20	-	-	-
Bromobenzene	ND	0.090	0.50	-	-	-
Bromochloromethane	ND	0.14	0.50	-	-	-
Bromodichloromethane	ND	0.022	0.050	-	-	-
Bromoform	ND	0.10	0.50	-	-	-
Bromomethane	ND	0.26	0.50	-	-	-
2-Butanone (MEK)	ND	1.2	5.0	-	-	-
t-Butyl alcohol (TBA)	ND	1.4	5.0	-	-	-
n-Butyl benzene	ND	0.20	0.50	-	-	-
sec-Butyl benzene	ND	0.14	0.50	-	-	-
tert-Butyl benzene	ND	0.17	0.50	-	-	-
Carbon Disulfide	ND	0.14	0.50	-	-	-
Carbon Tetrachloride	ND	0.033	0.050	-	-	-
Chlorobenzene	ND	0.092	0.50	-	-	-
Chloroethane	ND	0.23	0.50	-	-	-
Chloroform	ND	0.015	0.10	-	-	-
Chloromethane	ND	0.18	0.50	-	-	-
2-Chlorotoluene	ND	0.11	0.50	-	-	-
4-Chlorotoluene	ND	0.11	0.50	-	-	-
Dibromochloromethane	ND	0.069	0.15	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0056	0.020	-	-	-
1,2-Dibromoethane (EDB)	ND	0.015	0.040	-	-	-
Dibromomethane	ND	0.12	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.11	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.12	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.11	0.50	-	-	-
Dichlorodifluoromethane	ND	0.15	0.50	-	-	-
1,1-Dichloroethane	ND	0.14	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.011	0.020	-	-	-
1,1-Dichloroethene	ND	0.0036	0.010	-	-	-
cis-1,2-Dichloroethene	ND	0.12	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.12	0.50	-	-	-
1,2-Dichloropropane	ND	0.029	0.20	-	-	-
1,3-Dichloropropane	ND	0.14	0.50	-	-	-
2,2-Dichloropropane	ND	0.20	0.50	-	-	-
1,1-Dichloropropene	ND	0.19	0.50	-	-	-

(Cont.)

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Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/22/2024	**BatchID:**	286330
Date Analyzed:	01/22/2024	**Extraction Method:**	SW5030B
Instrument:	GC45	**Analytical Method:**	SW8260D
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-286330

QC Summary Report for SW8260D

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.13	0.50	-	-	-
trans-1,3-Dichloropropene	ND	0.20	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.21	0.50	-	-	-
Ethylbenzene	ND	0.14	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.20	0.50	-	-	-
Freon 113	ND	0.13	0.50	-	-	-
Hexachlorobutadiene	ND	0.052	0.50	-	-	-
Hexachloroethane	ND	0.079	0.20	-	-	-
2-Hexanone	ND	0.23	0.50	-	-	-
Isopropylbenzene	ND	0.17	0.50	-	-	-
4-Isopropyl toluene	ND	0.22	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.14	0.50	-	-	-
Methylene chloride	ND	0.75	2.0	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.16	0.50	-	-	-
Naphthalene	ND	0.17	0.30	-	-	-
n-Propyl benzene	ND	0.14	0.50	-	-	-
Styrene	ND	0.16	2.0	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.14	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.018	0.020	-	-	-
Tetrachloroethene	ND	0.028	0.20	-	-	-
Toluene	ND	0.096	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.14	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.16	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.14	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.026	0.20	-	-	-
Trichloroethene	ND	0.030	0.50	-	-	-
Trichlorofluoromethane	ND	0.13	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.0030	0.0050	-	-	-
1,2,4-Trimethylbenzene	ND	0.17	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.14	0.50	-	-	-
Vinyl Chloride	ND	0.0027	0.0050	-	-	-
m,p-Xylene	ND	0.25	0.50	-	-	-
o-Xylene	ND	0.12	0.50	-	-	-

(Cont.)

Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/22/2024	**BatchID:**	286330
Date Analyzed:	01/22/2024	**Extraction Method:**	SW5030B
Instrument:	GC45	**Analytical Method:**	SW8260D
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-286330

QC Summary Report for SW8260D

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Surrogate Recovery						
Dibromofluoromethane	26			25	105	70-130
Toluene-d8	25			25	101	70-130
4-BFB	2.4			2.5	95	70-130

(Cont.)

Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/22/2024	**BatchID:**	286330
Date Analyzed:	01/22/2024	**Extraction Method:**	SW5030B
Instrument:	GC45	**Analytical Method:**	SW8260D
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-286330

QC Summary Report for SW8260D

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	32	37	40	81	92	60-130	12.9	20
tert-Amyl methyl ether (TAME)	3.5	3.8	4	88	96	60-130	8.14	20
Benzene	4.0	4.0	4	99	100	65-130	1.39	20
Bromobenzene	4.2	4.1	4	105	102	60-130	3.14	20
Bromochloromethane	4.3	4.5	4	108	113	65-130	3.93	20
Bromodichloromethane	4.0	4.2	4	100	105	60-130	4.66	20
Bromoform	3.3	3.5	4	83	87	70-130	4.73	20
Bromomethane	1.9	2.2	4	48,F2	55	50-130	13.9	20
2-Butanone (MEK)	13	15	16	84	93	60-130	10.5	20
t-Butyl alcohol (TBA)	13	14	16	79	89	50-130	12.7	20
n-Butyl benzene	4.6	4.5	4	115	113	60-130	1.70	20
sec-Butyl benzene	4.5	4.4	4	111	111	60-130	0.425	20
tert-Butyl benzene	4.5	4.4	4	113	110	60-130	2.44	20
Carbon Disulfide	4.3	4.3	4	108	109	60-130	0.118	20
Carbon Tetrachloride	4.5	4.5	4	111	112	70-130	0.658	20
Chlorobenzene	4.3	4.3	4	107	108	65-130	0.592	20
Chloroethane	3.3	3.3	4	83	82	60-140	1.31	20
Chloroform	4.2	4.3	4	106	108	70-130	1.51	20
Chloromethane	3.0	3.0	4	75	75	50-130	0.0255	20
2-Chlorotoluene	4.3	4.3	4	108	109	60-130	0.577	20
4-Chlorotoluene	4.3	4.3	4	108	109	60-130	0.577	20
Dibromochloromethane	4.0	4.2	4	99	104	70-130	5.07	20
1,2-Dibromo-3-chloropropane	1.8	2.0	2	90	101	50-130	11.4	20
1,2-Dibromoethane (EDB)	1.9	2.0	2	95	101	60-130	6.45	20
Dibromomethane	3.9	4.0	4	97	100	60-130	3.71	20
1,2-Dichlorobenzene	4.2	4.2	4	104	105	65-130	1.22	20
1,3-Dichlorobenzene	4.2	4.2	4	105	105	70-130	0.187	20
1,4-Dichlorobenzene	4.3	4.2	4	107	106	65-130	0.737	20
Dichlorodifluoromethane	3.1	3.1	4	77	77	40-140	0.494	20
1,1-Dichloroethane	4.1	4.2	4	104	104	70-130	0.274	20
1,2-Dichloroethane (1,2-DCA)	3.6	3.8	4	89	94	70-130	5.64	20
1,1-Dichloroethene	4.8	4.7	4	119	118	60-130	0.751	20
cis-1,2-Dichloroethene	4.5	4.5	4	112	113	60-130	0.975	20
trans-1,2-Dichloroethene	4.5	4.4	4	111	111	70-130	0.336	20
1,2-Dichloropropane	3.8	4.0	4	96	100	60-130	3.94	20
1,3-Dichloropropane	3.9	3.9	4	96	98	60-130	2.28	20
2,2-Dichloropropane	4.7	4.7	4	118	117	60-130	0.217	20
1,1-Dichloropropene	4.3	4.3	4	108	108	60-130	0.0190	20

(Cont.)

Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/22/2024	**BatchID:**	286330
Date Analyzed:	01/22/2024	**Extraction Method:**	SW5030B
Instrument:	GC45	**Analytical Method:**	SW8260D
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-286330

QC Summary Report for SW8260D

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	4.1	4.2	4	103	105	60-130	1.86	20
trans-1,3-Dichloropropene	3.9	4.0	4	98	101	60-130	2.90	20
Diisopropyl ether (DIPE)	3.5	3.6	4	87	90	60-130	3.77	20
Ethylbenzene	4.2	4.1	4	104	102	60-130	1.94	20
Ethyl tert-butyl ether (ETBE)	3.7	3.9	4	93	97	60-130	4.26	20
Freon 113	4.6	4.5	4	114	113	60-130	0.952	20
Hexachlorobutadiene	4.9	5.0	4	124	125	60-130	0.821	20
Hexachloroethane	3.1	3.1	4	78	76	50-130	2.16	20
2-Hexanone	2.8	3.2	4	71	80	50-130	12.1	20
Isopropylbenzene	4.4	4.3	4	109	108	60-130	0.629	20
4-Isopropyl toluene	4.5	4.4	4	113	110	60-130	2.45	20
Methyl-t-butyl ether (MTBE)	3.6	4.0	4	90	99	60-130	9.33	20
Methylene chloride	2.4	2.4	4	59,F2	61	60-130	2.01	20
4-Methyl-2-pentanone (MIBK)	2.8	3.2	4	70	80	50-130	12.6	20
Naphthalene	4.1	4.4	4	103	111	60-130	7.22	20
n-Propyl benzene	4.5	4.4	4	113	109	60-130	4.21	20
Styrene	3.8	3.8	4	95	96	60-130	0.970	20
1,1,1,2-Tetrachloroethane	4.1	4.2	4	102	104	60-130	2.18	20
1,1,2,2-Tetrachloroethane	3.5	3.8	4	87	95	60-130	9.18	20
Tetrachloroethene	4.7	4.7	4	118	117	70-130	0.743	20
Toluene	4.2	4.1	4	105	103	70-130	2.05	20
1,2,3-Trichlorobenzene	4.9	5.0	4	122	125	60-130	2.49	20
1,2,4-Trichlorobenzene	4.9	5.0	4	121	126	60-130	3.64	20
1,1,1-Trichloroethane	4.4	4.4	4	109	110	70-130	0.472	20
1,1,2-Trichloroethane	3.9	4.1	4	98	103	70-130	4.70	20
Trichloroethene	4.4	4.4	4	109	110	65-130	0.786	20
Trichlorofluoromethane	4.5	4.5	4	113	113	60-130	0.386	20
1,2,3-Trichloropropane	1.8	1.9	2	90	97	60-130	7.45	20
1,2,4-Trimethylbenzene	4.3	4.3	4	108	108	60-130	0.336	20
1,3,5-Trimethylbenzene	4.4	4.3	4	109	107	60-130	1.77	20
Vinyl Chloride	1.6	1.6	2	80	79	60-130	1.17	20
m,p-Xylene	8.8	8.8	8	109	110	60-130	0.463	20
o-Xylene	4.2	4.1	4	104	103	60-130	0.886	20

(Cont.)

Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/22/2024	**BatchID:**	286330
Date Analyzed:	01/22/2024	**Extraction Method:**	SW5030B
Instrument:	GC45	**Analytical Method:**	SW8260D
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-286330

QC Summary Report for SW8260D

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Surrogate Recovery								
Dibromofluoromethane	26	27	25	104	107	70-130	2.54	20
Toluene-d8	25	25	25	102	100	70-130	1.12	20
4-BFB	2.5	2.4	2.5	99	98	70-130	1.60	20

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Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/17/2024	**BatchID:**	285941
Date Analyzed:	01/17/2024 - 01/18/2024	**Extraction Method:**	SW3005
Instrument:	ICP-MS4, ICP-MS6	**Analytical Method:**	SW6020
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-285941

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Antimony	ND	0.084	0.50	-	-	-
Arsenic	ND	0.071	0.50	-	-	-
Barium	ND	0.52	5.0	-	-	-
Beryllium	ND	0.060	0.50	-	-	-
Cadmium	ND	0.050	0.50	-	-	-
Chromium	ND	0.78	2.0	-	-	-
Cobalt	ND	0.051	0.50	-	-	-
Copper	ND	0.63	1.5	-	-	-
Lead	ND	0.19	0.50	-	-	-
Molybdenum	ND	0.19	1.0	-	-	-
Nickel	ND	0.33	0.50	-	-	-
Selenium	ND	0.18	0.50	-	-	-
Silver	ND	0.051	0.50	-	-	-
Thallium	ND	0.067	0.50	-	-	-
Vanadium	ND	0.19	0.50	-	-	-
Zinc	ND	11	20	-	-	-
Surrogate Recovery						
Terbium	540			500	108	70-130

(Cont.)

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Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/17/2024	**BatchID:**	285941
Date Analyzed:	01/17/2024 - 01/18/2024	**Extraction Method:**	SW3005
Instrument:	ICP-MS4, ICP-MS6	**Analytical Method:**	SW6020
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-285941

QC Summary Report for Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Antimony	51	51	50	101	102	85-115	1.15	20
Arsenic	54	55	50	107	109	85-115	1.93	20
Barium	530	540	500	106	107	85-115	1.09	20
Beryllium	53	53	50	105	106	85-115	0.844	20
Cadmium	54	51	50	107	103	85-115	4.18	20
Chromium	52	53	50	105	105	85-115	0.405	20
Cobalt	54	54	50	108	107	85-115	0.351	20
Copper	54	55	50	108	109	85-115	1.08	20
Lead	52	53	50	104	105	85-115	1.33	20
Molybdenum	51	52	50	101	103	85-115	2.12	20
Nickel	54	55	50	108	109	85-115	1.56	20
Selenium	55	55	50	110	110	85-115	0.257	20
Silver	52	53	50	104	105	85-115	1.60	20
Thallium	53	54	50	106	108	85-115	1.90	20
Vanadium	53	54	50	107	109	85-115	1.82	20
Zinc	540	550	500	109	110	85-115	1.19	20
Surrogate Recovery								
Terbium	550	550	500	110	110	70-130	0.463	20

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Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/23/2024	**BatchID:**	286471
Date Analyzed:	01/23/2024	**Extraction Method:**	SW5030B
Instrument:	GC3	**Analytical Method:**	SW8021B/8015Bm
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-286471

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	14	50	-	-	-
MTBE	ND	0.23	1.0	-	-	-
Benzene	ND	0.093	0.50	-	-	-
Toluene	ND	0.11	0.50	-	-	-
Ethylbenzene	ND	0.093	0.50	-	-	-
m,p-Xylene	ND	0.16	1.0	-	-	-
o-Xylene	ND	0.089	0.50	-	-	-
Surrogate Recovery						
aaa-TFT	11			10	112	74-117

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	60	59	60	101	99	78-116	1.53	20
MTBE	10	10	10	103	104	72-122	1.72	20
Benzene	10	11	10	104	106	81-123	2.38	20
Toluene	10	10	10	103	105	83-129	2.14	20
Ethylbenzene	10	11	10	103	105	88-126	2.20	20
m,p-Xylene	21	22	20	106	108	80-120	1.74	20
o-Xylene	10	11	10	105	107	80-120	1.57	20
Surrogate Recovery								
aaa-TFT	9.9	9.9	10	99	99	74-117	0.843	20

Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/19/2024	**BatchID:**	286203
Date Analyzed:	01/22/2024	**Extraction Method:**	SW7470A
Instrument:	AA1	**Analytical Method:**	SW7470A
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-286203

QC Summary Report for Mercury

Analyte	MB Result	MDL	RL			
Mercury	ND	0.13	0.20	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Mercury	1.9	1.9	2	93	94	85-115	0.552	20

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Quality Control Report

Client:	Ninyo & Moore	**WorkOrder:**	2401970
Date Prepared:	01/16/2024	**BatchID:**	285964
Date Analyzed:	01/24/2024	**Extraction Method:**	SW3510C
Instrument:	GC39A	**Analytical Method:**	SW8015B
Matrix:	Water	**Unit:**	µg/L
Project:	403773004; Alameda Aquatic Center	**Sample ID:**	MB/LCS/LCSD-285964

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	54	100	-	-	-
TPH-Motor Oil (C18-C36)	ND	160	500	-	-	-
Surrogate Recovery						
C9	510			625	82	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	1100	1100	1000	110	108	70-130	1.36	20
Surrogate Recovery								
C9	530	520	625	85	83	70-130	1.76	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 2401970 **ClientCode: NMO**

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

Report to:
Sean Igoe
Ninyo & Moore
1301 Marina Village Parkway, Suite 110
Alameda, CA 94501
(925) 708-2775 FAX: (510) 633-5646

Email: sigoe@ninyoandmoore.com
cc/3rd Party: bbusch@ninyoandmoore.com;
PO:
Project: 403773004; Alameda Aquatic Center

Bill to:
Accounts Payable
Ninyo & Moore
1301 Marina Village Parkway, Suite 110
Alameda, CA 94501
bbusch@ninyoandmoore.com

Requested TAT: **5 days;**

Date Received: **01/16/2024**
Date Logged: **01/16/2024**

Lab ID	ClientSampID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
					Requested Tests (See legend below)											
2401970-001	MW-1	Water	1/15/2024 14:45	☐	A	C	B	C	A	B						
2401970-002	MW-2	Water	1/15/2024 12:45	☐	A	C	B	C	A	B						

Test Legend:

1	8260_W	2	CAM17MS_6020_TTLC_W	3	G-MBTEX_W	4	HG_7470A_W
5	PRDisposal Fee	6	TPH(DMO)_W	7		8	
9		10		11		12	

Project Manager: Jennifer Lagerbom **Prepared by: Adrianna Cardoza**

The following SampIDs: 001B, 002B contain testgroup Multi Range_W.

Comments:

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

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WORK ORDER SUMMARY

Client Name: NINYO & MOORE **Project:** 403773004; Alameda Aquatic Center **Work Order:** 2401970

Client Contact: Sean Igoe **QC Level:** LEVEL 2

Contact's Email: sigoe@ninyoandmoore.com **Comments:** **Date Logged:** 1/16/2024

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

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	U**	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	Sub Out
001A	MW-1	Water	SW8260D (VOCs)	2	VOA w/ HCl				1/15/2024 14:45	5 days	1/23/2024	None		
001B	MW-1	Water	Multi-Range TPH Gas, Diesel, and Motor Oil	4	2 VOAs w/HCL + 2-aVOAs (multi-range)				1/15/2024 14:45	5 days	1/23/2024	None		
001C	MW-1	Water	SW7470A (Mercury)	1	250mL HDPE w/ HNO3				1/15/2024 14:45	5 days	1/23/2024	None		
			SW6020 (CAM 17) <Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc>							5 days	1/23/2024	None		
002A	MW-2	Water	SW8260D (VOCs)	2	VOA w/ HCl				1/15/2024 12:45	5 days	1/23/2024	None		
002B	MW-2	Water	Multi-Range TPH Gas, Diesel, and Motor Oil	4	2 VOAs w/HCL + 2-aVOAs (multi-range)				1/15/2024 12:45	5 days	1/23/2024	None		
002C	MW-2	Water	SW7470A (Mercury)	1	250mL HDPE w/ HNO3				1/15/2024 12:45	5 days	1/23/2024	None		

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

- ISM prep requires 5 to 10 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 6 to 11 days from sample submission). Due date listed on WO summary will not accurately reflect the time needed for sample preparation.

- Organic extracts are held for 40 days before disposal; Inorganic extract are held for 30 days.

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

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

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WORK ORDER SUMMARY

Client Name: NINYO & MOORE | **Project:** 403773004; Alameda Aquatic Center | **Work Order:** 2401970
Client Contact: Sean Igoe | **QC Level:** LEVEL 2
Contact's Email: sigoe@ninyoandmoore.com | **Comments:** | **Date Logged:** 1/16/2024

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

LabID	ClientSampID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	U**	Head Space	Dry-Weight	Collection Date & Time	TAT	Test Due Date	Sediment Content	Hold	Sub Out
002C	MW-2	Water	SW6020 (CAM 17) <Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc>	1	250mL HDPE w/ HNO3	☐	☐	☐	1/15/2024 12:45	5 days	1/23/2024	None	☐	☐

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

- ISM prep requires 5 to 10 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 6 to 11 days from sample submission). Due date listed on WO summary will not accurately reflect the time needed for sample preparation.

- Organic extracts are held for 40 days before disposal; Inorganic extract are held for 30 days.

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

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

General COC

MAI Work Order # 2401970

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CHAIN OF CUSTODY RECORD

Turn Around Time: 1-Day Rush		2 Day Rush		3 Day Rush		STD	X	Quote #	
J-Flag / MDL		ESL		Cleanup Approved		Dry Weight		Bottle Order #	
Delivery Format:	PDF		GeoTracker EDF		EDD		Write On (DW)		Detect Summary

Report To: Ninyo and Moore Bill To: Brian Busch
Company: Ninyo and Moore
Email: ~~Sigoe@g~~ Sigoe@ninyoandmoore.com
Alt Email: Bbusch@ninyoandMoore Tele:
Project Name: Alameda Aquatic Cen Project #: 403773004
Project Location: Alameda PO #
Sampler Signature: [signature]

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	VOCs by 8260	TPHg, TPHd, TPHmo 8015	CAM 17 metals 6010B/7470
MW-1	1/15/24	14:45	6 7	GW	HCl	X	X	X
MW-2	1/15/24	12:45	6 7	GW	HCl	X	X	X

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
[signature]			[signature] / MAI	1/16/24	1300
[signature] / MAI	1/16/24	1530	[signature]	1.16.24	1530

Comments / Instructions

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 1.1 °C IR+. Initials [initials]

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Sample Receipt Checklist

Client Name:	Ninyo & Moore	Date and Time Received:	1/16/2024 15:30
Project:	403773004; Alameda Aquatic Center	Date Logged:	1/16/2024
		Received by:	Adrianna Cardoza
WorkOrder №:	2401970 Matrix: Water	Logged by:	Adrianna Cardoza
Carrier:	Antonio Mason (MAI Courier)		

Chain of Custody (COC) Information

	Yes	No	NA
Chain of custody present?	☑	☐	
Chain of custody signed when relinquished and received?	☑	☐	
Chain of custody agrees with sample labels?	☑	☐	
Sample IDs noted by Client on COC?	☑	☐	
Date and Time of collection noted by Client on COC?	☑	☐	
Sampler's name noted on COC?	☑	☐	
COC agrees with Quote?	☐	☐	☑

Sample Receipt Information

	Yes	No	NA
Custody seals intact on shipping container/cooler?	☐	☐	☑
Custody seals intact on sample bottles?	☑	☐	☐
Shipping container/cooler in good condition?	☑	☐	
Samples in proper containers/bottles?	☑	☐	
Sample containers intact?	☑	☐	
Sufficient sample volume for indicated test?	☑	☐	

Sample Preservation and Hold Time (HT) Information

	Yes	No	NA
All samples received within holding time?	☑	☐	☐
Samples Received on Ice? (Ice Type: WET ICE)	☑	☐	
Sample/Temp Blank temperature	Temp: 1.1°C		☐
ZHS conditional analyses: VOA meets zero headspace requirement (VOCs, TPHg/BTEX, RSK)?	☑	☐	☐
Sample labels checked for correct preservation?	☑	☐	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	☑	☐	☐

UCMR Samples:

	Yes	No	NA
pH tested and acceptable upon receipt (200.7: ≤2; 533: 6 - 8; 537.1: 6 - 8)?	☐	☐	☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L) [not applicable to 200.7]?	☐	☐	☑

Comments:

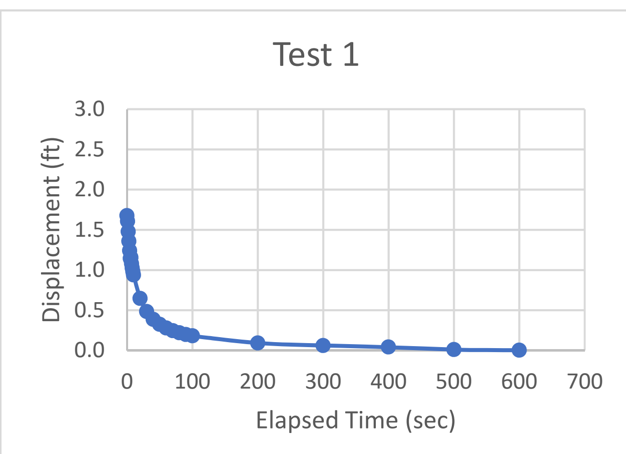
APPENDIX C

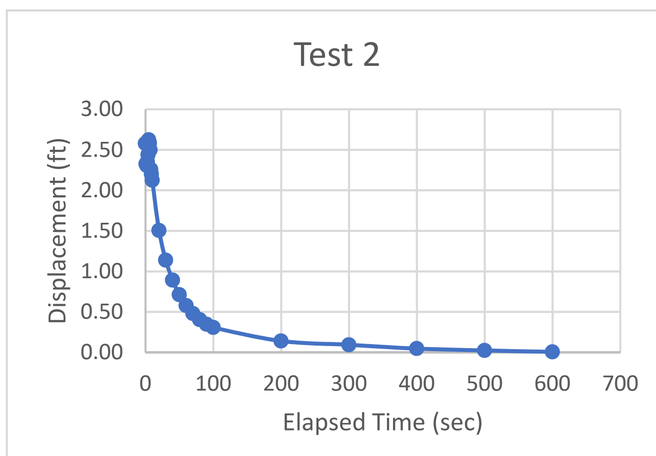
Groundwater Modelling Data

Formatted Hydraulic Test Data and Graphic Plots

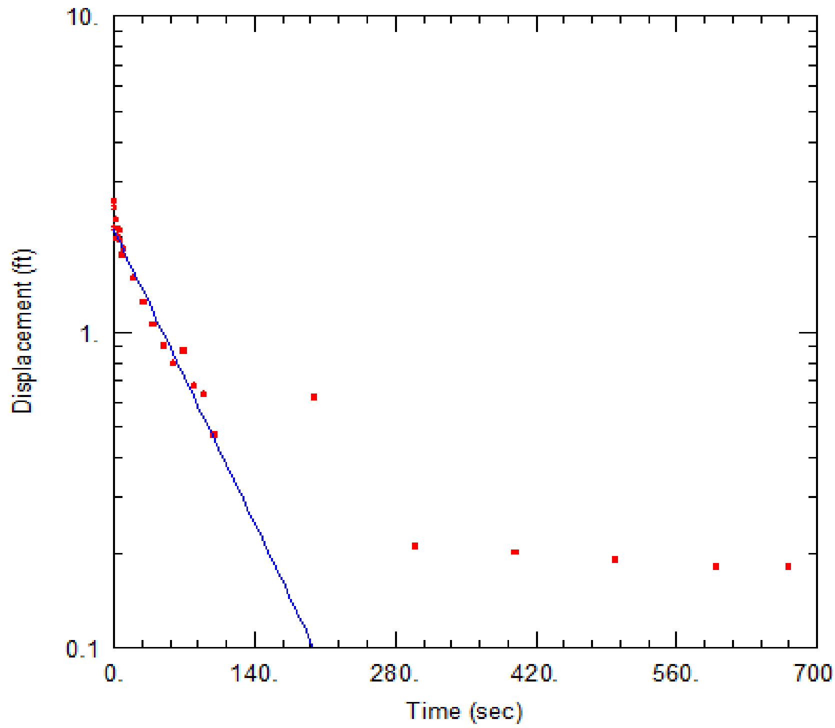
Test 1		
Elapsed Time (sec)	Reading (ft)	Displacement (ft)
0	53.11	1.68
1	53.18	1.61
2	53.30	1.48
3	53.43	1.36
4	53.54	1.24
5	53.64	1.14
6	53.63	1.15
7	53.71	1.08
8	53.76	1.02
9	53.80	0.98
10	53.84	0.94
20	54.14	0.65
30	54.30	0.48
40	54.40	0.39
50	54.46	0.32
60	54.50	0.28
70	54.54	0.25
80	54.56	0.22
90	54.59	0.20
100	54.60	0.18
200	54.69	0.09
300	54.72	0.06
400	54.74	0.04
500	54.75	0.01
600	54.76	0.00

Test 2		
Elapsed Time (sec)	Reading (ft)	Displacement (ft)
0	52.15	2.58
1	52.40	2.32
2	52.42	2.31
3	52.37	2.35
4	52.28	2.44
5	52.10	2.62
6	52.14	2.58
7	52.22	2.50
8	52.46	2.26
9	52.52	2.20
10	52.60	2.12
20	53.22	1.50
30	53.58	1.14
40	53.83	0.89
50	54.01	0.71
60	54.14	0.58
70	54.24	0.48
80	54.32	0.41
90	54.37	0.35
100	54.42	0.31
200	54.58	0.14
300	54.63	0.09
400	54.67	0.05
500	54.70	0.03
600	54.72	0.01





Output for Hydraulic Conductivity Analyses - Low Value



WELL TEST ANALYSIS

Data Set:
Date: 03/06/24   Time: 13:12:03

PROJECT INFORMATION

Company: Ninyo & Moore
Client: CoAlameda
Project: 403773006
Location: Alameda
Test Well: MW-1

AQUIFER DATA

Saturated Thickness: 22.5 ft   Anisotropy Ratio (Kz/Kr): 0.1

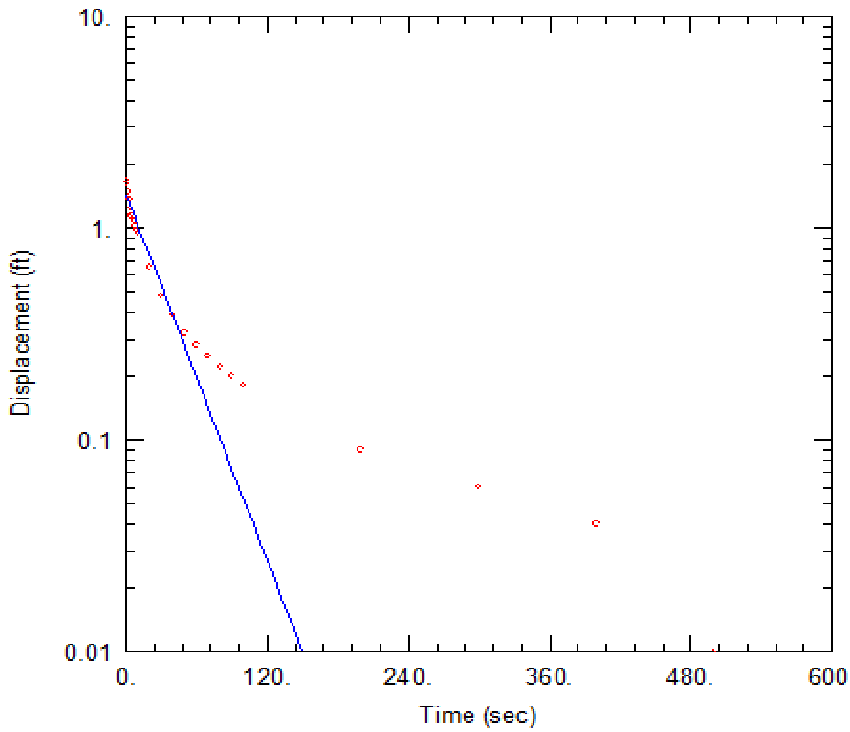
WELL DATA (New Well)

Initial Displacement: 2.59 ft   Static Water Column Height: 22.5 ft
Total Well Penetration Depth: 25.25 ft   Screen Length: 20. ft
Casing Radius: 0.0833 ft   Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined   Solution Method: Bouwer-Rice
K = 1.299 ft/day   y0 = 2.099 ft

Output for Hydraulic Conductivity Analyses - High Value



WELL TEST ANALYSIS

Data Set:
Date: 03/06/24 Time: 14:18:15

PROJECT INFORMATION

Company: Ninyo & Moore
Client: CoAlameda
Project: 403773006
Location: Alameda
Test Well: MW-2

AQUIFER DATA

Saturated Thickness: 22.5 ft Anisotropy Ratio (Kz/Kr): 0.1

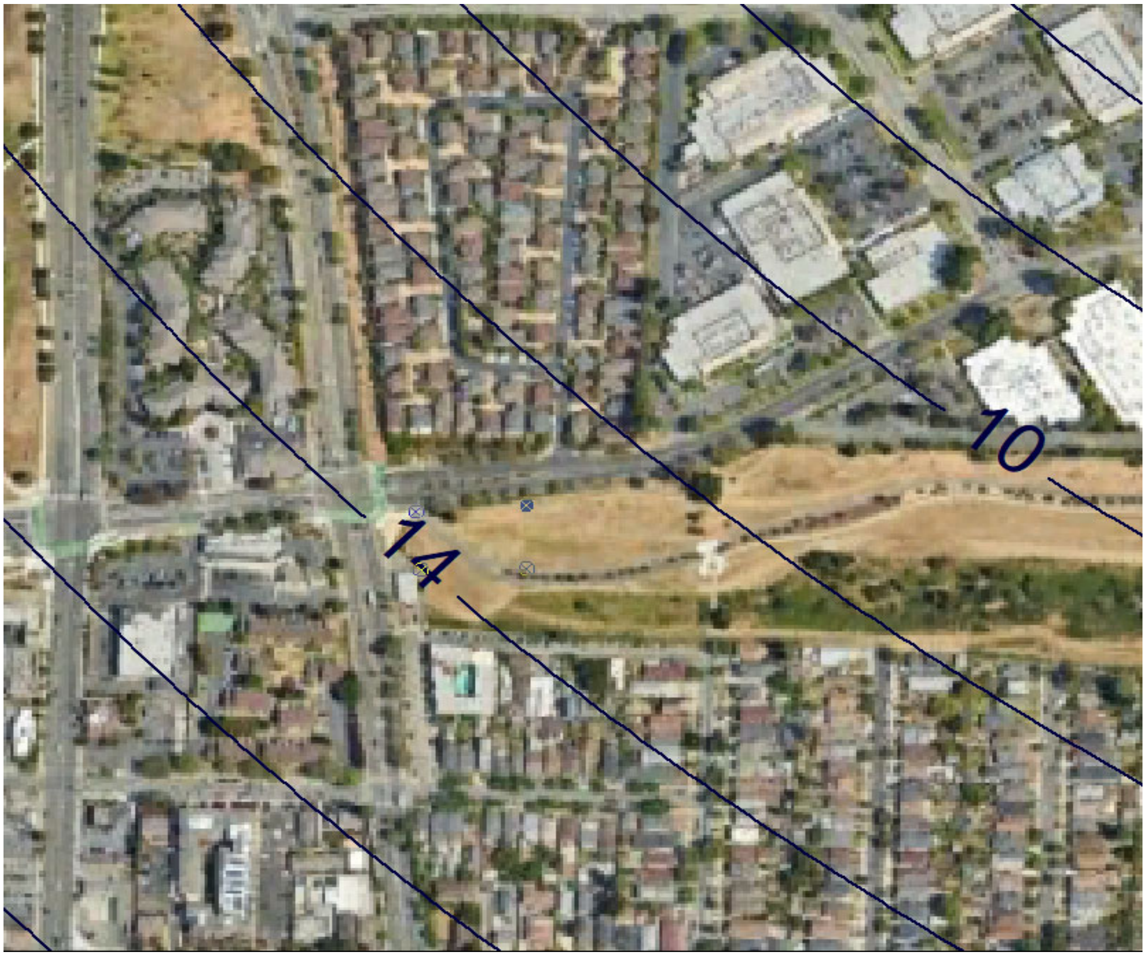
WELL DATA (New Well)

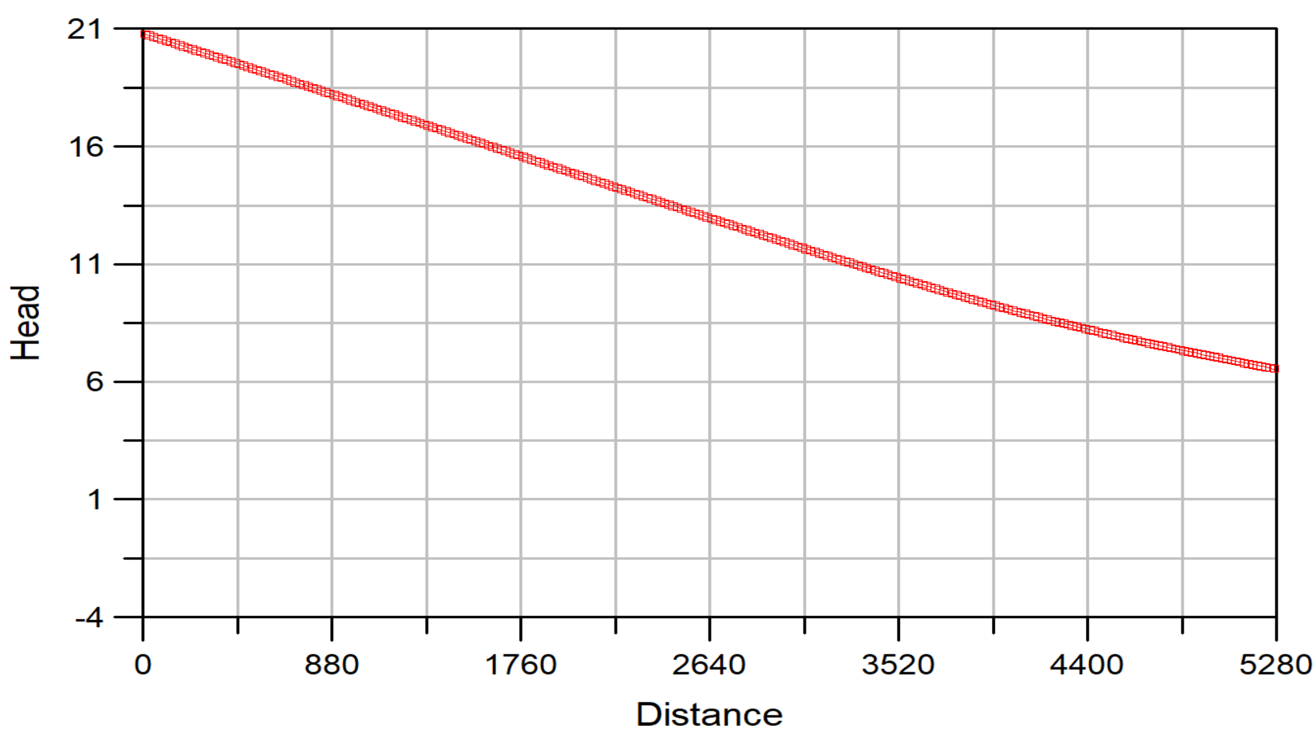
Initial Displacement: 1.68 ft Static Water Column Height: 24.7 ft
Total Well Penetration Depth: 25.25 ft Screen Length: 20. ft
Casing Radius: 0.0833 ft Well Radius: 0.0833 ft

SOLUTION

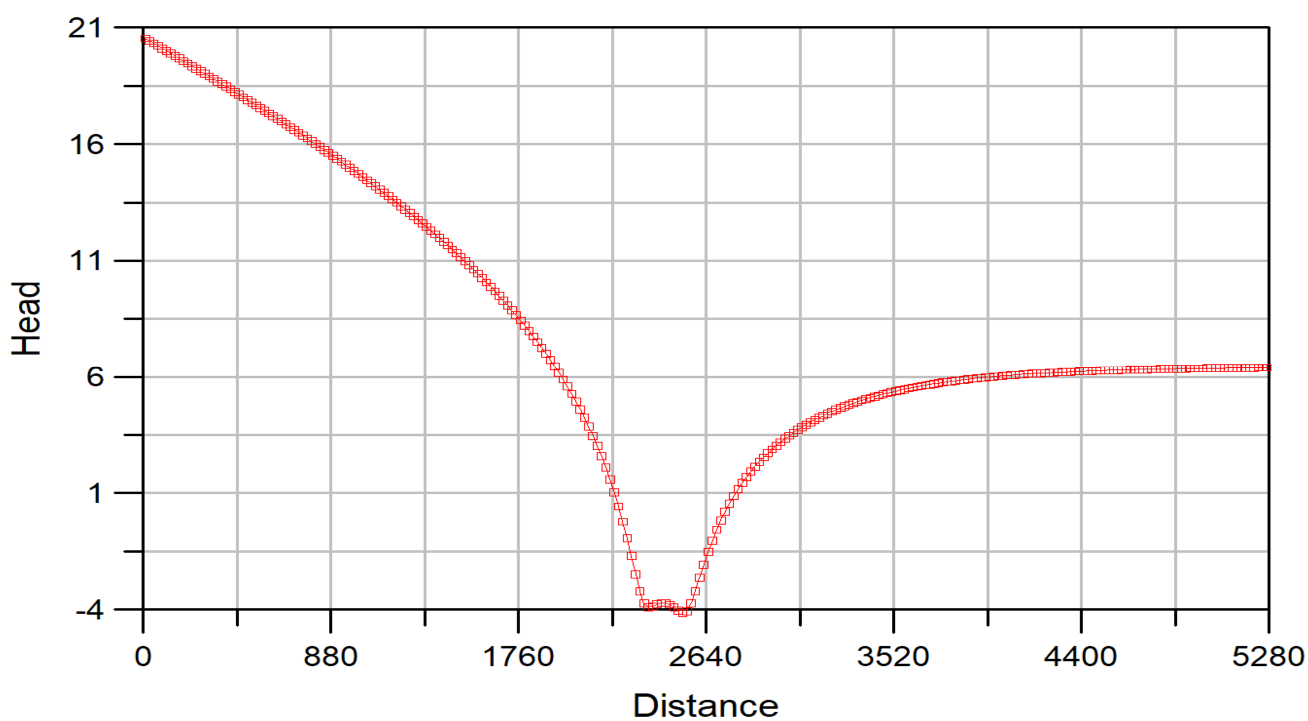
Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 2.83 ft/day y0 = 1.442 ft

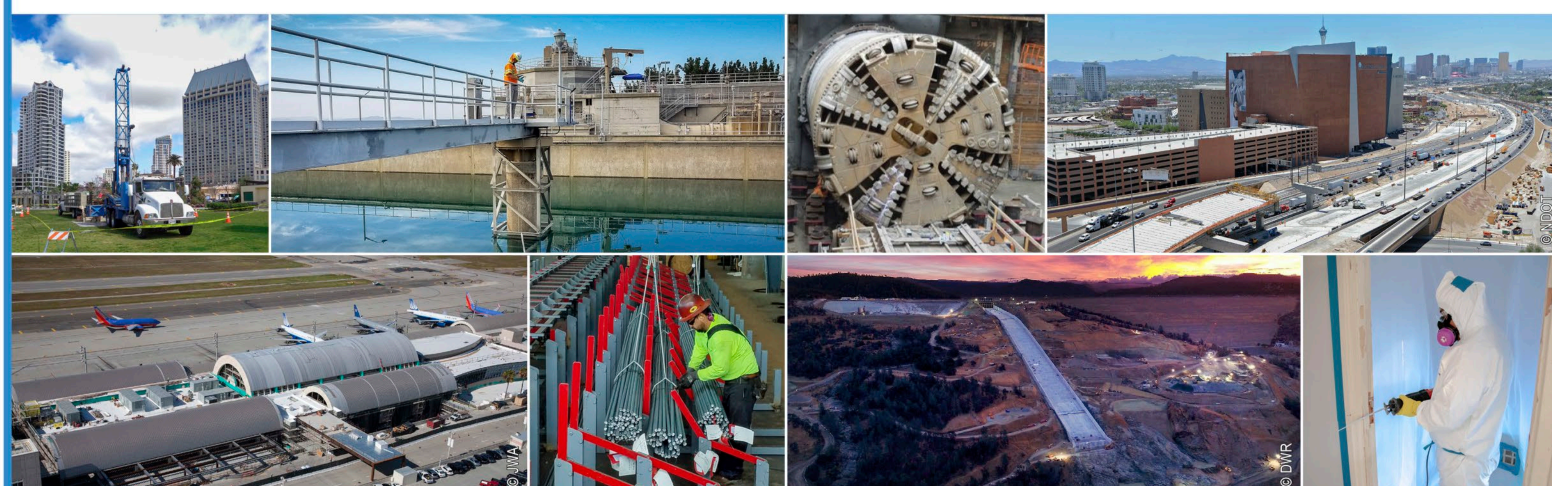
Groundwater Model Static Water Level Contours and Profile





Groundwater Model Pumping Water Level Contours and Profile





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ninyoandmoore.com

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

Appendix D:
Removal Action Report

Jean Sweeney Open Space Park

Removal Action Completion Report

Prepared for: City of Alameda

Client Ref: 102.01422.00001

April 2018

Revised - July 2018

Removal Action Completion Report

Prepared for:

City of Alameda
2263 Santa Clara Ave.
Alameda, California 94501

This document has been prepared by SLR International Corporation. The material and data in this report were prepared under the supervision and direction of the undersigned.

Perth Silvers
Staff Scientist

PROFESSIONAL GEOLOGIST
MARK SEAN TREVOR
No. 8146
3/31/20
STATE OF CALIFORNIA

Mark Trevor, P.G.
Senior Geologist

CONTENTS

FIGURES

TABLES

APPENDICES

ACRONYMS

ARARs	Applicable or Relevant and Appropriate Requirements
ABL	Alameda Belt Line
ACEH	Alameda County Environmental Health
AOPC	Area of Potential Concern
ASTs	Aboveground Storage Tanks
bgs	below ground surface
CLS	CLS Environmental Services
CCR	California Code of Regulations
COCs	Chemical of Concern
DTSC	Department of Toxic Substances Control
DTSC SLs	Department of Toxic Substances Control Modified Screening Levels
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
ESLs	Environmental Screening Levels
HHRA	Human Health Risk Assessment
HERO	Human and Ecological Risk
HSP	Health and Safety Plan
JSOSP	Jean Sweeney Open Space Park
OSHA	Occupational Safety and Health Administration
PAHs	Polynuclear Aromatic Compounds
PEA	Prior Environmental Assessment
P.G.	Professional Geologist
RAOs	Remedial Action Objectives
RAW	Removal Action Workplan
RECs	Recognized Environmental Conditions
RI	Remedial Investigation
SGCU	Silica Gel Cleanup
SLR	SLR International Corporation
TBC	To Be Considered
TCE	Trichloroethylene
TSI	Targeted Site Investigation
TPH	Total Petroleum Hydrocarbons
TPH-D	TPH as Diesel
TPH-G	TPH as Gasoline
TPH-MO	TPH as Motor Oil
URSGWC	URS/Greiner Woodward Clyde
USCS	Unified Soil Classification System
USGS	United States Geological Survey
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

1. INTRODUCTION

1.1 PURPOSE

On behalf of The City of Alameda, SLR International Corporation (SLR) has prepared this Removal Action Completion Report (RACR) documenting the results of the soil removal activities performed at Jean Sweeney Open Space Park (JSOSP) located at 1925 Sherman Ave in Alameda, California (Figure 1, Site). The removal action was performed in accordance with the Final Removal Action Work plan (RAW), dated December 7, 2016 (SLR International Corp., SLR, 2016), which was approved by the Department of Toxic Substances Control (DTSC) on December 6, 2016.Removal activities consisted of the excavation of petroleum hydrocarbon contaminated soil in the western side of the Site and shallow lead-contaminated soil in the eastern side of the Site.

1.2 PROJECT OBJECTIVES

Project objectives were established that are protective of human health and the environment and reduce the potential for exposure to the COCs in media encountered at the Site. These include:

- Minimize or eliminate potential exposure of humans to contaminants at the site; these are primarily petroleum hydrocarbons and lead through direct contact or ingestion.
- Reduce the human health-based risks associated with onsite lead and petroleum hydrocarbon contamination in soil to a level that is acceptable for recreational land use. Commercial DTSC screening levels and EPA Regional Screening Levels (in the absence of DTSC screening levels) are protective of this land use.
- Provide for a Site that can be redeveloped for recreational/park use.
- Minimize the potential for chemicals of concern in soil to impact groundwater.
- Remove residual railroad ties which could be a potential source of creosote or PAHs to soil or groundwater
- Remove residual debris associated with the former operations or tenants
- Remove sub-surface concrete structures related to the maintenance pits and the Wood Street foundation.

2. BACKGROUND

2.1 OVERVIEW

The Site consists of 27 acres of land comprised of several parcels of a former rail yard and maintenance facility. The Site is located within ¼ mile of the Oakland Inner Harbor portion of the San Francisco Bay. The planned development for the Site is a public park with a bike path, walking path, and greenspace by the City of Alameda.

Prior to construction activities the Site was vacant and almost all the original structures had been removed in preparation for building the park. Several concrete pads, foundations likely from a former housing development, and other ruins remained on the Site.

2.2 SITE HISTORY

The Site was historically operated as a rail yard and maintenance facility by the Alameda Belt Line railway (ABL). In 1918, the City of Alameda owned the Site and reportedly constructed a belt line railroad on the Site. It was initially managed by the City's Board of Public Utilities and operated by Southern Pacific Railroad. In 1924, the City entered into a contract (the "1924 Agreement") with Western Pacific Railroad Company and Atchison, Topeka and Santa Fe Railway Company, with ABL acting as the belt line operator.

Box cars, open top gondolas, flat cars, and tank cars, primarily from customers within the network of rail spurs between Grand Avenue and Sherman Street, utilized the tracks. The rail yard parcels were developed with several buildings as early as 1949. The maintenance building and one other building reportedly were located at the west end of the parcels. Maintenance cranes with two underlying maintenance pits were located within the maintenance building, with railroad tracks running into the building to provide access for the rail cars.

The placement of tracks appears to be extensive as early as 1939 (see aerial photography in Blackie, 2010). By 1946, 75% of the yard was occupied by rail lines, spurs or other tracks. Only the southwestern portion of the rail yard appears to be unoccupied by tracks. This suggests that the majority of the rail yard was also covered in several feet of ballast as early as the 1940's.

Several smaller structures and two aboveground storage tanks (ASTs) were also observed in the vicinity of the maintenance building. One AST reportedly was a diesel tank and the second was thought to contain water. By 1959, two additional buildings were present on the eastern side of the property, a Yard House, and a small shed (Figure 2, RAW). Soil piles were reportedly visible on the property in a 1969 aerial photograph, URS/Greiner Woodward Clyde (URSGWC, 1999a). The maintenance building burned in 1980 and the Yard House was relocated in the early 1990s, to facilitate realignment of adjacent Sherman Street.

ABL reportedly ceased operation of the belt line on the Site in 1998. In 1999, the City of Alameda began proceedings to repurchase the ABL property under terms outlined in the 1924 agreement, completing the property transaction in 2010. Union Pacific Railroad continued to run cars until 2001 (Blackie, 2010). The majority of the railroad ties were removed from the parcels in 2004 and 2005; the rails having been removed prior to that time (presumably between 2001 and 2004). The maintenance pits are believed to have been filled (TSI, 2014). Debris remaining on the Site, including debris illegally dumped, also was removed at that time. It is unclear when the majority of the ballast rock was removed. It was reportedly sampled by URS in 1999, but more recent observations (Blackie, 2010, TSG, 2014, and SLR in 2015) all indicate a mix of coarse rock and silt on the surface with significant young vegetation. This suggests the majority of the "clean" ballast rock had been stripped away. Areas of debris, concrete and asphalt rubble; assorted trash and rail ties remain across the parcel as of late 2015.

The northern portion of the Site was not occupied by rail lines or other railyard buildings. A strip of land approximately 100-ft wide (north-south) and extending the entire east-west length of the Site was occupied by rectangular buildings associated with what appears in aerial photos to be a shipbuilding employee housing development. This use is consistent with known operations of the Alameda Works Shipyard, which was located north of the Site in what is now the Marina Village development. The Alameda Works Shipyard (later Bethlehem Shipbuilding Corporation) was one of the largest wartime shipyards in the country and included on-site worker housing. The yard closed in 1956. Several of the concrete pads associated with the former buildings were still visible in the northeast portion of the Site (see Figure 2, RAW). This area was used for tenant storage until the late 1980's, but the majority of the former development appears to have been a vacant lot from the 1950s to present.

2.3 REGIONAL AND LOCAL GEOLOGY AND HYDROLOGY

The Site is located along the eastern margin of the San Francisco Bay, at an elevation of approximately 16 feet above mean sea level (USGS, 1980). Previous investigations conducted at the Site indicate that the subsurface consists of fill material, which is underlain, in turn, by Bay Mud and sand deposits to depths of greater than 200 feet (URS Greiner Woodward Clyde [URSGWC], 1999b). The fill material, consisting of sandy clay and coarse ballast gravel at the surface, is up to 5.0 feet thick and reportedly increases in thickness from south to north. Beneath the fill, the soil types encountered at the Site consist of fine-grained silts and clays, and coarse-grained sands and gravels to depths of approximately 16 bgs.

Groundwater at the Site occurs at depths ranging from approximately 4 to 8 bgs. In some areas (e.g. the Wood Street Foundation) saturated soil was not encountered as deep as 15 bgs. However, in the Maintenance Area, groundwater was encountered at 4 bgs. Due to the man-made surface grade and heterogeneous nature of shallow soil, it is probable that perched groundwater zones are present in some areas. Based on hydrogeological information available from nearby sites (CRA, 2013 and AARS, 2004, SLR 2016), groundwater in the vicinity of the Site occurs at a depth of approximately 5 to 7 bgs. Groundwater flow beneath the Site may be variable, but based on the above referenced reports is likely to flow north to northwest in the direction of the nearest surface water body.

Site characterization has revealed the presence of chemicals of potential concern in soil and groundwater at the Site. Removal Action Objectives (RAOs) have been developed based upon the current environmental conditions and reasonably anticipated future uses of the Site.

3. PREVIOUS ENVIRONMENTAL WORK

A summary of previous Site activities and results are discussed in the sections below.

3.1 PHASE I ENVIRONMENTAL ASSESSMENT

A Phase I Environmental Site Assessment conducted by URS/Greiner Woodward Clyde (URSGWC) in 1999 (URSGWC, 1999a). Recognized environmental concerns identified by the URSGWC Phase I assessment included: historical use of paint, gasoline and diesel, waste oil, solvents, and lubricating fluids, possible release of hazardous materials in maintenance pit at west end of the Site, suspected petroleum stained surface soils in location of former rail spurs into maintenance building, petroleum stains in tenant spaces, stains in ballast rock areas in rail yard, potential hazardous materials in stockpiles of soil along northern portion of Site, possible lead-based paint on marine equipment within one tenant space, and a potential fuel release from a former UST. No other reference to this former UST was found in the report. Soil, ballast rock, stockpiled soil, and groundwater characterization were recommended, as was an asbestos survey of the Yard House building.

In 2010, the City of Alameda retained Belinda Blackie to perform a Phase I ESA of the Alameda Belt Line Parcels. The assessment included nine non-contiguous parcels, comprising approximately 39 acres of land. The assessment included a number of Recognized Environmental Conditions (REC)s. Only those related to the Site are presented here:

- The possible presence of impacted soil near the former railroad tracks; the possible presence of impacted soil where the historic ABL maintenance building burned;
- The possible presence of elevated concentrations of lead and arsenic in dredge fill materials placed on Site parcels;
- The possible presence of contaminants on the rail yard parcels, resulting from the import of potentially impacted soil from other vicinity properties.

3.2 PEA, RI, AND SITE INVESTIGATION REPORTS

A 1999 Phase II report (URSGWC 1999b), summarized results of soil and groundwater characterization activities conducted to follow up on potential concerns identified by the earlier Phase I assessment. Phase II activities consisted of the advancement of 12 borings. At each boring location, soil samples were collected at the surface (0 to 1 bgs) and subsurface (2 to 3 feet bgs). The soil samples were generally spread across the Site, however two soil samples were collected outside the concrete slab footprint associated with the Maintenance Pits and two were collected on the east and west side of the former AST.

A 1999 remedial investigation report (URSGWC, 1999c) summarized results of additional ballast rock and groundwater characterization activities conducted to evaluate the extent of impacted media detected in the previous Phase II investigation. The investigation included analysis of 14 additional ballast rock samples in the general location of the sample previously demonstrating an elevated concentration of lead; analysis of five additional grab groundwater samples collected in the general location of the sample previously containing elevated diesel and motor oil concentrations; and analysis of five additional grab groundwater samples collected in the general location of the sample previously containing the elevated chlorinated hydrocarbons cis- and trans-1,2-DCE and TCE.

The remedial investigation report recommended no further evaluation of ballast rock or petroleum hydrocarbons and chlorinated solvents in groundwater where previously detected. The report did recommended removal of the remaining rail ties and tenant materials and demolition of the two maintenance pits, followed by collection of soil and possibly groundwater samples from the vicinity of the pits. There is no documentation that any of the recommendations were implemented.

In 2014, a Targeted Site Investigation conducted a targeted soil and groundwater investigation focusing on 6 Areas of Potential Concern (AOPCs). The TSI concluded that the only remaining constituents of concern at the Site are TPH-D, TPH-MO and lead in isolated Site soils and that previous groundwater contamination had attenuated. The report recommended either soil removal in the isolated areas of contaminant exceedance (specifically, portions of the former tenant area, maintenance building, AST area and yard area); or in-place management of contaminated soil via capping. The report recommended no further action relating to groundwater[1].

3.3 OTHER SITE CHARACTERIZATION EFFORTS

In October 2006, CLS Environmental Services (CLS) responded to a spill along the north-eastern edge of the Alameda Belt Line Railway Site. CLS observed two overturned 55-gallon drums which had released approximately 100-gallons of waste oil/hydraulic oil onto Site soils. According to the report, the spill appeared to encompass an area that extended approximately 27 feet from the point of origin. The exact location of the spill event as documented in the April 2007 Report is not precisely known. A backhoe was used to excavate approximately 90 tons of impacted soils. Impacted soil was transported under hazardous materials waste manifest by MP Environmental and disposed of at Chemical Waste Management's facility in Kettleman City, CA. The excavation cavity was then backfilled with soil stockpiled in another area of the Site. The location of the spill is shown approximately on a map. None of the borings were surveyed. The map does not have any other features that may help approximate the location of the spill.

A Remedial Investigation (RI) work plan was approved by DTSC in April 2016 for further Site characterization in advance of removal action activities. The work plan preparation process resulted in the delineation of a number of Areas of Potential Concern, with which future Site investigation could be conducted. The AOPCs defined for the 2016 RI followed from those developed during the 2014 Targeted Site Investigation and are as follows:

- Former Maintenance Yard Area Consisting of:
  - Former 20,000-Gallon Aboveground Storage Tank (AST) (Combined with Former Maintenance Building)
  - Former Maintenance Building (combined with AST Area)

[1] SLR conducted its Remedial Investigation Work Plan (Workplan) dated April 6, 2016 to verify the state of groundwater contamination at the Site,

- 8th Street Pad

- Yard House Location
- Former Barracks Area Consisting of
  - Former Tenant Area
  - Spill Excavation Area
  - Soil Stockpiles
  - Former Barracks Area
- Site-wide (includes Ballast Rock discussion) including:
  - Eastern Lead-Impacted Area
- Wood Street Foundation
- Current Railroad Ties Area

3.4 2016 REMEDIAL INVESTIGATION

The following sub-sections provide details of the 2016 Remedial Investigation field activities, laboratory testing, and results. The work described in the following sections was conducted in general accordance with the DTSC-Approved Remedial Investigation Work Plan (Workplan) dated April 6, 2016.

3.4.1 FIELD ACTIVITIES

Field activities were conducted between March and June 2016 and included the following elements

- Pre-field work site reconnaissance, sample location marking and USA clearance,
- Selective brush clearance for geophysical survey access
- Geophysical survey in select locations as described in the Work plan
- Exploratory excavation of structure pads or foundations in the Maintenance Area and Wood Street Foundation Area.
- Test pit exploration of ballast
- Soil borings for soil and groundwater sampling.

A limited geophysical survey was conducted on April 6, 2016. The results were described in a technical memorandum submitted to DTSC on April 13, 2016. The principal result was the discovery of an underground metal vessel and associated piping near the 8th Street Pad. The other potential targets did not ultimately result in significant findings.

On April 8, 2016, a ballast mapping exercise was conducted as described in the April 12, 2016 technical memorandum. The memo identified areas of residual ballast and estimated thickness and volume. The memo recommended the installation of 10 test pits for the purpose of evaluating ballast thickness and residual contamination.

The main field activities began with test-pitting on April 22, 2016. Test pitting was conducted using a standard backhoe. A total of 10 test pits were advanced for the purpose of ballast investigation and sampling. Several additional investigatory test pits were excavated in the Maintenance Area AOPC for the purpose of visually inspecting the condition concrete pads, maintenance pits and geophysical investigation target.

A total of 76 soil borings were advanced by a track-mounted direct push drill rig between April 25 and April 28, 2016. Soil borings were advanced for the purpose of soil and groundwater sample collection. All borings were logged in accordance with the Unified Soil Classification System (USCS) (ASTM, 1985) and periodically screened for VOCs.

An excavator was used to conduct subsurface investigations of the maintenance pits in the Maintenance Area AOPC and the Wood Street Foundation AOPC.

All samples collected during soil and groundwater sampling activities were labeled with the site name, sample number, sample depth, personnel initials, and date and time of collection. After the samples are labeled and documented in the chain of custody record, they were placed in a chilled cooler for transportation to a California-certified analytical laboratory.

Duplicate samples were collected in the field at a rate of five percent of the total number of samples to be collected for the event, excluding quality control samples. Duplicates were collected by filling additional sample container(s) just after collection of the original sample; to avoid aeration and exposure to the environment. Groundwater was not split between containers.

3.4.2 RESULTS

The RAOs developed for the Site are based on commercial/industrial land use, as presented and discussed in Section 4.0. In general, the 2016 RI investigation resulted in RAO exceedances for soil in the Maintenance Area, the Eastern Lead Impacted Area, the Site Wide AOPC, Wood Street Foundation AOPC and the former Tenant Area. No other AOPC yielded sample results above RAOs. The locations of RAO exceedances, nature of soil contamination, and AOPC, are presented in the following table. It should be noted that the RAO exceedances listed in Table 1 include all data collected at the Site since 1999. RAO exceedances for the RAW were based on the findings in the 2016 RI investigation.

The results of exploratory test pits in the vicinity of concrete pads and foundations in the Maintenance Area (Hydrocarbon Impacted Area) indicated the presence petroleum hydrocarbon-impacted soil in these locations. Soil samples collected from these areas indicated concentrations of TPH-D and TPH-MO with maximum concentrations of 660 and 4,400 mg/kg respectively. Excavation of the 8th Street Pad indicated the presence of petroleum-impacted soil to a depth of at least 5 feet below grade (see figures 4 through 7). The maximum Bunker-C concentration from this area was 71,000 mg/kg.

Soil analytical results from the 2016 remedial investigation are presented in the RAW. The highest concentrations of COCs were encountered in the Maintenance Area AOPC, with minor exceedances for either lead or PAHs in the Lead Impacted and Former Tenant areas, respectively. Evaluation and cleanup of groundwater is not included in RAW for this project which addresses soil related concerns only.

The results of the ballast investigation suggest that residual ballast is negligible and no ballast-related soil contamination was detected. It is unlikely the remaining ballast will need to be removed from the Site as it is, in most areas, thoroughly mixed into the underlying formation and appears to contain no detectable levels of COCs.

4. REMOVAL ACTION OBJECTIVES AND GOALS

Based on the RAOs, removal goals were developed that establish specific concentrations of chemicals in soil that are protective of both human health and the environment. Specific removal goals have been developed for the Site from: (1) information obtained during previous investigations at the Site; and (2) risk management decisions based upon the proposed future use of the Site. Information used to develop these removal goals included laboratory analytical results, geologic data, and a Site-specific risk evaluation, as applicable.

In addition, a review of pertinent laws, regulations, and other criteria was performed to identify applicable or relevant and appropriate requirements (ARARs) and other criteria to be considered (TBC) for remediating the Site.

Discussions of regulatory requirements, an assessment of human health risks, and the removal goals developed for the Site are presented below.

4.1 REMOVAL ACTION OBJECTIVES

Removal action objectives (RAOs) have been established that are protective of human health and the environment and reduce the potential for exposure to the COCs in media encountered at the Site.

These include:

- Minimize or eliminate potential exposure of humans to contaminants at the Site; these are primarily petroleum hydrocarbons and lead through direct contact or ingestion.
- Reduce the human health-based risks associated with onsite lead and petroleum hydrocarbon contamination in soil to a level that is acceptable for recreational land use. Commercial DTSC screening levels and RSLs (in the absence of DTSC screening levels) are protective of this land use.
- Provide for a Site that can be redeveloped for recreational/park use.
- Provide for two small portions of the Site to be used for fruit trees.
- Minimize the potential for chemicals of concern in soil to impact groundwater.
- Remove residual railroad ties which could be a potential source of creosote or PAHs to soil or groundwater
- Remove residual debris associated with the former operations or tenants
- Remove sub-surface concrete structures related to the maintenance pits and the Wood Street foundation.

The removal goals developed and adopted for contaminated media at the Site are responsive to these RAOs.

4.1.1 REMOVAL ACTION GOALS

The removal goals for the primary contaminants at the Site for the scope of work documented in this RACR were to contain impacted soil Site-wide that:

1. Exceeds the RWQCB Environmental Screening Levels (ESLs) (December 2013) for petroleum hydrocarbons (Table A-2); and

2. Exceeds the DTSC's Office of Human and Ecological Risk (HERO) Human Health Risk Assessment (HHRA) Note Number 3 (January 2016) "DTSC-modified Screening Levels" Screening Levels for Commercial/Industrial Soil (DTSC-SLs, June 2016) for lead.

The RAOs established in the RAW for soil in the Former Maintenance Area of the Site are based on the San Francisco Bay Regional Water Quality Control Board's (RWQCB's) Environmental Screening Levels (ESLs) for where shallow soil groundwater is a current or potential source of drinking water interim final as of December 2013 - Table A-2 Commercial/Industrial Land Use. The ESLs are the following:

- Diesel Range Organics (DRO) at 110 (milligrams per kilogram) mg/kg
- Motor Oil at 500 mg/kg
- Bunker C at 500 mg/kg

The RAOs established in the RAW for the soil cleanup level for the Eastern Lead Impacted Soil Area of the Site are based on the DTSC modified screening levels (DTSC SLs) for Commercial/Industrial soil as of June 2016 as part of the DTSC's Human and Ecological Risk (HERO) and Human Health Risk Assessment (HHRA) Note number 3. The DTSC SLs are the following:

- Total Lead at 320 mg/kg

Other contaminants present at the Site, which are collocated with TPH, include naphthalene and PCBs. Concentrations of arsenic and PAHs which exceed RAOs were detected but are present at levels consistent with background and do not require additional evaluation. A summary of analytical results for samples taken as part of the RAW are presented in Figures 4 through 10 and Table 3. Tables 5 and 6 contain full analytical results. Appendix A contains original laboratory analytical reports.

4.2 REMEDIAL ACTION ALTERNATIVE IMPLEMENTATION

Three remedial action alternatives were evaluated for the Site in the RAW. Excavation and on-Site containment was the preferred and chosen removal action for achieving the removal action objectives. The rationale for this choice was provided in the DTSC-approved RAW[2].

The field activities were implemented using readily available standard construction equipment. The area of hydrocarbon excavation and area of lead excavation was adequately documented to be below applicable ESLs and DTSC SLs respectively. Soil designated as contaminated but not saturated with

[2] SLR, 2016. Removal Action Work Plan – Soils Only Jean Sweeney Open Space Park, Oakland, CA. December.

hydrocarbons and soil containing low levels of lead were taken and placed in an HDPE liner set at the bottom of a trench which served as the Consolidation Area built in the area underneath the location of the planned bike path in accordance with DTSC guidance. The liner was sealed with adhesive and capped with aggregate base (AB), a geotextile membrane, and asphalt for the bike path. Soil and debris saturated with hydrocarbon material was stockpiled and placed on a polyethylene plastic liner (visqueen), covered with another sheet of visqueen liner that was weighted. Stockpiled soil containing saturated material was then mixed with excess impacted (non-saturated) soil from excavation area C for purposes of stabilization. The soil was then placed in trucks contracted by Dirt Shop, Inc. for transportation and disposal at an appropriate off-Site facility for disposal.

Periodic inspections of the Consolidation Area and the Cap will be required for settlement, cracking, ponding of liquids, erosion, and naturally occurring invasion by deep-rooted vegetation and to ensure that the land use has not changed. Additionally, precautions will have to be taken to ensure that the integrity of the Consolidation Area and the Cap is not compromised by land use activities.

5. REMOVAL ACTION

The removal activities were performed by a California-certified contractor with supervision by a California-registered professional geologist (P.G.).

5.1 NOTIFICATIONS

Final approval for remedial activities was given by the Department of Toxic Substances Control (DTSC) on December 6, 2016. A work notice was given to community members in July 2017. Prior to starting ground disturbance activities, SLR personnel notified Underground Services Alert for utility clearance.

5.2 HEALTH AND SAFETY PLAN

A Site-specific Health and Safety Plan (HSP), was developed by SLR to inform SLR personnel and contractors under the direct oversight of SLR, of the potential hazards associated with implementing the RAW and to minimize exposure to Site contaminants. The HSP was prepared in order to meet federal and California Occupational Safety and Health Administration (OSHA) standards for hazardous waste operations (29 CFR 1910.120 and 8 CCR 5192), and requirements of the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

The general construction contractor hired by the City of Alameda to perform the removal work (McGuire & Hester) was required to develop their own HSP which established health and safety protocols for their employees, in accordance with the above-mentioned standards.

5.3 FIELD ACTIVITIES

5.3.1 FIELD OVERSIGHT AND REPORTING

During removal action activities, SLR personnel were responsible for observing excavation, off-haul, and grading activities; perimeter air monitoring and sampling; monitoring health and safety measures; decontamination procedures; confirmation sampling; and confirming that contractors activities were being completed in accordance with the DTSC-approved RAW. As part of this process, Daily Field Reports (DFRs) were used to document Site activities.

Entries in the DFRs included, at a minimum, the following for each field work date:

- Site name and address;
- Recorder’s name;
- Time of Site arrival/entry on Site and time of departure;
- Other personnel on Site;
- Removal activities performed during the day.

The DFRs were sent as emails to project management personnel.

5.4 EXCAVATION OF IMPACTED SOIL, RAILROAD TIES, AND SUBSURFACE CONCRETE STRUCTURES

The removal action consisted of the excavation and removal of approximately 2,950 cubic yards of hydrocarbon-impacted (i.e. not saturated) soil, 150 cubic yards of hydrocarbon-saturated soil, and 230 cubic yards of lead-containing soil. Excavation activities started on September 8, 2017 and concluded on October 4, 2017.

A total of nine areas were excavated. For simplicity, the excavation areas were divided into two regions—the Former Maintenance Area and Eastern Lead Impacted Area. An overview showing all excavation areas at the Site is found in Figure 2. The Former Maintenance Area contains four excavation areas labeled as Area A, Area B, Area C, and Area D. Details for each excavation area are shown in Figures 5, 6, 7, and 8 respectively. The Eastern Lead impacted areas contain five excavation areas labelled as area L1, L2, L3, L4, and L5. Details for excavations L1 and L2, L3 and L4, and L5 are shown in figures 9, 10, and 11 respectively. The excavation depth varied from 3 ft bgs to 10 ft bgs, (Figures 5 through 11). The originally planned excavation boundaries were extended based on the delineation of contamination. The Photo Log documents the excavation, construction of the Consolidation Area and Cap, sealing of the Consolidation Area, pavement of the Cap and removal of debris from the excavation areas (Appendix B). Details of the over excavation are described in section 5.8.1.

All observed railroad ties were removed from the Site during excavation activities. Railroad ties and other railroad-related wooden debris were removed from the Former Maintenance Area during excavation. All railroad ties were stockpiled near the Site entrance. McGuire & Hester oversaw the removal of approximately 60 tons of railroad ties to Altamont Landfill & Resource Recovery in Livermore, CA. McGuire and Hester oversaw approximately 1200 tons of subsurface concrete encountered in non-saturated areas of excavation areas. This material was removed for recycling at Argent Materials and Inner City Recycling both located in Oakland, CA. Visually impacted concrete was removed from the Site with excavated soil and shipped to Potrero Hills Landfill in Suisun, CA.

5.4.1 CONSTRUCTION EQUIPMENT

Excavation and soil movement were performed with a variety of heavy machinery. An excavator, track loader, skip loader and backhoe were used to excavate and load soil into dump trucks for placement into the on-Site Consolidation Area. The track loader was used to load the material into transport trucks. A water truck was used for dust control during the loading of the transport trucks. A scraper was used to add fill to the excavation areas after removal of impacted soil. An asphalt paver was used to finish the top layer of the Cap and pave the bike path.

5.4.2 STOCKPILING PROCEDURES

Saturated soil and the concrete sumps were temporarily stockpiled onto and covered with visqeen plastic at the southern end of excavation Area B. During the excavation of Area C, the Consolidation

Area was filled to capacity. Therefore, some soil generated from excavation Area C was placed on and covered with visqueen liner until it was removed from the Site and sent to Potrero Landfill in Suisun, CA. A mixture of soil, visqueen, and small amounts of metallic debris from the stockpiles was sampled for characterization and final disposal. Information regarding manifest and bills of lading are enclosed in Appendix C.

5.5 DUST CONTROL

The following dust control measures were utilized to minimize the generation of dust associated with excavation, stockpiling, loading, truck and vehicle traffic onto and off the Site, and the effects of ambient wind traversing exposed soil:

1. Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) were be watered two times per day.

2. Haul trucks transporting soil, sand, or other loose material off-Site were covered.

3. Visible mud or dirt track-out onto adjacent public roads was removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping was prohibited.

4. Vehicle speeds on unpaved roads were limited to 15 mph.

5. Roadways, driveways, and sidewalks to be paved were completed as soon as possible. Building pads were laid as soon as possible after grading except in cases where seeding or soil binders were used.

6. Idling times were minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage was provided for construction workers at all access points.

7. Construction equipment was maintained and properly tuned in accordance with manufacturer’s specifications. All equipment was checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Posted a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. The Air District’s phone number was also visible to ensure compliance with applicable regulations. No complaints were made, dust control procedures continued through the duration of activities per RAW specifications.

In addition, near the Site excavation areas the following procedures applied:

- Application of water while excavating, stockpiling, and loading, as needed;
- Limiting vehicle speeds to 5 miles per hour on unpaved portions of the Site;
- Minimizing drop heights while loading/unloading soil;

- Covering stockpiles with an impermeable liner; and
- Covering trucks with tarps prior to leaving the Site.

Confirmation of the effectiveness of the employed dust control measures was provided by on-Site air monitoring conducted during excavation activities. Detailed air monitoring data generated during Site removal activities are provided in Appendix D.

5.6 AIR MONITORING DURING EXCAVATION

Air monitoring was conducted during excavation and containment operations to ensure that potential exposure to the public, as well as Site workers, was controlled. Additionally, air monitoring was conducted along the Site boundary and in the work zones, to ensure the absence of PM10 (i.e., particulate matter with aerodynamic diameter less than 10 microns in diameter) above the nuisance level of 50 micrograms per cubic meter (µg/m^3). Before air monitoring began, background levels of PM10 were measured for approximately an hour at each air monitoring locating. Background levels of PM10 were found to be approximately 30 µg/m^3 at the Site. Therefore, based on the observed Site background levels and the baseline 50 µg/m^3 nuisance level, measurements of above 80 µg/m^3 were considered an exceedance and would require a “stop work” action.

Additionally, the Site established PM10 nuisance level of 80 µg/m^3 is below the PM10 action level of 3.7 µg/m^3 for lead detected in Site soils. Neither the established PM10 nuisance level nor the PM10 action level for Site lead was exceeded during excavation activities. Thus the PM10 action level for lead was not reached. Table 2 provides average concentrations of PM10 monitoring during excavation activities as measured by the air monitors at the end of each day of fieldwork. Detailed air monitoring data is located in Appendix D. Appendix D will be omitted from printed copies of this report due to its length.

5.7 CONFIRMATION SAMPLING

Confirmation sampling was performed to verify that lead and hydrocarbon impacted soils, exceeding removal action goals, were removed from the proposed excavation areas (see Figures 5 through 11). Confirmation samples were collected only after field methods including visual analysis of the excavation provided confidence that the impacted soils had been removed. Samples were analyzed by Enthalpy Analytical (formerly Curtis & Thompkins) in Berkeley, CA. Samples collected from the former maintenance area were analyzed for diesel range organics, motor oil, and bunker C by EPA Method 8015D. Samples collected from the eastern lead impacted soil area were analyzed for lead using EPA Method 6010B. Samples collected from the former maintenance area were analyzed using EPA Method 8015D and EPA Cleanup Method 3630C for silica gel cleanup (SGCU). SGCU was added for the purpose of removing naturally occurring hydrocarbons from samples to more accurately determine the concentrations of hydrocarbons present as a result of human activity (RWQCB, 2016). Additional rationale for using SGCU is included in section 5.7.1. Full tabulated analytical results are presented in Tables 5 and 6. Original laboratory analytical reports are included in Appendix A

Confirmation samples were collected from sidewalls and the bottoms of the excavation areas. Confirmation sample locations for each excavation area are shown in Figures 5 through 11. A minimum of four sidewall samples were taken from each excavation. Initial sidewall samples were taken from approximately 2 feet below original grade. Sidewall samples were taken from over-excavated areas, with depths greater than 3 ft bgs, at approximately 1 foot above the bottom of the excavation depth. One base sample was taken from each excavation for every 500 square feet with a minimum of two base samples taken from each excavation area.

Samples were given names based on the locations they were taken from. The first part of each sample names was titled with JS to denote these samples were taken at Jean Sweeney Open Space Park. The second part of each sample name refers to how the sample was taken. Samples with BS as the second part of their names were taken from the base of an excavation and samples with SW as the second part of their name were taken from the sidewall of an excavation. Samples with SU as the second part of their name were taken from the areas underneath one of the two sumps after they were removed. The third part of each sample name refers to the location in which each sample was taken. Samples with A, B, C, D, or L in the third part of their name were taken from areas A, B, C, D, or L respectively.

Two duplicate samples were taken during field work, JS-BS-A04DUP and JS-BS-A13DUP. A duplicate sample is taken from the same location as another in order to determine sampling precision and variation within the sampling area. Results varied little between the duplicates and their corresponding samples.

Of the 54 initial base and sidewall samples collected from the former maintenance area excavation, only 7 samples (JS-BS-A01, JS-BS-A10, JS-BS-B09, JS-SW-B02, JS-SW-B07, JS-SW-C01, and JS-SW-C09) when analyzed with silica gel clean up contained hydrocarbon concentrations above the remedial goals set for the Site in the RAW. A summary of samples treated with SGCU from this area are presented in Table 3. Sample locations are shown in Figures 5 through 8.

Of the 26 samples taken from the eastern lead impacted soil area, only one (JS-BS-L201) contained lead in concentrations above the limits set forth in the RAW (Table 4). Sample locations are shown in Figure 10.

5.7.1 SILICA GEL CLEAN UP

In preliminary investigations performed before field work occurred for the RAW analytical laboratory results from the site returned many Y-flags on samples tested for hydrocarbons. A Y-flag indicates that a sample exhibits a nonstandard chromatographic pattern meaning that the tests likely detected non-petroleum hydrocarbons from samples taken from the Site. Non-petroleum organics can elute in diesel, motor oil, and bunker c ranges, possibly resulting in false exceedances. SGCU was used on samples analyzed for TPH-D, TPH-MO, and bunker C. Potential interferences may include:

- Naturally occurring organic material
- Terpenes
- Animal and vegetable oils/fats
- Phthalates

- Chlorinated hydrocarbons
- Phenol organic acids

Silica gel cleanup was used to remove potential interferences in the diesel, motor oil, or bunker c range. This alternative method was used for comparison purposes in accordance with the Petroleum Metabolites Literature Review and Assessment Framework (RWQCB, 2016). Sample results varied little between non-SGCU trials and SGCU trials. One sample, JS-BS-A08, was below RAOs for only the SGCU trial. Based on adjacent clean samples, the low exceedances to the ROAs from the non-SGCU analysis, and the SGCU analysis the area around the location in which sample JS-BS-A08 was taken from was considered to meet the ROAs from the RAW.

5.7.2 OVER-EXCAVATION AND ADDITIONAL CONFIRMATION SAMPLING

Due to the detection of contaminants of concern above regulatory limits additional excavation was performed and additional confirmation samples were taken after overexcavation. Samples initially taken from an area prior to expanding excavation in that area are referred to as initial samples. Confirmation samples that were taken in order to determine if overexcavation successfully removed contaminants of concern from an area are referred to as secondary samples.

Area A Excavation

A detailed view of Area A excavation is shown in Figure 4. The sample JS-BS-A01 was analyzed and found to contain hydrocarbons above the RAOs. The area around sample JS-BS-A01 was excavated an additional foot below ground and then sampled again (at 4.5 ft bgs) to confirm that impacted soil was removed. Similarly, sample JS-BS-A10 was analyzed and found to contain hydrocarbons above the RAOs. The area around the sample was excavated an additional 2 feet bgs). The area around sample JS-BS-A09 was also excavated an additional two feet.

Area B Excavation

A detailed view of Area B Excavation is shown in Figure 5. Based on the failure of sample JS-SW-B02 and JS-SW-B07 and the presence of a layer of visual contamination at 1.5 ft bgs, the southern boundary of excavation area B was expanded south by 10 ft at a depth of 3 ft bgs. Three additional base samples (JS-BS-B11, JS-BS-B13, JS-BS-B15) were taken and analyzed after the excavation area was expanded. Each of these base samples was analyzed and none exceeded the RAOs. Based on the results of these samples, the overexcavation, and the lack of visual contamination we consider the contamination present where sample JS-SW-B02 was taken to have been removed. The excavation was expanded outwardly from JS-SW-B07 to remove impacted soil. Soil located between the sample location and the concrete sump was removed to ensure any soil impacted from leakage out of the concrete sump was excavated. The edge of the expanded excavation of Area B merged with the excavation of the concrete sump. Areas underneath metal (JS-SU-B01, JS-SU-B02) and concrete (JS-SU-B03, JS-SU-B04) sumps were sampled at 5.5 ft bgs and at 8.5 ft bgs respectively and excavated based on the presence of visual contamination in the form of an oily sheen.

Area C Excavation

A detailed view of Area C is shown in Figure 7. During the initial excavation of Area C two large wooden platforms were encountered at 4ft bgs. The platforms were parallel and extended east-west outside of the original excavation area on both sides. Based on visual and olfactory evidence (strong hydrocarbon odor) the excavation was expanded one foot below the platforms (to 8 ft bgs) and one foot outside the footprint of the platforms.

Base Sample JS-SW-C01 exceeded remedial goals and the excavation was extended south by three feet on the southeast portion of the excavation and was resampled (JS-SW-C06). Sidewall sample JS-SW-C09 was taken from the northeast arm of the excavation at 8ft bgs from a small area containing debris interspersed with a black liquid. The sample was reported to be in exceedance of remedial goals; and subsequently the debris containing area was delineated, excavated, and resampled as JS-SW-C109. The northeast portion of the excavation was expanded 1 foot east, approximately 7 feet south, and down to 10ft bgs. The analytical results for the second round of confirmation samples (JS-SW-C01 and JS-SW-C109) were below the remedial action goals and no further excavation was required.

Area D Excavation

A detailed view of Area D is shown in Figure 8. All analytical results from Area D were below the remedial action goals and no overexcavation was required.

Eastern Lead Impacted Areas

Only one sample, base sample JS-BS-L201, from the eastern lead impacted areas was found to contain lead in exceedance of the RAOs. As a result Lead Impacted Area L2 was excavated an additional foot to 4 ft bgs (Figure 10). Table 4 shows analytical results from Area L2, full analytical results from the Eastern Lead Impacted Area can be found in Table 6.

5.8 WASTE CHARACTERIZATION AND DISPOSAL

Waste material that was removed from the Site included saturated material, excess non-saturated impacted soil, visqueen sheets used for soil stockpiling, metal debris associated with sumps, and concrete debris associated with sumps. The material was classified as Class II (non-hazardous) contaminated waste soil. McGuire & Hester contracted Dirt Shop, Inc. to handle the transportation and disposal of waste. Transportation activities began on October 19, 2017 and concluded on October 20, 2017. Saturated material was mixed with non-saturated material to prevent any leakage or spillage during transportation. Stockpiles were wetted and then loaded into trucks, covered, and transported to the Potrero Hill Landfill Inc., 3675 Potrero Hills Lane, Suisun, CA 94585. Waste manifests are included as Appendix C.

6. CAP AND CONSOLIDATION AREA

6.1 CAP AND CONSOLIDATION AREA CONSTRUCTION

Construction of the Consolidation Area began prior to the excavation of impacted soils. Appendix B contains photos of the Cap and Consolidation Area construction. The Consolidation Area and Cap (Figure 2) was built from the eastern area and was extended to the eastern edge of the Former Maintenance Area. Consolidation Area and Cap construction diagrams are included in Figure G2. A 4 to 5 foot deep by 12 feet wide trench was dug for the placement of the Consolidation Area. The trench was initially excavated on the eastern side of the Site and extended west after excavation of impacted soil from the Former Maintenance Area and eastern lead impacted area. After the first lengths of the trench were dug, McGuire & Hester cut sections of HDPE liner, laid it in the trench, and connected each section together with adhesive. Impacted soil from the excavation areas were placed into dump trucks and driven to the edge of the HDPE lined trench where they were placed. In addition, backhoes, bulldozers, and other heavy machinery were used to ensure all impacted soil was placed in the trench. Impacted soil was not stockpiled on exposed ground. For any instances in which soil was not placed directly into the HDPE covered trench it was either stockpiled at the edge of the trench on top of the HDPE liner used for the Consolidation Area or on visqueen sheets and later placed in the HDPE covered trench.

As the excavation of impacted soil from both areas of the Site continued, the Consolidation Area and was covered with HDPE liner sections and connected with adhesive to adjacent HDPE liner sections. After each load of soil was placed in the partially constructed Consolidation Area, McGuire & Hester performed compaction testing on the soil to ensure that the encapsulated soil was properly compacted. After each section was properly compacted, the portion of HDPE liner sections that extended out from underneath the impacted soil in the trench were folded over the contaminated soil and sealed together with adhesive. The ends of the partially constructed Consolidation Area were also folded over the top of the impacted soil and sealed using the same method. The Cap was then constructed on top of the Consolidation Area. A small layer of aggregate base (AB) was placed over the top of the sealed HDPE liner and was compacted. A geotextile liner was placed over this layer and buried with another layer of AB, which was then compacted. The AB layer extended approximately 1-2 ft past the sealed HDPE liner. Asphalt for the bike path was placed on top of the AB with about 1 ft of AB material extending out from under the asphalt on each side.

Clean soil removed during the construction of the Consolidation Area and cap as part of the base for the trail was utilized as fill for the impacted soil excavation areas. During excavation activities, clean soil was stockpiled and then transported within the Site to the excavation areas. Any additional soil used as fill was taken from other non-impacted areas under McGuire & Hester's discretion.

6.2 COVENANT AND ENVIRONMENTAL RESTRICTION ON PROPERTY

A land use restriction officially known as a Covenant and Environmental Restriction on Property will be placed on the Site by the City of Alameda.

The Site shall not be used for any of the following purposes:

1. A residence, including any mobile home or factory built housing, constructed or installed for use as residential human habitation.

2. A hospital for humans.

3. A public or private school for persons under 21 years of age.

4. A day care center for children.

6.3 CAP OPERATION AND MAINTENANCE

An Operation and Maintenance Plan for the Consolidation Area, Cap, and land adjacent to the Cap was prepared as a separate document. The following summarizes the information included in the Operation and Maintenance Plan for the Site.

6.3.1 SUMMARY OF OPERATION AND MAINTENANCE PLAN

The primary goal of the O&M Plan is to prevent exposures to hydrocarbons and lead, contain hydrocarbon impacted and lead impacted soil, and to protect the health of park visitors and workers at the Site.

To accomplish this goal, the O&M Plan addresses the following objectives:

- Minimize disturbances of the Cap and all of its components and soils contained within the Consolidation Area;
- Describe the mitigation remedy (installed Consolidation Area and Cap);
- Establish an inspection and monitoring program to identify damaged Consolidation Area and Cap areas and to evaluate ongoing cap effectiveness;
- Provide for timely repair or replacement needed to restore damaged Consolidation Area and Cap areas;
- Train O&M inspectors, and other staff as needed, in personal health and safety protection and proper methods of Consolidation Area and Cap inspection and repair;
- Provide checklists and templates to be used for recordkeeping; and,
- Make the O&M Plan available for public review with copies maintained at the Site and the City of Alameda Environmental Health office.

7. VARIANCES TO THE RAW

Two variances to the RAW were implemented during the execution of this project. The first variance is that each sample analyzed for hydrocarbons (TPH-D, TPH-MO, and Bunker C) was analyzed once with SGCU and once without. See section 5.7.1 for the purpose of using this cleanup method.

The second variance is that work related to sampling soil from the proposed orchard areas was not performed during field activities. The City of Alameda evaluated the placement of orchards at the Site and determined that it will not plant trees with edible fruit at the Site; therefore soil sampling in the former proposed orchard area will not be performed

8. CONCLUSIONS

Approximately 2,950 cubic yards of hydrocarbon impacted (non-hydrocarbon saturated) and approximately 230 cubic yards of lead impacted soil was placed inside the Consolidation Area. Approximately 150 cubic yards of hydrocarbon-saturated material was removed from the Site and transported to Potrero Hill in Suisun, CA. Approximately 60 tons of railroad ties were removed and transported to Altamont Landfill & Resource Recovery in Livermore; CA (Appendix C). Approximately 3,250 cubic yards of on-Site generated clean fill was used to fill excavated areas.

The Consolidation Area and Cap were completed on October 13, 2017. Waste characterization and disposal procedures are discussed in section 5.8 and waste manifests area presented in Appendix C Excavation sidewall and base sampling confirmed the absence of additional hydrocarbon and lead concentrations in their respective areas above the remedial goals in soils bounding the excavated areas.

Based on our field observations and laboratory testing, the soil removal activities described in the report were performed in general accordance with the approved RAW.

After the approval of this report the City of Alameda will set up a Land Use Covenant and Environmental Restriction on the Site property applying the restrictions discussed in section 6.2. Additionally, the City of Alameda will be responsible for implementing the Operation and Maintenance Plan that will be submitted separately from this report. The Operations and Maintenance Plan provides guidelines for inspections of the Consolidation Area and Cap, training of personnel inspecting the Consolidation Area and Cap, required procedures when working around the Consolidation Area and Cap including health and safety, reporting and scheduling, and cost estimates for routine inspections.

9. REFERENCES

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URSGWC. 1999b. Phase II Environmental Assessment 22-Acre Former Alameda Belt Line Rail Yard, Alameda, California. March.

URSGWC. 1999c. Remedial Investigation 22-Acre Former Alameda Belt Line Rail Yard, Alameda, California. June.

URSGWC. 1999c. Remedial Investigation 22-Acre Former Alameda Belt Line Rail Yard, Alameda, California. June.

LIMITATIONS

The services described in this work product were performed in accordance with generally accepted professional consulting principles and practices. No other representations or warranties, expressed or implied, are made. These services were performed consistent with our agreement with our client. This work product is intended solely for the use and information of our client unless otherwise noted. Any reliance on this work product by a third party is at such party's sole risk.

Opinions and recommendations contained in this work product are based on conditions that existed at the time the services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. The data reported and the findings, observations, and conclusions expressed are limited by the scope of work. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this work product.

The purpose of an environmental assessment is to reasonably evaluate the potential for, or actual impact of, past practices on a given site area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an appropriate level of analysis for each conceivable issue of potential concern. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

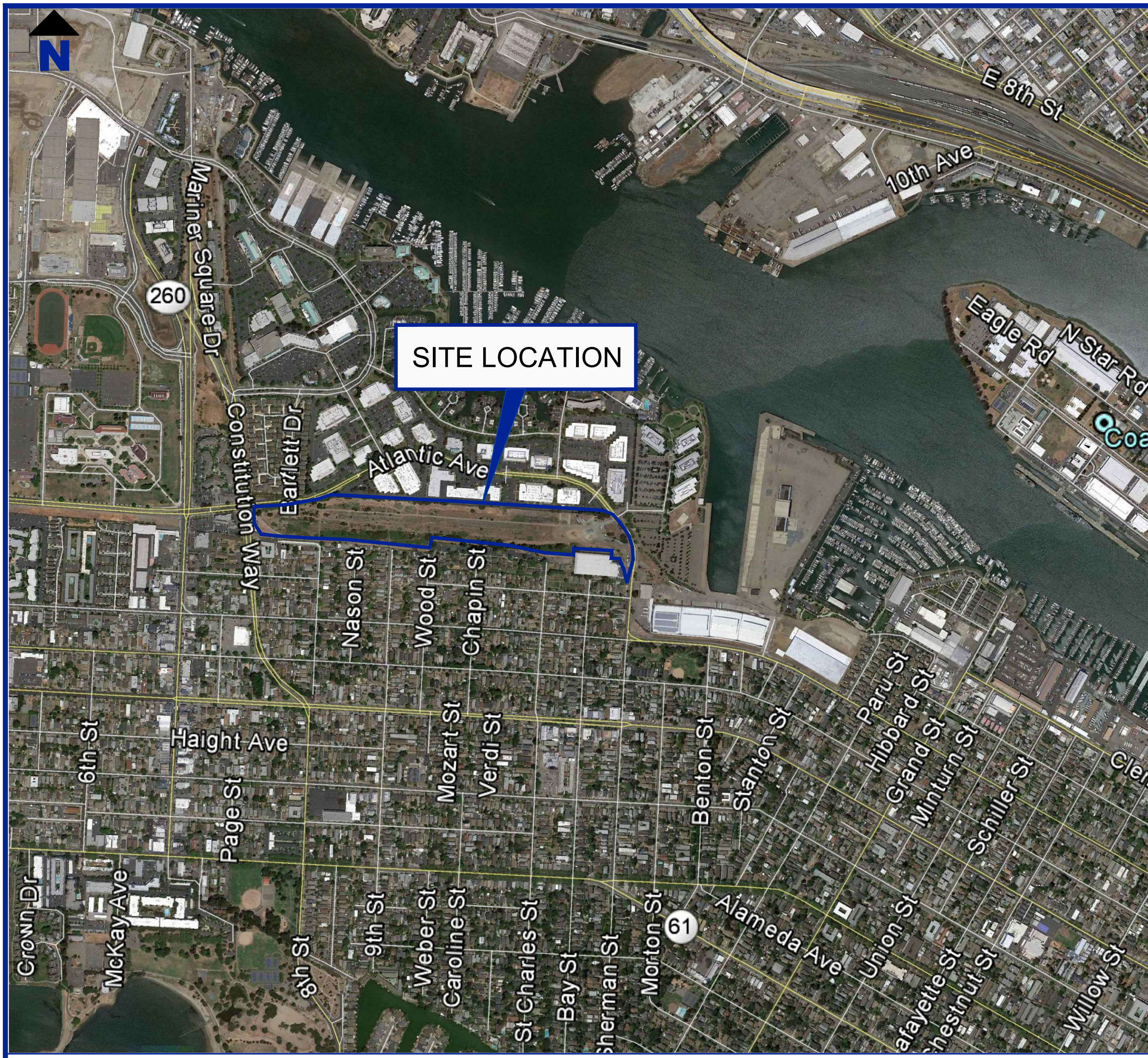
No investigation can be thorough enough to exclude the presence of hazardous materials at a given site. If hazardous conditions have not been identified during the assessment, such a finding should not therefore be construed as a guarantee of the absence of such materials on the site, but rather as the result of the services performed within the scope, practical limitations, and cost of the work performed.

Environmental conditions that are not apparent may exist at the site. Our professional opinions are based in part on interpretation of data from a limited number of discrete sampling locations and therefore may not be representative of the actual overall site environmental conditions.

The passage of time, manifestation of latent conditions, or occurrence of future events may require further study at the site, analysis of the data, and/or reevaluation of the findings, observations, and conclusions in the work product.

This work product presents professional opinions and findings of a scientific and technical nature. The work product shall not be construed to offer legal opinion or representations as to the requirements of, nor the compliance with, environmental laws rules, regulations, or policies of federal, state or local governmental agencies.

FIGURES



REFERENCED FROM : GOOGLE EARTH PRO

0 1350 2700 4050

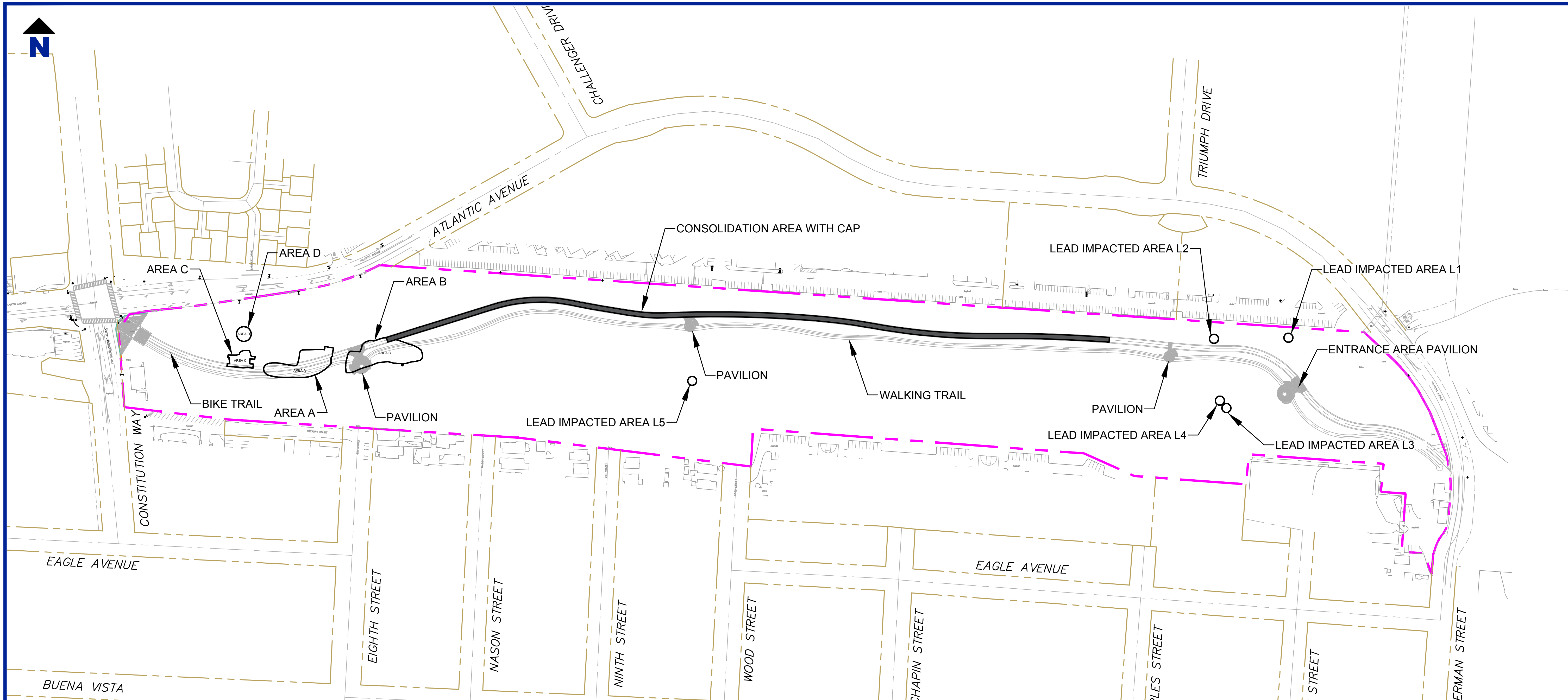
APPROXIMATE SCALE (FEET)

THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

SLR

Site	Jean Sweeney Open Space Park Alameda, CA
Drawing	Vicinity Map
Date	Freburay, 2018
Scale	AS SHOWN
File Name	Figure 1. Vicinity_Map
Project No.	102.01422.00001
Fig. No.	1

Last Saved: February 12, 2018 11:40:21 AM by hvazquez Drawing path: N:\Oakland\CAD\102.01422.00001 Jean Sweeney\Fig\Figure 1. Vicinity_Map.dwg



LEGEND

PROPERTY BOUNDARY

EXCAVATION LIMITS AREAS

LOCATION OF CAP AND BIKE TRAIL

CONCRETE AREAS OF WALKING TRAIL AND BIKE TRAIL

(LOCATIONS ARE APPROXIMATE)

GRAPHICAL SCALE (FEET)

0 250 500

Site

Jean Sweeney Open Space Park, Alameda, CA

Drawing

Site Plan Showing Excavation Areas

Date July 12, 2018	Scale AS SHOWN	Fig. No. 2
File Name Excavation Areas RCAR	Project No. 102.01422.00011	

SLR

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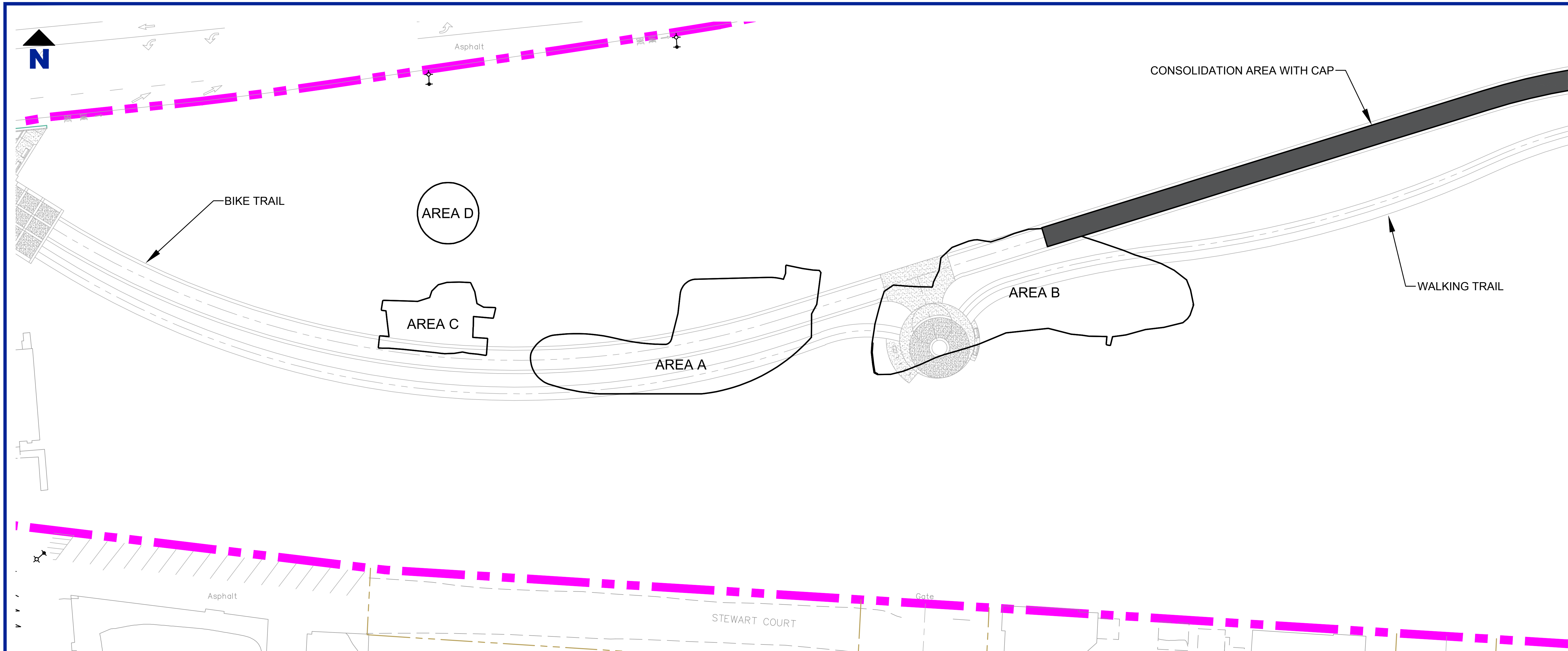
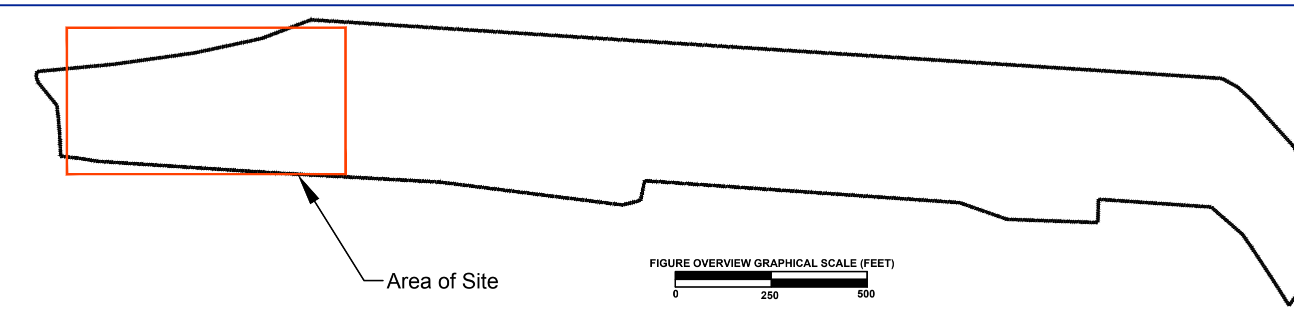


LEGEND

- PROPERTY BOUNDARY
- AREA OF SITE
- EXCAVATION LIMITS AREAS
- LOCATION OF CAP AND BIKE TRAIL
- CONCRETE AREAS OF WALKING TRAIL AND BIKE TRAIL

(LOCATIONS ARE APPROXIMATE)



GRAPHICAL SCALE (FEET)
0 60 120

Site	Jean Sweeney Open Space Park, Alameda, CA
Drawing	Site Plan Showing Former Maintenance Area of Excavation
Date	July 12, 2018
Scale	AS SHOWN
File Name	Excavation Areas RCAR
Project No.	102.01422.00011
Fig. No.	3

SLR

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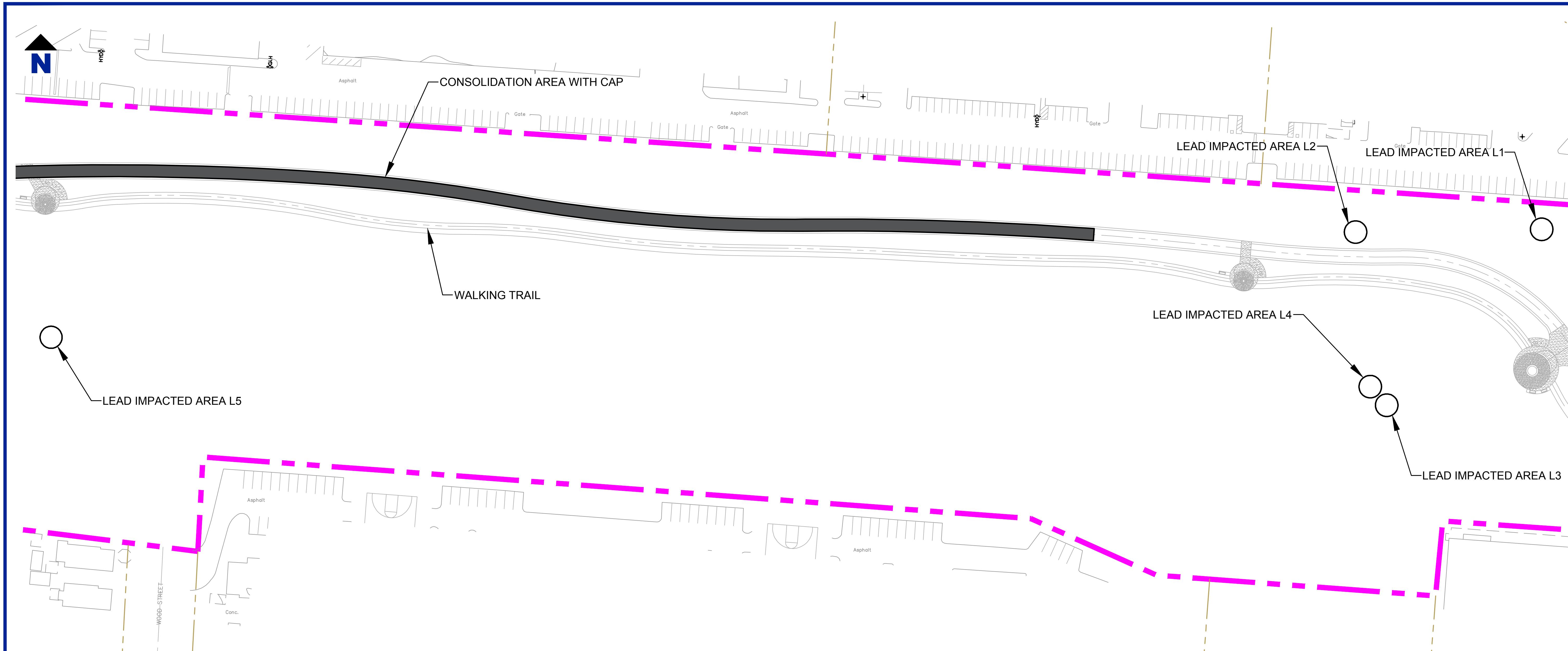
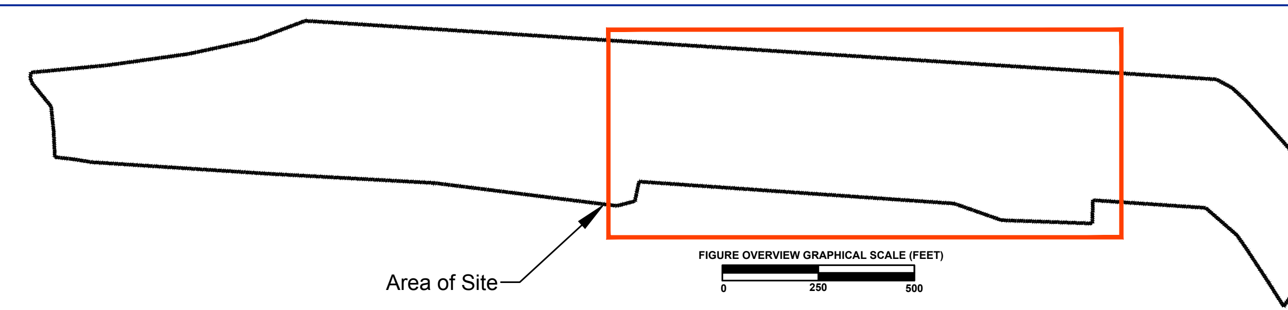


LEGEND

- PROPERTY BOUNDARY
- AREA OF SITE
- EXCAVATION LIMITS AREAS
- LOCATION OF CAP AND BIKE TRAIL
- CONCRETE AREAS OF WALKING TRAIL AND BIKE TRAIL

(LOCATIONS ARE APPROXIMATE)



GRAPHICAL SCALE (FEET)
0 100 200

Site	Jean Sweeney Open Space Park, Alameda, CA
Drawing	Site Plan Showing Eastern Lead Impacted Areas of Excavation
Date	July 12, 2018
Scale	AS SHOWN
Fig. No.	4
File Name	Excavation Areas RCAR
Project No.	102.01422.00011

SLR

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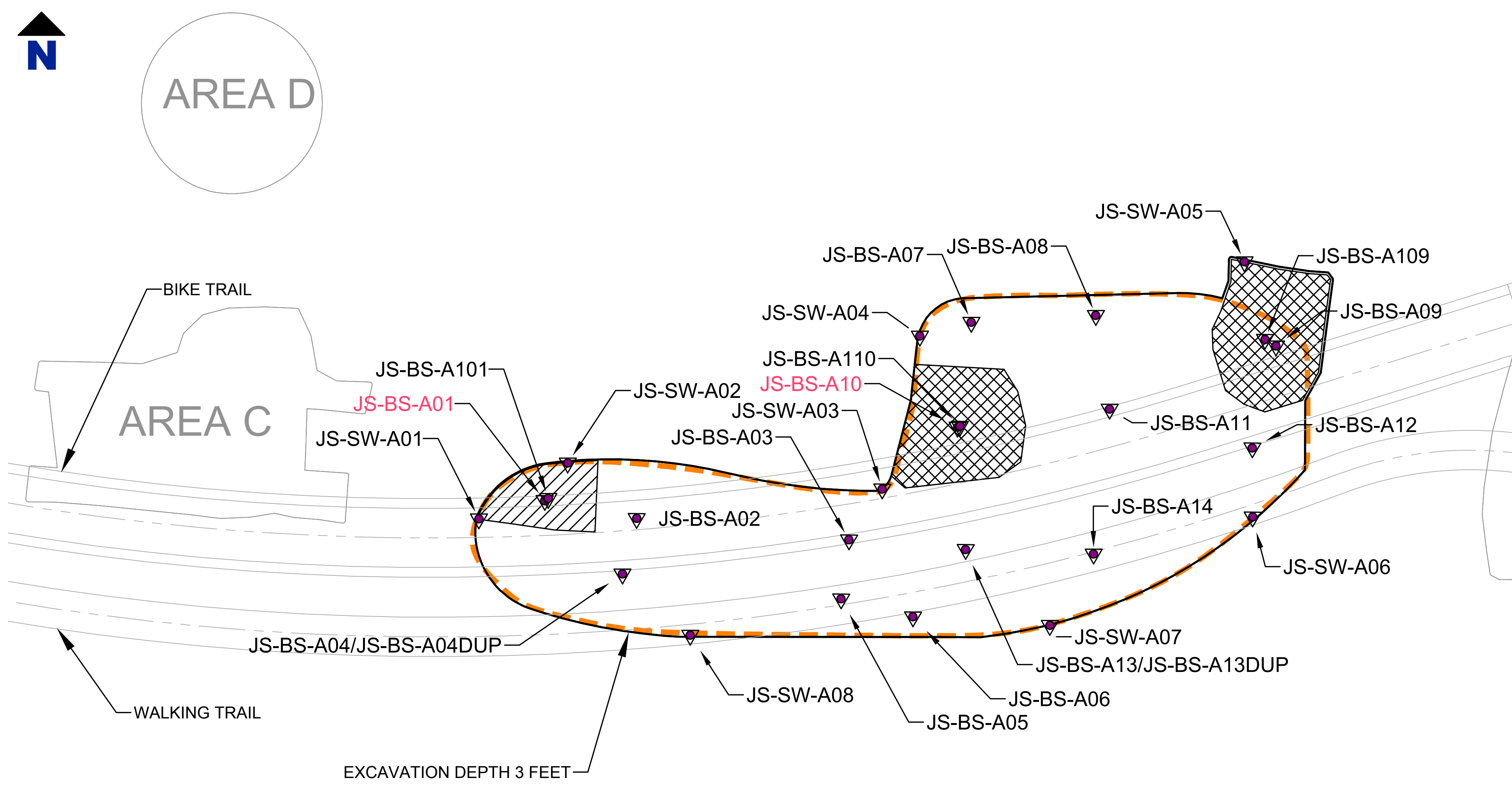


Maintenance Area A Confirmation Samples Analytical Results

Sample ID	Sample Date	Depth (feet)	TPHs DRO (mg/kg)	TPHs Motor Oil (mg/kg)	TPHs Bunker C (mg/kg)
JS-BS-A01	*9/8/2017*	3.5	*310 Y*	***2100***	***4400***
JS-BS-A101	*9/14/2017*	4.5	*2.3 Y*	*11*	*32*
JS-BS-A02	*9/8/2017*	3.5	*9.7 Y*	*52*	*120*
JS-BS-A03	*9/8/2017*	3.5	*11 Y*	*36*	*87*
JS-BS-A04	*9/8/2017*	3.5	*3.1 Y*	*20*	*42*
JS-BS-A04DUP	*9/8/2017*	3.5	*2.0 Y*	*13*	*27*
JS-BS-A05	*9/8/2017*	3.5	*3.9 Y*	*24*	*54*
JS-BS-A06	*9/11/2017*	3.5	*15 Y*	*53*	*130*
JS-BS-A07	*9/11/2017*	3.5	*16 Y*	*55*	*130*
JS-BS-A08	*9/11/2017*	3.5	*77 Y*	*120*	*370*
JS-BS-A09	*9/11/2017*	3.5	*27 Y*	*80*	*200*
JS-BS-A109	*9/21/2017*	5.5	*33 Y*	*88*	*240*
JS-BS-A10	*9/11/2017*	3.5	*72 Y*	*420*	***930***
JS-BS-A110	*9/21/2017*	5.5	*12 Y*	*56*	*130*
JS-BS-A11	*9/11/2017*	3.5	*7.6 Y*	*33*	*76*
JS-BS-A12	*9/11/2017*	3.5	*7.1 Y*	*34*	*75*
JS-BS-A13	*9/11/2017*	3.5	*6.1 Y*	*31*	*69*
JS-BS-A14	*9/11/2017*	3.5	*9.2Y*	*39*	*95*
JS-BS-A13DUP	*9/11/2017*	3.5	*8.3 Y*	*34*	*80*
JS-SW-A01	*9/8/2017*	2	*4.3 Y*	*53*	*120*
JS-SW-A02	*9/11/2017*	2	*1.3 Y*	*12*	*26*
JS-SW-A03	*9/11/2017*	2	*19 Y*	*86*	*210*
JS-SW-A04	*9/11/2017*	2	*7.4 Y*	*19*	*49*
JS-SW-A05	*9/11/2017*	2	*6.1 Y*	*ND<5.0*	*19 Y*
JS-SW-A06	*9/11/2017*	2	*12 Y*	*46*	*110*
JS-SW-A08	*9/11/2017*	2	*9.4 Y*	*39*	*90*
JS-SW-A07	*9/11/2017*	2	*6.2 Y*	*32*	*74*
ESLs			**110**	**500**	**500**

LEGEND

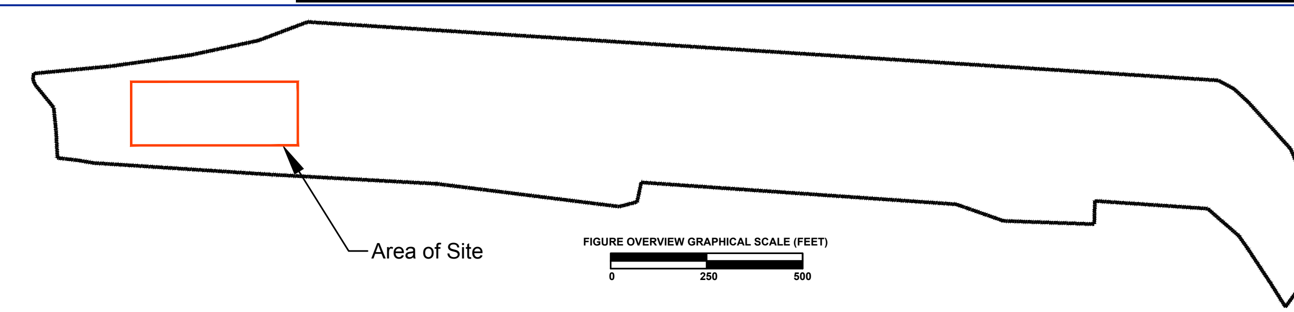
- AREA OF SITE
- LOCATION OF CONFIRMATION SOIL SAMPLE
- LIMITS OF EXCAVATION
- PROPOSED LIMITS OF EXCAVATION
- EXCAVATION DEPTH 4 FEET
- EXCAVATION DEPTH 5 FEET

(LOCATIONS ARE APPROXIMATE)

NOTES

EXCAVATION WAS OVERDUG BASED ON ANALYTICAL RESULTS AND FIELD OBSERVATIONS
ALL TPH ANALYSIS TABLE ONLY SHOWING ANALYTICAL RESULTS FOR PASSING CONFIRMATION SAMPLES
SHOWN HERE WERE PERFORMED BY EPA METHOD 8015B
ALL CONFIRMATION SAMPLES WERE TREATED WITH SILICA GEL CLEANUP (EPA METHOD 3630C) PRIOR TO ANALYSIS
MG/KG = MILLIGRAMS PER KILOGRAMS
ND<5 OR ND<1 = NOT DETECTABLE AT OR ABOVE THE STATED LABORATORY DETECTION LIMIT
DRO = DIESEL RANGE ORGANICS
BOLD INDICATES SCREENING LEVEL EXCEEDANCE.
BOLD INDICATES SCREENING VALUE UTILIZED FOR ANALYTE.
Y = SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN WHICH DOES NOT RESEMBLE STANDARD
ESLS = ENVIRONMENTAL SCREENING LEVELS - SHALLOW SOIL GROUNDWATER IS A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER INTERIM FINAL DEC. 2013 SF BAY RWQCB - TABLE A-2 COMMERCIAL/INDUSTRIAL LAND USE
SAMPLE ID CONVENTIONS:
JS = JEAN SWEENEY
BS = BASE SAMPLE
SW= SIDEWALL SAMPLE
DUP = DUPLICATE SAMPLE
JS-BS-A101 IS THE PASSING CONFIRMATION SAMPLE CORRESPONDING TO JS-BS-A01
JS-BS-A110 IS THE PASSING CONFIRMATION SAMPLE CORRESPONDING TO JS-BS-A10

GRAPHICAL SCALE (FEET)
0 30 60



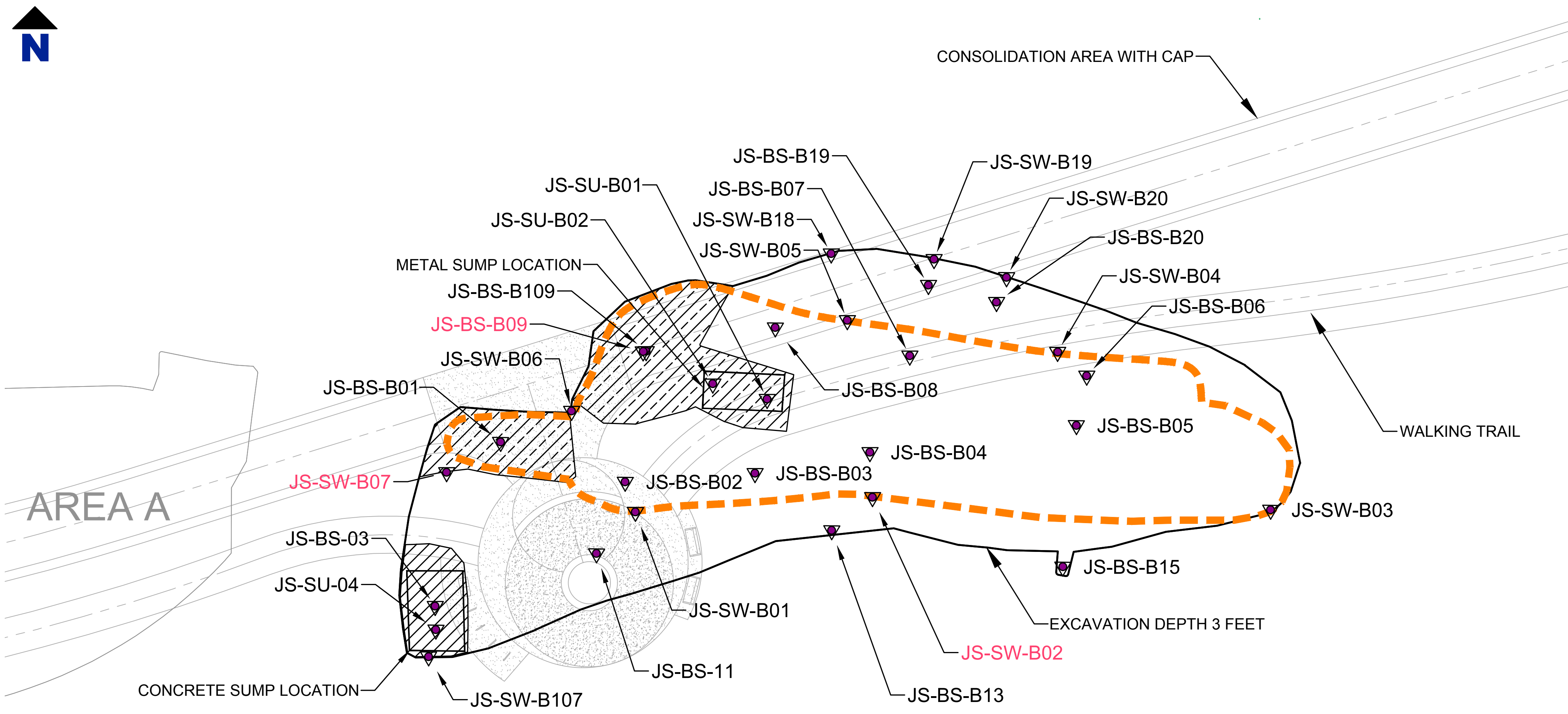
Site: Jean Sweeney Open Space Park, Alameda, CA

Drawing: Detail Map of Excavation and Sampling of Area A

Date: July 12, 2018 | Scale: AS SHOWN | Fig. No. 5
File Name: RCAR Draft Figure Area A | Project No. 102.01422.00011

SLR

Last Saved: July 13, 2018 8:17:15 AM by ybourdon Drawing path: N:\Oakland\CAD\102.01422.00001 Jean Sweeney\Fig\Additional Investigation\RCAR Draft Figure Area A.dwg



Maintenance Area B Confirmation Samples Analytical Results

Sample ID	Sample Date	Depth (feet)	TPHs DRO (mg/kg)	TPHs Motor Oil (mg/kg)	TPHs Bunker C (mg/kg)
JS-BS-B01	9/12/2017	3.5	8.2 Y	21	41
JS-BS-B02	9/12/2017	3.5	ND<1.0	ND<5.0	ND<5.0
JS-BS-B03	9/12/2017	3.5	ND<1.0	ND<5.0	5.2
JS-BS-B04	9/12/2017	3.5	5.0 Y	9.6	28
JS-BS-B05	9/12/2017	3.5	ND<1.0	ND<5.0	ND<5.0
JS-BS-B06	9/12/2017	3.5	ND<1.0	ND<5.0	10
JS-BS-B07	9/12/2017	3.5	ND<1.0	ND<5.0	ND<5.0
JS-BS-B08	9/12/2017	3.5	ND<0.99	ND<5.0	ND<5.0
JS-BS-B09	9/12/2017	3.5	94 Y	480.0	**1200**
JS-BS-B109	9/21/2017	5.5	6.3 Y	33	74
JS-BS-B11	9/14/2017	3.5	18 Y	67	160
JS-BS-B13	9/14/2017	3.5	13 Y	51	120
JS-BS-B15	9/14/2017	3.5	12 Y	47	110
JS-BS-B18	9/15/2017	3.5	9.9 Y	55	130
JS-BS-B19	9/15/2017	3.5	7.3 Y	35	86
JS-BS-B20	9/15/2017	3.5	ND<1.0	ND<5.0	ND<5.0
JS-SW-B01	9/12/2017	2	6.8 Y	38	87
JS-SW-B02	9/12/2017	2	**130 Y**	410	**1000**
JS-SW-B03	9/12/2017	2	ND<1.0	ND<5.0	8.6 Y
JS-SW-B04	9/12/2017	2	ND<1.0	ND<5.0	ND<5.0
JS-SW-B05	9/12/2017	2	ND<1.0	ND<5.0	ND<5.0
JS-SW-B06	9/12/2017	2	ND<1.0	ND<5.0	ND<5.0
JS-SW-B07	9/12/2017	2	**150 Y**	280.0	**780**
JS-SW-B107	9/21/2017	4	35 Y	130	310
JS-SW-B18	9/15/2017	2	ND<1.0	ND<5.0	ND<5.0
JS-SW-B19	9/15/2017	2	12 Y	84	190
JS-SW-B20	9/15/2017	2	3.5 Y	39	88
JS-SU-B01	9/22/2017	5.5	ND<1.0	ND<5.0	ND<5.0
JS-SU-B02	9/22/2017	5.5	ND<1.0	ND<5.0	ND<5.0
JS-SU-B03	9/26/2017	8.5	9.2 Y	15	46
JS-SU-B04	9/26/2017	8.5	4.9 Y	7.6	24
ESLs			**110**	**500**	**500**

LEGEND

- AREA OF SITE
- LOCATION OF CONFIRMATION SOIL SAMPLE
- LIMITS OF EXCAVATION
- PROPOSED LIMITS OF EXCAVATION
- EXCAVATION DEPTH 5 FEET
- EXCAVATION DEPTH 8 FEET
- CONCRETE AREAS OF WALKING TRAIL AND BIKE TRAIL

(LOCATIONS ARE APPROXIMATE)

NOTES

EXCAVATION WAS OVERDUG BASED ON ANALYTICAL RESULTS AND FIELD OBSERVATIONS
ALL TPH ANALYSIS TABLE ONLY SHOWING ANALYTICAL RESULTS FOR PASSING CONFIRMATION SAMPLES
SHOWN HERE WERE PERFORMED BY EPA METHOD 8015B
ALL CONFIRMATION SAMPLES WERE TREATED WITH SILICA GEL CLEANUP (EPA METHOD 3630C) PRIOR TO ANALYSIS
MG/KG = MILLIGRAMS PER KILOGRAMS
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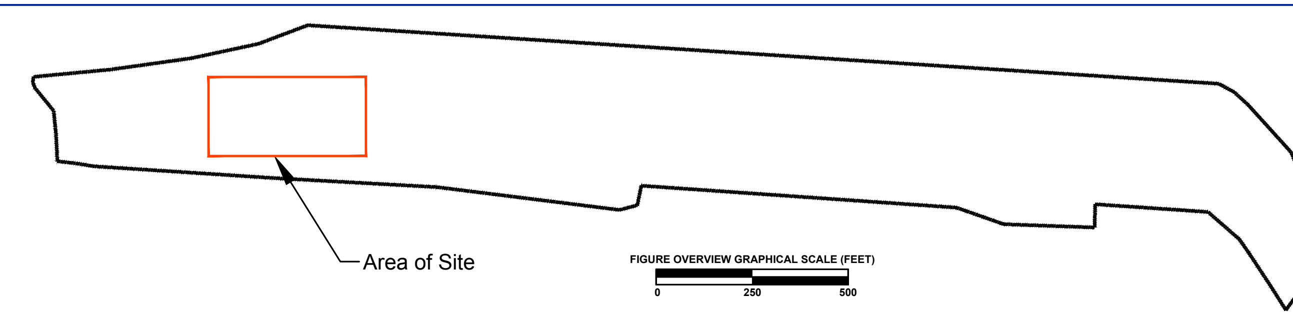
DRO = DIESEL RANGE ORGANICS
BOLD INDICATES SCREENING LEVEL EXCEEDANCE.
BOLD INDICATES SCREENING VALUE UTILIZED FOR ANALYTE.
Y = SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN WHICH DOES NOT RESEMBLE STANDARD
ESLS = ENVIRONMENTAL SCREENING LEVELS - SHALLOW SOIL GROUNDWATER IS A CURRENT OR POTENTIAL SOURCE
OF DRINKING WATER INTERIM FINAL DEC. 2013 SF BAY RWQCB - TABLE A-2 COMMERCIAL/INDUSTRIAL LAND USE
SAMPLE ID CONVENTIONS:
JS = JEAN SWEENEY
BS = BASE SAMPLE
SW= SIDEWALL SAMPLE
SU = SAMPLE TAKEN FROM BELOW SUMP
DUP = DUPLICATE SAMPLE
JS-BS-B109 IS THE PASSING CONFIRMATION SAMPLE CORRESPONDING TO JS-BS-B09
JS-BS-B13 IS THE PASSING CONFIRMATION SAMPLE CORRESPONDING TO JS-SW-B02 (SEE MAIN TEXT)
JS-SW-B107 IS THE PASSING CONFIRMATION SAMPLE CORRESPONDING TO JS-SW-B07 (SEE MAIN TEXT)



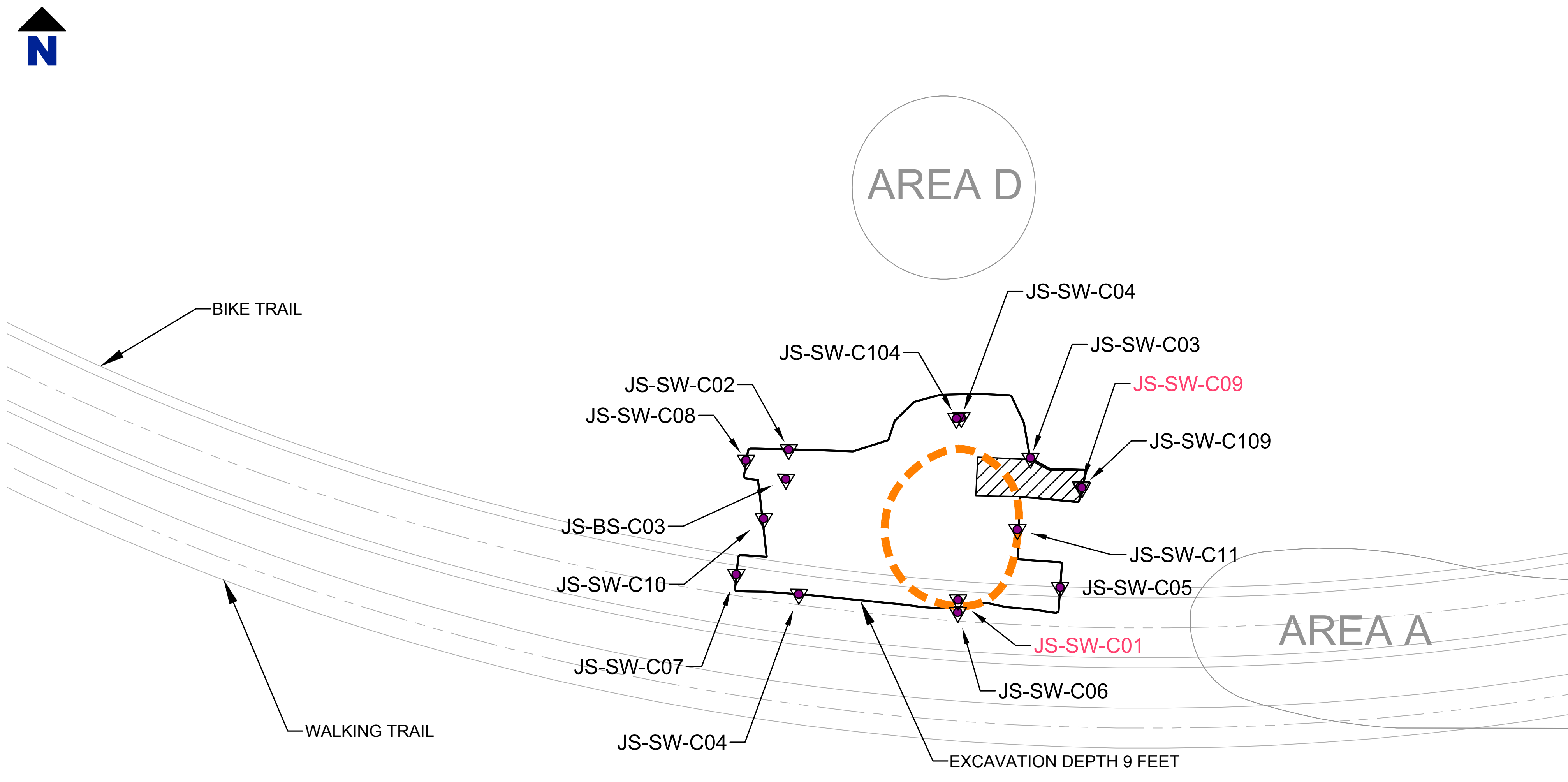
GRAPHICAL SCALE (FEET)
0 30 60

Site
Jean Sweeney Open Space Park, Alameda, CA

Drawing
Detail Map of Excavation and Sampling of Area B

Date: July 12, 2018	Scale: AS SHOWN	Fig. No. 6
File Name: RCAR Draft Figure Area B	Project No. 102.01422.00011	

SLR



Maintenance Area C Confirmation Samples Analytical Results

Sample ID	Sample Date	Depth (feet)	TPHs DRO (mg/kg)	TPHs Motor Oil (mg/kg)	TPHs Bunker C (mg/kg)
JS-BS-C01	9/22/2017	8.5	9.5 Y	27	71
JS-BS-C02	9/22/2017	8.5	11 Y	31	82
JS-BS-C03	9/29/2017	8.5	14 Y	19	66
JS-BS-C04	9/29/2017	4.5	ND<1.0	ND<5.0	ND<5.0
JS-BS-C104	9/29/2017	9.5	ND<1.0	5.3	12
JS-SW-C01	9/22/2017	4	63 Y	380	**870**
JS-SW-C02	9/22/2017	4	1.3 Y	9.5	22
JS-SW-C03	9/22/2017	4	2.5 Y	16	37
JS-SW-C04	9/22/2017	4	ND<1.0	ND<5.0	11
JS-SW-C05	9/29/2017	7	20 Y	50	140
JS-SW-C06	9/29/2017	7	24 Y	44	130
JS-SW-C07	9/29/2017	7	5.1 Y	8.9	27
JS-SW-C08	9/29/2017	7	4.7 Y	11	30
JS-SW-C09	9/29/2017	7	**510 Y**	**2,300**	**5700**
JS-SW-C109	9/29/2017	9	6.2 Y	ND<5.0	20 Y
JS-SW-C10	9/29/2017	7	5.7 Y	17	44
JS-SW-C11	9/29/2017	7	32 Y	52	170
ESLs			**110**	**500**	**500**

LEGEND

- AREA OF SITE
- LOCATION OF CONFIRMATION SOIL SAMPLE
- LIMITS OF EXCAVATION
- PROPOSED LIMITS OF EXCAVATION
- EXCAVATION DEPTH 10 FEET

(LOCATIONS ARE APPROXIMATE)

NOTES

EXCAVATION WAS OVERDUG BASED ON ANALYTICAL RESULTS AND FIELD OBSERVATIONS
ALL TPH ANALYSIS TABLE ONLY SHOWING ANALYTICAL RESULTS FOR PASSING CONFIRMATION SAMPLES
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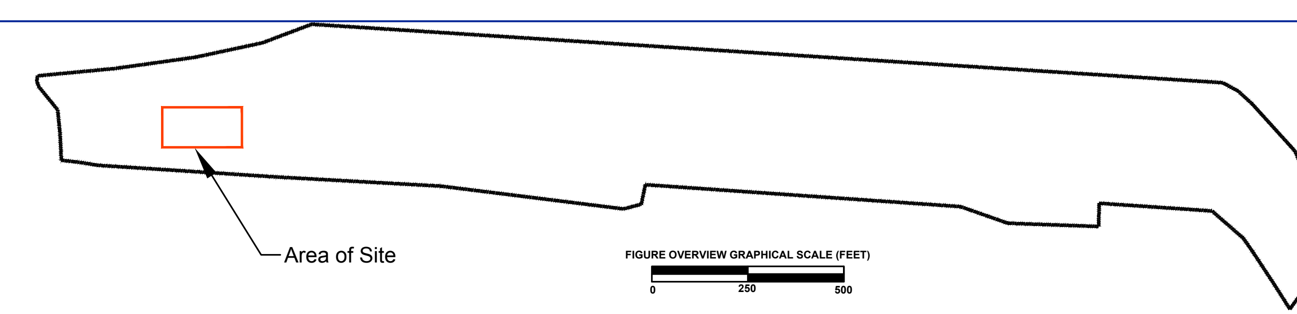
MG/KG = MILLIGRAMS PER KILOGRAMS
ND<5 OR ND<1 = NOT DETECTABLE AT OR ABOVE THE STATED LABORATORY DETECTION LIMIT
DRO = DIESEL RANGE ORGANICS
BOLD INDICATES SCREENING LEVEL EXCEEDANCE.
BOLD INDICATES SCREENING VALUE UTILIZED FOR ANALYTE.
Y = SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN WHICH DOES NOT RESEMBLE STANDARD
ESLS = ENVIRONMENTAL SCREENING LEVELS - SHALLOW SOIL GROUNDWATER IS A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER INTERIM FINAL DEC. 2013 SF BAY RWQCB - TABLE A-2 COMMERCIAL/INDUSTRIAL LAND USE
SAMPLE ID CONVENTIONS:
JS = JEAN SWEENEY
BS = BASE SAMPLE
SW= SIDEWALL SAMPLE
DUP = DUPLICATE SAMPLE
JS-SW-C06 IS THE PASSING CONFIRMATION SAMPLE CORRESPONDING TO JS-SW-C01
JS-SW-C109 IS THE PASSING CONFIRMATION SAMPLE CORRESPONDING TO JS-SW-C09



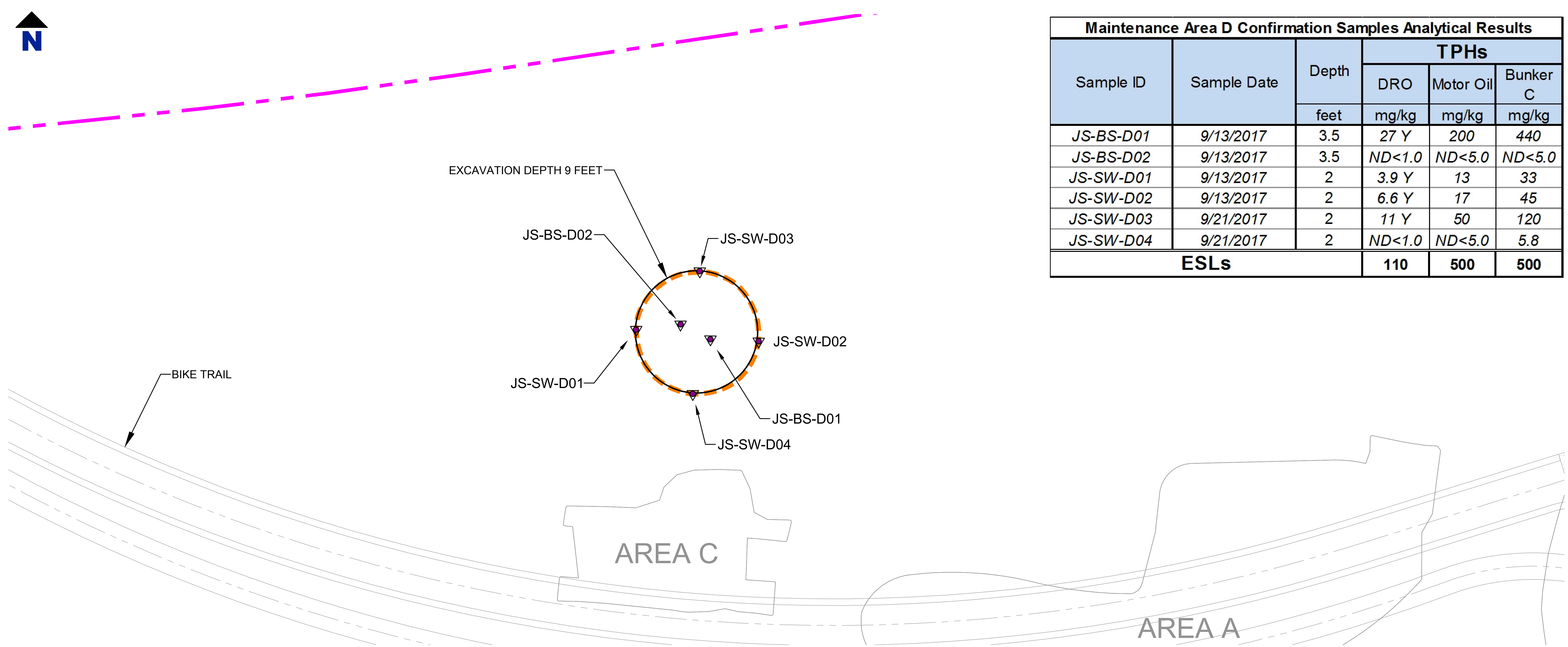
GRAPHICAL SCALE (FEET)
0 30 60

Site: Jean Sweeney Open Space Park, Alameda, CA

Drawing: Detail Map of Excavation and Sampling of Area C

Date	July 12, 2018	Scale	AS SHOWN	Fig. No. 7
File Name	RCAR Draft Figure Area C	Project No.	102.01422.00011	

SLR



Maintenance Area D Confirmation Samples Analytical Results					
Sample ID	Sample Date	Depth	TPHs		
			DRO	Motor Oil	Bunker C
		feet	mg/kg	mg/kg	mg/kg
JS-BS-D01	*9/13/2017*	3.5	*27 Y*	*200*	*440*
JS-BS-D02	*9/13/2017*	3.5	*ND<1.0*	*ND<5.0*	*ND<5.0*
JS-SW-D01	*9/13/2017*	2	*3.9 Y*	*13*	*33*
JS-SW-D02	*9/13/2017*	2	*6.6 Y*	*17*	*45*
JS-SW-D03	*9/21/2017*	2	*11 Y*	*50*	*120*
JS-SW-D04	*9/21/2017*	2	*ND<1.0*	*ND<5.0*	*5.8*
ESLs			**110**	**500**	**500**

LEGEND

- PROPERTY BOUNDARY
- AREA OF SITE
- LOCATION OF CONFIRMATION SOIL SAMPLE
- LIMITS OF EXCAVATION
- PROPOSED LIMITS OF EXCAVATION

(LOCATIONS ARE APPROXIMATE)

NOTES

EXCAVATION WAS OVERDUG BASED ON ANALYTICAL RESULTS AND FIELD OBSERVATIONS
ALL TPH ANALYSIS TABLE ONLY SHOWING ANALYTICAL RESULTS FOR PASSING CONFIRMATION SAMPLES
SHOWN HERE WERE PERFORMED BY EPA METHOD 8015B
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MG/KG = MILLIGRAMS PER KILOGRAMS
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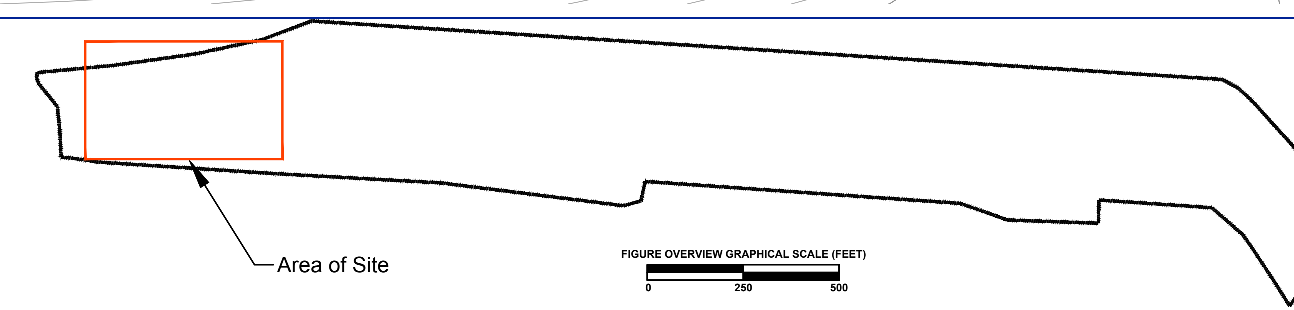
BOLD INDICATES SCREENING VALUE UTILIZED FOR ANALYTE.
Y = SAMPLE EXHIBITS CHROMATOGRAPHIC PATTERN WHICH DOES NOT RESEMBLE STANDARD
ESLS = ENVIRONMENTAL SCREENING LEVELS - SHALLOW SOIL GROUNDWATER IS A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER INTERIM FINAL DEC. 2013 SF BAY RWQCB - TABLE A-2 COMMERCIAL/INDUSTRIAL LAND USE
SAMPLE ID CONVENTIONS:
JS = JEAN SWEENEY
BS = BASE SAMPLE
SW= SIDEWALL SAMPLE
DUP = DUPLICATE SAMPLE

GRAPHICAL SCALE (FEET)
0 30 60



Site
Jean Sweeney Open Space Park, Alameda, CA

Drawing
Detail Map of Excavation and Sampling of Area D

Date July 12, 2018	Scale AS SHOWN	Fig. No. 8
File Name RCAR Draft Figure Area D	Project No. 102.01422.00011	

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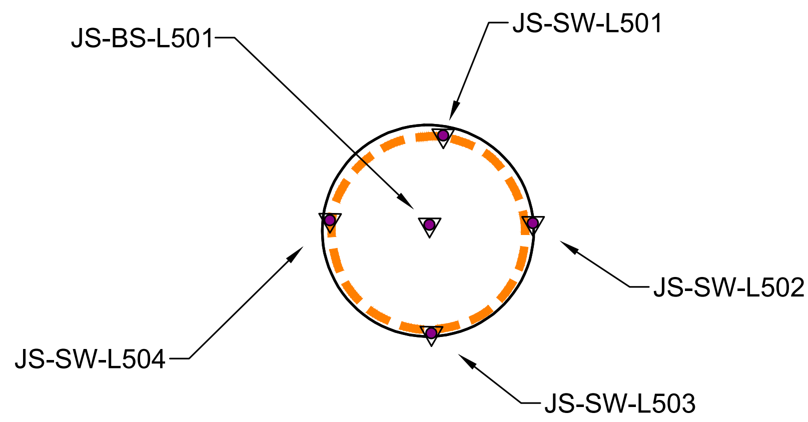


Eastern Lead Impacted Soil Confirmation Samples

Sample ID	Sample Date	Depth feet	Total Lead (mg/kg)
JS-SW-L501	9/15/2017	2	ND<1
JS-SW-L502	9/15/2017	2	3.9
JS-SW-L503	9/15/2017	2	5.5
JS-SW-L504	9/15/2017	2	5.3
JS-BS-L501	9/15/2017	3	7.6
DTSC SLs			**320**

LEGEND

AREA OF SITE

LOCATION OF CONFIRMATION SOIL SAMPLE

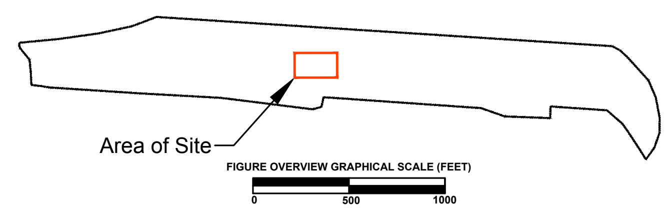
LIMITS OF EXCAVATION

PROPOSED LIMITS OF EXCAVATION

(LOCATIONS ARE APPROXIMATE)

NOTES

DEPTH OF EXCAVATION 3 FEET
TABLE ONLY SHOWING ANALYTICAL RESULTS FOR PASSING CONFIRMATION SAMPLES
ALL LEAD ANALYSES SHOWN HERE WERE PERFORMED BY EPA METHOD 6010B
MG/KG = MILLIGRAMS PER KILOGRAMS
ND<5 OR ND<1 = NOT DETECTABLE AT OR ABOVE THE STATED LABORATORY DETECTION LIMIT
DRO = DIESEL RANGE ORGANICS
BOLD INDICATES SCREENING LEVEL EXCEEDANCE.
BOLD INDICATES SCREENING VALUE UTILIZED FOR ANALYTE.
DTSC SLS = DTSC'S OFFICE OF HUMAN AND ECOLOGICAL RISK (HERO) HUMAN HEALTH RISK ASSESSMENT (HHRA) NOTE NUMBER 3 (JUNE 2016) "DTSC-MODIFIED SCREENING LEVELS" SCREENING LEVELS FOR COMMERCIAL/INDUSTRIAL SOIL
SAMPLE ID CONVENTIONS:
JS = JEAN SWEENEY
BS = BASE SAMPLE
SW= SIDEWALL SAMPLE
DUP = DUPLICATE SAMPLE



GRAPHICAL SCALE (FEET)
0 20 40

SLR

Site
Jean Sweeney Open Space Park, Alameda, CA

Drawing
Eastern Lead Impacted Area L-5
Soil Confirmation Samples

Date July 12, 2018	Scale AS SHOWN	Fig. No. 9
File Name RCAR Draft Figure Lead Areas	Project No. 102.01422.00011	

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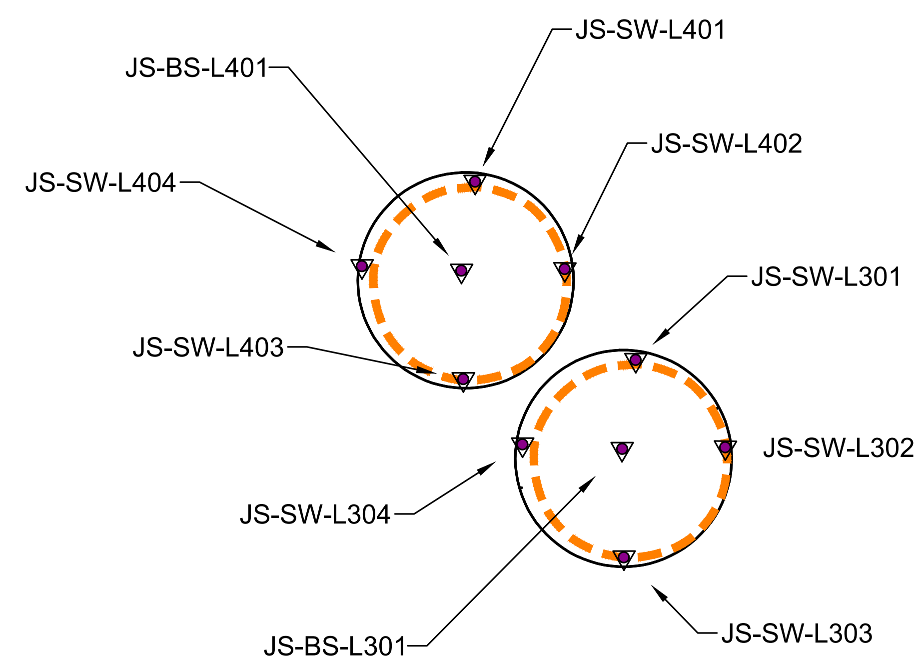
Eastern Lead Impacted Areas L3 and L4 Soil Confirmation Samples Analytical Results			
Sample ID	Sample Date	Depth (feet)	Total Lead (mg/kg)
JS-SW-L301	9/15/2017	2	17
JS-SW-L302	9/15/2017	2	14
JS-SW-L303	9/15/2017	2	8.7
JS-SW-L304	9/15/2017	2	8.2
JS-BS-L301	9/15/2017	3	2.4
JS-SW-L401	9/15/2017	2	7.0
JS-SW-L402	9/15/2017	2	7.1
JS-SW-L403	9/15/2017	2	23
JS-SW-L404	9/15/2017	2	4.5
JS-BS-L401	9/15/2017	3	150
DTSC SLs			**320**



LEGEND

AREA OF SITE

LOCATION OF CONFIRMATION SOIL SAMPLE

LIMITS OF EXCAVATION

PROPOSED LIMITS OF EXCAVATION

(LOCATIONS ARE APPROXIMATE)

NOTES

DEPTH OF EXCAVATION 3 FEET
TABLE ONLY SHOWING ANALYTICAL RESULTS FOR PASSING CONFIRMATION SAMPLES
ALL LEAD ANALYSES SHOWN HERE WERE PERFORMED BY EPA METHOD 6010B
MG/KG = MILLIGRAMS PER KILOGRAMS
ND<5 OR ND<1 = NOT DETECTABLE AT OR ABOVE THE STATED LABORATORY DETECTION LIMIT
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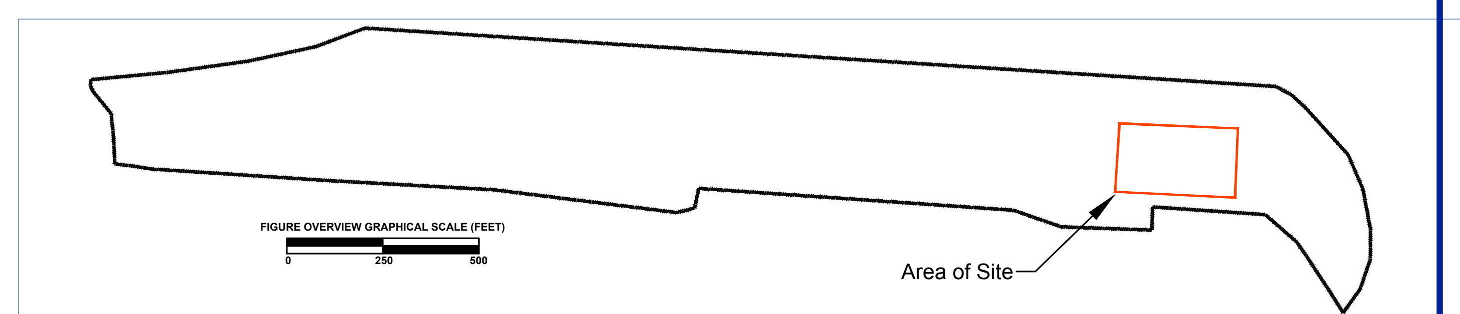
BOLD INDICATES SCREENING LEVEL EXCEEDANCE.
BOLD INDICATES SCREENING VALUE UTILIZED FOR ANALYTE.
DTSC SLS = DTSC'S OFFICE OF HUMAN AND ECOLOGICAL RISK (HERO) HUMAN HEALTH RISK ASSESSMENT (HHRA) NOTE NUMBER 3 (JUNE 2016) "DTSC-MODIFIED SCREENING LEVELS" SCREENING LEVELS FOR COMMERCIAL/INDUSTRIAL SOIL
SAMPLE ID CONVENTIONS:
JS = JEAN SWEENEY
BS = BASE SAMPLE
SW= SIDEWALL SAMPLE
SU = SAMPLE TAKEN FROM BELOW SUMP
DUP = DUPLICATE SAMPLE



GRAPHICAL SCALE (FEET)
0 20 40

Site
Jean Sweeney Open Space Park, Alameda, CA

Drawing
Eastern Lead Impacted Areas L-3 & L-4
Soil Confirmation Samples

Date February 7, 2018	Scale AS SHOWN	Fig. No. 10
File Name RCAR Draft Figure Lead Areas	Project No. 102.01422.00011	

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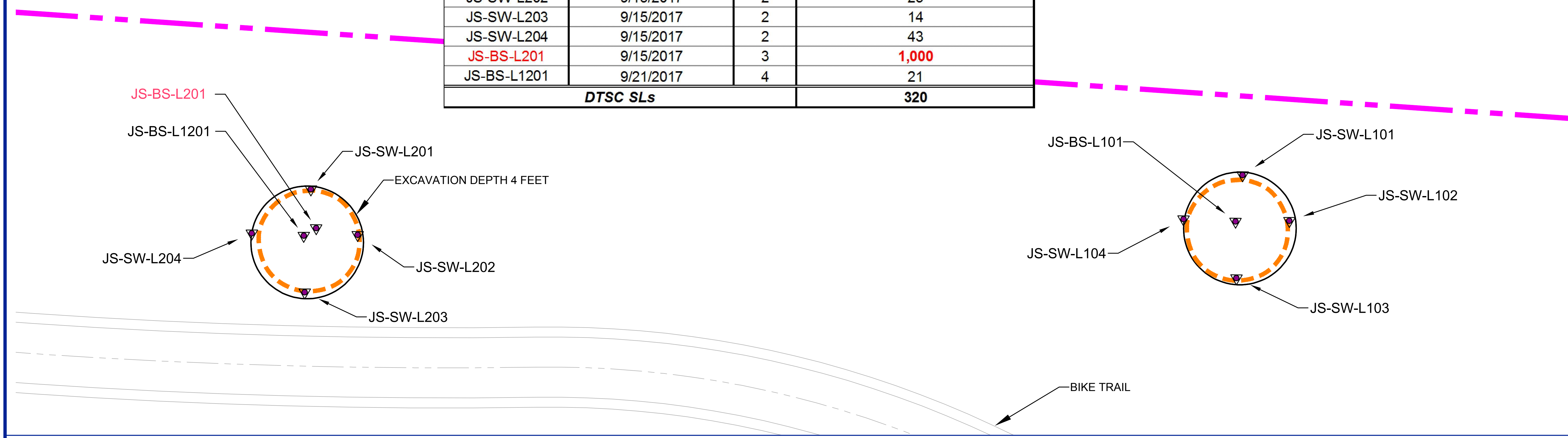
N

Eastern Lead Impacted Areas L1 and L2 Soil Confirmation Samples Analytical Results

Sample ID	Sample Date	Depth (feet)	Total Lead (mg/kg)
JS-SW-L101	9/15/2017	2	88
JS-SW-L102	9/15/2017	2	27
JS-SW-L103	9/15/2017	2	7.8
JS-SW-L104	9/15/2017	2	2.7
JS-BS-L101	9/15/2017	3	120
JS-SW-L201	9/15/2017	2	7.4
JS-SW-L202	9/15/2017	2	25
JS-SW-L203	9/15/2017	2	14
JS-SW-L204	9/15/2017	2	43
JS-BS-L201	9/15/2017	3	**1,000**
JS-BS-L1201	9/21/2017	4	21
DTSC SLs			**320**



LEGEND

- PROPERTY BOUNDARY
- AREA OF SITE
- LOCATION OF CONFIRMATION SOIL SAMPLE
- LIMITS OF EXCAVATION
- PROPOSED LIMITS OF EXCAVATION

(LOCATIONS ARE APPROXIMATE)

NOTES

DEPTH OF EXCAVATION 3 FEET
TABLE ONLY SHOWING ANALYTICAL RESULTS FOR PASSING CONFIRMATION SAMPLES
ALL LEAD ANALYSES SHOWN HERE WERE PERFORMED BY EPA METHOD 6010B
MG/KG = MILLIGRAMS PER KILOGRAMS
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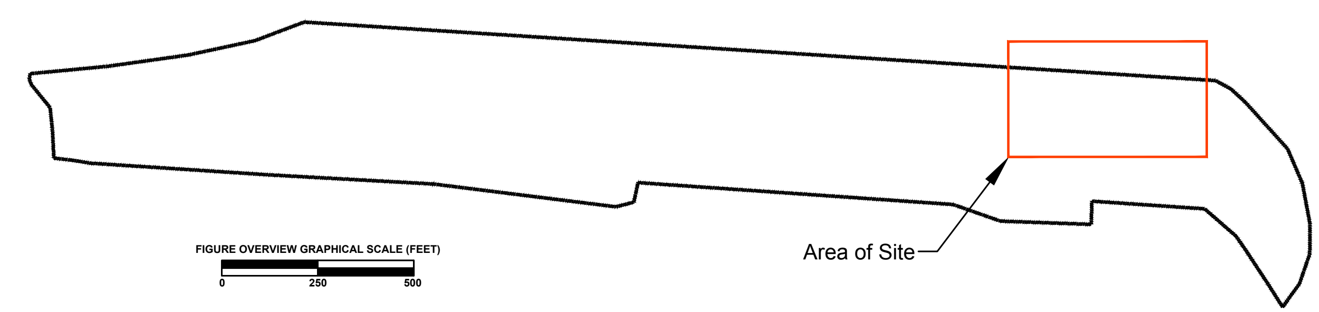
SAMPLE ID CONVENTIONS:
JS = JEAN SWEENEY
BS = BASE SAMPLE
SW= SIDEWALL SAMPLE
DUP = DUPLICATE SAMPLE
JS-BS-L1201 IS THE PASSING CONFIRMATION SAMPLE CORRESPONDING TO JS-BS-L201



GRAPHICAL SCALE (FEET)
0 20 40

Site: Jean Sweeney Open Space Park, Alameda, CA

Drawing: Eastern Lead Impacted Areas L1 & L2 Soil Confirmation Samples

Date	July 12, 2018	Scale	AS SHOWN	Fig. No.
File Name	RCAR Draft Figure Lead Areas	Project No.	102.01422.00011	11

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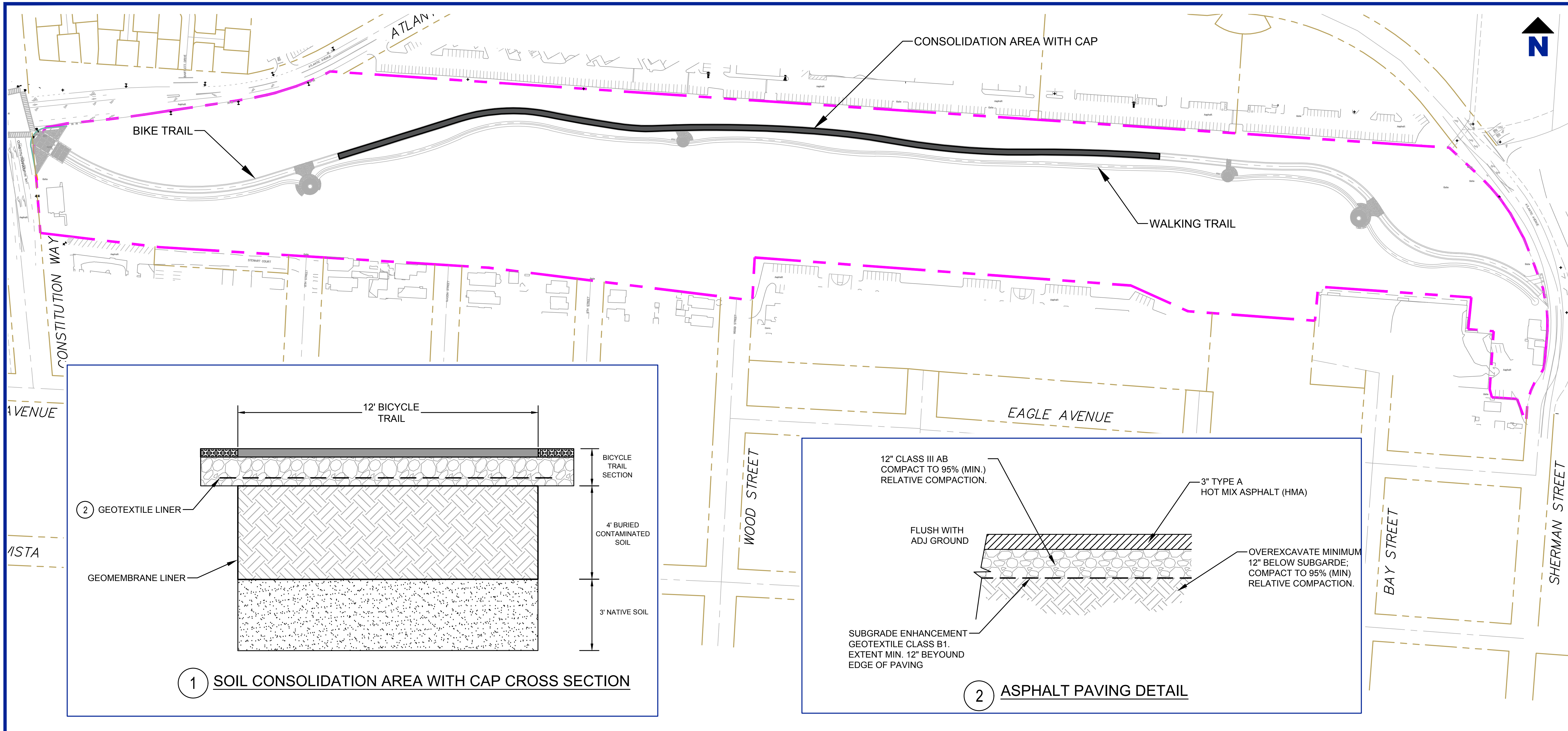

LEGEND

- PROPERTY BOUNDARY
- LOCATION OF CAPPED CONTAMINATED SOIL
- CONCRETE AREAS OF WALKING TRAIL AND BIKE TRAIL

(LOCATIONS ARE APPROXIMATE)

GRAPHICAL SCALE (FEET)
0 220 440

Site	Jean Sweeney Open Space Park, Alameda, CA
Drawing	Site Plan Showing Cap Cross Section
Date	July 12, 2018
Scale	AS SHOWN
Fig. No.	12
File Name	Cap Cross Section and Placement Detail
Project No.	102.01422.00011

SLR

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TABLES

Table 1 - JSOSP RACR - RAO Exceedance Summary

AOPC	COC EXCEEDING RAO	MAXIMUM CONCENTRATION (mg/kg)
Maintenance Area	Petroleum Hydrocarbons	4,440 (TPH-MO)*
	Lead	400
	PCBs	1 (Aroclor 1260)
	Benzo(a)anthracene	5.7
	Chrysene	15
	Benzo(a)pyrene	2.9
	Naphthalene	79
Eastern Lead-Impacted Area	Lead	2,700
Wood St. Foundation	Petroleum Hydrocarbons	670 (Bunker-C)
Former Tenant Area	Benzo(b)flouranthene	8
	Benzo(a)pyrene	5

* Excludes petroleum-saturated soil analytical results.

Table 2 - JSOSP RACR - Average Concentrations of PM10 during Excavation activities in Milligrams per Meter Cubed (µg/m3)

Day	Northwest	Northeast	Southwest	Southeast
9/8/2017	11	30	30	63
9/11/2017	22	51	26	21
9/12/2017	21	57	32	39
9/13/2017	N/A[1]	34	1	20
9/14/2017	28	65	39	N/A[2]
9/15/2017	24	43	35	40
9/21/2017	10	30	18	18
9/22/2017	24	60	26	29
9/25/2017	63	79	23	26
9/26/2017	10	N/A[3]	69	N/A[4]
Screening Value	80			

Notes:

Time Weighted Averages Calculated by Air Monitors at the end of each day. 1. Screening value of 80 µg/m3 was determined by adding the background level of PM10 of 30µg/m3 to the Bay Area Air Quality Mangament Disctrict (BAAQMD) nuisance level of 50 µg/m3.

2. Reading inaccurate due to lack of consistency with visual operations and other air monitor readings

3. Reading inaccurate due to lawn Mowing, weed whacking, and clearing alongside outside edge of Site

4. Reading inaccurate activities unrelated to excavation. Placement of mulch filled wattle caused excess dust and debris in the air.

5. The same air monitors were used for each location everyday air monitoring was used

6. In the case two or more air logging periods, the time weighted average was calculated between the two overall average concentrations of PM10 and is shown above

Table 3 - JSOSP RACR - Summary of Former Maintenance Area Confirmation Sample Analytical Exceedances and Resampling Results

Excavation Area	Sample ID	Initial or Step-Out	Sample Depth (feet)	DRO (mg/kg)	Motor Oil (mg/kg)	Bunker C (mg/kg)
Area A	JS-BS-A01	Initial	3.5	**310.0 Y**	**2,100**	**4,400**
	JS-BS-A101	Step-Out	4.5	2.3 Y	11	32
	JS-BS-A10	Initial	3.5	72.0 Y	420	**4,400**
	JS-BS-A110	Step-Out	5.5	12.0 Y	56	130
Area B	JS-BS-B09	Initial	3.5	94.0 Z	480	**1200**
	JS-BS-B109	Step-Out	5.5	6.3 Y	33	74
	JS-SW-B02	Initial	2	**130.0 Y**	410	**1000**
	JS-BS-B13	Step-Out	3.5	13.0 Y	51	120
	JS-SW-B07	Initial	2	**150.0 Y**	280	**780**
	JS-SW-B107	Step-Out	4	35.0 Y	130	310
Area C	JS-SW-C01	Initial	4	63.0 Y	380	**870**
	JS-SW-C06	Step-Out	7	24.0 Y	44	130
	JS-SW-C09	Initial	7	**510.0 Y**	**2,300**	**5,700**
	JS-SW-C109	Step-Out	9	6.2 Y	*ND<5.0*	20 Y
ESLs				**110**	500	**500**

Notes:

Full Analytical Results for the Former Maintenance Area shown in Table 5

Step-Out Samples taken in same location as initial samples but after over excavation

Silica Gel Cleanup Method (SGCU) used for all samples shown in this table

mg/kg = milligrams per kilograms

ND = not detectable at or above the stated laboratory detection limit

DRO = Diesel Range Organics

Y = Sample exhibits chromatographic pattern which does not resemble standard

Z = Sample exhibits unknown single peak or peaks

ESLs = Environmental Screening Levels - Shallow Soil Groundwater Is a Current or Potential Source of Drinking Water Interim Final Dec. 2013 SF Bay RWQCB - Table A-2

Bold Red indicates screening level exceedance.

Non-Bold indicates sample containing screening level exceedance for analysis with SGCU

Bold Black indicates screening value utilized for analyte.

JS-BS-A101 is the passing Step-Out confirmation sample corresponding to JS-BS-A01

JS-BS-A110 is the passing Step-Out confirmation sample corresponding to JS-BS-A10

JS-BS-B109 is the passing Step-Out confirmation sample corresponding to JS-BS-B09

JS-BS-B13 is the passing Step-Out confirmation sample corresponding to JS-SW-B02

Table 4 - JSOSP RACR - Eastern Lead Impacted Area L2 Confirmation Sample Analytical Results

Sample ID	Initial or Step-Out	Sample Depth (feet)	Total Lead (mg/kg)
JS-SW-L201	Initial	2	7.4
JS-SW-L202	Initial	2	25
JS-SW-L203	Initial	2	14
JS-SW-L204	Initial	2	43
JS-BS-L201	Initial	3	**1,000**
JS-BS-L1201	Step-Out	4	21
DTSC SLs			**320**

Notes:
Full Analytical Results for the Former Maintenance Area shown in Table 6
Step-Out Samples taken in same location as initial samples but after overexcavation
mg/kg = milligrams per kilograms
Bold Red indicates screening level exceedance.
Non-Bold indicates sample containing screening level exceedance
Bold Black indicates screening value utilized for analyte.
DTSC SLs = DTSC's Office of Human and Ecological Risk (HERO) Human Health Risk Assessment (HHRA) Note Number 3 (June 2016) "DTSC-modified Screening Levels" Screening Levels for Commercial/Industrial Soil
JS-BS-L1201 is the passing Step-Out confirmation sample corresponding to JS-BS-L201

Table 5 - JSOSP RACR - Former Maintenance Area Confirmation Samples Full Analytical Results

Sample ID	Date Sampled	Depth (feet)	TPHs					
			DRO		Motor Oil		Bunker C	
			NO SGCU	SGCU	NO SGCU	SGCU	NO SGCU	SGCU
JS-BS-A01	*9/8/2017*	3.5	***300 Y***	***310 Y***	***2,400***	***2,100***	***5,500***	***4,400***
JS-BS-A101	*9/14/2017*	4.5	*3.7 Y*	*2.3 Y*	*20*	*11*	*56*	*32*
JS-BS-A02	*9/8/2017*	3.5	*14 Y*	*9.7 Y*	*80*	*52*	*180*	*120*
JS-BS-A03	*9/8/2017*	3.5	*14 Y*	*11 Y*	*60*	*36*	*140*	*87*
JS-BS-A04	*9/8/2017*	3.5	*4.2 Y*	*3.1 Y*	*32*	*20*	*72*	*42*
JS-BS-A04DUP	*9/8/2017*	3.5	*2.4 Y*	*2.0 Y*	*19*	*13*	*43*	*27*
JS-BS-A05	*9/8/2017*	3.5	*5.6 Y*	*3.9 Y*	*42*	*24*	*93*	*54*
JS-BS-A06	*9/11/2017*	3.5	*24 Y*	*15 Y*	*91*	*53*	*210*	*130*
JS-BS-A07	*9/11/2017*	3.5	*27 Y*	*16 Y*	*100*	*55*	*240*	*130*
JS-BS-A08	*9/11/2017*	3.5	***130 Y***	*77 Y*	*230*	*120*	***660***	*370*
JS-BS-A09	*9/11/2017*	3.5	*36 Y*	*27 Y*	*120*	*80*	*300*	*200*
JS-BS-A109	*9/21/2017*	5.5	*43 Y*	*33 Y*	*86*	*88*	*250*	*240*
JS-BS-A10	*9/11/2017*	3.5	*96 Y*	*72 Y*	***660***	*420*	***1,500***	***930***
JS-BS-A110	*9/21/2017*	5.5	*26 Y*	*12 Y*	*64*	*56*	*170*	*130*
JS-BS-A11	*9/11/2017*	3.5	*12 Y*	*7.6 Y*	*51*	*33*	*120*	*76*
JS-BS-A12	*9/11/2017*	3.5	*12 Y*	*7.1 Y*	*55*	*34*	*120*	*75*
JS-BS-A13	*9/11/2017*	3.5	*12 Y*	*6.1 Y*	*50*	*31*	*120*	*69*
JS-BS-A13DUP	*9/11/2017*	3.5	*11 Y*	*8.3 Y*	*45*	*34*	*110*	*80*
JS-BS-A14	*9/11/2017*	3.5	*20 Y*	*9.2Y*	*81*	*39*	*200*	*95*
JS-SW-A01	*9/8/2017*	2	*5.5 Y*	*4.3 Y*	*81*	*53*	*180*	*120*
JS-SW-A02	*9/11/2017*	2	*2.2 Y*	*1.3 Y*	*16*	*12*	*36*	*26*
JS-SW-A03	*9/11/2017*	2	*33 Y*	*19 Y*	*170*	*86*	*390*	*210*
JS-SW-A04	*9/11/2017*	2	*10 Y*	*7.4 Y*	*29*	*19*	*69*	*49*
JS-SW-A05	*9/11/2017*	2	*7.3 Y*	*6.1 Y*	*5*	*ND<5.0*	*25*	*19 Y*
JS-SW-A06	*9/11/2017*	2	*14 Y*	*12 Y*	*60*	*46*	*140*	*110*
JS-SW-A07	*9/11/2017*	2	*13 Y*	*9.4 Y*	*52*	*39*	*120*	*90*
JS-SW-A08	*9/11/2017*	2	*8.4 Y*	*6.2 Y*	*44*	*32*	*100*	*74*
JS-BS-B01	*9/12/2017*	3.5	*15 Y*	*8.2 Y*	*37*	*21*	*99*	*41*
JS-BS-B02	*9/12/2017*	3.5	*ND<1.0*	*ND<1.0*	*ND<5.0*	*ND<5.0*	*ND<5.0*	*ND<5.0*
JS-BS-B03	*9/12/2017*	3.5	*2.0 Y*	*ND<1.0*	*ND<5.0*	*ND<5.0*	*6.0*	*5.2*
JS-BS-B04	*9/12/2017*	3.5	*6.9 Y*	*5.0 Y*	*14*	*9.6*	*33*	*28*
JS-BS-B05	*9/12/2017*	3.5	*ND<1.0*	*ND<1.0*	*ND<5.0*	*ND<5.0*	*ND<5.0*	*ND<5.0*
JS-BS-B06	*9/12/2017*	3.5	*1.7 Y*	*ND<1.0*	*7.2*	*ND<5.0*	*14*	*10*
JS-BS-B07	*9/12/2017*	3.5	*ND<1.0*	*ND<1.0*	*ND<5.0*	*ND<5.0*	*ND<5.0*	*ND<5.0*
JS-BS-B08	*9/12/2017*	3.5	*ND<0.99*	*ND<0.99*	*ND<5.0*	*ND<5.0*	*ND<5.0*	*ND<5.0*
JS-BS-B09	*9/12/2017*	3.5	***160 Z***	*94 Y*	***760***	*480*	***1,500 Z***	***1,200***
JS-BS-B109	*9/21/2017*	5.5	*5.2 Y*	*6.3 Y*	*28*	*33*	*66*	*74*
JS-BS-B11	*9/14/2017*	3.5	*26 Y*	*18 Y*	*65*	*67*	*170*	*160*
JS-BS-B13	*9/14/2017*	3.5	*22 Y*	*13 Y*	*51*	*51*	*140*	*120*
JS-BS-B15	*9/14/2017*	3.5	*19 Y*	*12 Y*	*49*	*47*	*130*	*110*
JS-BS-B18	9/15/2017	3.5	*9.1 Y*	9.9 Y	*45*	55	*110*	130

Table 5 - JSOSP RACR - Former Maintenance Area Confirmation Samples Full Analytical Results

Sample ID	Date Sampled	Depth (feet)	TPHs					
			DRO		Motor Oil		Bunker C	
			NO SGCU	SGCU	NO SGCU	SGCU	NO SGCU	SGCU
JS-BS-B19	9/15/2017	3.5	12 Y	7.3 Y	39	35	99	86
JS-BS-B20	9/15/2017	3.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
JS-SW-B01	9/12/2017	2	14 Y	6.8 Y	69	38	130	87
JS-SW-B02	9/12/2017	2	**130 Y**	**130 Y**	500	410	**980**	**1,000**
JS-SW-B03	9/12/2017	2	ND<1.0	ND<1.0	ND<5.0	ND<5.0	7.1 Y	8.6 Y
JS-SW-B04	9/12/2017	2	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
JS-SW-B05	9/12/2017	2	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
JS-SW-B06	9/12/2017	2	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
JS-SW-B07	9/12/2017	2	**230 Y**	**150 Y**	370	280	**850**	**780**
JS-SW-B107	9/21/2017	4	43 Y	35 Y	110	130	290	310
JS-SW-B18	9/15/2017	2	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
JS-SW-B19	9/15/2017	2	10 Y	12 Y	67	84	150	190
JS-SW-B20	9/15/2017	2	4.8 Y	3.5 Y	37	39	85	88
JS-BS-C01	9/22/2017	8.5	12 Y	9.5 Y	21	27	60	71
JS-BS-C02	9/22/2017	8.5	16 Y	11 Y	29	31	84	82
JS-BS-C03	9/29/2017	8.5	21 Y	14 Y	27	19	93	66
JS-BS-C04	9/29/2017	4.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	8.1 Y	ND<5.0
JS-BS-C104	9/29/2017	9.5	3.1 Y	ND<1.0	9.1	5.3	22	12
JS-SW-C01	9/22/2017	4	67 Y	63 Y	320	380	**760**	**870**
JS-SW-C02	9/22/2017	4	2.3 Y	1.3 Y	9.5	9.5	22	22
JS-SW-C03	9/22/2017	4	2.6 Y	2.5 Y	14	16	31	37
JS-SW-C04	9/22/2017	4	1.6 Y	ND<0.99	ND<5.0	ND<5.0	11	11
JS-SW-C05	9/29/2017	7	27 Y	20 Y	83	50	210	140
JS-SW-C06	9/29/2017	7	31 Y	24 Y	68	44	190	130
JS-SW-C07	9/29/2017	7	5.0 Y	5.1 Y	11	8.9	32	27
JS-SW-C08	9/29/2017	7	4.8 Y	4.7 Y	16	11	38	30
JS-SW-C09	9/29/2017	7	**670 Y**	**510 Y**	**2,700**	**2,300**	**6,900**	**5,700**
JS-SW-C109	9/29/2017	9	8.4 Y	6.2 Y	5.6 Y	ND<5.0	28 Y	20 Y
JS-SW-C10	9/29/2017	7	7.2 Y	5.7 Y	25	17	63	44
JS-SW-C11	9/29/2017	7	50 Y	32 Y	79	52	250	170
JS-BS-D01	9/13/2017	3.5	36 Y	27 Y	200	200	470	440
JS-BS-D02	9/13/2017	3.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	6.4	ND<5.0
JS-SW-D01	9/13/2017	2	5.5 Y	3.9 Y	21	13	51	33
JS-SW-D02	9/13/2017	2	8.3 Y	6.6 Y	23	17	59	45
JS-SW-D03	9/21/2017	2	19 Y	11 Y	50	50	130	120
JS-SW-D04	9/21/2017	2	ND<1.0	ND<1.0	ND<5.0	ND<5.0	7.7	5.8
JS-SU-B01	9/22/2017	5.5	1.6 Y	ND<1.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
JS-SU-B02	9/22/2017	5.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0

Table 5 - JSOSP RACR - Former Maintenance Area Confirmation Samples Full Analytical Results

Sample ID	Date Sampled	Depth (feet)	TPHs					
			DRO		Motor Oil		Bunker C	
			NO SGCU	SGCU	NO SGCU	SGCU	NO SGCU	SGCU
JS-SU-B03	9/26/2017	8.5	*13 Y*	*9.2 Y*	*18*	*15*	*60*	*46*
JS-SU-B04	9/26/2017	8.5	*10 Y*	*4.9 Y*	*12*	*7.6*	*42*	*24*
ESLs			**110**	**110**	**500**	**500**	**500**	**500**

Notes:

All TPH analyses performed during 2017 investigation were performed by EPA Method 8015B
All samples within columns under "SGCU" were treated with Silica Gel Cleanup (EPA Method 3630C) prior to analysis
All samples within columns under "No SGCU" were not treated with Silica Gel Cleanup (EPA Method 3630C) prior to analysis
mg/kg = milligrams per kilograms
ND = not detectable at or above the stated laboratory detection limit
DRO = Diesel Range Organics
Y = Sample exhibits chromatographic pattern which does not resemble standard
Z = Sample exhibits unknown single peak or peaks
ESLs = Environmental Screening Levels - Shallow Soil Groundwater Is a Current or Potential Source of Drinking Water Interim Final Dec. 2013 SF Bay RWQCB - Table A-2
Bold Red indicates screening level exceedance.
Non-Bold indicates sample containing screening level exceedance for analysis with SGCU
Bold Black indicates screening value utilized for analyte.
JS = Jean Sweeney
BS = Base Sample
SW = Sidewall Sample
SU = Sample Taken from Below former location of Sump
DUP = Duplicate Sample
-A = Sample Collected from Area A
-B = Sample Collected from Area B
-C = Sample Collected from Area C
-D = Sample Collected from Area D
JS-BS-A101 is the passing Step-Out confirmation sample corresponding to JS-BS-A01
JS-BS-A110 is the passing Step-Out confirmation sample corresponding to JS-BS-A10
JS-BS-B109 is the passing Step-Out confirmation sample corresponding to JS-BS-B09
JS-BS-B13 is the passing Step-Out confirmation sample corresponding to JS-SW-B02
JS-SW-B107 is the passing Step-Out confirmation sample corresponding to JS-SW-B07
JS-SW-C06 is the passing Step-Out confirmation sample corresponding to JS-SW-C01
JS-SW-C109 is the passing Step-Out confirmation sample corresponding to JS-SW-C09

Table 6 - JSOSP RACR - Eastern Lead Impacted Soil Confirmation Samples Full Analytical Results

Sample ID	Sample Date	Depth (feet)	Total Lead (mg/kg)
JS-SW-L101	9/15/2017	2	88
JS-SW-L102	9/15/2017	2	27
JS-SW-L103	9/15/2017	2	7.8
JS-SW-L104	9/15/2017	2	2.7
JS-BS-L101	9/15/2017	3	120
JS-SW-L201	9/15/2017	2	7.4
JS-SW-L202	9/15/2017	2	25
JS-SW-L203	9/15/2017	2	14
JS-SW-L204	9/15/2017	2	43
JS-BS-L201	9/15/2017	3	**1,000**
JS-BS-L1201	9/21/2017	4	21
JS-SW-L301	9/15/2017	2	17
JS-SW-L302	9/15/2017	2	14
JS-SW-L303	9/15/2017	2	8.7
JS-SW-L304	9/15/2017	2	8.2
JS-BS-L301	9/15/2017	3	2.4
JS-SW-L401	9/15/2017	2	7.0
JS-SW-L402	9/15/2017	2	7.1
JS-SW-L403	9/15/2017	2	23
JS-SW-L404	9/15/2017	2	4.5
JS-BS-L401	9/15/2017	3	150
JS-SW-L501	9/15/2017	2	ND<1.0
JS-SW-L502	9/15/2017	2	3.9
JS-SW-L503	9/15/2017	2	5.5
JS-SW-L504	9/15/2017	2	5.3
JS-BS-L501	9/15/2017	3	7.6
DTSC SLs			**320**

Notes:
All Lead analyses performed during 2017 investigation were performed by EPA Method 6010B
mg/kg = milligrams per kilograms
Bold Red indicates screening level exceedance.
Non-Bold indicates sample containing screening level exceedance
Bold Black indicates screening value utilized for analyte.
DTSC SLs = DTSC's Office of Human and Ecological Risk (HERO) Human Health Risk Assessment (HHRA) Note Number 3 (June 2016) "DTSC-modified Screening Levels" Screening Levels for Commercial/Industrial Soil
JS = Jean Sweeney
BS = Base Sample
SW = Sidewall Sample
SU = Sample Taken from Below former location of Sump
DUP = Duplicate Sample
-A = Sample Collected from Area A
-B = Sample Collected from Area B
-C = Sample Collected from Area C
-D = Sample Collected from Area D
JS-BS-L1201 is the passing Step-Out confirmation sample corresponding to JS-BS-L201

APPENDIX A

LABORATORY ANALYTICAL REPORTS

ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292258
ANALYTICAL REPORT

SLR International 110 11th Street Oakland, CA 94607	Project : 102.01422.00001 Location : Jean Sweeney Level : II

Sample ID	Lab ID
JS-BS-A01	292258-001
JS-BS-A02	292258-002
JS-BS-A03	292258-003
JS-BS-A04	292258-004
JS-BS-A04 DUP	292258-005
JS-BS-A05	292258-006
JS-SW-A01	292258-007

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 following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Tracy Babjar   Date: 09/12/2017

Tracy Babjar
Project Manager
tracy.babjar@enthalpy.com
(510) 204-2226 Ext 13107

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**292258**
Client:	**SLR International**
Project:	**102.01422.00001**
Location:	**Jean Sweeney**
Request Date:	**09/08/17**
Samples Received:	**09/08/17**

This data package contains sample and QC results for seven soil samples, requested for the above referenced project on 09/08/17. The samples were received cold and intact. This report was revised and reiussed on 9/14/17 to include revised reporting units.

TPH-Extractables by GC (EPA 8015B):
JS-BS-A01 (lab # 292258-001) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

CHAIN OF COUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 292258

Page 1 of 1
Chain of Custody # ______

Project No: 102.01422.00001
Project Name: Jean Sweeney
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH 24hr ☐ Standard

Sampler: Perth Silvers
Report To: Perth Silvers
Company: SLR
Telephone: (404) 435-0758
Email: psilvers@slrconsulting.com

Lab No.	Sample ID.	Date Collected	Time Collected	Water	Solid			# of Containers	HCl	H2SO4	HNO3	NaOH	None	TPD-D (EPA 8015D)	TPH-MO (EPA 8015D)	Bunker C (EPA 8015D)
	JS-BS-A01	9/8/17	1433		X			1						X	X	X
	JS-BS-A02	9/8/17	1439		X			1						X	X	X
	JS-BS-A03	9/8/17	1441		X			1						X	X	X
	JS-BS-A04	9/8/17	1448		X			1						X	X	X
	JS-BS-A04DUP	9/8/17	1448		X			1						X	X	X
	JS-BS-A05	9/8/17	1450		X			1								
	JS-SW-A01	9/8/17	1425		X			1								

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
Perth Silvers	9/8	1515	[signature]	9.8	1515
[signature]	9.8	1655	[signature]	9/8/17	1655

COOLER RECEIPT CHECKLIST

ENTHALPY
Berkeley

Login # 292258 Date Received 09/08/17 Number of coolers ________
Client SLR Project Jean Sweeney

Date Opened 09/08/17 By (print) VQ (sign) ________
Date Logged in ↓ By (print) EJS (sign) ________
Date Labelled ↓ By (print) VQ (sign) ________

1. Did cooler come with a shipping slip (airbill, etc) ________ YES **NO**
   Shipping info ________

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many ________ Name ________ Date ________

2B. Were custody seals intact upon arrival? ________ YES NO **NA**

3. Were custody papers dry and intact when received? ________ **YES** NO

4. Were custody papers filled out properly (ink, signed, etc)? ________ **YES** NO

5. Is the project identifiable from custody papers? (If so fill out top of form) ________ **YES** NO

6. Indicate the packing in cooler: (if other, describe) ________

☐ Bubble Wrap	☐ Foam blocks	☒ Bags	☐ None
☐ Cloth material	☐ Cardboard	☐ Styrofoam	☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

   Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 4.2

   ☐ Temperature blank(s) included? ☐ Thermometer# ________ ☒ IR Gun# B

   ☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? ________ YES **NO**
   If YES, what time were they transferred to freezer? ________

9. Did all bottles arrive unbroken/unopened? ________ **YES** NO

10. Are there any missing / extra samples? ________ YES **NO**

11. Are samples in the appropriate containers for indicated tests? ________ **YES** NO

12. Are sample labels present, in good condition and complete? ________ **YES** NO

13. Do the sample labels agree with custody papers? ________ **YES** NO

14. Was sufficient amount of sample sent for tests requested? ________ **YES** NO

15. Are the samples appropriately preserved? ________ YES NO **N/A**

16. Did you check preservatives for all bottles for each sample? ________ YES NO **N/A**

17. Did you document your preservative check? (pH strip lot# ________) YES NO **N/A**

18. Did you change the hold time in LIMS for unpreserved VOAs? ________ YES NO **N/A**

19. Did you change the hold time in LIMS for preserved terracores? ________ YES NO **N/A**

20. Are bubbles > 6mm absent in VOA samples? ________ YES NO **N/A**

21. Was the client contacted concerning this sample delivery? ________ YES **NO**
   If YES, Who was called? ________ By ________ Date: ________

COMMENTS ________

Rev 14, 8/01/17

Detections Summary for 292258

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : 102.01422.00001
Location : Jean Sweeney

Client Sample ID : JS-BS-A01 Laboratory Sample ID : 292258-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	300	Y	20	mg/Kg	As Recd	20.00	EPA 8015B	EPA 3550C
Diesel C10-C24	310	Y	10	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Motor Oil C24-C36	2,400		100	mg/Kg	As Recd	20.00	EPA 8015B	EPA 3550C
Motor Oil C24-C36	2,100		50	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Bunker C C12-C40	5,500		100	mg/Kg	As Recd	20.00	EPA 8015B	EPA 3550C
Bunker C C12-C40	4,400		50	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A02 Laboratory Sample ID : 292258-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	14	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	9.7	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	80		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	52		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	180		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	120		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A03 Laboratory Sample ID : 292258-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	14	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	11	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	60		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	36		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	140		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	87		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A04 Laboratory Sample ID : 292258-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.2	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	3.1	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	32		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	20		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	72		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	42		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A04 DUP Laboratory Sample ID : 292258-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.4	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	2.0	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	19		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	13		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	43		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	27		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A05 Laboratory Sample ID : 292258-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.6	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	3.9	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	42		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	24		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	93		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	54		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-A01 Laboratory Sample ID : 292258-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.5	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	4.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	81		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	53		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	180		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	120		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292258	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/08/17
Units:	mg/Kg	Received:	09/08/17
Basis:	as received	Prepared:	09/11/17
Batch#:	251487		

Field ID:	JS-BS-A01	Analyzed:	09/11/17
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292258-001		

Analyte	Result	RL	Diln Fac
Diesel C10-C24	300 Y	20	20.00
Diesel C10-C24 (SGCU)	310 Y	10	10.00
Motor Oil C24-C36	2,400	100	20.00
Motor Oil C24-C36 (SGCU)	2,100	50	10.00
Bunker C C12-C40	5,500	100	20.00
Bunker C C12-C40 (SGCU)	4,400	50	10.00

Surrogate	%REC	Limits	Diln Fac
o-Terphenyl	DO	55-133	20.00
o-Terphenyl (SGCU)	DO	55-133	10.00

Field ID:	JS-BS-A02	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	09/11/17
Lab ID:	292258-002	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	14 Y	1.0
Diesel C10-C24 (SGCU)	9.7 Y	1.0
Motor Oil C24-C36	80	5.0
Motor Oil C24-C36 (SGCU)	52	5.0
Bunker C C12-C40	180	5.0
Bunker C C12-C40 (SGCU)	120	5.0

Surrogate	%REC	Limits
o-Terphenyl	106	55-133
o-Terphenyl (SGCU)	104	55-133

Field ID:	JS-BS-A03	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292258-003		

Analyte	Result	RL	Analyzed
Diesel C10-C24	14 Y	1.0	09/11/17
Diesel C10-C24 (SGCU)	11 Y	1.0	09/12/17
Motor Oil C24-C36	60	5.0	09/11/17
Motor Oil C24-C36 (SGCU)	36	5.0	09/12/17
Bunker C C12-C40	140	5.0	09/11/17
Bunker C C12-C40 (SGCU)	87	5.0	09/12/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	109	55-133	09/11/17
o-Terphenyl (SGCU)	92	55-133	09/12/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292258	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/08/17
Units:	mg/Kg	Received:	09/08/17
Basis:	as received	Prepared:	09/11/17
Batch#:	251487		

Field ID:	JS-BS-A04	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292258-004		

Analyte	Result	RL	Analyzed
Diesel C10-C24	4.2 Y	1.0	09/11/17
Diesel C10-C24 (SGCU)	3.1 Y	1.0	09/12/17
Motor Oil C24-C36	32	5.0	09/11/17
Motor Oil C24-C36 (SGCU)	20	5.0	09/12/17
Bunker C C12-C40	72	5.0	09/11/17
Bunker C C12-C40 (SGCU)	42	5.0	09/12/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	96	55-133	09/11/17
o-Terphenyl (SGCU)	96	55-133	09/12/17

Field ID:	JS-BS-A04 DUP	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292258-005		

Analyte	Result	RL	Analyzed
Diesel C10-C24	2.4 Y	1.0	09/11/17
Diesel C10-C24 (SGCU)	2.0 Y	1.0	09/12/17
Motor Oil C24-C36	19	5.0	09/11/17
Motor Oil C24-C36 (SGCU)	13	5.0	09/12/17
Bunker C C12-C40	43	5.0	09/11/17
Bunker C C12-C40 (SGCU)	27	5.0	09/12/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	105	55-133	09/11/17
o-Terphenyl (SGCU)	94	55-133	09/12/17

Field ID:	JS-BS-A05	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292258-006		

Analyte	Result	RL	Analyzed
Diesel C10-C24	5.6 Y	1.0	09/11/17
Diesel C10-C24 (SGCU)	3.9 Y	1.0	09/12/17
Motor Oil C24-C36	42	5.0	09/11/17
Motor Oil C24-C36 (SGCU)	24	5.0	09/12/17
Bunker C C12-C40	93	5.0	09/11/17
Bunker C C12-C40 (SGCU)	54	5.0	09/12/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	105	55-133	09/11/17
o-Terphenyl (SGCU)	83	55-133	09/12/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292258	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/08/17
Units:	mg/Kg	Received:	09/08/17
Basis:	as received	Prepared:	09/11/17
Batch#:	251487		

Field ID:	JS-SW-A01	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292258-007		

Analyte	Result	RL	Analyzed
Diesel C10-C24	5.5 Y	1.0	09/11/17
Diesel C10-C24 (SGCU)	4.3 Y	1.0	09/12/17
Motor Oil C24-C36	81	5.0	09/11/17
Motor Oil C24-C36 (SGCU)	53	5.0	09/12/17
Bunker C C12-C40	180	5.0	09/11/17
Bunker C C12-C40 (SGCU)	120	5.0	09/12/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	99	55-133	09/11/17
o-Terphenyl (SGCU)	82	55-133	09/12/17

Type:	BLANK	Analyzed:	09/11/17
Lab ID:	QC900232	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	105	55-133
o-Terphenyl (SGCU)	92	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292258	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC900233	Batch#:	251487
Matrix:	Soil	Prepared:	09/11/17
Units:	mg/Kg	Analyzed:	09/11/17

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.87	57.02	114	51-137
Diesel C10-C24 (SGCU)	49.87	51.66	104	51-137

Surrogate	%REC	Limits
o-Terphenyl	107	55-133
o-Terphenyl (SGCU)	97	55-133

SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292258	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	251487
MSS Lab ID:	292259-001	Sampled:	09/08/17
Matrix:	Soil	Received:	09/08/17
Units:	mg/Kg	Prepared:	09/11/17
Basis:	as received	Analyzed:	09/11/17
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3630C
Lab ID: QC900234

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24 (SGCU)	14.92	49.82	63.20	97	36-143

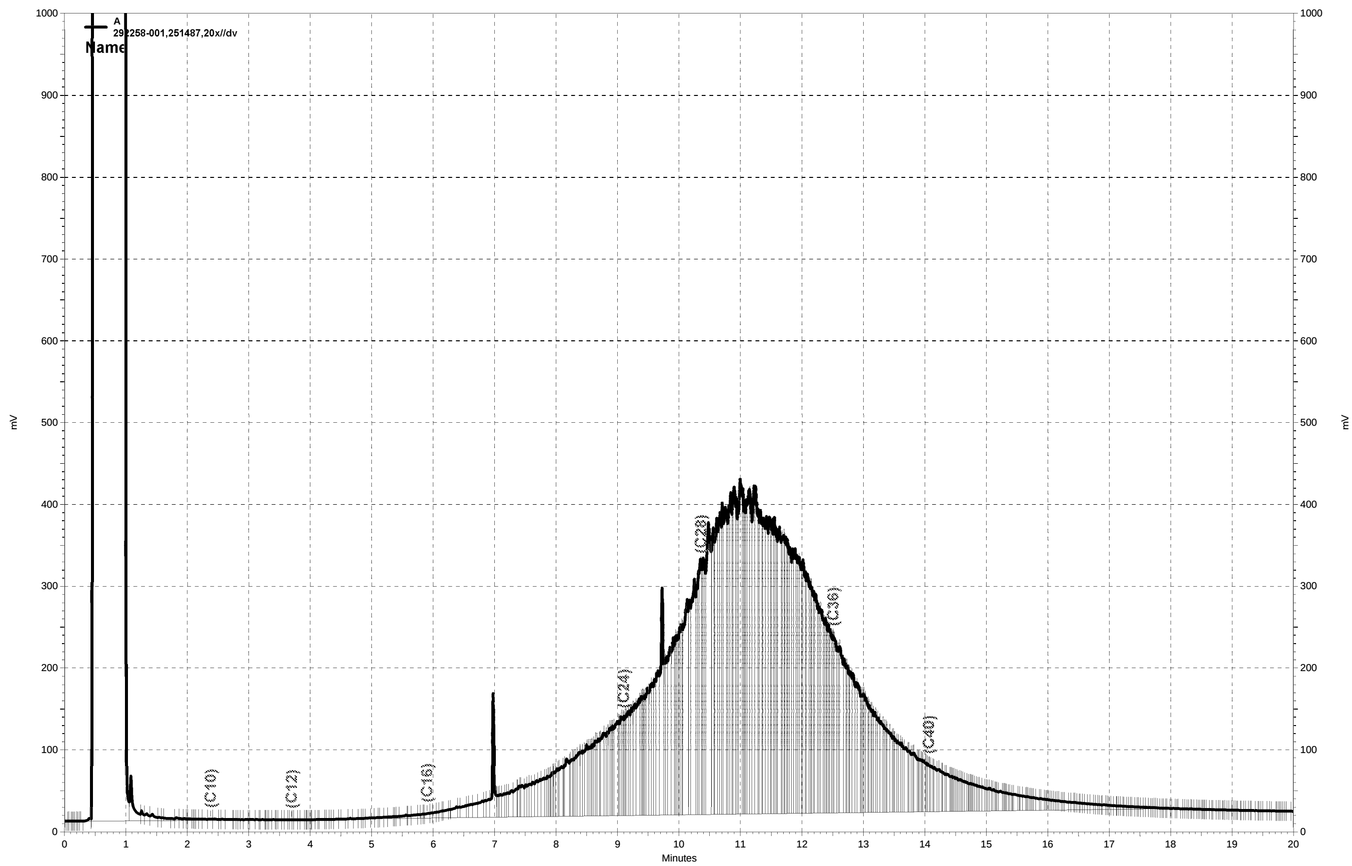
Surrogate	%REC	Limits
o-Terphenyl (SGCU)	93	55-133

Type: MSD Cleanup Method: EPA 3630C
Lab ID: QC900235

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24 (SGCU)	50.07	53.49	77	36-143	17	55

Surrogate	%REC	Limits
o-Terphenyl (SGCU)	78	55-133

RPD= Relative Percent Difference
SGCU= Silica gel cleanup



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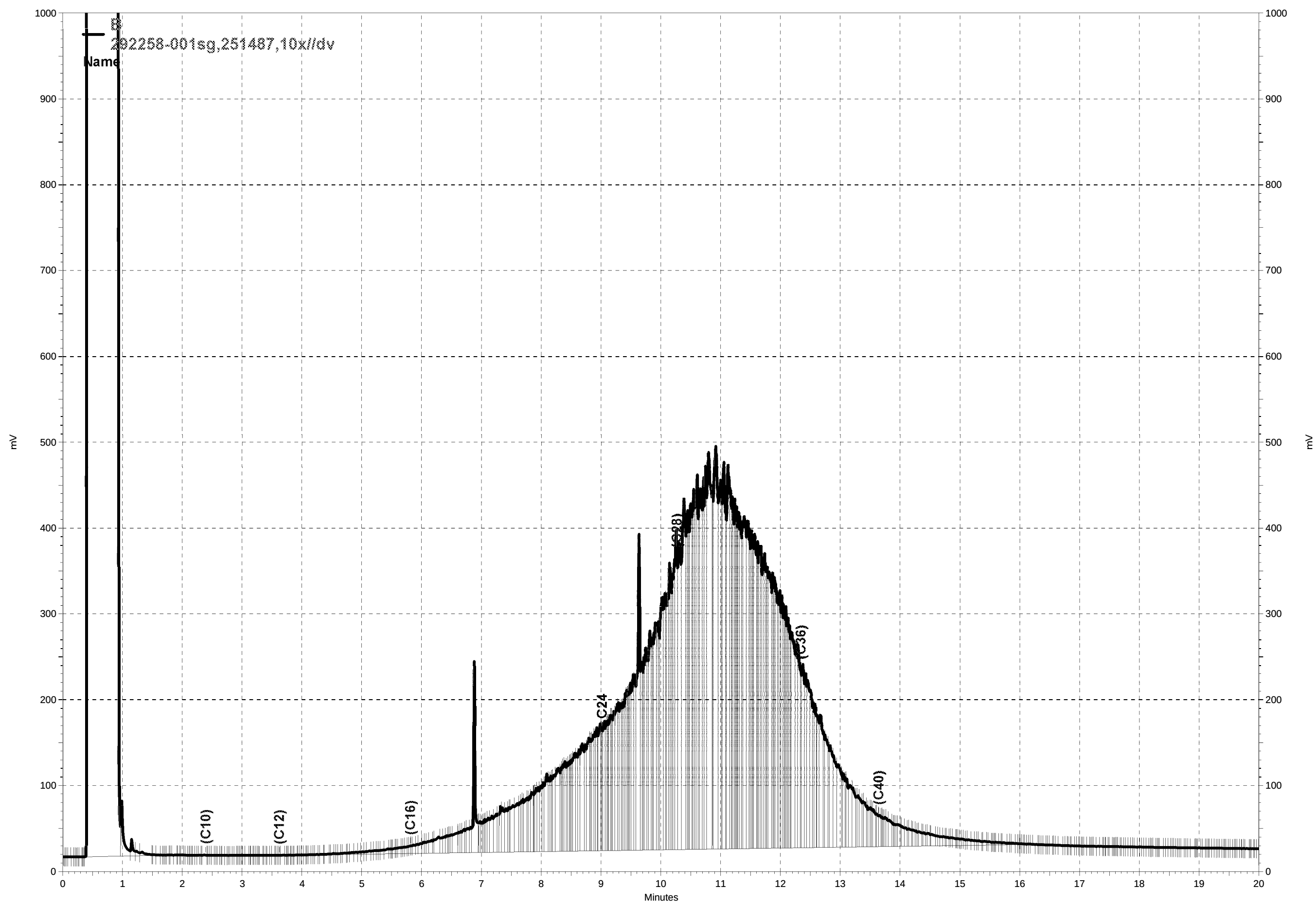

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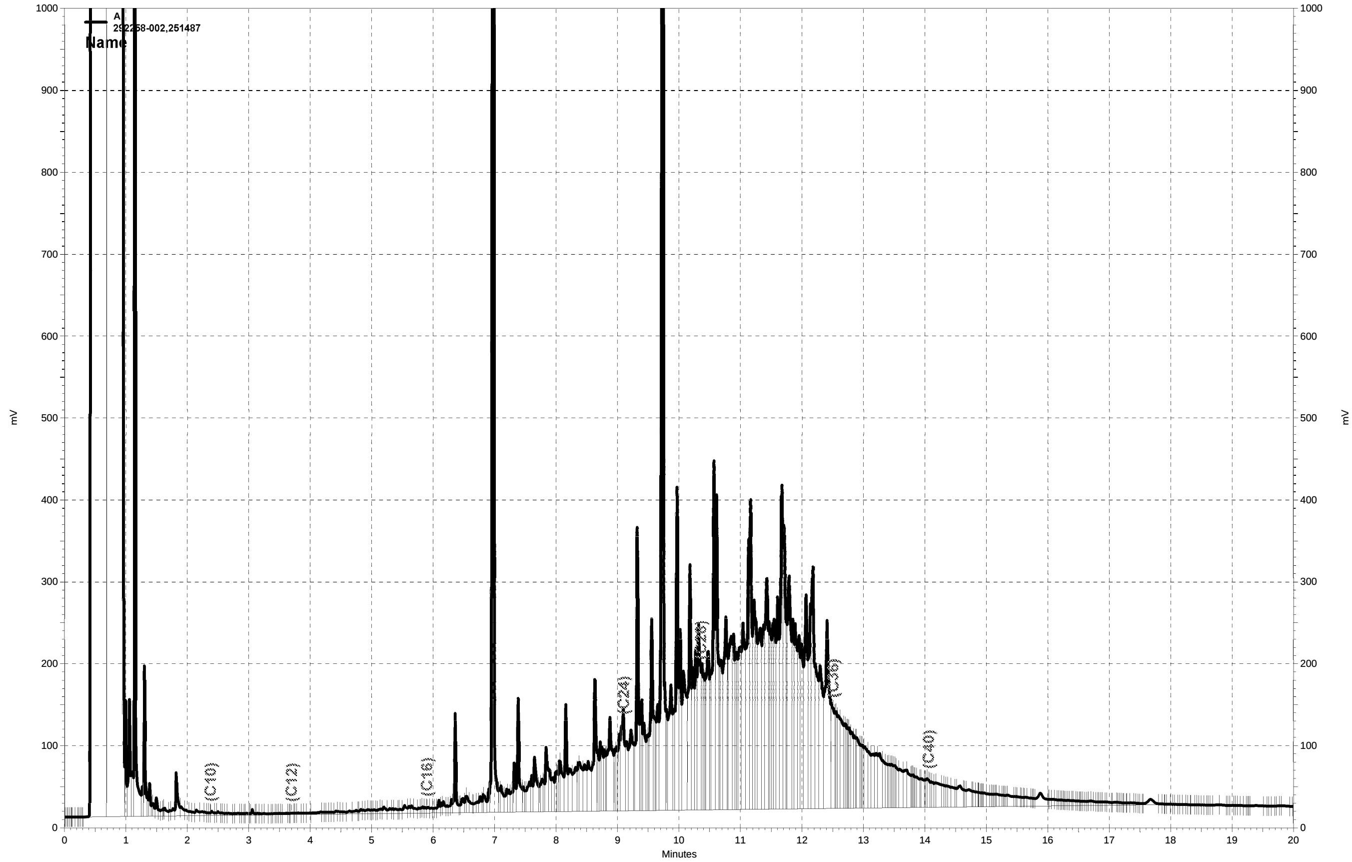

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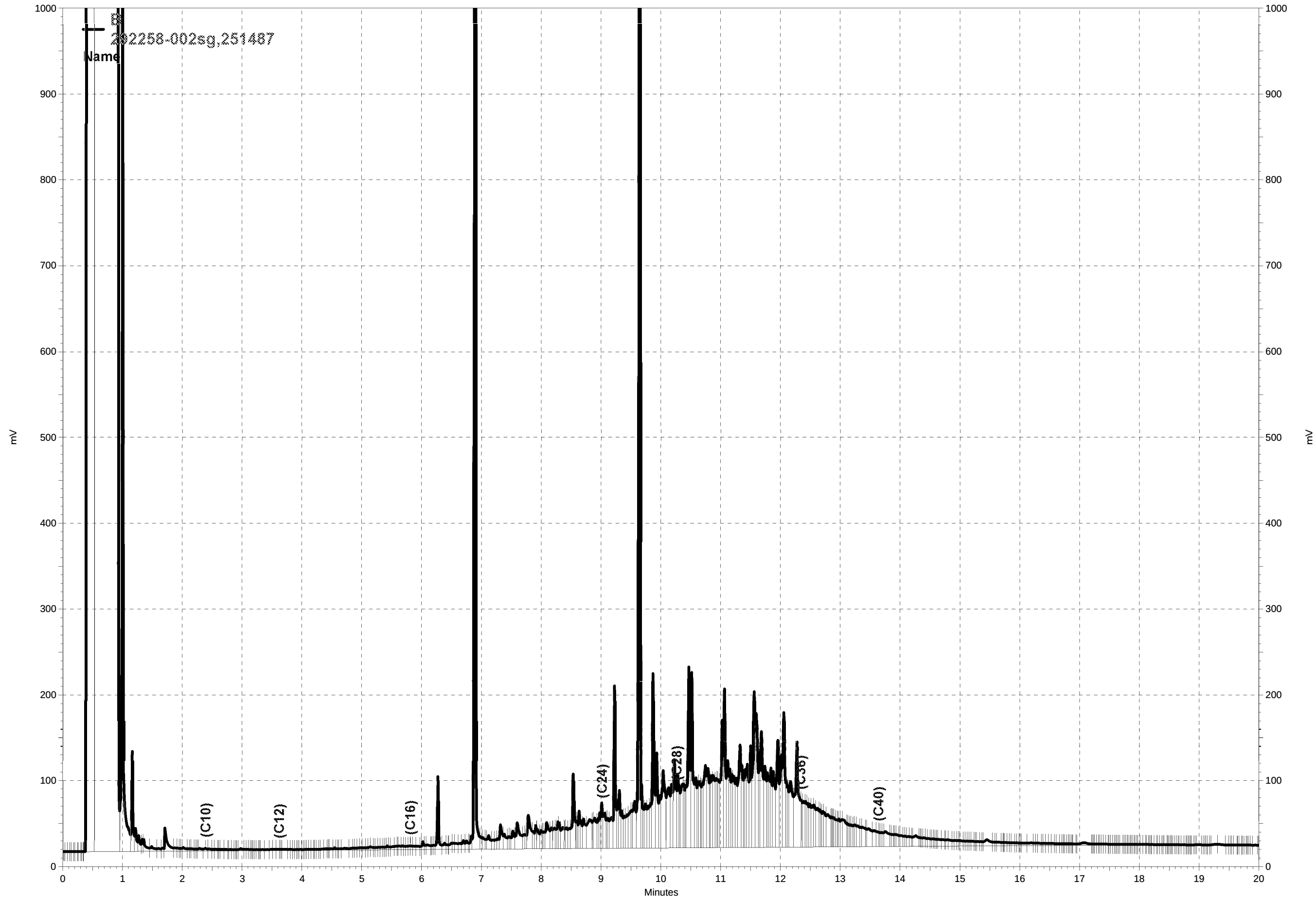

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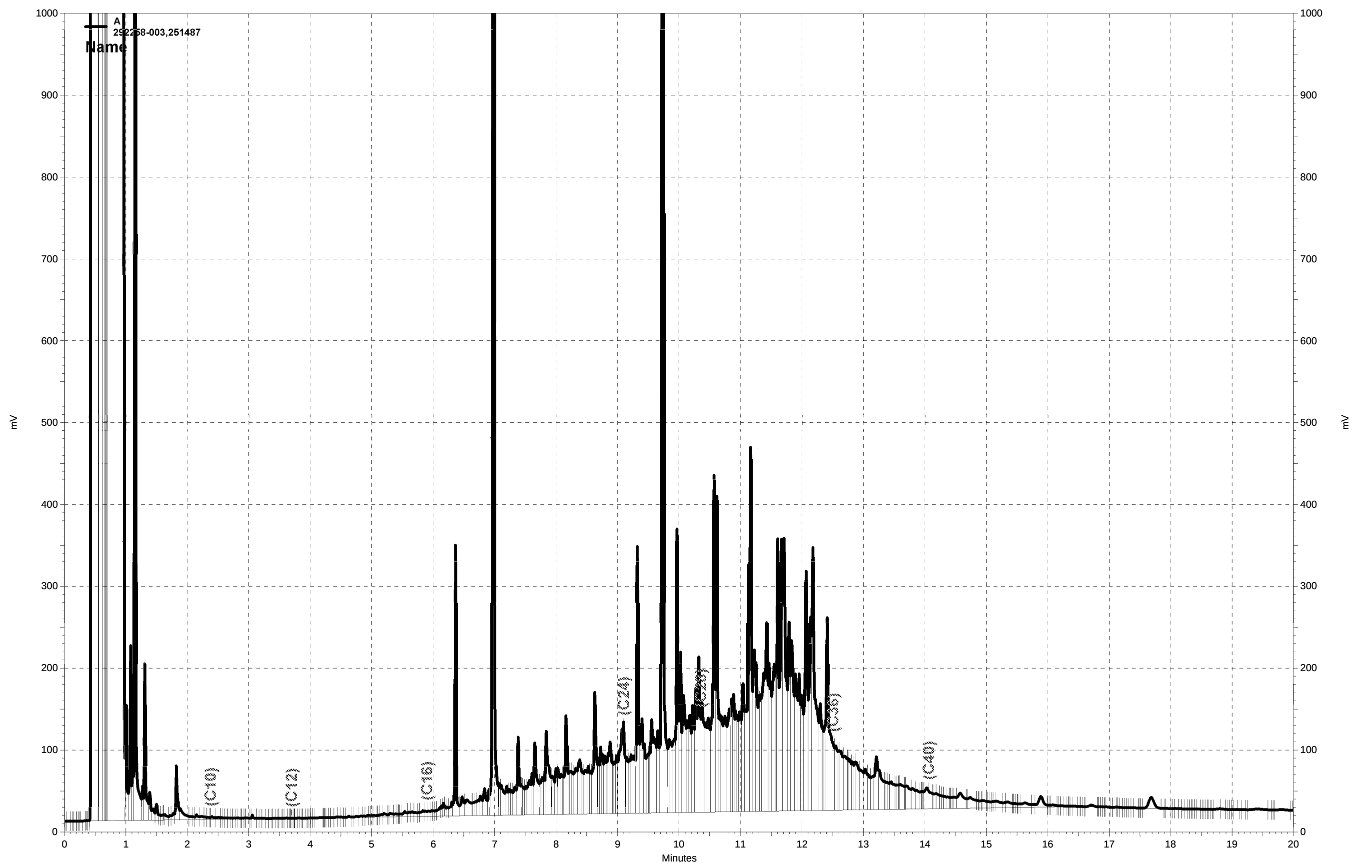

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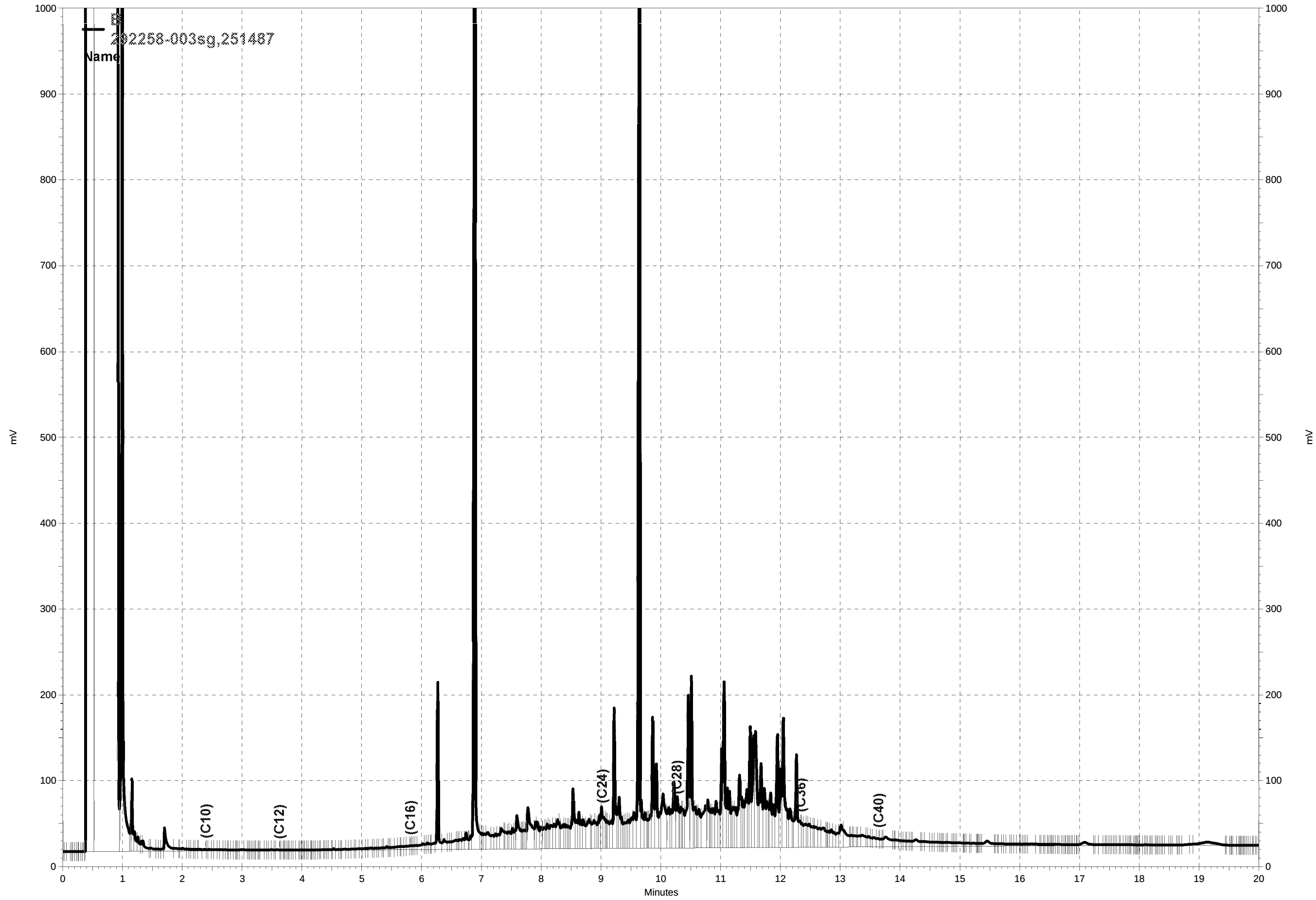

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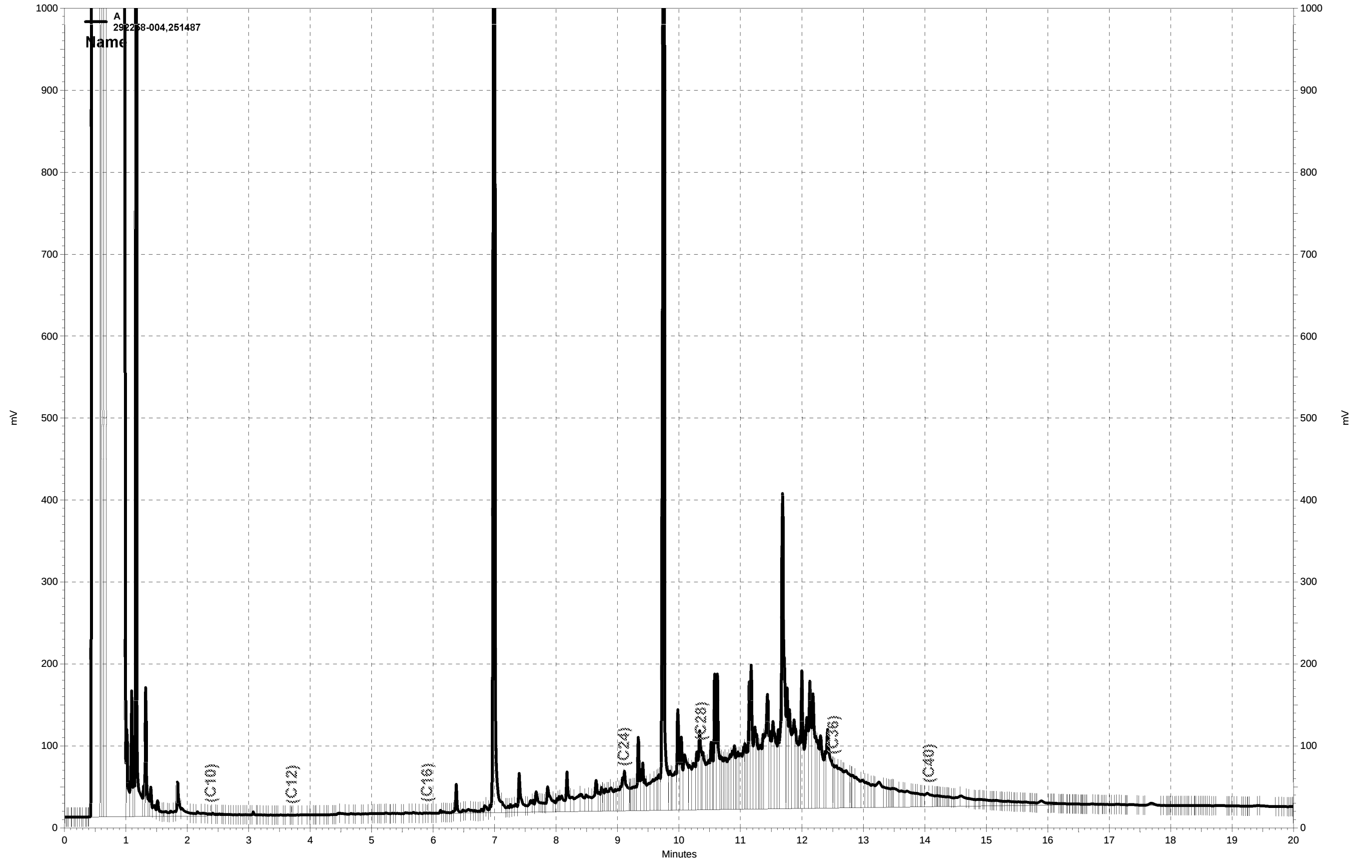

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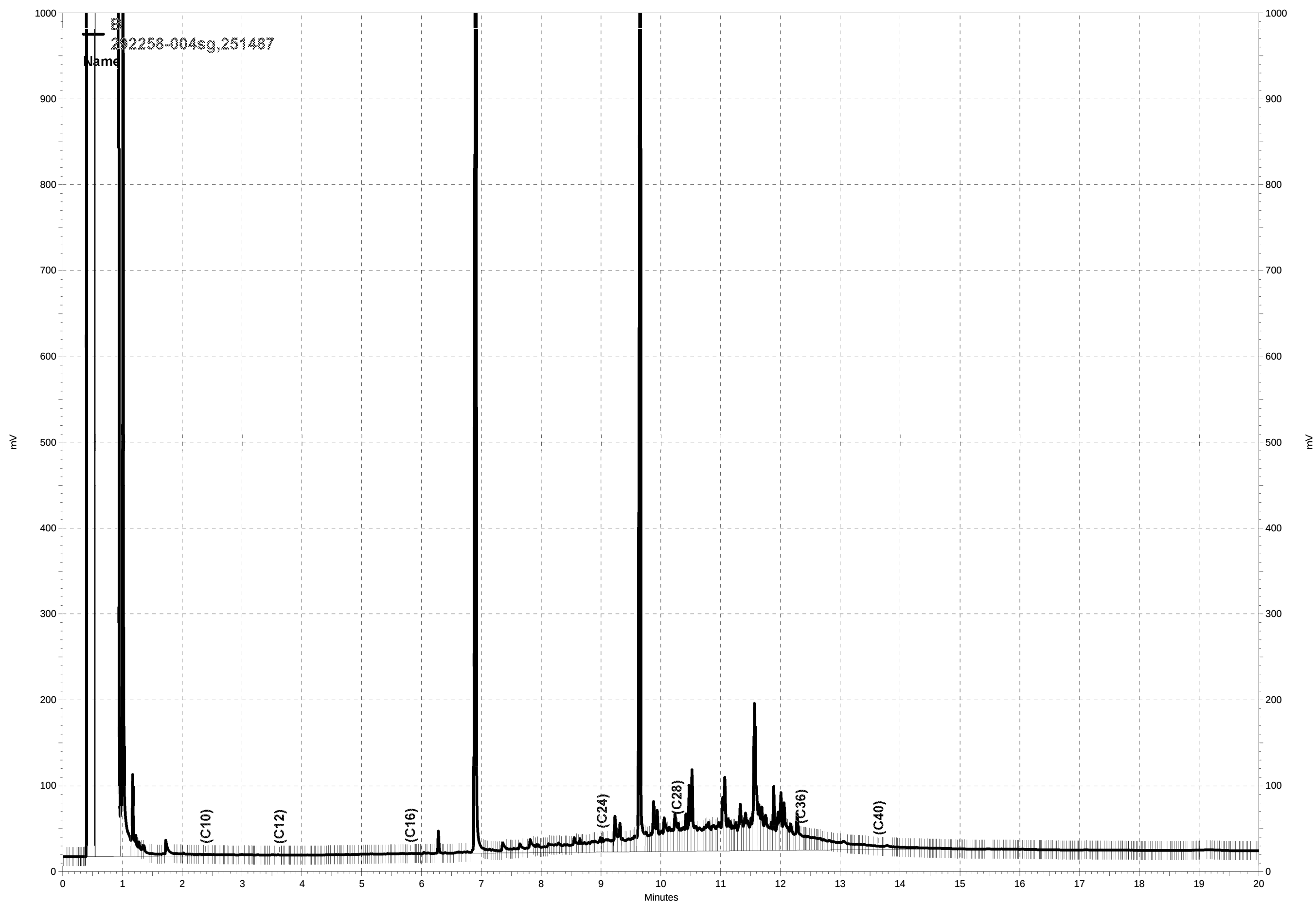

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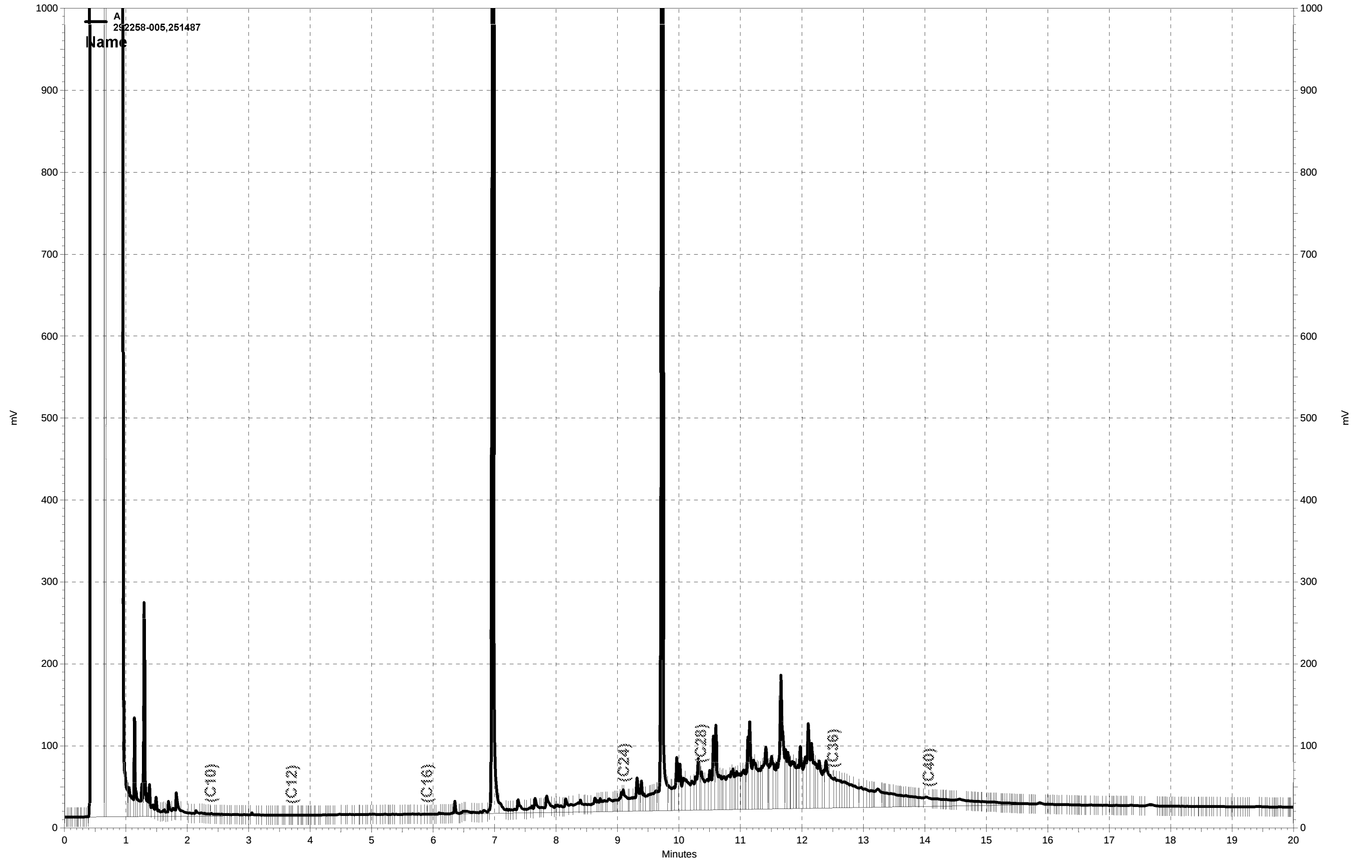

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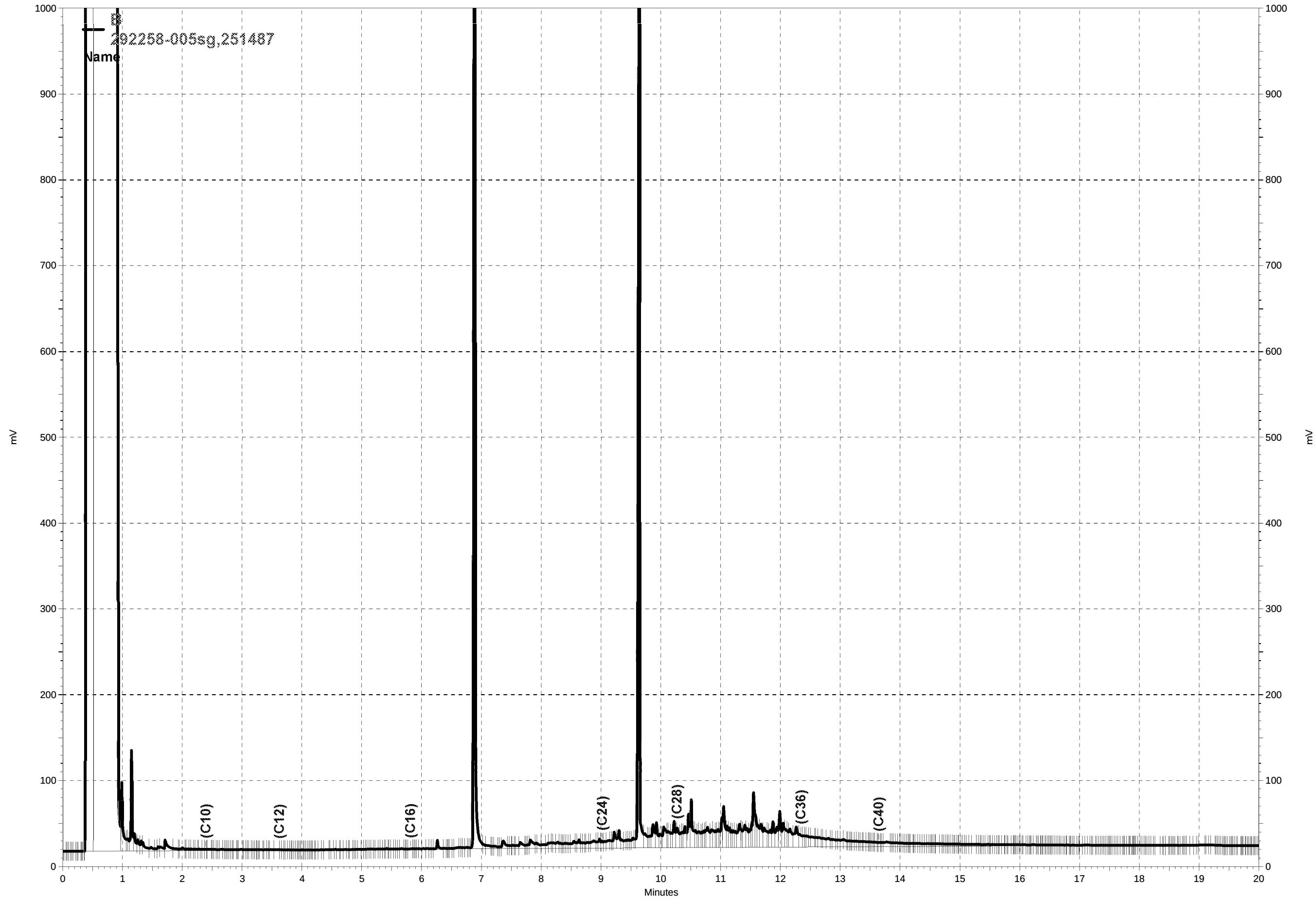

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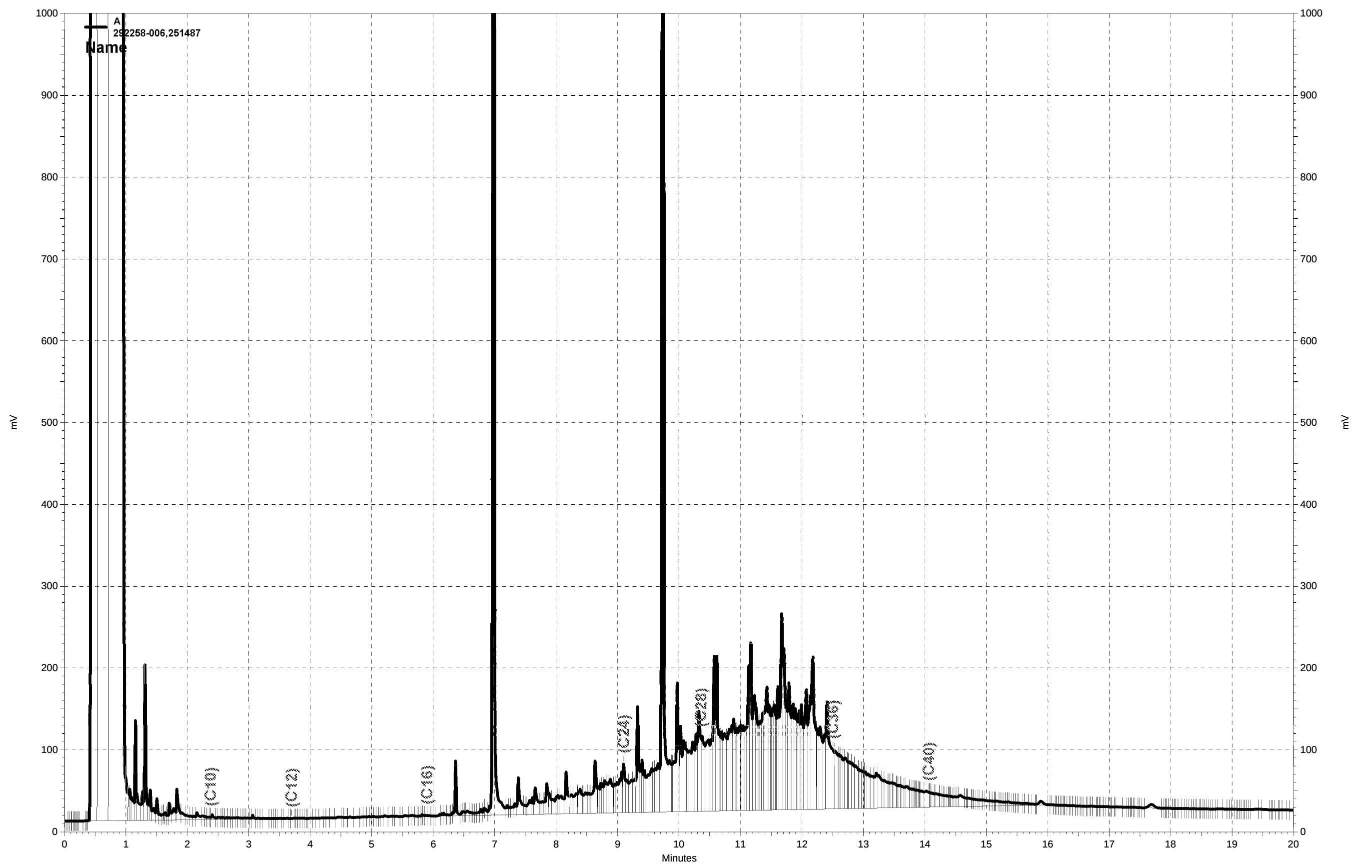

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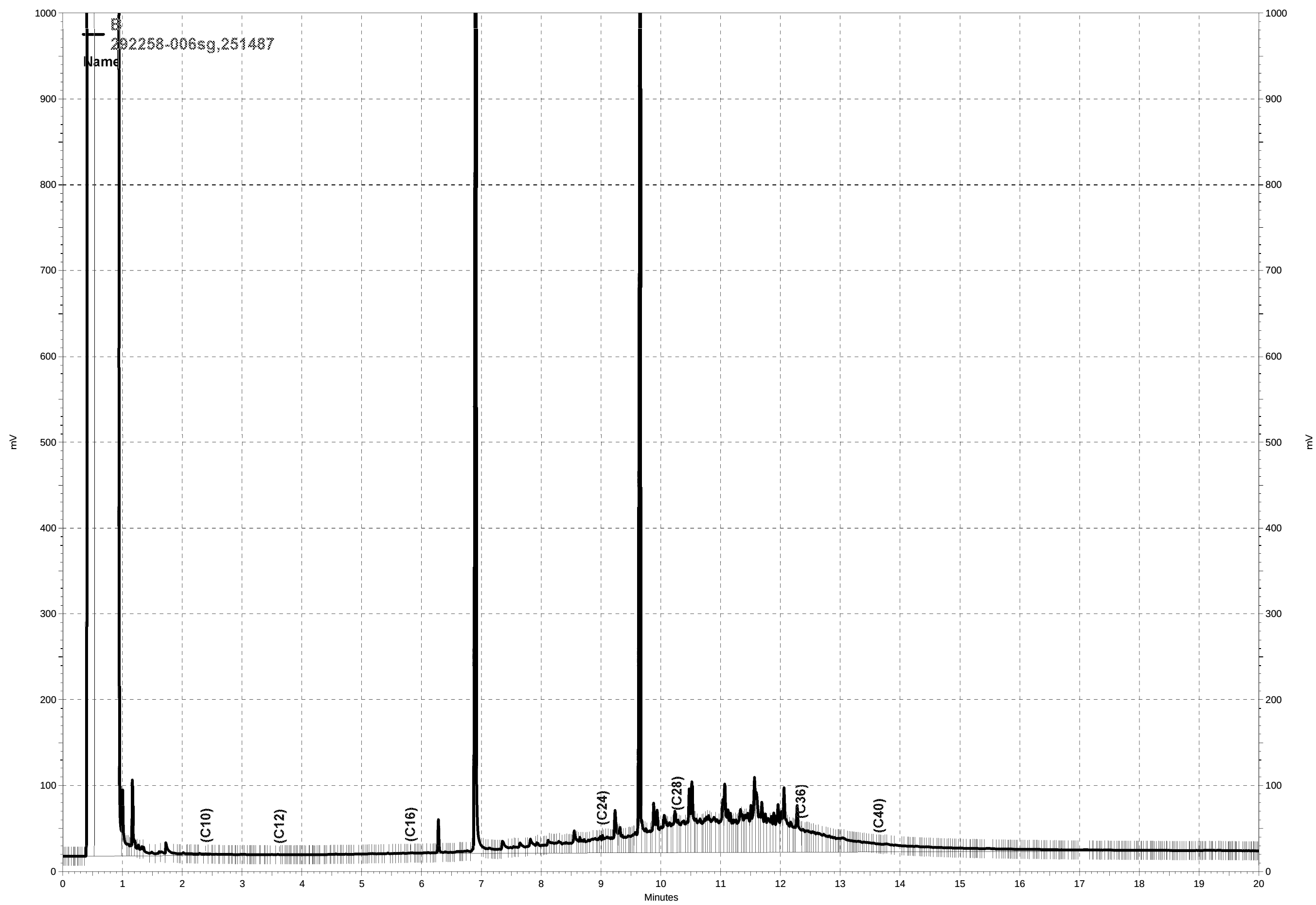

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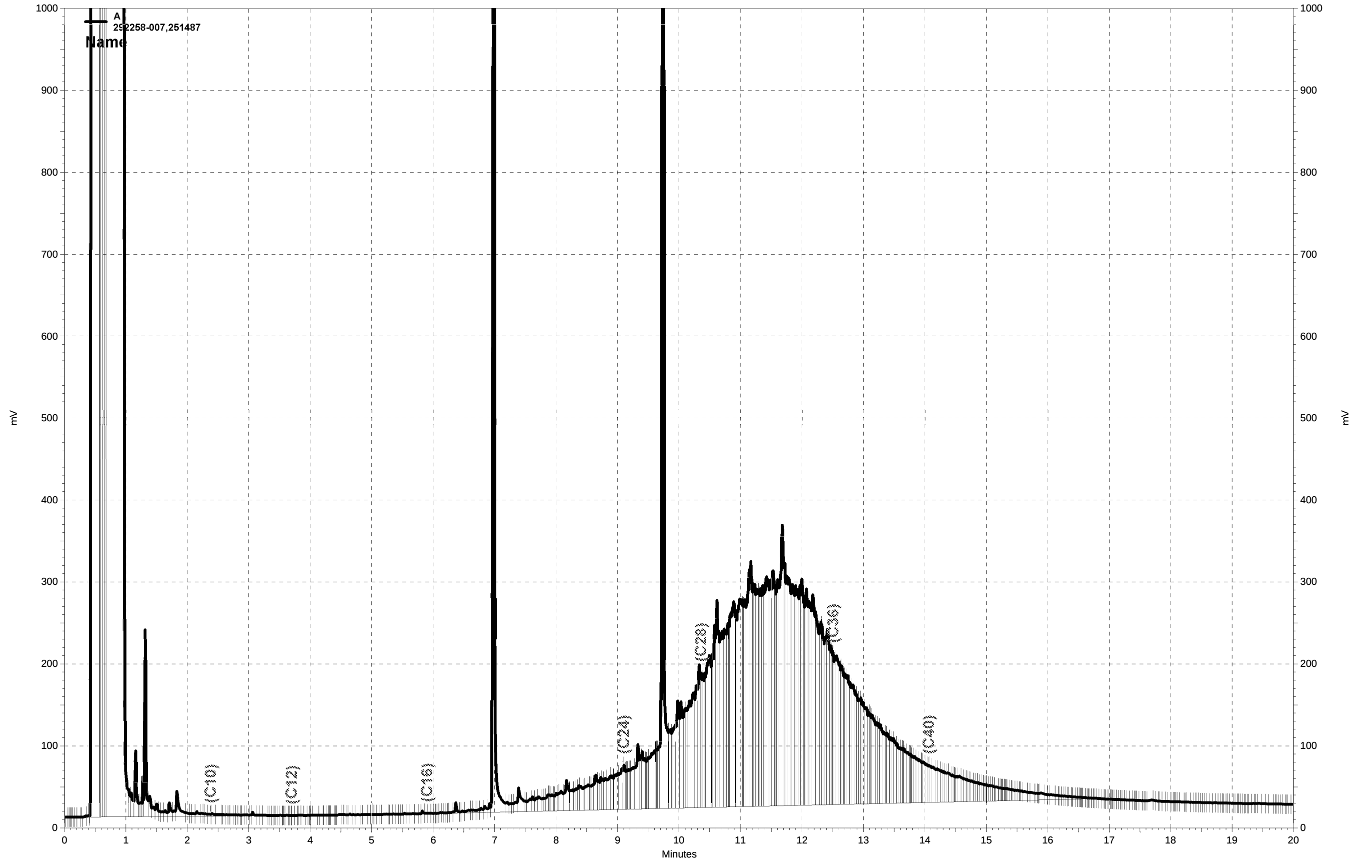

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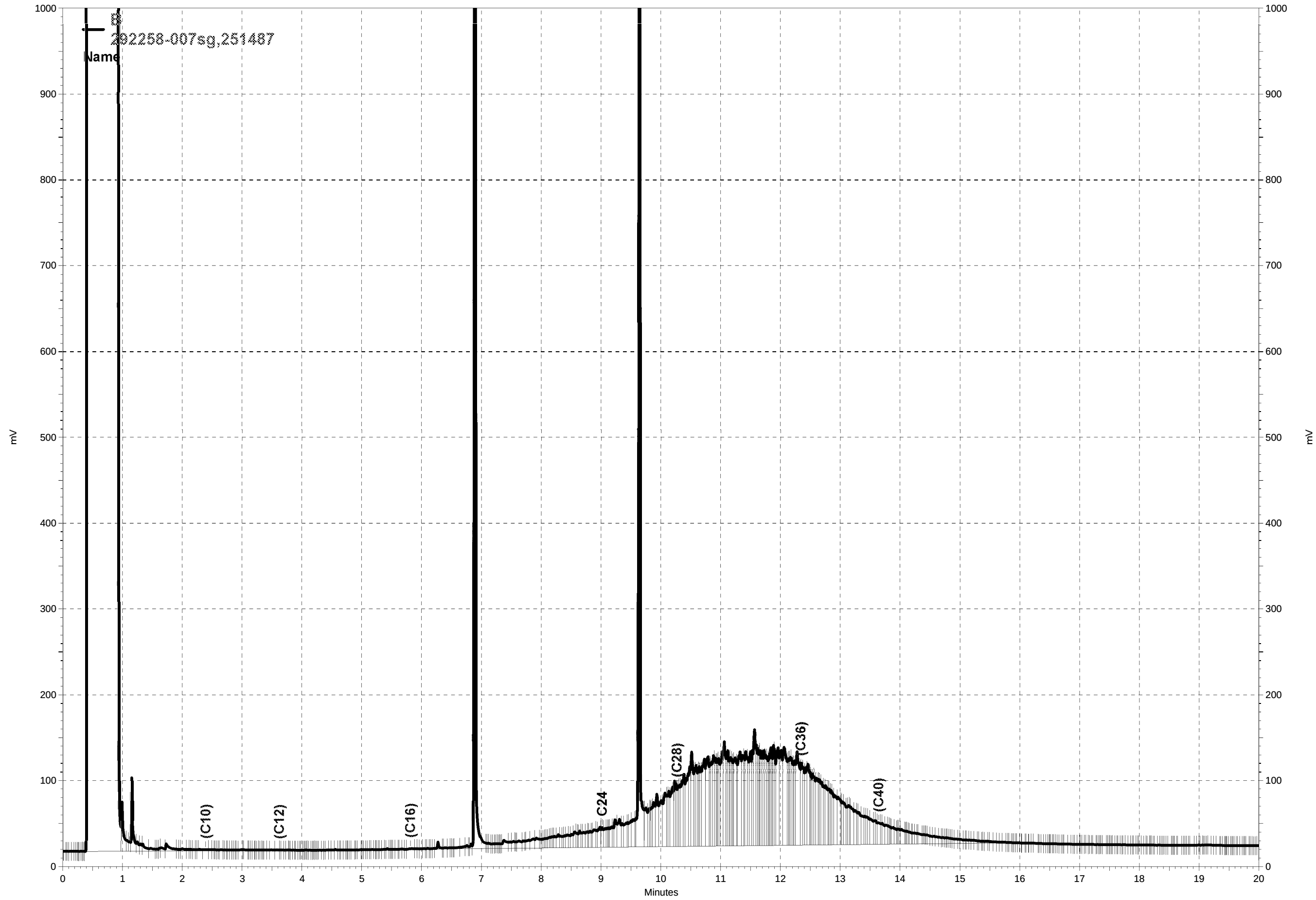

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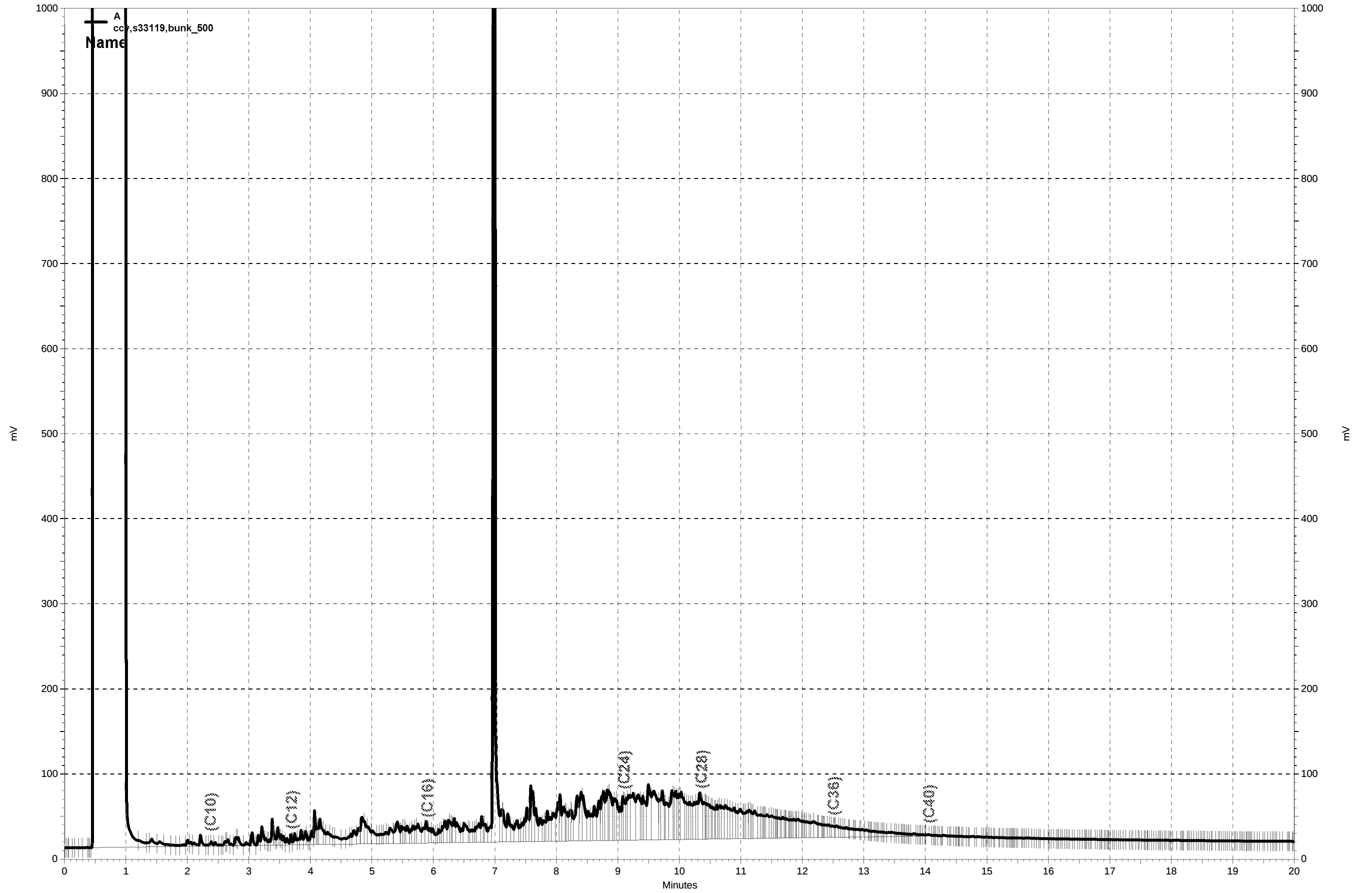

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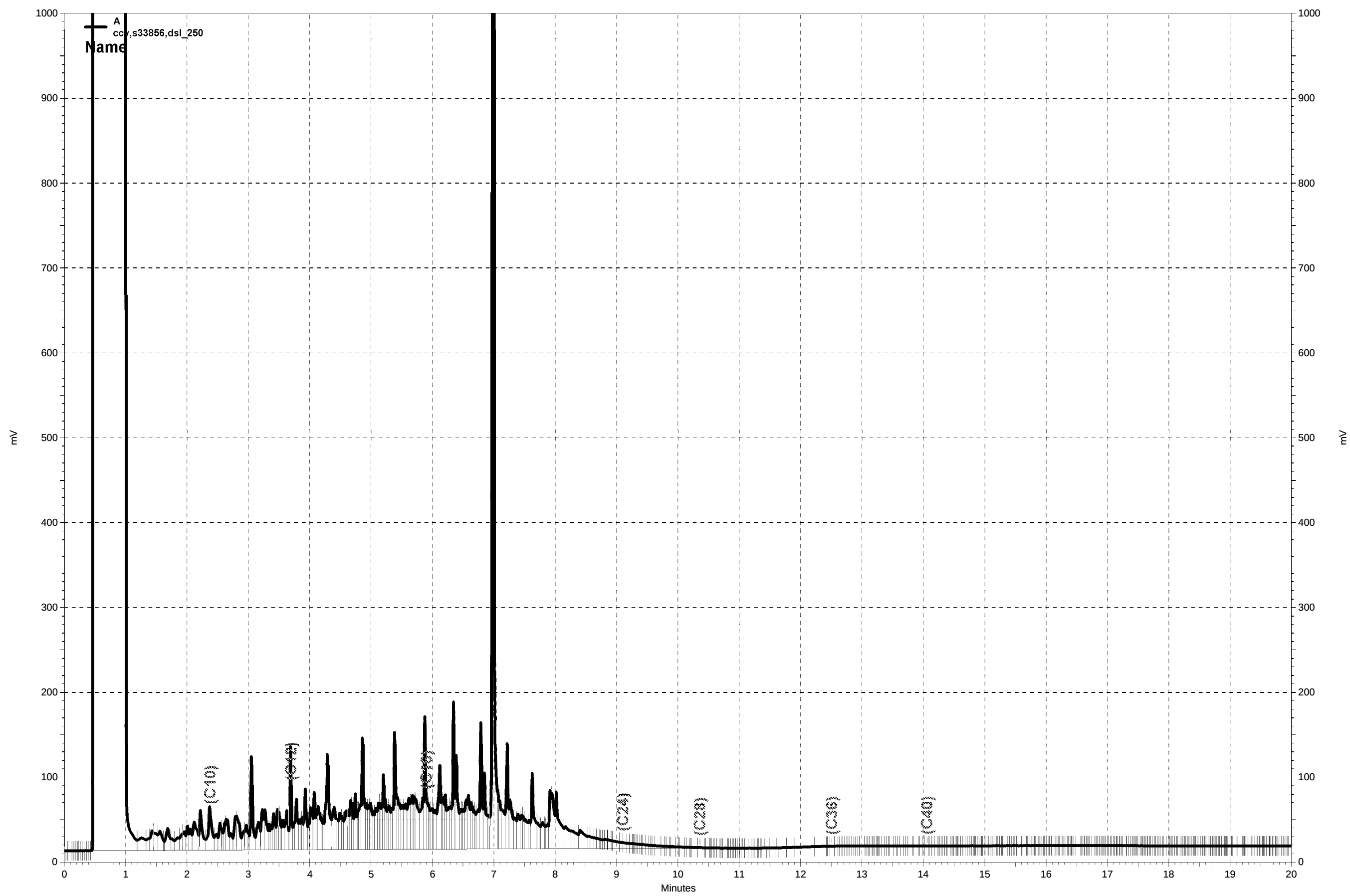

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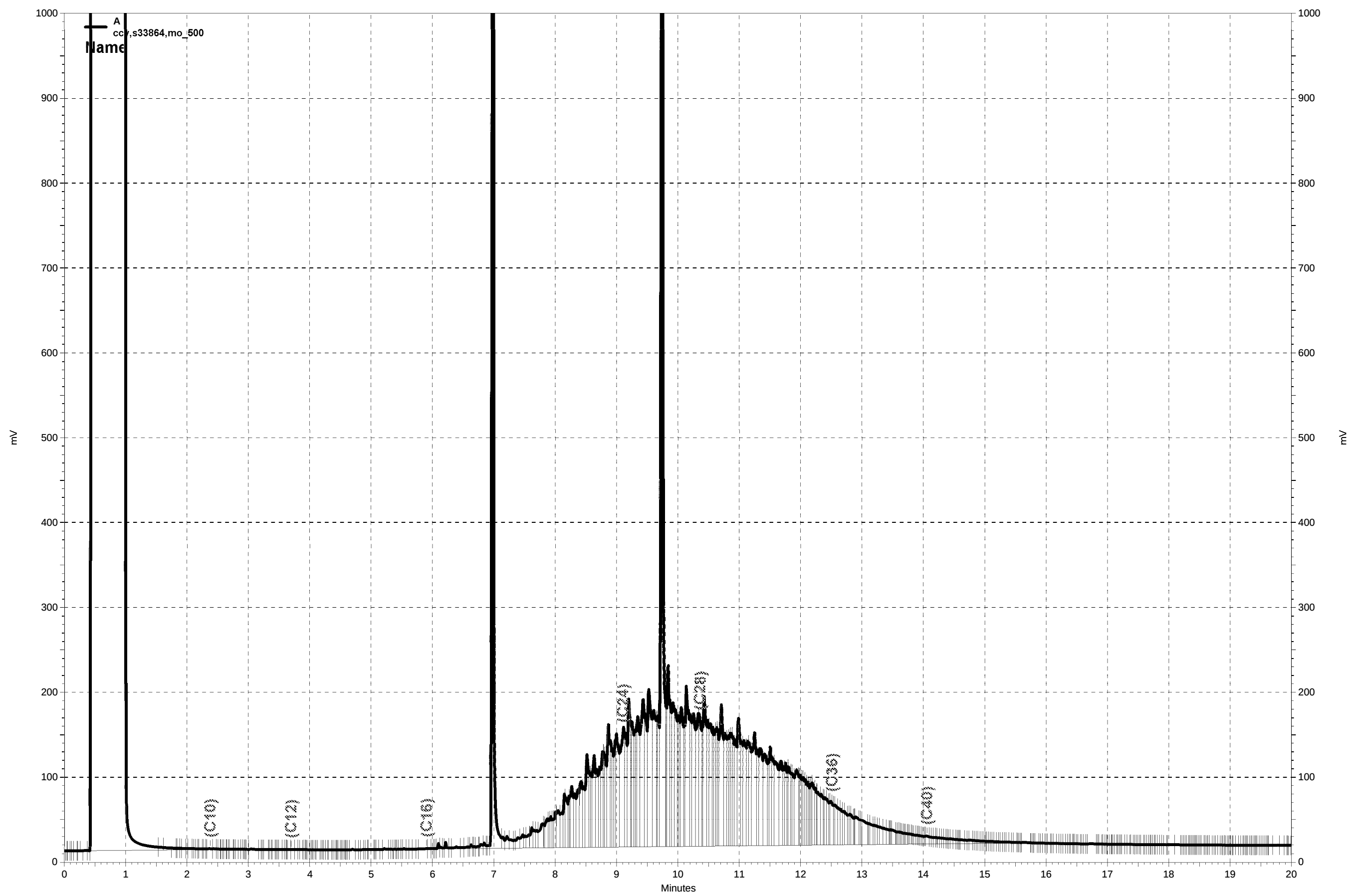

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292369
ANALYTICAL REPORT

SLR International 110 11th Street Oakland, CA 94607	Project : 102.01422.00001 Location : Jean SWeeney Level : II

Sample ID	Lab ID
JS-SW-D01	292369-001
JS-SW-D02	292369-002
JS-BS-D01	292369-003
JS-BS-D02	292369-004

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 following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: ______________________ Date: 09/15/2017

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number:	**292369**
Client:	**SLR International**
Project:	**102.01422.00001**
Location:	**Jean SWeeney**
Request Date:	**09/13/17**
Samples Received:	**09/13/17**

This data package contains sample and QC results for four soil samples, requested for the above referenced project on 09/13/17. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
JS-SW-D01 (lab # 292369-001), JS-SW-D02 (lab # 292369-002), and JS-BS-D01 (lab # 292369-003) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

CHAIN OF COUSTODY

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ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs

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Page 1 of 1

Chain of Custody #

C&T LOGIN # 292369

Project No: i02. 01422.00001

Project Name: Jean Sweeney

Project P. O. No:

EDD Format: Report Level ☐ II ☐ III ☐ IV

Turnaround Time: ☒ RUSH 24hr ☐ Standard

Sampler: Peath Silvers

Report To:

Company: SLR

Telephone: 404-435-0758

Email: psilvers@slrconsulting.com

Lab No.	Sample ID.	SAMPLING: Date Collected	SAMPLING: Time Collected	MATRIX: Water	MATRIX: Solid	# of Containers	CHEMICAL PRESERVATIVE: HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: TPD-D, TPH-mo, Bunker C (EPA 8015D)	TPD-D, TPH-mo, Bunker C EPA (8015D w/ Silica gel cleanup)
	JS-SW-D01	9/13/17	0855		X						X	✓	X
	JS-SW-D02	9/13/17	0900		X						X	X	X
	JS-BS-D01	9/13/17	0845		X						X	X	X
	JS-BS-D02	9/13/17	0850		X						X	X	X

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Peath Silvers	9/13	1300	Pat [signature]	9/13/17	13:00

COOLER RECEIPT CHECKLIST

ENTHALPY
Berkeley

Login # 292369 Date Received 9.13.17 Number of coolers 1
Client SLR Project Jean Sweeney

Date Opened 9.13.17 By (print) DC (sign)
Date Logged in | By (print) DC (sign)
Date Labelled | By (print) DC (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES NO
   Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 13.1

☐ Temperature blank(s) included? ☐ Thermometer# ☒ IR Gun# B

☒ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
   If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? (pH strip lot#) YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO
   If YES, Who was called? By Date:

COMMENTS

Rev 14, 8/01/17

ENTHALPY ANALYTICAL

Detections Summary for 292369

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : 102.01422.00001
Location : Jean SWeeney

Client Sample ID : JS-SW-D01 Laboratory Sample ID : 292369-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.5	Y	2.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Diesel C10-C24	3.9	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	21		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	13		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	51		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	33		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-D02 Laboratory Sample ID : 292369-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	8.3	Y	2.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Diesel C10-C24	6.6	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	23		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	17		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	59		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	45		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-D01 Laboratory Sample ID : 292369-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	36	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Diesel C10-C24	27	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	200		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	200		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	470		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	440		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-D02 Laboratory Sample ID : 292369-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Bunker C C12-C40	6.4		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292369	Location:	Jean SWeeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/13/17
Units:	mg/Kg	Received:	09/13/17
Basis:	as received	Prepared:	09/13/17
Batch#:	251603	Analyzed:	09/14/17

Field ID:	JS-SW-D01	Lab ID:	292369-001
Type:	SAMPLE	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Diln Fac
Diesel C10-C24	5.5 Y	2.0	2.000
Diesel C10-C24 (SGCU)	3.9 Y	1.0	1.000
Motor Oil C24-C36	21	10	2.000
Motor Oil C24-C36 (SGCU)	13	5.0	1.000
Bunker C C12-C40	51	10	2.000
Bunker C C12-C40 (SGCU)	33	5.0	1.000

Surrogate	%REC	Limits	Diln Fac
o-Terphenyl	96	55-133	2.000
o-Terphenyl (SGCU)	72	55-133	1.000

Field ID:	JS-SW-D02	Lab ID:	292369-002
Type:	SAMPLE	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Diln Fac
Diesel C10-C24	8.3 Y	2.0	2.000
Diesel C10-C24 (SGCU)	6.6 Y	1.0	1.000
Motor Oil C24-C36	23	10	2.000
Motor Oil C24-C36 (SGCU)	17	5.0	1.000
Bunker C C12-C40	59	10	2.000
Bunker C C12-C40 (SGCU)	45	5.0	1.000

Surrogate	%REC	Limits	Diln Fac
o-Terphenyl	90	55-133	2.000
o-Terphenyl (SGCU)	73	55-133	1.000

Field ID:	JS-BS-D01	Diln Fac:	3.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292369-003		

Analyte	Result	RL
Diesel C10-C24	36 Y	3.0
Diesel C10-C24 (SGCU)	27 Y	3.0
Motor Oil C24-C36	200	15
Motor Oil C24-C36 (SGCU)	200	15
Bunker C C12-C40	470	15
Bunker C C12-C40 (SGCU)	440	15

Surrogate	%REC	Limits
o-Terphenyl	102	55-133
o-Terphenyl (SGCU)	127	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292369	Location:	Jean SWeeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/13/17
Units:	mg/Kg	Received:	09/13/17
Basis:	as received	Prepared:	09/13/17
Batch#:	251603	Analyzed:	09/14/17

Field ID: JS-BS-D02　　Diln Fac: 1.000
Type: SAMPLE　　Cleanup Method: EPA 3630C
Lab ID: 292369-004

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	6.4	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	106	55-133
o-Terphenyl (SGCU)	85	55-133

Type: BLANK　　Diln Fac: 1.000
Lab ID: QC900700　　Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	108	55-133
o-Terphenyl (SGCU)	91	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292369	Location:	Jean SWeeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC900701	Batch#:	251603
Matrix:	Soil	Prepared:	09/13/17
Units:	mg/Kg	Analyzed:	09/14/17

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.86	51.97	104	51-137
Diesel C10-C24 (SGCU)	49.86	43.18	87	51-137

Surrogate	%REC	Limits
o-Terphenyl	109	55-133
o-Terphenyl (SGCU)	90	55-133

SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292369	Location:	Jean SWeeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Field ID:	JS-SW-D01	Batch#:	251603
MSS Lab ID:	292369-001	Sampled:	09/13/17
Matrix:	Soil	Received:	09/13/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received	Analyzed:	09/14/17
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3630C
Lab ID: QC900702

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24 (SGCU)	3.877	50.11	41.75	76	36-143

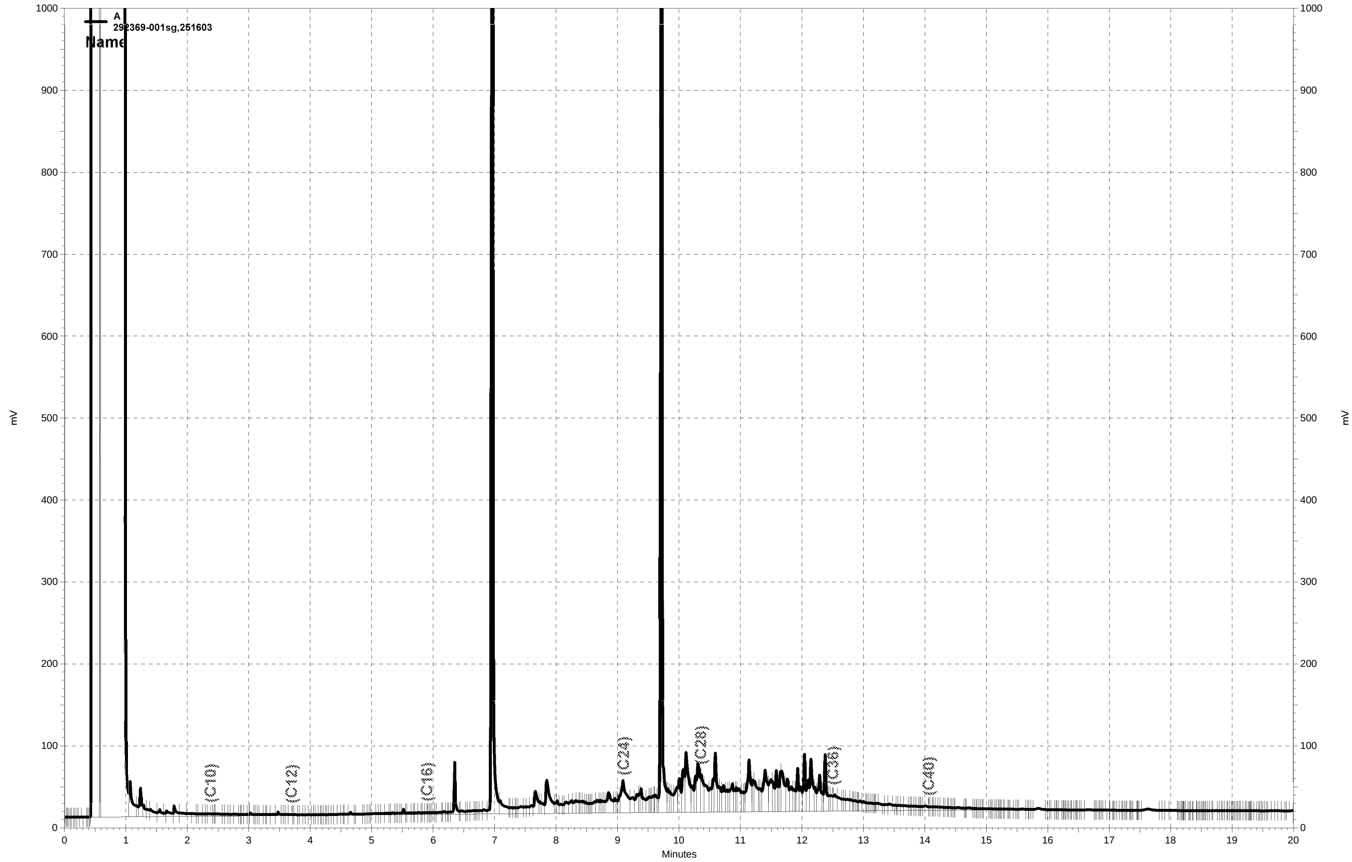
Surrogate	%REC	Limits
o-Terphenyl (SGCU)	81	55-133

Type: MSD Cleanup Method: EPA 3630C
Lab ID: QC900703

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24 (SGCU)	50.21	39.43	71	36-143	6	55

Surrogate	%REC	Limits
o-Terphenyl (SGCU)	74	55-133

RPD= Relative Percent Difference
SGCU= Silica gel cleanup



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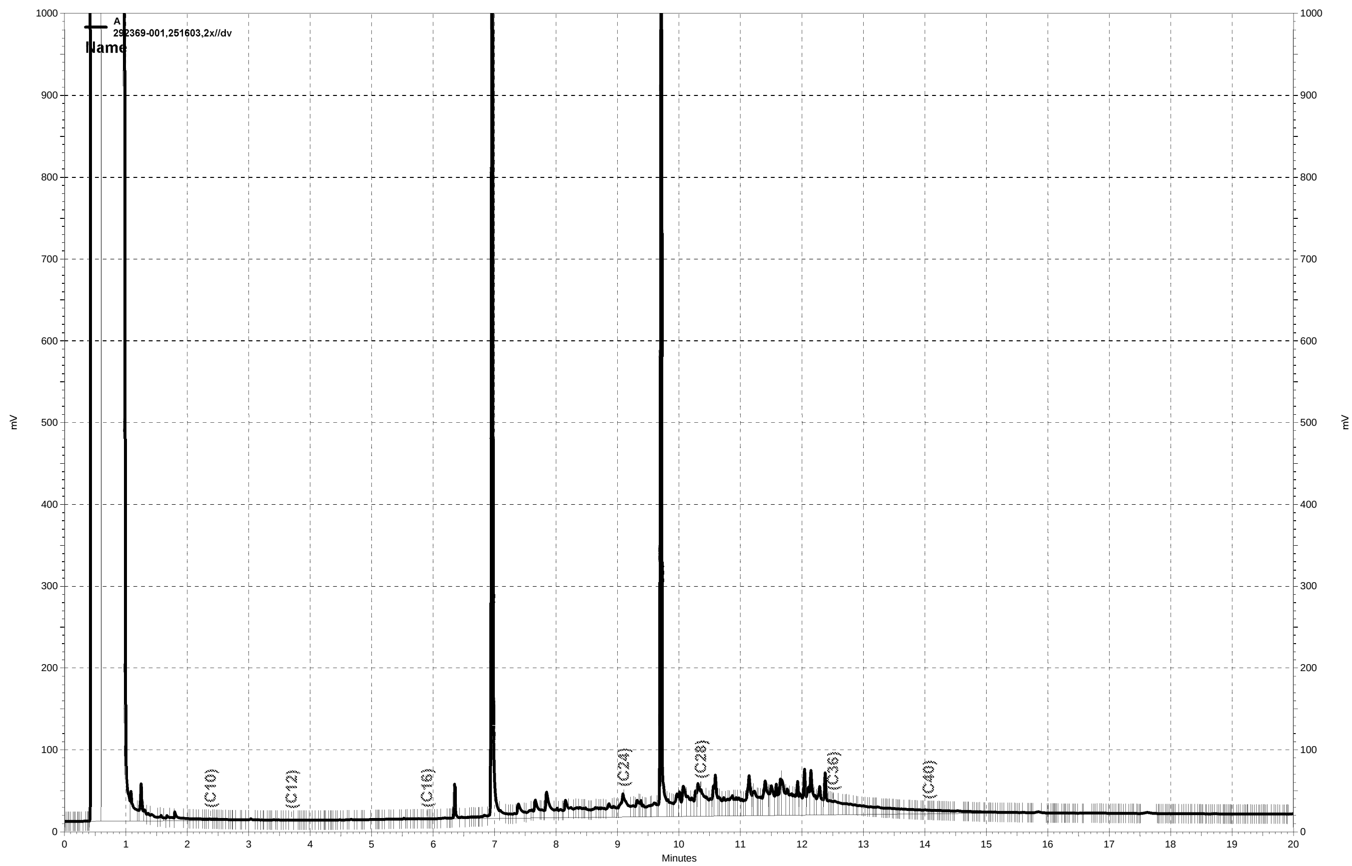

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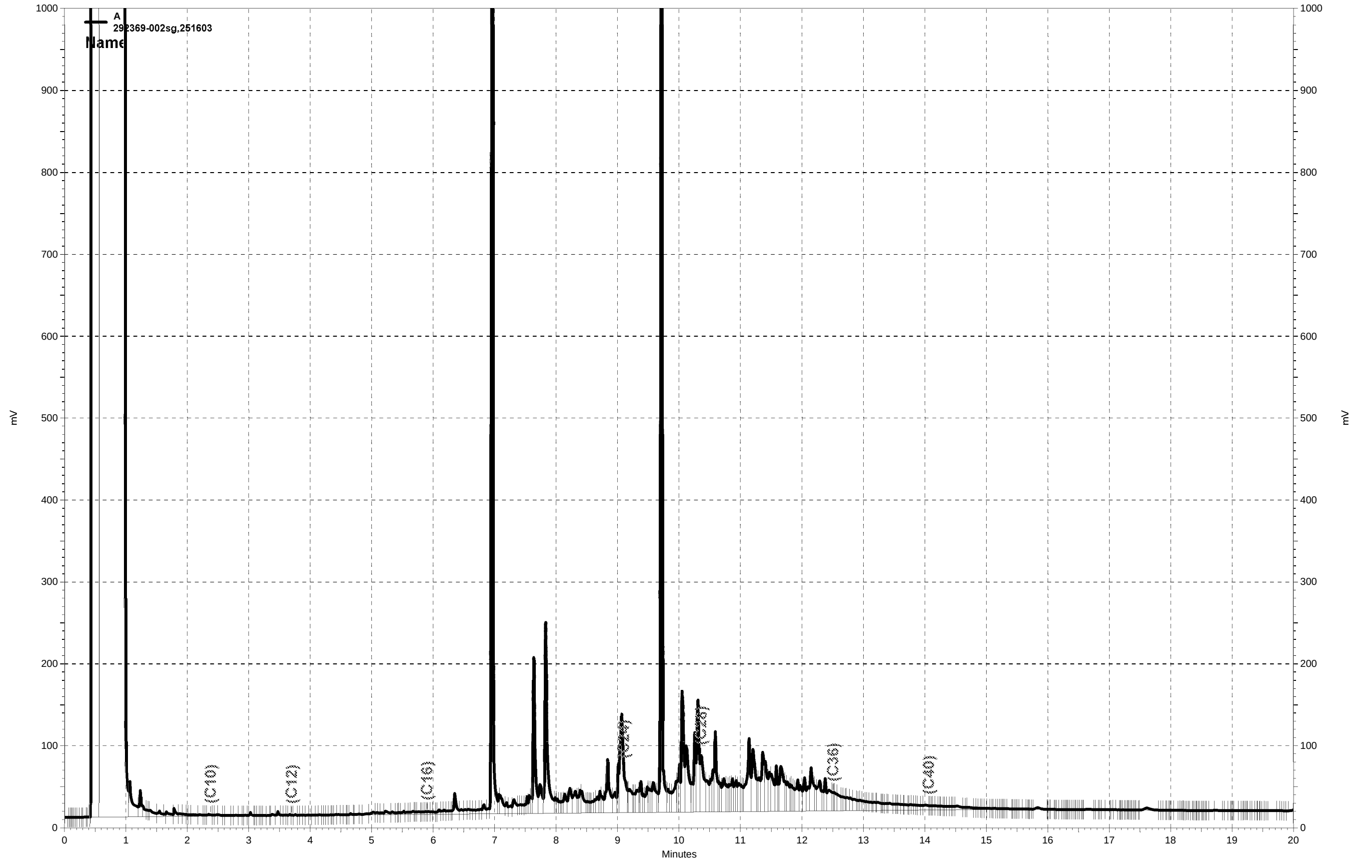

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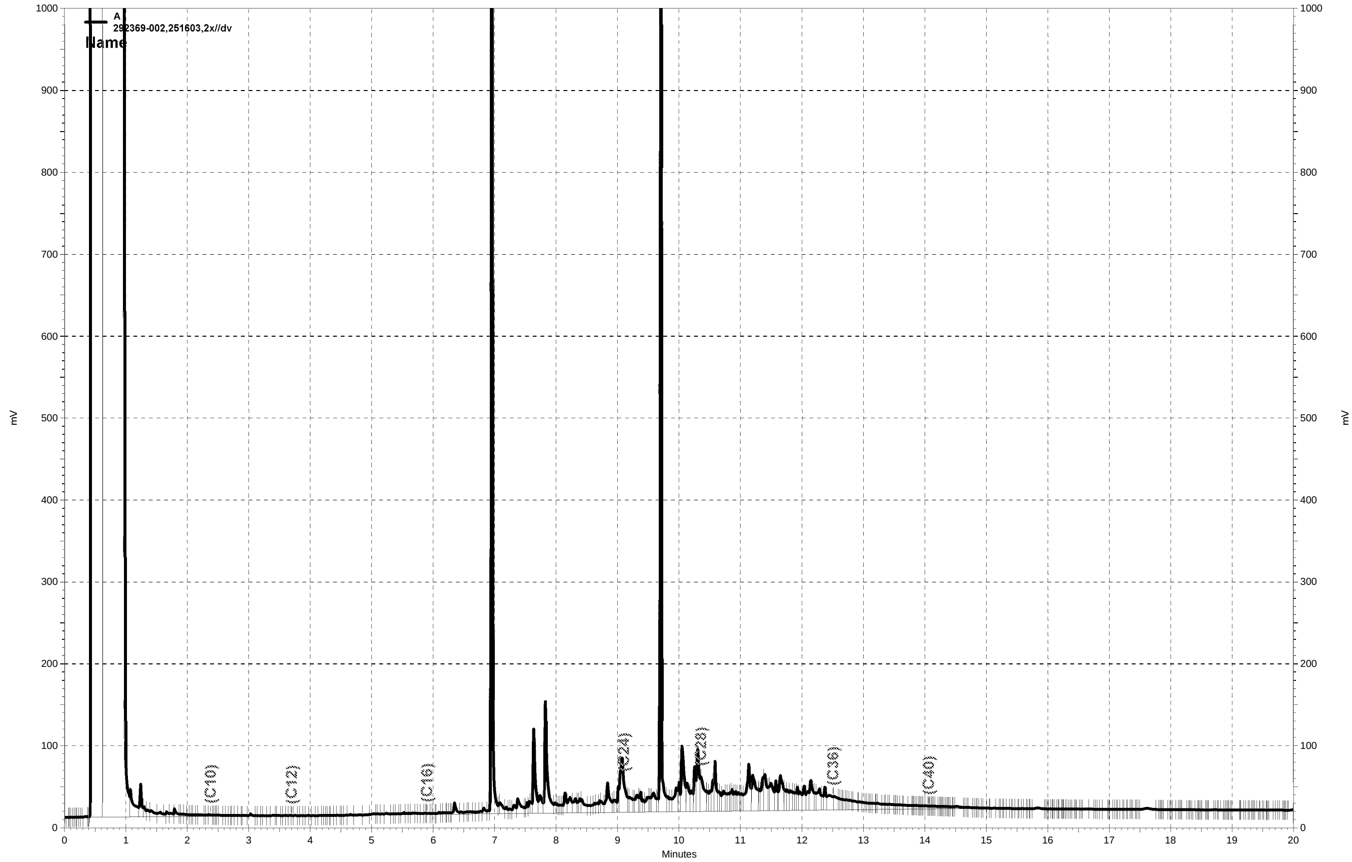

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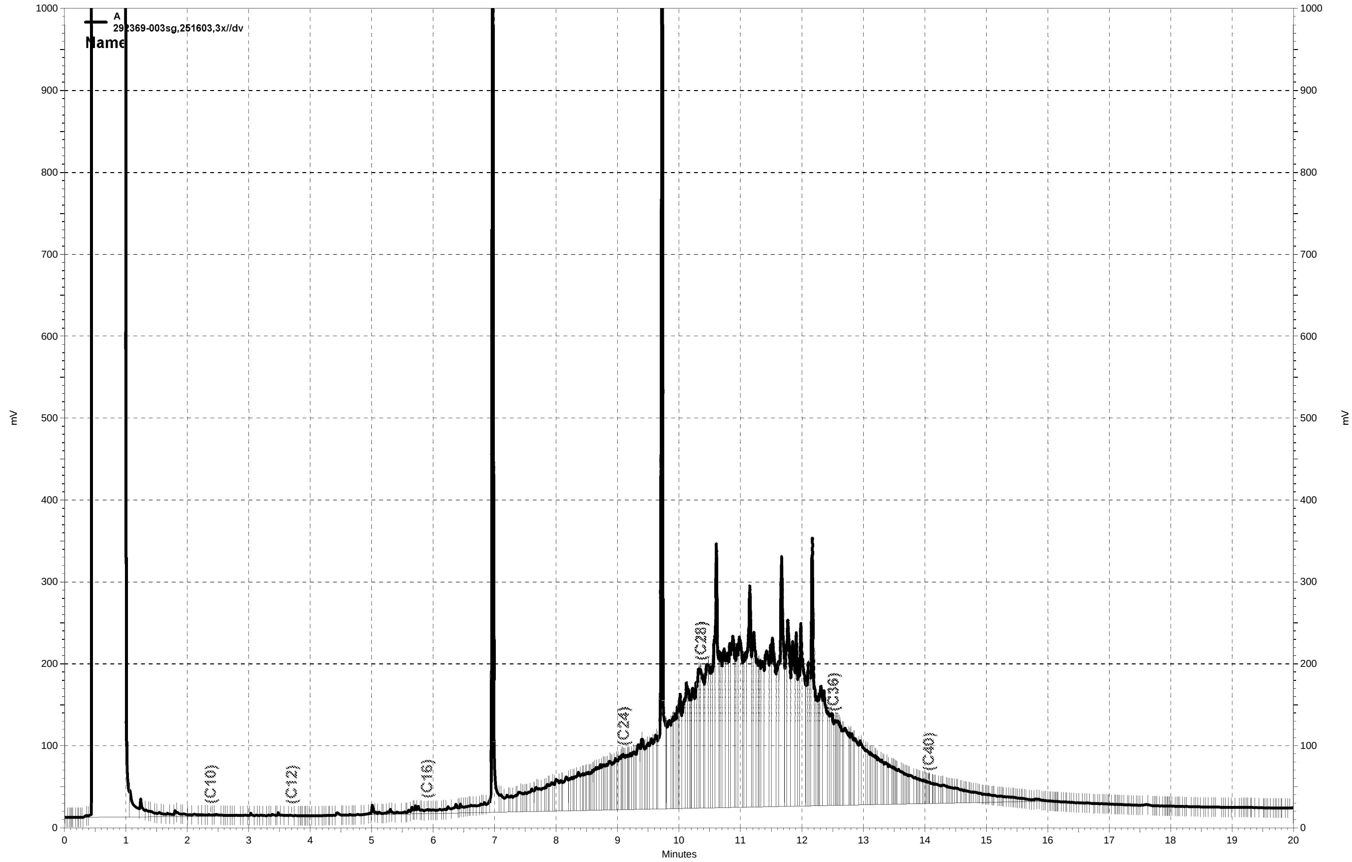

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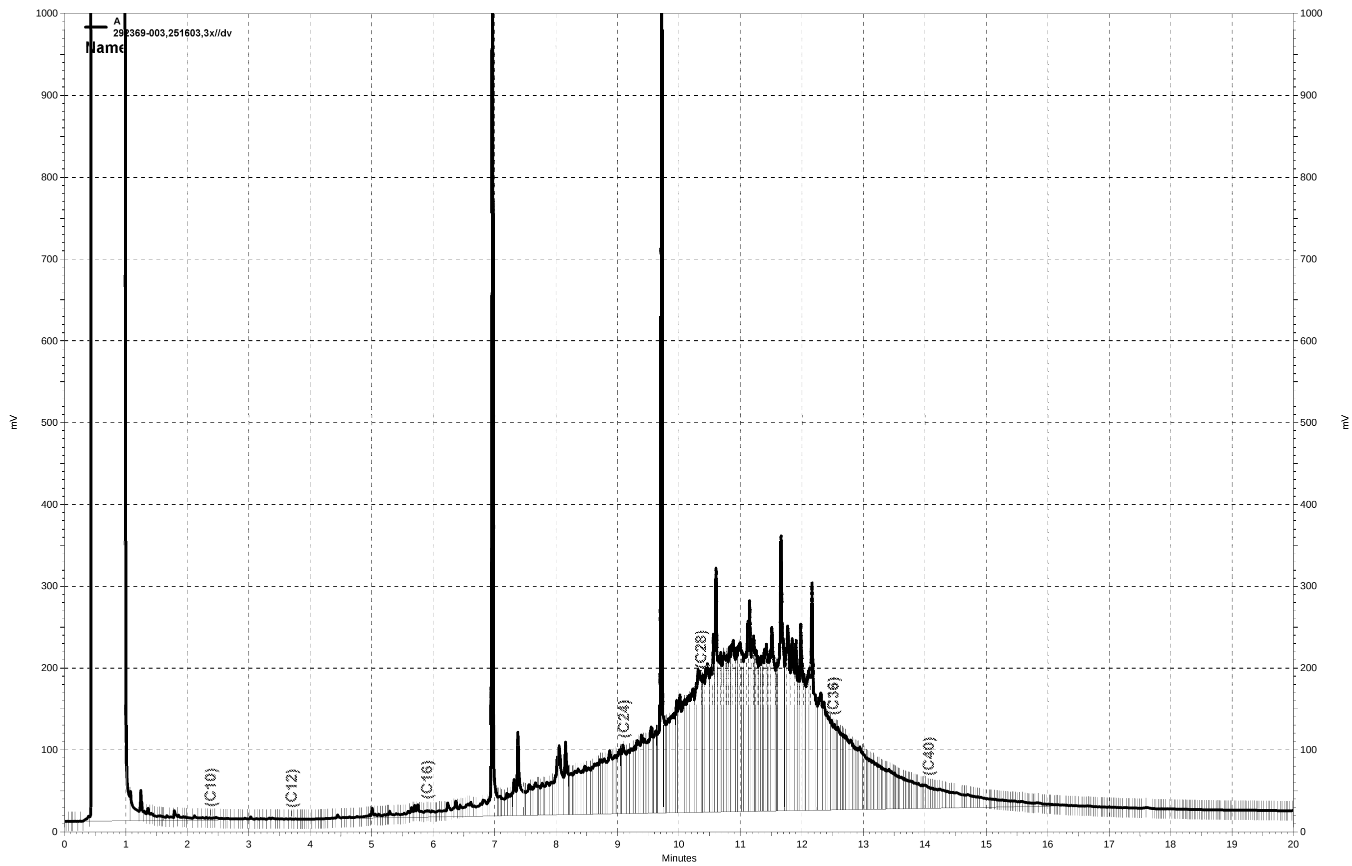

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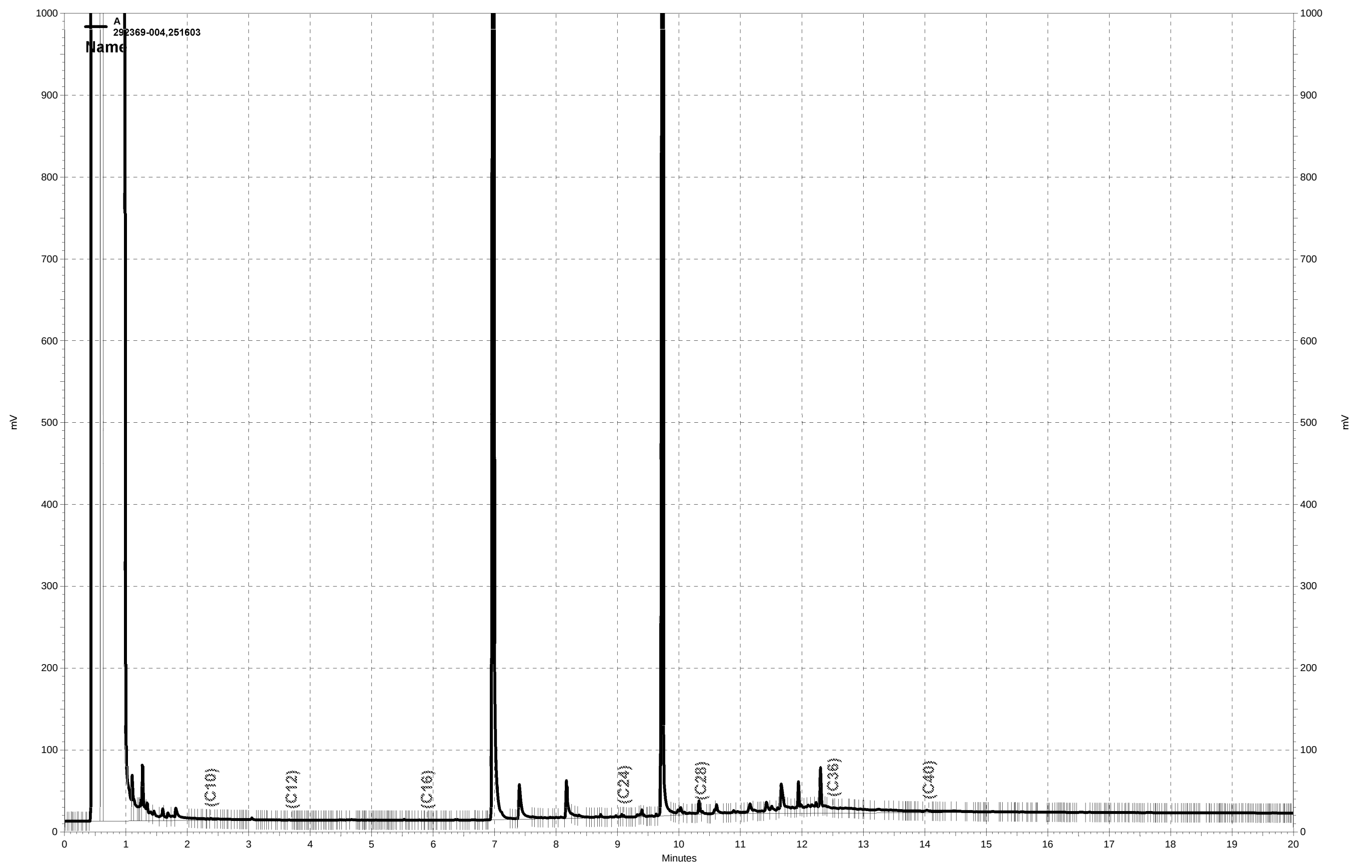

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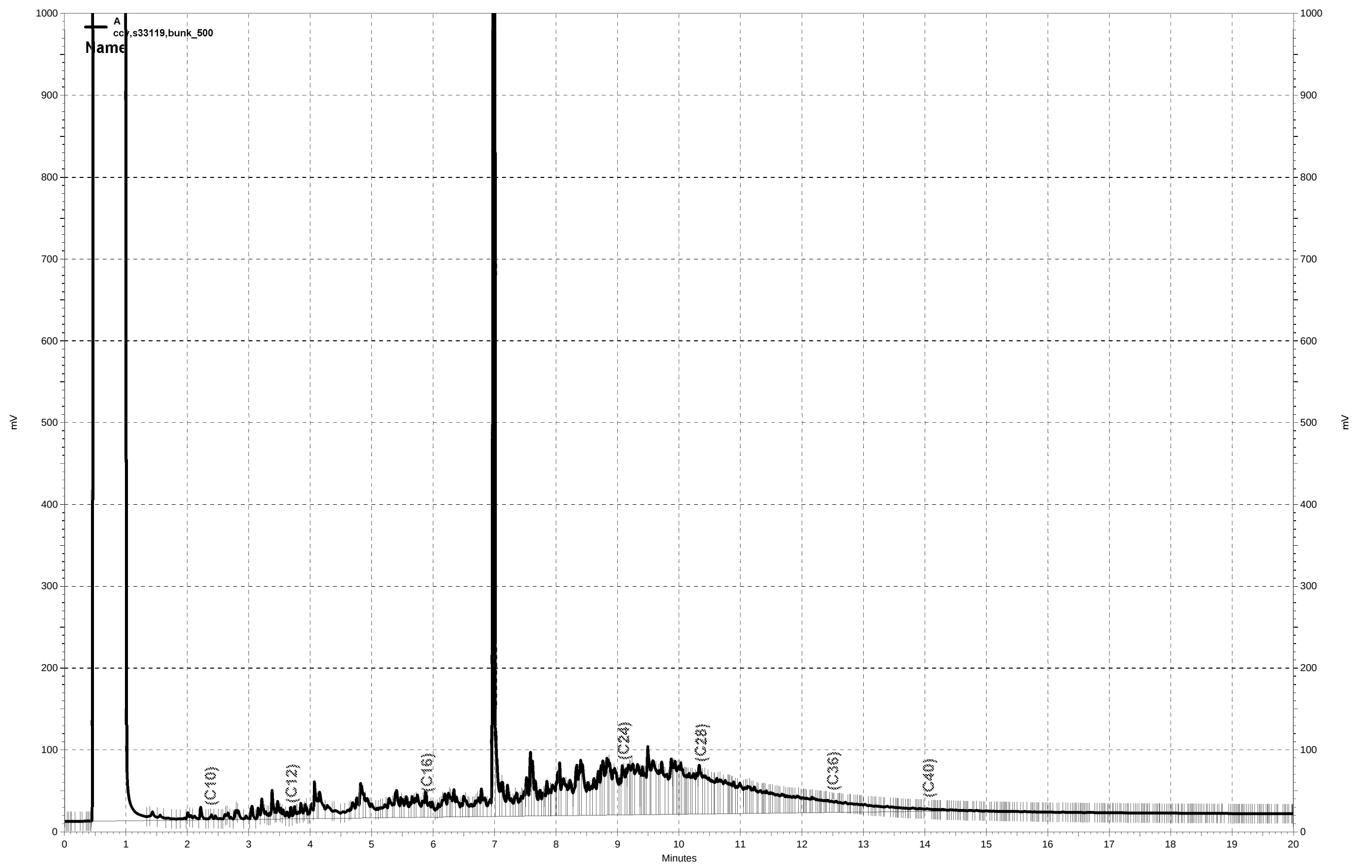

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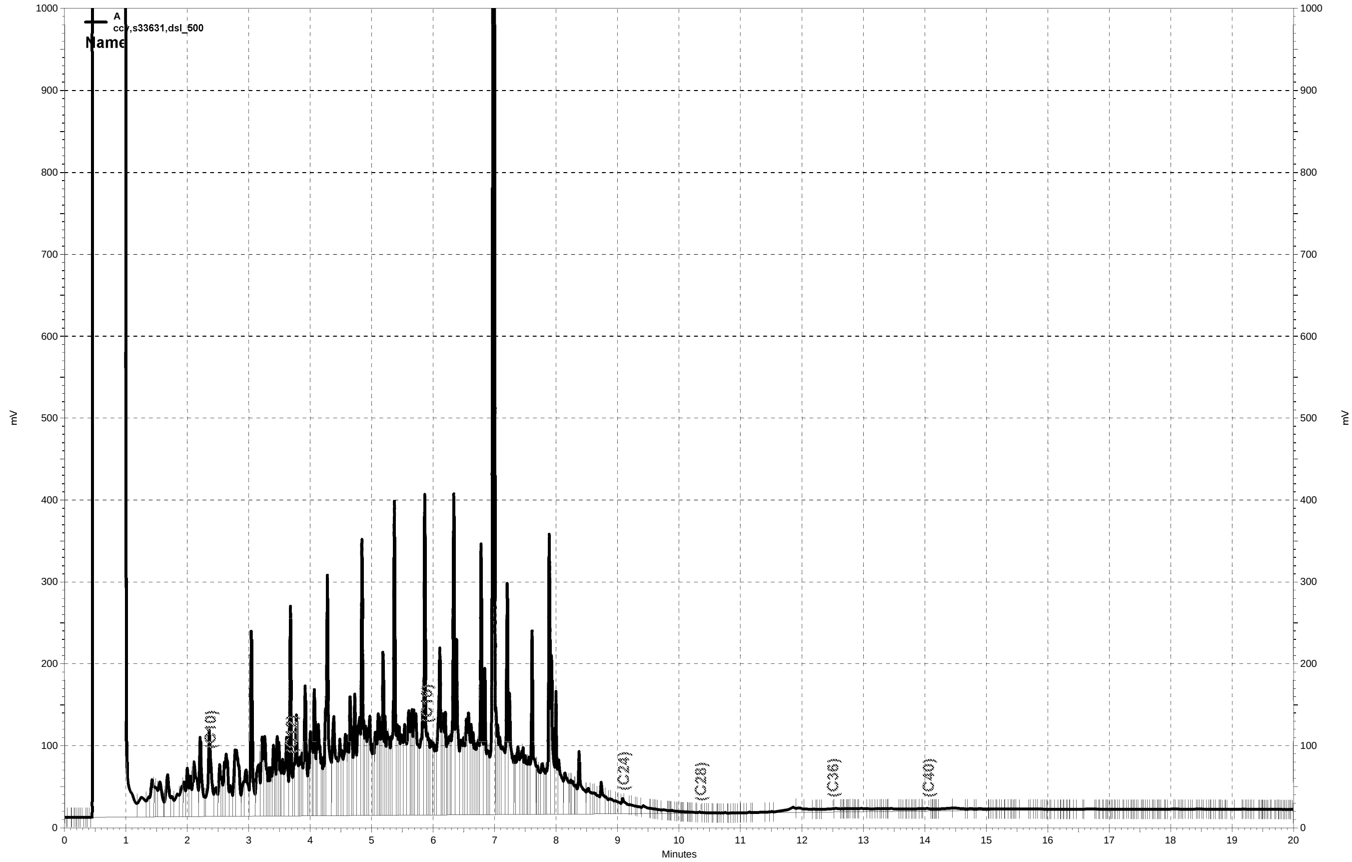

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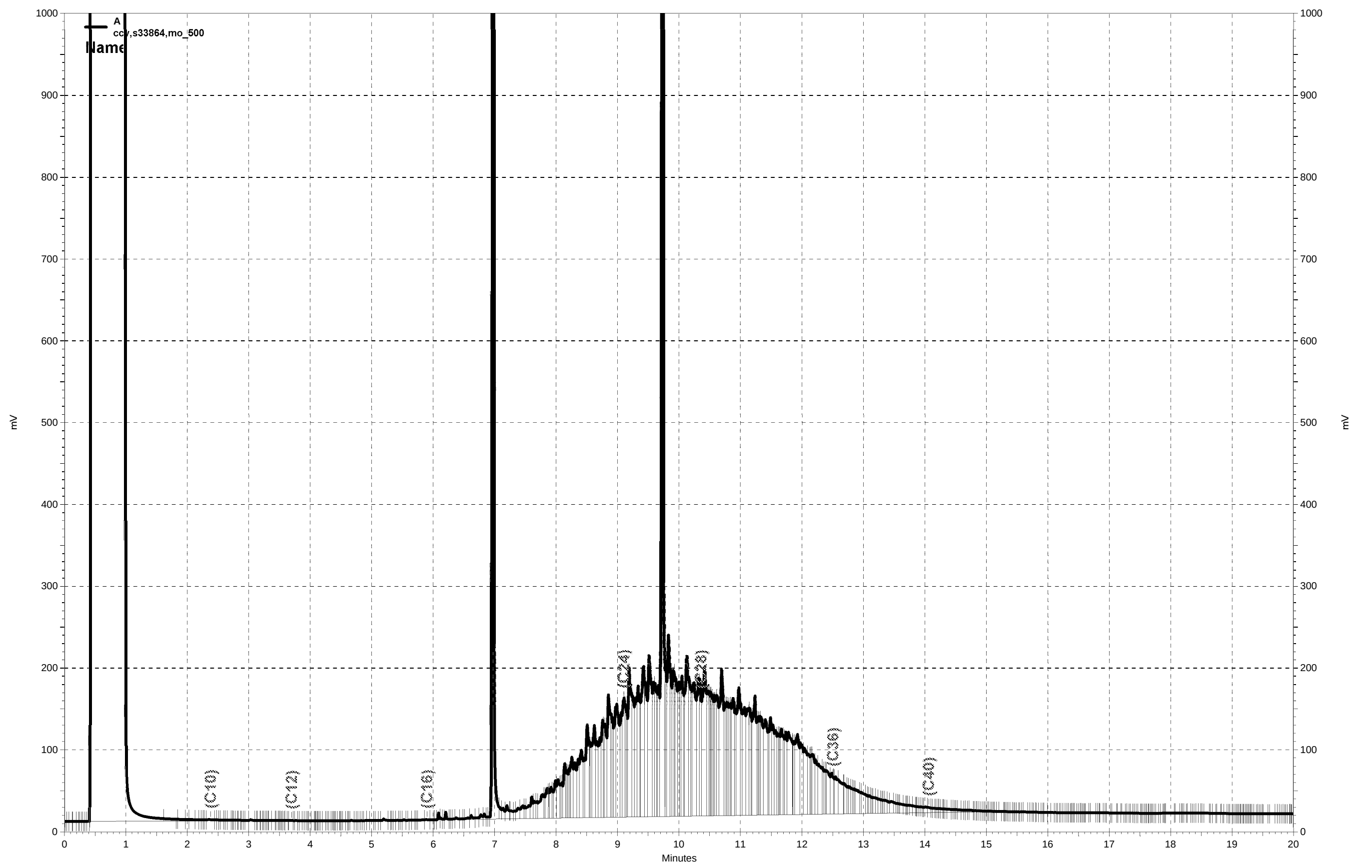

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292437
ANALYTICAL REPORT

SLR International 110 11th Street Oakland, CA 94607	Project : 102.01422.00001 Location : Jean Sweeney Level : II

Sample ID	Lab ID
JS-BS-A101	292437-001
JS-BS-B10	292437-002
JS-BS-B11	292437-003
JS-BS-B12	292437-004
JS-BS-B13	292437-005
JS-BS-B14	292437-006
JS-BS-B15	292437-007
JS-BS-B16	292437-008
JS-BS-B17	292437-009
JS-BS-A15	292437-010
JS-BS-A16	292437-011
JS-BS-A17	292437-012
JS-BS-A18	292437-013
JS-BS-A19	292437-014
JS-BS-A20	292437-015
JS-BS-A21	292437-016
JS-BS-A22	292437-017
JS-BS-A23	292437-018
JS-BS-A24	292437-019

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 following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: ______________________ Date: 09/18/2017

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**292437**
Client:	**SLR International**
Project:	**102.01422.00001**
Location:	**Jean Sweeney**
Request Date:	**09/14/17**
Samples Received:	**09/14/17**

This data package contains sample and QC results for one soil sample, requested for the above referenced project on 09/14/17. The sample was received cold and intact.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs

2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 292437

Page 1 of 2
Chain of Custody #

Project No: 102.01422.00001
Project Name: Jean Sweeney
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH 24hr ☐ Standard

Sampler: Perth Silves
Report To:
Company: SLR
Telephone: 404 435-0758
Email: psilves@slrconsulting.com

Lab No.	Sample ID.	SAMPLING: Date Collected	SAMPLING: Time Collected	MATRIX: Water	MATRIX: Solid			# of Containers	CHEMICAL PRESERVATIVE: HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: TPH-D, TPH-MO, Bunker-C EPA 8015D	TPH-D, TPH-MO, Bunker C EPA 8015D w/silica gel cleanup
1	JS-BS-A101	9/14/17	1110		X			1					X		
2	JS-BS-B10	9/14/17	1415												
3	JS-BS-B11	9/14/17	1417												
4	JS-BS-B12	9/14/17	1425												
5	JS-BS-B13	9/14/17	1427												
6	JS-BS-B14	9/14/17	1430												
7	JS-BS-B15	9/14/17	1435												
8	JS-BS-B16	9/14/17	1440												
9	JS-BS-B17	9/14/17	1442												
10	JS-BS-A15	9/14/17	1515												
11	JS-BS-A16	9/14/17	1520												
12	JS-BS-A17	9/14/17	1525												
13	JS-BS-A18	9/14/17	1530												

Notes:
Keep ON HOLD (except JS-BS-A101)

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Perth	9/14			9/14	1105
	9/14	1654		9/14/17	1654

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 292437

Page 2 of 2

Chain of Custody # ______

Project No: 102.01422.00001

Sampler: Peath Silvas

Project Name: Jean Sweeney

Report To:

Project P. O. No:

Company: SLR

EDD Format: Report Level ☐ II ☐ III ☐ IV

Telephone: (404) 835-0758

Turnaround Time: ☒ RUSH 24hr ☐ Standard

Email:

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: TPH-D, TPH-MO, Bunker C — EPA 8015D	TPH-D, TPH-MO, Bunker C — EPA 8015D w/ Silica gel cleanup
14	JS-BS-A19	9/14/17	1532												
15	JS-BS A20		1535												
16	JS-BS-A21		1538												
17	JS-BS-A22		1542												
18	JS-BS-A23		1544												
19	JS-BS A24		1546												

Notes: Keep on HOLD

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
Peath	9/14	1605	[signature]	9/14	1605
[signature]	9/14	1654	[signature]	9/14/17	1654

COOLER RECEIPT CHECKLIST

ENTHALPY Berkeley

Login # 292437 Date Received 9-14-17 Number of coolers 1
Client SLR Project Jean Sweeny

Date Opened 9-14-17 By (print) kp (sign) kp
Date Logged in ↓ By (print) kp (sign) kp
Date Labelled ↓ By (print) kp (sign) kp

1. Did cooler come with a shipping slip (airbill, etc) YES NO
   Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☐ NO
    How many Name Date
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☑ Wet ☐ Blue/Gel ☐ None Temp(°C) 3.5

☐ Temperature blank(s) included? ☐ Thermometer# ☑ IR Gun# A

☑ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
   If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? YES NO
10. Are there any missing / extra samples? YES NO
11. Are samples in the appropriate containers for indicated tests? YES NO
12. Are sample labels present, in good condition and complete? YES NO
13. Do the sample labels agree with custody papers? YES NO
14. Was sufficient amount of sample sent for tests requested? YES NO
15. Are the samples appropriately preserved? YES NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO N/A
17. Did you document your preservative check? (pH strip lot#) YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? YES NO N/A
21. Was the client contacted concerning this sample delivery? YES NO
    If YES, Who was called? By Date:

COMMENTS

Rev 14, 8/01/17

ENTHALPY ANALYTICAL

Detections Summary for 292437

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : 102.01422.00001
Location : Jean Sweeney

Client Sample ID : JS-BS-A101 Laboratory Sample ID : 292437-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.7	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	2.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	20		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	11		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	56		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	32		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard

Total Extractable Hydrocarbons

Lab #:	292437	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Field ID:	JS-BS-A101	Batch#:	251633
Matrix:	Soil	Sampled:	09/14/17
Units:	mg/Kg	Received:	09/14/17
Basis:	as received	Prepared:	09/14/17
Diln Fac:	1.000	Analyzed:	09/15/17

Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 292437-001

Analyte	Result	RL
Diesel C10-C24	3.7 Y	1.0
Diesel C10-C24 (SGCU)	2.3 Y	1.0
Motor Oil C24-C36	20	5.0
Motor Oil C24-C36 (SGCU)	11	5.0
Bunker C C12-C40	56	5.0
Bunker C C12-C40 (SGCU)	32	5.0

Surrogate	%REC	Limits
o-Terphenyl	99	55-133
o-Terphenyl (SGCU)	79	55-133

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC900824

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	97	55-133
o-Terphenyl (SGCU)	77	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292437	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC900825	Batch#:	251633
Matrix:	Soil	Prepared:	09/14/17
Units:	mg/Kg	Analyzed:	09/15/17

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.79	48.96	98	51-137
Diesel C10-C24 (SGCU)	49.79	37.50	75	51-137

Surrogate	%REC	Limits
o-Terphenyl	97	55-133
o-Terphenyl (SGCU)	70	55-133

SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	292437	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	251633
MSS Lab ID:	292309-038	Sampled:	09/11/17
Matrix:	Soil	Received:	09/11/17
Units:	mg/Kg	Prepared:	09/14/17
Basis:	as received	Analyzed:	09/15/17
Diln Fac:	1.000		

Type: MS Lab ID: QC900826

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.9453	49.79	47.57	94	36-143

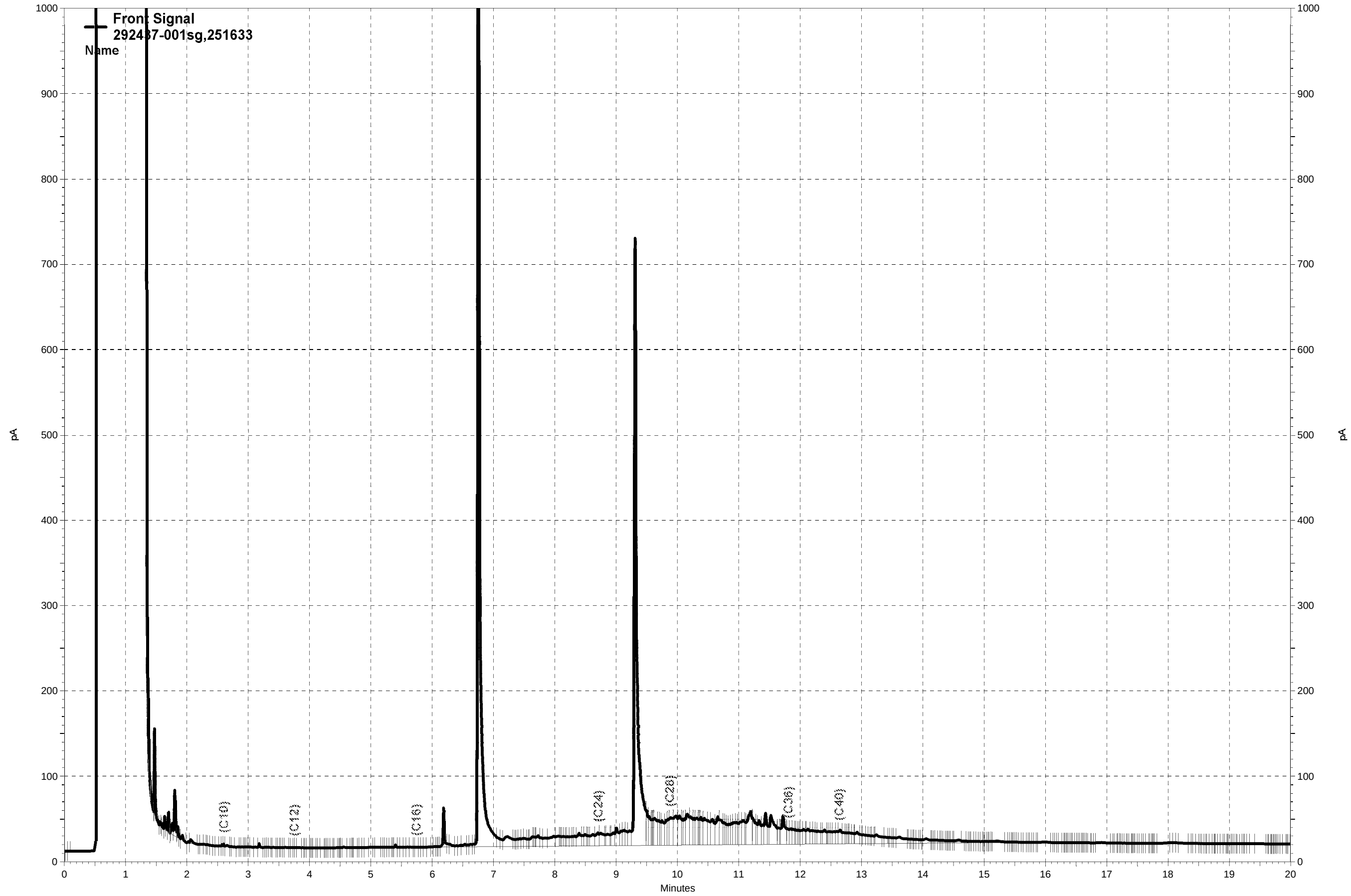
Surrogate	%REC	Limits
o-Terphenyl	103	55-133

Type: MSD Lab ID: QC900827

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.94	44.78	88	36-143	6	55

Surrogate	%REC	Limits
o-Terphenyl	96	55-133

RPD= Relative Percent Difference



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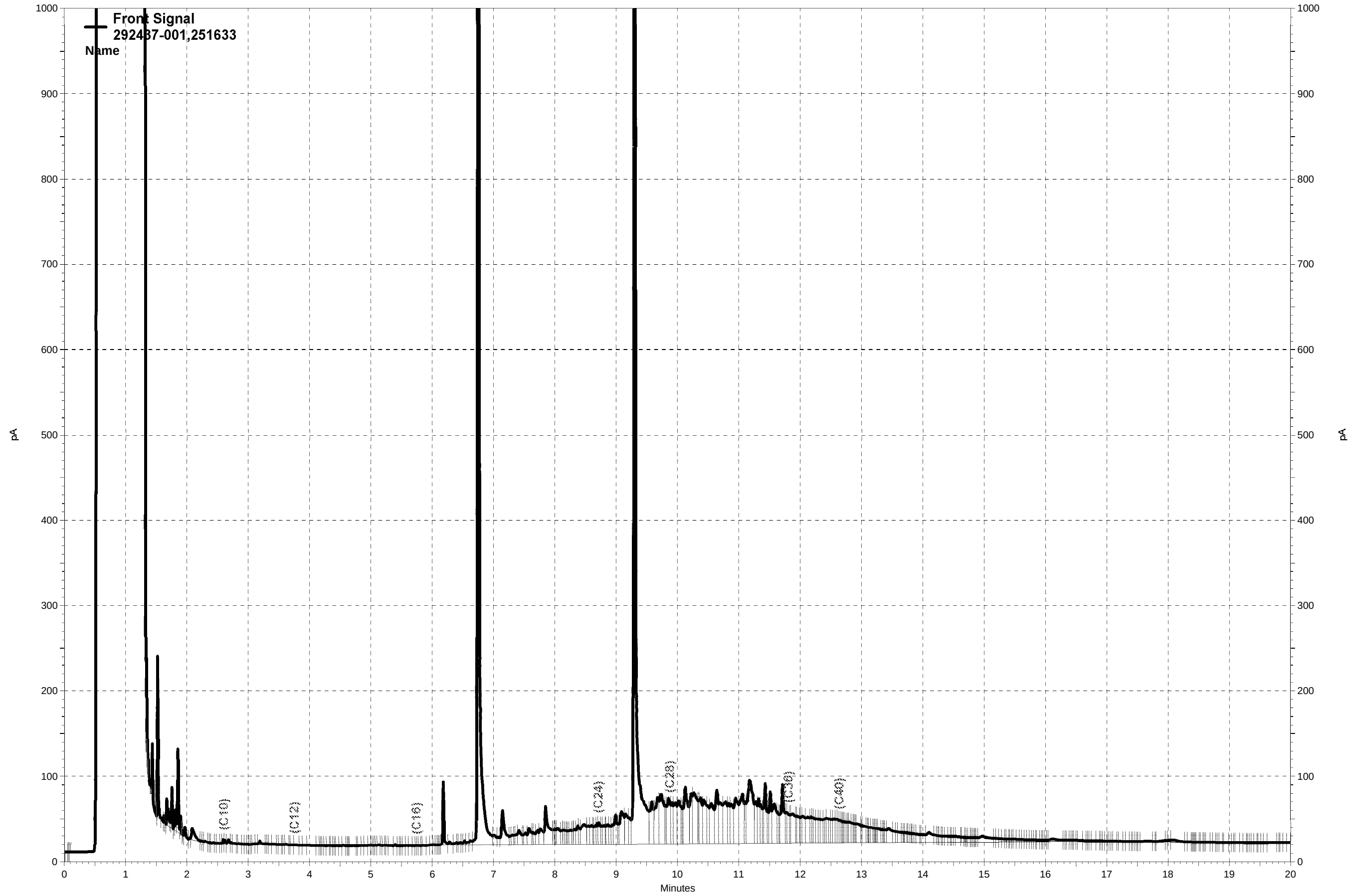

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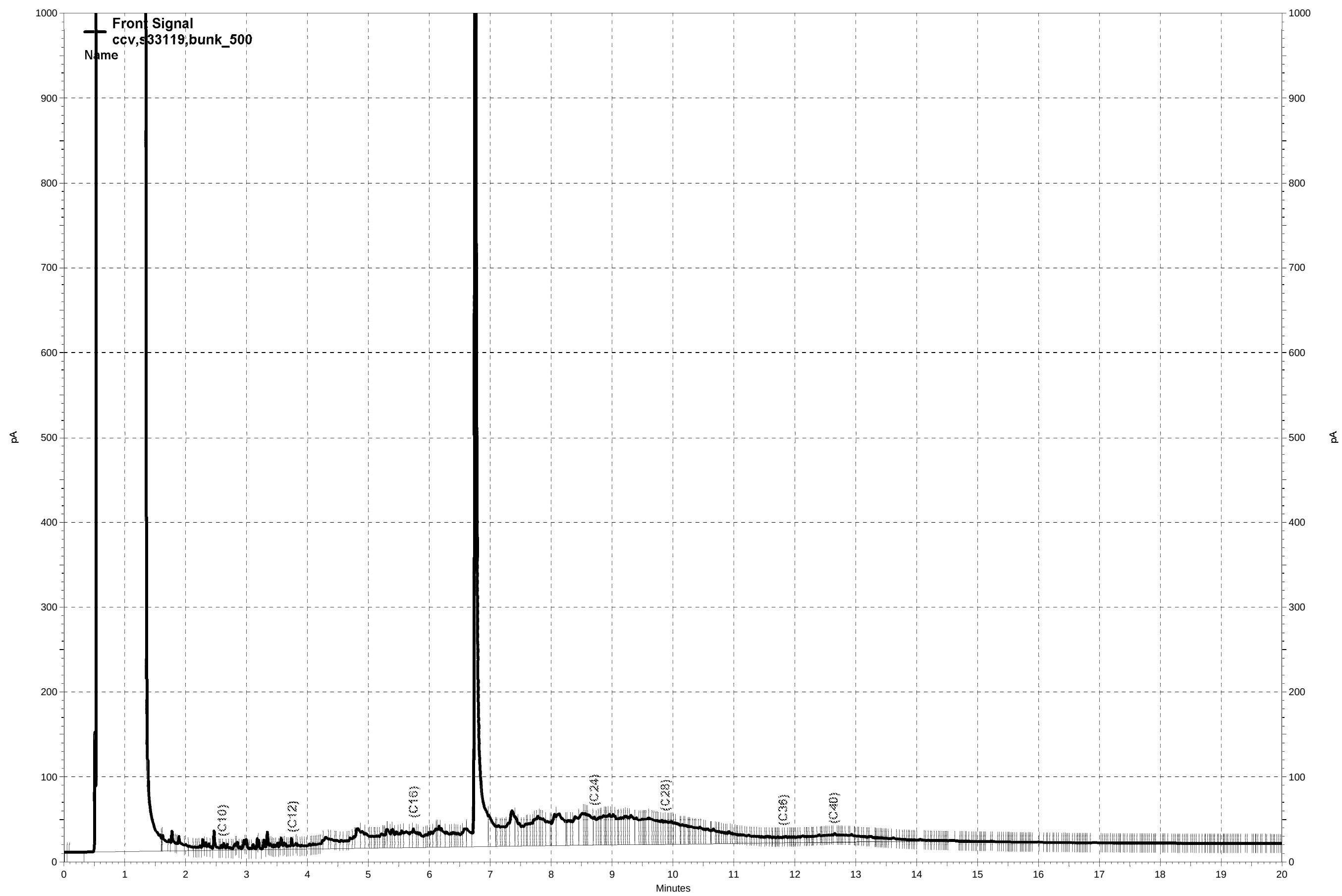

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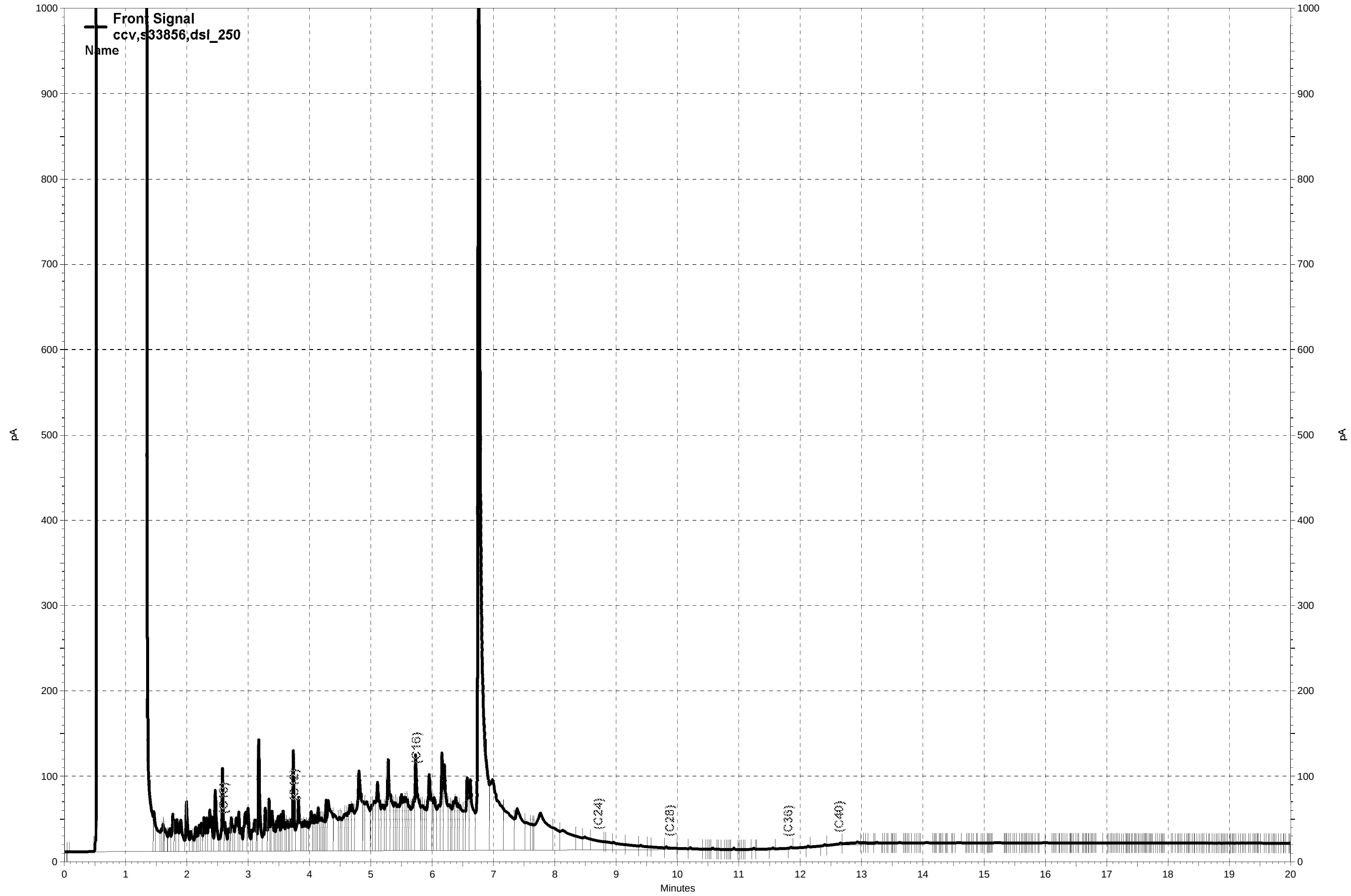

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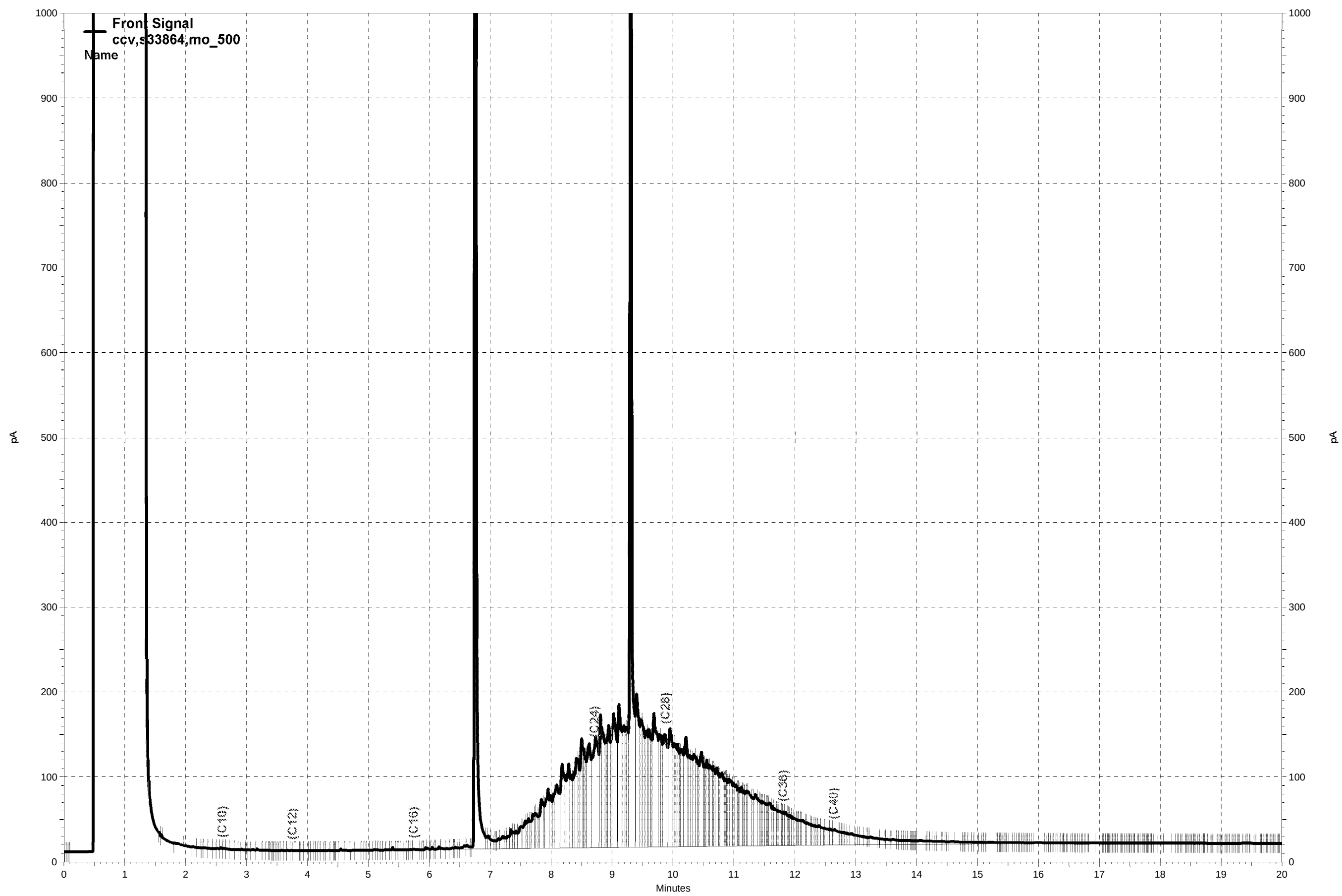

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292490
ANALYTICAL REPORT

SLR International 110 11th Street Oakland, CA 94607	Project : JSOSP Location : JSOSP Level : II

Sample ID	Lab ID	Sample ID	Lab ID
JS-SW-L101	292490-001	JS-SW-L402	292490-017
JS-SW-L102	292490-002	JS-SW-L403	292490-018
JS-SW-L103	292490-003	JS-SW-L404	292490-019
JS-SW-L104	292490-004	JS-BS-L401	292490-020
JS-BS-L101	292490-005	JS-SW-L501	292490-021
JS-SW-L201	292490-006	JS-SW-L502	292490-022
JS-SW-L202	292490-007	JS-SW-L503	292490-023
JS-SW-L203	292490-008	JS-SW-L504	292490-024
JS-SW-L204	292490-009	JS-BS-L501	292490-025
JS-BS-L201	292490-010	ABN1-SW	292490-026
JS-SW-L301	292490-011	ABN1-BS	292490-027
JS-SW-L302	292490-012	ABN2-SW	292490-028
JS-SW-L303	292490-013	ABN2-BS	292490-029
JS-SW-L304	292490-014	ABN3-SW	292490-030
JS-BS-L301	292490-015	ABN3-BS	292490-031
JS-SW-L401	292490-016		

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 following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: ______________________ Date: 09/18/2017

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**292490**
Client:	**SLR International**
Project:	**JSOSP**
Location:	**JSOSP**
Request Date:	**09/15/17**
Samples Received:	**09/15/17**

This data package contains sample and QC results for twenty five soil samples, requested for the above referenced project on 09/15/17. The samples were received cold and intact.

Metals (EPA 6010B):
No analytical problems were encountered.

CHAIN OF CUSTODY

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Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Page 1 of 3

Chain of Custody # ______

C&T LOGIN # 292496

Project No: JS05P

Sampler: Hugo Vazquez

Project Name:

Report To: Hugo Vazquez

Project P. O. No:

Company: SLR

EDD Format: Report Level ☐ II ☐ III ☐ IV

Telephone: 510 673 6809

Turnaround Time: ☒ RUSH 24 hrs ☐ Standard

Email: hvazquez@slrconsulting.com

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST Lead
	JS-SW-L101	9/15	11:15		X									X
	JS-SW-L102		11:17											
	JS-SW-L103		11:19											
	JS-SW-L104		11:21											
	JS-BS-L101		11:23											
	JS-SW-L201		11:33											
	JS-SW-L202		11:35											
	JS-SW-L203		11:37											
	JS-SW-L204		11:39											
	JS-BS-L201		11:41											
	JS-SW-L301		11:55											
	JS-SW-L302		11:57											
	JS-SW-L303		11:59											

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	9/15	1534	[signature]	9/15	1534
[signature]	9/15	1650	[signature]	9/15	16:50

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Page 2 of 3
Chain of Custody #
C&T LOGIN # 292490

Project No: JS05 P
Project Name:
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH 24 hrs ☐ Standard

Sampler: Hugo Vazquez
Report To:
Company:
Telephone:
Email:

Lab No.	Sample ID.	SAMPLING: Date Collected	SAMPLING: Time Collected	MATRIX: Water	MATRIX: Solid	# of Containers	HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: Lead
	JS-SW-L304	12:01	→ 9/15		X							+
	JS-BS-L301	12:03										
	JS-SW-L401	12:06										
	JS-SW-L402	12:08										
	JS-SW-L403	12:10										
	JS-SW-L404	12:12										
	JS-BS-L401	12:14										
	JS-SW-L501	12:27										
	JS-SW-L502	12:29										
	JS-SW-L503	12:31										
	JS-SW-L504	12:33										
	JS-BS-L501	12:35										

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
[signature]	9/15	1534	[signature]	9/15	1534
[signature]	9/15	1650	[signature]	9/15	16:50

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs

2323 Fifth Street
Berkeley, CA 94710

Phone (510) 486-0900
Fax (510) 486-0532

Page 3 of 3
Chain of Custody # ______

C&T LOGIN # 29240

Project No: J508P
Project Name:
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ______ ☐ Standard

Sampler: Hugo Vazquez
Report To:
Company:
Telephone:
Email:

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid	MATRIX	MATRIX	# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST HOLD
	ABN1-SW	9/15	14:38		X									X
	ABN1-BS		14:40											
	ABN2-SW		14:42											
	ABN2-BS		14:44											
	ABN3-SW		14:46											
	ABN3-BS		14:48											

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	9.15	1534	[signature]	9.15	1534
[signature]	9/15	1650	[signature]	9/15	16:50

COOLER RECEIPT CHECKLIST

ENTHALPY Berkeley

Login # 292490 Date Received 09/15/17 Number of coolers 1
Client SLR Project JSOSP

Date Opened 09/15/17 By (print) EHS (sign)
Date Logged in 09/15/17 By (print) EHS (sign)
Date Labelled 09/15/17 By (print) EHS (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES **NO**
   Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
    How many ______ Name ______ Date ______
2B. Were custody seals intact upon arrival? YES NO **N/A**
3. Were custody papers dry and intact when received? **YES** NO
4. Were custody papers filled out properly (ink, signed, etc)? **YES** NO
5. Is the project identifiable from custody papers? (If so fill out top of form) **YES** NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 2.5

☐ Temperature blank(s) included? ☐ Thermometer# ______ ☒ IR Gun# A

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES **NO**
   If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? **YES** NO
10. Are there any missing / extra samples? YES **NO**
11. Are samples in the appropriate containers for indicated tests? **YES** NO
12. Are sample labels present, in good condition and complete? **YES** NO
13. Do the sample labels agree with custody papers? **YES** NO
14. Was sufficient amount of sample sent for tests requested? **YES** NO
15. Are the samples appropriately preserved? YES NO **N/A**
16. Did you check preservatives for all bottles for each sample? YES NO **N/A**
17. Did you document your preservative check? (pH strip lot# ______) YES NO **N/A**
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO **N/A**
19. Did you change the hold time in LIMS for preserved terracores? YES NO **N/A**
20. Are bubbles > 6mm absent in VOA samples? YES NO **N/A**
21. Was the client contacted concerning this sample delivery? YES **NO**
    If YES, Who was called? ______ By ______ Date: ______

COMMENTS

Rev 14, 8/01/17

ENTHALPY ANALYTICAL

Detections Summary for 292490

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : JSOSP
Location : JSOSP

Client Sample ID : JS-SW-L101 Laboratory Sample ID : 292490-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	88		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L102 Laboratory Sample ID : 292490-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	27		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L103 Laboratory Sample ID : 292490-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	7.8		0.95	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L104 Laboratory Sample ID : 292490-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	2.7		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-BS-L101 Laboratory Sample ID : 292490-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	120		0.99	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L201 Laboratory Sample ID : 292490-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	7.4		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L202 Laboratory Sample ID : 292490-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	25		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L203 Laboratory Sample ID : 292490-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	14		0.99	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L204 Laboratory Sample ID : 292490-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	43		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-BS-L201 Laboratory Sample ID : 292490-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	1,000		49	mg/Kg	As Recd	100.0	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L301 Laboratory Sample ID : 292490-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	17		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L302 Laboratory Sample ID : 292490-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	14		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L303 Laboratory Sample ID : 292490-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	8.7		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L304 Laboratory Sample ID : 292490-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	8.2		0.93	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-BS-L301 Laboratory Sample ID : 292490-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	2.4		0.97	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L401 Laboratory Sample ID : 292490-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	7.0		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

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Client Sample ID : JS-SW-L402 Laboratory Sample ID : 292490-017

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	7.1		0.98	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L403 Laboratory Sample ID : 292490-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	23		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L404 Laboratory Sample ID : 292490-019

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	4.5		0.96	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-BS-L401 Laboratory Sample ID : 292490-020

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	150		0.92	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L501 Laboratory Sample ID : 292490-021

No Detections

Client Sample ID : JS-SW-L502 Laboratory Sample ID : 292490-022

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	3.9		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L503 Laboratory Sample ID : 292490-023

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	5.5		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-L504 Laboratory Sample ID : 292490-024

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	5.3		0.93	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-BS-L501 Laboratory Sample ID : 292490-025

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	7.6		0.97	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

ENTHALPY ANALYTICAL

Lead			
Lab #:	292490	Location:	JSOSP
Client:	SLR International	Prep:	EPA 3050B
Project#:	JSOSP	Analysis:	EPA 6010B
Analyte:	Lead	Sampled:	09/15/17
Matrix:	Soil	Received:	09/15/17
Units:	mg/Kg	Prepared:	09/18/17
Basis:	as received	Analyzed:	09/18/17

Field ID	Type	Lab ID	Result	RL	Diln Fac	Batch#
JS-SW-L101	SAMPLE	292490-001	88	1.0	1.000	251729
JS-SW-L102	SAMPLE	292490-002	27	1.0	1.000	251729
JS-SW-L103	SAMPLE	292490-003	7.8	0.95	1.000	251729
JS-SW-L104	SAMPLE	292490-004	2.7	1.0	1.000	251729
JS-BS-L101	SAMPLE	292490-005	120	0.99	1.000	251729
JS-SW-L201	SAMPLE	292490-006	7.4	1.0	1.000	251729
JS-SW-L202	SAMPLE	292490-007	25	1.0	1.000	251729
JS-SW-L203	SAMPLE	292490-008	14	0.99	1.000	251729
JS-SW-L204	SAMPLE	292490-009	43	1.0	1.000	251729
JS-BS-L201	SAMPLE	292490-010	1,000	49	100.0	251729
JS-SW-L301	SAMPLE	292490-011	17	1.0	1.000	251730
JS-SW-L302	SAMPLE	292490-012	14	1.0	1.000	251730
JS-SW-L303	SAMPLE	292490-013	8.7	1.0	1.000	251730
JS-SW-L304	SAMPLE	292490-014	8.2	0.93	1.000	251730
JS-BS-L301	SAMPLE	292490-015	2.4	0.97	1.000	251730
JS-SW-L401	SAMPLE	292490-016	7.0	1.0	1.000	251730
JS-SW-L402	SAMPLE	292490-017	7.1	0.98	1.000	251730
JS-SW-L403	SAMPLE	292490-018	23	1.0	1.000	251730
JS-SW-L404	SAMPLE	292490-019	4.5	0.96	1.000	251730
JS-BS-L401	SAMPLE	292490-020	150	0.92	1.000	251730
JS-SW-L501	SAMPLE	292490-021	ND	1.0	1.000	251730
JS-SW-L502	SAMPLE	292490-022	3.9	1.0	1.000	251730
JS-SW-L503	SAMPLE	292490-023	5.5	1.0	1.000	251730
JS-SW-L504	SAMPLE	292490-024	5.3	0.93	1.000	251730
JS-BS-L501	SAMPLE	292490-025	7.6	0.97	1.000	251730
	BLANK	QC901197	ND	1.0	1.000	251729
	BLANK	QC901202	ND	1.0	1.000	251730

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Lead			
Lab #:	292490	Location:	JSOSP
Client:	SLR International	Prep:	EPA 3050B
Project#:	JSOSP	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Prepared:	09/18/17
Units:	mg/Kg	Analyzed:	09/18/17
Basis:	as received		

Field ID	Type	MSS Lab ID	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Batch#	Sampled	Received
	BS		QC901198		51.02	53.19	104	80-120			251729		
	BSD		QC901199		49.02	50.63	103	80-120	1	20	251729		
ZZZZZZZZZZ	MS	292261-023	QC901200	4.969	50.51	52.23	94	53-128			251729	08/17/17	08/18/17
ZZZZZZZZZZ	MSD	292261-023	QC901201		50.00	48.63	87	53-128	6	48	251729	08/17/17	08/18/17
	BS		QC901203		51.02	54.13	106	80-120			251730		
	BSD		QC901204		49.02	50.96	104	80-120	2	20	251730		
JS-SW-L301	MS	292490-011	QC901205	17.31	52.63	65.79	92	53-128			251730	09/15/17	09/15/17
JS-SW-L301	MSD	292490-011	QC901206		52.63	71.00	102	53-128	8	48	251730	09/15/17	09/15/17

RPD= Relative Percent Difference

ENTHALPY ANALYTICAL

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ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292349
ANALYTICAL REPORT

SLR International 110 11th Street Oakland, CA 94607	Project : 102.01422.00001 Location : Jean Sweeney Level : II

Sample ID	Lab ID	Sample ID	Lab ID
JS-SW-A02	292349-001	JS-BS-B01	292349-018
JS-SW-A03	292349-002	JS-BS-B02	292349-019
JS-SW-A04	292349-003	JS-BS-B03	292349-020
JS-BS-A06	292349-004	JS-BS-B04	292349-021
JS-BS-A07	292349-005	JS-BS-B05	292349-022
JS-BS-A08	292349-006	JS-BS-B06	292349-023
JS-BS-A09	292349-007	JS-BS-B07	292349-024
JS-BS-A10	292349-008	JS-BS-B08	292349-025
JS-BS-A11	292349-009	JS-BS-B09	292349-026
JS-BS-A12	292349-010	JS-SW-B01	292349-027
JS-BS-A13	292349-011	JS-SW-B02	292349-028
JS-BS-A14	292349-012	JS-SW-B03	292349-029
JS-BS-A13 DUP	292349-013	JS-SW-B04	292349-030
JS-SW-A05	292349-014	JS-SW-B05	292349-031
JS-SW-A06	292349-015	JS-SW-B06	292349-032
JS-SW-A08	292349-016	JS-SW-B07	292349-033
JS-SW-A07	292349-017		

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 following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: ______________________ Date: 09/15/2017

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number:	**292349**
Client:	**SLR International**
Project:	**102.01422.00001**
Location:	**Jean Sweeney**
Request Date:	**09/12/17**
Samples Received:	**09/12/17**

This data package contains sample and QC results for thirty three soil samples, requested for the above referenced project on 09/12/17. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
High surrogate recovery was observed for o-terphenyl in JS-SW-B06 (lab # 292349-032); no target analytes were detected in the sample. Many samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

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Formerly Curtis & Tompkins Labs

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Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Page 1 of 3
Chain of Custody # ____

C&T LOGIN # 292349

Project No: 102.01422.00021
Sampler: Perth Silvers
Project Name: Jean Sweeney
Report To:
Project P. O. No:
Company: SLR
EDD Format: Report Level ☐ II ☐ III ☐ IV
Telephone: 404-435-0758
Turnaround Time: ☒ RUSH 24hr ☐ Standard
Email: psilvers@slrconsulting.com

Lab No.	Sample ID.	SAMPLING: Date Collected	SAMPLING: Time Collected	MATRIX: Water	MATRIX: Solid			# of Containers	CHEMICAL PRESERVATIVE: HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: TPH-D, TPH-MO, Bunker C (EPA 8015D)	TPH-D, TPH-MO, Bunker C (EPA 8015D) w/silica gel cleanup
1	JS-SW-AØ2	9/11/17	1345		X			1					|	X	X
2	JS-SW-AØ3	9/11/17	1347		X			1					|	X	X
3	JS-SW-AØ4	9/11/17	1346		X			1					|	X	X
4	JS-BS-AØ6	9/11/17	1405		X			1					|	X	X
5	JS-BS-AØ7	9/11/17	1413		X			1					|	X	X
6	JS-BS-AØ8	9/11/17	1415		X			1					|	X	X
7	JS-BS-AØ9	9/11/17	1425		X			1					|	X	X
8	JS-BS-A10	9/11/17	1430		X			1					|	X	X
9	JS-BS-A11	9/11/17	1435		X			1					|	X	X
10	JS-BS-A12	9/11/17	1440		X			1					|	X	X
11	JS-BS-A13	9/11/17	1445		X			1					|	X	X
12	JS-BS-A14	9/11/17	1447		X			1					|	X	X
13	JS-BS-A13DUP	9/11/17	1445		X			1					✓	X	X

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Perth Silvers	9/12	1450	[signature]	9/12/17	1440
[signature]	9/12/17	1600	[signature]	9.12.17	1600

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs

2323 Fifth Street
Berkeley, CA 94710

Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 292349

Page 2 of 3
Chain of Custody # ______

Project No: 102.01422.00001
Sampler: Perth Silves
Project Name: Jean Sweeney
Report To:
Project P. O. No:
Company: SLR
EDD Format: Report Level ☐ II ☐ III ☐ IV
Telephone: (404) 435-0758
Turnaround Time: ☒ RUSH 24hr ☐ Standard
Email: psilves@slrconsulting.com

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: TPD-D, TPH-MO, Bunker C (EPA 8015D)	TPD-D, TPH-MO, Bunker C EPA 8015D W/silica gel cleanup
14	JS-SW-AØ5	9/11/17	1349		X									X	X
15	JS-SW-AØ6	9/11/17	1350		X										
16	JS-SW-AØ8	9/11/17	1352		X										
17	JS-SW-AØ7	9/11/17	1351		X										
18	JS-BS-BØ1	9/12/17	1350		X										
19	JS-BS-BØ2	9/12/17	1347		X										
20	JS-BS-BØ3	9/12/17	1345		X										
21	JS-BS-BØ4	9/12/17	1343		X										
22	JS-BS-BØ5	9/12/17	1341		X										
23	JS-BS-BØ6	9/12/17	1405		X										
24	JS-BS-BØ7	9/12/17	1401		X										
25	JS-BS-BØ8	9/12/17	1400		X										
26	JS-BS-BØ9	9/12/17	1357		X										

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Perth Silves	9/12	1440	[signature]	9/12/17	1440
[signature]	9/12/17	1600	[signature]	9/12/17	1600

CHAIN OF CUSTODY

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Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 292349

Page 3 of 3

Chain of Custody #

Project No: 102.01422.00001

Project Name: Jean Sweeney

Project P. O. No:

EDD Format: Report Level ☐ II ☐ III ☐ IV

Turnaround Time: ☒ RUSH 24hr ☐ Standard

Sampler: Peath Silvers

Report To: ~~SLR~~

Company: SLR

Telephone: 404-435-0758

Email: psilvers@slrconsulting.com

ANALYTICAL REQUEST: TPD-D, TPH-MO, Bunker C (EPA 8015M) w/silica gel cleanup; TPD-D, TPH-MO, Bunker C (EPA 8015M)

Lab No.	Sample ID.	Date Collected	Time Collected	Water	Solid	# of Containers	HCl	H2SO4	HNO3	NaOH	None	TPD-D, TPH-MO, Bunker C (EPA 8015M) w/silica gel cleanup	TPD-D, TPH-MO, Bunker C (EPA 8015M)
27	JS-SW-BØ1	9/12/17	1406		X							X	X
28	JS-SW-BØ2	9/12/17	1407		X							X	X
29	JS-SW-BØ3	9/12/17	1408		X							X	X
30	JS-SW-BØ4	9/12/17	1410		X							X	X
31	JS-SW-BØ5	9/12/17	1412		X							X	X
32	JS-SW-BØ6	9/12/17	1415		X							X	X
33	JS-SW-BØ7	9/12/17	1420		X							X	X

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Peath Silvers	9/12	14:40	[signature]	9/12/17	1440
[signature]	9/12/17	1600	[signature]	9/12/17	1600

COOLER RECEIPT CHECKLIST

ENTHALPY Berkeley

Login # 292349 Date Received 9.12.17 Number of coolers 1
Client SIR Project Sean Sweeney

Date Opened 9.12.17 By (print) DC (sign)
Date Logged in By (print) VC (sign)
Date Labelled By (print) (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES NO
   Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many Name Date
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? YES NO
4. Were custody papers filled out properly (ink, signed, etc)? YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 4.8

☐ Temperature blank(s) included? ☐ Thermometer# ☒ IR Gun# B

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
   If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? YES NO
10. Are there any missing / extra samples? YES NO
11. Are samples in the appropriate containers for indicated tests? YES NO
12. Are sample labels present, in good condition and complete? YES NO
13. Do the sample labels agree with custody papers? YES NO
14. Was sufficient amount of sample sent for tests requested? YES NO
15. Are the samples appropriately preserved? YES NO N/A
16. Did you check preservatives for all bottles for each sample? YES NO N/A
17. Did you document your preservative check? (pH strip lot#) YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? YES NO N/A
21. Was the client contacted concerning this sample delivery? YES NO
   If YES, Who was called? By Date:

COMMENTS

Rev 14, 8/01/17

ENTHALPY ANALYTICAL

Detections Summary for 292349

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : 102.01422.00001
Location : Jean Sweeney

Client Sample ID : JS-SW-A02 Laboratory Sample ID : 292349-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.2	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	1.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	16		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	12		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	36		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	26		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-A03 Laboratory Sample ID : 292349-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	33	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Diesel C10-C24	19	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	170		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	86		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	390		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	210		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-A04 Laboratory Sample ID : 292349-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	10	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	7.4	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	29		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	19		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	69		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	49		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A06 Laboratory Sample ID : 292349-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	24	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	15	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	91		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	53		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	210		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	130		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

ENTHALPY ANALYTICAL

Client Sample ID : JS-BS-A07 Laboratory Sample ID : 292349-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	27	Y	2.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Diesel C10-C24	16	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	100		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	55		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	240		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	130		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A08 Laboratory Sample ID : 292349-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	130	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Diesel C10-C24	77	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	230		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	120		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	660		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	370		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A09 Laboratory Sample ID : 292349-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	36	Y	2.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Diesel C10-C24	27	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	120		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	80		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	300		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	200		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A10 Laboratory Sample ID : 292349-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	96	Y	10	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Diesel C10-C24	72	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	660		50	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Motor Oil C24-C36	420		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	1,500		50	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Bunker C C12-C40	930		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C

ENTHALPY ANALYTICAL

Client Sample ID : JS-BS-A11 Laboratory Sample ID : 292349-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	12	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	7.6	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	51		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	33		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	120		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	76		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A12 Laboratory Sample ID : 292349-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	12	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	7.1	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	55		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	34		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	120		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	75		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A13 Laboratory Sample ID : 292349-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	12	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	6.1	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	50		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	31		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	120		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	69		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A14 Laboratory Sample ID : 292349-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	20	Y	2.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Diesel C10-C24	9.2	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	81		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	39		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	200		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	95		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

ENTHALPY ANALYTICAL

Client Sample ID : JS-BS-A13 DUP Laboratory Sample ID : 292349-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	11	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	8.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	45		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	34		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	110		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	80		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-A05 Laboratory Sample ID : 292349-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	6.1	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	5.3		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	25		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	19	Y	5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-A06 Laboratory Sample ID : 292349-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	14	Y	2.0	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Diesel C10-C24	12	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	60		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	46		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	140		10	mg/Kg	As Recd	2.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	110		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-A08 Laboratory Sample ID : 292349-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	8.4	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	6.2	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	44		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	32		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	100		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	74		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-A07 Laboratory Sample ID : 292349-017

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	13	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	9.4	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	52		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	39		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	120		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	90		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

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Client Sample ID : JS-BS-B01 Laboratory Sample ID : 292349-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	15	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	8.2	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	37		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	21		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	99		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	41		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-B02 Laboratory Sample ID : 292349-019

No Detections

Client Sample ID : JS-BS-B03 Laboratory Sample ID : 292349-020

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.0	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	6.0		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	5.2		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-B04 Laboratory Sample ID : 292349-021

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	6.9	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	5.0	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	14		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	9.6		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	33		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	28		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-B05 Laboratory Sample ID : 292349-022

No Detections

Client Sample ID : JS-BS-B06 Laboratory Sample ID : 292349-023

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.7	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	7.2		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	14		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	10		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

ENTHALPY ANALYTICAL

Client Sample ID : JS-BS-B07 Laboratory Sample ID : 292349-024

No Detections

Client Sample ID : JS-BS-B08 Laboratory Sample ID : 292349-025

No Detections

Client Sample ID : JS-BS-B09 Laboratory Sample ID : 292349-026

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	160	Z	5.0	mg/Kg	As Recd	5.000	EPA 8015B	EPA 3550C
Diesel C10-C24	94	Y	9.9	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Motor Oil C24-C36	760		25	mg/Kg	As Recd	5.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	480		50	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Bunker C C12-C40	1,500	Z	25	mg/Kg	As Recd	5.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	1,200		50	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-B01 Laboratory Sample ID : 292349-027

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	14	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	6.8	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	69		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	38		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	130		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	87		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-B02 Laboratory Sample ID : 292349-028

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	130	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Diesel C10-C24	130	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	500		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	410		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	980		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	1,000		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-B03 Laboratory Sample ID : 292349-029

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Bunker C C12-C40	7.1	Y	5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	8.6	Y	5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-B04 Laboratory Sample ID : 292349-030

No Detections

Client Sample ID : JS-SW-B05 Laboratory Sample ID : 292349-031

No Detections

Client Sample ID : JS-SW-B06 Laboratory Sample ID : 292349-032

No Detections

Client Sample ID : JS-SW-B07 Laboratory Sample ID : 292349-033

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	230	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Diesel C10-C24	150	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	370		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	280		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	850		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	780		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard
Z = Sample exhibits unknown single peak or peaks

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-SW-A02	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-001	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL	Analyzed
Diesel C10-C24	2.2 Y	1.0	09/13/17
Diesel C10-C24 (SGCU)	1.3 Y	1.0	09/14/17
Motor Oil C24-C36	16	5.0	09/13/17
Motor Oil C24-C36 (SGCU)	12	5.0	09/14/17
Bunker C C12-C40	36	5.0	09/13/17
Bunker C C12-C40 (SGCU)	26	5.0	09/14/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	103	55-133	09/13/17
o-Terphenyl (SGCU)	85	55-133	09/14/17

Field ID:	JS-SW-A03	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-002	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Diln Fac	Analyzed
Diesel C10-C24	33 Y	3.0	3.000	09/13/17
Diesel C10-C24 (SGCU)	19 Y	1.0	1.000	09/14/17
Motor Oil C24-C36	170	15	3.000	09/13/17
Motor Oil C24-C36 (SGCU)	86	5.0	1.000	09/14/17
Bunker C C12-C40	390	15	3.000	09/13/17
Bunker C C12-C40 (SGCU)	210	5.0	1.000	09/14/17

Surrogate	%REC	Limits	Diln Fac	Analyzed
o-Terphenyl	93	55-133	3.000	09/13/17
o-Terphenyl (SGCU)	73	55-133	1.000	09/14/17

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-SW-A04	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-003	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL	Analyzed
Diesel C10-C24	10 Y	1.0	09/13/17
Diesel C10-C24 (SGCU)	7.4 Y	1.0	09/14/17
Motor Oil C24-C36	29	5.0	09/13/17
Motor Oil C24-C36 (SGCU)	19	5.0	09/14/17
Bunker C C12-C40	69	5.0	09/13/17
Bunker C C12-C40 (SGCU)	49	5.0	09/14/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	104	55-133	09/13/17
o-Terphenyl (SGCU)	102	55-133	09/14/17

Field ID:	JS-BS-A06	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-004	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL	Analyzed
Diesel C10-C24	24 Y	0.99	09/13/17
Diesel C10-C24 (SGCU)	15 Y	0.99	09/14/17
Motor Oil C24-C36	91	5.0	09/13/17
Motor Oil C24-C36 (SGCU)	53	5.0	09/14/17
Bunker C C12-C40	210	5.0	09/13/17
Bunker C C12-C40 (SGCU)	130	5.0	09/14/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	100	55-133	09/13/17
o-Terphenyl (SGCU)	78	55-133	09/14/17

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-BS-A07	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-005	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Diln Fac	Analyzed
Diesel C10-C24	27 Y	2.0	2.000	09/13/17
Diesel C10-C24 (SGCU)	16 Y	1.0	1.000	09/14/17
Motor Oil C24-C36	100	10	2.000	09/13/17
Motor Oil C24-C36 (SGCU)	55	5.0	1.000	09/14/17
Bunker C C12-C40	240	10	2.000	09/13/17
Bunker C C12-C40 (SGCU)	130	5.0	1.000	09/14/17

Surrogate	%REC	Limits	Diln Fac	Analyzed
o-Terphenyl	107	55-133	2.000	09/13/17
o-Terphenyl (SGCU)	89	55-133	1.000	09/14/17

Field ID:	JS-BS-A08	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-006	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Diln Fac	Analyzed
Diesel C10-C24	130 Y	3.0	3.000	09/13/17
Diesel C10-C24 (SGCU)	77 Y	1.0	1.000	09/14/17
Motor Oil C24-C36	230	15	3.000	09/13/17
Motor Oil C24-C36 (SGCU)	120	5.0	1.000	09/14/17
Bunker C C12-C40	660	15	3.000	09/13/17
Bunker C C12-C40 (SGCU)	370	5.0	1.000	09/14/17

Surrogate	%REC	Limits	Diln Fac	Analyzed
o-Terphenyl	110	55-133	3.000	09/13/17
o-Terphenyl (SGCU)	87	55-133	1.000	09/14/17

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-BS-A09	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-007	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Diln Fac	Analyzed
Diesel C10-C24	36 Y	2.0	2.000	09/13/17
Diesel C10-C24 (SGCU)	27 Y	1.0	1.000	09/14/17
Motor Oil C24-C36	120	10	2.000	09/13/17
Motor Oil C24-C36 (SGCU)	80	5.0	1.000	09/14/17
Bunker C C12-C40	300	10	2.000	09/13/17
Bunker C C12-C40 (SGCU)	200	5.0	1.000	09/14/17

Surrogate	%REC	Limits	Diln Fac	Analyzed
o-Terphenyl	110	55-133	2.000	09/13/17
o-Terphenyl (SGCU)	93	55-133	1.000	09/14/17

Field ID:	JS-BS-A10	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-008	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Diln Fac	Analyzed
Diesel C10-C24	96 Y	10	10.00	09/13/17
Diesel C10-C24 (SGCU)	72 Y	3.0	3.000	09/14/17
Motor Oil C24-C36	660	50	10.00	09/13/17
Motor Oil C24-C36 (SGCU)	420	15	3.000	09/14/17
Bunker C C12-C40	1,500	50	10.00	09/13/17
Bunker C C12-C40 (SGCU)	930	15	3.000	09/14/17

Surrogate	%REC	Limits	Diln Fac	Analyzed
o-Terphenyl	DO	55-133	10.00	09/13/17
o-Terphenyl (SGCU)	92	55-133	3.000	09/14/17

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-BS-A11	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-009	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL	Analyzed
Diesel C10-C24	12 Y	1.0	09/13/17
Diesel C10-C24 (SGCU)	7.6 Y	1.0	09/14/17
Motor Oil C24-C36	51	5.0	09/13/17
Motor Oil C24-C36 (SGCU)	33	5.0	09/14/17
Bunker C C12-C40	120	5.0	09/13/17
Bunker C C12-C40 (SGCU)	76	5.0	09/14/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	101	55-133	09/13/17
o-Terphenyl (SGCU)	87	55-133	09/14/17

Field ID:	JS-BS-A12	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-010	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL	Analyzed
Diesel C10-C24	12 Y	1.0	09/13/17
Diesel C10-C24 (SGCU)	7.1 Y	1.0	09/14/17
Motor Oil C24-C36	55	5.0	09/13/17
Motor Oil C24-C36 (SGCU)	34	5.0	09/14/17
Bunker C C12-C40	120	5.0	09/13/17
Bunker C C12-C40 (SGCU)	75	5.0	09/14/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	106	55-133	09/13/17
o-Terphenyl (SGCU)	83	55-133	09/14/17

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-BS-A13	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-011	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL	Analyzed
Diesel C10-C24	12 Y	1.0	09/13/17
Diesel C10-C24 (SGCU)	6.1 Y	1.0	09/14/17
Motor Oil C24-C36	50	5.0	09/13/17
Motor Oil C24-C36 (SGCU)	31	5.0	09/14/17
Bunker C C12-C40	120	5.0	09/13/17
Bunker C C12-C40 (SGCU)	69	5.0	09/14/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	99	55-133	09/13/17
o-Terphenyl (SGCU)	82	55-133	09/14/17

Field ID:	JS-BS-A14	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-012	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Diln Fac	Analyzed
Diesel C10-C24	20 Y	2.0	2.000	09/13/17
Diesel C10-C24 (SGCU)	9.2 Y	1.0	1.000	09/14/17
Motor Oil C24-C36	81	10	2.000	09/13/17
Motor Oil C24-C36 (SGCU)	39	5.0	1.000	09/14/17
Bunker C C12-C40	200	10	2.000	09/13/17
Bunker C C12-C40 (SGCU)	95	5.0	1.000	09/14/17

Surrogate	%REC	Limits	Diln Fac	Analyzed
o-Terphenyl	98	55-133	2.000	09/13/17
o-Terphenyl (SGCU)	64	55-133	1.000	09/14/17

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-BS-A13 DUP	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-013	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	11 Y	1.0
Diesel C10-C24 (SGCU)	8.3 Y	1.0
Motor Oil C24-C36	45	5.0
Motor Oil C24-C36 (SGCU)	34	5.0
Bunker C C12-C40	110	5.0
Bunker C C12-C40 (SGCU)	80	5.0

Surrogate	%REC	Limits
o-Terphenyl	101	55-133
o-Terphenyl (SGCU)	82	55-133

Field ID:	JS-SW-A05	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-014	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	7.3 Y	1.0
Diesel C10-C24 (SGCU)	6.1 Y	1.0
Motor Oil C24-C36	5.3	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	25	5.0
Bunker C C12-C40 (SGCU)	19 Y	5.0

Surrogate	%REC	Limits
o-Terphenyl	100	55-133
o-Terphenyl (SGCU)	82	55-133

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-SW-A06	Sampled:	09/11/17
Type:	SAMPLE	Analyzed:	09/14/17
Lab ID:	292349-015	Cleanup Method:	EPA 3630C
Batch#:	251594		

Analyte	Result	RL	Diln Fac
Diesel C10-C24	14 Y	2.0	2.000
Diesel C10-C24 (SGCU)	12 Y	1.0	1.000
Motor Oil C24-C36	60	10	2.000
Motor Oil C24-C36 (SGCU)	46	5.0	1.000
Bunker C C12-C40	140	10	2.000
Bunker C C12-C40 (SGCU)	110	5.0	1.000

Surrogate	%REC	Limits	Diln Fac
o-Terphenyl	107	55-133	2.000
o-Terphenyl (SGCU)	94	55-133	1.000

Field ID:	JS-SW-A08	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-016	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	8.4 Y	1.0
Diesel C10-C24 (SGCU)	6.2 Y	1.0
Motor Oil C24-C36	44	5.0
Motor Oil C24-C36 (SGCU)	32	5.0
Bunker C C12-C40	100	5.0
Bunker C C12-C40 (SGCU)	74	5.0

Surrogate	%REC	Limits
o-Terphenyl	107	55-133
o-Terphenyl (SGCU)	88	55-133

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Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-SW-A07	Batch#:	251594
Type:	SAMPLE	Sampled:	09/11/17
Lab ID:	292349-017	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	13 Y	0.99
Diesel C10-C24 (SGCU)	9.4 Y	0.99
Motor Oil C24-C36	52	5.0
Motor Oil C24-C36 (SGCU)	39	5.0
Bunker C C12-C40	120	5.0
Bunker C C12-C40 (SGCU)	90	5.0

Surrogate	%REC	Limits
o-Terphenyl	105	55-133
o-Terphenyl (SGCU)	90	55-133

Field ID:	JS-BS-B01	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-018	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL	Analyzed
Diesel C10-C24	15 Y	1.0	09/14/17
Diesel C10-C24 (SGCU)	8.2 Y	1.0	09/15/17
Motor Oil C24-C36	37	5.0	09/14/17
Motor Oil C24-C36 (SGCU)	21	5.0	09/15/17
Bunker C C12-C40	99	5.0	09/14/17
Bunker C C12-C40 (SGCU)	41	5.0	09/14/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	108	55-133	09/14/17
o-Terphenyl (SGCU)	67	55-133	09/15/17

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Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-BS-B02	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-019	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL	Analyzed
Diesel C10-C24	ND	1.0	09/14/17
Diesel C10-C24 (SGCU)	ND	1.0	09/15/17
Motor Oil C24-C36	ND	5.0	09/14/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/15/17
Bunker C C12-C40	ND	5.0	09/14/17
Bunker C C12-C40 (SGCU)	ND	5.0	09/15/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	97	55-133	09/14/17
o-Terphenyl (SGCU)	71	55-133	09/15/17

Field ID:	JS-BS-B03	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-020	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	2.0 Y	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	6.0	5.0
Bunker C C12-C40 (SGCU)	5.2	5.0

Surrogate	%REC	Limits
o-Terphenyl	97	55-133
o-Terphenyl (SGCU)	73	55-133

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-BS-B04	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-021	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	6.9 Y	1.0
Diesel C10-C24 (SGCU)	5.0 Y	1.0
Motor Oil C24-C36	14	5.0
Motor Oil C24-C36 (SGCU)	9.6	5.0
Bunker C C12-C40	33	5.0
Bunker C C12-C40 (SGCU)	28	5.0

Surrogate	%REC	Limits
o-Terphenyl	111	55-133
o-Terphenyl (SGCU)	69	55-133

Field ID:	JS-BS-B05	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-022	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	111	55-133
o-Terphenyl (SGCU)	56	55-133

*= Value outside of QC limits; see narrative
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Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-BS-B06	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-023	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	1.7 Y	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	7.2	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	14	5.0
Bunker C C12-C40 (SGCU)	10	5.0

Surrogate	%REC	Limits
o-Terphenyl	117	55-133
o-Terphenyl (SGCU)	73	55-133

Field ID:	JS-BS-B07	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-024	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	111	55-133
o-Terphenyl (SGCU)	67	55-133

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-BS-B08	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-025	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Diesel C10-C24 (SGCU)	ND	0.99
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	115	55-133
o-Terphenyl (SGCU)	77	55-133

Field ID:	JS-BS-B09	Sampled:	09/12/17
Type:	SAMPLE	Analyzed:	09/14/17
Lab ID:	292349-026	Cleanup Method:	EPA 3630C
Batch#:	251597		

Analyte	Result	RL	Diln Fac
Diesel C10-C24	160 Z	5.0	5.000
Diesel C10-C24 (SGCU)	94 Y	9.9	10.00
Motor Oil C24-C36	760	25	5.000
Motor Oil C24-C36 (SGCU)	480	50	10.00
Bunker C C12-C40	1,500 Z	25	5.000
Bunker C C12-C40 (SGCU)	1,200	50	10.00

Surrogate	%REC	Limits	Diln Fac
o-Terphenyl	98	55-133	5.000
o-Terphenyl (SGCU)	DO	55-133	10.00

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-SW-B01	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-027	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	14 Y	1.0
Diesel C10-C24 (SGCU)	6.8 Y	1.0
Motor Oil C24-C36	69	5.0
Motor Oil C24-C36 (SGCU)	38	5.0
Bunker C C12-C40	130	5.0
Bunker C C12-C40 (SGCU)	87	5.0

Surrogate	%REC	Limits
o-Terphenyl	123	55-133
o-Terphenyl (SGCU)	79	55-133

Field ID:	JS-SW-B02	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-028	Cleanup Method:	EPA 3630C
Diln Fac:	3.000		

Analyte	Result	RL	Analyzed
Diesel C10-C24	130 Y	3.0	09/14/17
Diesel C10-C24 (SGCU)	130 Y	3.0	09/15/17
Motor Oil C24-C36	500	15	09/14/17
Motor Oil C24-C36 (SGCU)	410	15	09/15/17
Bunker C C12-C40	980	15	09/14/17
Bunker C C12-C40 (SGCU)	1,000	15	09/15/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	66	55-133	09/14/17
o-Terphenyl (SGCU)	72	55-133	09/15/17

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-SW-B03	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-029	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	7.1 Y	5.0
Bunker C C12-C40 (SGCU)	8.6 Y	5.0

Surrogate	%REC	Limits
o-Terphenyl	122	55-133
o-Terphenyl (SGCU)	89	55-133

Field ID:	JS-SW-B04	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-030	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	131	55-133
o-Terphenyl (SGCU)	85	55-133

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-SW-B05	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-031	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	117	55-133
o-Terphenyl (SGCU)	76	55-133

Field ID:	JS-SW-B06	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-032	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	134 *	55-133
o-Terphenyl (SGCU)	65	55-133

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Field ID:	JS-SW-B07	Batch#:	251597
Type:	SAMPLE	Sampled:	09/12/17
Lab ID:	292349-033	Analyzed:	09/14/17
Diln Fac:	3.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	230 Y	3.0
Diesel C10-C24 (SGCU)	150 Y	3.0
Motor Oil C24-C36	370	15
Motor Oil C24-C36 (SGCU)	280	15
Bunker C C12-C40	850	15
Bunker C C12-C40 (SGCU)	780	15

Surrogate	%REC	Limits
o-Terphenyl	113	55-133
o-Terphenyl (SGCU)	100	55-133

Type:	BLANK	Batch#:	251594
Lab ID:	QC900655	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL	Analyzed
Diesel C10-C24	ND	1.0	09/13/17
Diesel C10-C24 (SGCU)	ND	1.0	09/14/17
Motor Oil C24-C36	ND	5.0	09/13/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/14/17
Bunker C C12-C40	ND	5.0	09/13/17
Bunker C C12-C40 (SGCU)	ND	5.0	09/14/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	112	55-133	09/13/17
o-Terphenyl (SGCU)	93	55-133	09/14/17

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Received:	09/12/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received		

Type:	BLANK	Batch#:	251597
Lab ID:	QC900673	Analyzed:	09/14/17
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	108	55-133
o-Terphenyl (SGCU)	66	55-133

*= Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC900656	Batch#:	251594
Matrix:	Soil	Prepared:	09/13/17
Units:	mg/Kg		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	Analyzed
Diesel C10-C24	49.54	56.24	114	51-137	09/13/17
Diesel C10-C24 (SGCU)	49.54	48.17	97	51-137	09/14/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	119	55-133	09/13/17
o-Terphenyl (SGCU)	101	55-133	09/14/17

SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	251594
MSS Lab ID:	292275-001	Sampled:	09/08/17
Matrix:	Soil	Received:	09/08/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received	Analyzed:	09/13/17
Diln Fac:	1.000		

Type: MS   Lab ID: QC900657

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	9.593	50.13	49.56	80	36-143

Surrogate	%REC	Limits
o-Terphenyl	96	55-133

Type: MSD   Lab ID: QC900658

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.18	43.08	67	36-143	14	55

Surrogate	%REC	Limits
o-Terphenyl	96	55-133

RPD= Relative Percent Difference

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC900674	Batch#:	251597
Matrix:	Soil	Prepared:	09/13/17
Units:	mg/Kg	Analyzed:	09/14/17

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.03	60.54	121	51-137
Diesel C10-C24 (SGCU)	50.03	37.37	75	51-137

Surrogate	%REC	Limits
o-Terphenyl	108	55-133
o-Terphenyl (SGCU)	64	55-133

SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292349	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	251597
MSS Lab ID:	292274-014	Sampled:	09/08/17
Matrix:	Soil	Received:	09/08/17
Units:	mg/Kg	Prepared:	09/13/17
Basis:	as received	Analyzed:	09/14/17
Diln Fac:	3.000		

Type: MS Lab ID: QC900675

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	48.99	50.29	111.4	124	36-143

Surrogate	%REC	Limits
o-Terphenyl	107	55-133

Type: MSD Lab ID: QC900676

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
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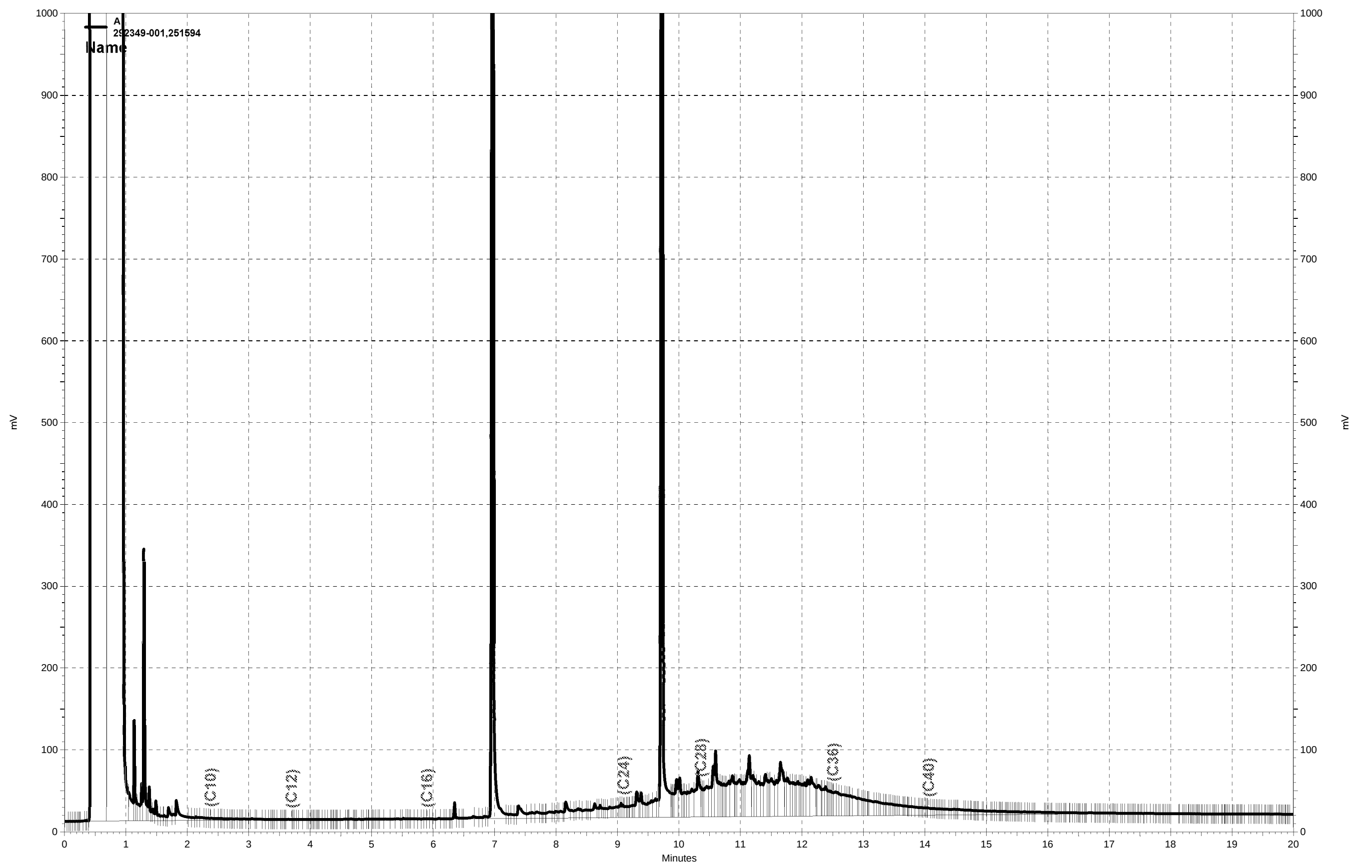
Surrogate	%REC	Limits
o-Terphenyl	111	55-133

RPD= Relative Percent Difference



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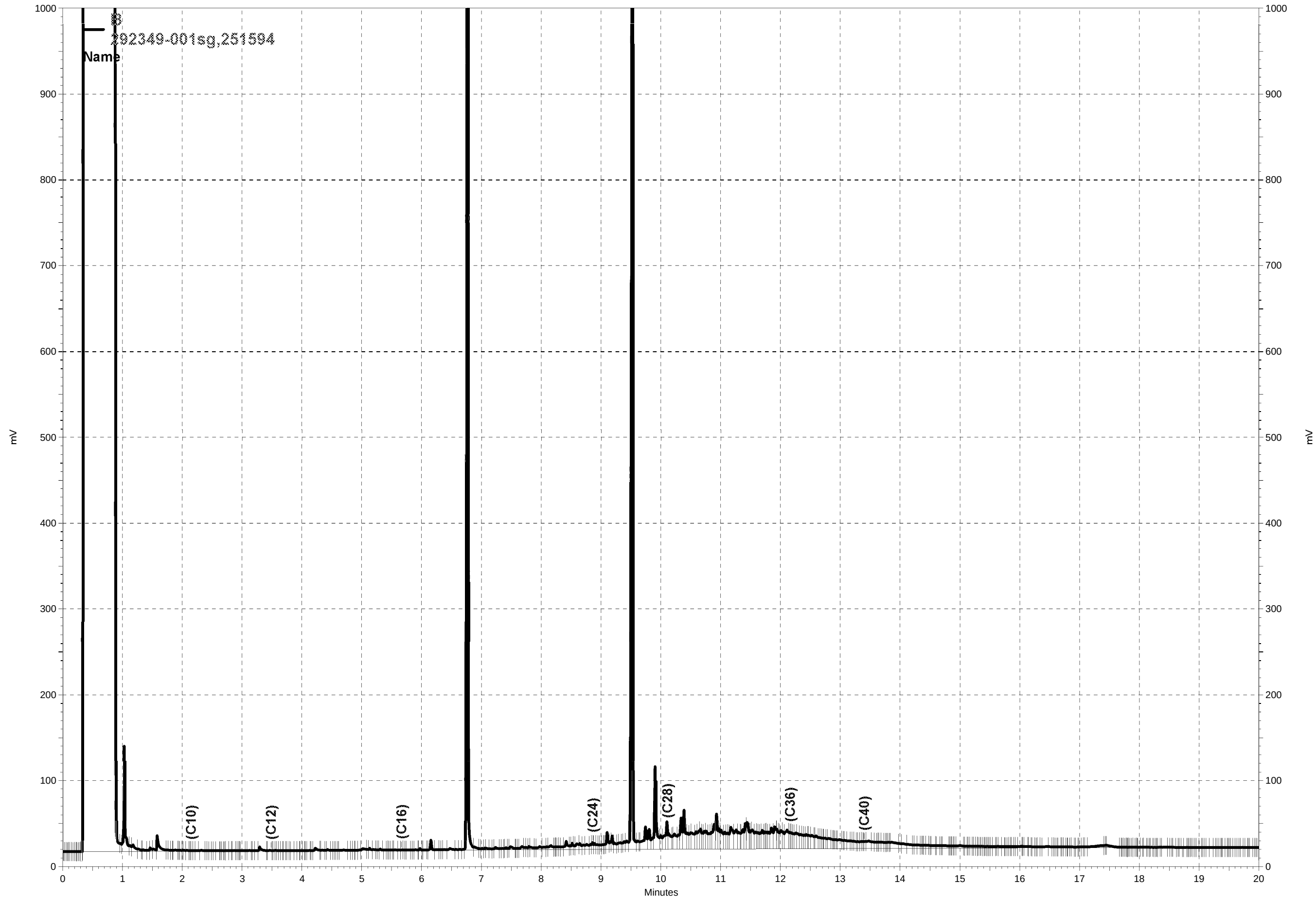

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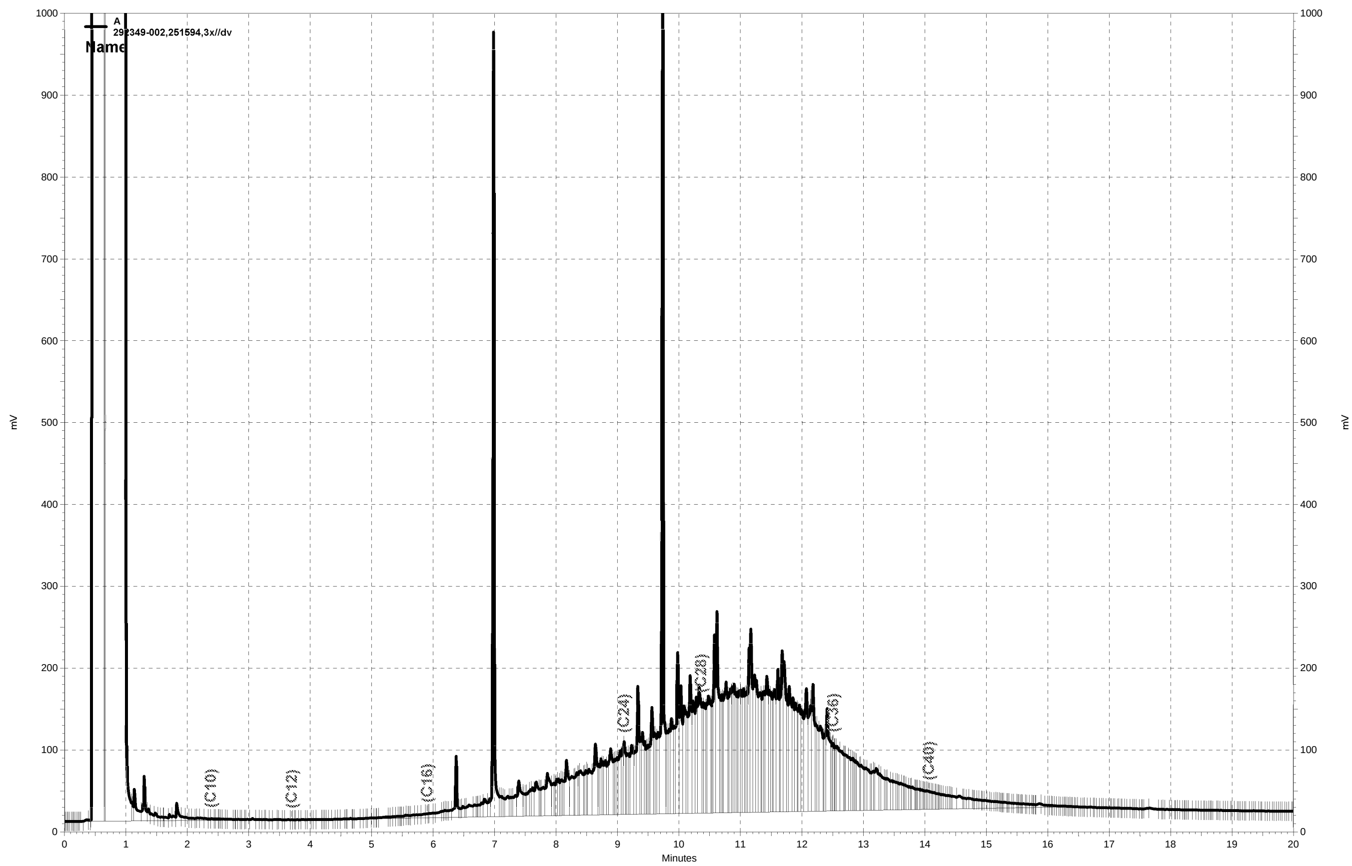

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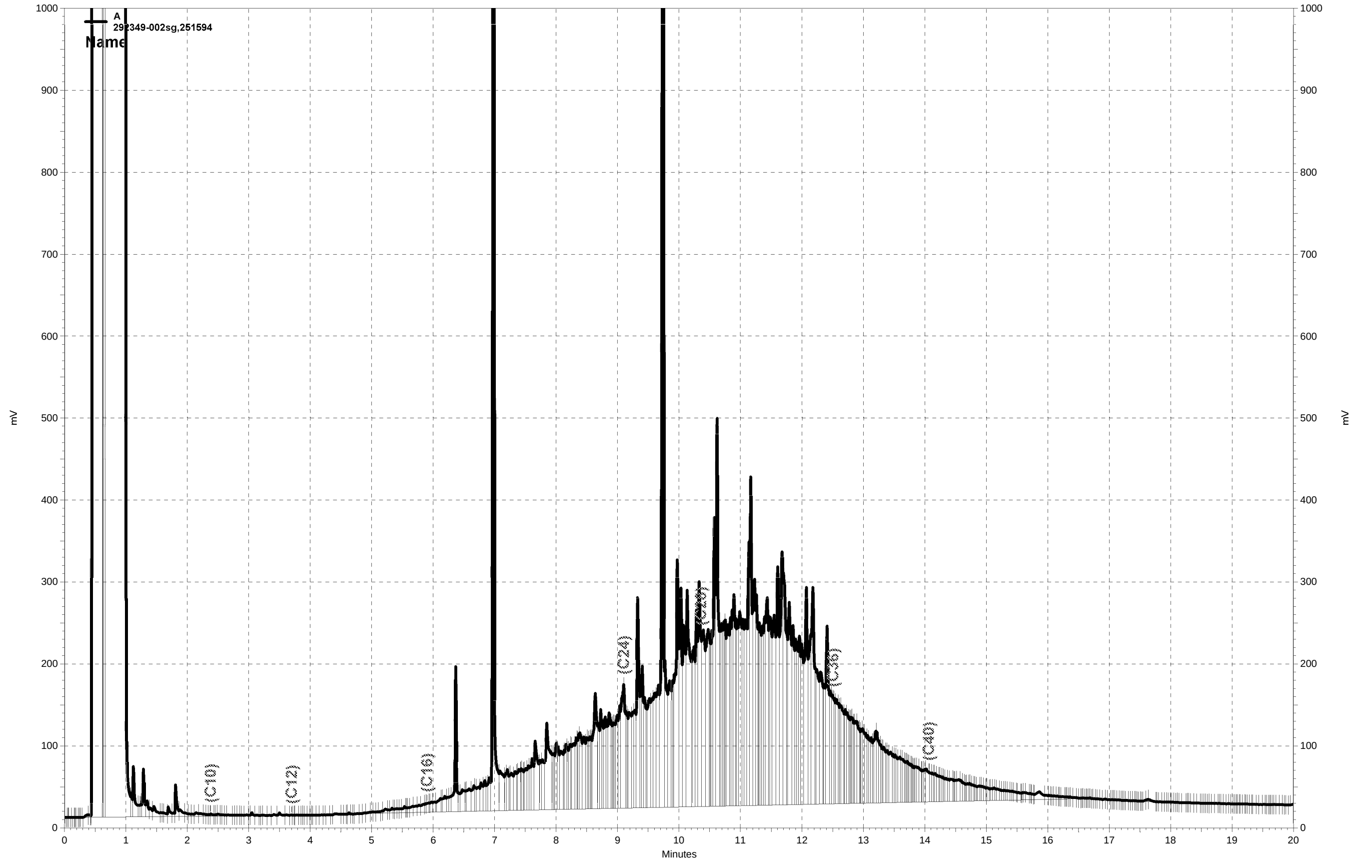

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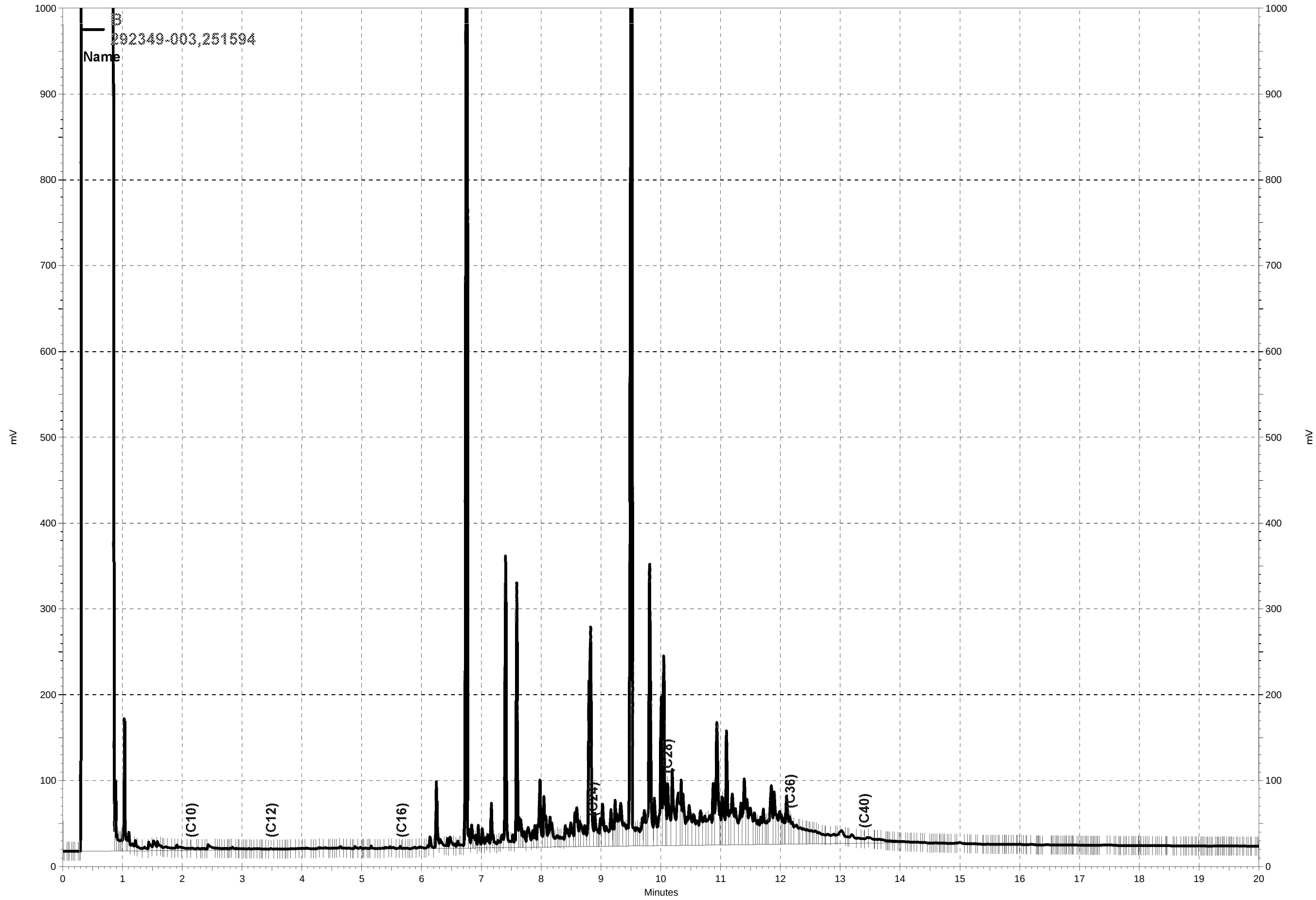

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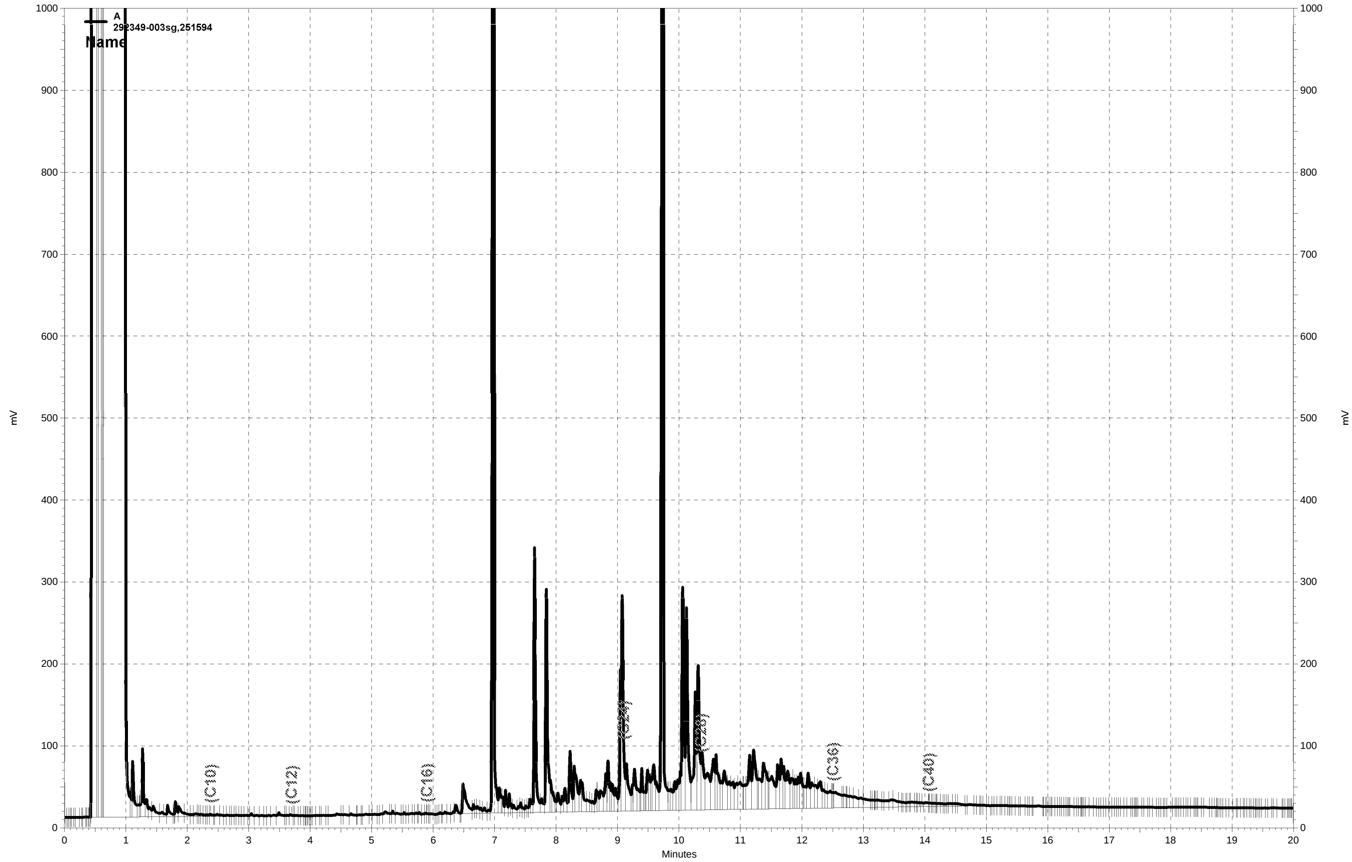

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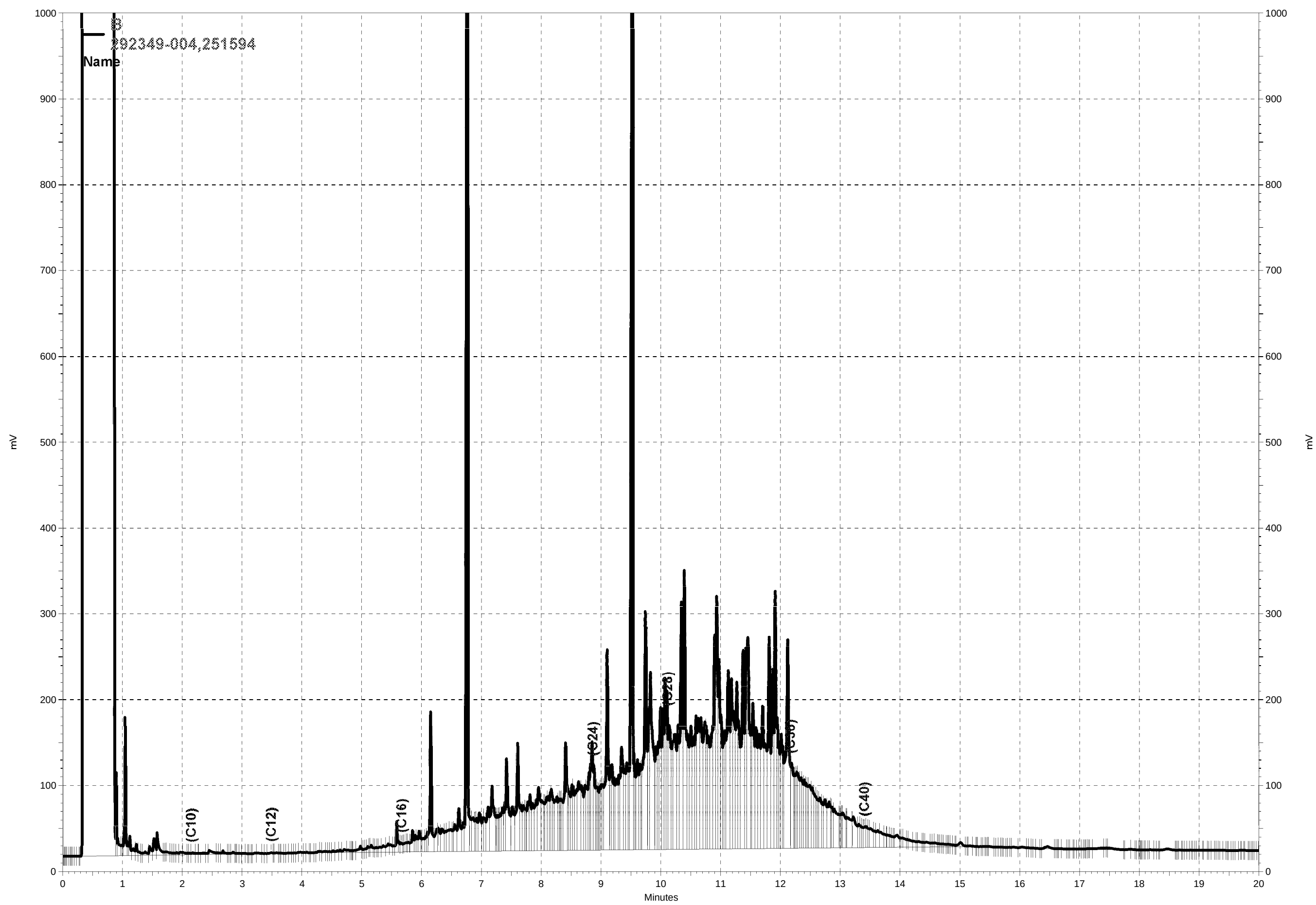

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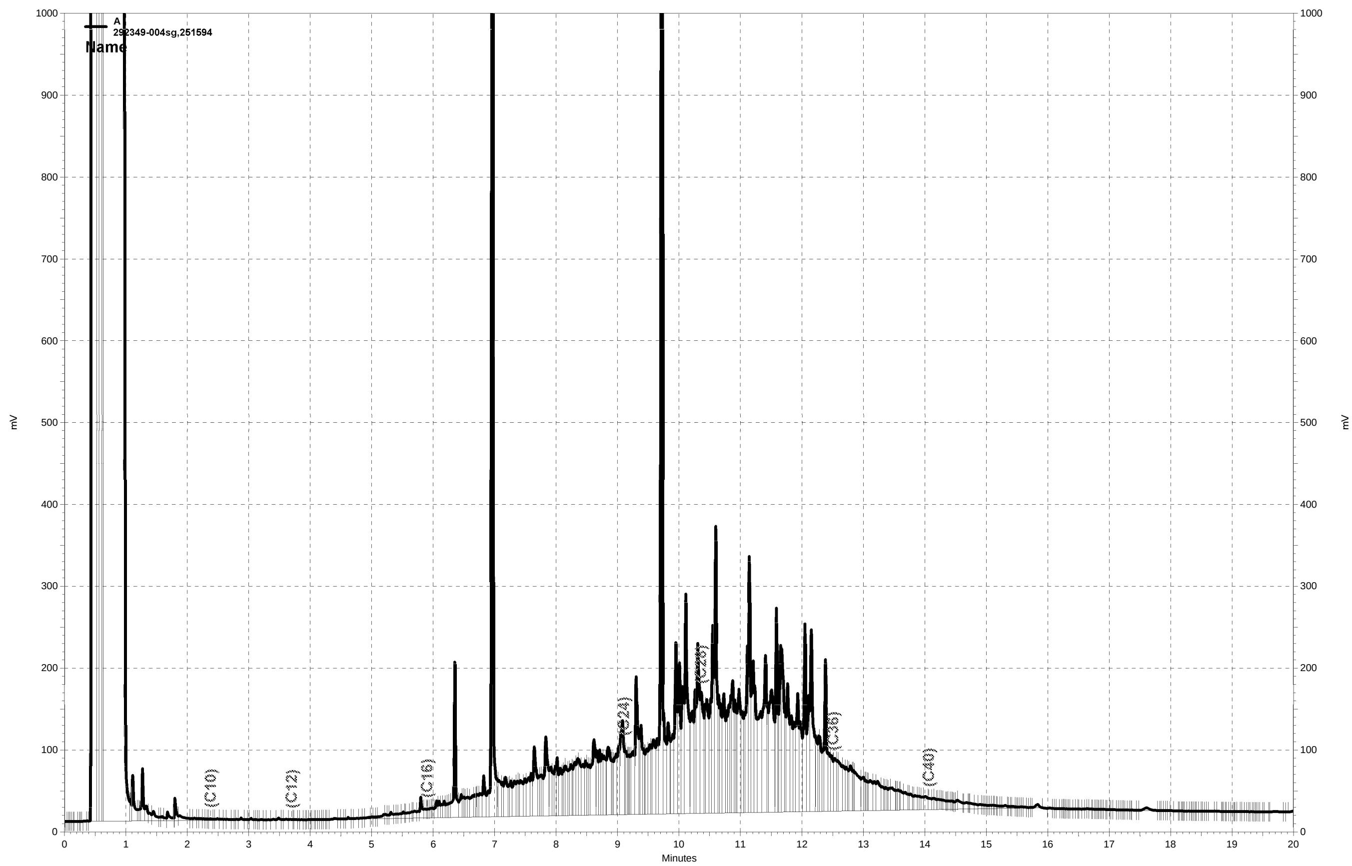

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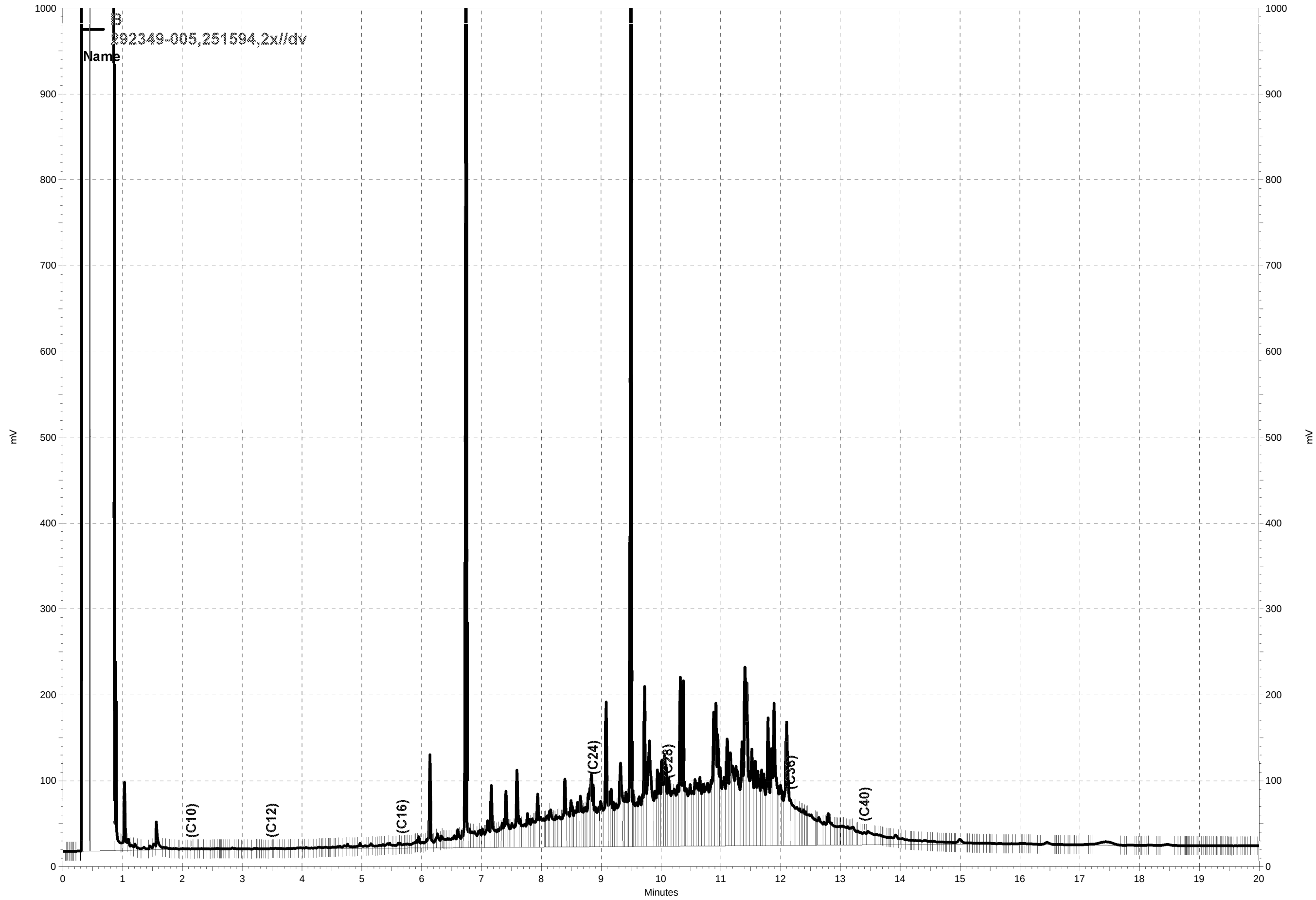

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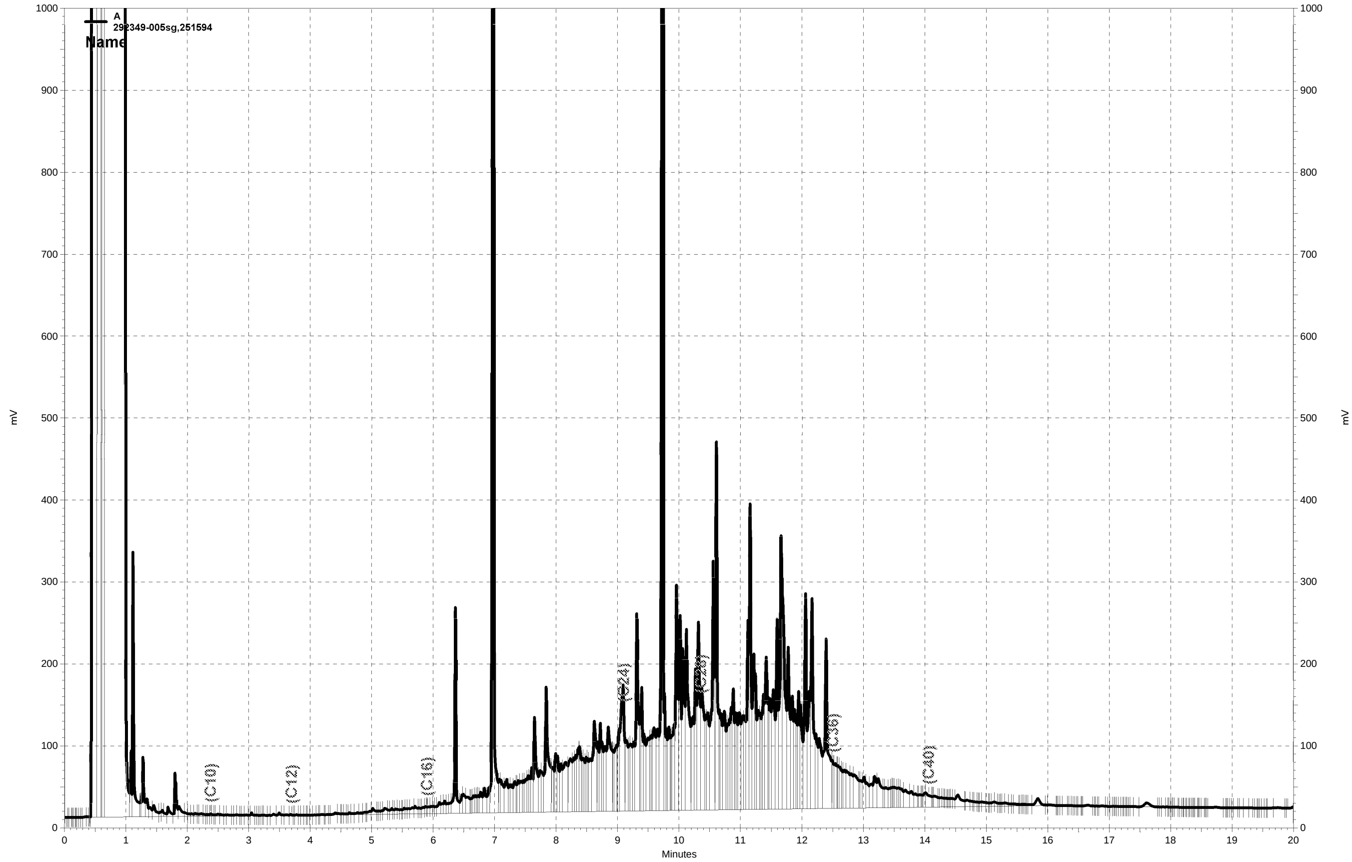

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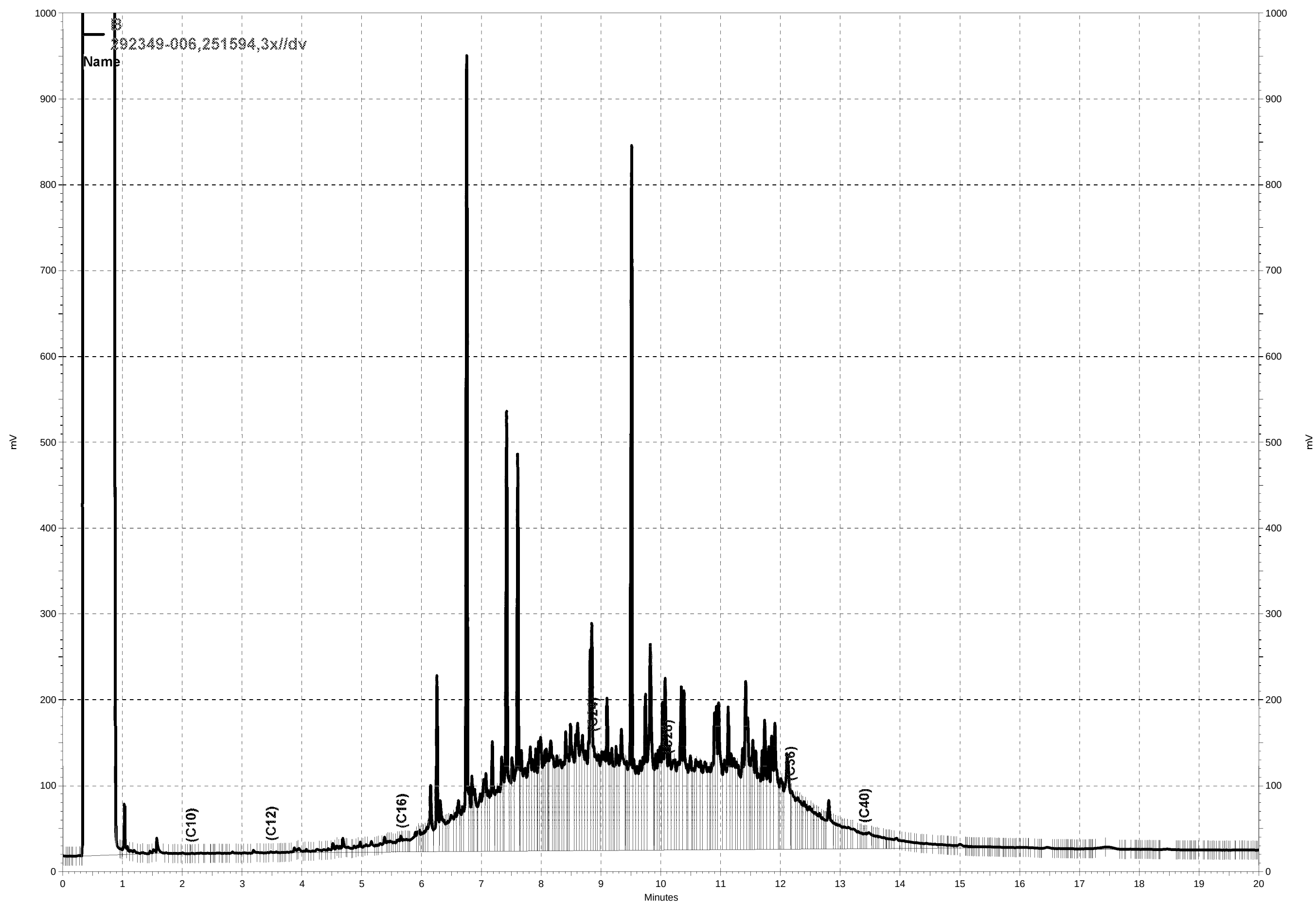

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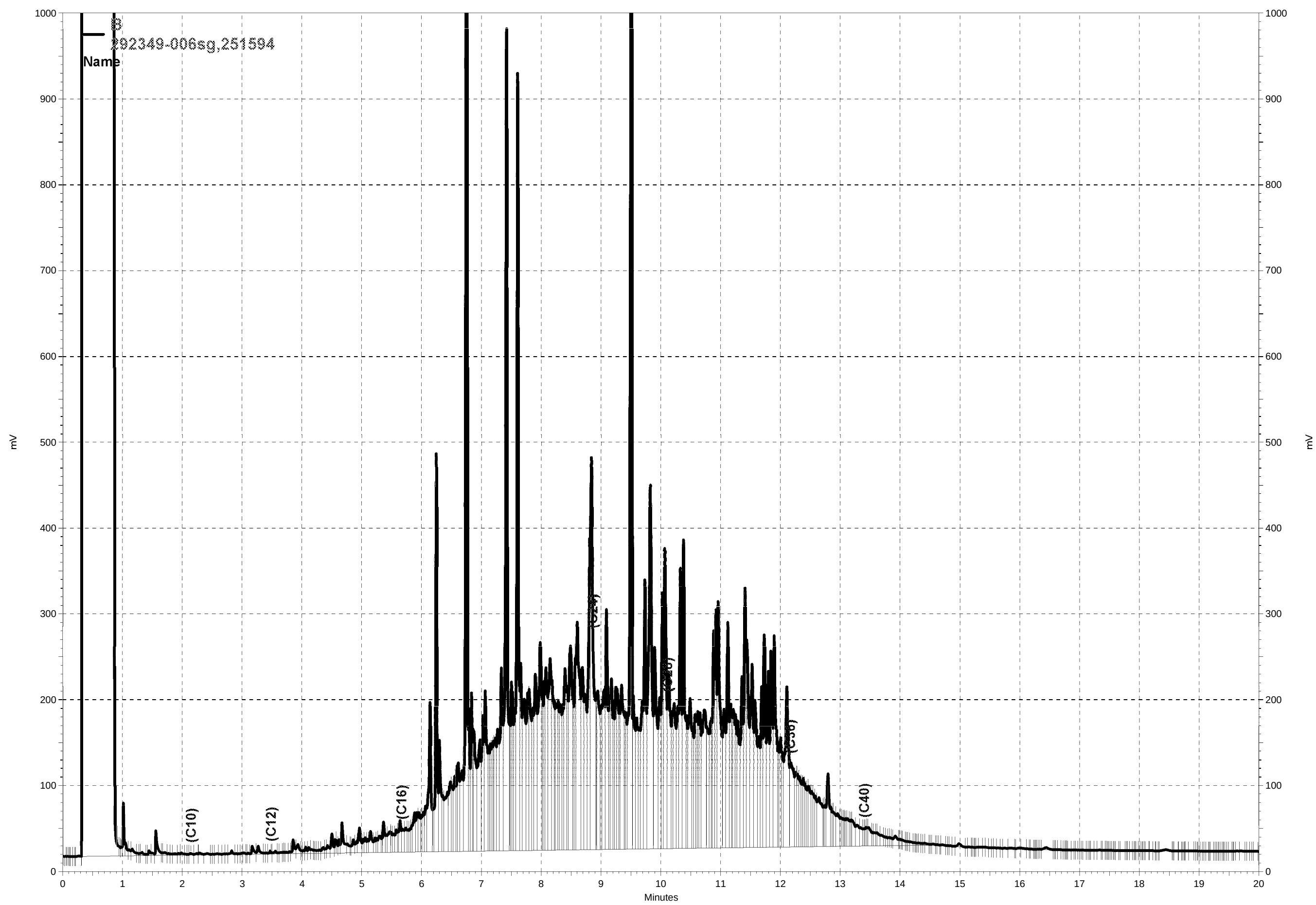

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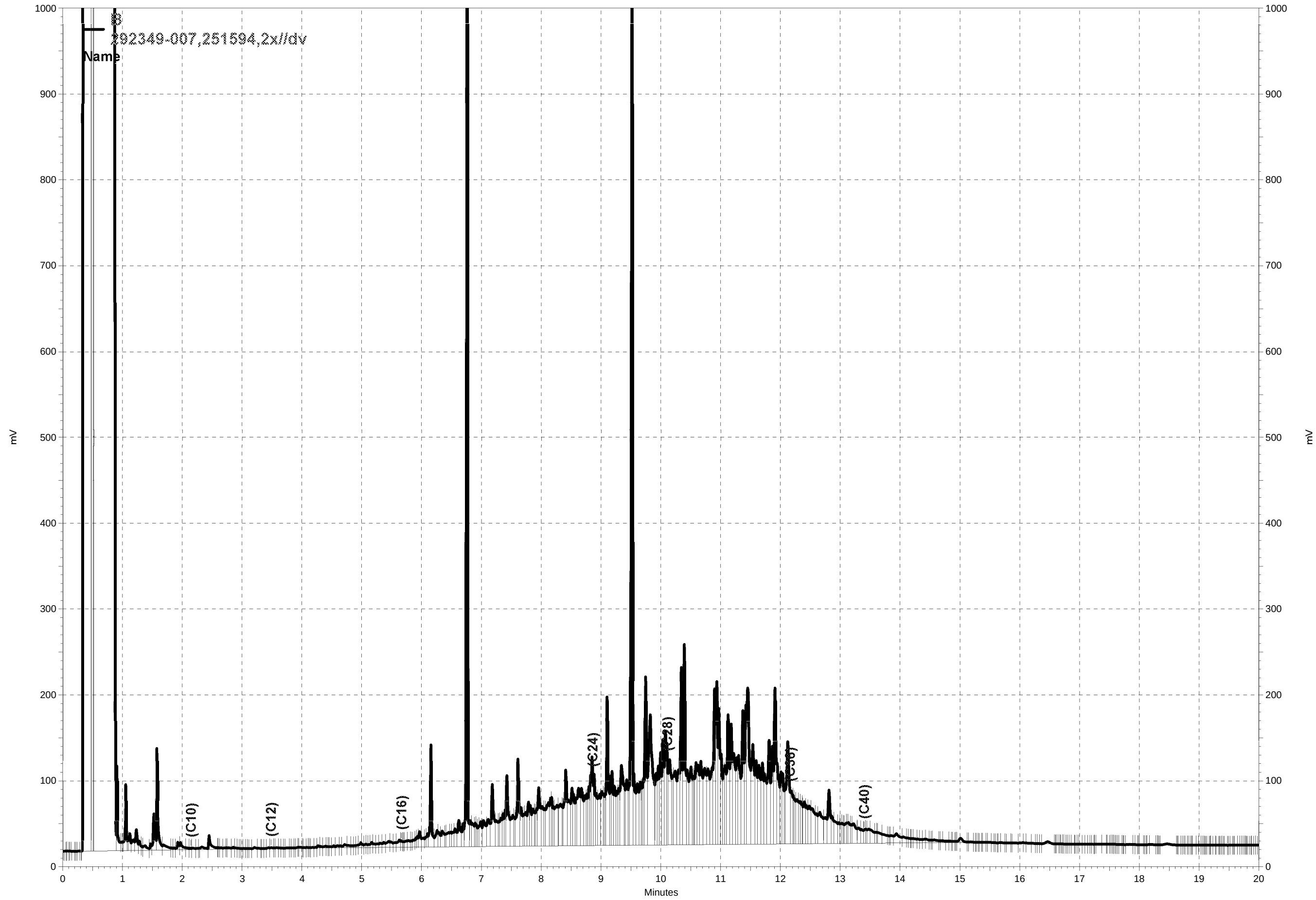

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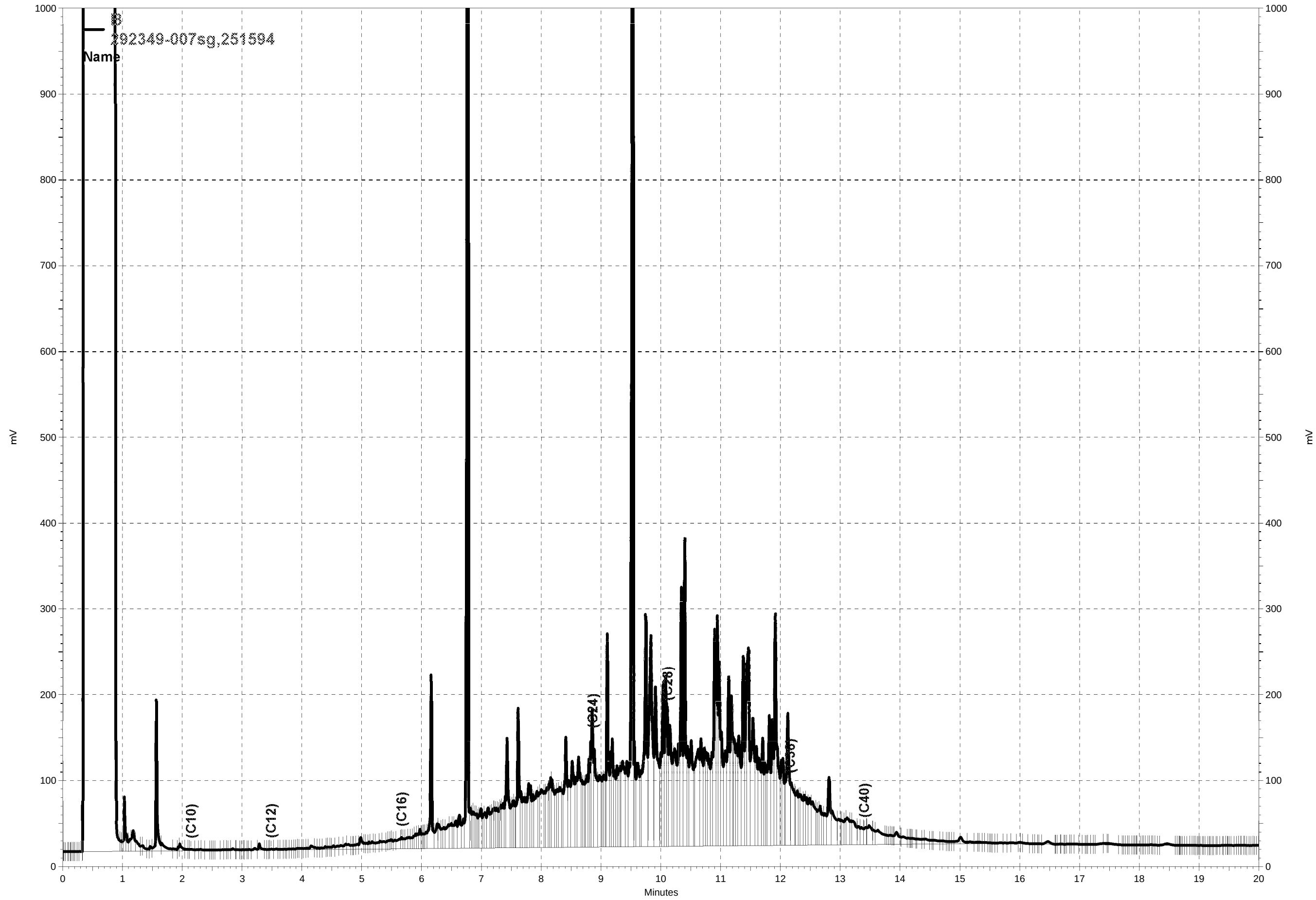

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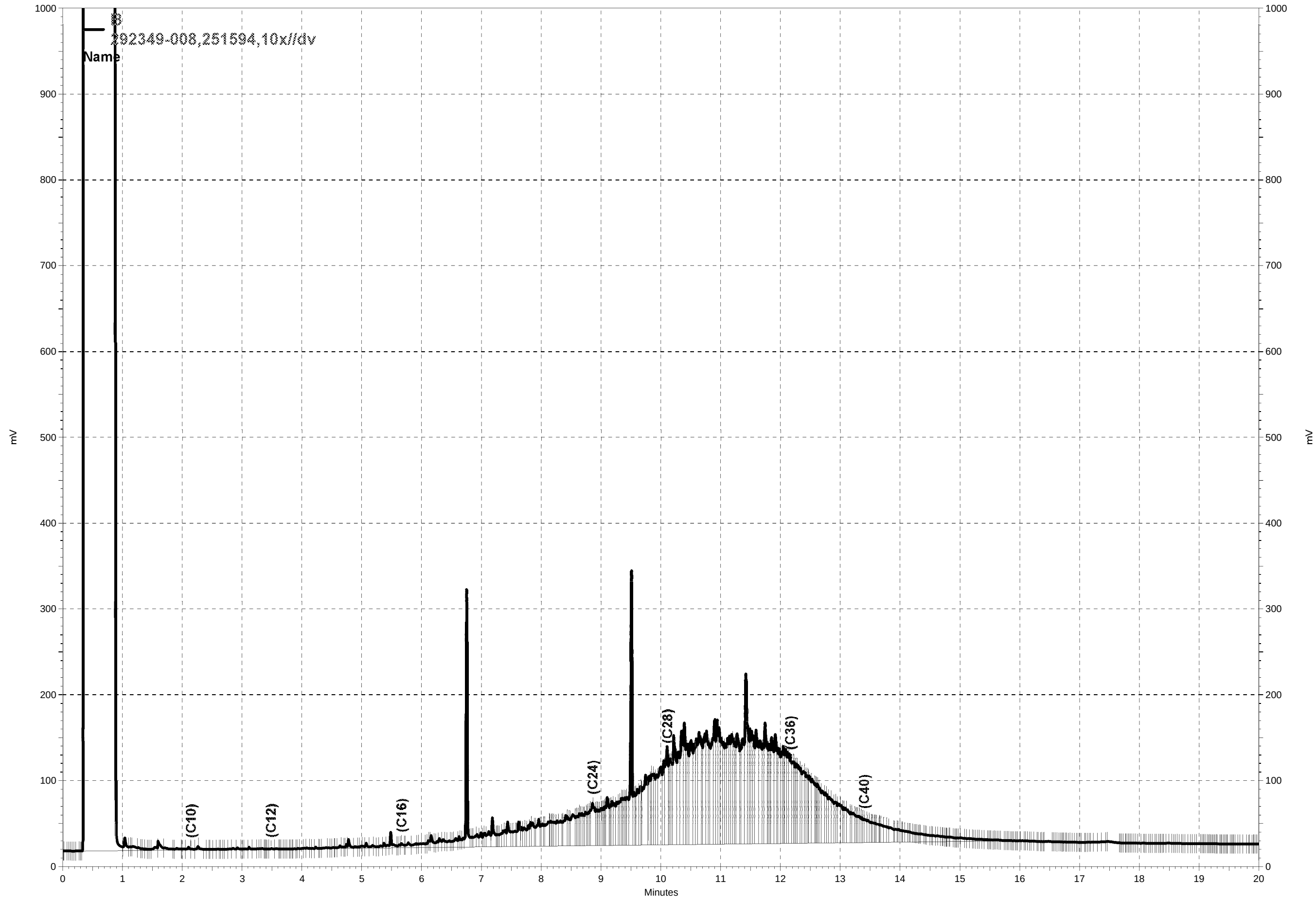

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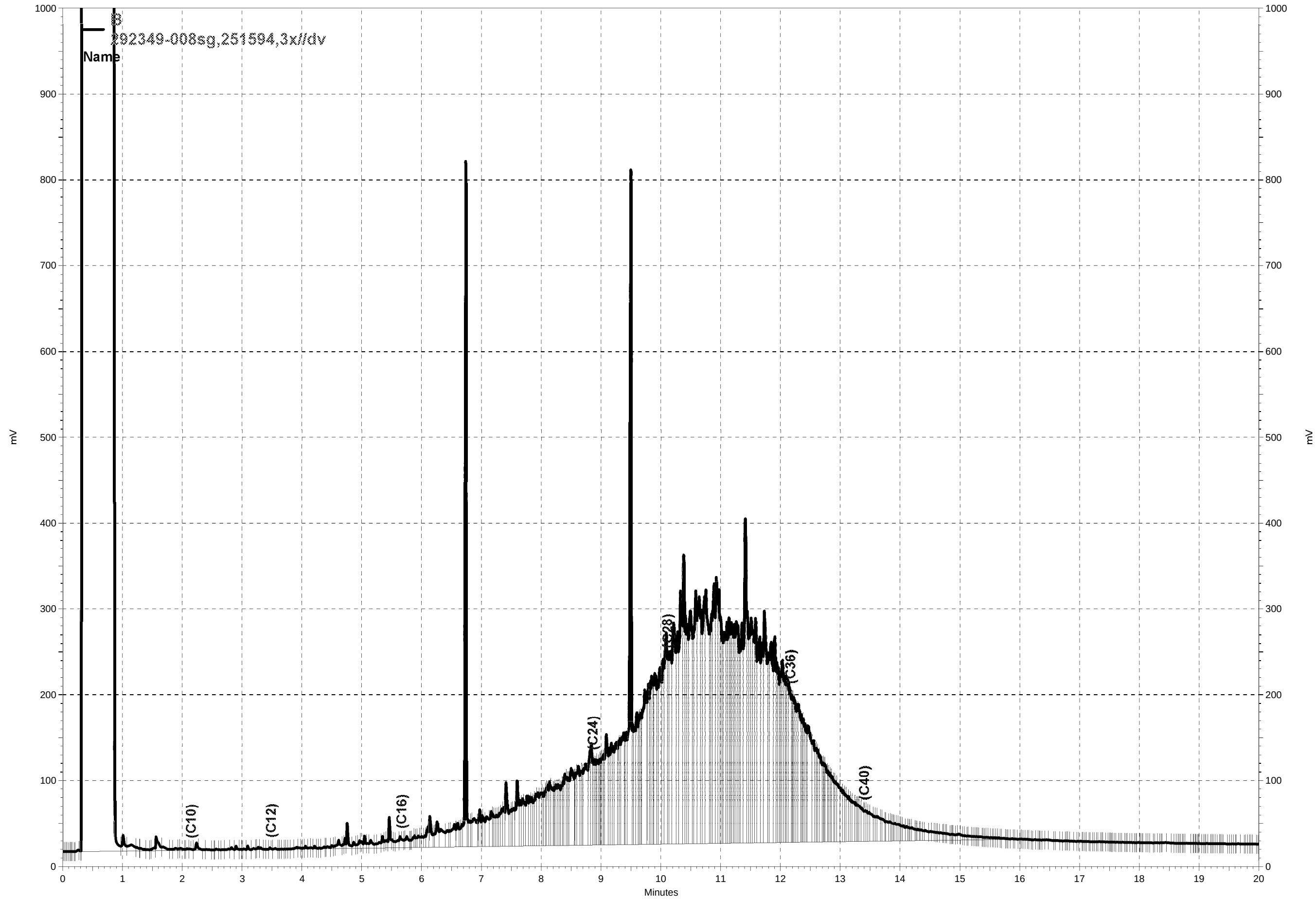

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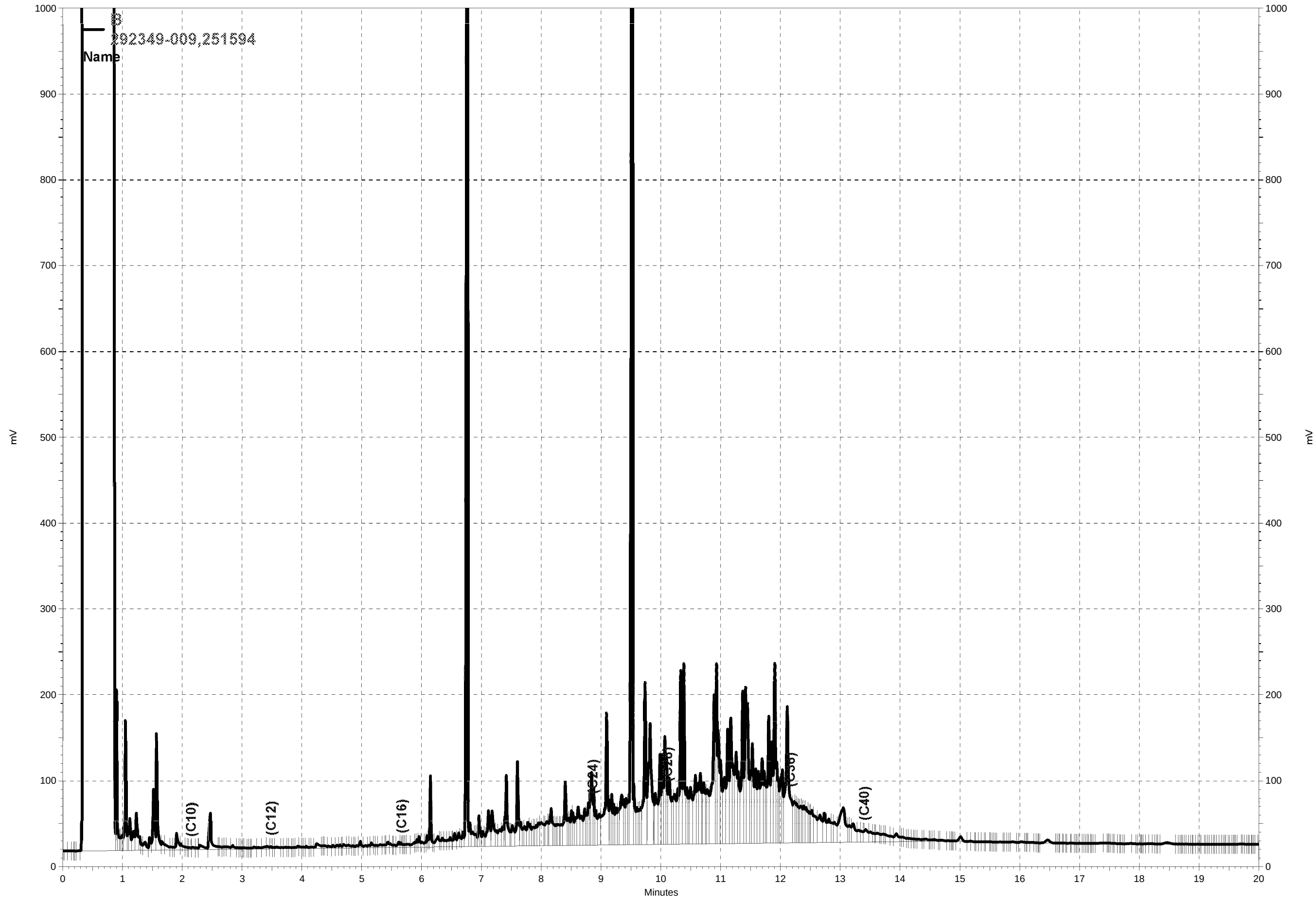

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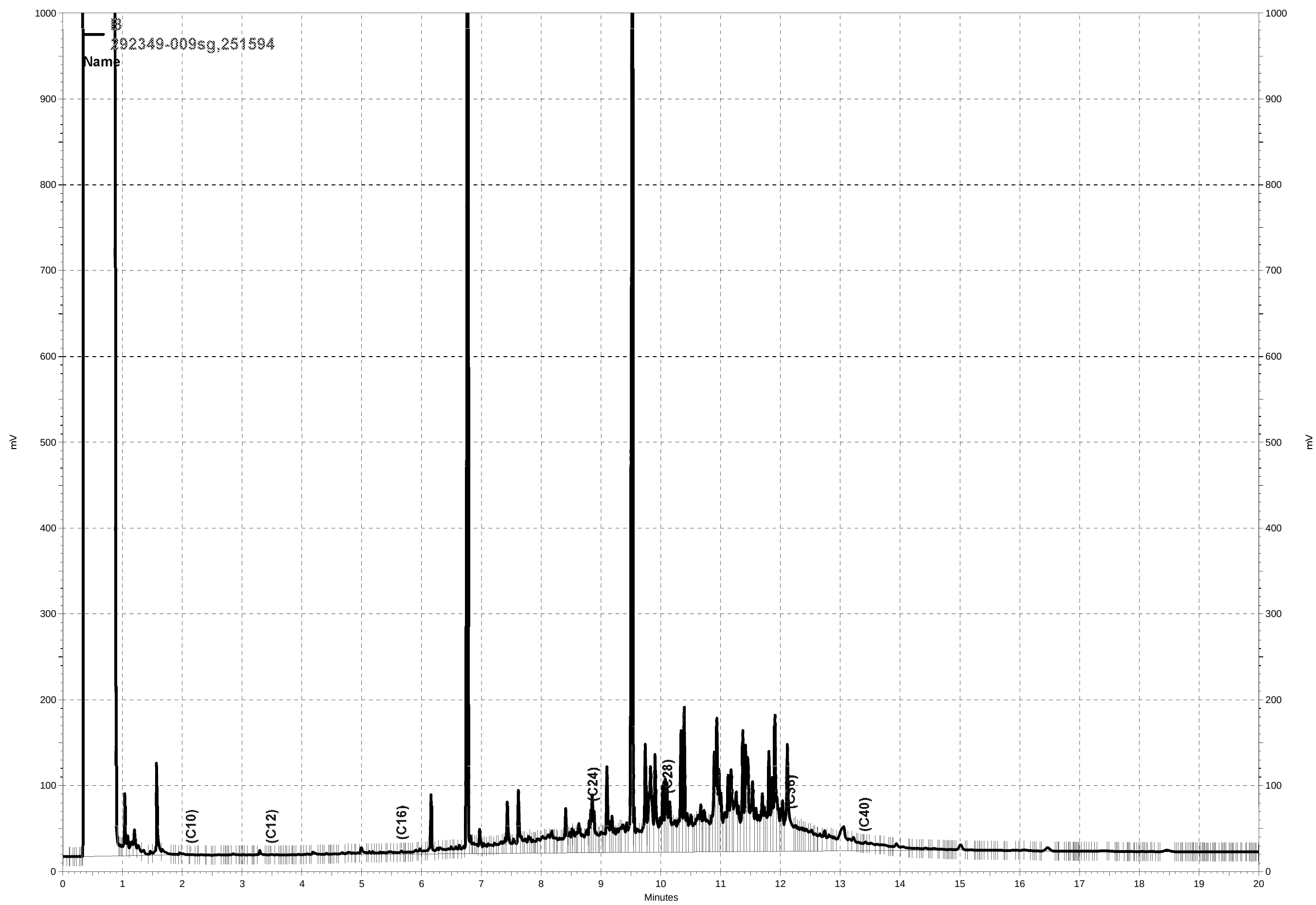

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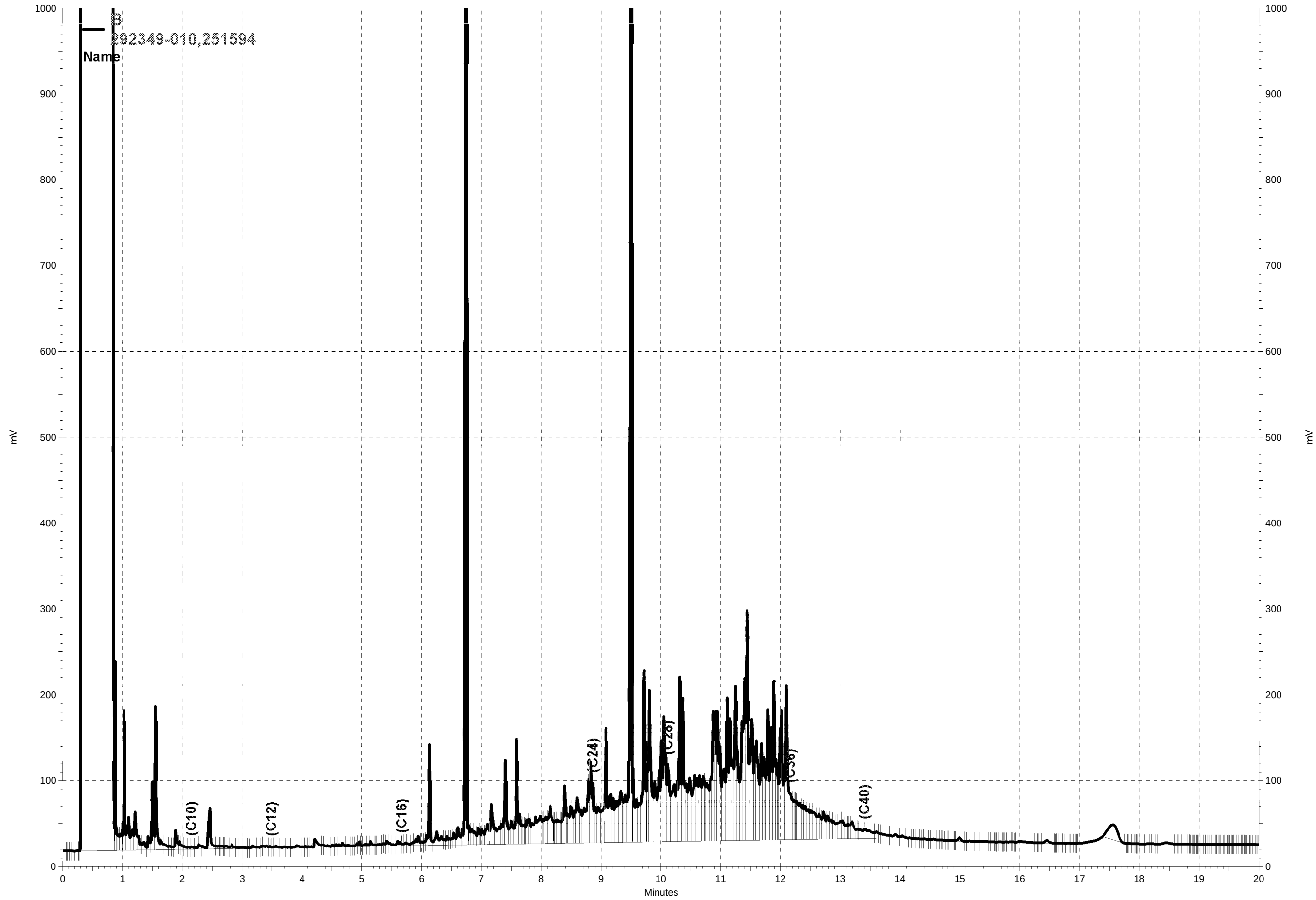

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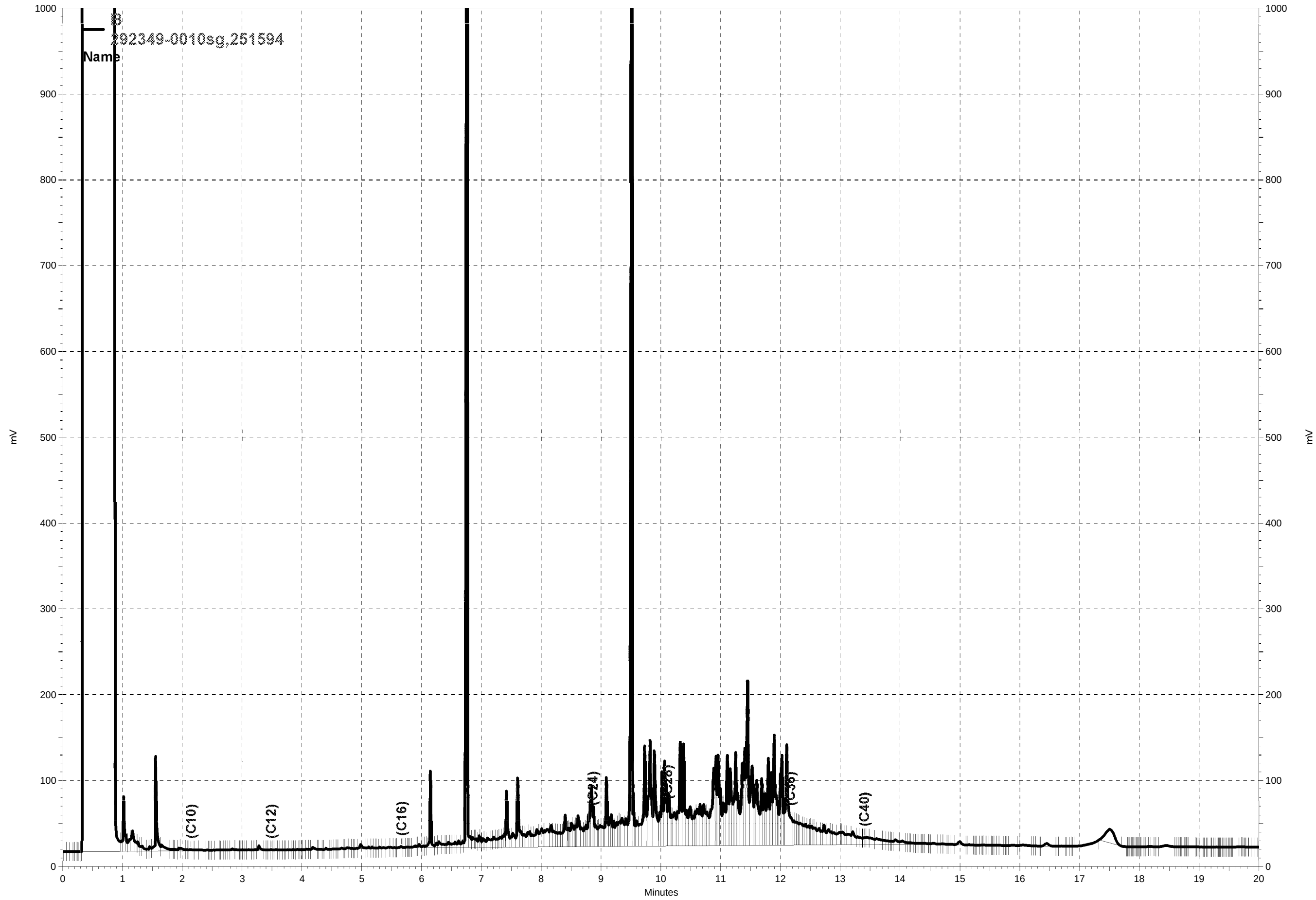

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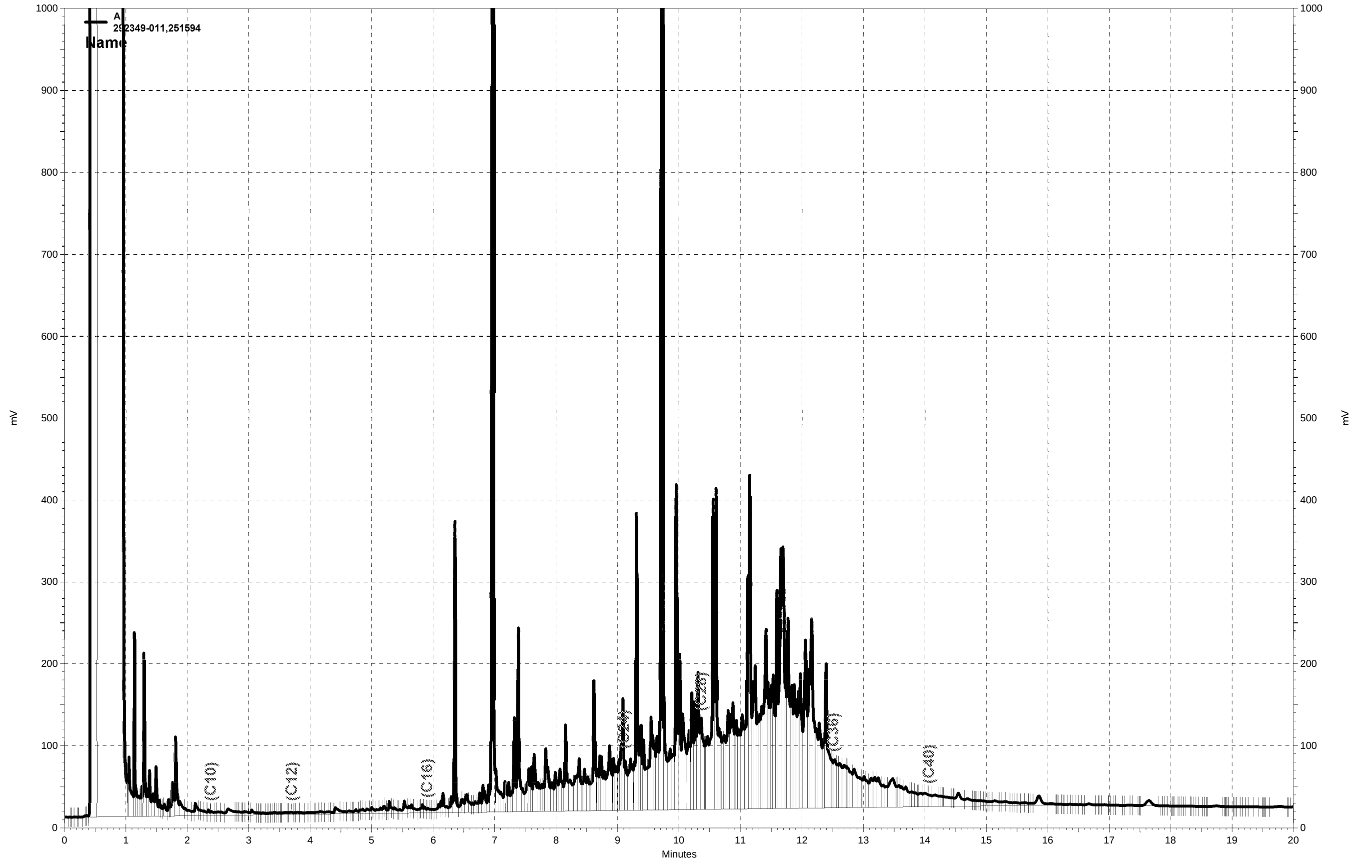

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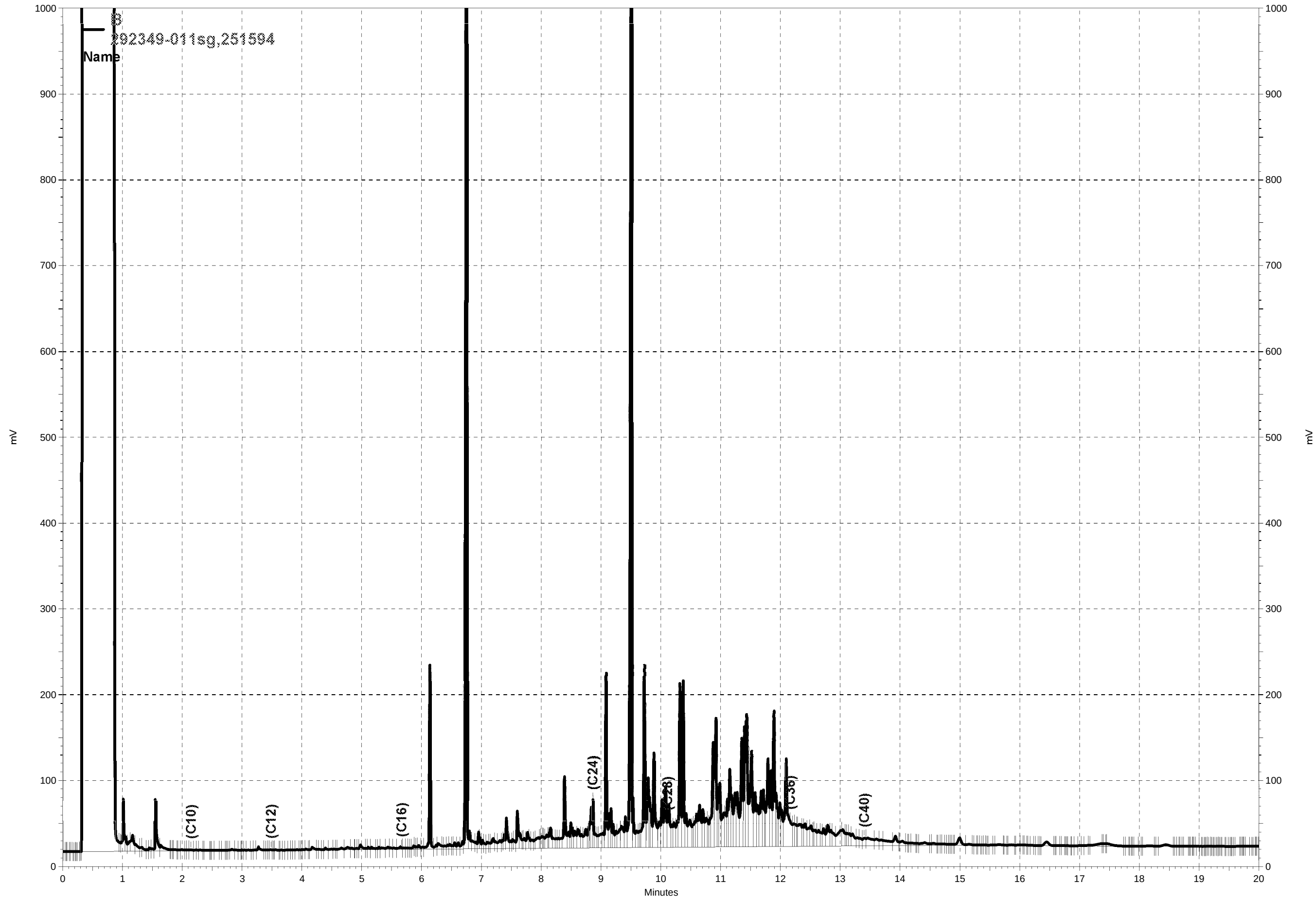

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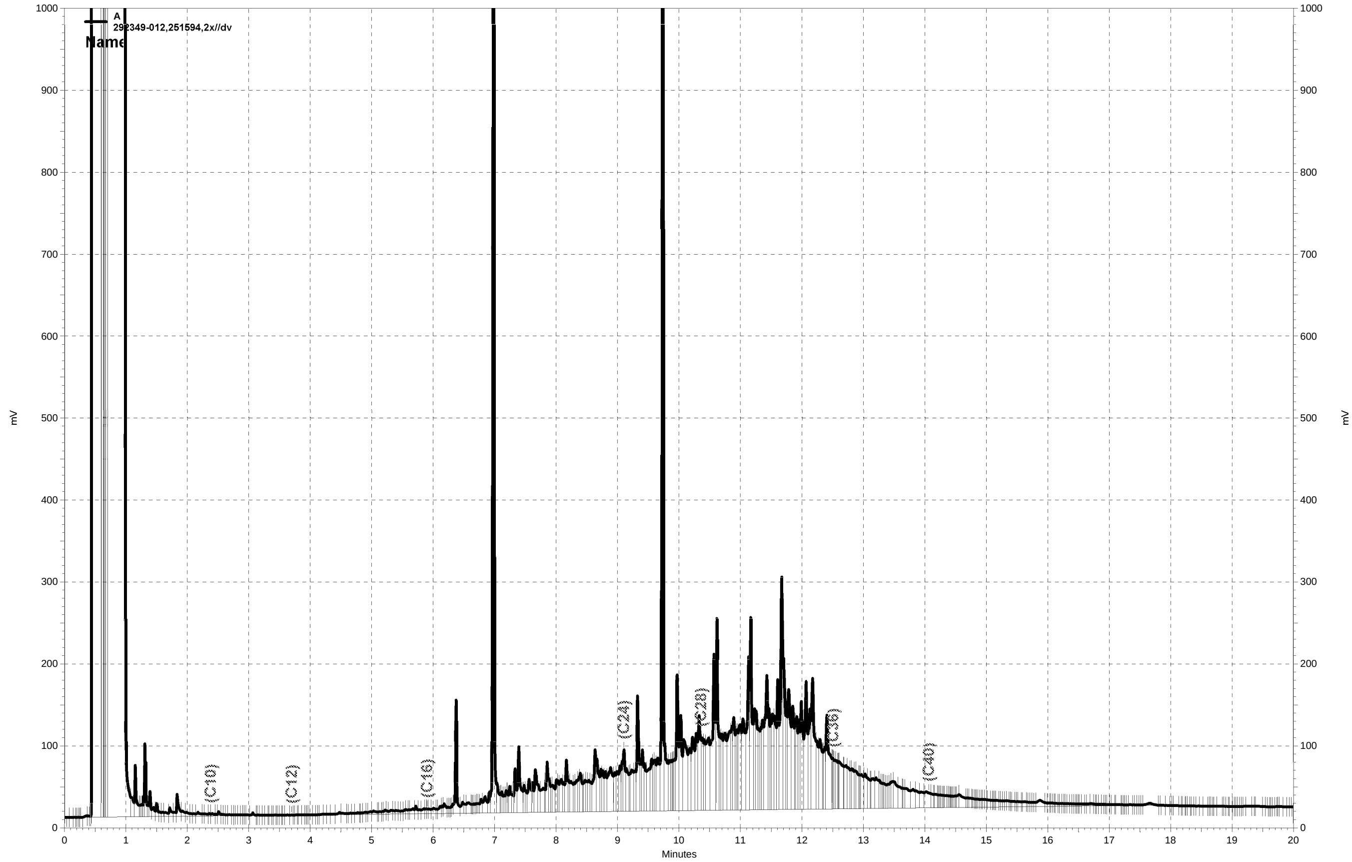

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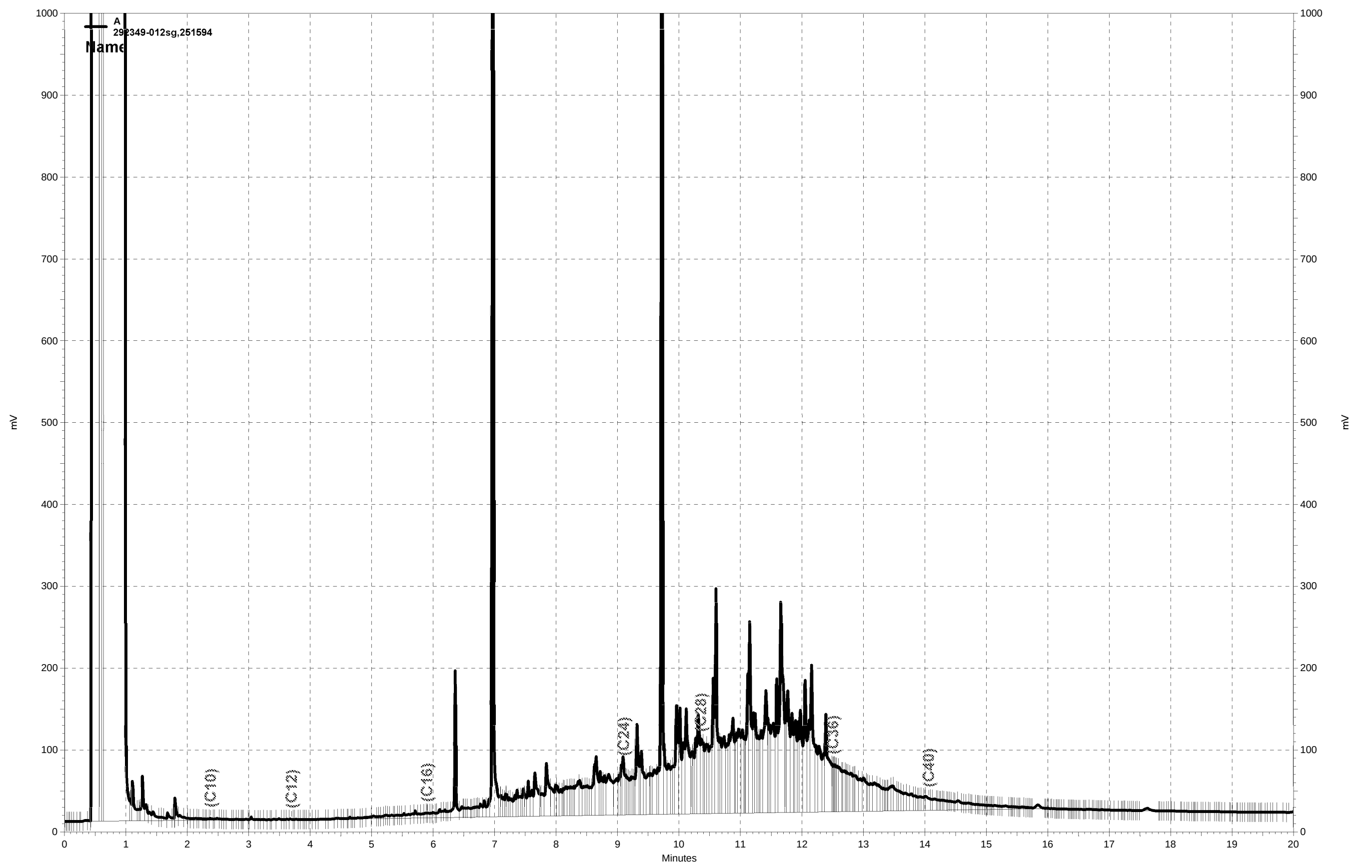

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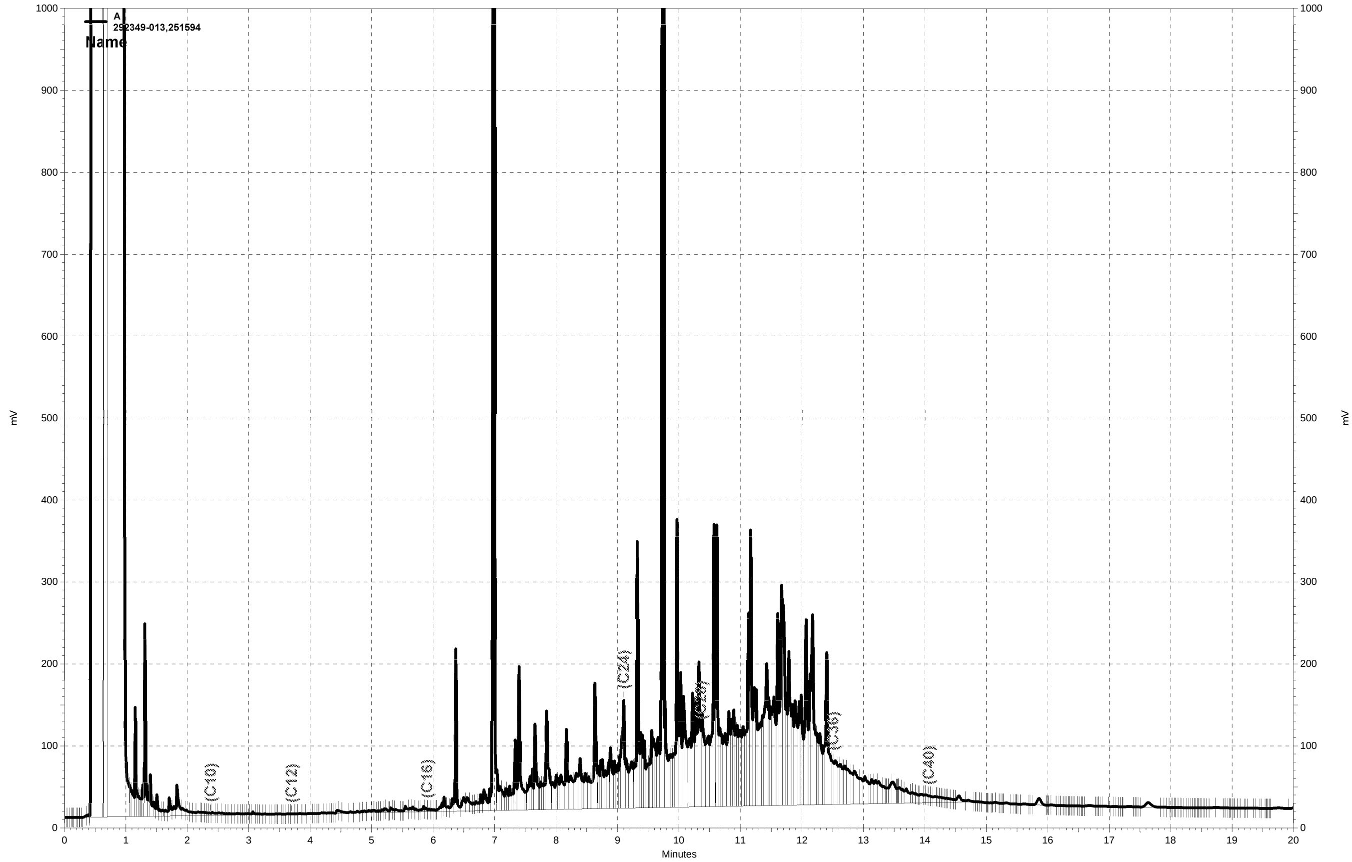

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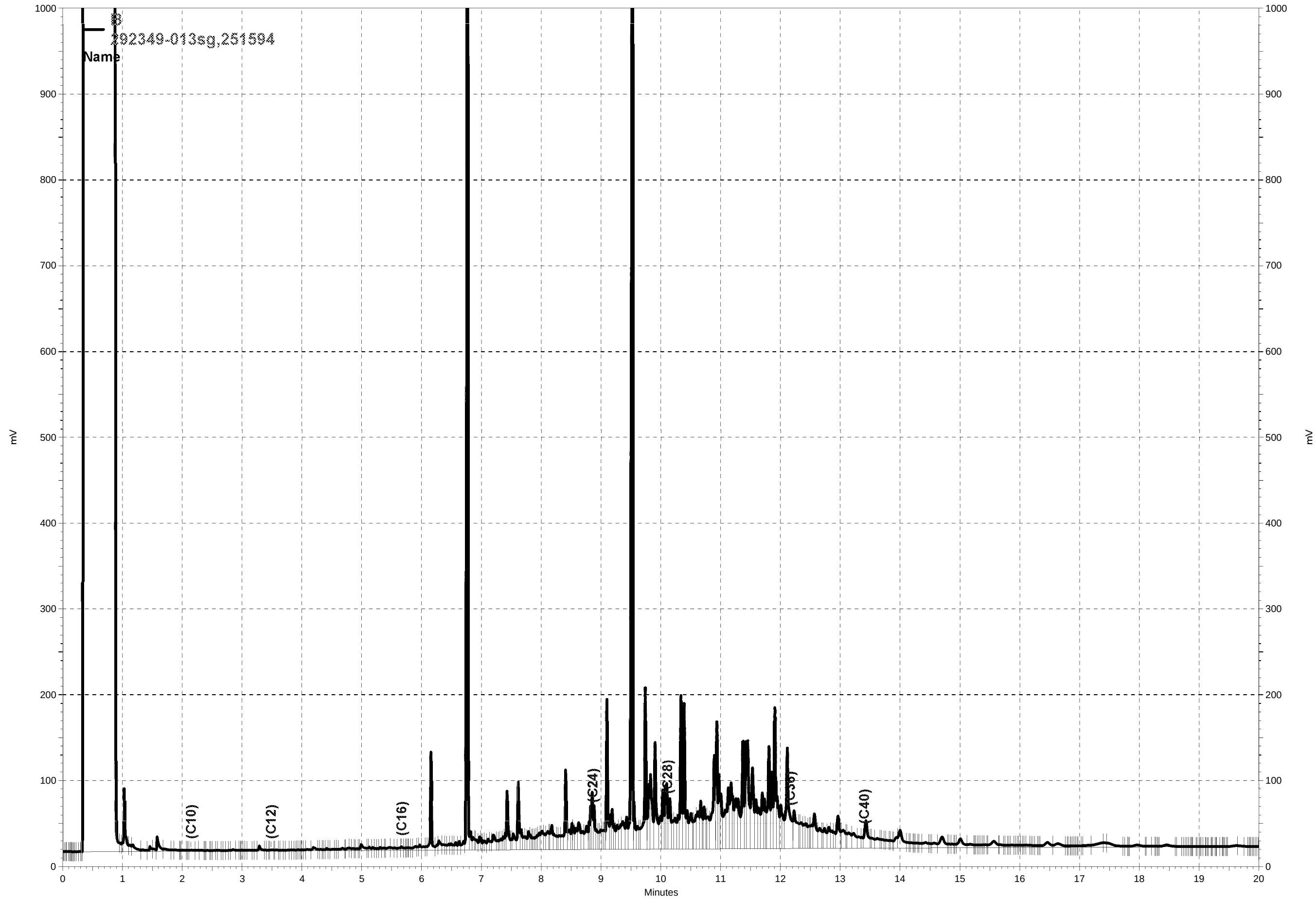

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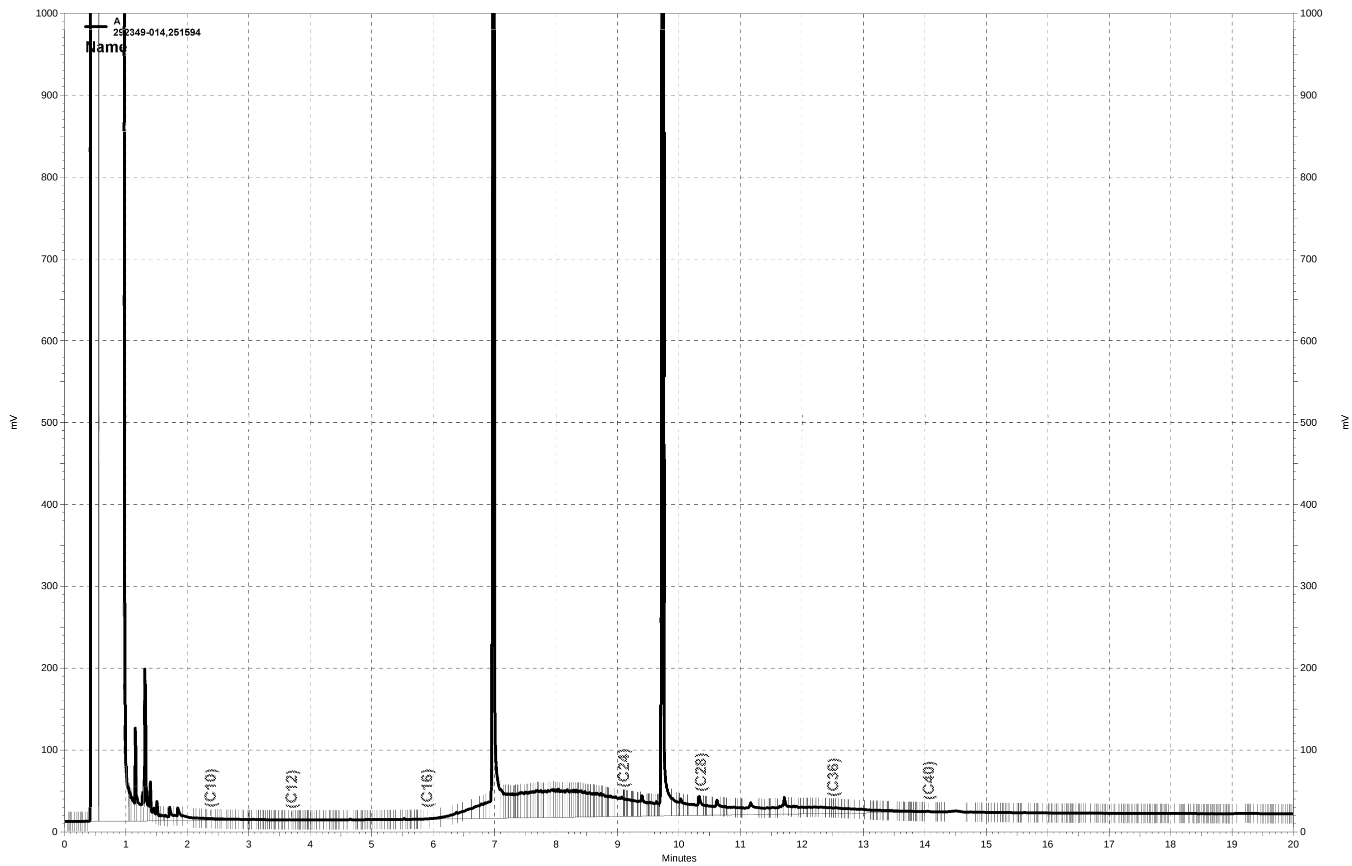

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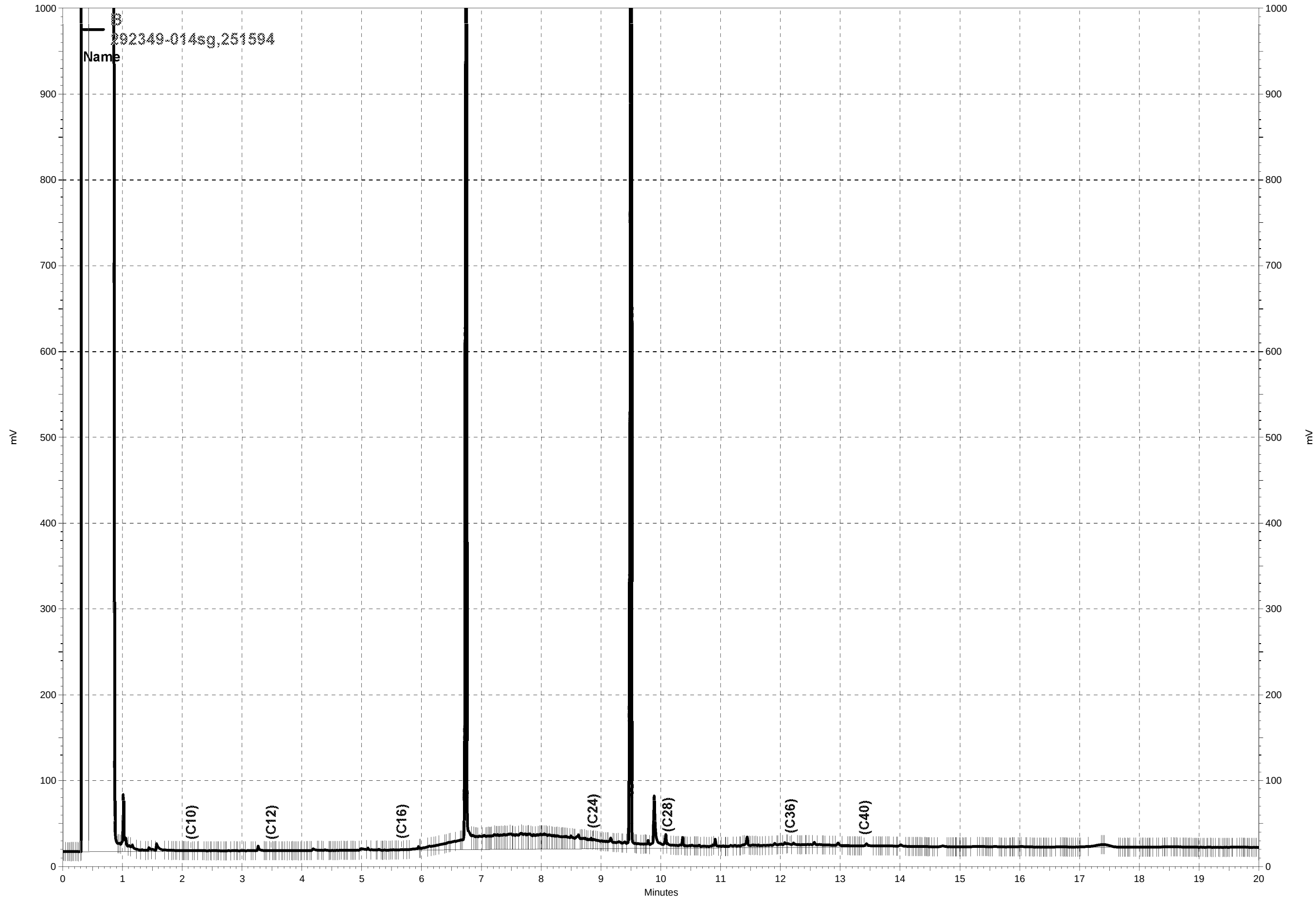

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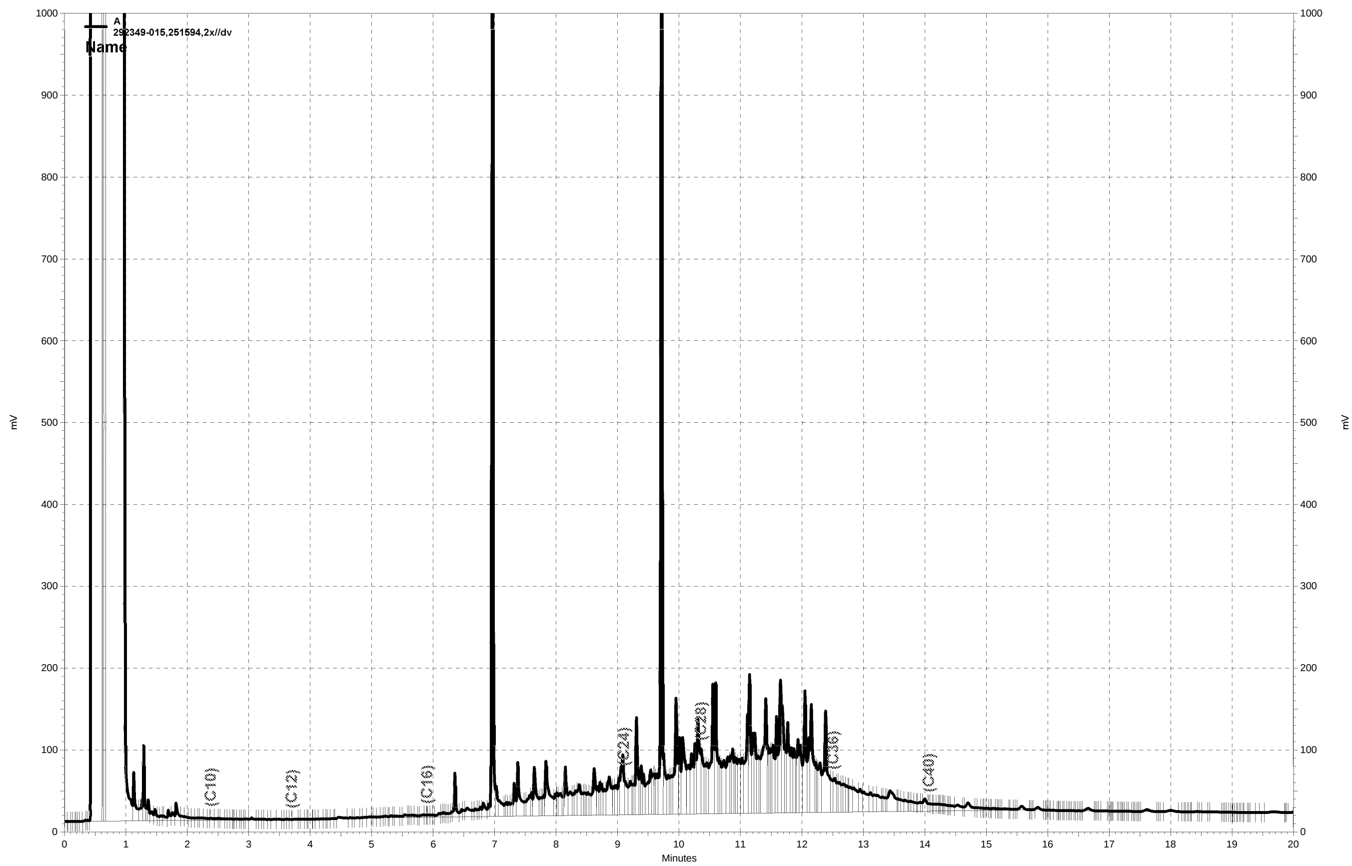

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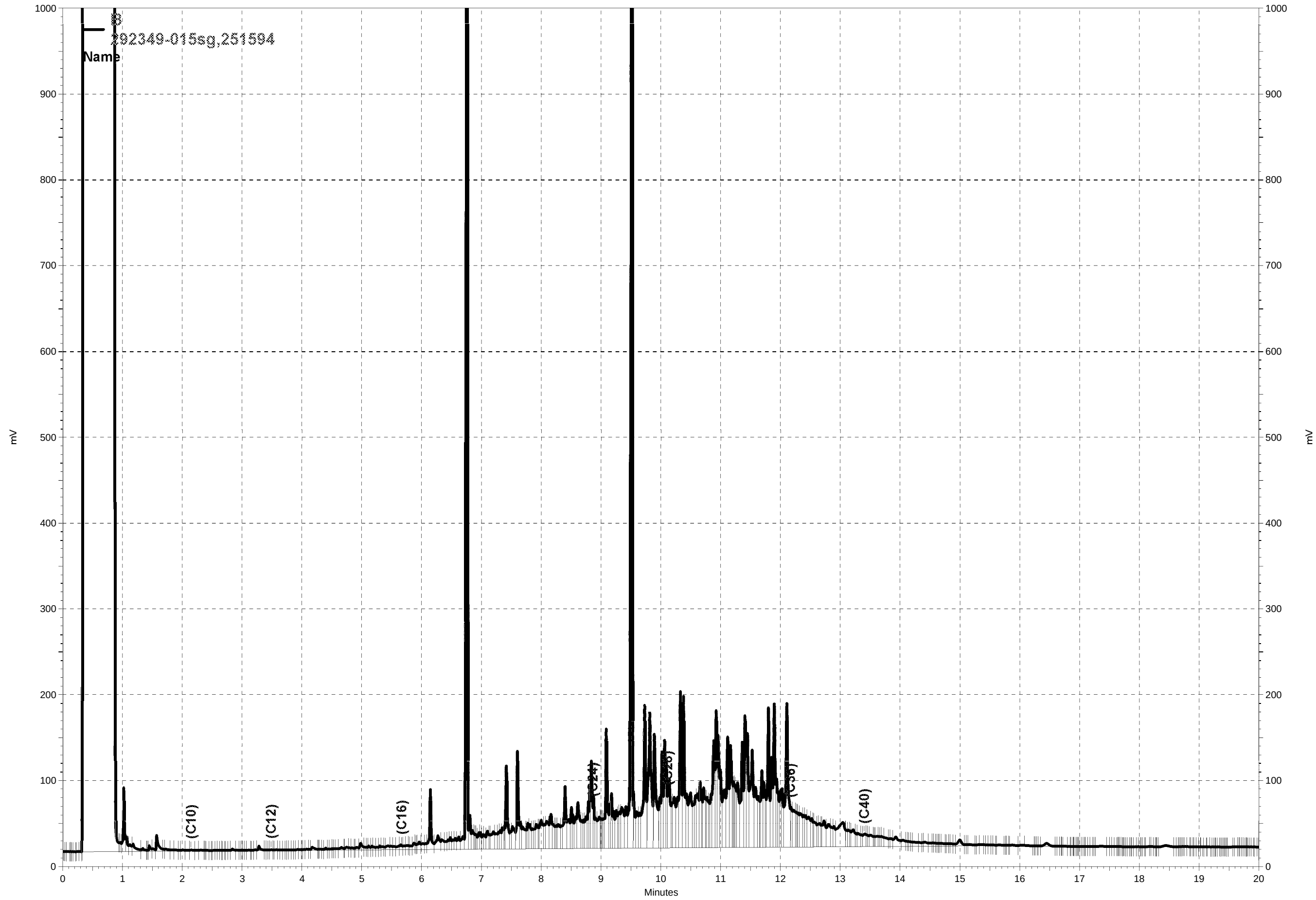

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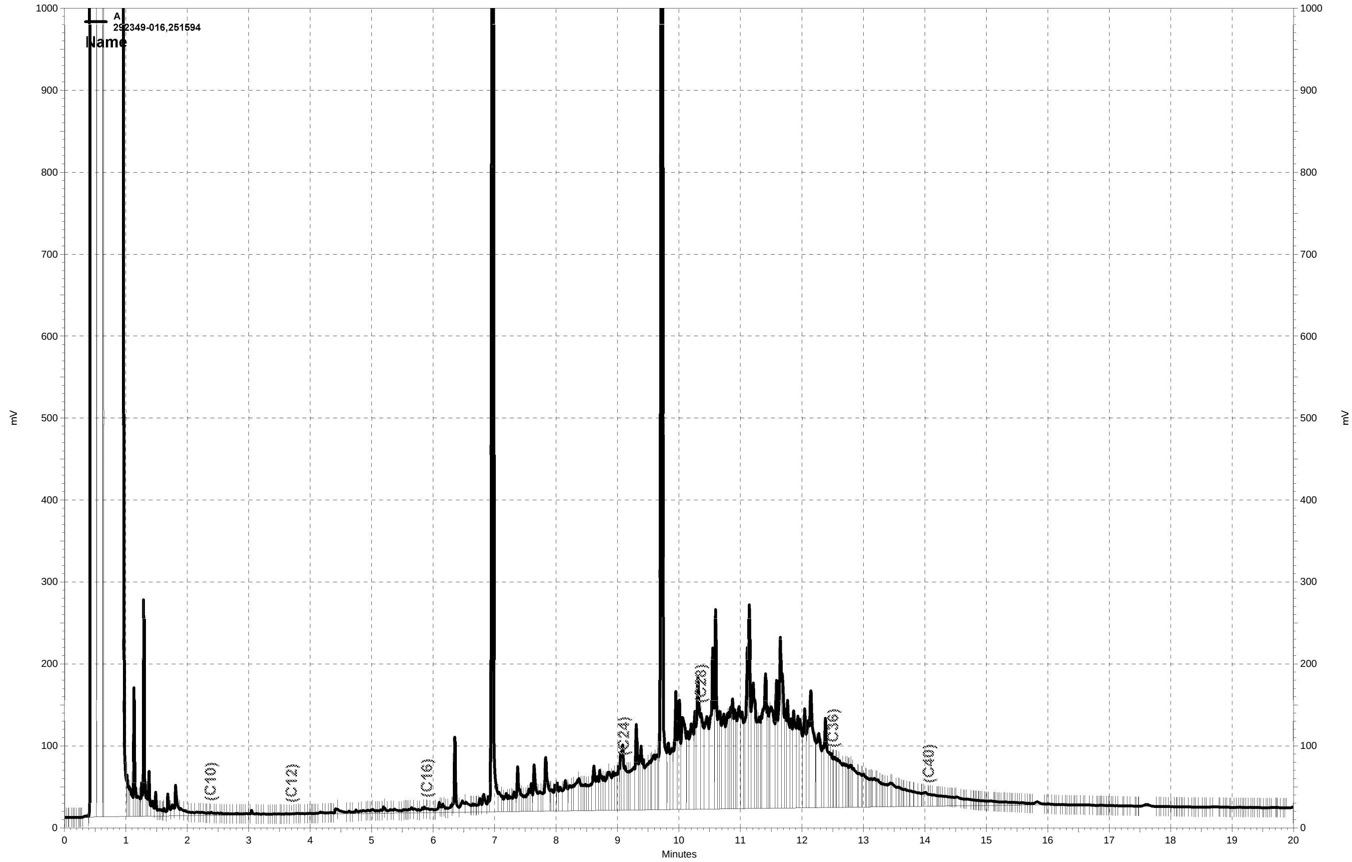

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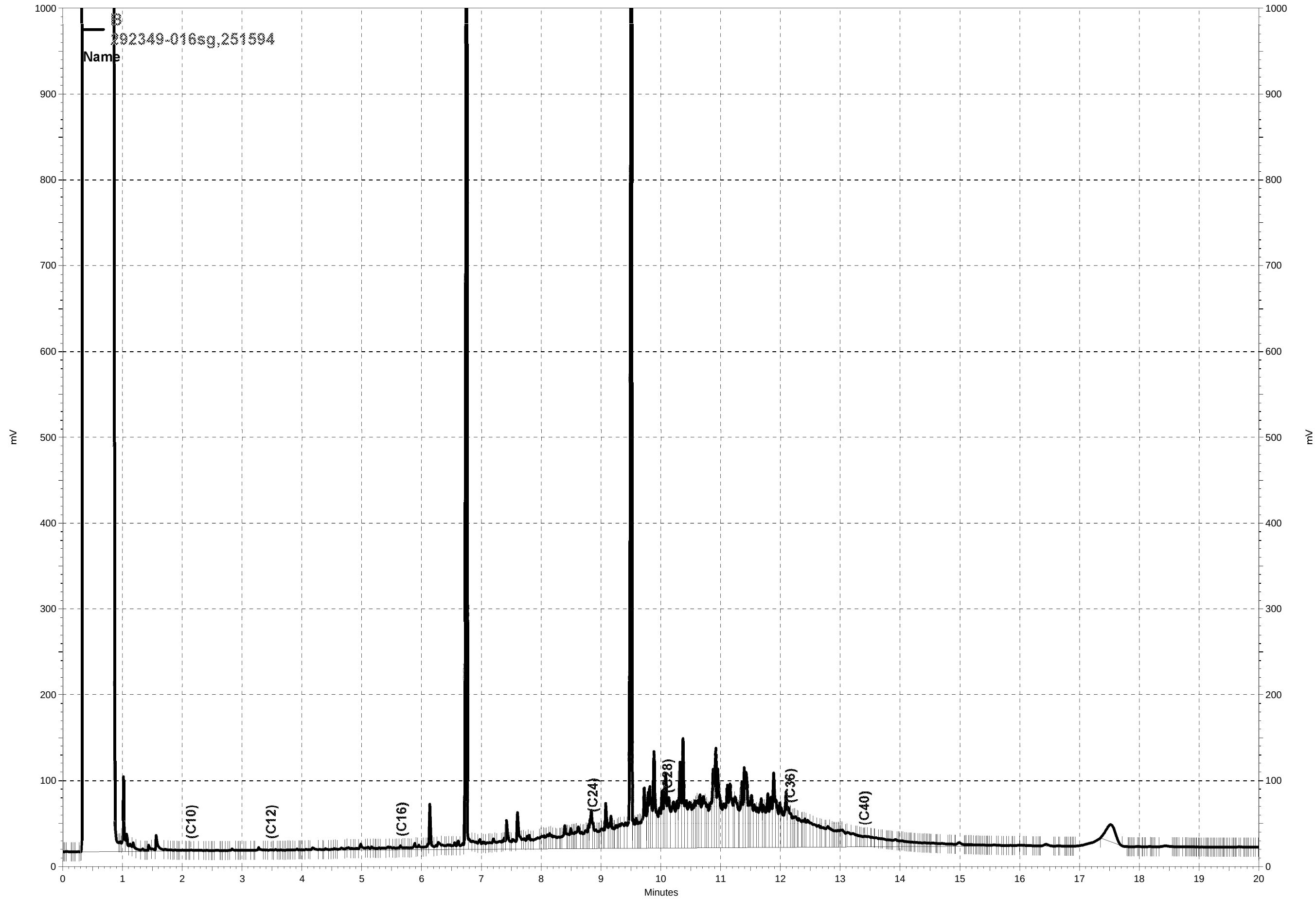

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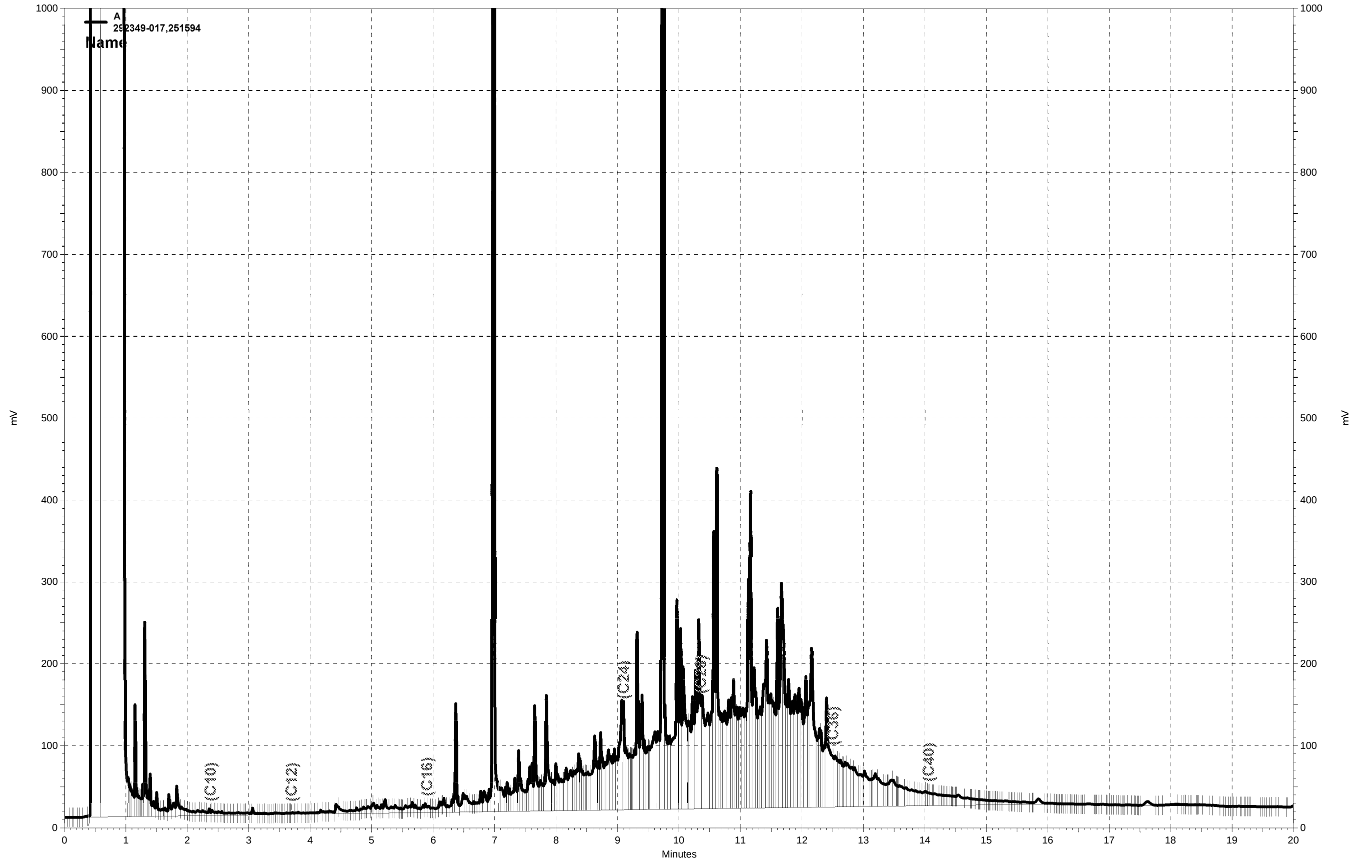

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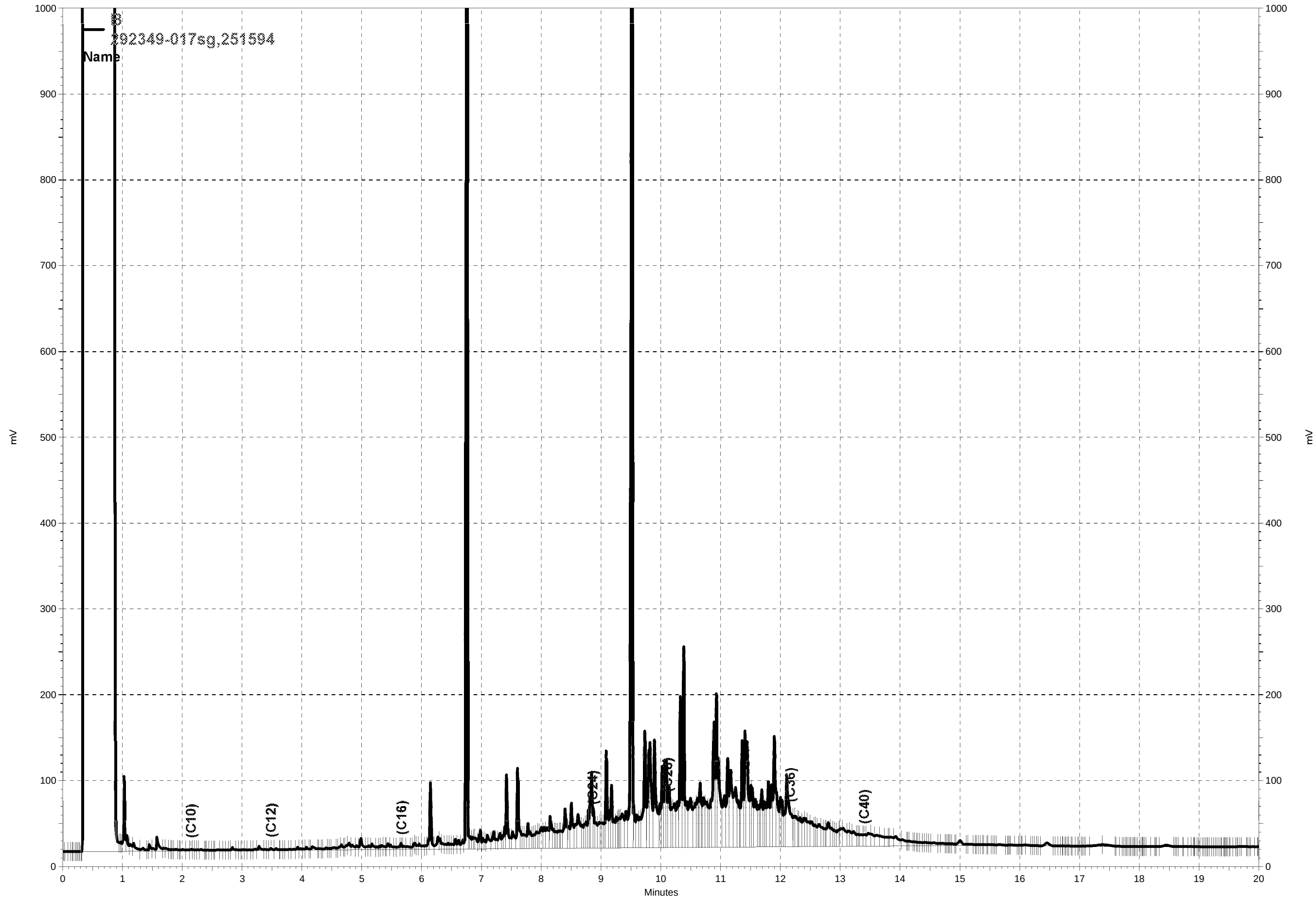

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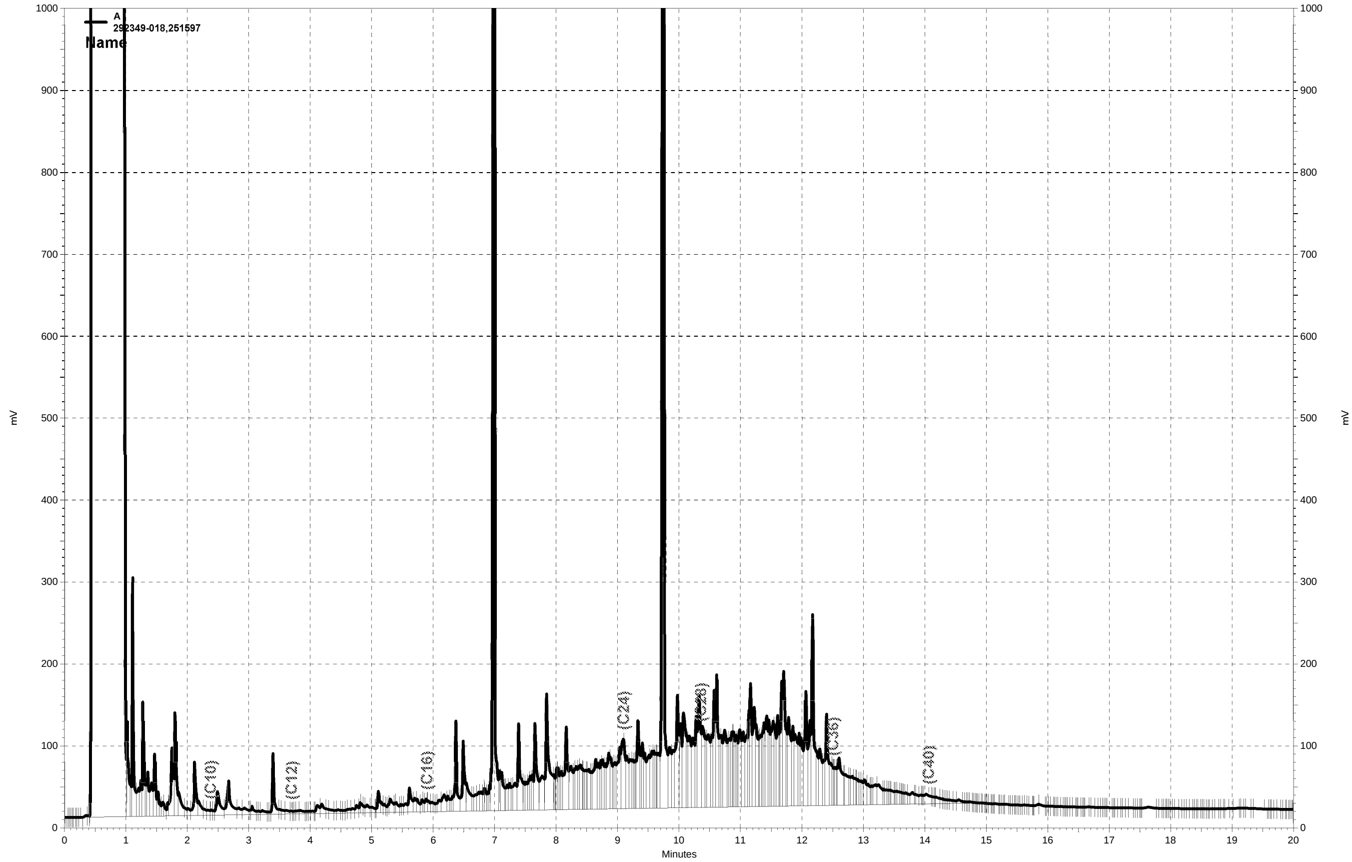

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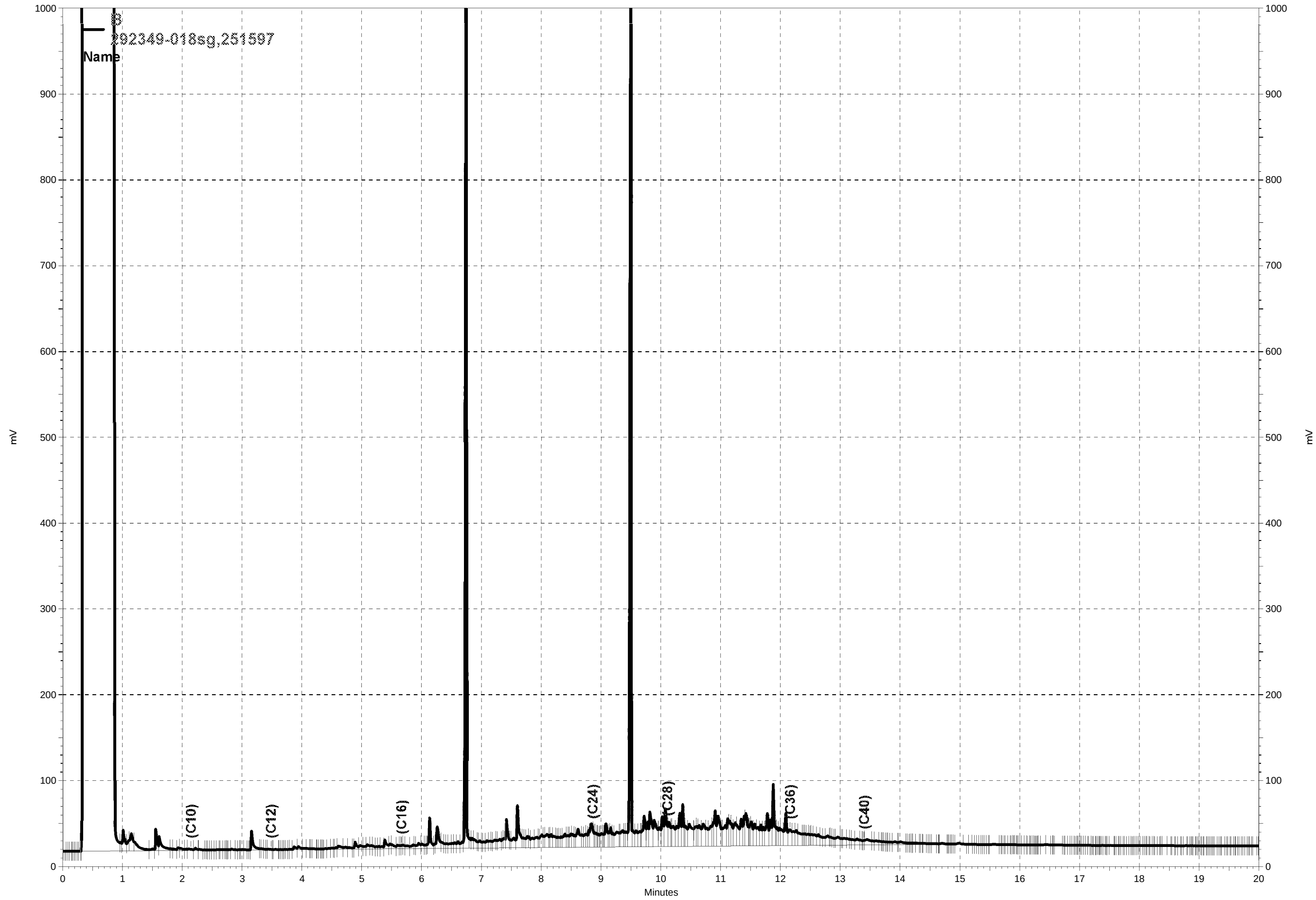

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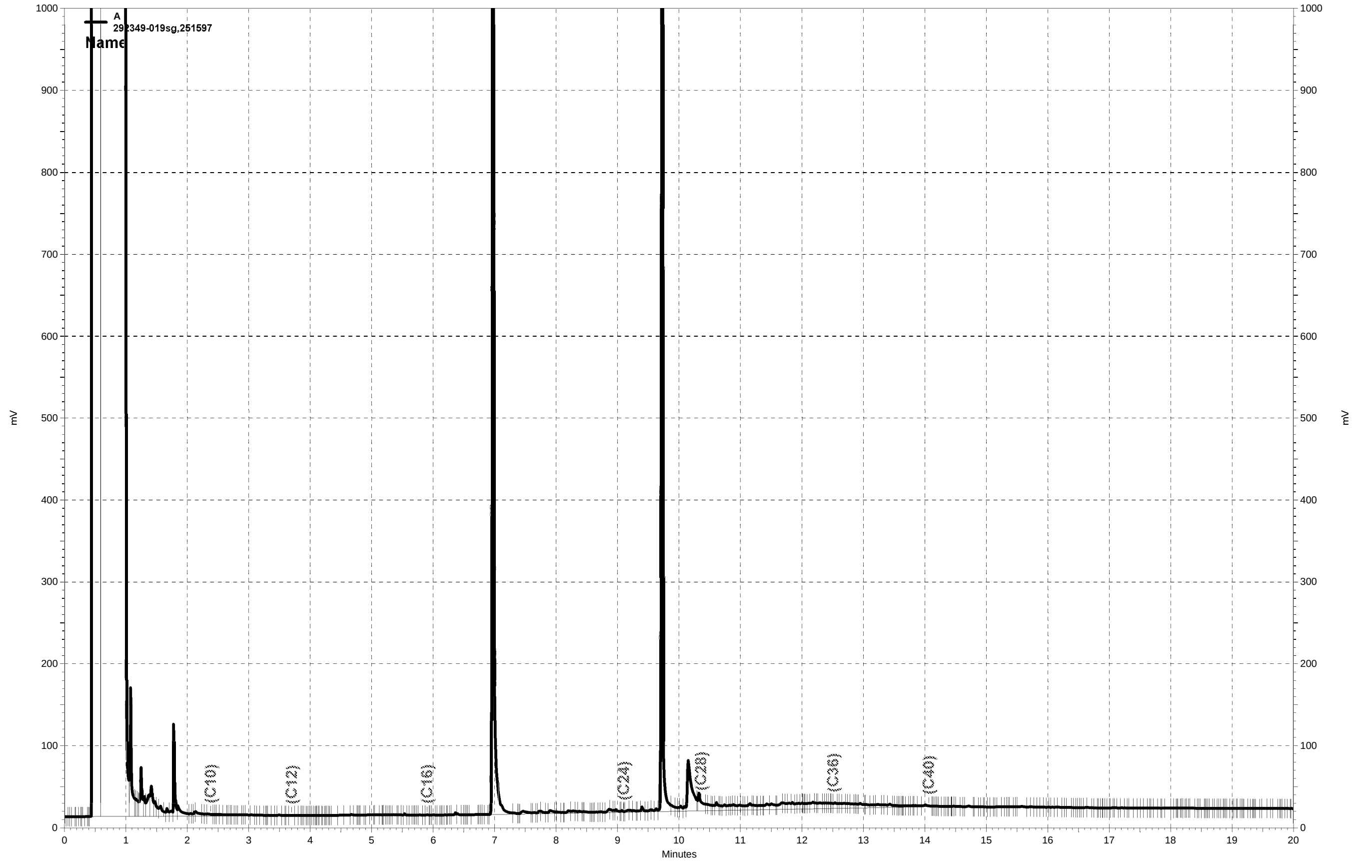

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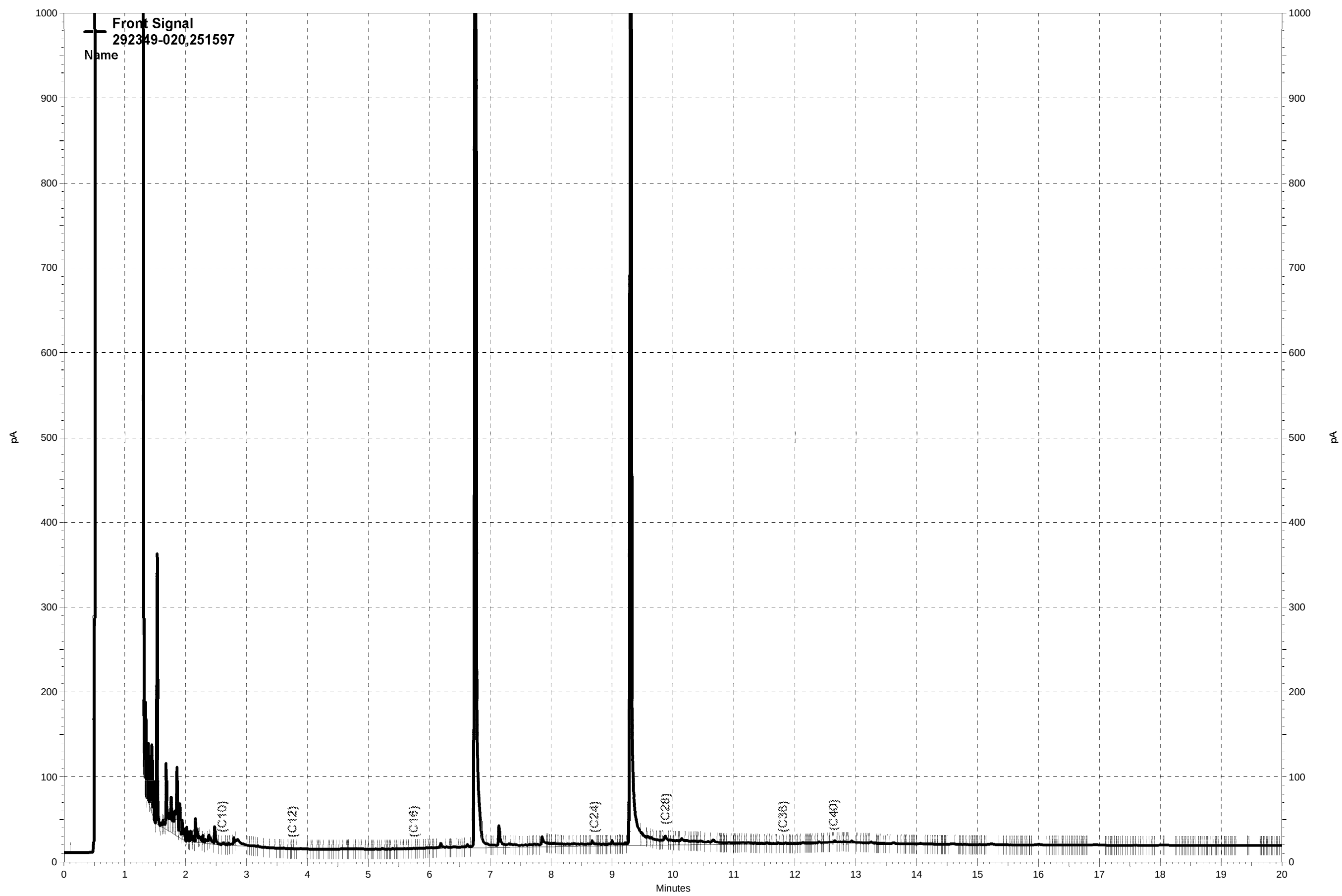

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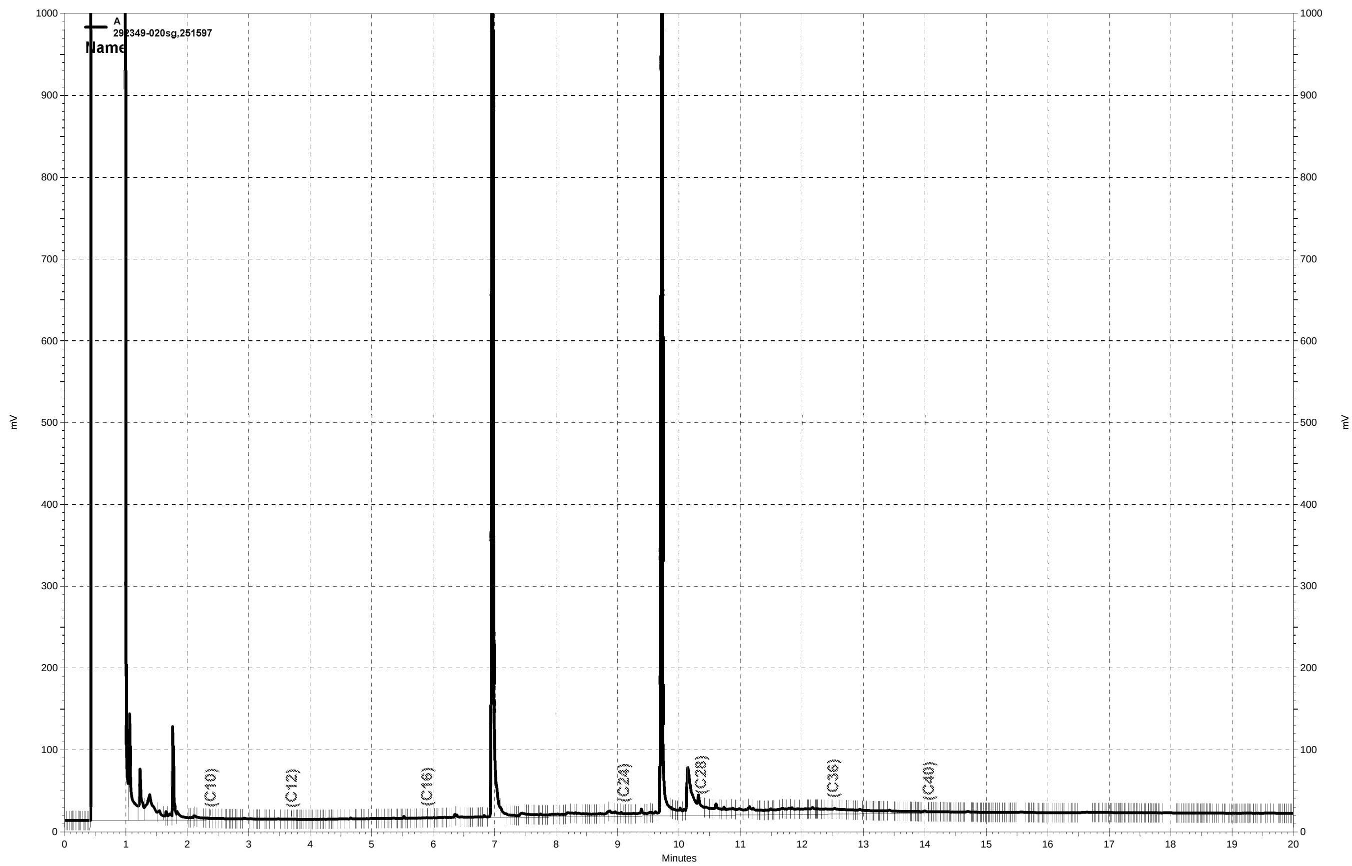

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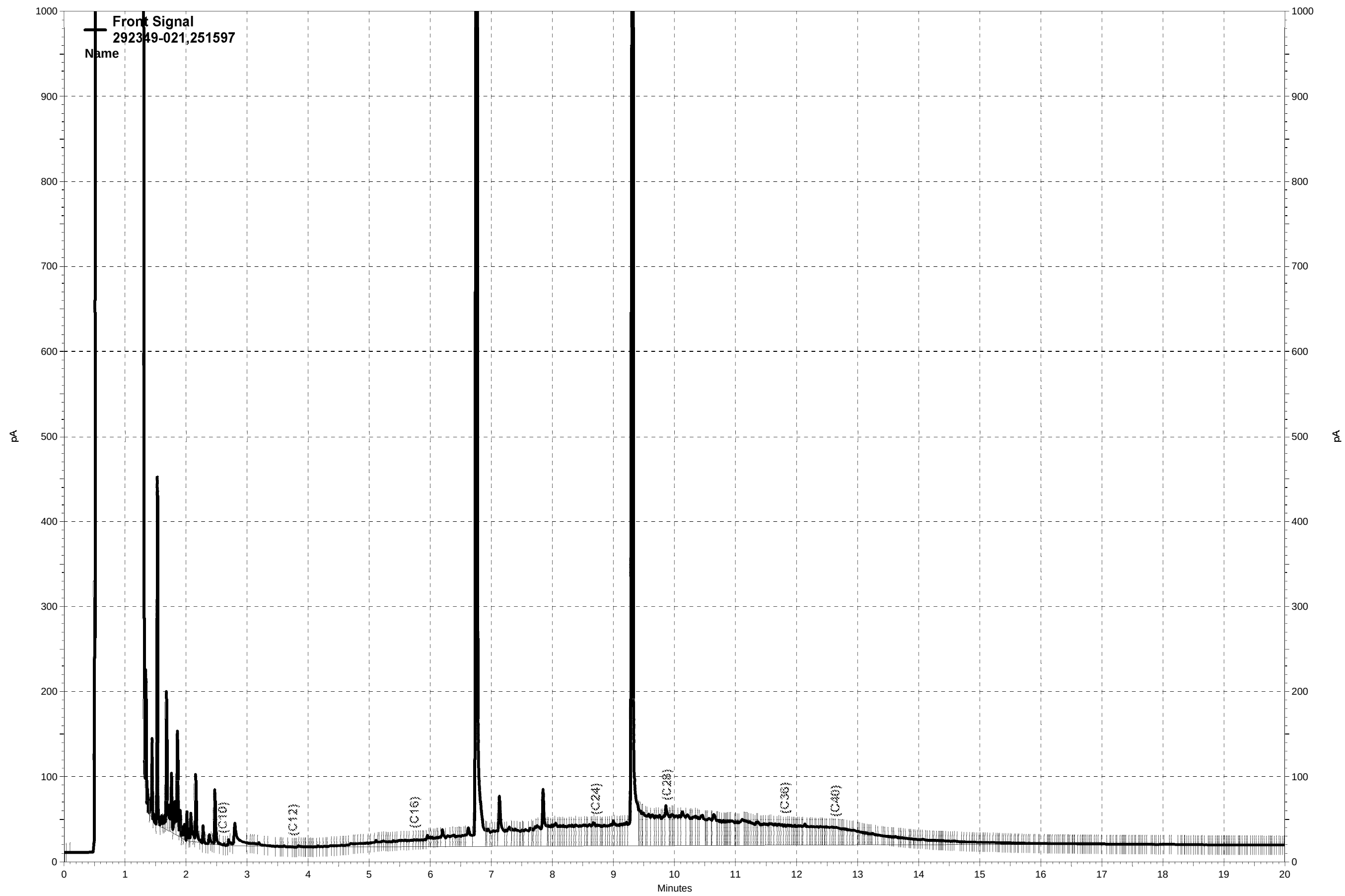

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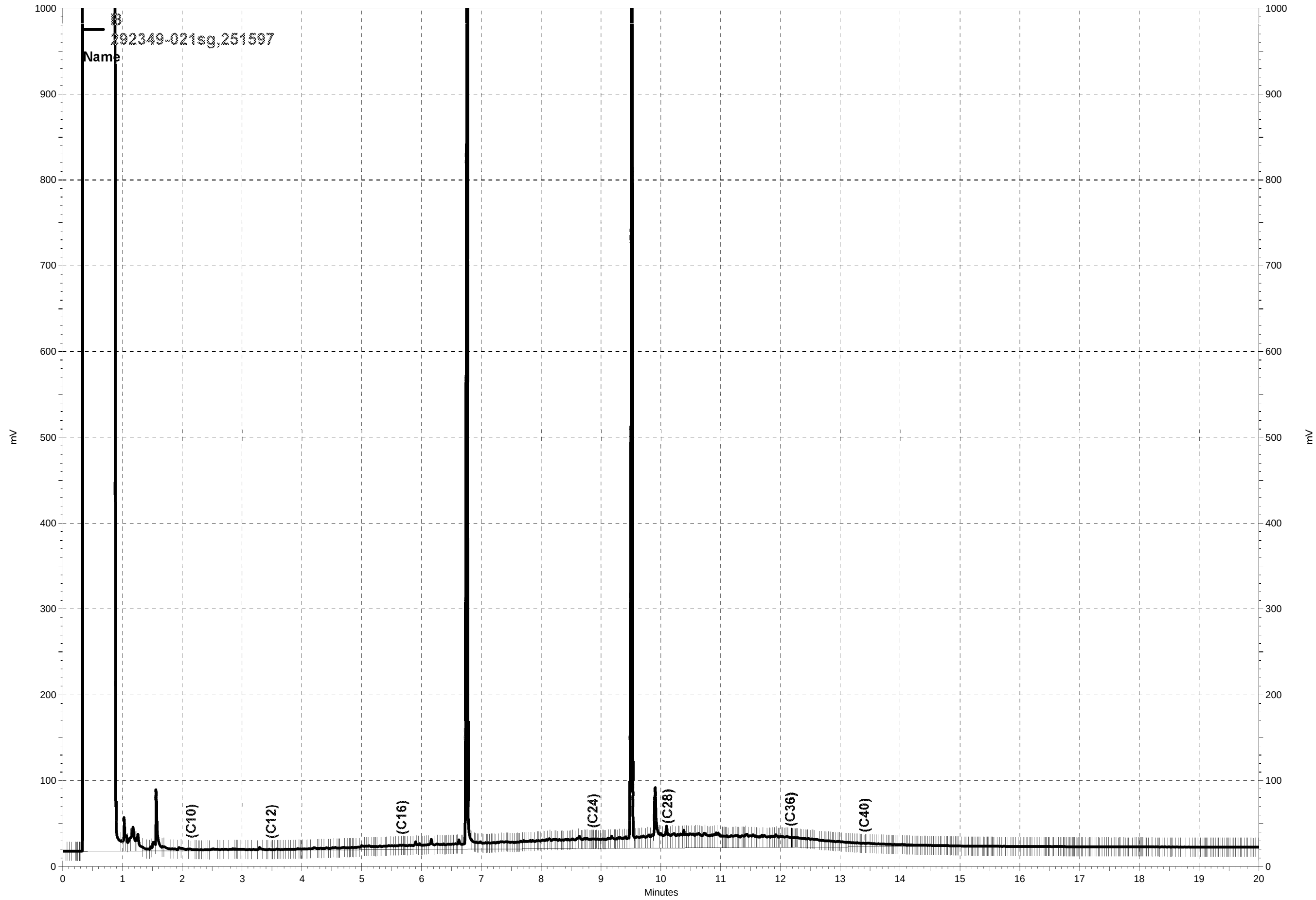

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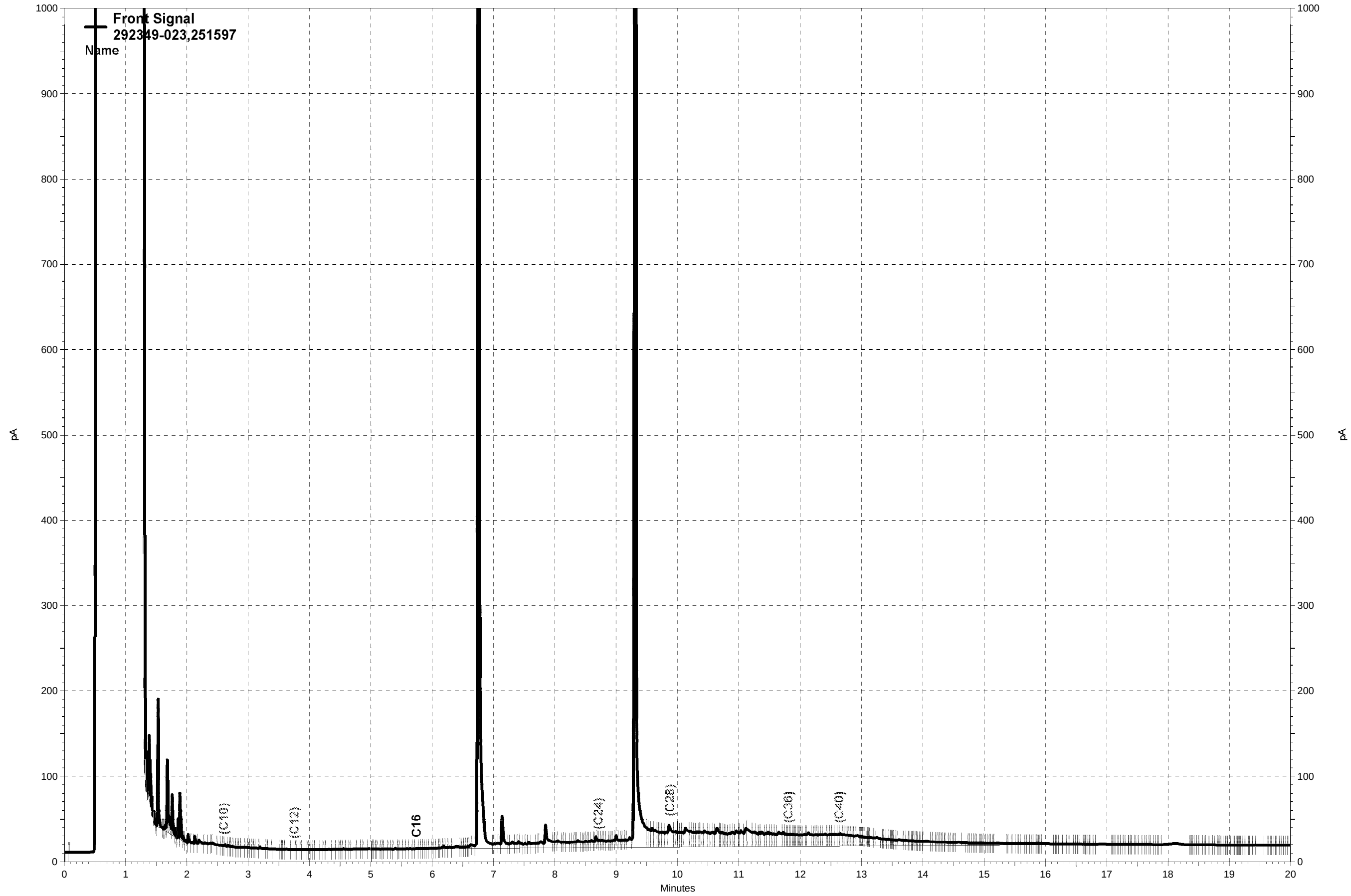

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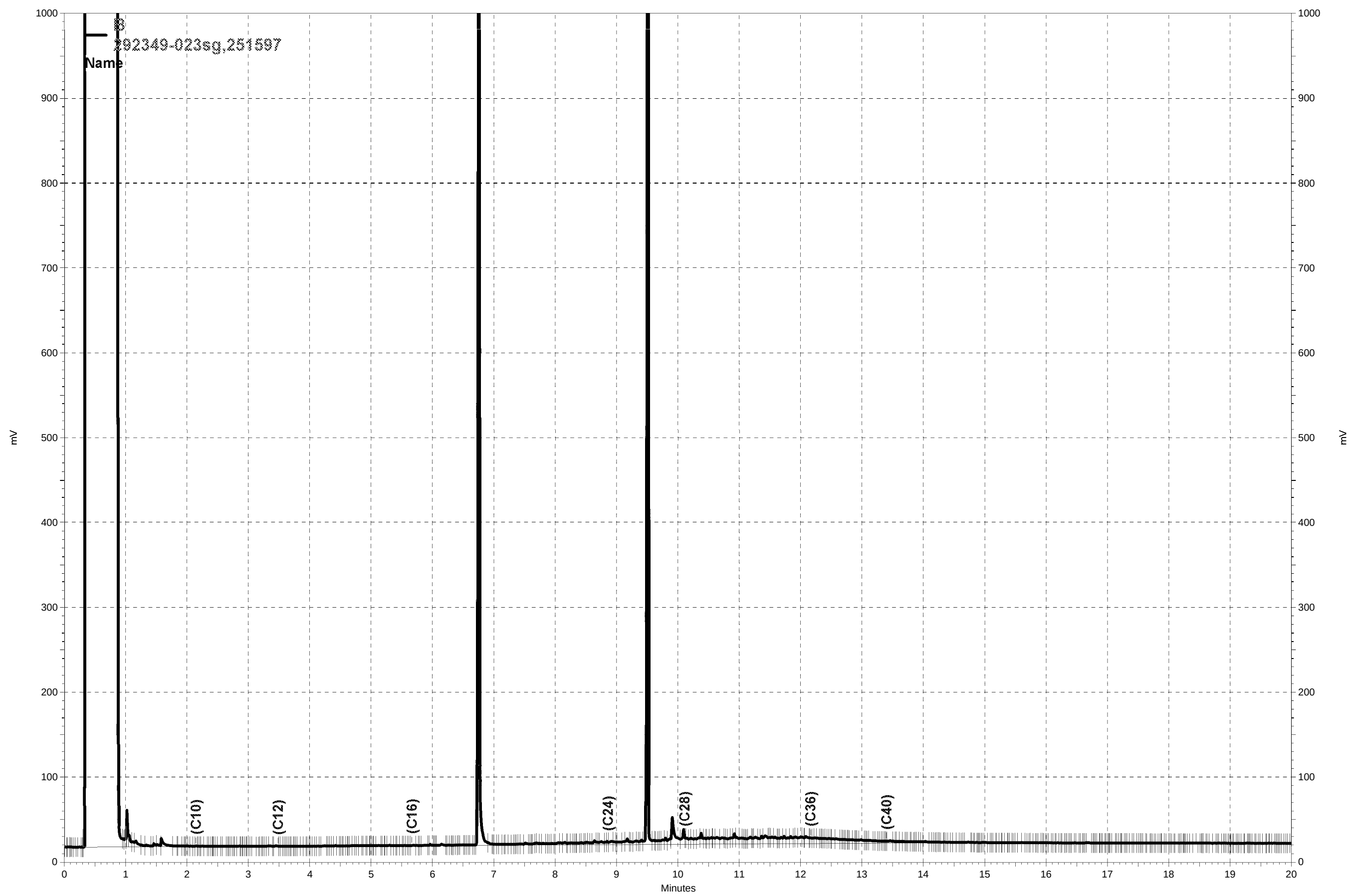

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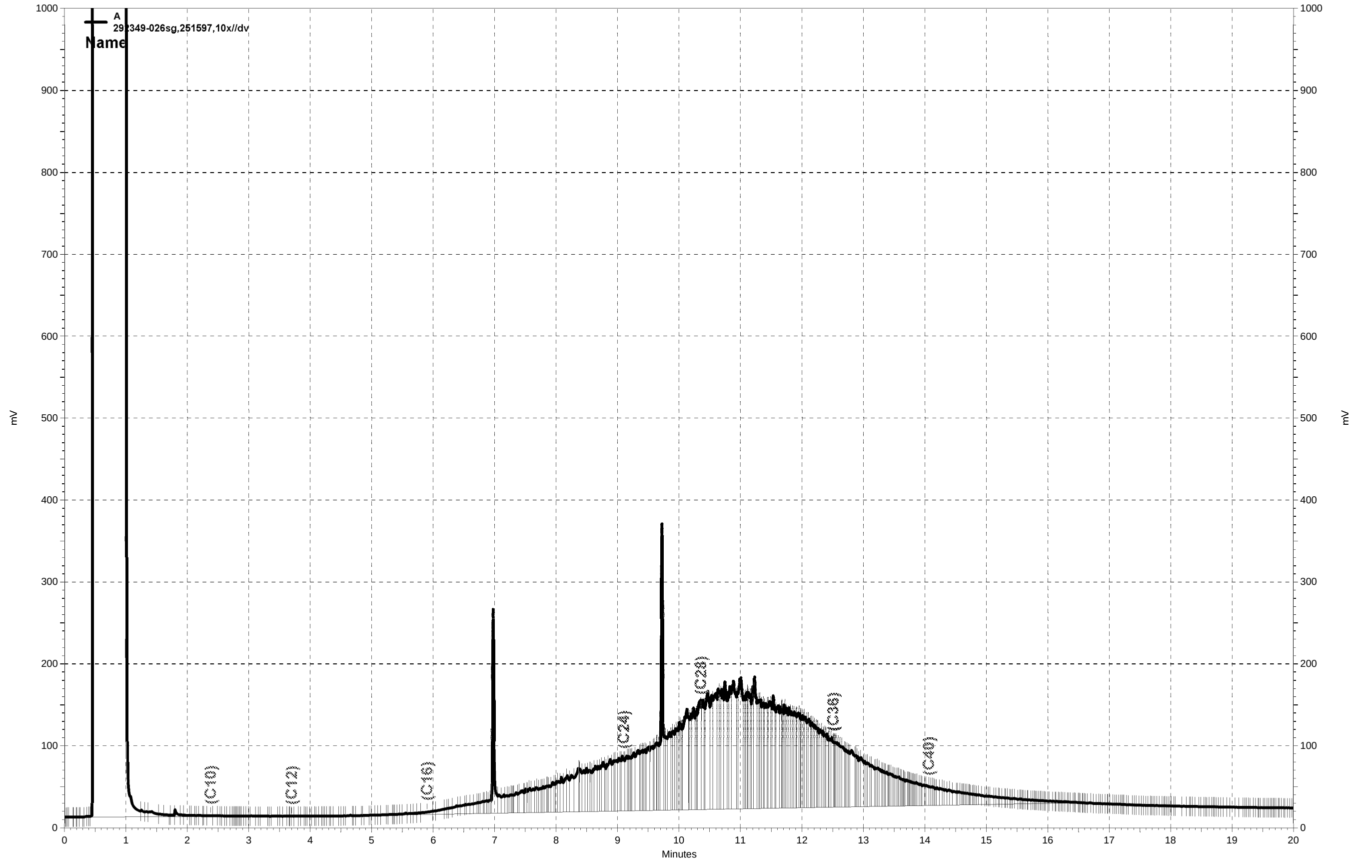

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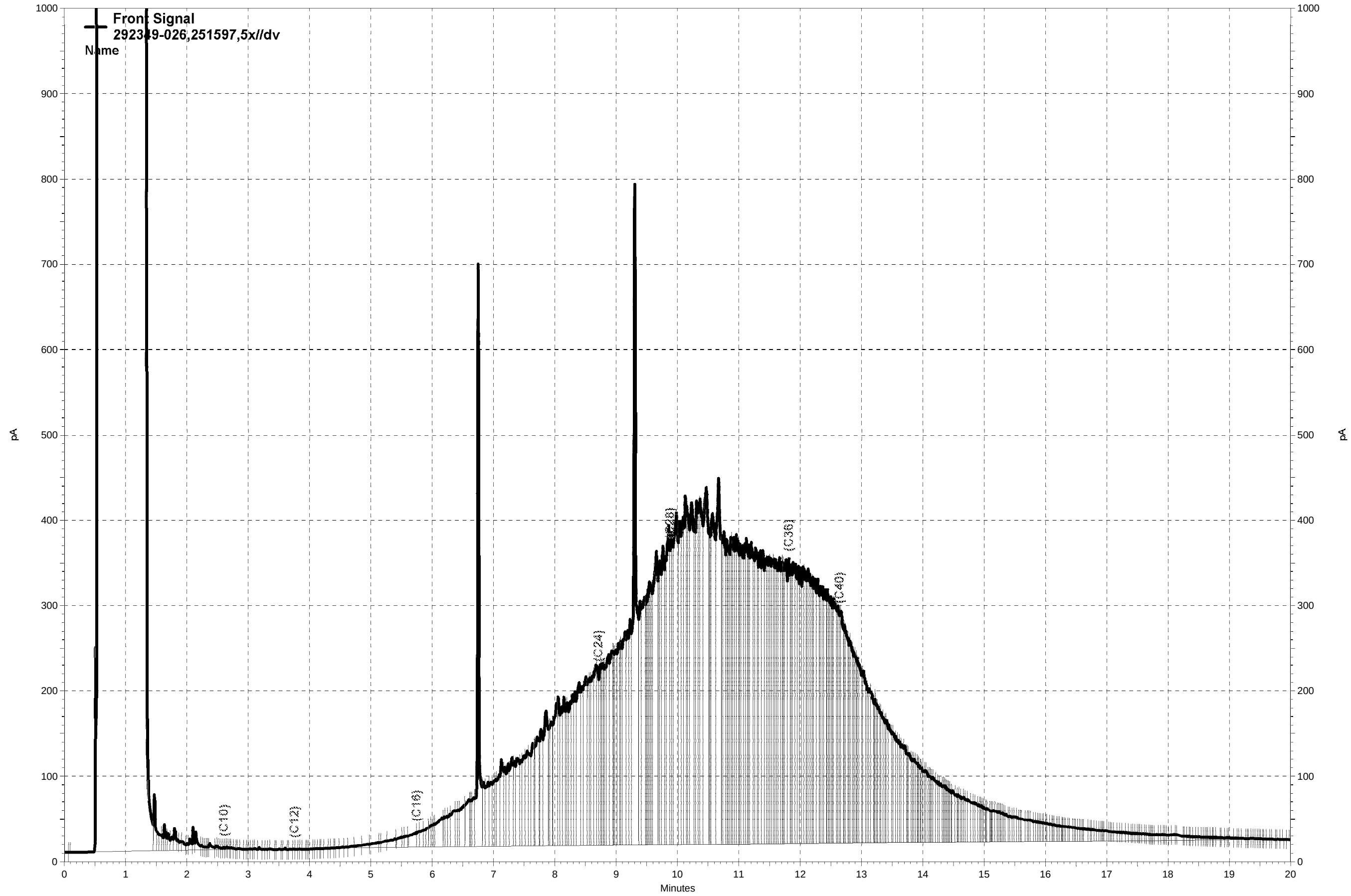

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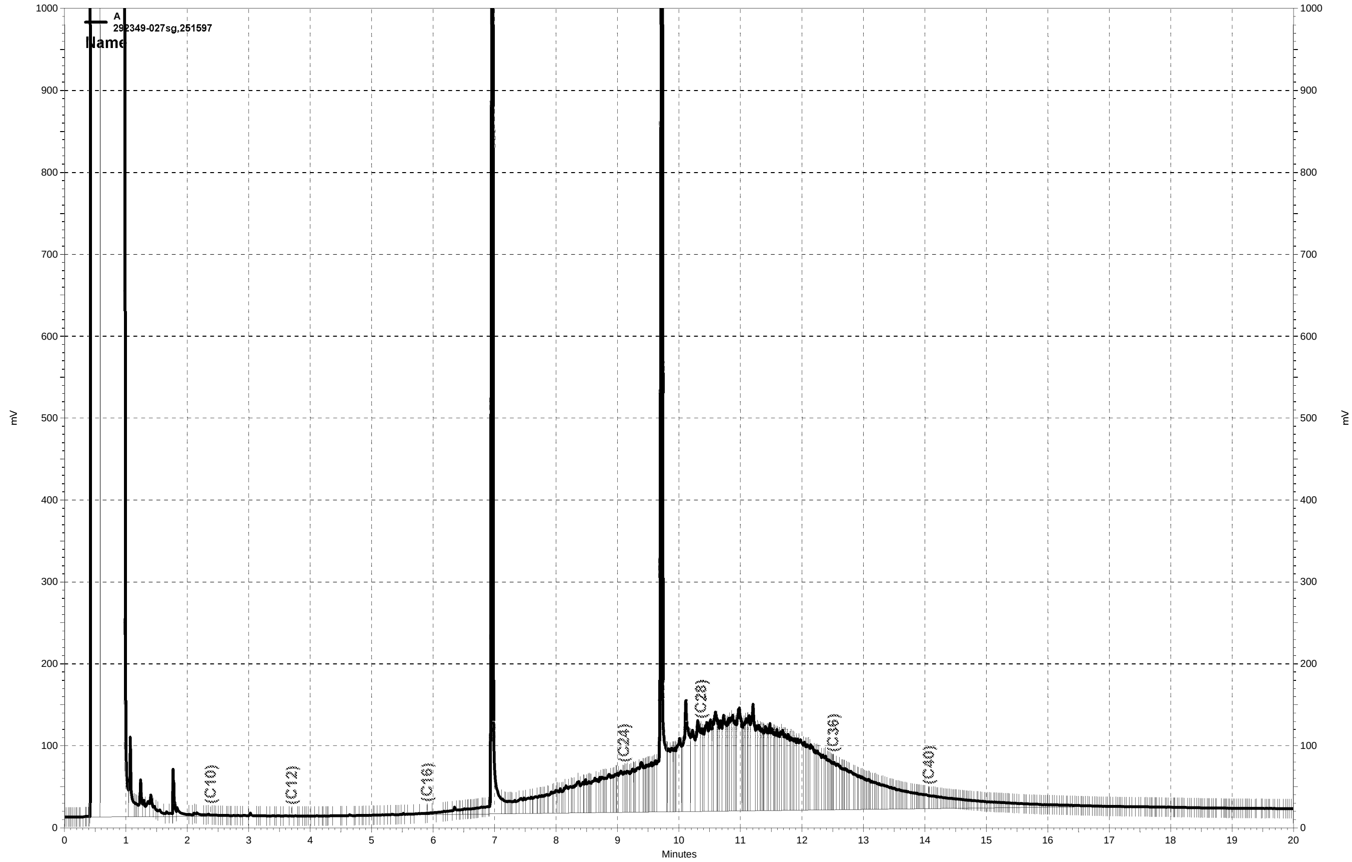

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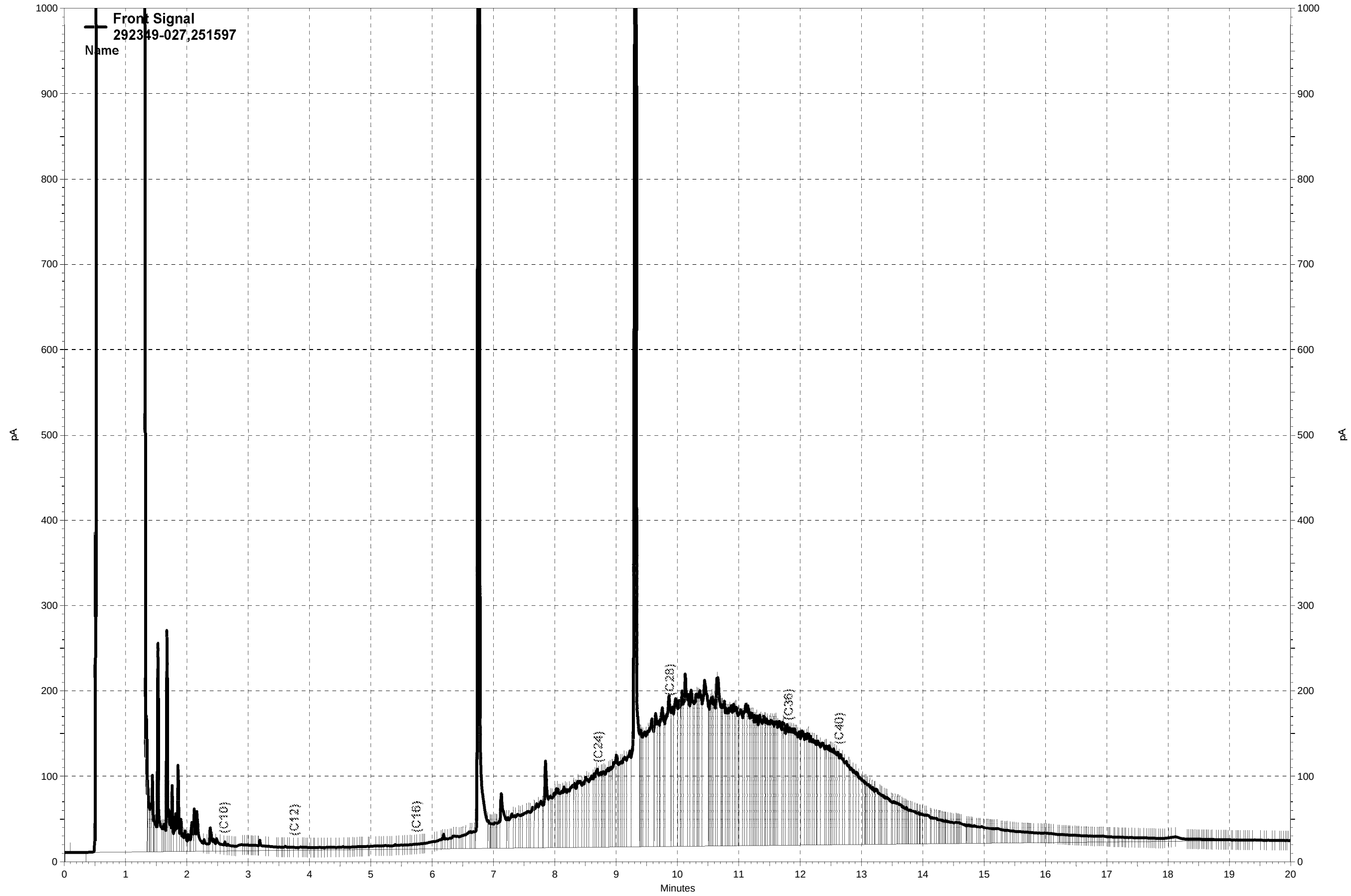

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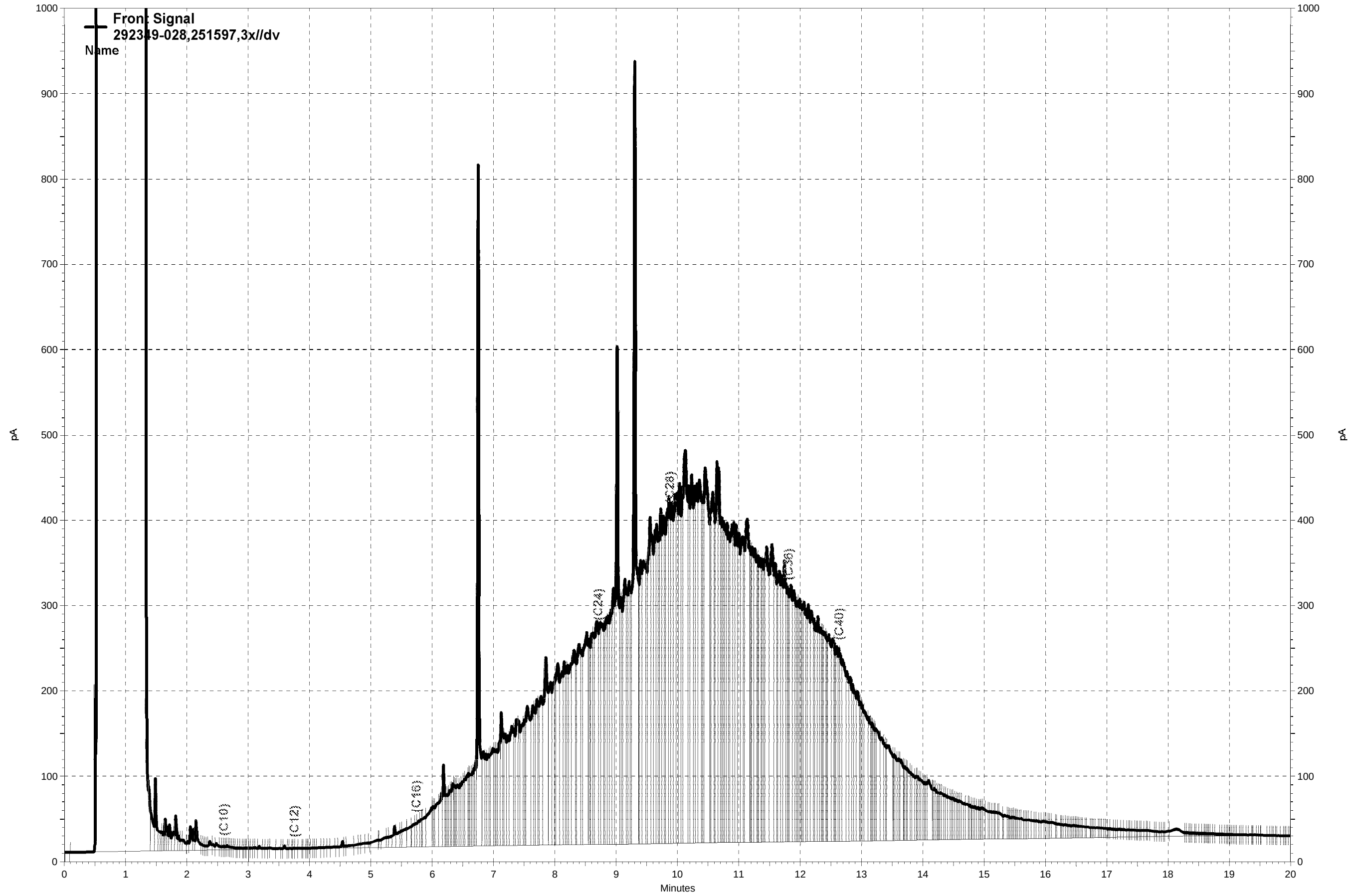

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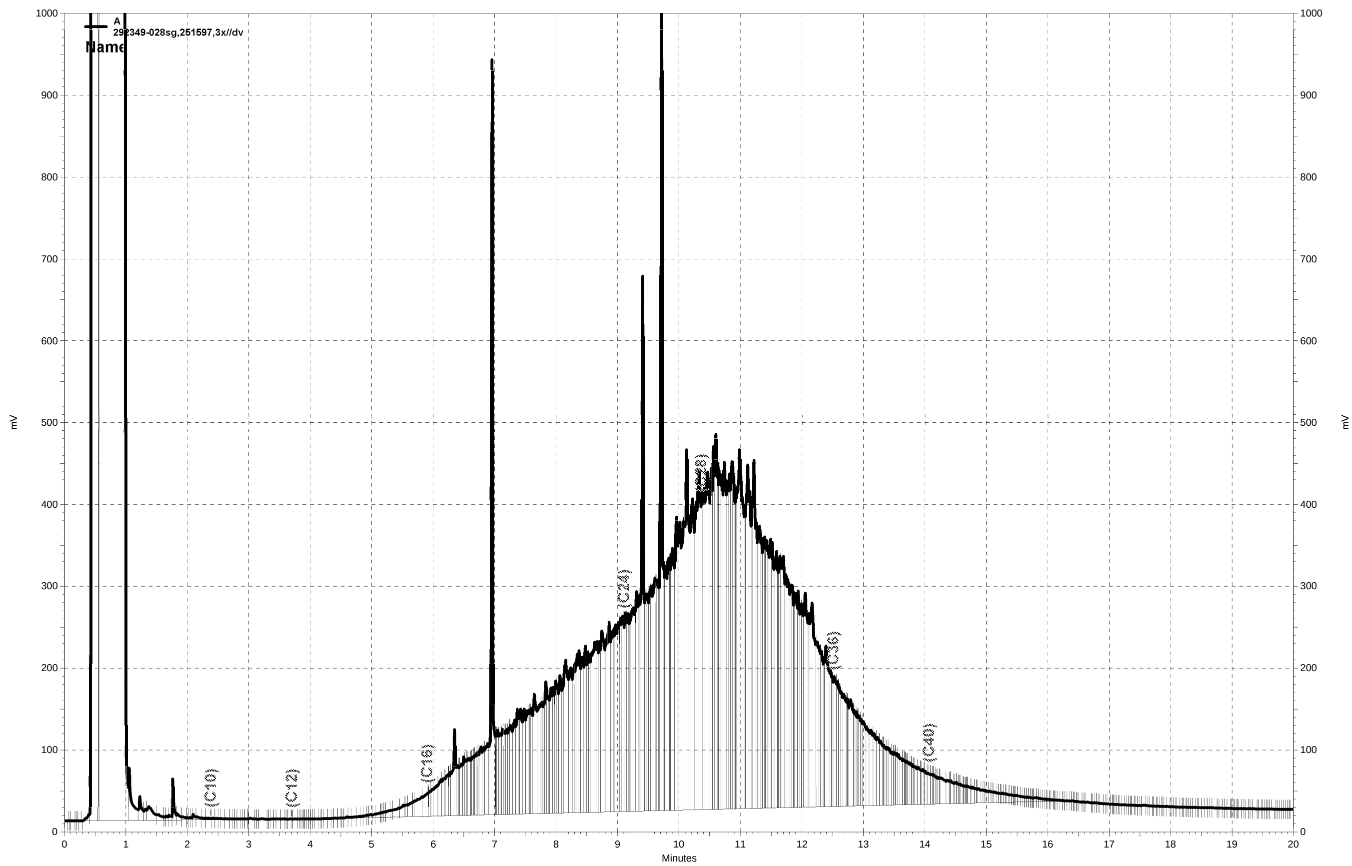

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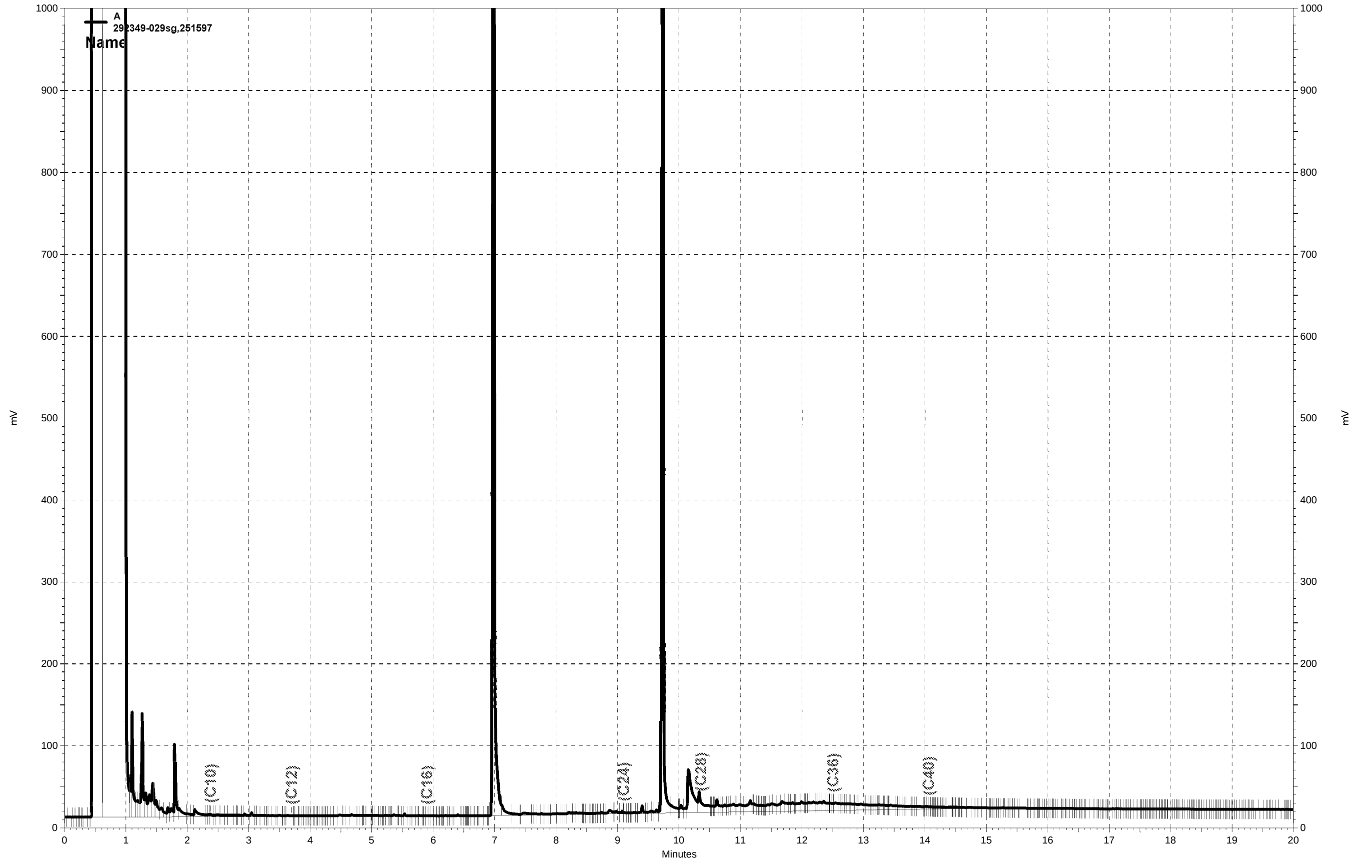

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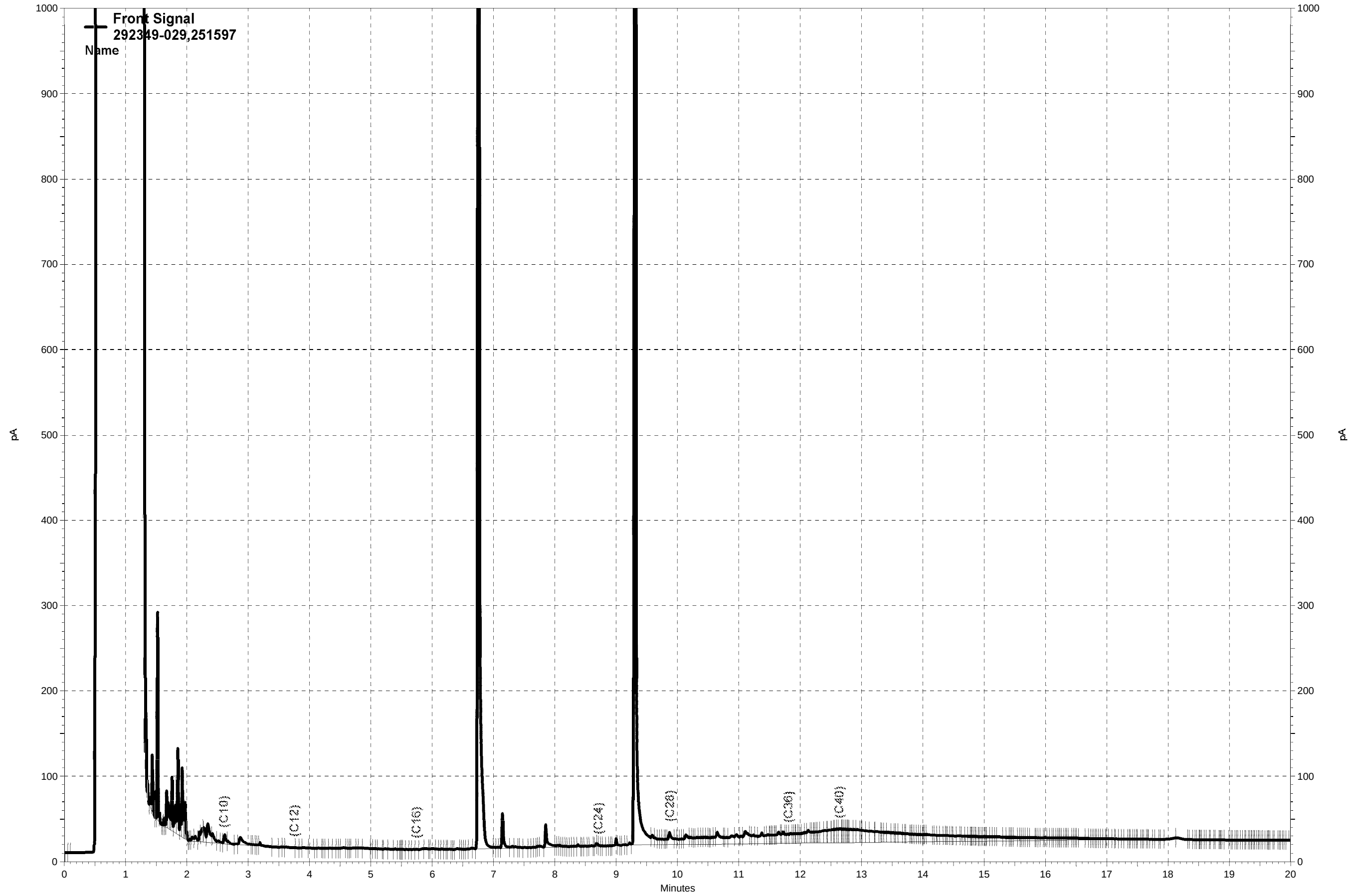

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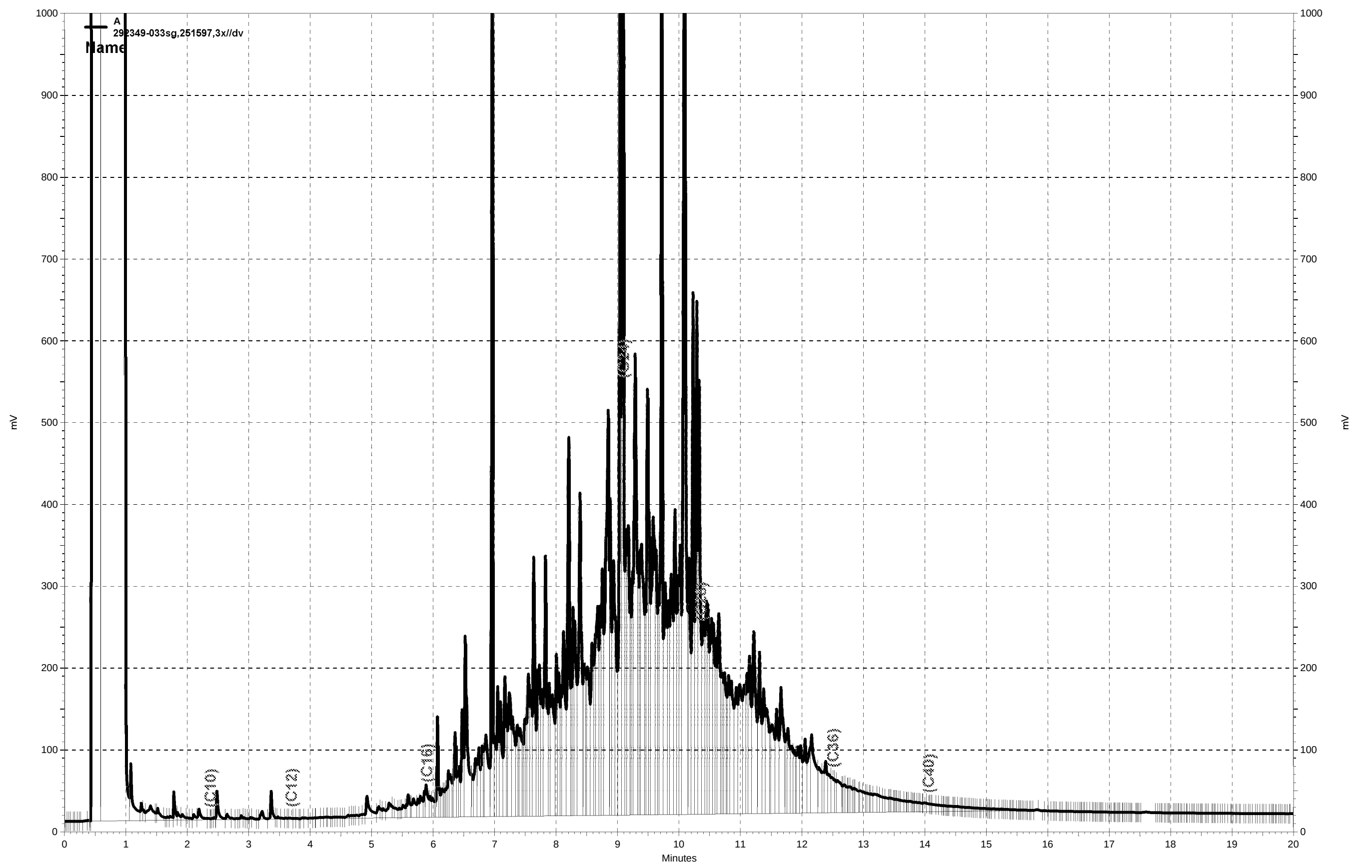

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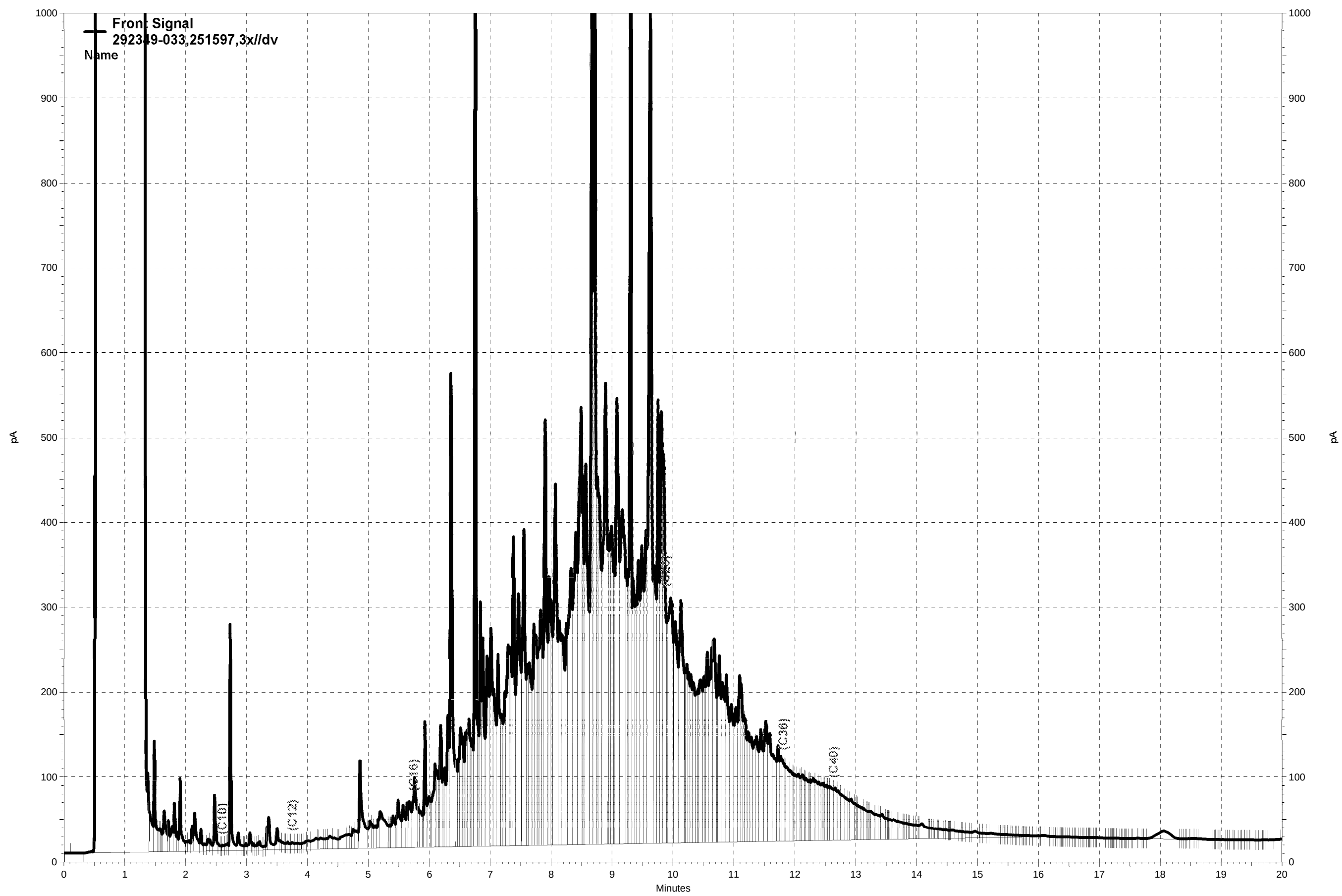

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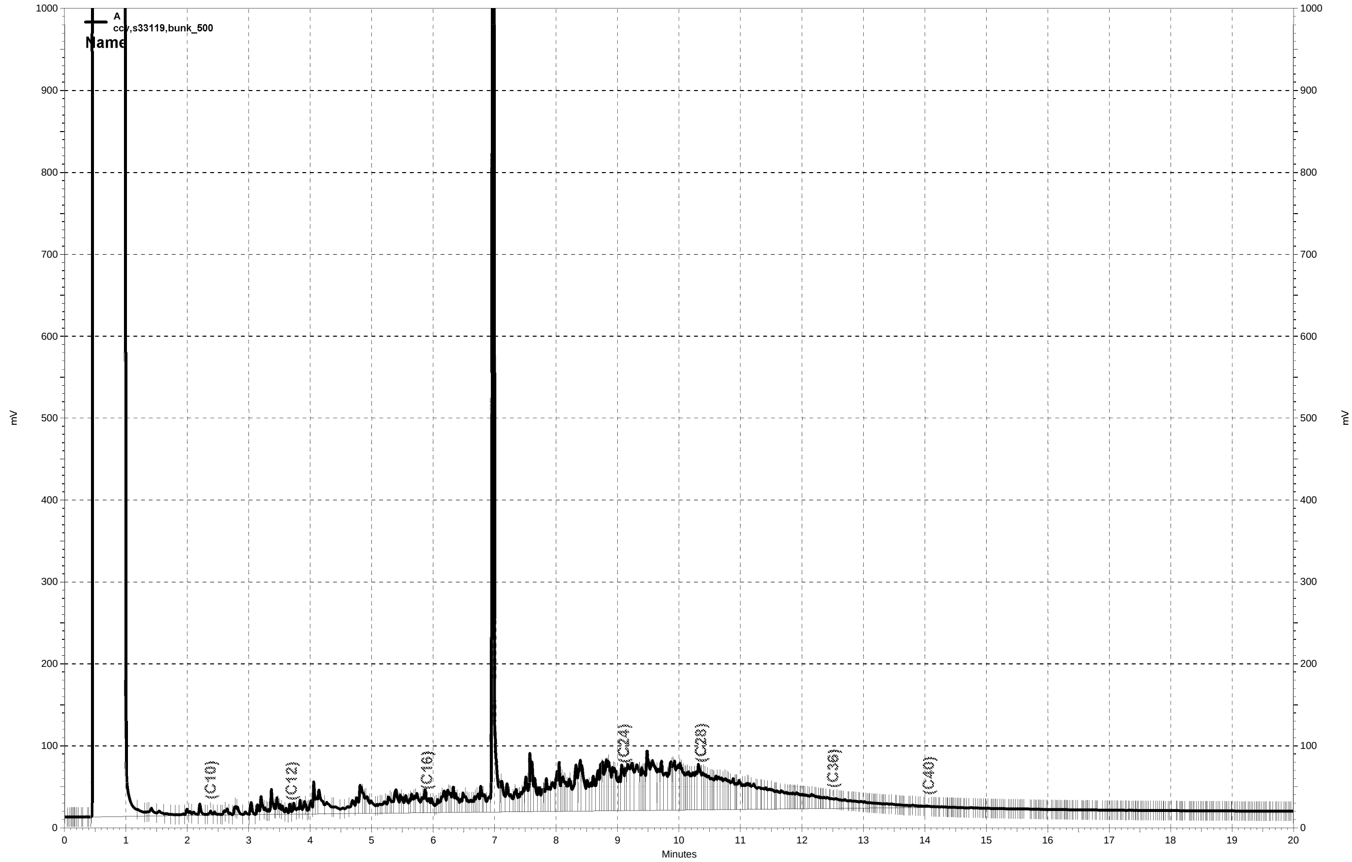

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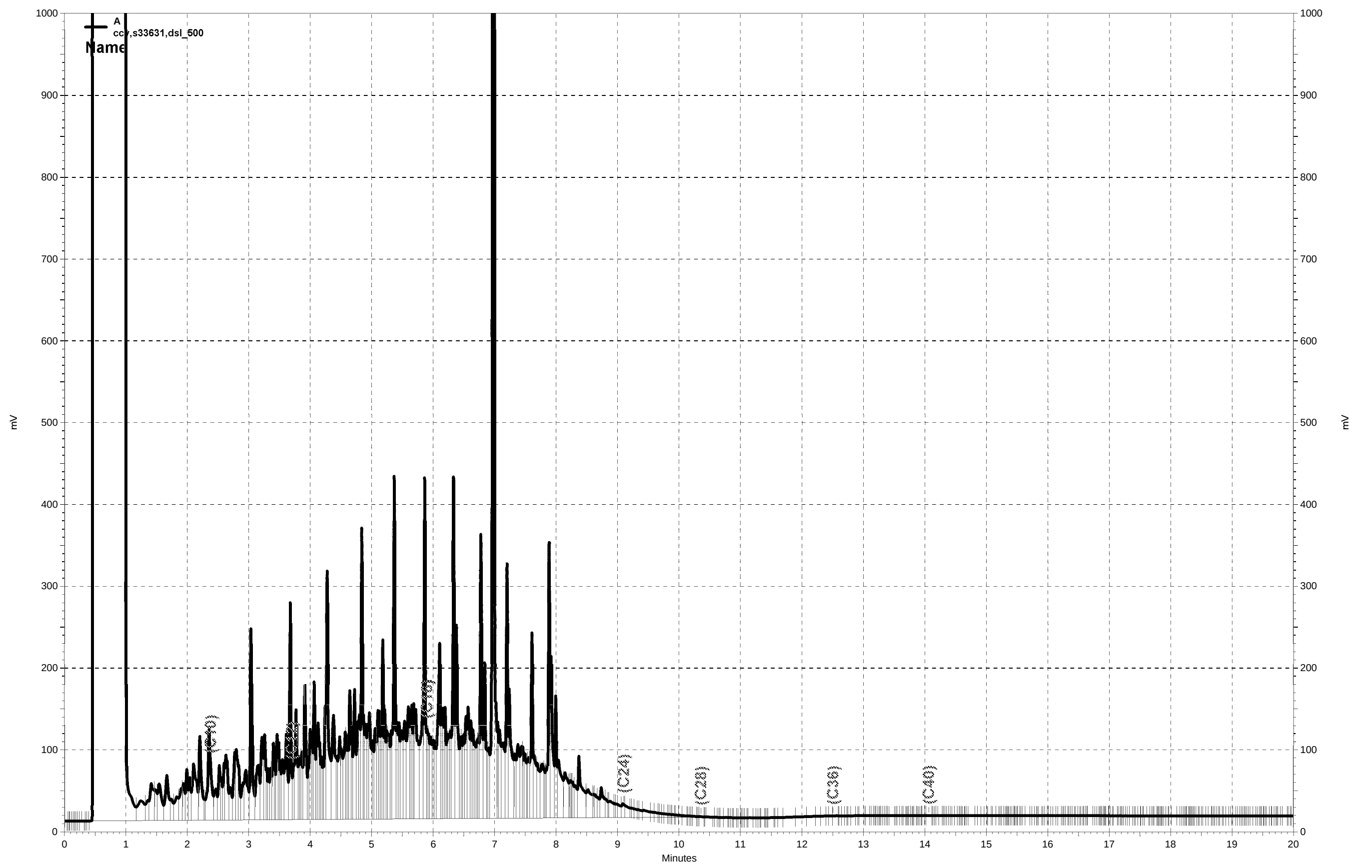

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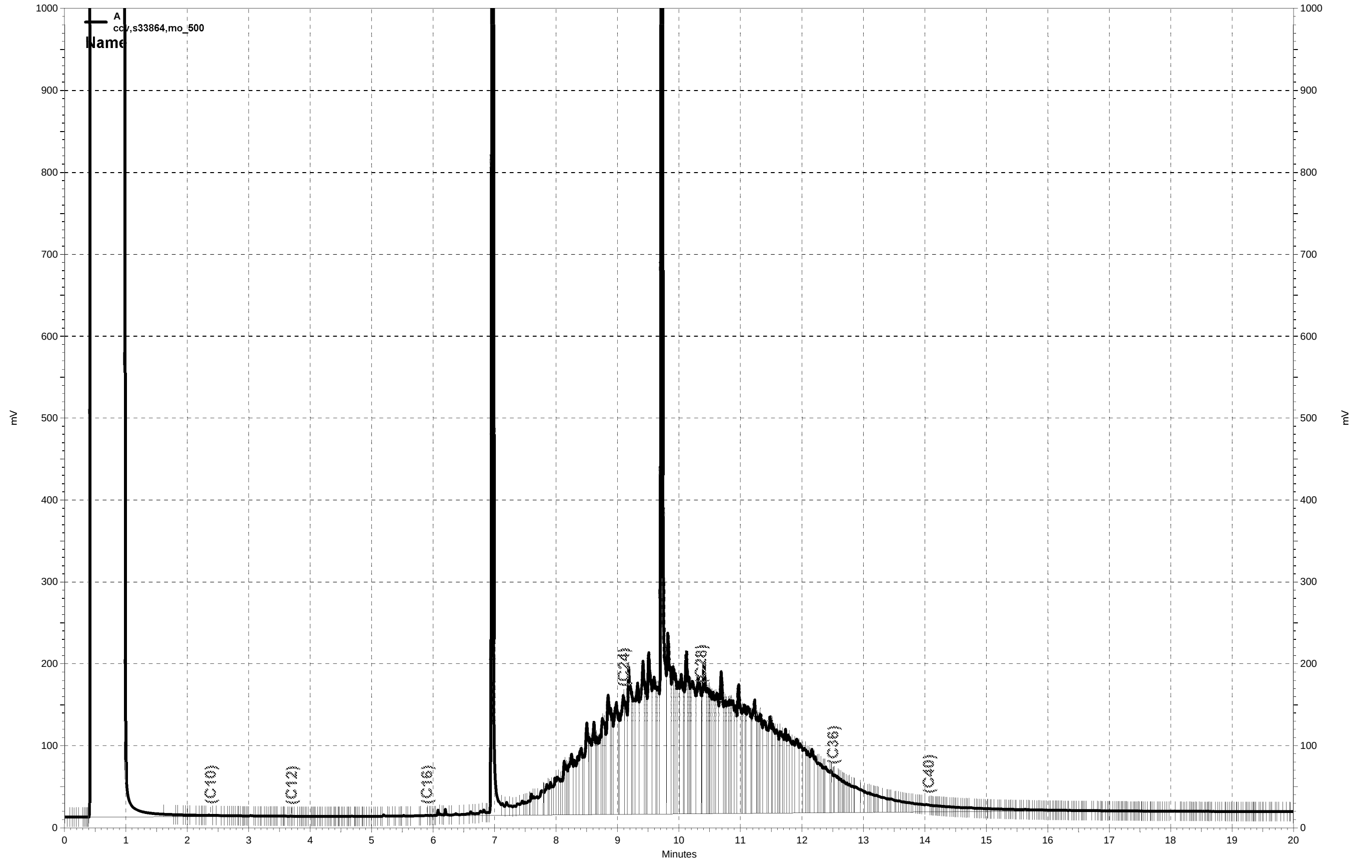

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292698
ANALYTICAL REPORT

SLR International	Project : 102.01422.00001
110 11th Street	Location : Jean Sweeney
Oakland, CA 94607	Level : II

Sample ID	Lab ID
JS-BS-B11	292698-001
JS-BS-B13	292698-002
JS-BS-B15	292698-003

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 following signature. 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.

Signature: ______________________ Date: 09/25/2017

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number:	**292698**
Client:	**SLR International**
Project:	**102.01422.00001**
Location:	**Jean Sweeney**
Request Date:	**09/21/17**
Samples Received:	**09/14/17**

This data package contains sample and QC results for three soil samples, requested for the above referenced project on 09/21/17. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

292698

C&T LOGIN # ~~292437~~

Page 1 of 2

Chain of Custody # ______

Project No: 102.01422.00001

Project Name: Jean Sweeney

Project P. O. No:

EDD Format: Report Level ☐ II ☐ III ☐ IV

Turnaround Time: ☒ RUSH 24hr ☐ Standard

Sampler: Peth Silves

Report To:

Company: SLR

Telephone: 404 435-0758

Email: psilves@slrconsulting.com

Lab No.	Sample ID.	SAMPLING: Date Collected	SAMPLING: Time Collected	MATRIX: Water	MATRIX: Solid			# of Containers	CHEMICAL PRESERVATIVE: HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: TPH-D, TPH-MO, Bunker-C EPA 8015D	TPH-D, TPH-MO, Bunker C EPA 8015D w/silica gel cleanup
1	JS-BS-A101	9/14/17	1110		X			1					X		
2	JS-BS-B10	9/14/17	1415												
3	JS-BS-B11	9/14/17	1417												
4	JS-BS-B12	9/14/17	1423												
5	JS-BS-B13	9/14/17	1427												
6	JS-BS-B14	9/14/17	1430												
7	JS-BS-B15	9/14/17	1435												
8	JS-BS-B16	9/14/17	1440												
9	JS-BS-B17	9/14/17	1442												
10	JS-BS-A15	9/14/17	1515												
11	JS-BS-A16	9/14/17	1520												
12	JS-BS-A17	9/14/17	1525												
13	JS-BS-A18	9/14/17	1530												

Notes:
Keep ON HOLD (except JS-BS-A101)

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Peth	9/14		[signature]	9/14	1105
[signature]	9/14	1654	[signature]	9/14/17	1654

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 292437

Page 2 of 2
Chain of Custody #

Project No: 102.01422.01001
Project Name: Jean Sweeney
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH 24hr ☐ Standard

Sampler: Perth Silvas
Report To:
Company: SLR
Telephone: (404) 835-0758
Email:

ANALYTICAL REQUEST: TPH-D, TPH-MO, Bunker C – EPA 8015D; TPH-D, TPH-MO, Bunker C – EPA 8015D w/ silica gel cleanup

Lab No.	Sample ID.	Date Collected	Time Collected	Water	Solid	# of Containers	HCl	H2SO4	HNO3	NaOH	None
14	JS-BS-A19	9/14/17	1532		✓	1					✓
15	JS-BS A20		1535								
16	JS-BS-A21		1538								
17	JS-BS-A22		1542								
18	JS-BS-A23		1544								
19	JS-BS A24		1546								

Notes: keep on HOLD

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Perth	9/14	1605	[signature]	9/14	1605
[signature]	9.14	1654	[signature]	9/14/17	1654

MONTROSE
AIR QUALITY SERVICES

Patrick McCarthy <pmccarthy@montrose-env.com>

COCs on final lab reports

1 message

Perth Silvers <psilvers@slrconsulting.com> Mon, Sep 25, 2017 at 3:47 PM
To: Patrick McCarthy <patrick.mccarthy@enthalpy.com>

Hey Patrick,

Could you please mark the samples on lab report 292968_level2 as not on hold on the COC and add that coc to this report?

Thank you,

Perth

SLR

Perth Silvers
Staff Scientist

d 510-451-1746 x206
c 404-435-0758
o 510-451-1761
e psilvers@slrconsulting.com

SLR International Corporation
110 - 11th Street, 2nd Floor, Oakland, CA, 94607

in *WINNERS: International Business Excellence Award, 2016*

COOLER RECEIPT CHECKLIST

ENTHALPY Berkeley

Login # 292437 Date Received 9-14-17 Number of coolers 1
Client SLR Project Jean Sweeny

Date Opened 9-14-17 By (print) KP (sign) KP
Date Logged in ↓ By (print) KP (sign) KP
Date Labelled ↓ By (print) KP (sign) KP

1. Did cooler come with a shipping slip (airbill, etc) ____ YES NO
   Shipping info ____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☑ NO
   How many ____ Name ____ Date ____
2B. Were custody seals intact upon arrival? ____ YES NO N/A
3. Were custody papers dry and intact when received? ____ YES NO
4. Were custody papers filled out properly (ink, signed, etc)? ____ YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ____ YES NO
6. Indicate the packing in cooler: (if other, describe) ____

☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☑ Wet ☐ Blue/Gel ☐ None Temp(°C) 3.5

☐ Temperature blank(s) included? ☐ Thermometer# ____ ☑ IR Gun# A

☑ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? ____ YES NO
   If YES, what time were they transferred to freezer? ____
9. Did all bottles arrive unbroken/unopened? ____ YES NO
10. Are there any missing / extra samples? ____ YES NO
11. Are samples in the appropriate containers for indicated tests? ____ YES NO
12. Are sample labels present, in good condition and complete? ____ YES NO
13. Do the sample labels agree with custody papers? ____ YES NO
14. Was sufficient amount of sample sent for tests requested? ____ YES NO
15. Are the samples appropriately preserved? ____ YES NO N/A
16. Did you check preservatives for all bottles for each sample? ____ YES NO N/A
17. Did you document your preservative check? (pH strip lot# ____) YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? ____ YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? ____ YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? ____ YES NO N/A
21. Was the client contacted concerning this sample delivery? ____ YES NO
   If YES, Who was called? ____ By ____ Date: ____

COMMENTS ____

Rev 14, 8/01/17

ENTHALPY ANALYTICAL

Detections Summary for 292698

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : 102.01422.00001
Location : Jean Sweeney

Client Sample ID : JS-BS-B11 Laboratory Sample ID : 292698-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	26	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	18	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	65		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	67		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	170		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	160		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-B13 Laboratory Sample ID : 292698-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	22	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	13	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	51		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	51		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	140		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	120		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-B15 Laboratory Sample ID : 292698-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	19	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	12	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	49		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	47		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	130		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	110		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292698	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/14/17
Units:	mg/Kg	Received:	09/14/17
Basis:	as received	Prepared:	09/22/17
Diln Fac:	1.000	Analyzed:	09/23/17
Batch#:	251931		

Field ID: JS-BS-B11 Lab ID: 292698-001
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	26 Y	1.0
Diesel C10-C24 (SGCU)	18 Y	1.0
Motor Oil C24-C36	65	5.0
Motor Oil C24-C36 (SGCU)	67	5.0
Bunker C C12-C40	170	5.0
Bunker C C12-C40 (SGCU)	160	5.0

Surrogate	%REC	Limits
o-Terphenyl	92	55-133
o-Terphenyl (SGCU)	82	55-133

Field ID: JS-BS-B13 Lab ID: 292698-002
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	22 Y	1.0
Diesel C10-C24 (SGCU)	13 Y	1.0
Motor Oil C24-C36	51	5.0
Motor Oil C24-C36 (SGCU)	51	5.0
Bunker C C12-C40	140	5.0
Bunker C C12-C40 (SGCU)	120	5.0

Surrogate	%REC	Limits
o-Terphenyl	102	55-133
o-Terphenyl (SGCU)	91	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292698	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/14/17
Units:	mg/Kg	Received:	09/14/17
Basis:	as received	Prepared:	09/22/17
Diln Fac:	1.000	Analyzed:	09/23/17
Batch#:	251931		

Field ID:	JS-BS-B15	Lab ID:	292698-003
Type:	SAMPLE	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	19 Y	1.0
Diesel C10-C24 (SGCU)	12 Y	1.0
Motor Oil C24-C36	49	5.0
Motor Oil C24-C36 (SGCU)	47	5.0
Bunker C C12-C40	130	5.0
Bunker C C12-C40 (SGCU)	110	5.0

Surrogate	%REC	Limits
o-Terphenyl	103	55-133
o-Terphenyl (SGCU)	85	55-133

Type:	BLANK	Cleanup Method:	EPA 3630C
Lab ID:	QC902001		

Analyte	Result	RL
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl (SGCU)	99	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292698	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC902002	Batch#:	251931
Matrix:	Soil	Prepared:	09/22/17
Units:	mg/Kg	Analyzed:	09/23/17

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	53.14	106	51-137
Diesel C10-C24 (SGCU)	50.00	41.82	84	51-137

Surrogate	%REC	Limits
o-Terphenyl	116	55-133
o-Terphenyl (SGCU)	96	55-133

SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292698	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	251931
MSS Lab ID:	292695-001	Sampled:	09/21/17
Matrix:	Soil	Received:	09/21/17
Units:	mg/Kg	Prepared:	09/22/17
Basis:	as received	Analyzed:	09/23/17
Diln Fac:	2.000		

Type: MS Lab ID: QC902003

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	21.11	49.73	69.87	98	36-143

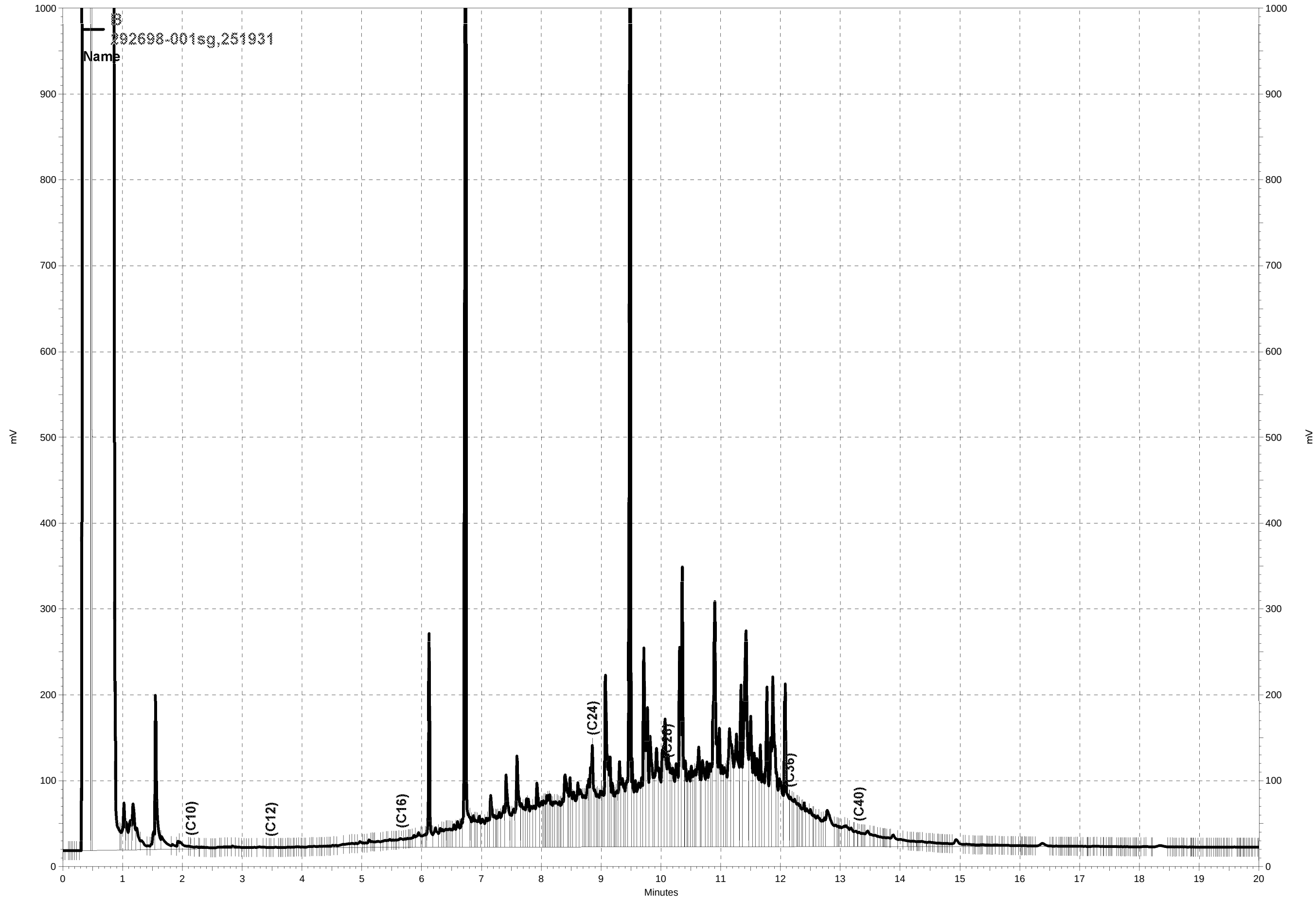
Surrogate	%REC	Limits
o-Terphenyl	109	55-133

Type: MSD Lab ID: QC902004

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.03	67.98	94	36-143	3	55

Surrogate	%REC	Limits
o-Terphenyl	105	55-133

RPD= Relative Percent Difference



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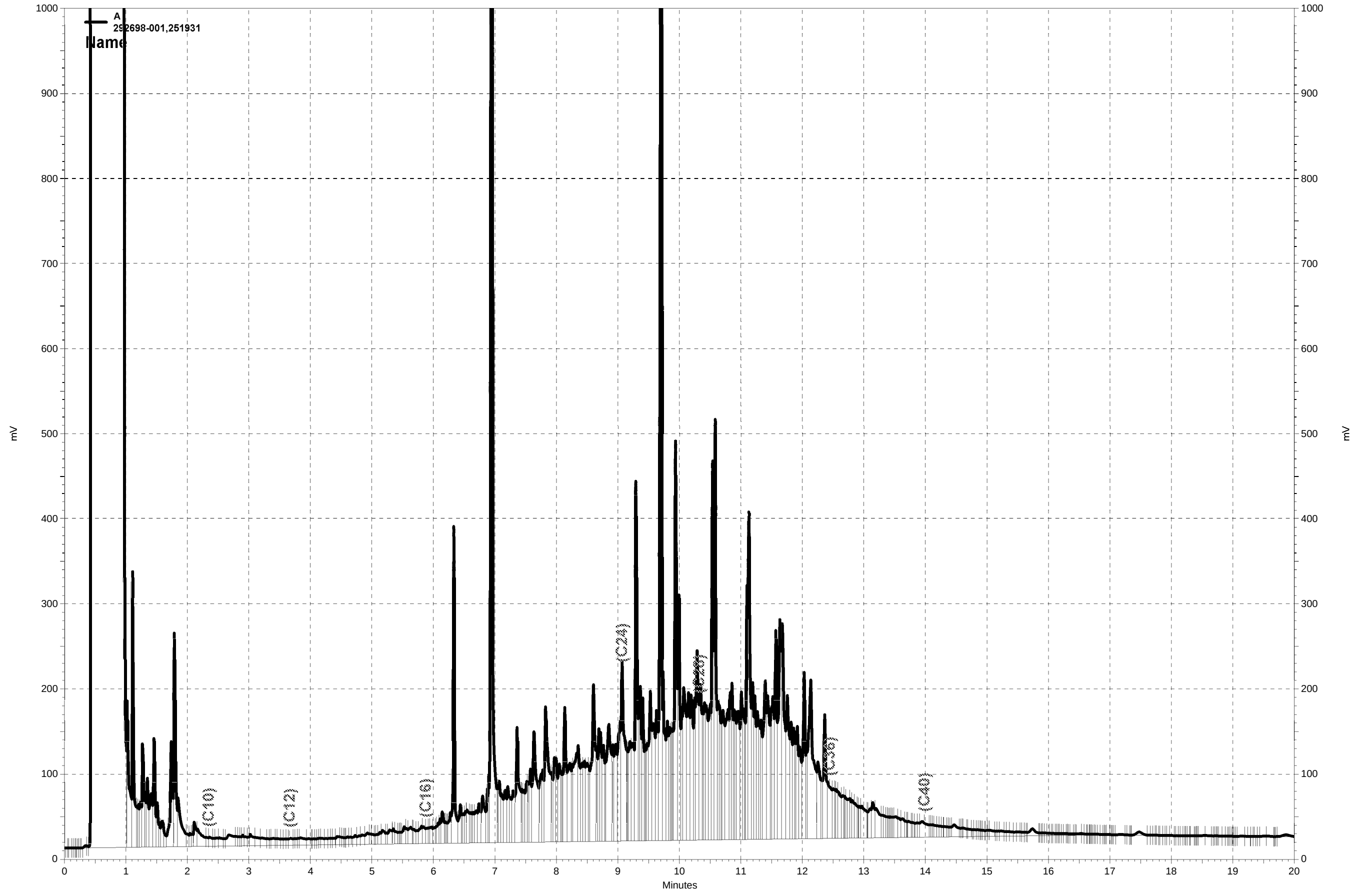

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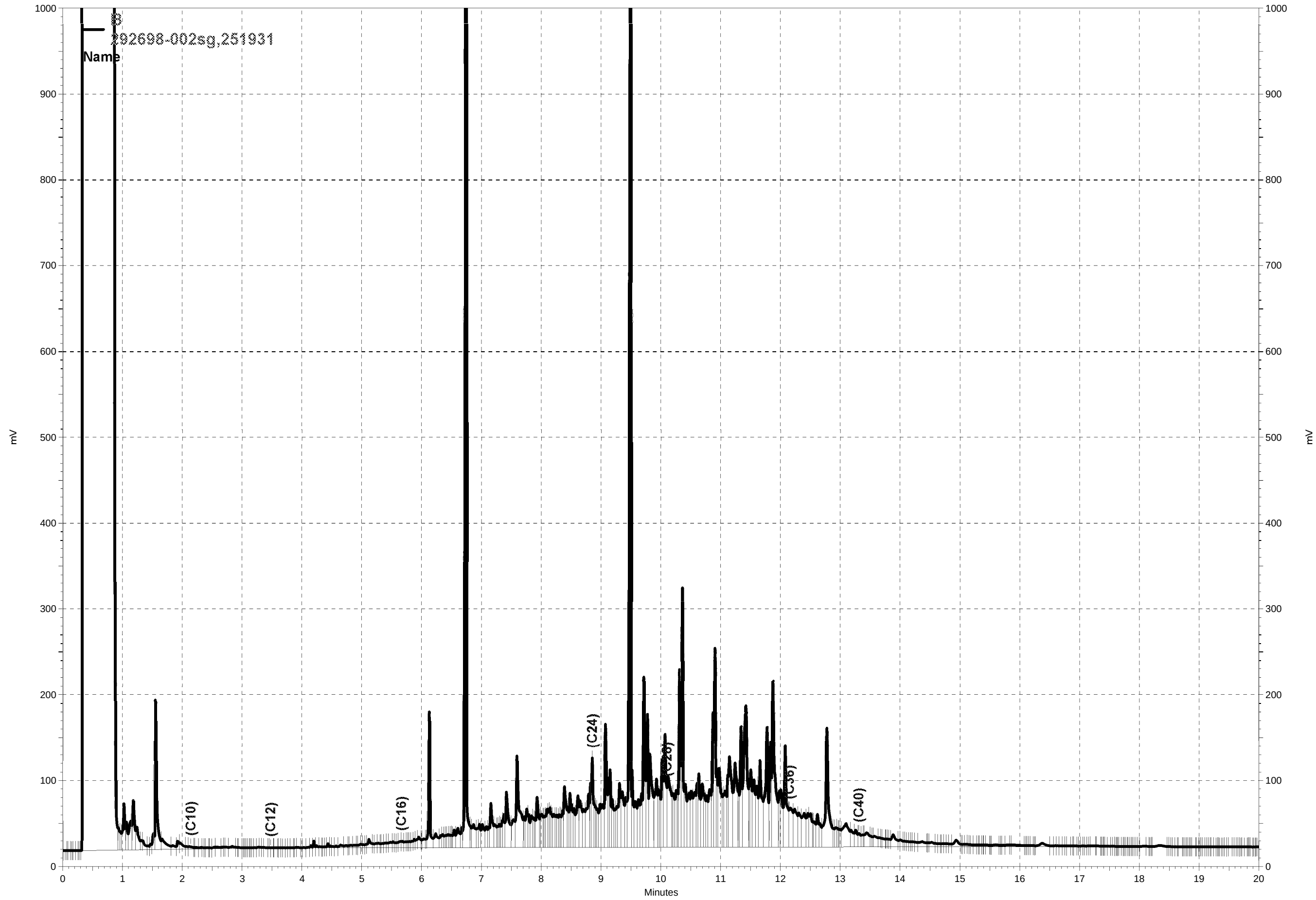

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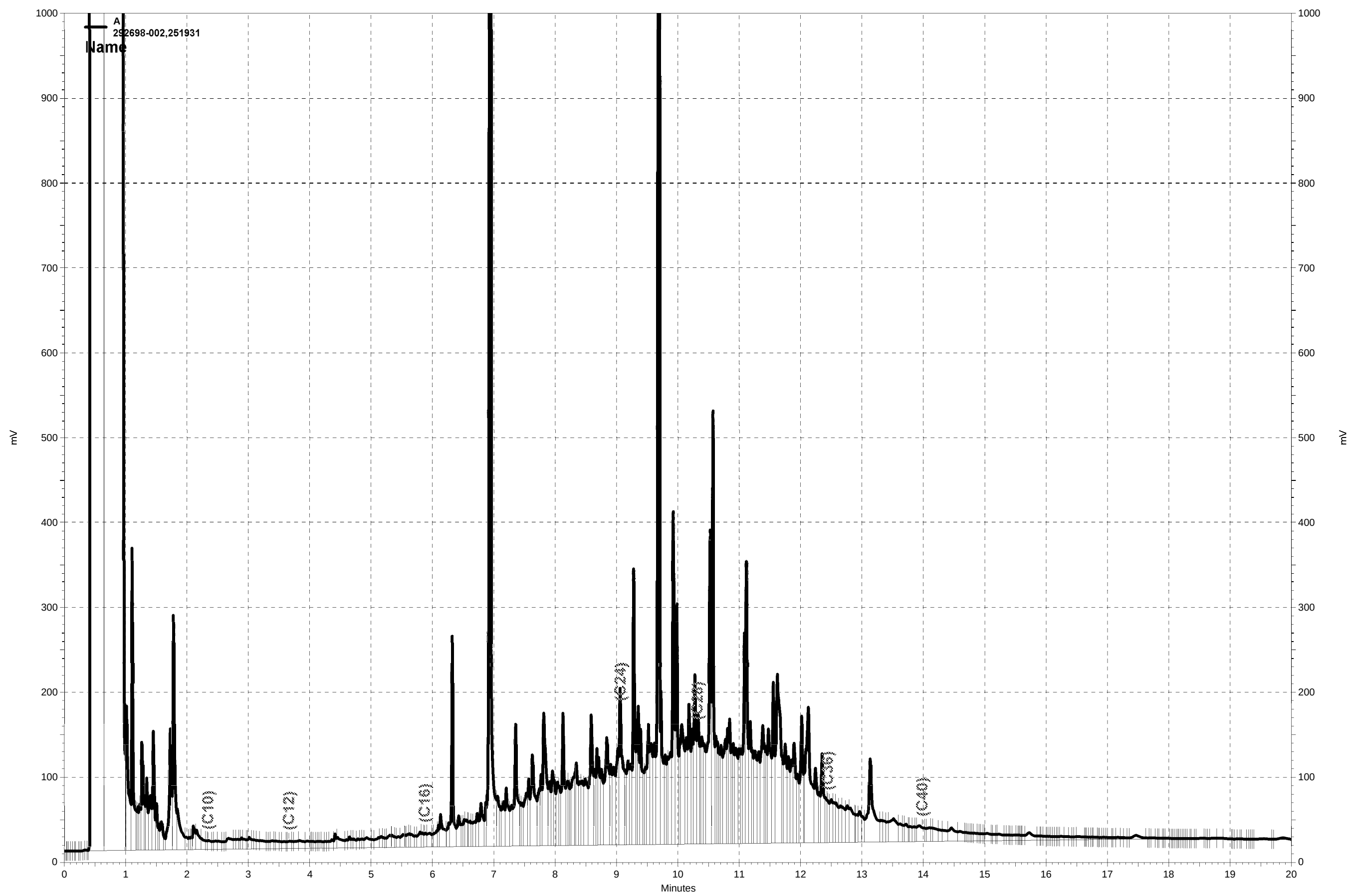

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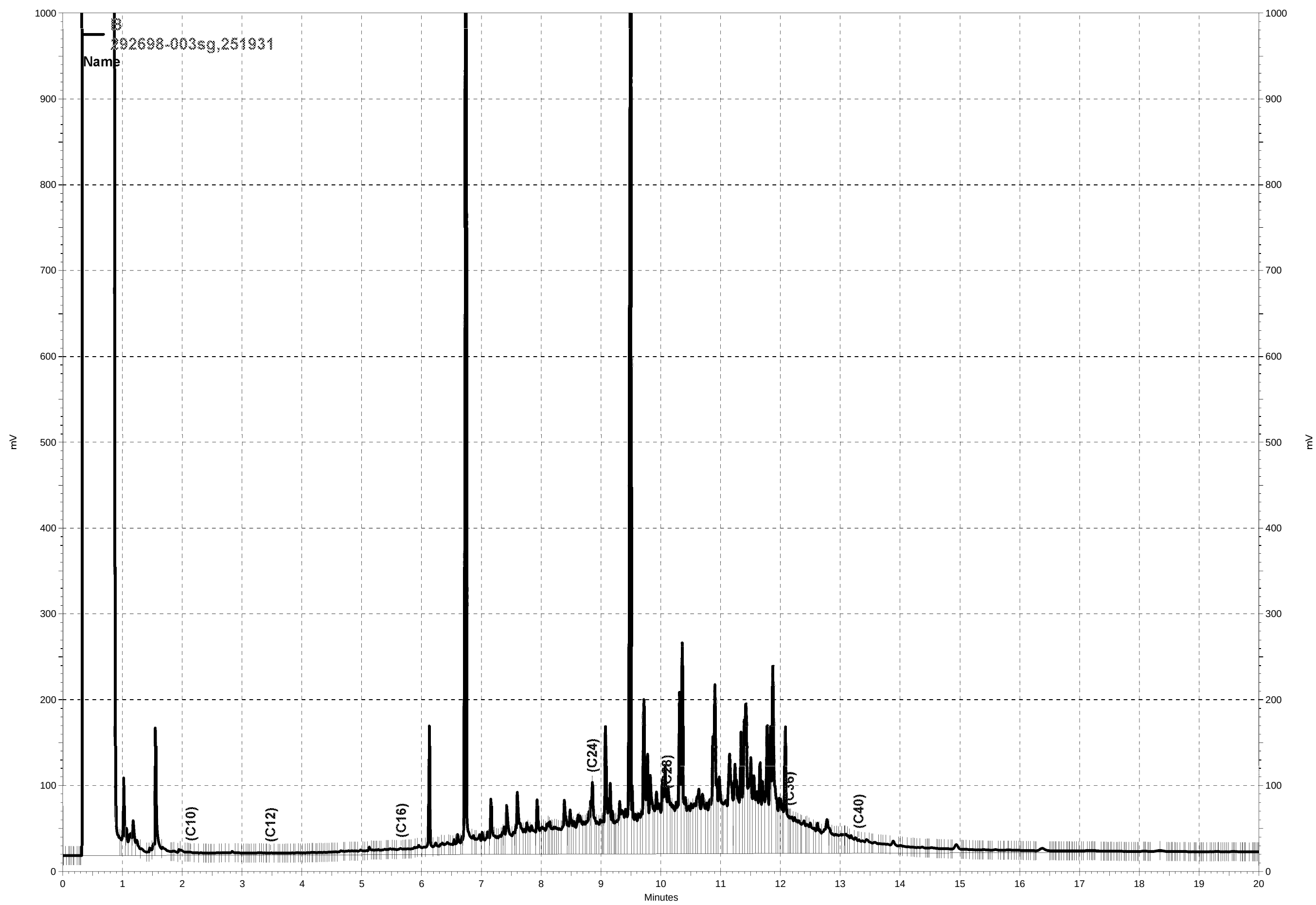

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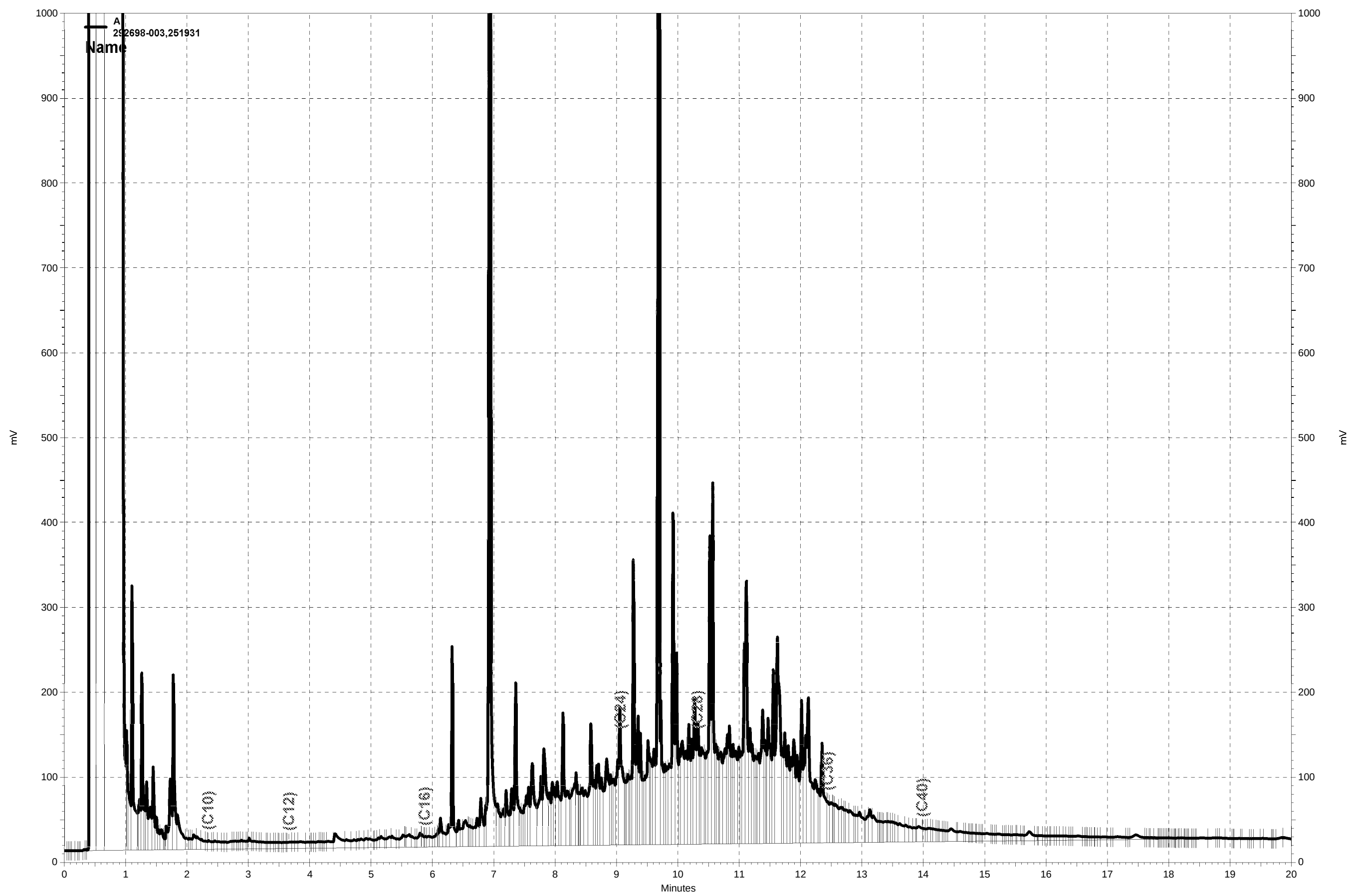

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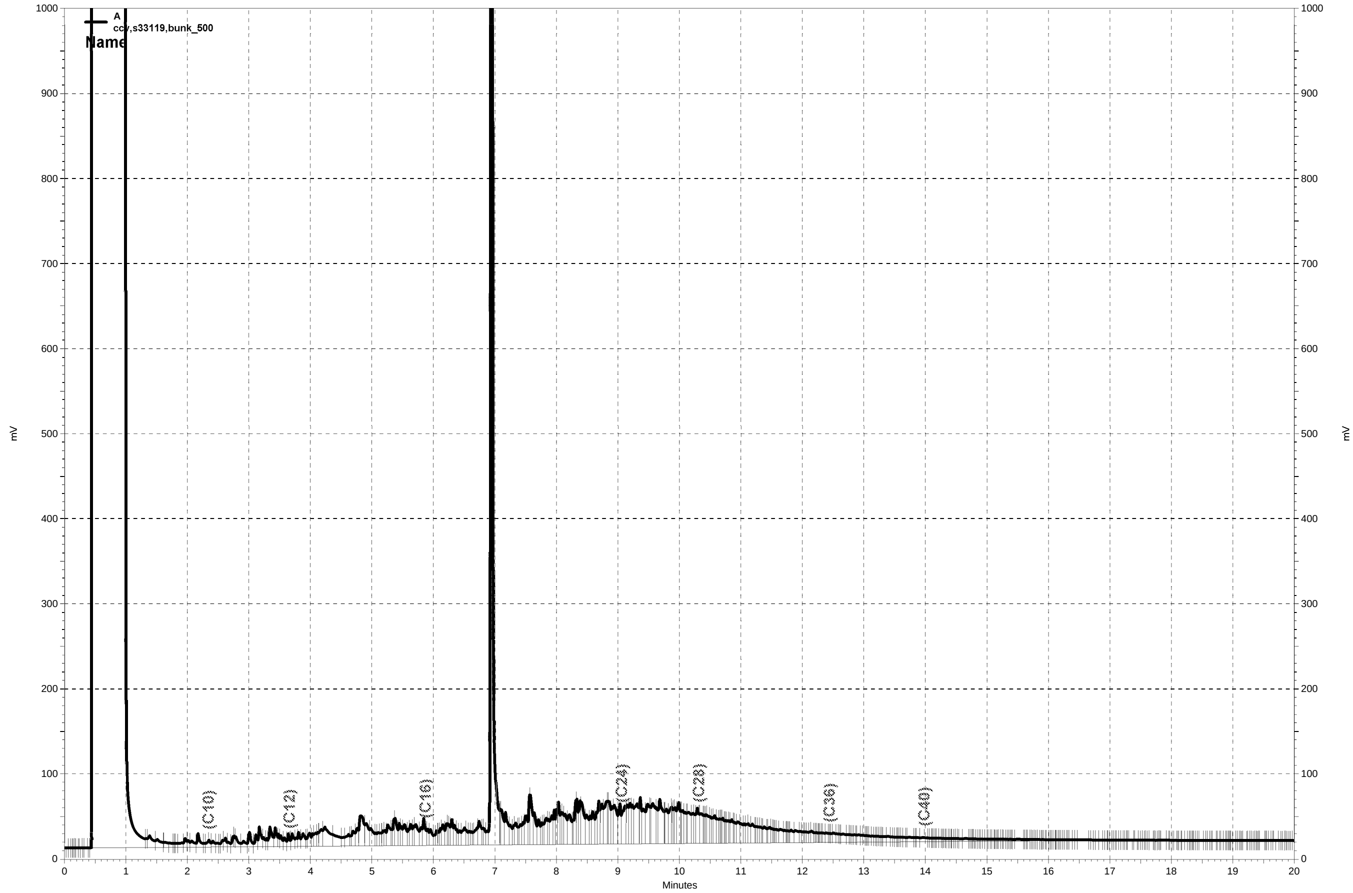

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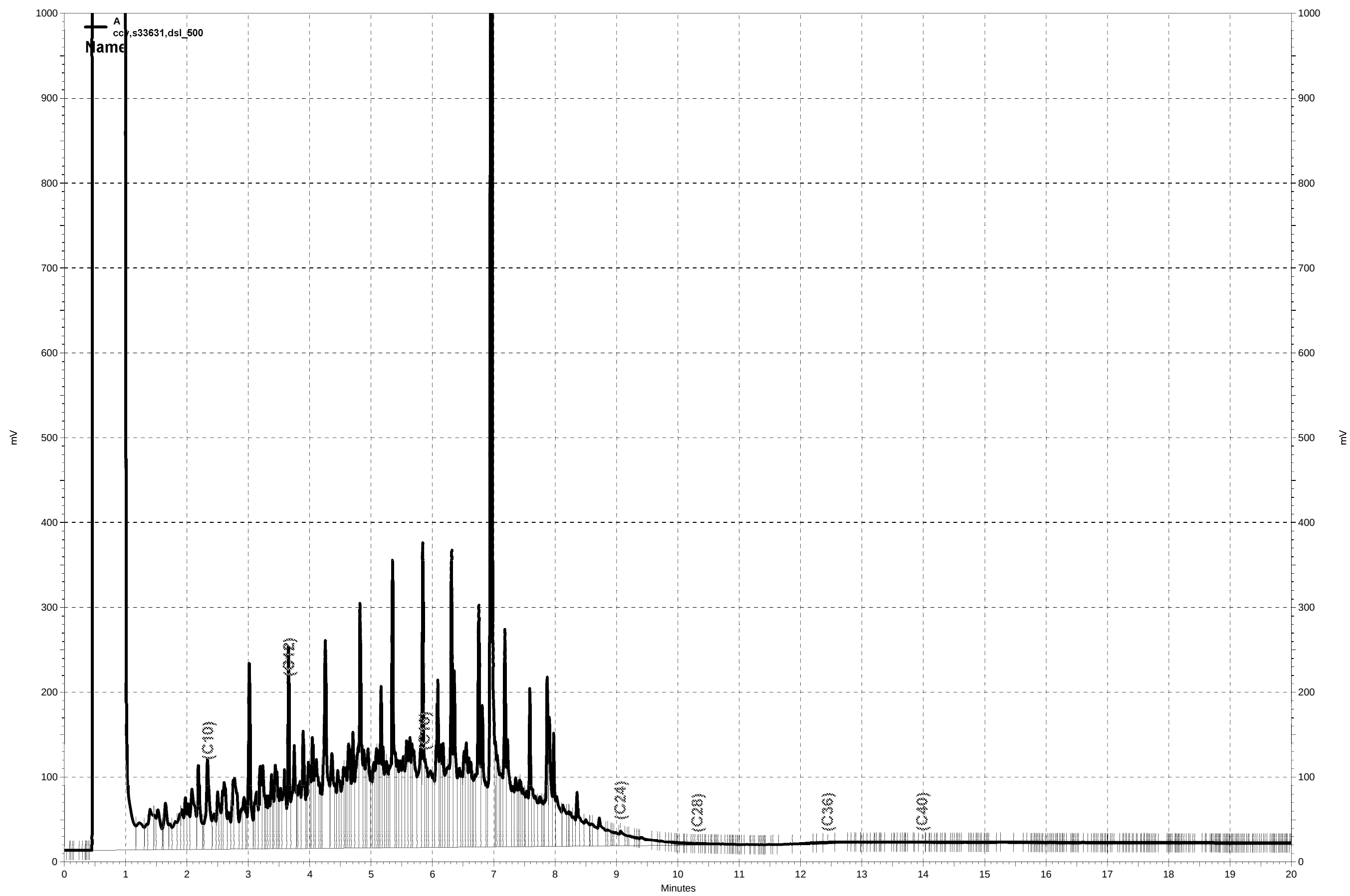

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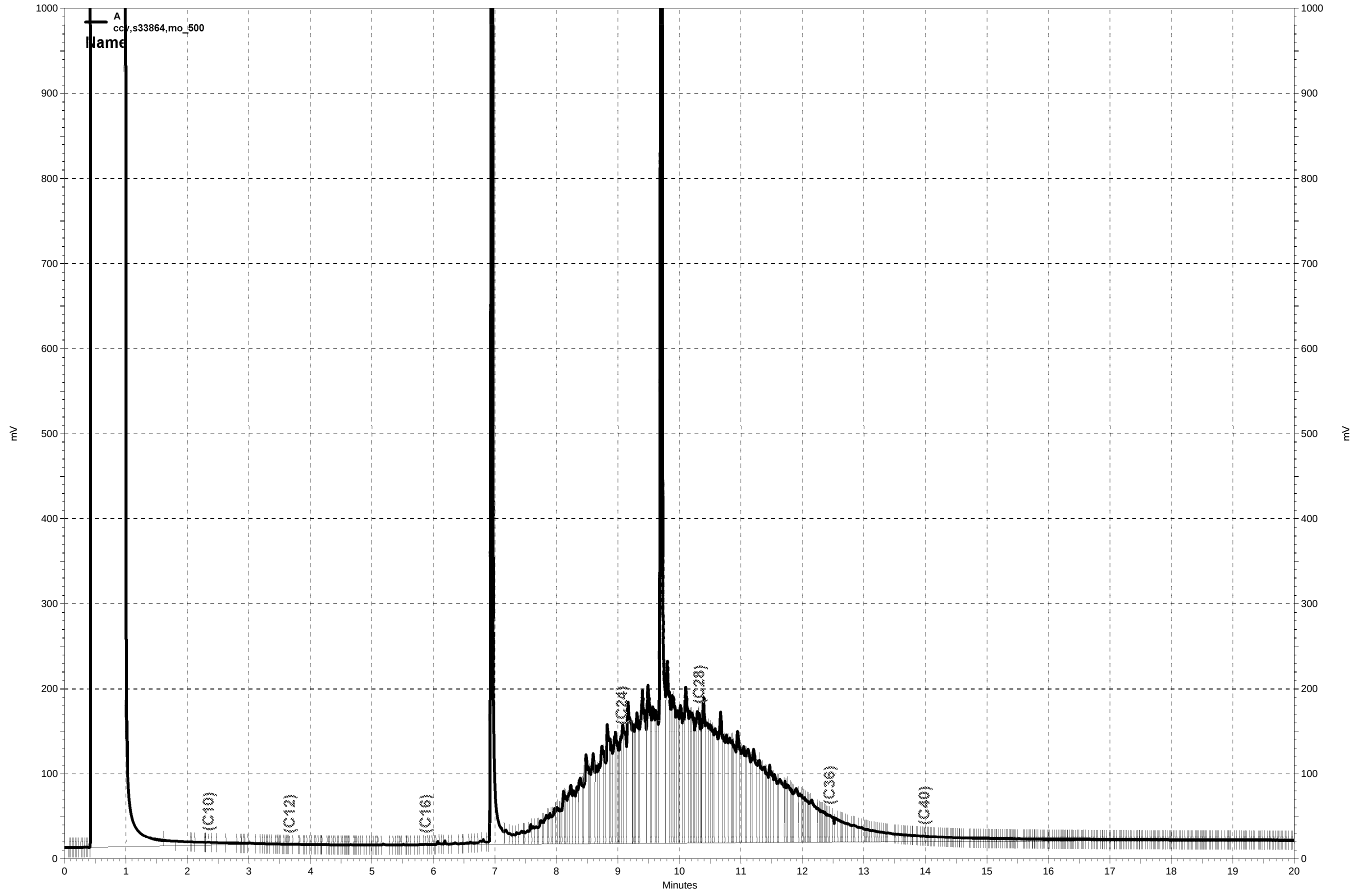

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292701
ANALYTICAL REPORT

SLR International 110 11th Street Oakland, CA 94607	Project : 102.01422.00001 Location : Jean Sweeney Level : II

Sample ID	Lab ID
JS-BS-L1201	292701-001
JS-BS-L10201	292701-002
JS-SW-D03	292701-003
JS-SW-D04	292701-004
JS-SW-B107	292701-005
JS-BS-A109	292701-006
JS-BS-A110	292701-007
JS-BS-A1010	292701-008
JS-BS-B109	292701-009

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 following signature. 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.

Signature: ______________________ Date: 09/25/2017

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**292701**
Client:	**SLR International**
Project:	**102.01422.00001**
Location:	**Jean Sweeney**
Request Date:	**09/21/17**
Samples Received:	**09/21/17**

This data package contains sample and QC results for seven soil samples, requested for the above referenced project on 09/21/17. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
JS-SW-B107 (lab # 292701-005), JS-BS-A109 (lab # 292701-006), and JS-BS-B109 (lab # 292701-009) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

Metals (EPA 6010B):
No analytical problems were encountered.

CHAIN OF COUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 292701

Page 1 of 1

Chain of Custody #

Project No:
Project Name: Jean Sweeney
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH 24hr ☐ Standard

Sampler: Peath Silves
Report To:
Company: SLR
Telephone: 404-435-0758
Email: psilves@slrconsulting.com

Lab No.	Sample ID.	Date Collected	Time Collected	Water	Solid			# of Containers	HCl	H2SO4	HNO3	NaOH	None	Lead (EPA 6010B)	TPO-D, TPH-MO, Bunker C (EPA 8015D)	TPO-D, TPH-MO, Bunker C (by EPA 8015D w/ silica gel cleanup)
	JS-BS-1201	9/21/17	0800		X									X		
	JS-BS-10201		0805											X		
	JS-SW-003		0750												X	X
	JS-SW-004		0755												X	X
	JS-SW-B107		1200												X	X
	JS-BS-A109		1330												X	X
	JS-BS-A110		1445												X	X
	JS-BS-A1010		1446												X	X

Notes: Put JS-BS-L10201 ~~JS-BS-~~ on HOLD and Put JS-BS-A1010 on HOLD

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:			RECEIVED BY:		
Peath Silves	DATE: 9/21	TIME: 1600	[signature]	DATE: 9/21	TIME: 1600
[signature]	DATE: 9/21	TIME: 1638	[signature]	DATE: 9/21	TIME: 16:38
	DATE:	TIME:		DATE:	TIME:

COOLER RECEIPT CHECKLIST

ENTHALPY
Berkeley

Login # 292701 Date Received 09/21/17 Number of coolers 1
Client SLR Project ~~SS05P~~ Jean Sweeney

Date Opened 09/21/17 By (print) EHS (sign) [signature]
Date Logged in ↓ By (print) ↓ (sign) ↓
Date Labelled ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) ________ YES **NO**
   Shipping info ________

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many ________ Name ________ Date ________

2B. Were custody seals intact upon arrival? ________ YES NO **N/A**

3. Were custody papers dry and intact when received? ________ **YES** NO

4. Were custody papers filled out properly (ink, signed, etc)? ________ **YES** NO

5. Is the project identifiable from custody papers? (If so fill out top of form) ________ **YES** NO

6. Indicate the packing in cooler: (if other, describe) ________

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☒ Blue/Gel ☐ None Temp(°C) 0.7

☐ Temperature blank(s) included? ☐ Thermometer# ________ ☒ IR Gun# B

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? ________ YES **NO**
   If YES, what time were they transferred to freezer? ________

9. Did all bottles arrive unbroken/unopened? ________ **YES** NO

10. Are there any missing / extra samples? ________ **YES** NO

11. Are samples in the appropriate containers for indicated tests? ________ **YES** NO

12. Are sample labels present, in good condition and complete? ________ **YES** NO

13. Do the sample labels agree with custody papers? ________ **YES** NO

14. Was sufficient amount of sample sent for tests requested? ________ **YES** NO

15. Are the samples appropriately preserved? ________ YES NO **N/A**

16. Did you check preservatives for all bottles for each sample? ________ YES NO **N/A**

17. Did you document your preservative check? (pH strip lot# ________) YES NO **N/A**

18. Did you change the hold time in LIMS for unpreserved VOAs? ________ YES NO **N/A**

19. Did you change the hold time in LIMS for preserved terracores? ________ YES NO **N/A**

20. Are bubbles > 6mm absent in VOA samples? ________ YES NO **N/A**

21. Was the client contacted concerning this sample delivery? ________ YES **NO**
   If YES, Who was called? ________ By ________ Date: ________

COMMENTS (10) Sample 7 was received but not listed on COC

ENTHALPY ANALYTICAL

Detections Summary for 292701

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : 102.01422.00001
Location : Jean Sweeney

Client Sample ID : JS-BS-L1201 Laboratory Sample ID : 292701-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	21		0.99	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : JS-SW-D03 Laboratory Sample ID : 292701-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	19	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	11	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	50		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	50		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	130		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	120		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-D04 Laboratory Sample ID : 292701-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Bunker C C12-C40	7.7		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	5.8		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-B107 Laboratory Sample ID : 292701-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	43	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Diesel C10-C24	35	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	110		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	130		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	290		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	310		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-A109 Laboratory Sample ID : 292701-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	43	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Diesel C10-C24	33	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	86		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	88		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	250		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	240		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

ENTHALPY ANALYTICAL

Client Sample ID : JS-BS-A110 Laboratory Sample ID : 292701-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	26	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	12	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	64		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	56		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	170		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	130		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-B109 Laboratory Sample ID : 292701-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.2	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Diesel C10-C24	6.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	28		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	33		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	66		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	74		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292701	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/21/17
Units:	mg/Kg	Received:	09/21/17
Basis:	as received	Prepared:	09/22/17
Batch#:	251931		

Field ID: JS-SW-D03 Diln Fac: 1.000
Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 292701-003

Analyte	Result	RL	Analyzed
Diesel C10-C24	19 Y	1.0	09/24/17
Diesel C10-C24 (SGCU)	11 Y	1.0	09/23/17
Motor Oil C24-C36	50	5.0	09/24/17
Motor Oil C24-C36 (SGCU)	50	5.0	09/23/17
Bunker C C12-C40	130	5.0	09/24/17
Bunker C C12-C40 (SGCU)	120	5.0	09/23/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	92	55-133	09/24/17
o-Terphenyl (SGCU)	78	55-133	09/23/17

Field ID: JS-SW-D04 Diln Fac: 1.000
Type: SAMPLE Cleanup Method: EPA 3630C
Lab ID: 292701-004

Analyte	Result	RL	Analyzed
Diesel C10-C24	ND	1.0	09/24/17
Diesel C10-C24 (SGCU)	ND	1.0	09/23/17
Motor Oil C24-C36	ND	5.0	09/24/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/23/17
Bunker C C12-C40	7.7	5.0	09/24/17
Bunker C C12-C40 (SGCU)	5.8	5.0	09/23/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	106	55-133	09/24/17
o-Terphenyl (SGCU)	93	55-133	09/23/17

Field ID: JS-SW-B107 Lab ID: 292701-005
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL	Diln Fac	Analyzed
Diesel C10-C24	43 Y	3.0	3.000	09/24/17
Diesel C10-C24 (SGCU)	35 Y	1.0	1.000	09/23/17
Motor Oil C24-C36	110	15	3.000	09/24/17
Motor Oil C24-C36 (SGCU)	130	5.0	1.000	09/23/17
Bunker C C12-C40	290	15	3.000	09/24/17
Bunker C C12-C40 (SGCU)	310	5.0	1.000	09/23/17

Surrogate	%REC	Limits	Diln Fac	Analyzed
o-Terphenyl	78	55-133	3.000	09/24/17
o-Terphenyl (SGCU)	75	55-133	1.000	09/23/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292701	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/21/17
Units:	mg/Kg	Received:	09/21/17
Basis:	as received	Prepared:	09/22/17
Batch#:	251931		

Field ID: JS-BS-A109
Type: SAMPLE
Lab ID: 292701-006
Cleanup Method: EPA 3630C

Analyte	Result	RL	Diln Fac	Analyzed
Diesel C10-C24	43 Y	3.0	3.000	09/24/17
Diesel C10-C24 (SGCU)	33 Y	1.0	1.000	09/23/17
Motor Oil C24-C36	86	15	3.000	09/24/17
Motor Oil C24-C36 (SGCU)	88	5.0	1.000	09/23/17
Bunker C C12-C40	250	15	3.000	09/24/17
Bunker C C12-C40 (SGCU)	240	5.0	1.000	09/23/17

Surrogate	%REC	Limits	Diln Fac	Analyzed
o-Terphenyl	88	55-133	3.000	09/24/17
o-Terphenyl (SGCU)	72	55-133	1.000	09/23/17

Field ID: JS-BS-A110
Type: SAMPLE
Lab ID: 292701-007
Diln Fac: 1.000
Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	26 Y	1.0	09/24/17
Diesel C10-C24 (SGCU)	12 Y	1.0	09/23/17
Motor Oil C24-C36	64	5.0	09/24/17
Motor Oil C24-C36 (SGCU)	56	5.0	09/23/17
Bunker C C12-C40	170	5.0	09/24/17
Bunker C C12-C40 (SGCU)	130	5.0	09/23/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	84	55-133	09/24/17
o-Terphenyl (SGCU)	67	55-133	09/23/17

Field ID: JS-BS-B109
Type: SAMPLE
Lab ID: 292701-009
Cleanup Method: EPA 3630C

Analyte	Result	RL	Diln Fac	Analyzed
Diesel C10-C24	5.2 Y	3.0	3.000	09/24/17
Diesel C10-C24 (SGCU)	6.3 Y	1.0	1.000	09/23/17
Motor Oil C24-C36	28	15	3.000	09/24/17
Motor Oil C24-C36 (SGCU)	33	5.0	1.000	09/23/17
Bunker C C12-C40	66	15	3.000	09/24/17
Bunker C C12-C40 (SGCU)	74	5.0	1.000	09/23/17

Surrogate	%REC	Limits	Diln Fac	Analyzed
o-Terphenyl	83	55-133	3.000	09/24/17
o-Terphenyl (SGCU)	74	55-133	1.000	09/23/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292701	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/21/17
Units:	mg/Kg	Received:	09/21/17
Basis:	as received	Prepared:	09/22/17
Batch#:	251931		

Type:	BLANK	Analyzed:	09/23/17
Lab ID:	QC902001	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl (SGCU)	99	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292701	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC902002	Batch#:	251931
Matrix:	Soil	Prepared:	09/22/17
Units:	mg/Kg	Analyzed:	09/23/17

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	53.14	106	51-137
Diesel C10-C24 (SGCU)	50.00	41.82	84	51-137

Surrogate	%REC	Limits
o-Terphenyl	116	55-133
o-Terphenyl (SGCU)	96	55-133

SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292701	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	251931
MSS Lab ID:	292695-001	Sampled:	09/21/17
Matrix:	Soil	Received:	09/21/17
Units:	mg/Kg	Prepared:	09/22/17
Basis:	as received	Analyzed:	09/23/17
Diln Fac:	2.000		

Type: MS Lab ID: QC902003

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	21.11	49.73	69.87	98	36-143

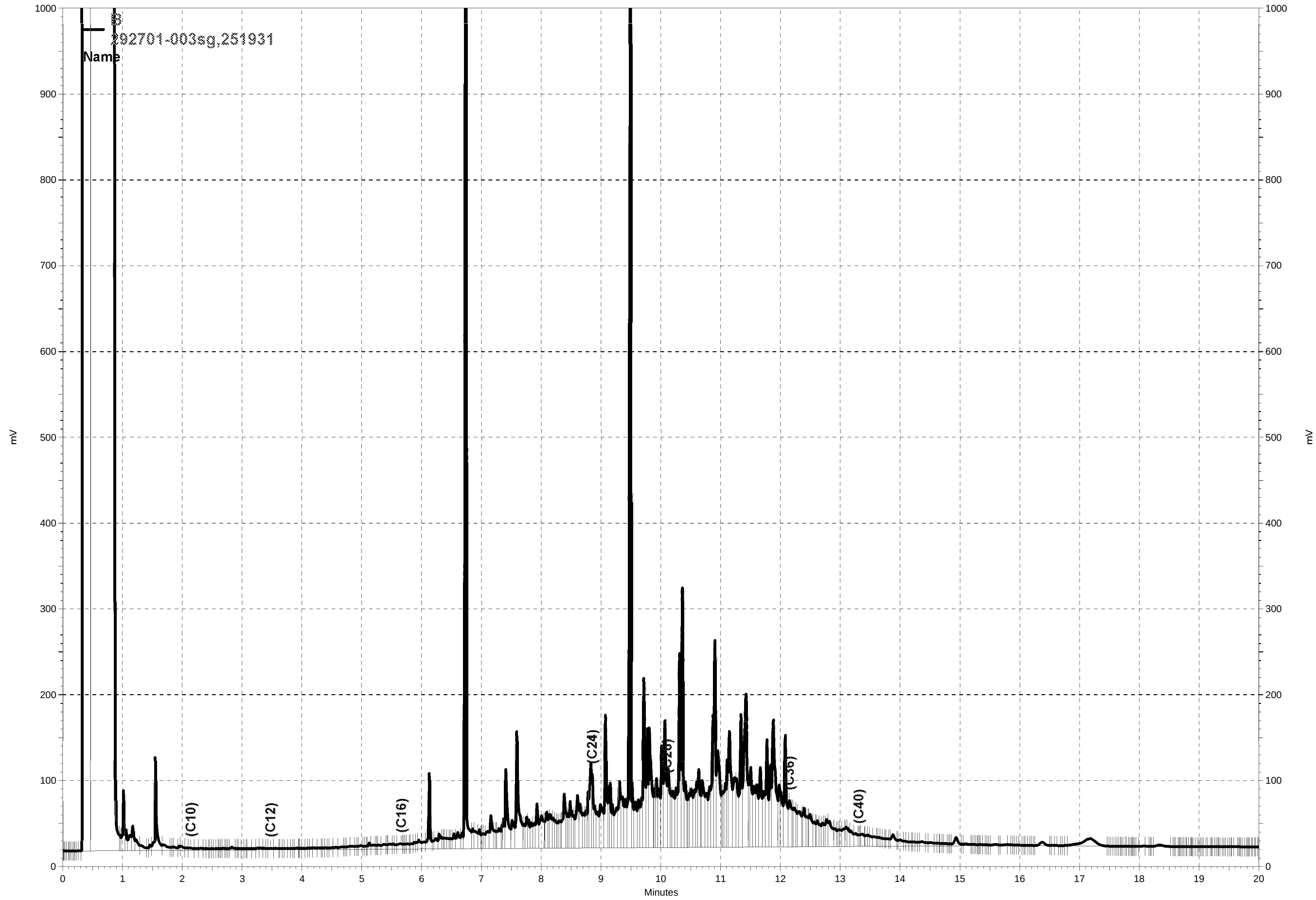
Surrogate	%REC	Limits
o-Terphenyl	109	55-133

Type: MSD Lab ID: QC902004

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.03	67.98	94	36-143	3	55

Surrogate	%REC	Limits
o-Terphenyl	105	55-133

RPD= Relative Percent Difference



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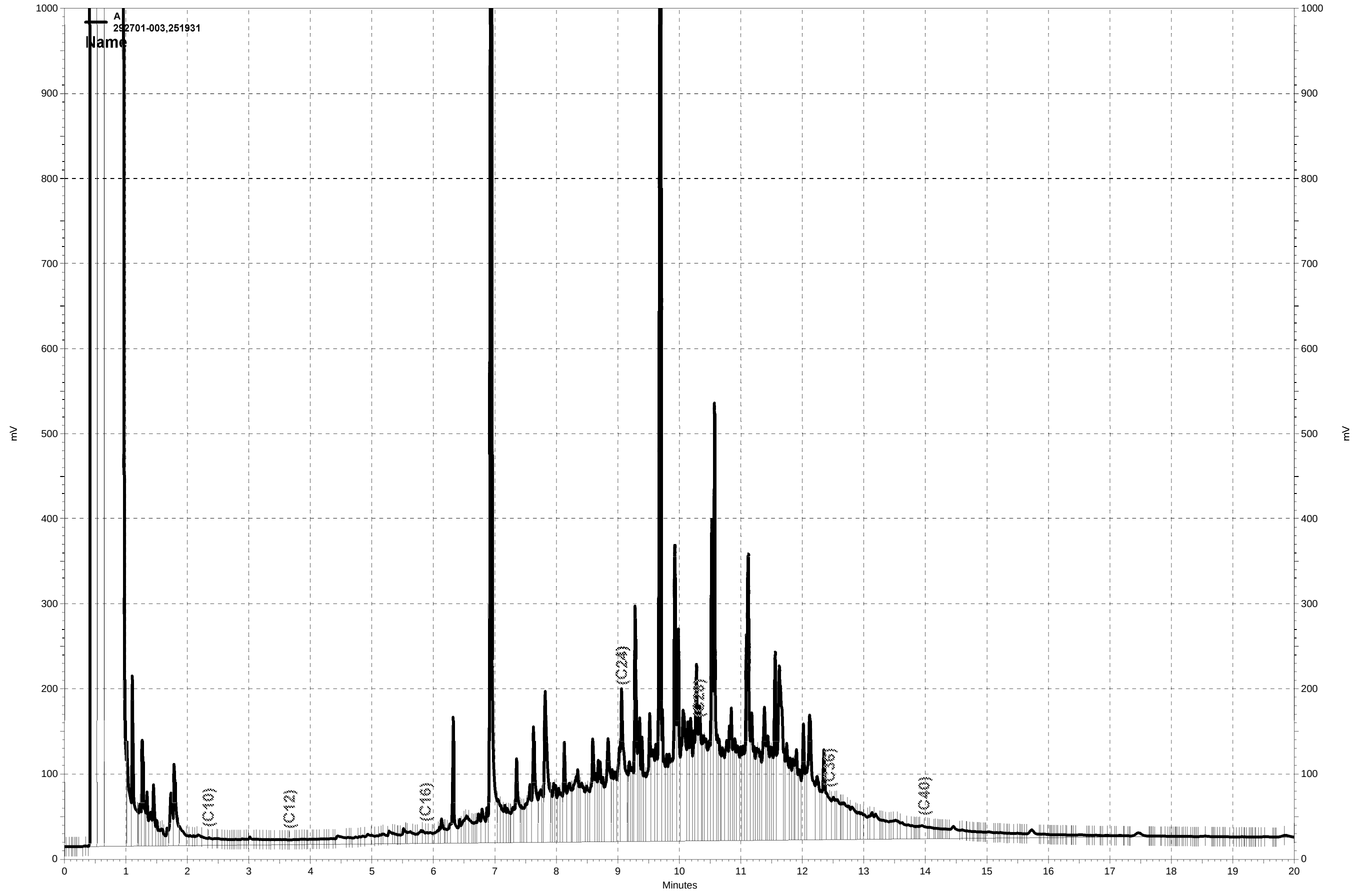

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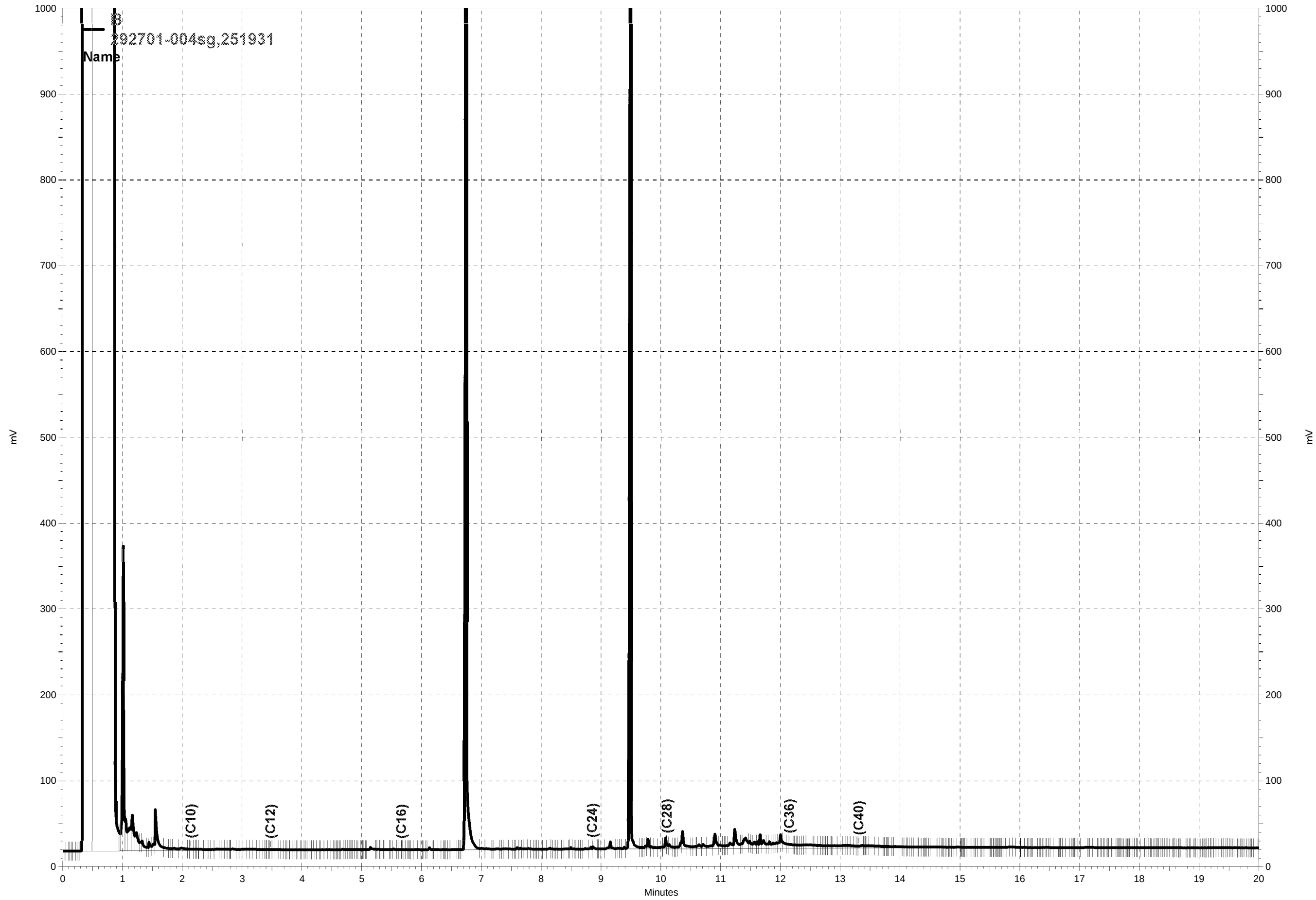

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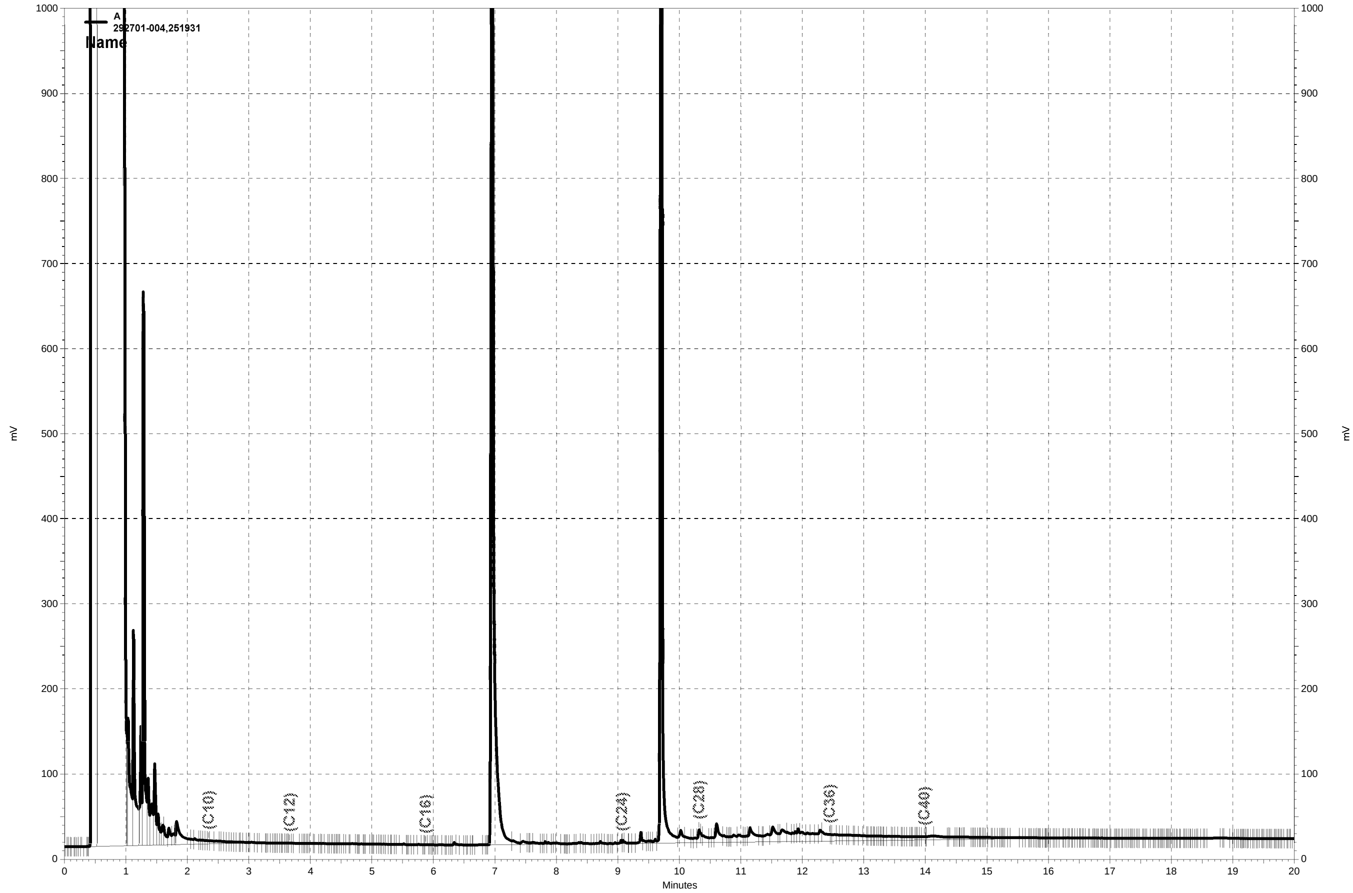

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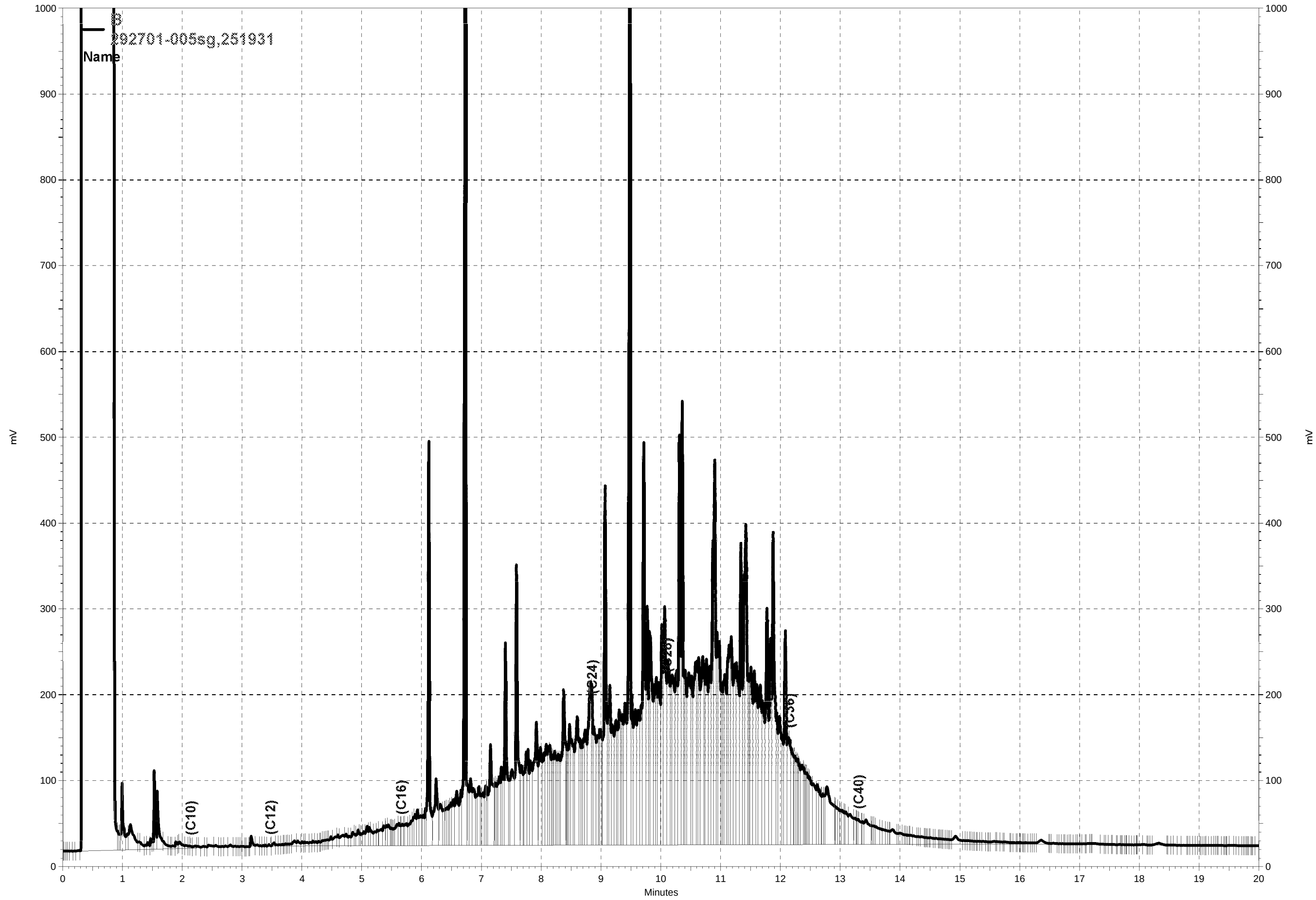

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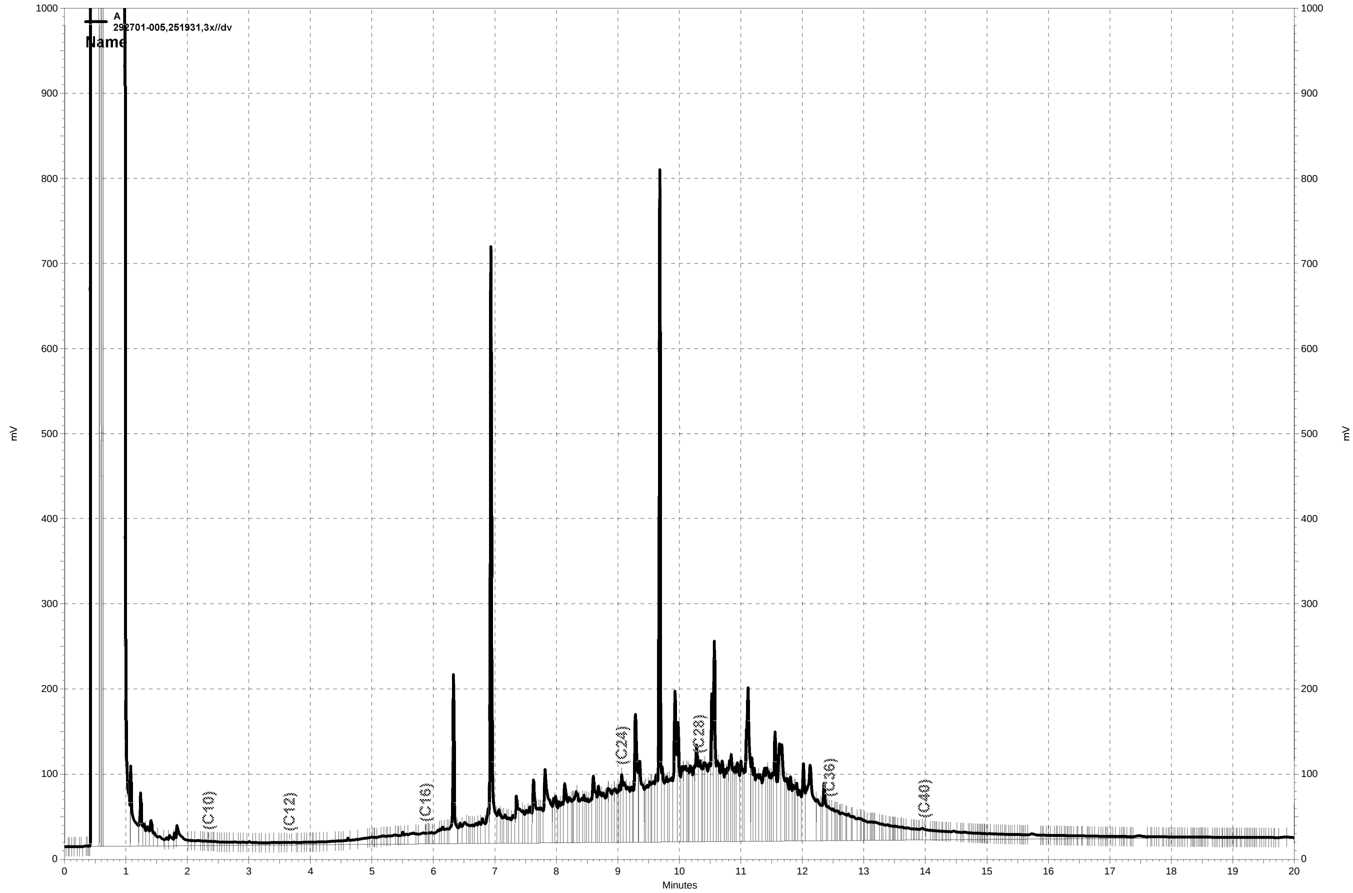

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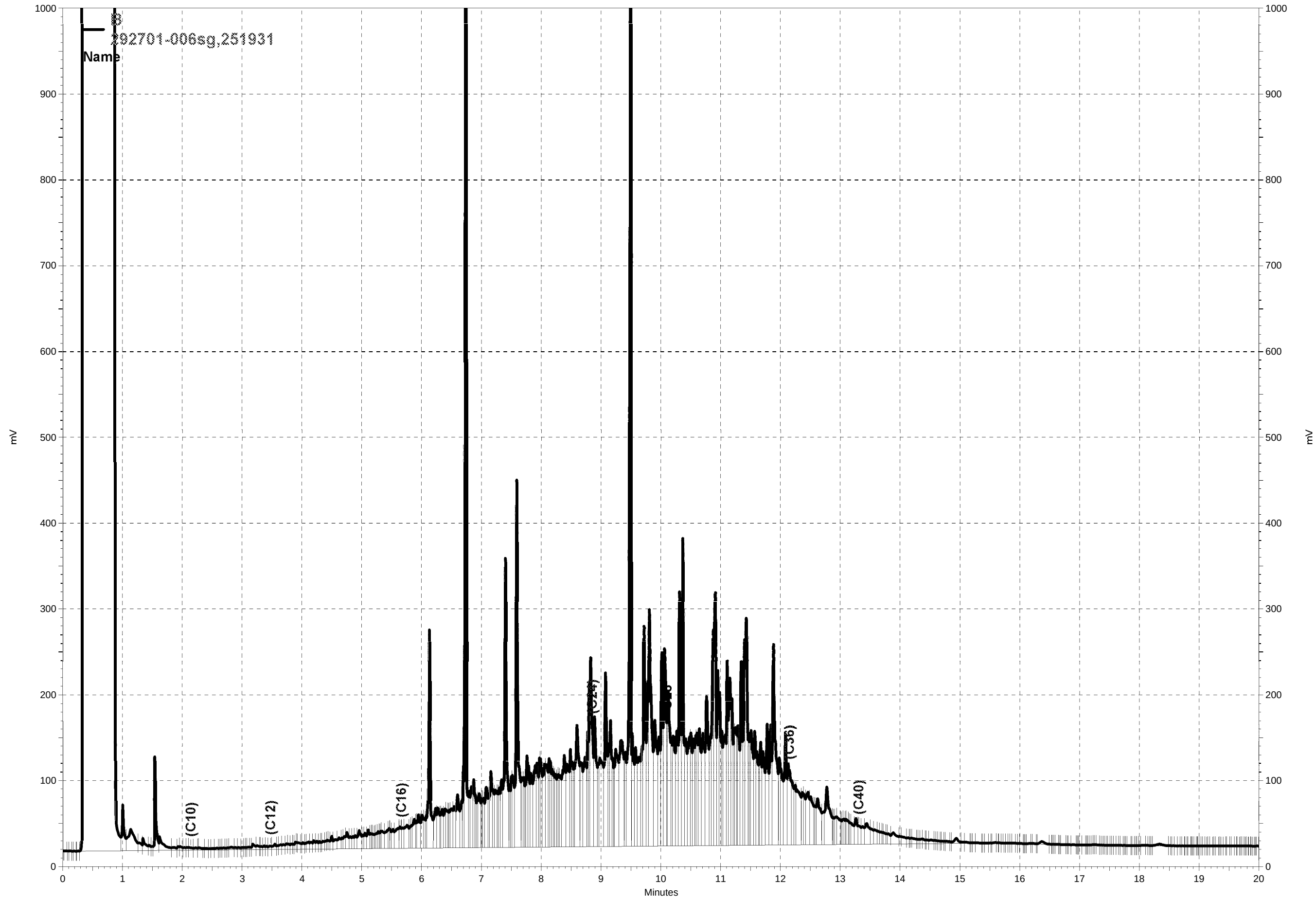

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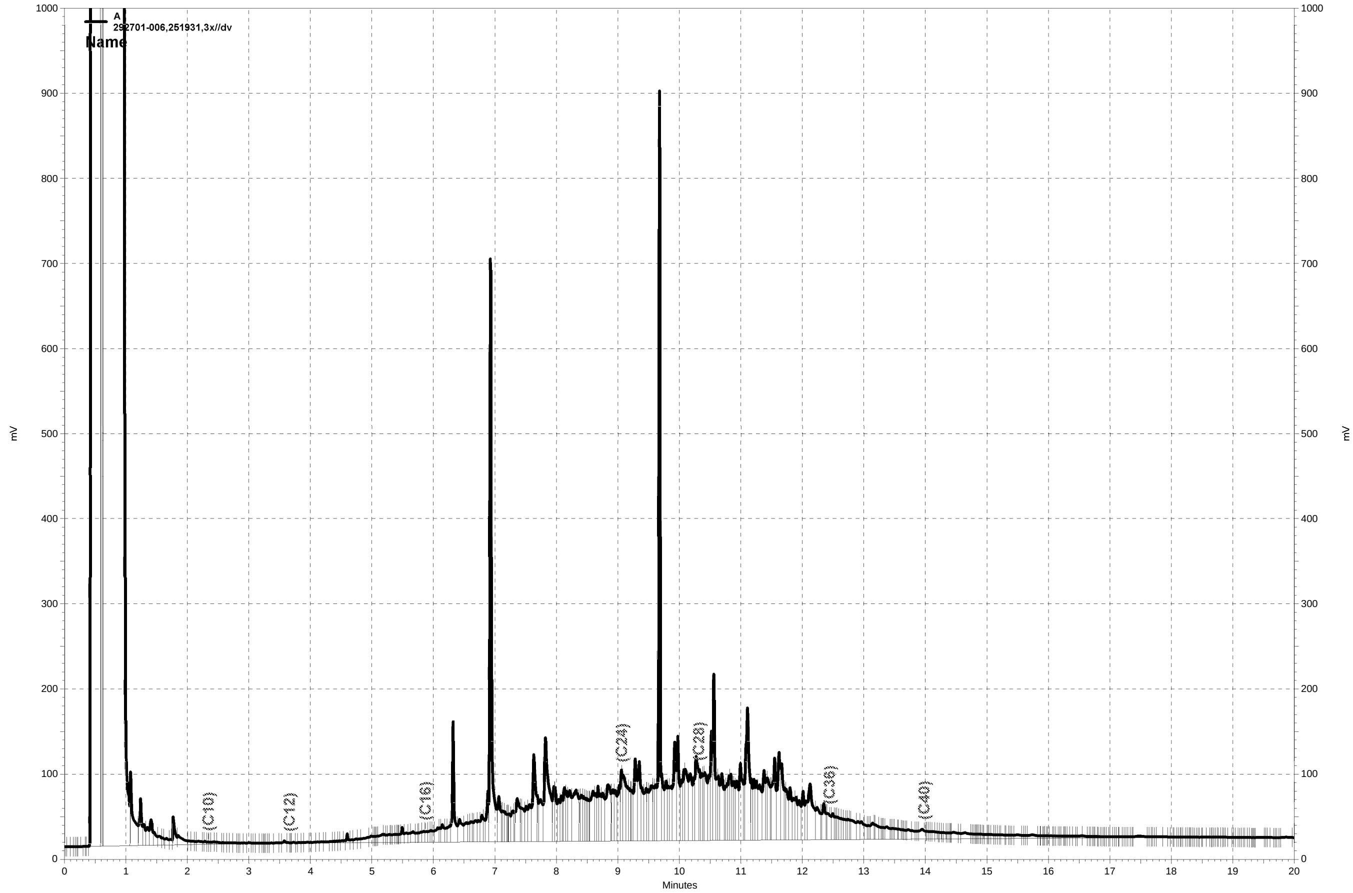

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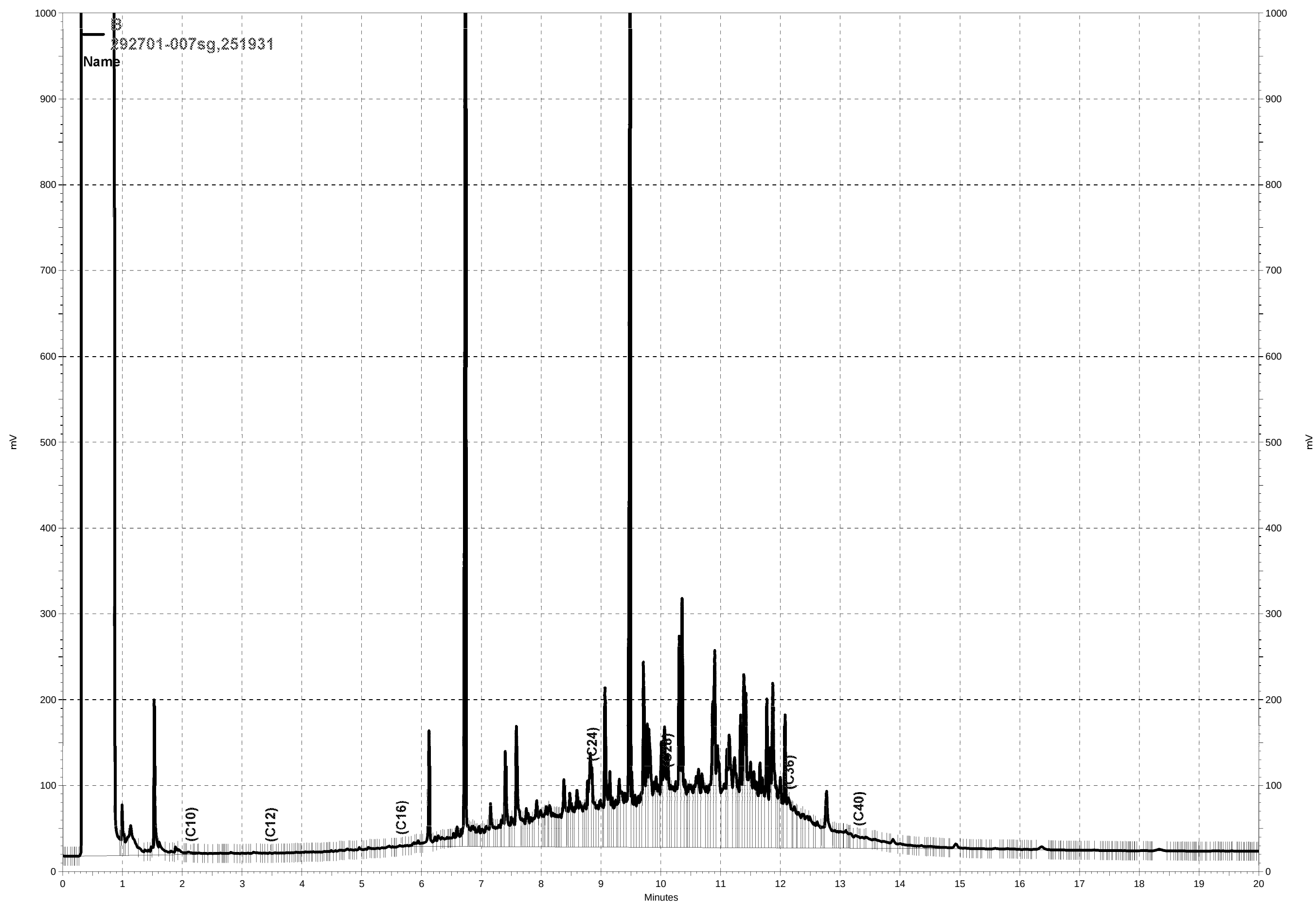

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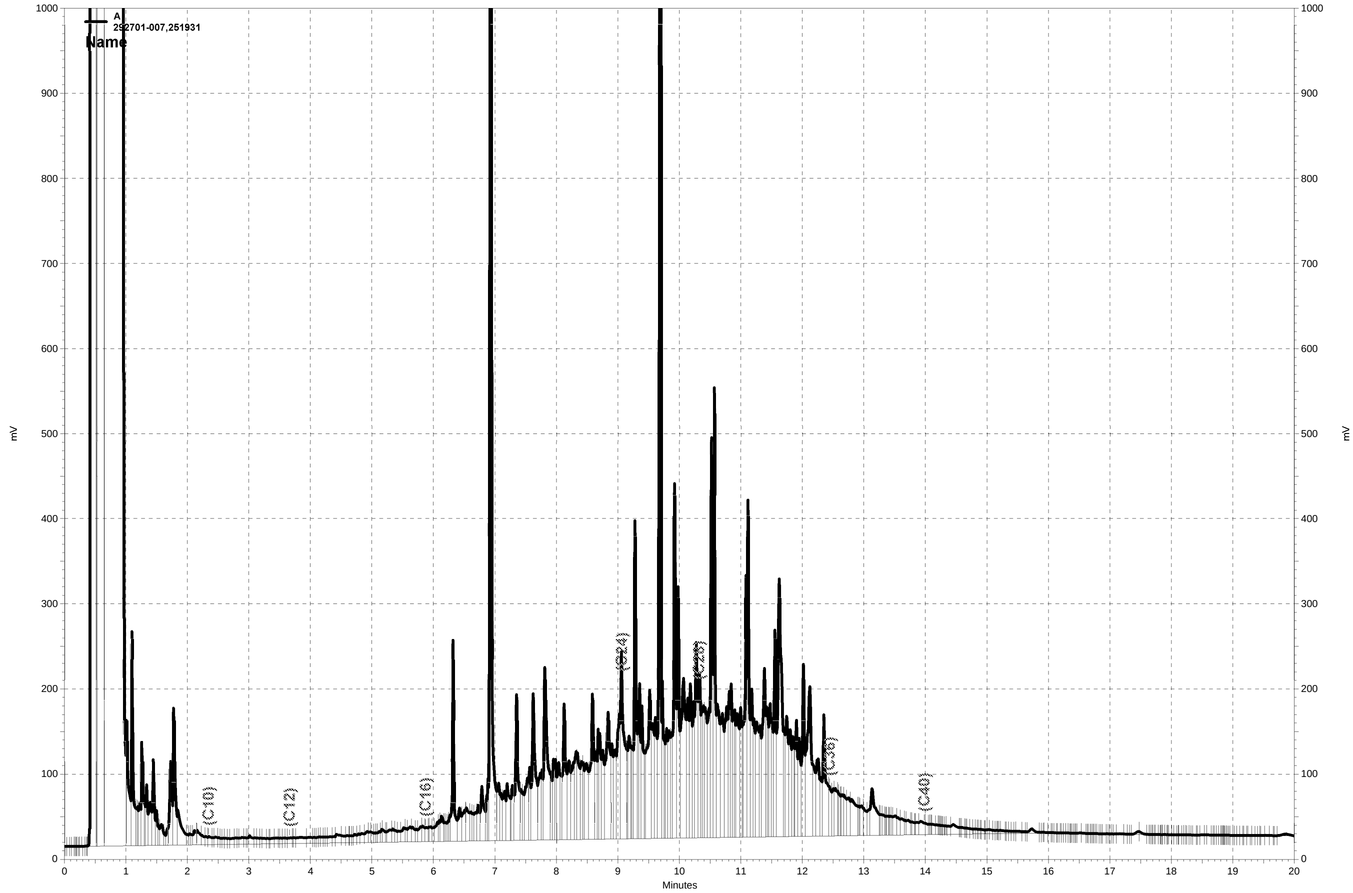

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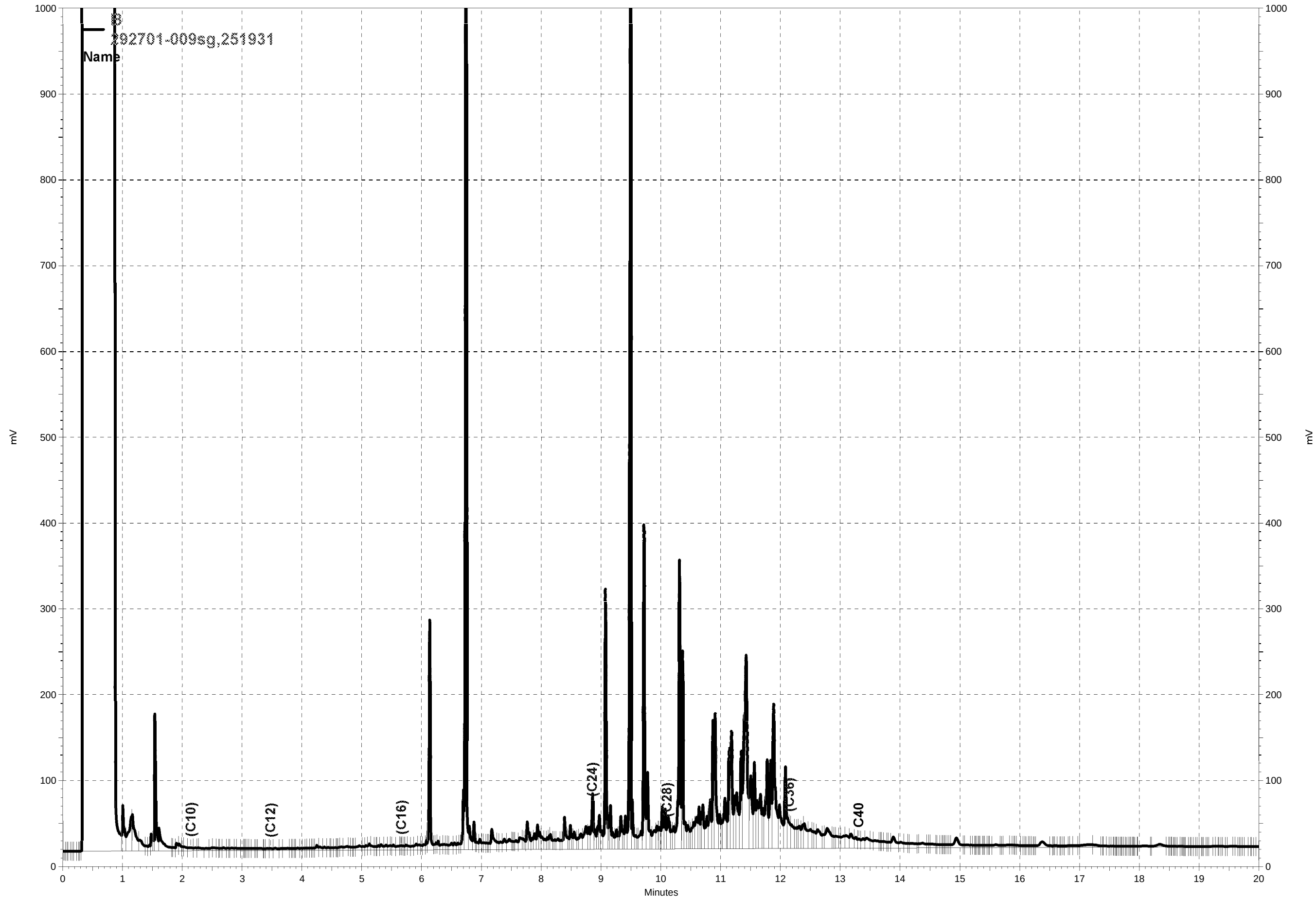

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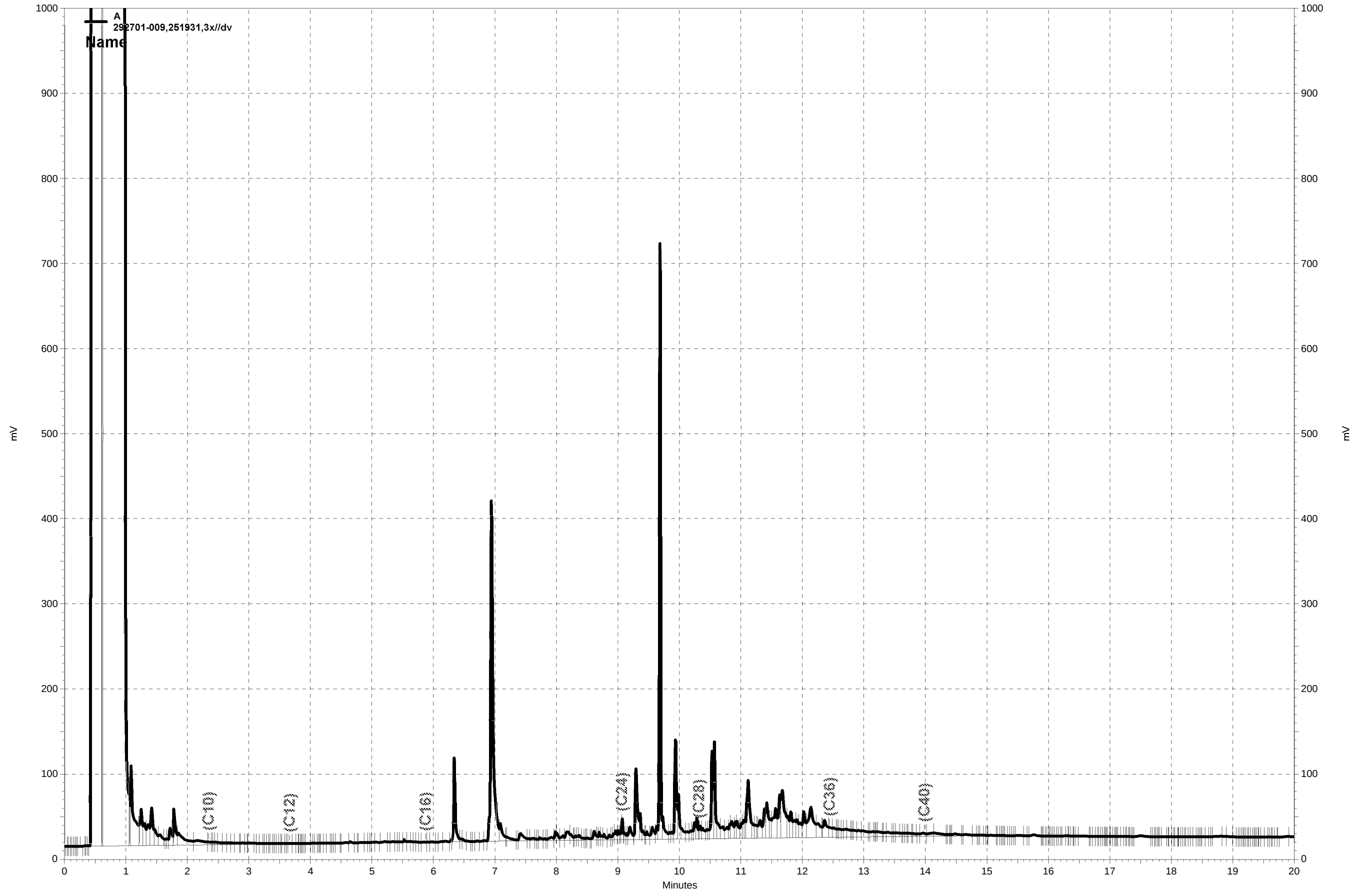

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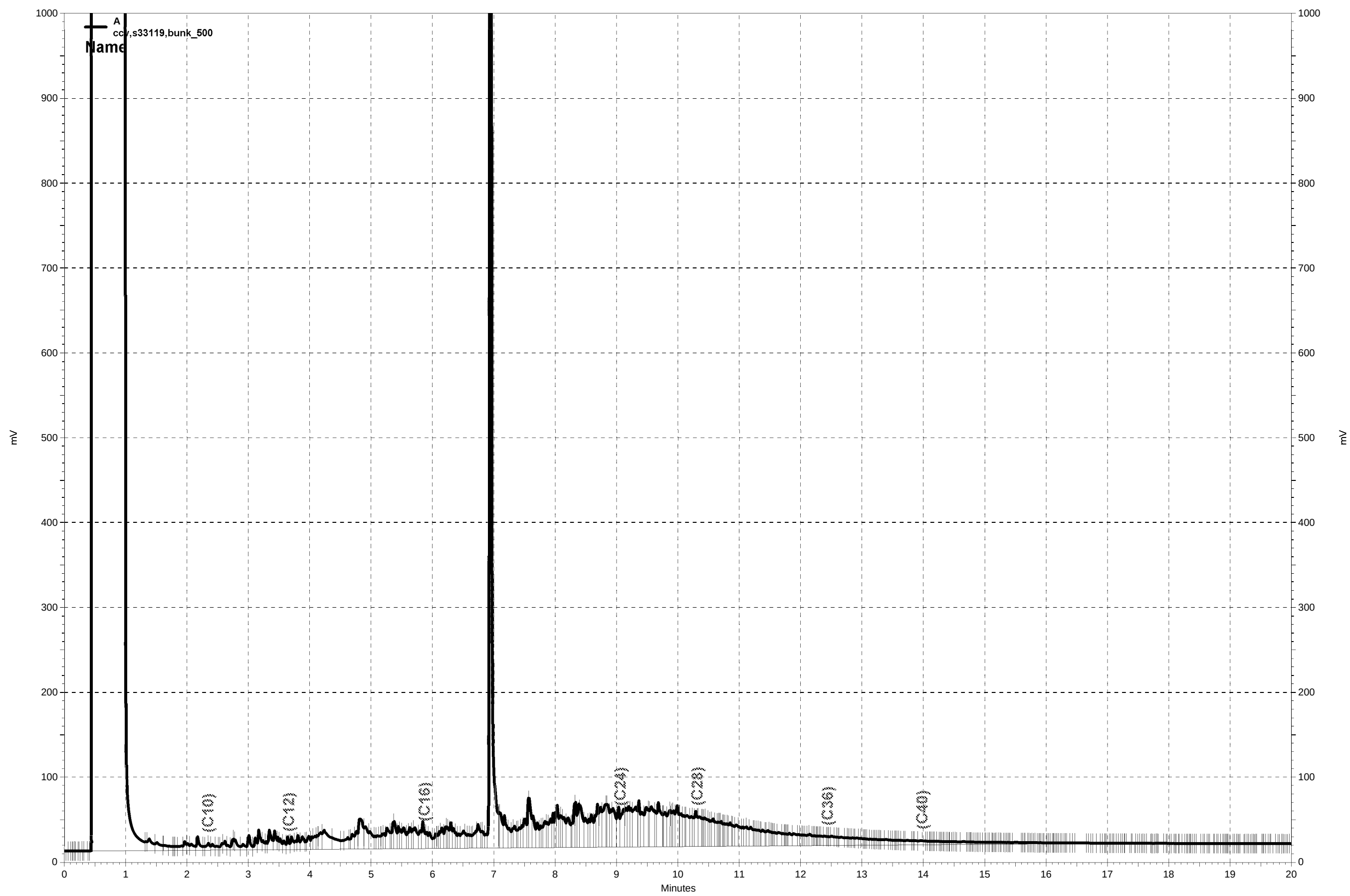

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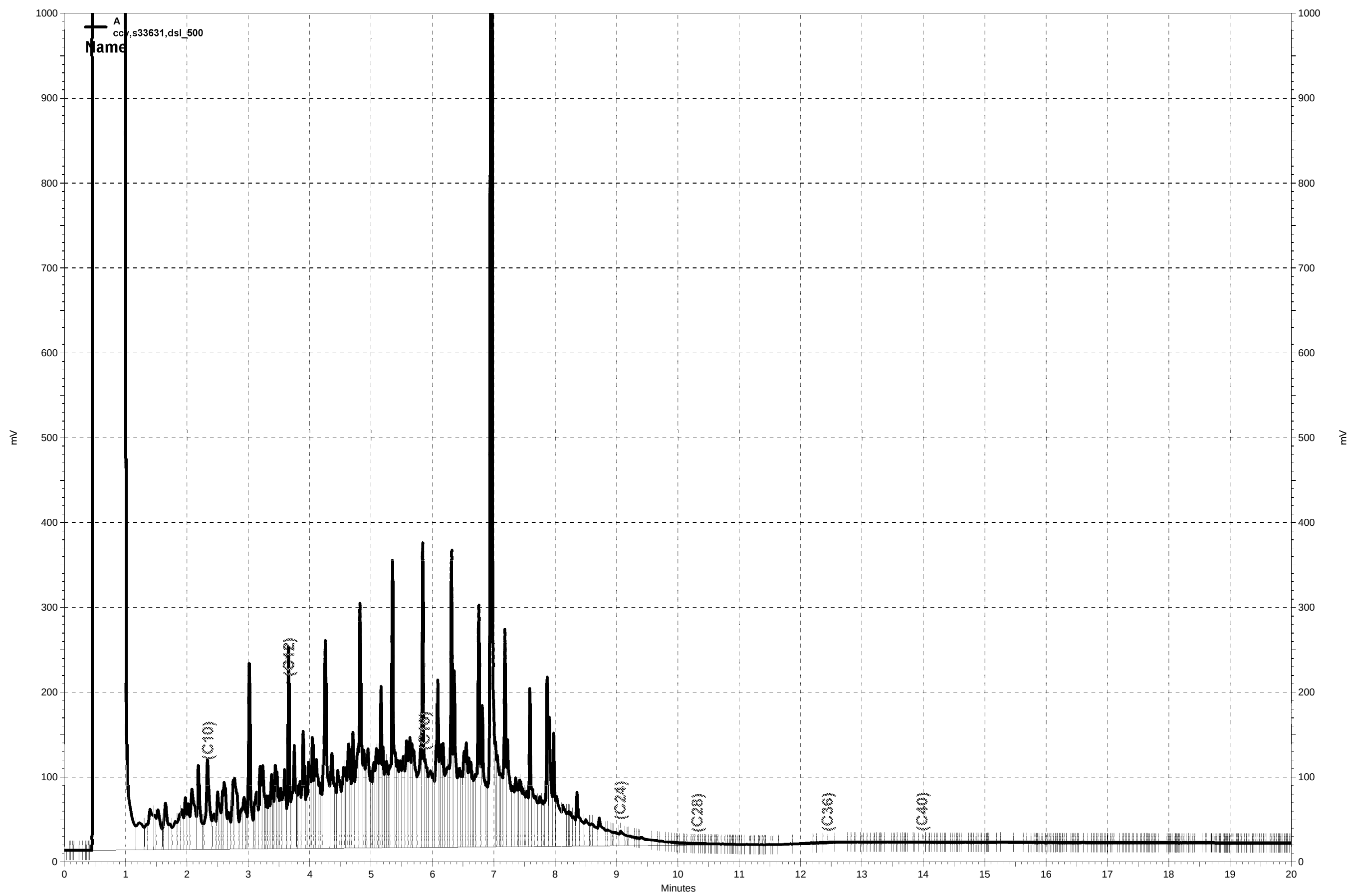

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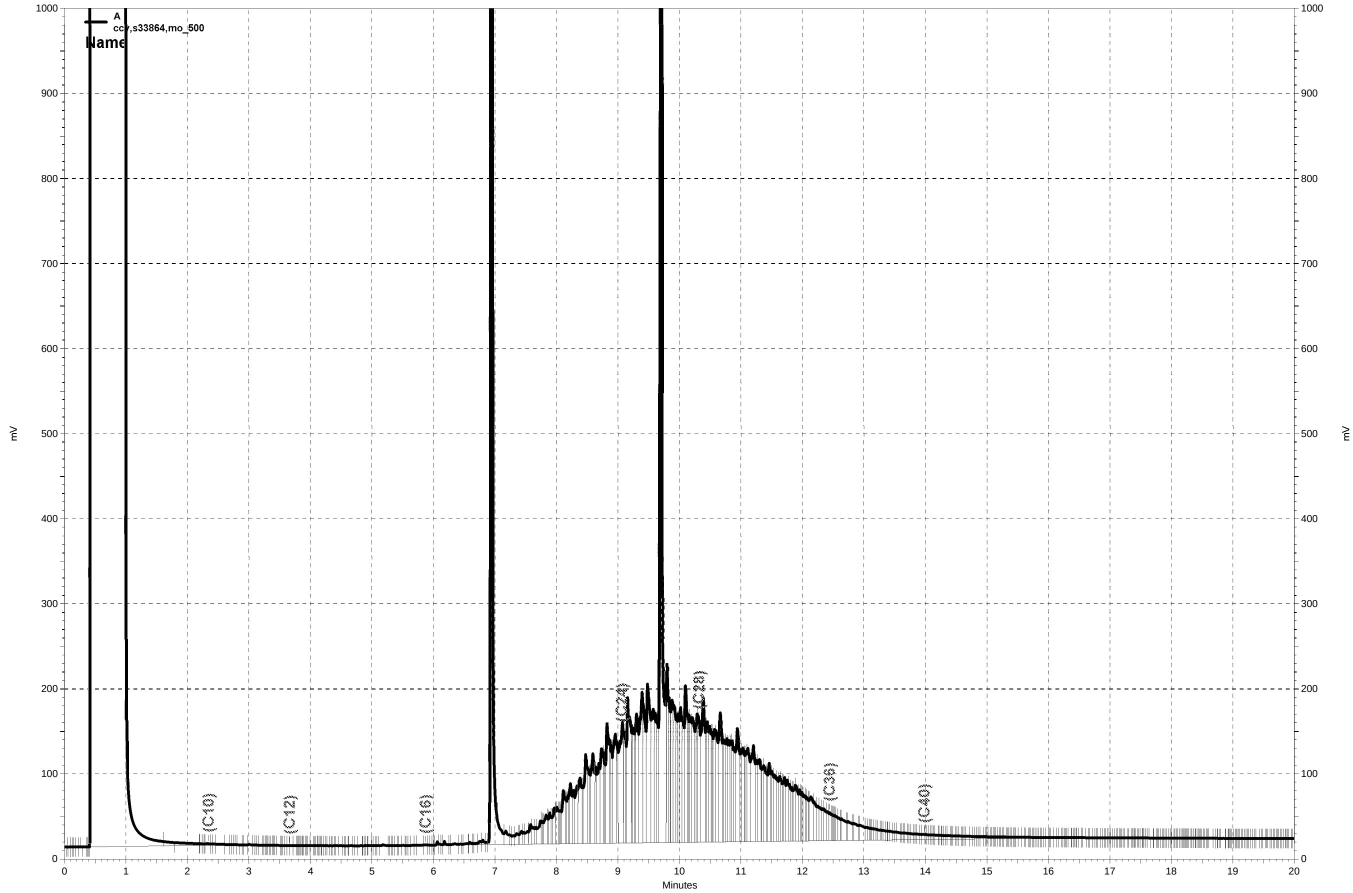

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ENTHALPY ANALYTICAL

Lead

Lab #:	292701	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3050B
Project#:	102.01422.00001	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Field ID:	JS-BS-L1201	Batch#:	251932
Matrix:	Soil	Sampled:	09/21/17
Units:	mg/Kg	Received:	09/21/17
Basis:	as received	Prepared:	09/22/17

Type	Lab ID	Result	RL	Analyzed
SAMPLE	292701-001	21	0.99	09/25/17
BLANK	QC902005	ND	1.0	09/23/17

ND= Not Detected
RL= Reporting Limit

ENTHALPY ANALYTICAL

Batch QC Report

Lead

Lab #:	292701	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3050B
Project#:	102.01422.00001	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	251932
MSS Lab ID:	292680-001	Sampled:	09/20/17
Matrix:	Soil	Received:	09/21/17
Units:	mg/Kg	Prepared:	09/22/17
Basis:	as received	Analyzed:	09/23/17

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC902006		50.51	51.99	103	80-120		
BSD	QC902007		51.55	52.54	102	80-120	1	20
MS	QC902008	0.7657	52.63	44.74	84	53-128		
MSD	QC902009		53.76	47.09	86	53-128	3	48

RPD= Relative Percent Difference

ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292734
ANALYTICAL REPORT

SLR International 110 11th Street Oakland, CA 94607	Project : 102.01422.00001 Location : Jean Sweeny Level : II

Sample ID	Lab ID
JS-BS-C01	292734-001
JS-BS-C02	292734-002
JS-SW-C01	292734-003
JS-SW-C02	292734-004
JS-SW-C03	292734-005
JS-SW-C04	292734-006
JS-SU-B01	292734-007
JS-SU-B02	292734-008

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 following signature. 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.

Signature: ______________________ Date: 09/26/2017

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**292734**
Client:	**SLR International**
Project:	**102.01422.00001**
Location:	**Jean Sweeny**
Request Date:	**09/22/17**
Samples Received:	**09/22/17**

This data package contains sample and QC results for eight soil samples, requested for the above referenced project on 09/22/17. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):

Matrix spikes QC902184,QC902185 (batch 251980) were not reported because the parent sample required a dilution that would have diluted out the spikes. JS-SW-C01 (lab # 292734-003) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 292734

Page 1 of ____

Chain of Custody # ____

Project No:

Project Name: Jean Sweeney

Project P. O. No:

EDD Format: Report Level ☐ II ☐ III ☐ IV

Turnaround Time: ☒ RUSH 24hr ☐ Standard

Sampler: Peath Silvers

Report To:

Company: SLR

Telephone: 404-435-0758

Email: psilvers@slrconsulting.com

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: TPD-D, TPH-MO, Bunker C (EPA 8015D)	TPD-D, TPH-MO, Bunker C (EPA 8015D w/ silica gel cleanup)
1	JS-BS-C01	9/22/17	1400		X			1						X	X
2	JS-BS-C02		1405												
3	JS-SW-C01		1410												
4	JS-SW-C02		1411												
5	JS-SW-C03		1412												
6	JS-SW-C04		1413												
7	JS-SU-B01		1250												
8	JS-SU-B02		1330												

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Peath Silvers	9/22	1440	[signature]	9/22/17	1440
[signature]	9/22/17	1510	[signature]	9/22/17	1510

COOLER RECEIPT CHECKLIST

ENTHALPY
Berkeley

Login # 292734 Date Received 9/22/17 Number of coolers 1
Client SCR Project Sean Sweeny

Date Opened 9/22/17 By (print) KO (sign)
Date Logged in ↓ By (print) ↓ (sign) ↓
Date Labelled ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) YES **NO**
   Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many Name Date

2B. Were custody seals intact upon arrival? YES NO **N/A**

3. Were custody papers dry and intact when received? **YES** NO

4. Were custody papers filled out properly (ink, signed, etc)? **YES** NO

5. Is the project identifiable from custody papers? (If so fill out top of form) **YES** NO

6. Indicate the packing in cooler: (if other, describe)

   ☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
   ☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

   Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C)

   ☐ Temperature blank(s) included? ☐ Thermometer# ☐ IR Gun#

   ☒ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES **NO**
   If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? **YES** NO

10. Are there any missing / extra samples? YES **NO**

11. Are samples in the appropriate containers for indicated tests? **YES** NO

12. Are sample labels present, in good condition and complete? **YES** NO

13. Do the sample labels agree with custody papers? **YES** NO

14. Was sufficient amount of sample sent for tests requested? **YES** NO

15. Are the samples appropriately preserved? YES NO **N/A**

16. Did you check preservatives for all bottles for each sample? YES NO **N/A**

17. Did you document your preservative check? (pH strip lot#) YES NO **N/A**

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO **N/A**

19. Did you change the hold time in LIMS for preserved terracores? YES NO **N/A**

20. Are bubbles > 6mm absent in VOA samples? YES NO **N/A**

21. Was the client contacted concerning this sample delivery? YES NO
   If YES, Who was called? By Date:

COMMENTS

Rev 14, 8/01/17

Detections Summary for 292734

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : 102.01422.00001
Location : Jean Sweeny

Client Sample ID : JS-BS-C01 Laboratory Sample ID : 292734-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	12	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	9.5	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	21		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	27		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	60		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	71		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-C02 Laboratory Sample ID : 292734-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	16	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	11	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	29		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	31		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	84		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	82		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C01 Laboratory Sample ID : 292734-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	67	Y	3.0	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Diesel C10-C24	63	Y	5.0	mg/Kg	As Recd	5.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	320		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	380		25	mg/Kg	As Recd	5.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	760		15	mg/Kg	As Recd	3.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	870		25	mg/Kg	As Recd	5.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C02 Laboratory Sample ID : 292734-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	1.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	9.5		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	9.5		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	22		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	22		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C03 Laboratory Sample ID : 292734-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.6	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	2.5	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	14		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	16		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	31		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	37		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C04 Laboratory Sample ID : 292734-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.6	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	11		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	11		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SU-B01 Laboratory Sample ID : 292734-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.6	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SU-B02 Laboratory Sample ID : 292734-008

No Detections

Y = Sample exhibits chromatographic pattern which does not resemble standard

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292734	Location:	Jean Sweeny
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/22/17
Units:	mg/Kg	Received:	09/22/17
Basis:	as received	Prepared:	09/25/17
Batch#:	251980		

Field ID: JS-BS-C01
Type: SAMPLE
Lab ID: 292734-001
Diln Fac: 1.000
Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	12 Y	1.0	09/25/17
Diesel C10-C24 (SGCU)	9.5 Y	1.0	09/26/17
Motor Oil C24-C36	21	5.0	09/25/17
Motor Oil C24-C36 (SGCU)	27	5.0	09/26/17
Bunker C C12-C40	60	5.0	09/25/17
Bunker C C12-C40 (SGCU)	71	5.0	09/26/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	104	55-133	09/25/17
o-Terphenyl (SGCU)	101	55-133	09/26/17

Field ID: JS-BS-C02
Type: SAMPLE
Lab ID: 292734-002
Diln Fac: 1.000
Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	16 Y	0.99	09/25/17
Diesel C10-C24 (SGCU)	11 Y	0.99	09/26/17
Motor Oil C24-C36	29	5.0	09/25/17
Motor Oil C24-C36 (SGCU)	31	5.0	09/26/17
Bunker C C12-C40	84	5.0	09/25/17
Bunker C C12-C40 (SGCU)	82	5.0	09/26/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	100	55-133	09/25/17
o-Terphenyl (SGCU)	90	55-133	09/26/17

Field ID: JS-SW-C01
Type: SAMPLE
Lab ID: 292734-003
Cleanup Method: EPA 3630C

Analyte	Result	RL	Diln Fac	Analyzed
Diesel C10-C24	67 Y	3.0	3.000	09/25/17
Diesel C10-C24 (SGCU)	63 Y	5.0	5.000	09/26/17
Motor Oil C24-C36	320	15	3.000	09/25/17
Motor Oil C24-C36 (SGCU)	380	25	5.000	09/26/17
Bunker C C12-C40	760	15	3.000	09/25/17
Bunker C C12-C40 (SGCU)	870	25	5.000	09/26/17

Surrogate	%REC	Limits	Diln Fac	Analyzed
o-Terphenyl	84	55-133	3.000	09/25/17
o-Terphenyl (SGCU)	91	55-133	5.000	09/26/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292734	Location:	Jean Sweeny
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/22/17
Units:	mg/Kg	Received:	09/22/17
Basis:	as received	Prepared:	09/25/17
Batch#:	251980		

Field ID:	JS-SW-C02	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292734-004		

Analyte	Result	RL	Analyzed
Diesel C10-C24	2.3 Y	1.0	09/25/17
Diesel C10-C24 (SGCU)	1.3 Y	1.0	09/26/17
Motor Oil C24-C36	9.5	5.0	09/25/17
Motor Oil C24-C36 (SGCU)	9.5	5.0	09/26/17
Bunker C C12-C40	22	5.0	09/25/17
Bunker C C12-C40 (SGCU)	22	5.0	09/26/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	101	55-133	09/25/17
o-Terphenyl (SGCU)	86	55-133	09/26/17

Field ID:	JS-SW-C03	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292734-005		

Analyte	Result	RL	Analyzed
Diesel C10-C24	2.6 Y	1.0	09/25/17
Diesel C10-C24 (SGCU)	2.5 Y	1.0	09/26/17
Motor Oil C24-C36	14	5.0	09/25/17
Motor Oil C24-C36 (SGCU)	16	5.0	09/26/17
Bunker C C12-C40	31	5.0	09/25/17
Bunker C C12-C40 (SGCU)	37	5.0	09/26/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	102	55-133	09/25/17
o-Terphenyl (SGCU)	106	55-133	09/26/17

Field ID:	JS-SW-C04	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292734-006		

Analyte	Result	RL	Analyzed
Diesel C10-C24	1.6 Y	0.99	09/25/17
Diesel C10-C24 (SGCU)	ND	0.99	09/26/17
Motor Oil C24-C36	ND	5.0	09/25/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/26/17
Bunker C C12-C40	11	5.0	09/25/17
Bunker C C12-C40 (SGCU)	11	5.0	09/26/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	94	55-133	09/25/17
o-Terphenyl (SGCU)	95	55-133	09/26/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292734	Location:	Jean Sweeny
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/22/17
Units:	mg/Kg	Received:	09/22/17
Basis:	as received	Prepared:	09/25/17
Batch#:	251980		

Field ID:	JS-SU-B01	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292734-007		

Analyte	Result	RL	Analyzed
Diesel C10-C24	1.6 Y	1.0	09/25/17
Diesel C10-C24 (SGCU)	ND	1.0	09/26/17
Motor Oil C24-C36	ND	5.0	09/25/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/26/17
Bunker C C12-C40	ND	5.0	09/25/17
Bunker C C12-C40 (SGCU)	ND	5.0	09/26/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	103	55-133	09/25/17
o-Terphenyl (SGCU)	95	55-133	09/26/17

Field ID:	JS-SU-B02	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	292734-008		

Analyte	Result	RL	Analyzed
Diesel C10-C24	ND	1.0	09/25/17
Diesel C10-C24 (SGCU)	ND	1.0	09/26/17
Motor Oil C24-C36	ND	5.0	09/25/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/26/17
Bunker C C12-C40	ND	5.0	09/25/17
Bunker C C12-C40 (SGCU)	ND	5.0	09/26/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	84	55-133	09/25/17
o-Terphenyl (SGCU)	78	55-133	09/26/17

Type:	BLANK	Analyzed:	09/25/17
Lab ID:	QC902182	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Diesel C10-C24 (SGCU)	ND	0.99
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	110	55-133
o-Terphenyl (SGCU)	93	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons

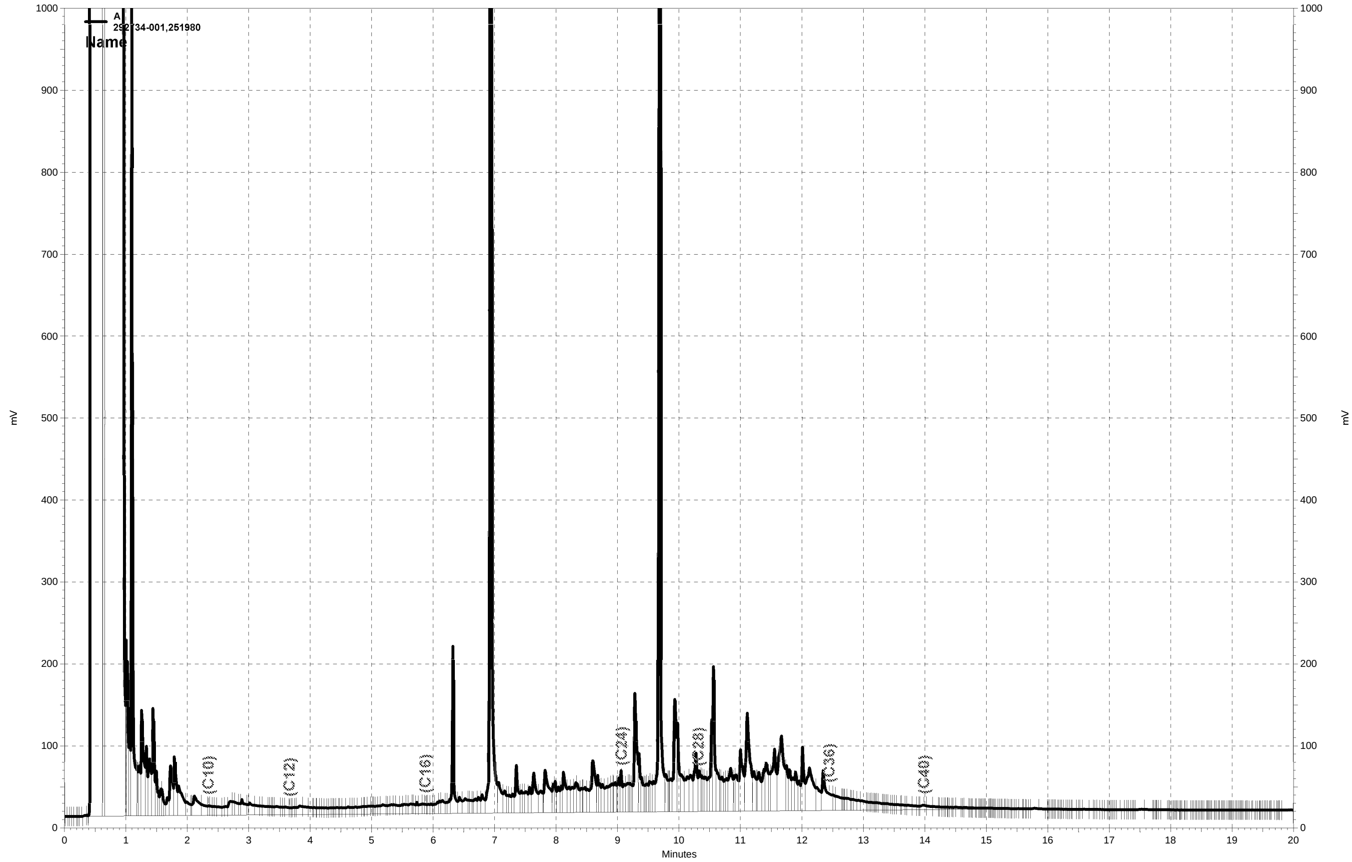
Lab #:	292734	Location:	Jean Sweeny
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC902183	Batch#:	251980
Matrix:	Soil	Prepared:	09/25/17
Units:	mg/Kg	Analyzed:	09/25/17

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.67	49.05	99	51-137
Diesel C10-C24 (SGCU)	49.67	42.87	86	51-137

Surrogate	%REC	Limits
o-Terphenyl	105	55-133
o-Terphenyl (SGCU)	99	55-133

SGCU= Silica gel cleanup



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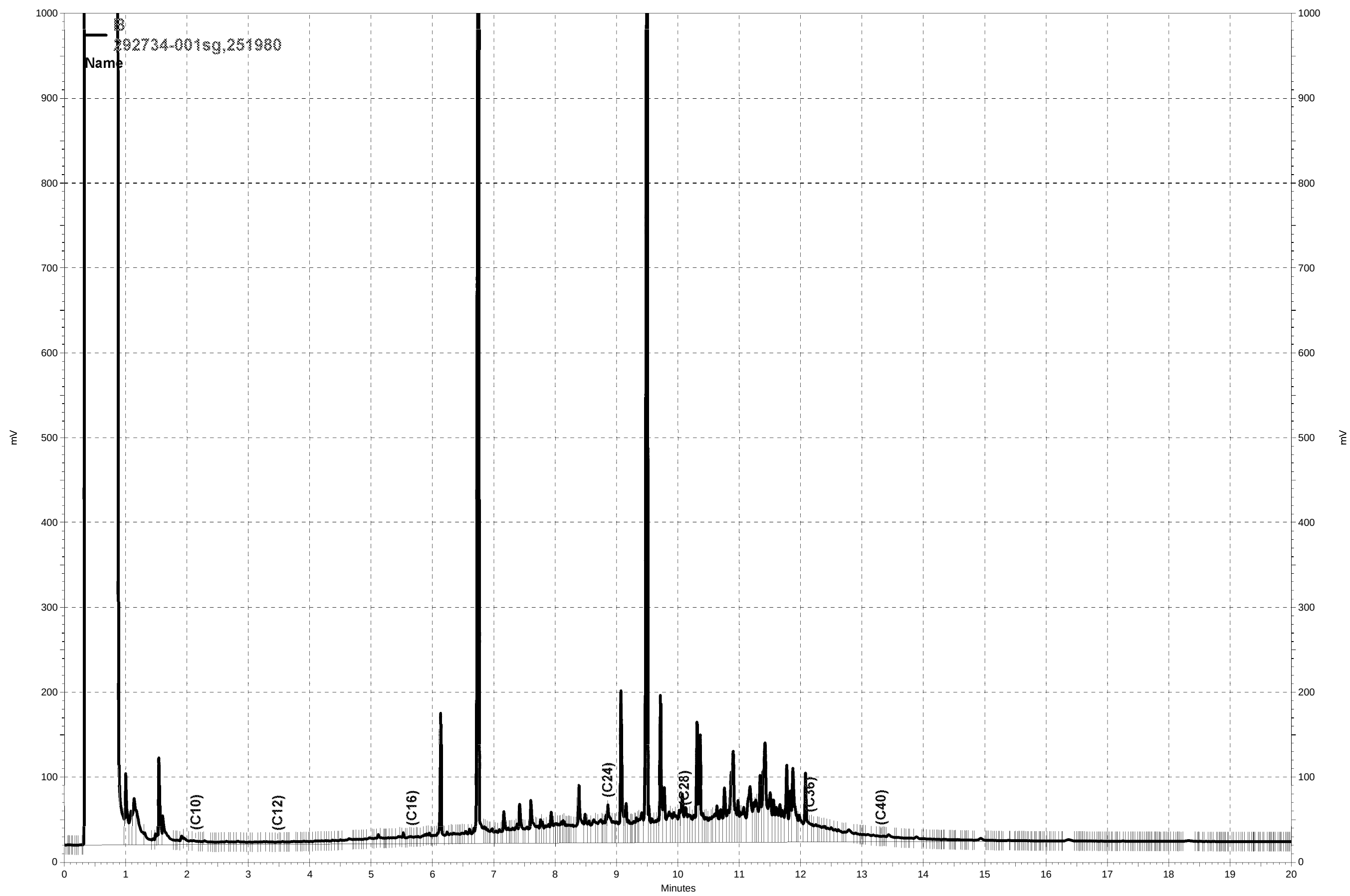

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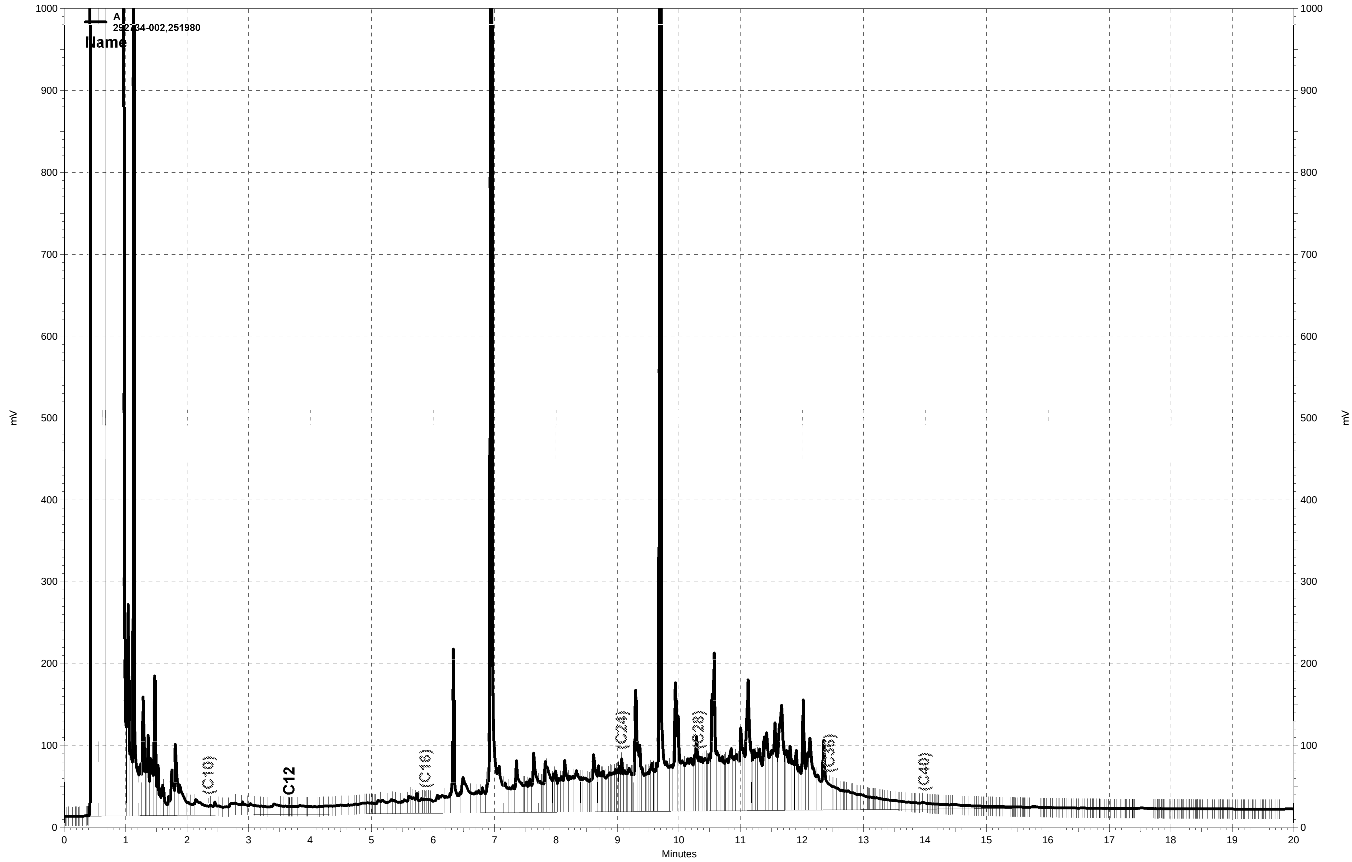

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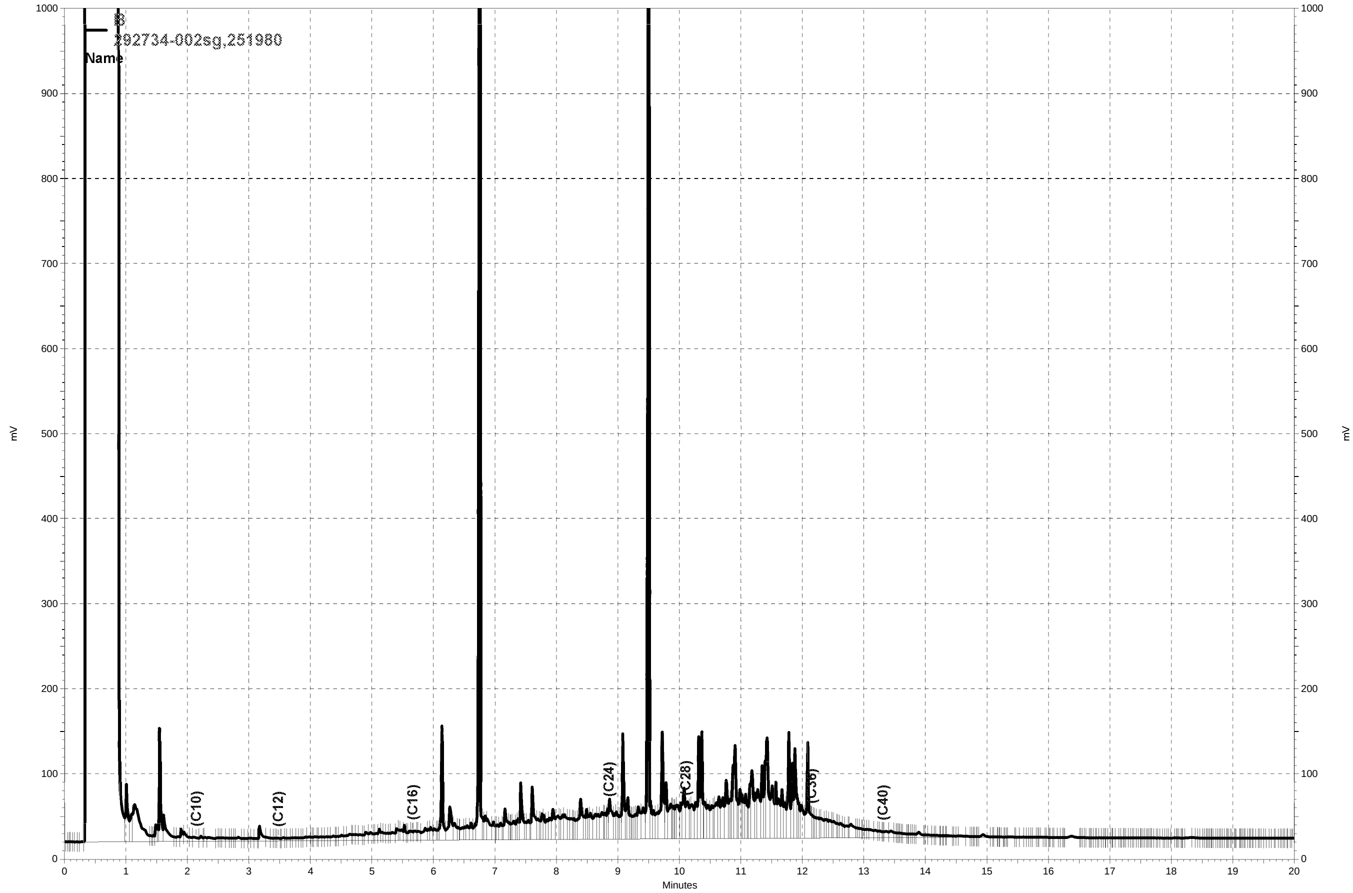

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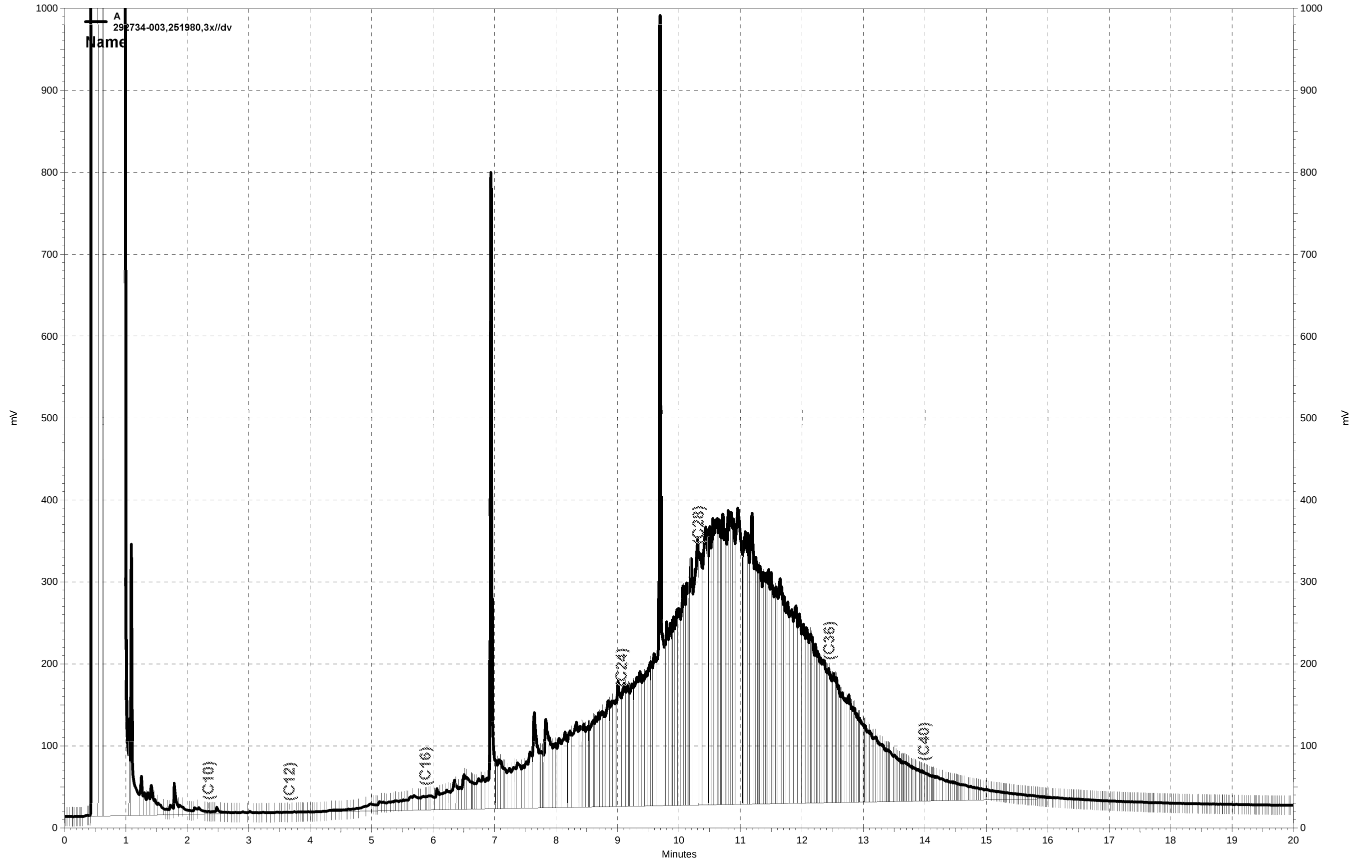

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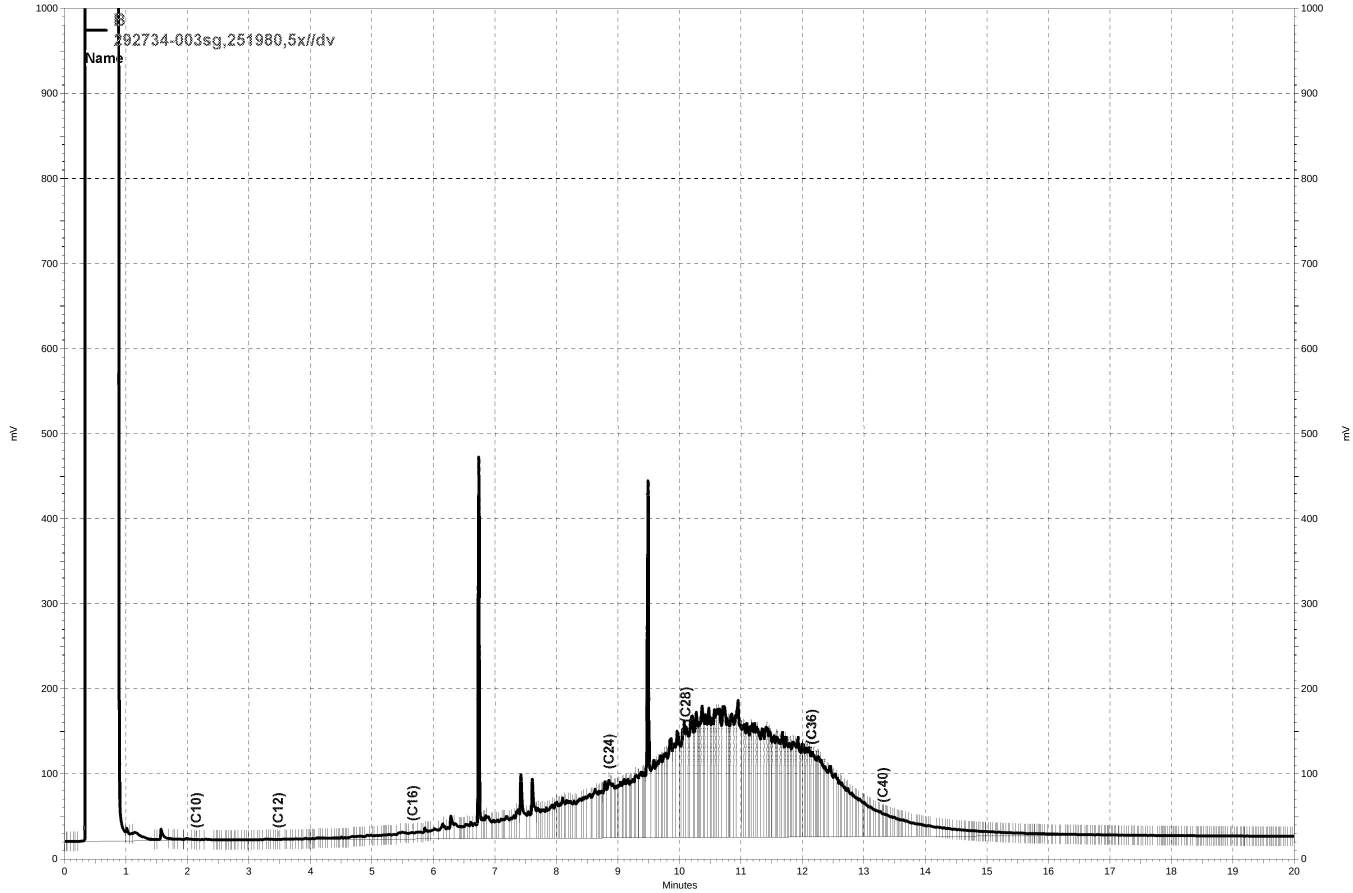

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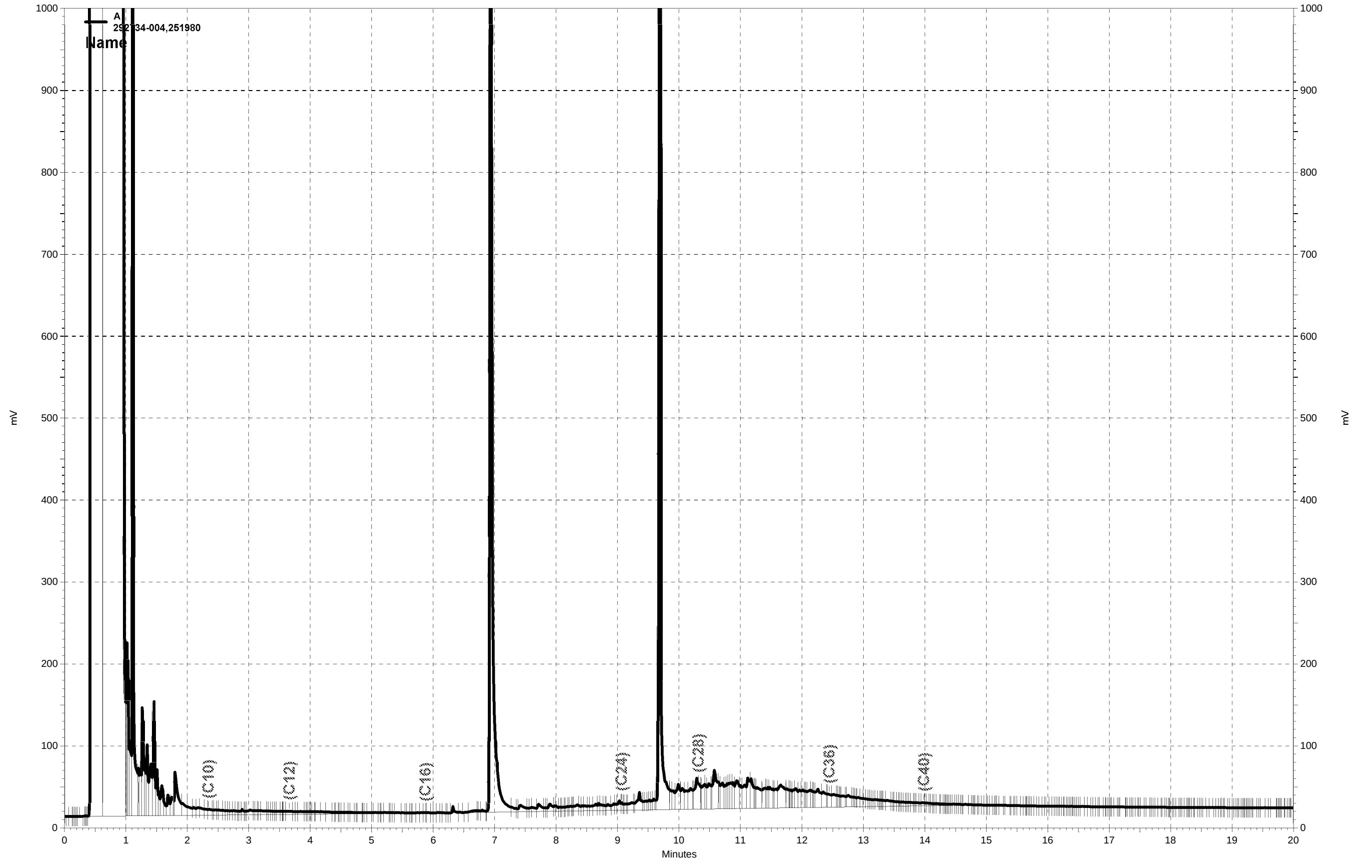

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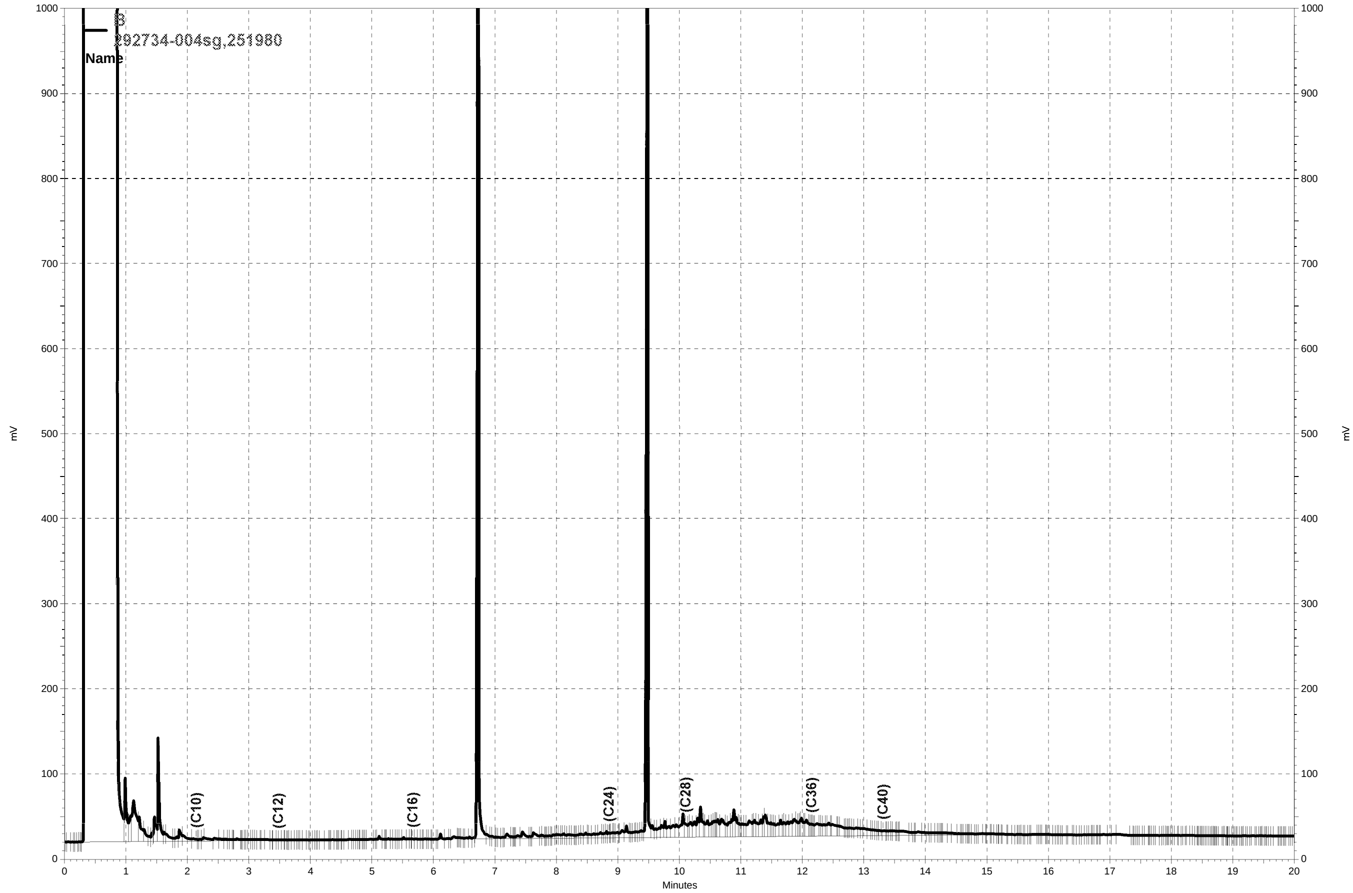

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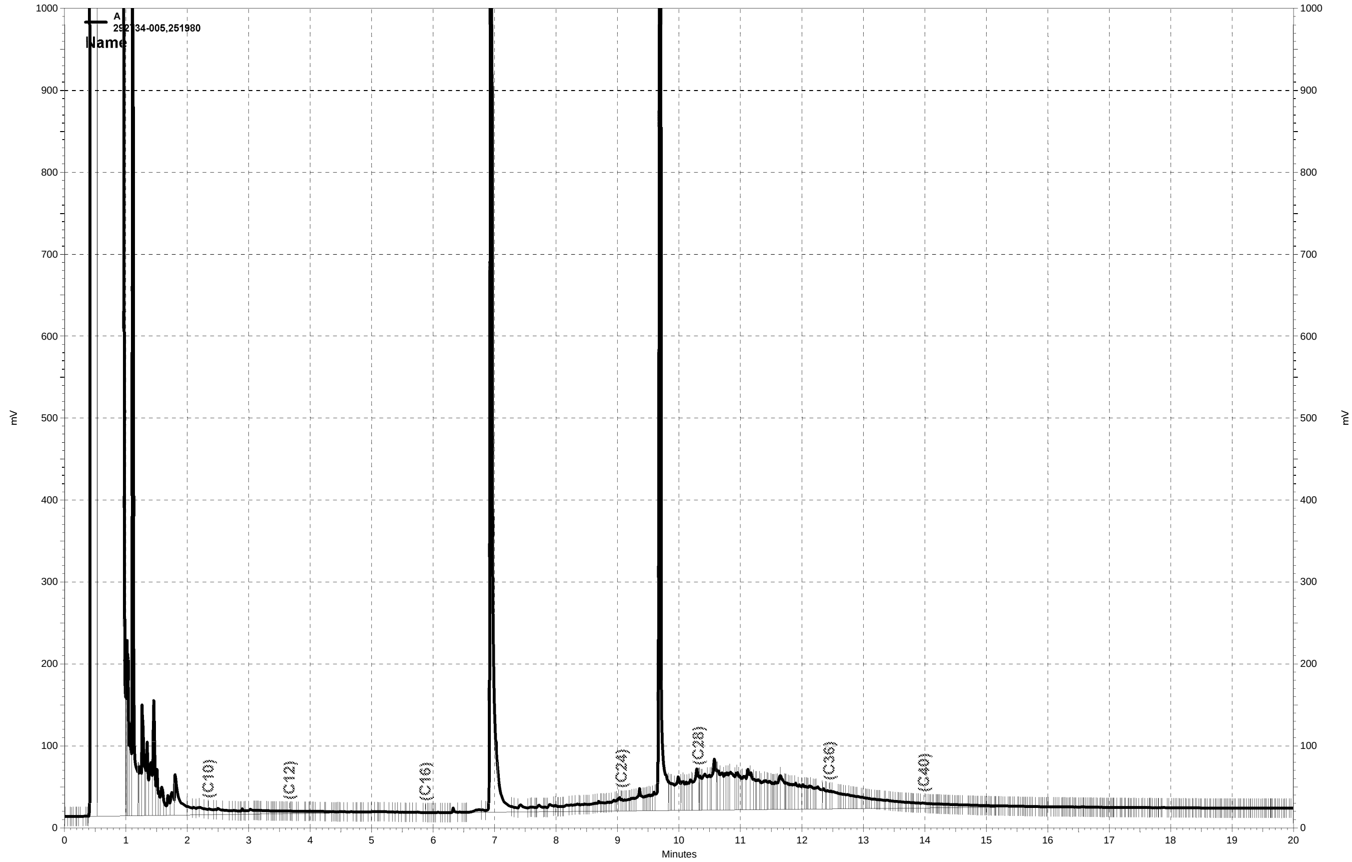

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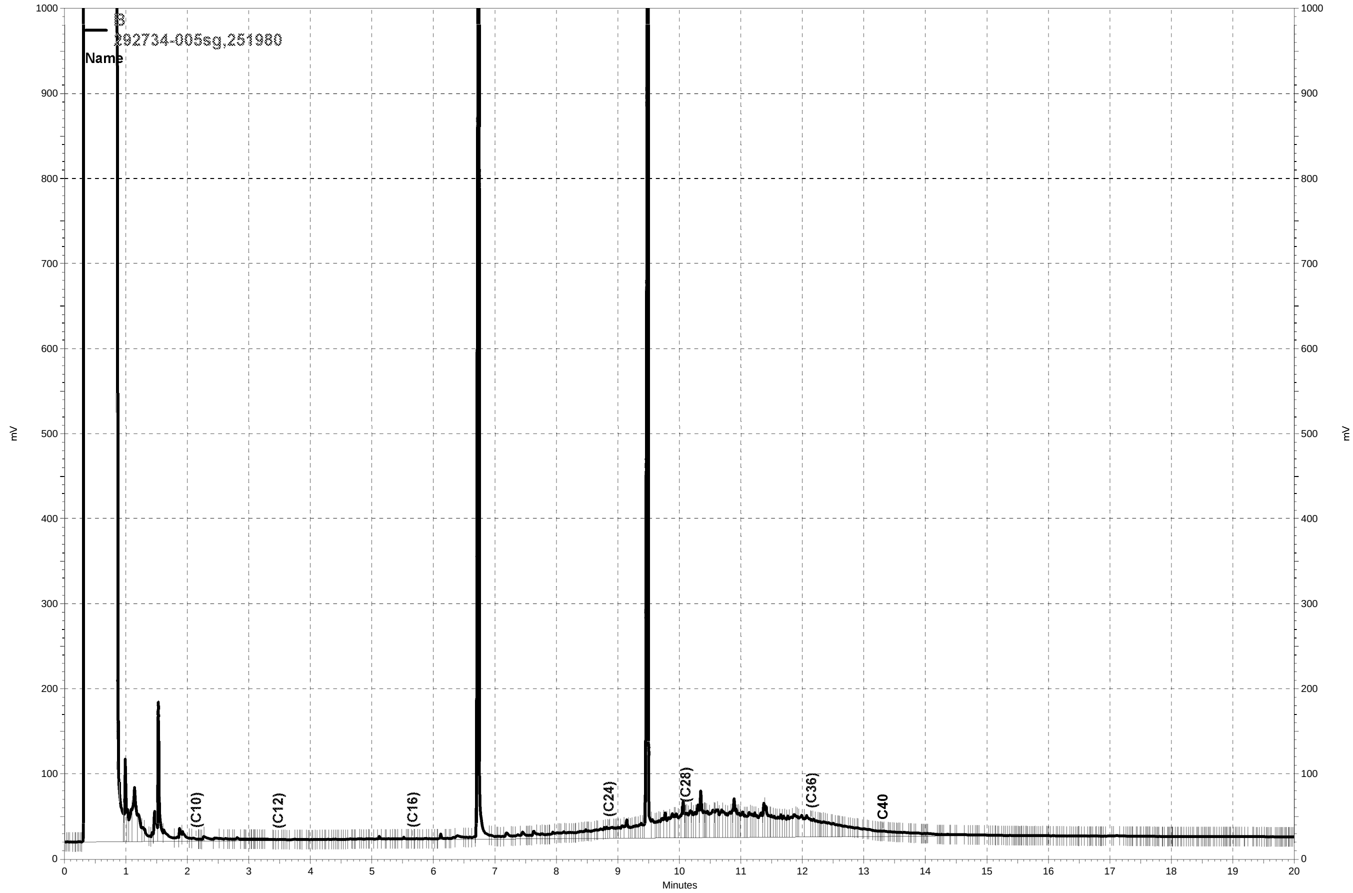

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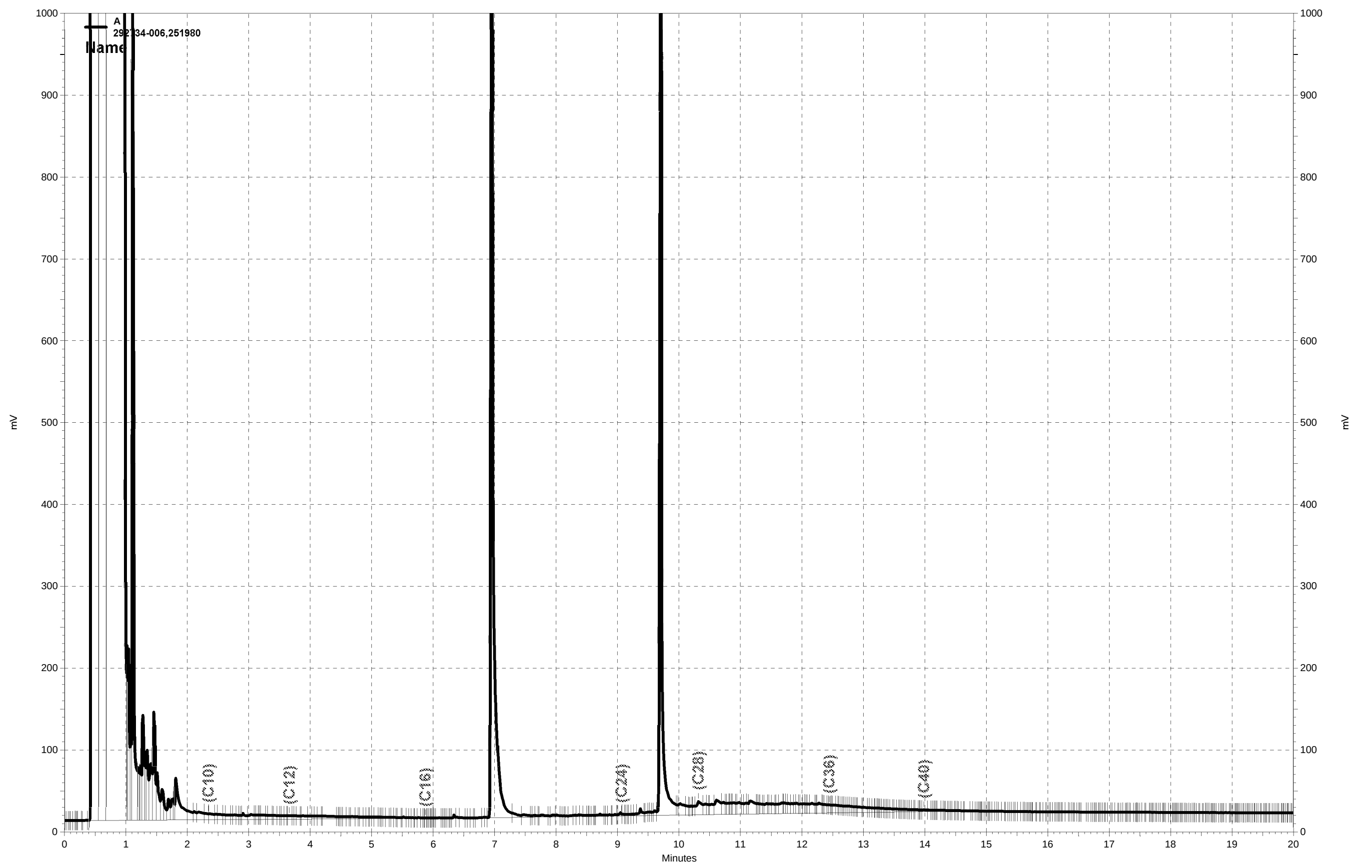

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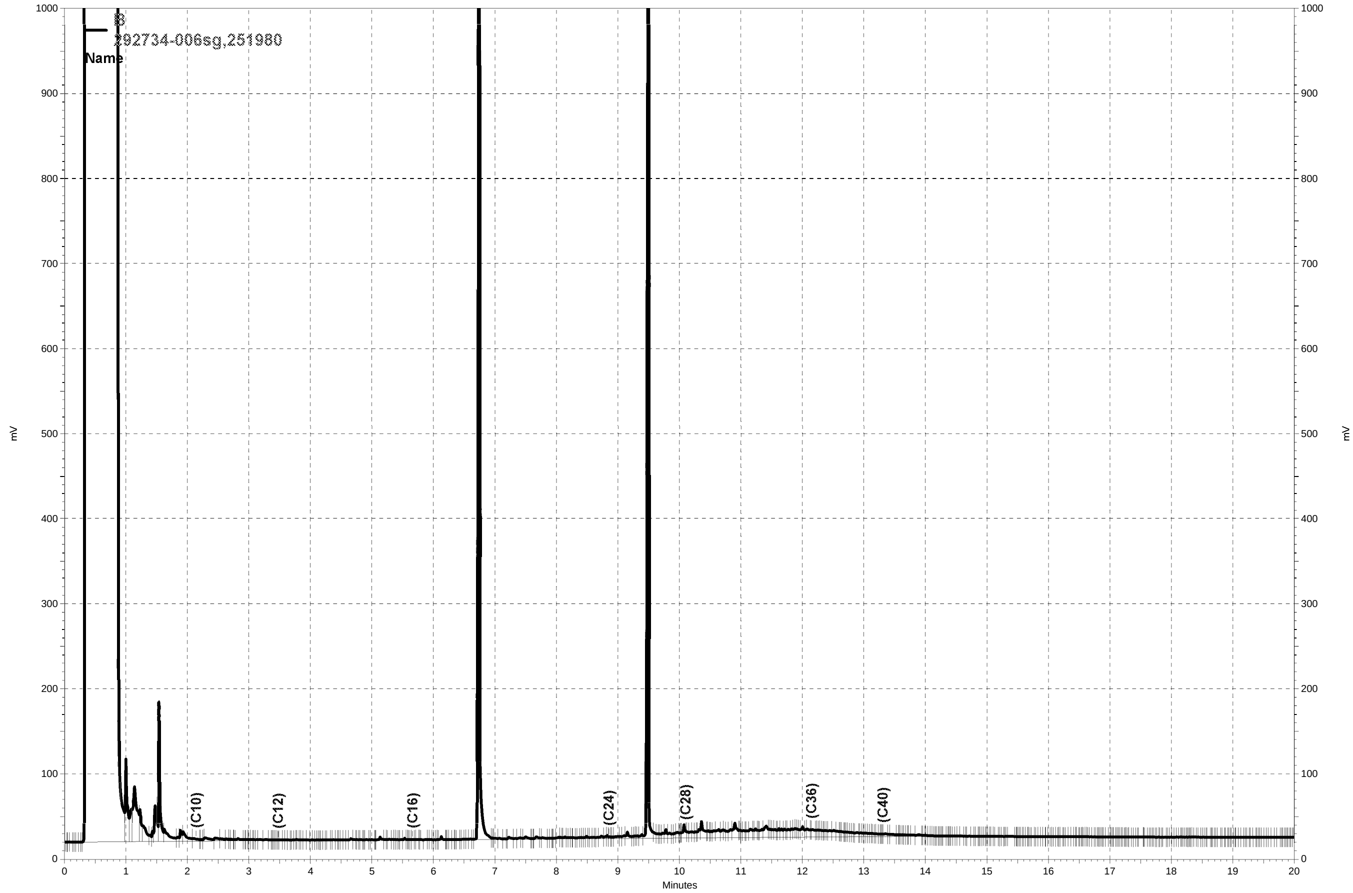

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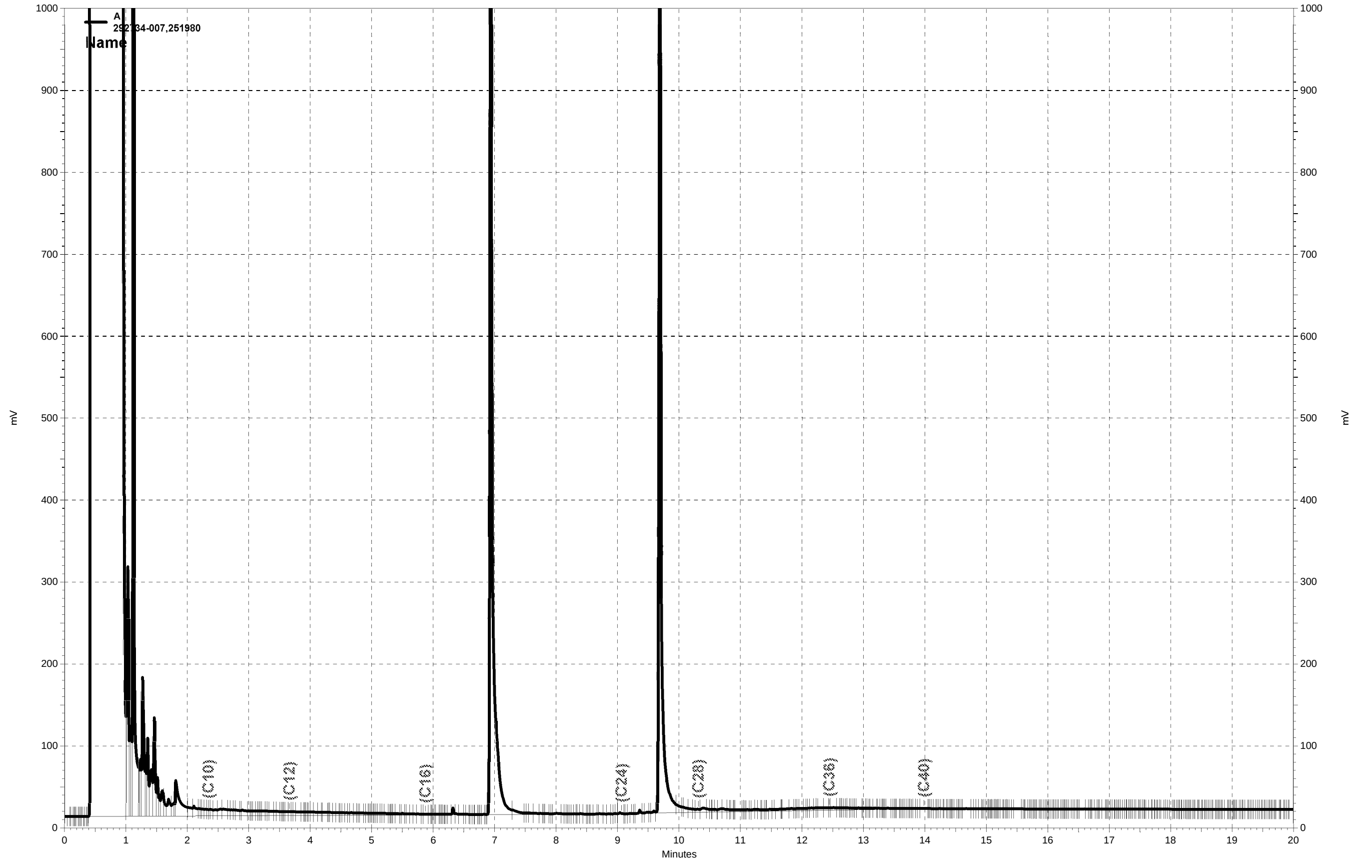

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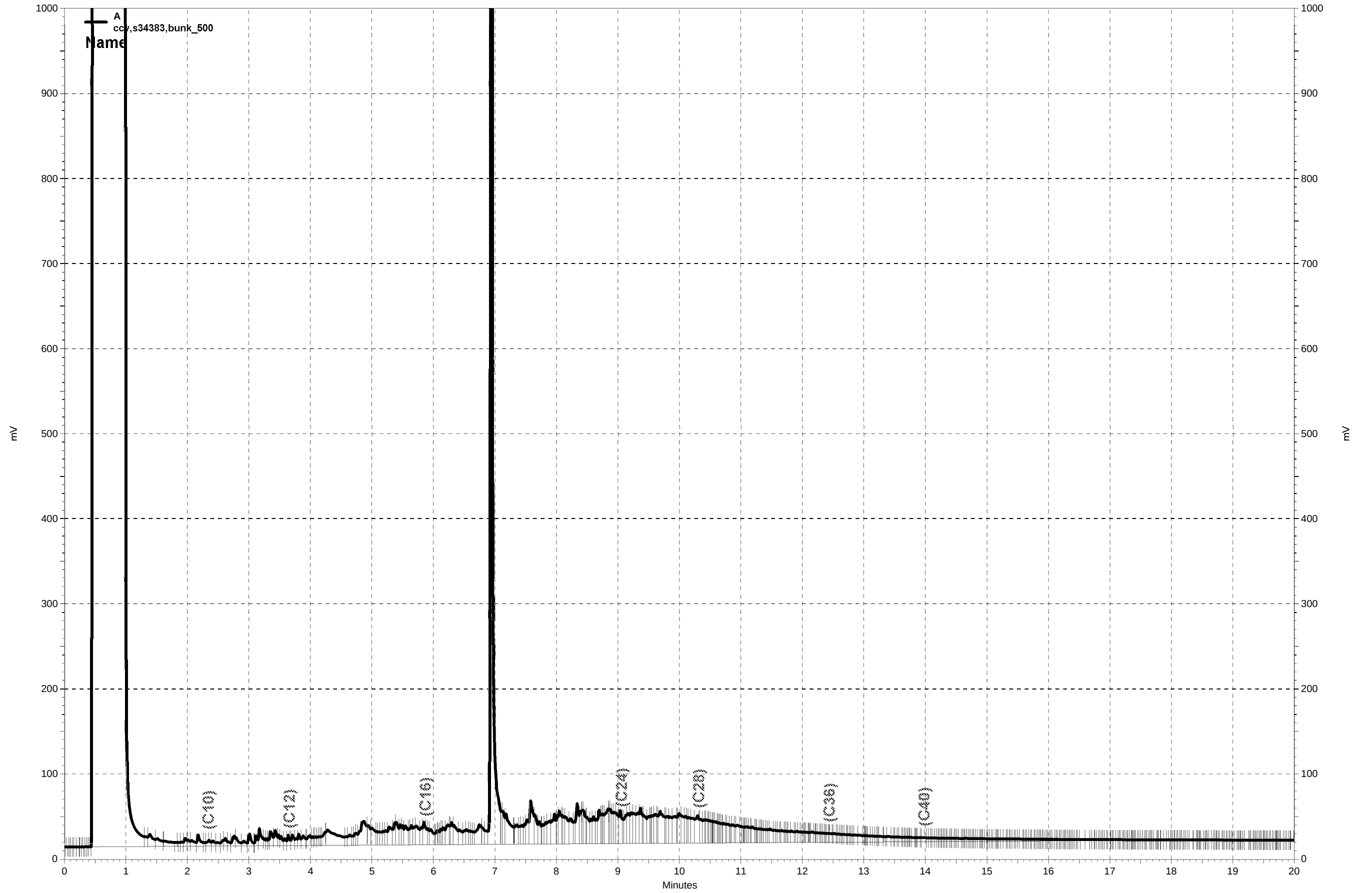

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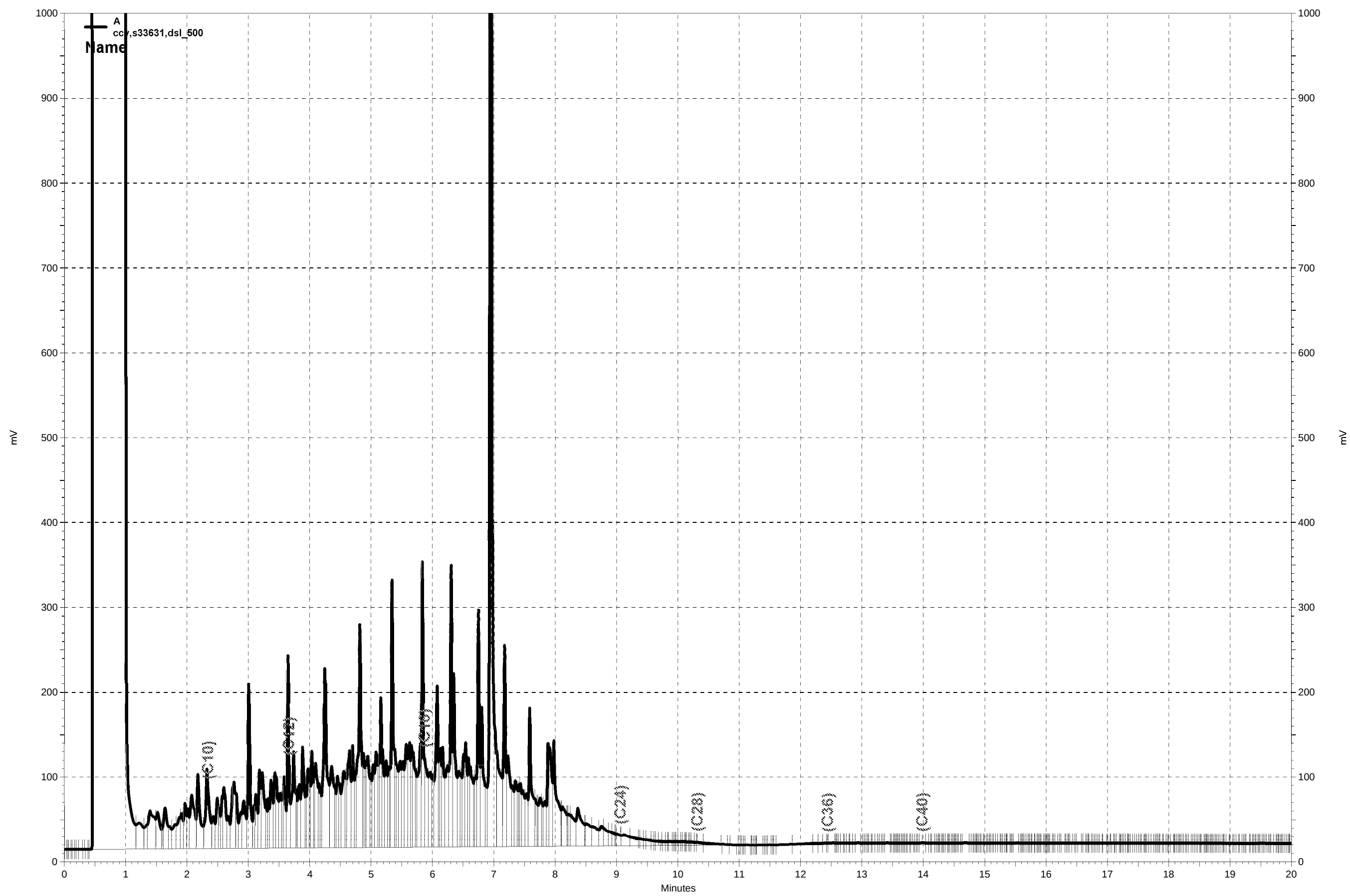

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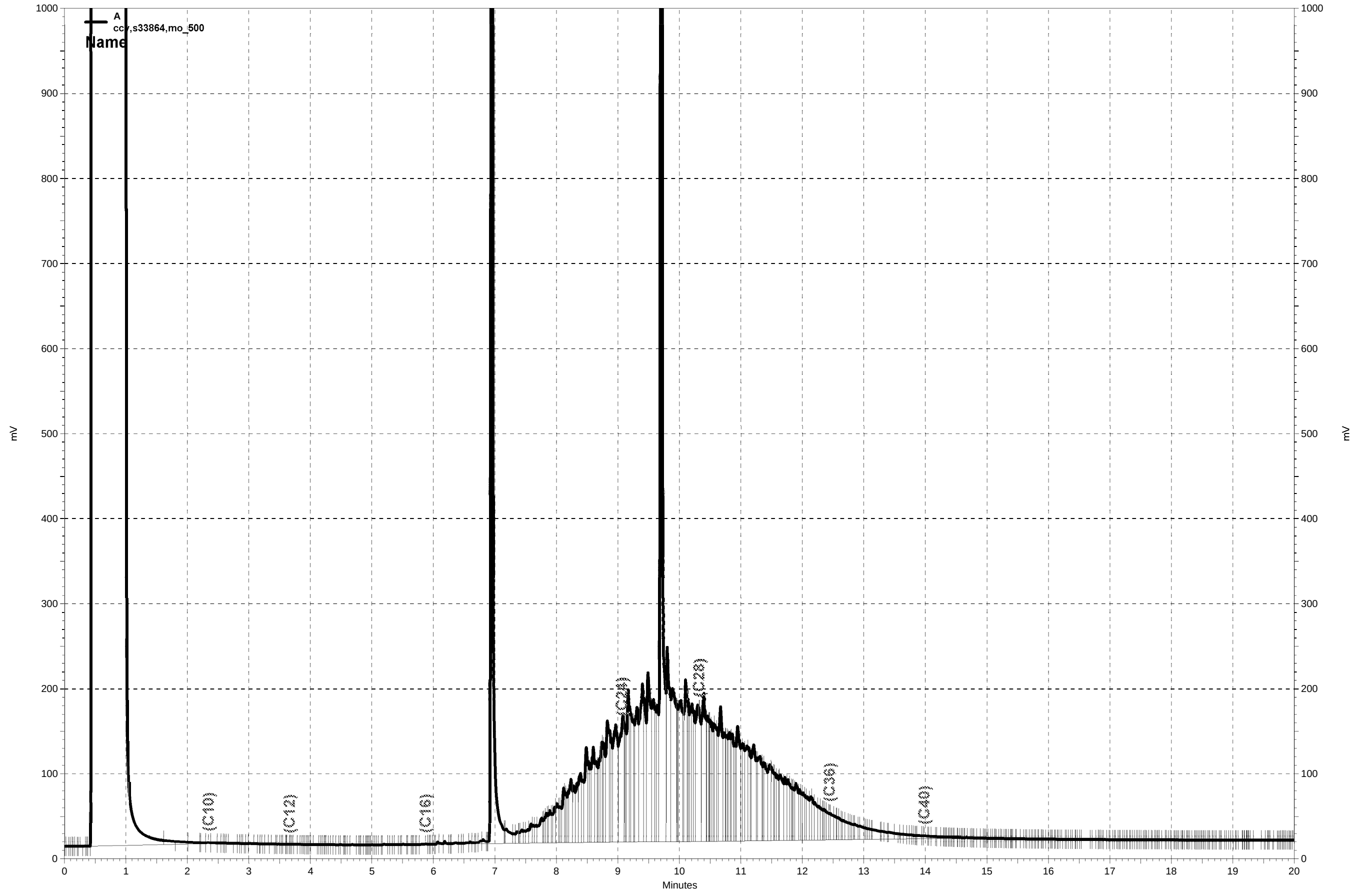

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292862
ANALYTICAL REPORT

SLR International 110 11th Street Oakland, CA 94607	Project : 102.01422.00001 Location : Jean Sweeney Level : II

Sample ID	Lab ID
JS-SU-B03	292862-001
JS-SU-B04	292862-002

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 following signature. 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.

Signature: ______________________ Date: 09/27/2017

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**292862**
Client:	**SLR International**
Project:	**102.01422.00001**
Location:	**Jean Sweeney**
Request Date:	**09/26/17**
Samples Received:	**09/26/17**

This data package contains sample and QC results for two soil samples, requested for the above referenced project on 09/26/17. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
No analytical problems were encountered.

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Page 1 of 1
Chain of Custody #
C&T LOGIN # 292812

Project No:
Project Name: Jean Sweeney
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH 24hr ☐ Standard

Sampler: Peth Silvers
Report To:
Company: SLR
Telephone: 404-435-0758
Email: psilvers@slrconsulting.com

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: TPD-D, TPH-MO, Bunker C (EPA 8015D)	TPD-D, TPH-MO, Bunker C (EPA 8015D w/silica gel cleanup)
	JS-SV-B03	0955 ⟷	9/26/14		X			1					X	X	X
	JS-SV-B04	0956 ⟷	9/26/14		X			1					X	X	X

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Peth Silvers	9/26	1355	[signature]	9/26	1355
[signature]	9.26	1621	[signature]	9/26	1630

COOLER RECEIPT CHECKLIST

ENTHALPY
Berkeley

Login # 292862 Date Received 09/26/17 Number of coolers 1
Client SLR Project Jean Sweeney

Date Opened 09/26/17 By (print) kp (sign) kp
Date Logged in ↓ By (print) ells (sign) [illegible]
Date Labelled ↓ By (print) kp (sign) kp

1. Did cooler come with a shipping slip (airbill, etc) YES **NO**
Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☑ NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO **N/A**

3. Were custody papers dry and intact when received? **YES** NO

4. Were custody papers filled out properly (ink, signed, etc)? **YES** NO

5. Is the project identifiable from custody papers? (If so fill out top of form) **YES** NO

6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☑ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☑ Wet ☐ Blue/Gel ☐ None Temp(°C) 1.7

☐ Temperature blank(s) included? ☐ Thermometer# ☑ IR Gun# A

☑ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES **NO**
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? **YES** NO

10. Are there any missing / extra samples? YES **NO**

11. Are samples in the appropriate containers for indicated tests? **YES** NO

12. Are sample labels present, in good condition and complete? **YES** NO

13. Do the sample labels agree with custody papers? **YES** NO

14. Was sufficient amount of sample sent for tests requested? **YES** NO

15. Are the samples appropriately preserved? YES NO **N/A**

16. Did you check preservatives for all bottles for each sample? YES NO **N/A**

17. Did you document your preservative check? (pH strip lot#) YES NO **N/A**

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO **N/A**

19. Did you change the hold time in LIMS for preserved terracores? YES NO **N/A**

20. Are bubbles > 6mm absent in VOA samples? YES NO **N/A**

21. Was the client contacted concerning this sample delivery? YES **NO**
If YES, Who was called? By Date:

COMMENTS

Rev 14, 8/01/17

Detections Summary for 292862

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : 102.01422.00001
Location : Jean Sweeney

Client Sample ID : JS-SU-B03 Laboratory Sample ID : 292862-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	13	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	9.2	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	18		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	15		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	60		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	46		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SU-B04 Laboratory Sample ID : 292862-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	10	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	4.9	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	12		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	7.6		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	42		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	24		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard

Total Extractable Hydrocarbons

Lab #:	292862	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/26/17
Units:	mg/Kg	Received:	09/26/17
Basis:	as received	Prepared:	09/26/17
Diln Fac:	1.000	Analyzed:	09/27/17
Batch#:	252049		

Field ID: JS-SU-B03 Lab ID: 292862-001
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	13 Y	1.0
Diesel C10-C24 (SGCU)	9.2 Y	1.0
Motor Oil C24-C36	18	5.0
Motor Oil C24-C36 (SGCU)	15	5.0
Bunker C C12-C40	60	5.0
Bunker C C12-C40 (SGCU)	46	5.0

Surrogate	%REC	Limits
o-Terphenyl	88	55-133
o-Terphenyl (SGCU)	78	55-133

Field ID: JS-SU-B04 Lab ID: 292862-002
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	10 Y	1.0
Diesel C10-C24 (SGCU)	4.9 Y	1.0
Motor Oil C24-C36	12	5.0
Motor Oil C24-C36 (SGCU)	7.6	5.0
Bunker C C12-C40	42	5.0
Bunker C C12-C40 (SGCU)	24	5.0

Surrogate	%REC	Limits
o-Terphenyl	82	55-133
o-Terphenyl (SGCU)	67	55-133

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC902438

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Diesel C10-C24 (SGCU)	ND	1.0
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	116	55-133
o-Terphenyl (SGCU)	105	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	292862	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC902439	Batch#:	252049
Matrix:	Soil	Prepared:	09/26/17
Units:	mg/Kg	Analyzed:	09/27/17

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.33	51.16	102	51-137
Diesel C10-C24 (SGCU)	50.33	46.83	93	51-137

Surrogate	%REC	Limits
o-Terphenyl	121	55-133
o-Terphenyl (SGCU)	109	55-133

SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	292862	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	252049
MSS Lab ID:	292838-001	Sampled:	09/26/17
Matrix:	Soil	Received:	09/26/17
Units:	mg/Kg	Prepared:	09/26/17
Basis:	as received	Analyzed:	09/27/17
Diln Fac:	2.000		

Type: MS Lab ID: QC902440

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	11.77	50.18	63.74	104	36-143

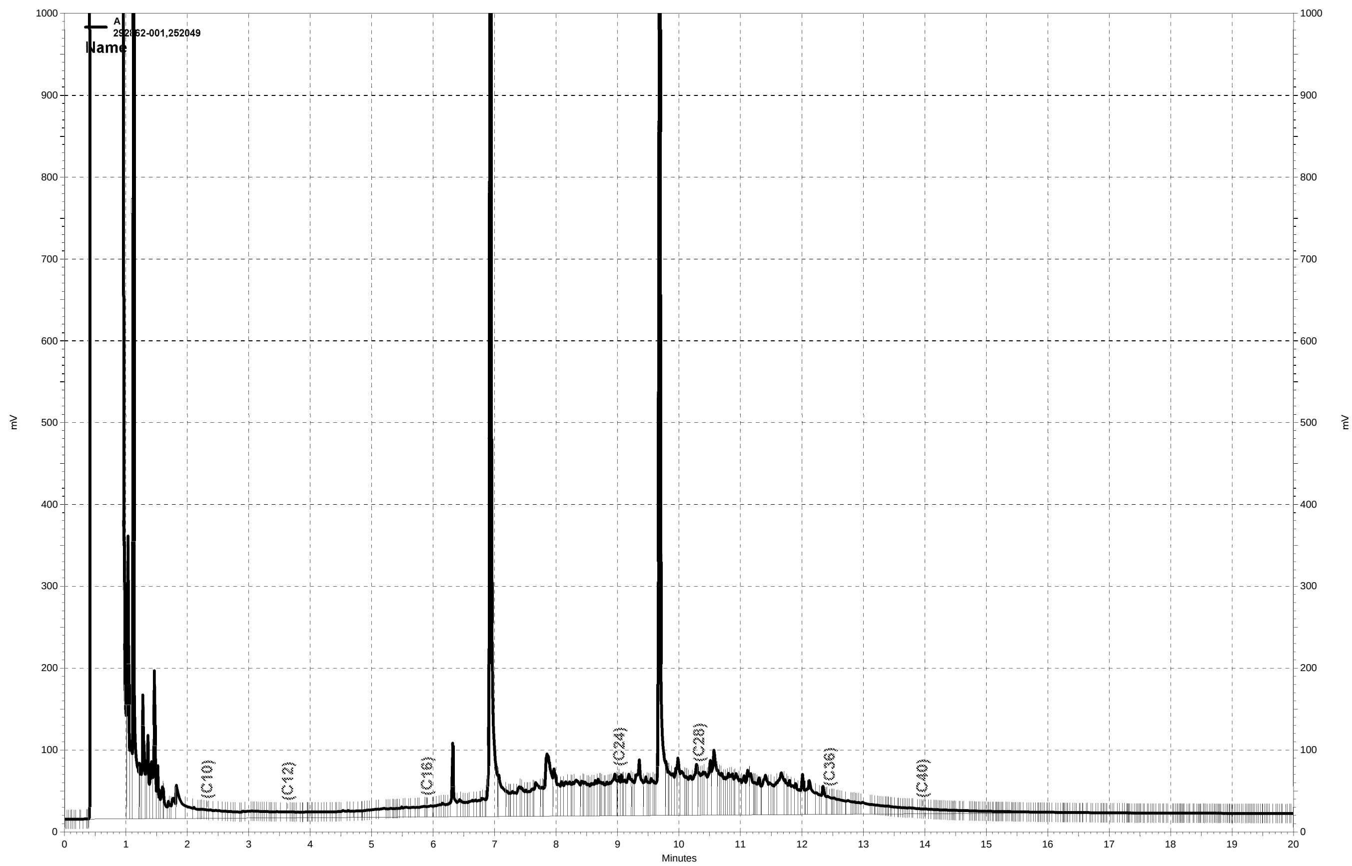
Surrogate	%REC	Limits
o-Terphenyl	121	55-133

Type: MSD Lab ID: QC902441

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.52	60.69	99	36-143	4	55

Surrogate	%REC	Limits
o-Terphenyl	117	55-133

RPD= Relative Percent Difference



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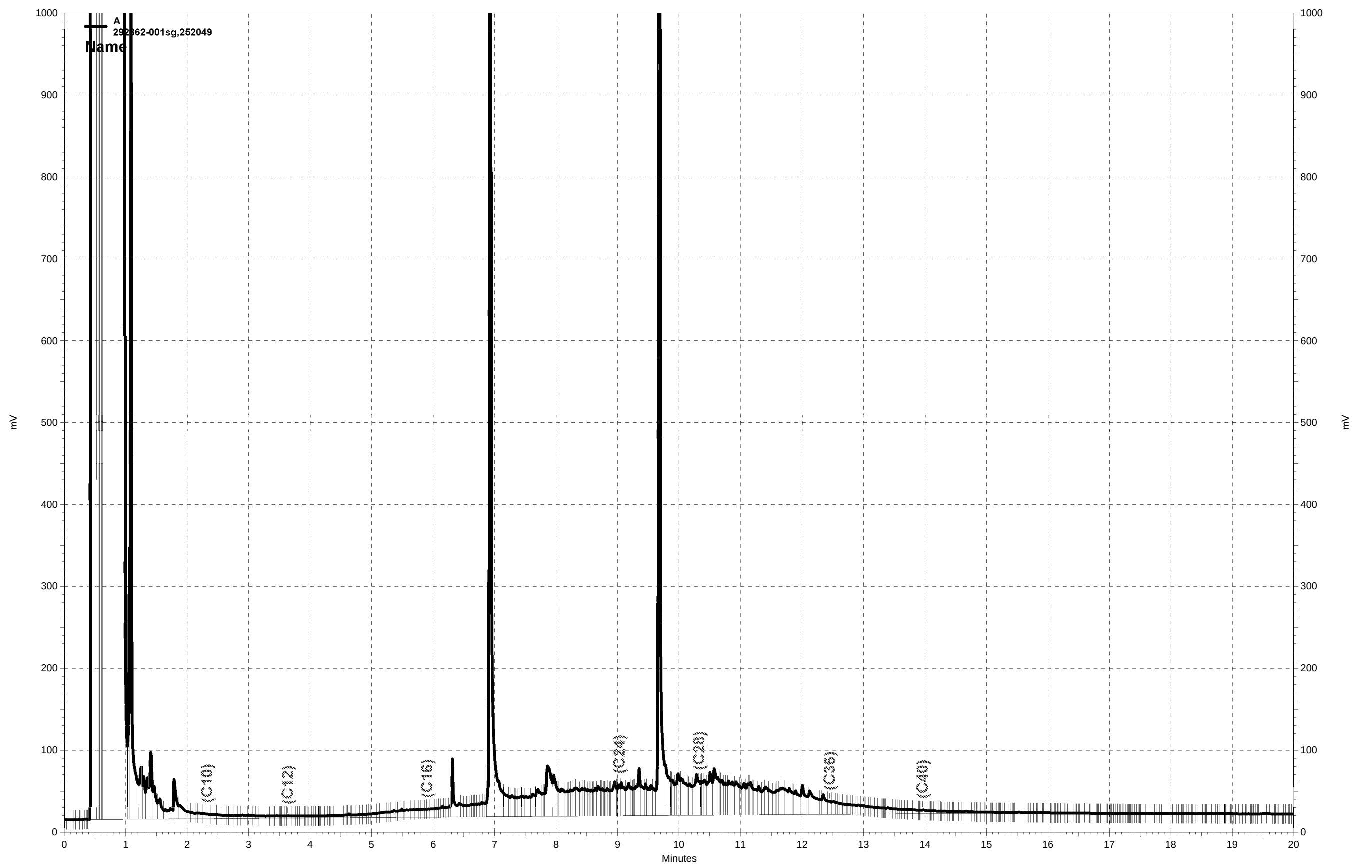

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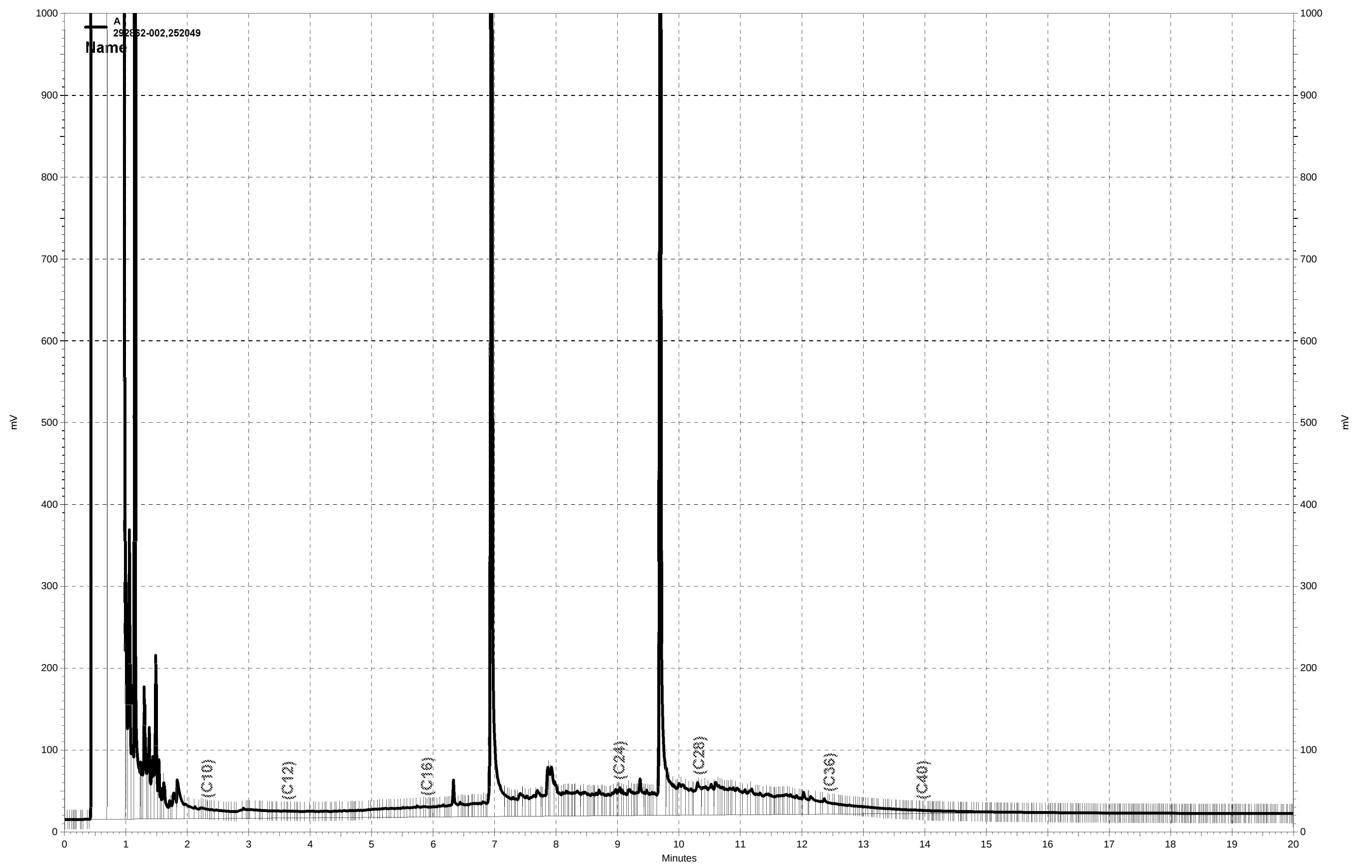

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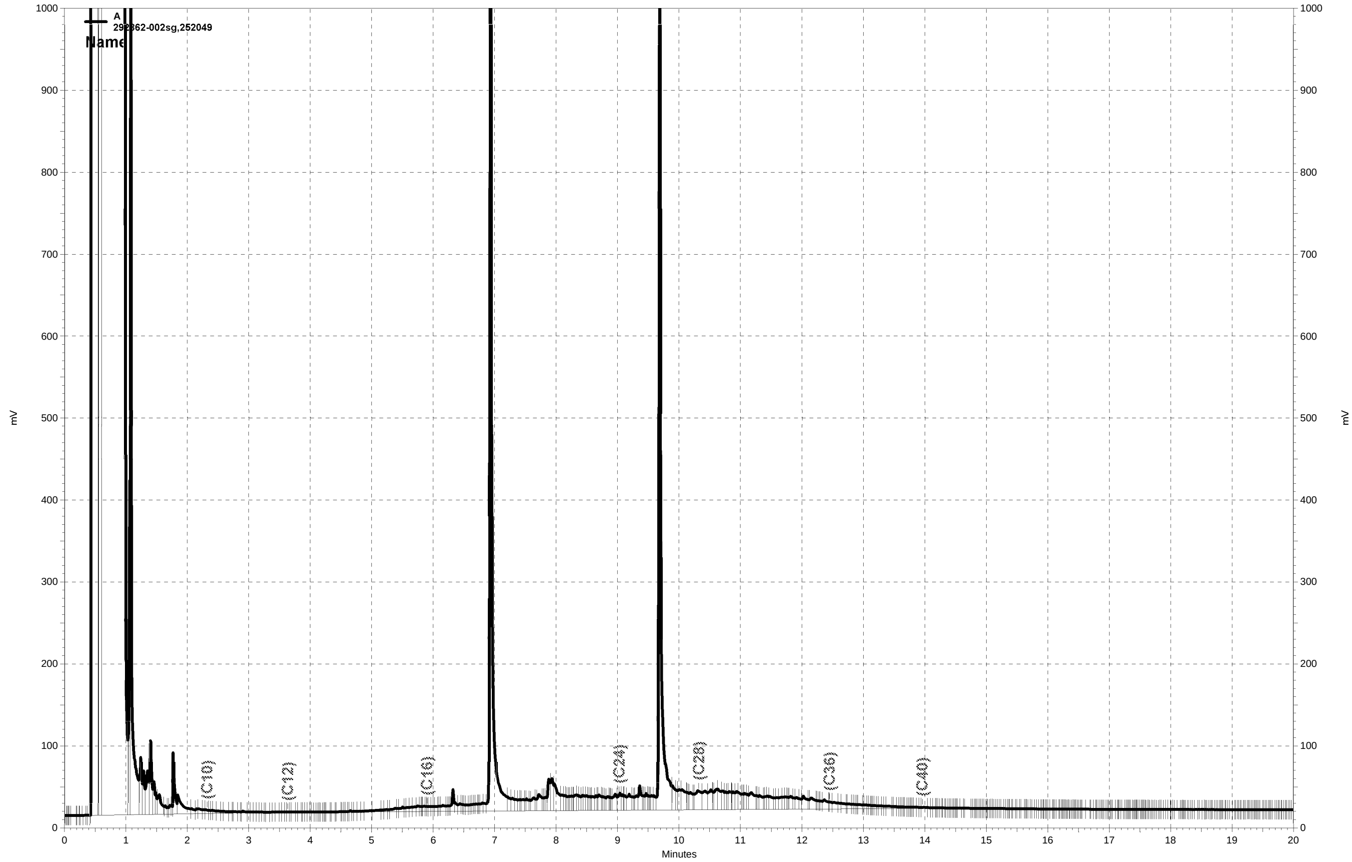

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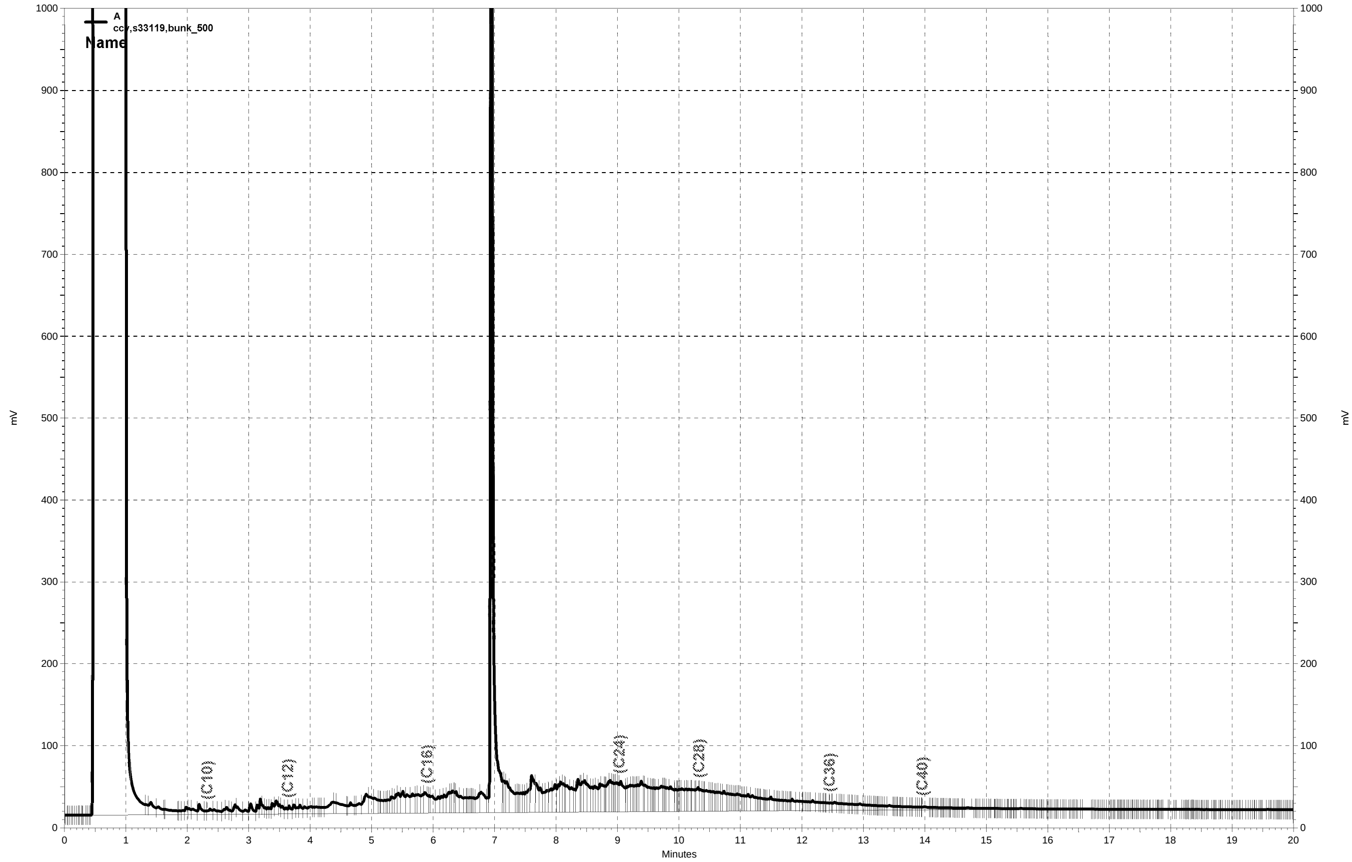

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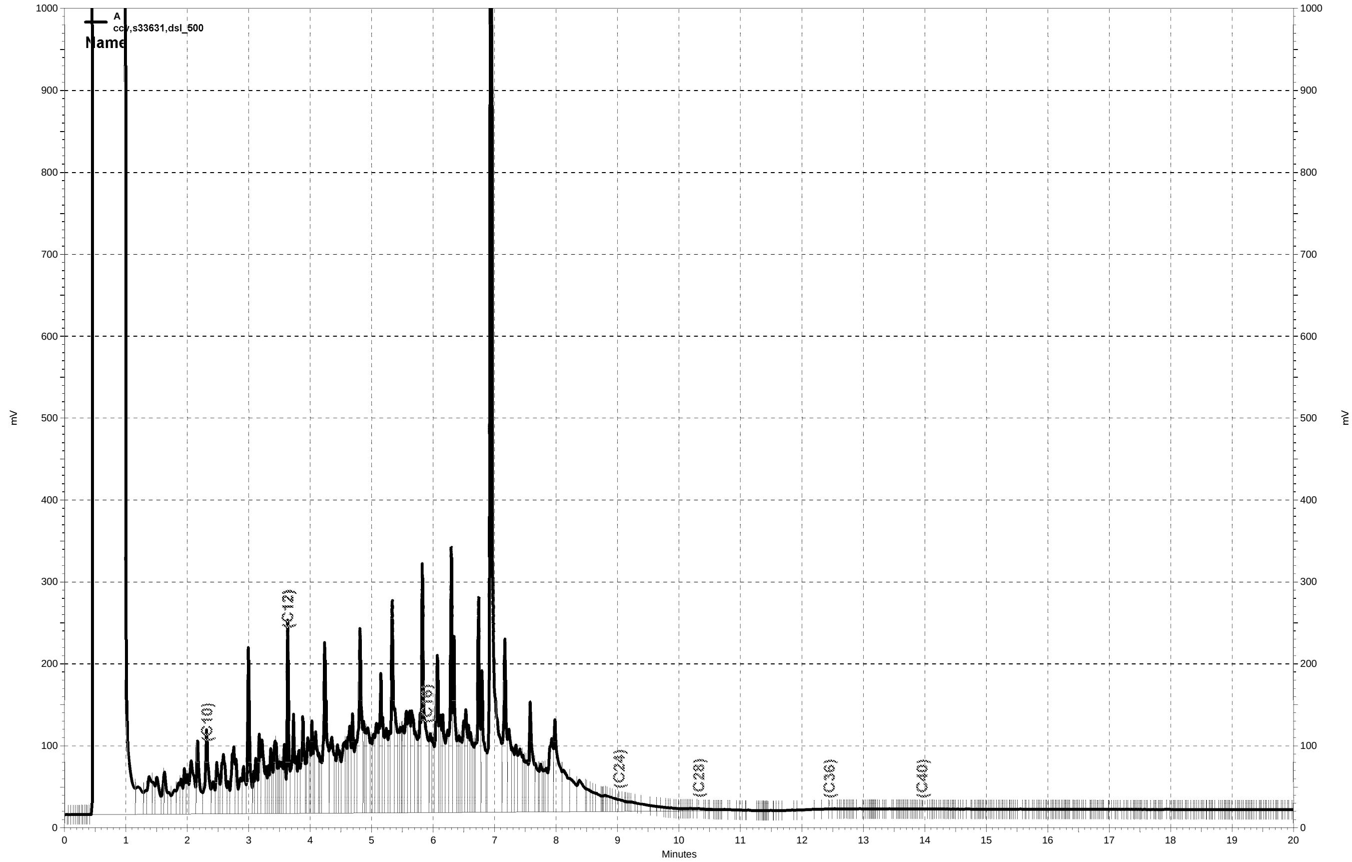

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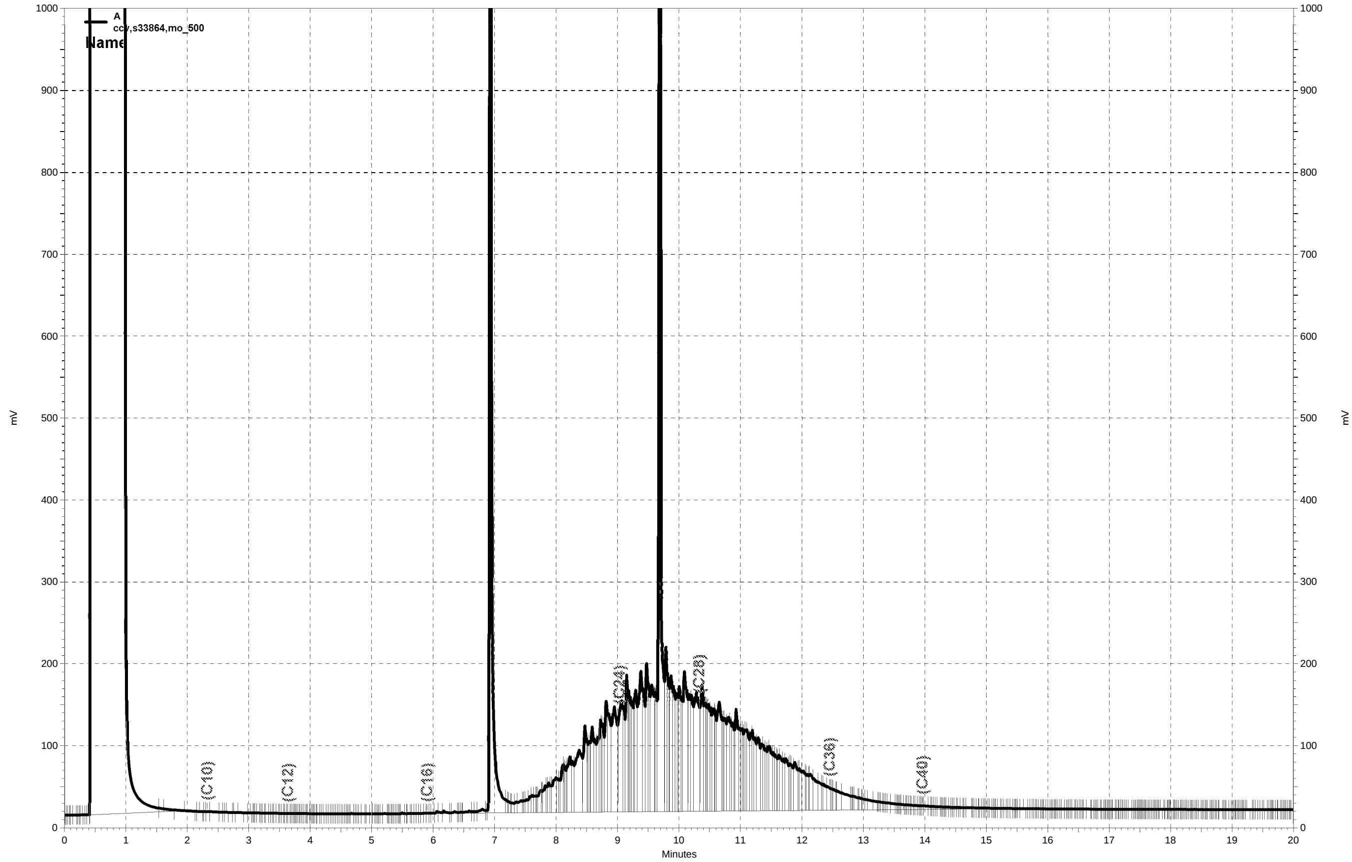

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 293017
ANALYTICAL REPORT

SLR International	Project : 102.01422.00001
110 11th Street	Location : Jean Sweeney
Oakland, CA 94607	Level : II

Sample ID	Lab ID
JS-SW-C05	293017-001
JS-SW-C06	293017-002
JS-SW-C07	293017-003
JS-SW-C08	293017-004
JS-SW-C09	293017-005
JS-SW-C10	293017-006
JS-SW-C11	293017-007
JS-BS-C03	293017-008
JS-BS-C04	293017-009
JS-BS-C104	293017-010
JS-SW-C109	293017-011

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 following signature. 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.

Signature: ______________________ Date: 10/02/2017

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

CASE NARRATIVE

Laboratory number:	**293017**
Client:	**SLR International**
Project:	**102.01422.00001**
Location:	**Jean Sweeney**
Request Date:	**09/29/17**
Samples Received:	**09/29/17**

This data package contains sample and QC results for eleven soil samples, requested for the above referenced project on 09/29/17. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):
JS-SW-C09 (lab # 293017-005) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

CHAIN OF CUSTODY

EPA 8015P
EPA 8015D w/ Silica gel cleanup

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs

2323 Fifth Street
Berkeley, CA 94710

Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # 293017

Page 1 of 1

Chain of Custody # ______

Project No:
Project Name: Jean Sweeney
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH 24hr ☐ Standard

Sampler: Pesth Silves
Report To:
Company: SLR
Telephone: 404 435 0758
Email: psilves@slrconsulting.com

Lab No.	Sample ID.	SAMPLING Date Collected	SAMPLING Time Collected	MATRIX Water	MATRIX Solid			# of Containers	CHEMICAL PRESERVATIVE HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: TPD-D, TPH-w/o, Bunker C	TPD-D, TPH w/o, Bunker C														
	JS-SW-CØ5	9/29/17	0915		X																								
	JS-SW-CØ6		0917																										
	JS-SW-CØ7		0919																										
	JS-SW-CØ8		0921																										
	JS-SW-CØ9		0923																										
	JS-SW-C10		0925																										
	JS-SW-C11		0927																										
	JS-BS-CØ3		1000																										
	JS-BS-CØ4		1002																										
	JS-BS-C1Ø4		1005																										
	~~JS-BS~~ JS-SW-[illegible]		1004																										

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:			RECEIVED BY:		
Pesth Silves	DATE: 9/29	TIME: 10:50	Pat [illegible]	DATE: 9/29/17	TIME: 10:50
	DATE:	TIME:		DATE:	TIME:
	DATE:	TIME:		DATE:	TIME:

COOLER RECEIPT CHECKLIST

ENTHALPY
Berkeley

Login # 293017 Date Received 9.29.17 Number of coolers 1
Client SLR Project Jean Sweeney

Date Opened 9.29.17 By (print) DC (sign)
Date Logged in ↓ By (print) DC (sign)
Date Labelled ↓ By (print) DC (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES **NO**
   Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many Name Date
2B. Were custody seals intact upon arrival? YES NO **N/A**
3. Were custody papers dry and intact when received? **YES** NO
4. Were custody papers filled out properly (ink, signed, etc)? **YES** NO
5. Is the project identifiable from custody papers? (If so fill out top of form) **YES** NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☑ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 5.5

☐ Temperature blank(s) included? ☐ Thermometer# ☒ IR Gun# A

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES **NO**
   If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? **YES** NO
10. Are there any missing / extra samples? YES **NO**
11. Are samples in the appropriate containers for indicated tests? **YES** NO
12. Are sample labels present, in good condition and complete? **YES** NO
13. Do the sample labels agree with custody papers? **YES** NO
14. Was sufficient amount of sample sent for tests requested? **YES** NO
15. Are the samples appropriately preserved? YES NO **N/A**
16. Did you check preservatives for all bottles for each sample? YES NO **N/A**
17. Did you document your preservative check? (pH strip lot#) YES NO **N/A**
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO **N/A**
19. Did you change the hold time in LIMS for preserved terracores? YES NO **N/A**
20. Are bubbles > 6mm absent in VOA samples? YES NO **N/A**
21. Was the client contacted concerning this sample delivery? YES **NO**
   If YES, Who was called? By Date:

COMMENTS

Rev 14, 8/01/17

Detections Summary for 293017

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : 102.01422.00001
Location : Jean Sweeney

Client Sample ID : JS-SW-C05 Laboratory Sample ID : 293017-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	27	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	20	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	83		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	50		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	210		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	140		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C06 Laboratory Sample ID : 293017-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	31	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	24	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	68		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	44		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	190		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	130		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C07 Laboratory Sample ID : 293017-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.0	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	5.1	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	11		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	8.9		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	32		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	27		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C08 Laboratory Sample ID : 293017-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.8	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	4.7	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	16		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	11		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	38		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	30		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C09 Laboratory Sample ID : 293017-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	670	Y	20	mg/Kg	As Recd	20.00	EPA 8015B	EPA 3550C
Diesel C10-C24	510	Y	20	mg/Kg	As Recd	20.00	EPA 8015B	EPA 3550C
Motor Oil C24-C36	2,700		100	mg/Kg	As Recd	20.00	EPA 8015B	EPA 3550C
Motor Oil C24-C36	2,300		100	mg/Kg	As Recd	20.00	EPA 8015B	EPA 3550C
Bunker C C12-C40	6,900		100	mg/Kg	As Recd	20.00	EPA 8015B	EPA 3550C
Bunker C C12-C40	5,700		100	mg/Kg	As Recd	20.00	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C10 Laboratory Sample ID : 293017-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7.2	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	5.7	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	25		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	17		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	63		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	44		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C11 Laboratory Sample ID : 293017-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	50	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	32	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	79		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	52		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	250		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	170		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-C03 Laboratory Sample ID : 293017-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	21	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	14	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	27		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	19		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	93		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	66		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-C04 Laboratory Sample ID : 293017-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Bunker C C12-C40	8.1	Y	5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

ENTHALPY ANALYTICAL

Client Sample ID : JS-BS-C104 Laboratory Sample ID : 293017-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.1	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	9.1		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	5.3		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	22		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	12		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-C109 Laboratory Sample ID : 293017-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	8.4	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	6.2	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	5.6	Y	5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	28	Y	5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	20	Y	5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	293017	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/29/17
Units:	mg/Kg	Received:	09/29/17
Basis:	as received	Prepared:	09/29/17
Batch#:	252180		

Field ID:	JS-SW-C05	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	293017-001		

Analyte	Result	RL	Analyzed
Diesel C10-C24	27 Y	1.0	09/29/17
Diesel C10-C24 (SGCU)	20 Y	1.0	09/30/17
Motor Oil C24-C36	83	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	50	5.0	09/30/17
Bunker C C12-C40	210	5.0	09/29/17
Bunker C C12-C40 (SGCU)	140	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	88	55-133	09/29/17
o-Terphenyl (SGCU)	67	55-133	09/30/17

Field ID:	JS-SW-C06	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	293017-002		

Analyte	Result	RL	Analyzed
Diesel C10-C24	31 Y	1.0	09/29/17
Diesel C10-C24 (SGCU)	24 Y	1.0	09/30/17
Motor Oil C24-C36	68	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	44	5.0	09/30/17
Bunker C C12-C40	190	5.0	09/29/17
Bunker C C12-C40 (SGCU)	130	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	86	55-133	09/29/17
o-Terphenyl (SGCU)	76	55-133	09/30/17

Field ID:	JS-SW-C07	Diln Fac:	1.000
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	293017-003		

Analyte	Result	RL	Analyzed
Diesel C10-C24	5.0 Y	1.0	09/29/17
Diesel C10-C24 (SGCU)	5.1 Y	1.0	09/30/17
Motor Oil C24-C36	11	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	8.9	5.0	09/30/17
Bunker C C12-C40	32	5.0	09/29/17
Bunker C C12-C40 (SGCU)	27	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	92	55-133	09/29/17
o-Terphenyl (SGCU)	77	55-133	09/30/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	293017	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/29/17
Units:	mg/Kg	Received:	09/29/17
Basis:	as received	Prepared:	09/29/17
Batch#:	252180		

Field ID: JS-SW-C08
Type: SAMPLE
Lab ID: 293017-004
Diln Fac: 1.000
Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	4.8 Y	1.0	09/29/17
Diesel C10-C24 (SGCU)	4.7 Y	1.0	09/30/17
Motor Oil C24-C36	16	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	11	5.0	09/30/17
Bunker C C12-C40	38	5.0	09/29/17
Bunker C C12-C40 (SGCU)	30	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	94	55-133	09/29/17
o-Terphenyl (SGCU)	83	55-133	09/30/17

Field ID: JS-SW-C09
Type: SAMPLE
Lab ID: 293017-005
Diln Fac: 20.00
Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	670 Y	20	09/29/17
Diesel C10-C24 (SGCU)	510 Y	20	09/30/17
Motor Oil C24-C36	2,700	100	09/29/17
Motor Oil C24-C36 (SGCU)	2,300	100	09/30/17
Bunker C C12-C40	6,900	100	09/29/17
Bunker C C12-C40 (SGCU)	5,700	100	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	DO	55-133	09/29/17
o-Terphenyl (SGCU)	DO	55-133	09/30/17

Field ID: JS-SW-C10
Type: SAMPLE
Lab ID: 293017-006
Diln Fac: 1.000
Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	7.2 Y	1.0	09/29/17
Diesel C10-C24 (SGCU)	5.7 Y	1.0	09/30/17
Motor Oil C24-C36	25	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	17	5.0	09/30/17
Bunker C C12-C40	63	5.0	09/29/17
Bunker C C12-C40 (SGCU)	44	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	92	55-133	09/29/17
o-Terphenyl (SGCU)	77	55-133	09/30/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	293017	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/29/17
Units:	mg/Kg	Received:	09/29/17
Basis:	as received	Prepared:	09/29/17
Batch#:	252180		

Field ID: JS-SW-C11 — Diln Fac: 1.000
Type: SAMPLE — Cleanup Method: EPA 3630C
Lab ID: 293017-007

Analyte	Result	RL	Analyzed
Diesel C10-C24	50 Y	0.99	09/29/17
Diesel C10-C24 (SGCU)	32 Y	0.99	09/30/17
Motor Oil C24-C36	79	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	52	5.0	09/30/17
Bunker C C12-C40	250	5.0	09/29/17
Bunker C C12-C40 (SGCU)	170	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	70	55-133	09/29/17
o-Terphenyl (SGCU)	57	55-133	09/30/17

Field ID: JS-BS-C03 — Diln Fac: 1.000
Type: SAMPLE — Cleanup Method: EPA 3630C
Lab ID: 293017-008

Analyte	Result	RL	Analyzed
Diesel C10-C24	21 Y	1.0	09/29/17
Diesel C10-C24 (SGCU)	14 Y	1.0	09/30/17
Motor Oil C24-C36	27	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	19	5.0	09/30/17
Bunker C C12-C40	93	5.0	09/29/17
Bunker C C12-C40 (SGCU)	66	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	77	55-133	09/29/17
o-Terphenyl (SGCU)	65	55-133	09/30/17

Field ID: JS-BS-C04 — Diln Fac: 1.000
Type: SAMPLE — Cleanup Method: EPA 3630C
Lab ID: 293017-009

Analyte	Result	RL	Analyzed
Diesel C10-C24	ND	1.0	09/29/17
Diesel C10-C24 (SGCU)	ND	1.0	09/30/17
Motor Oil C24-C36	ND	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/30/17
Bunker C C12-C40	8.1 Y	5.0	09/29/17
Bunker C C12-C40 (SGCU)	ND	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	81	55-133	09/29/17
o-Terphenyl (SGCU)	78	55-133	09/30/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	293017	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/29/17
Units:	mg/Kg	Received:	09/29/17
Basis:	as received	Prepared:	09/29/17
Batch#:	252180		

Field ID: JS-BS-C104 | Diln Fac: 1.000
Type: SAMPLE | Cleanup Method: EPA 3630C
Lab ID: 293017-010

Analyte	Result	RL	Analyzed
Diesel C10-C24	3.1 Y	1.0	09/29/17
Diesel C10-C24 (SGCU)	ND	1.0	09/30/17
Motor Oil C24-C36	9.1	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	5.3	5.0	09/30/17
Bunker C C12-C40	22	5.0	09/29/17
Bunker C C12-C40 (SGCU)	12	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	91	55-133	09/29/17
o-Terphenyl (SGCU)	78	55-133	09/30/17

Field ID: JS-SW-C109 | Diln Fac: 1.000
Type: SAMPLE | Cleanup Method: EPA 3630C
Lab ID: 293017-011

Analyte	Result	RL	Analyzed
Diesel C10-C24	8.4 Y	1.0	09/29/17
Diesel C10-C24 (SGCU)	6.2 Y	1.0	09/30/17
Motor Oil C24-C36	5.6 Y	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/30/17
Bunker C C12-C40	28 Y	5.0	09/29/17
Bunker C C12-C40 (SGCU)	20 Y	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	95	55-133	09/29/17
o-Terphenyl (SGCU)	85	55-133	09/30/17

Type: BLANK | Diln Fac: 1.000
Lab ID: QC902952 | Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	ND	1.0	09/29/17
Diesel C10-C24 (SGCU)	ND	1.0	09/30/17
Motor Oil C24-C36	ND	5.0	09/29/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/30/17
Bunker C C12-C40	ND	5.0	09/29/17
Bunker C C12-C40 (SGCU)	ND	5.0	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	98	55-133	09/29/17
o-Terphenyl (SGCU)	84	55-133	09/30/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	293017	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC902953	Batch#:	252180
Matrix:	Soil	Prepared:	09/29/17
Units:	mg/Kg		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	Analyzed
Diesel C10-C24	50.30	48.17	96	51-137	09/29/17
Diesel C10-C24 (SGCU)	50.30	45.35	90	51-137	09/30/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	105	55-133	09/29/17
o-Terphenyl (SGCU)	98	55-133	09/30/17

SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	293017	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	252180
MSS Lab ID:	292957-001	Sampled:	09/26/17
Matrix:	Soil	Received:	09/28/17
Units:	mg/Kg	Prepared:	09/29/17
Basis:	as received	Analyzed:	09/29/17
Diln Fac:	2.000		

Type: MS Lab ID: QC902954

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	12.29	50.33	69.08	113	36-143

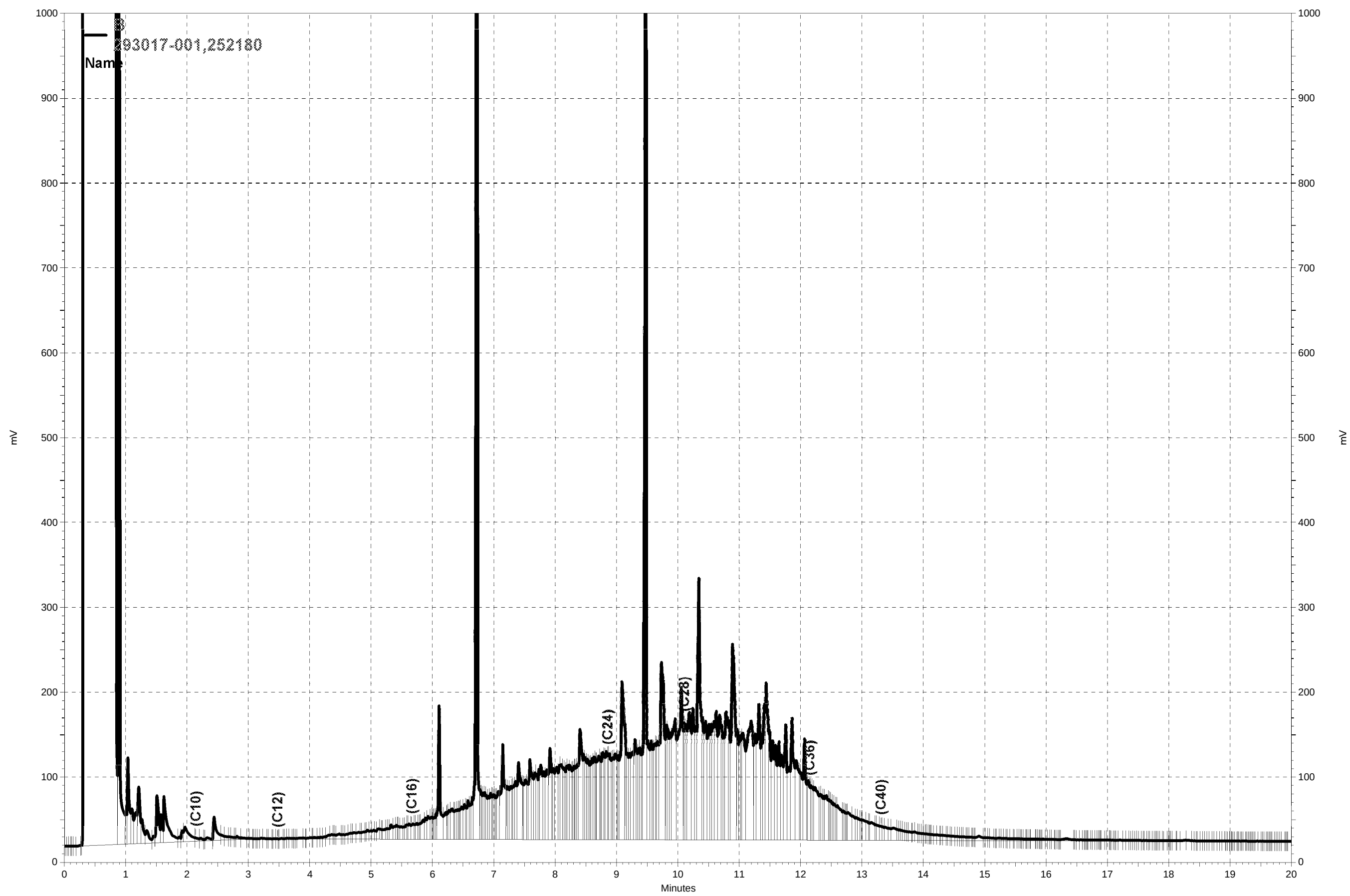
Surrogate	%REC	Limits
o-Terphenyl	97	55-133

Type: MSD Lab ID: QC902955

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.26	63.08	101	36-143	9	55

Surrogate	%REC	Limits
o-Terphenyl	94	55-133

RPD= Relative Percent Difference



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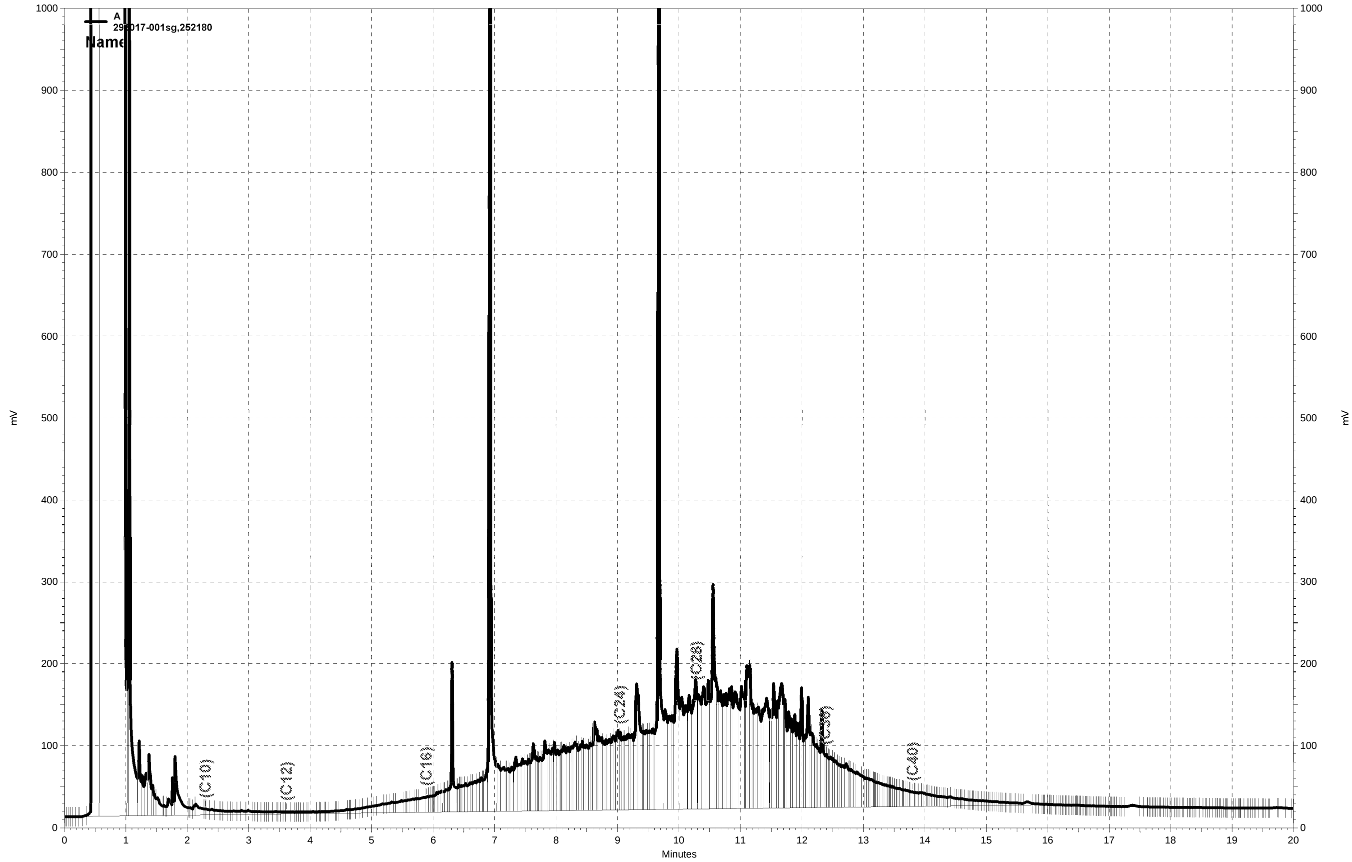

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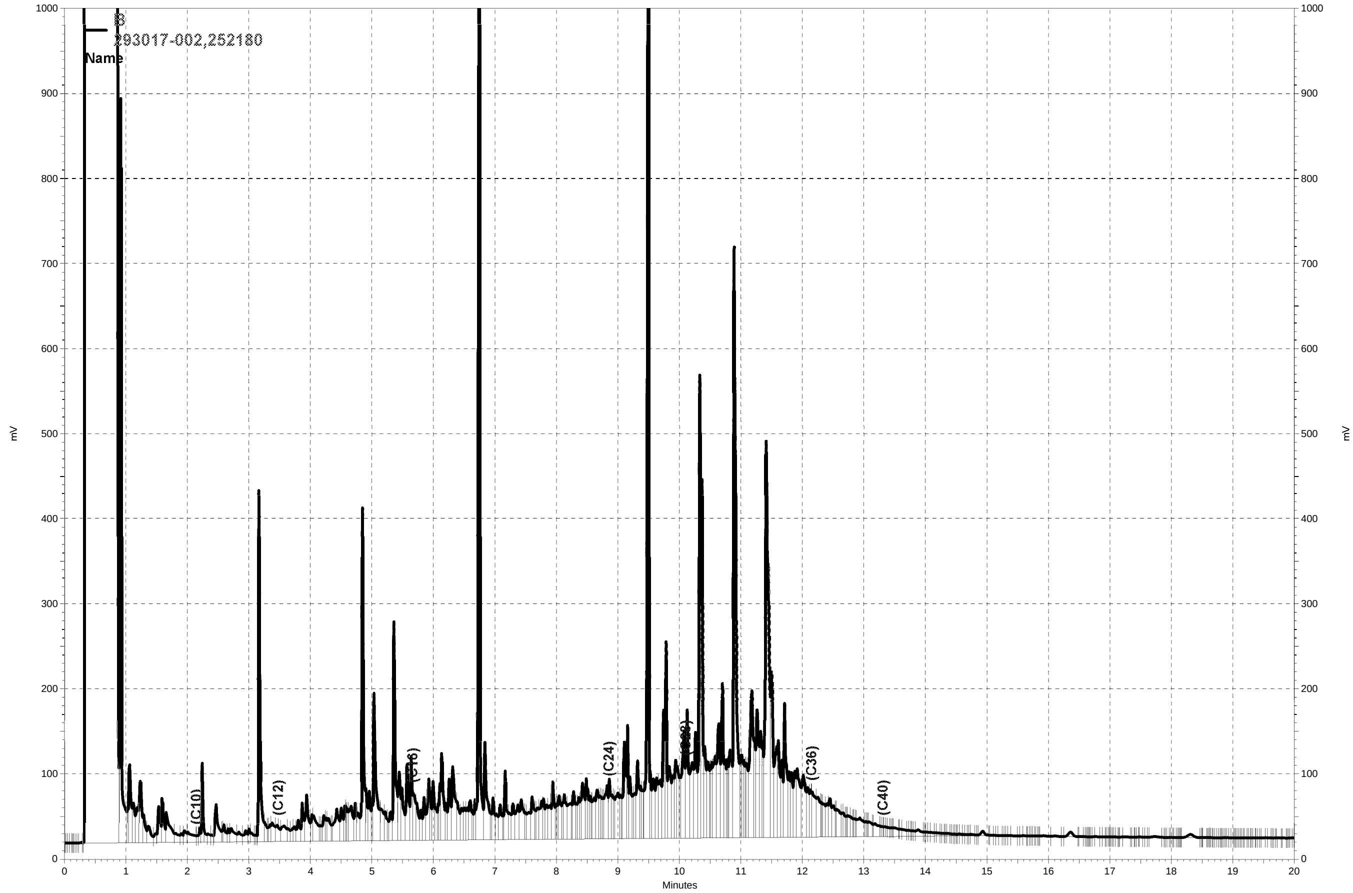

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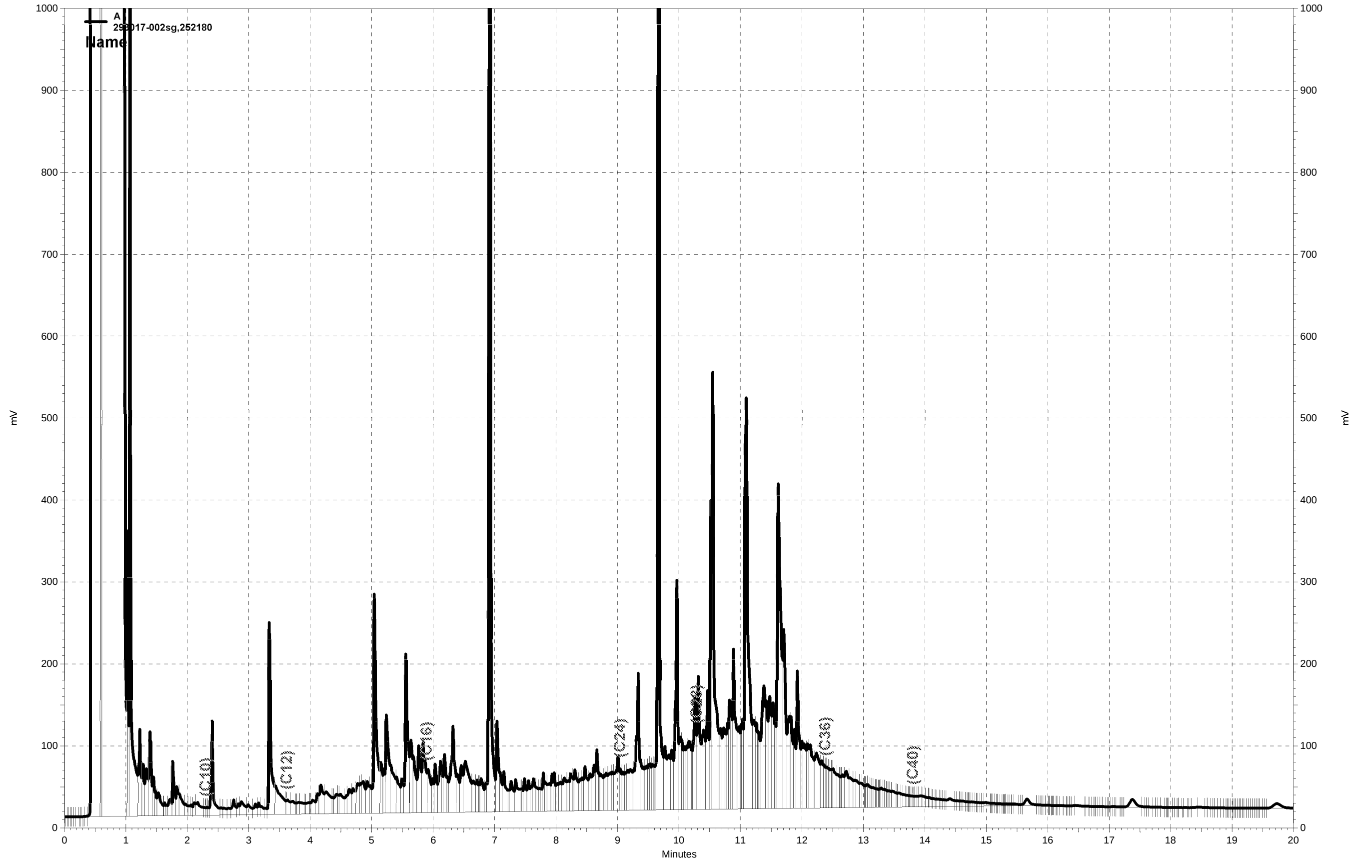

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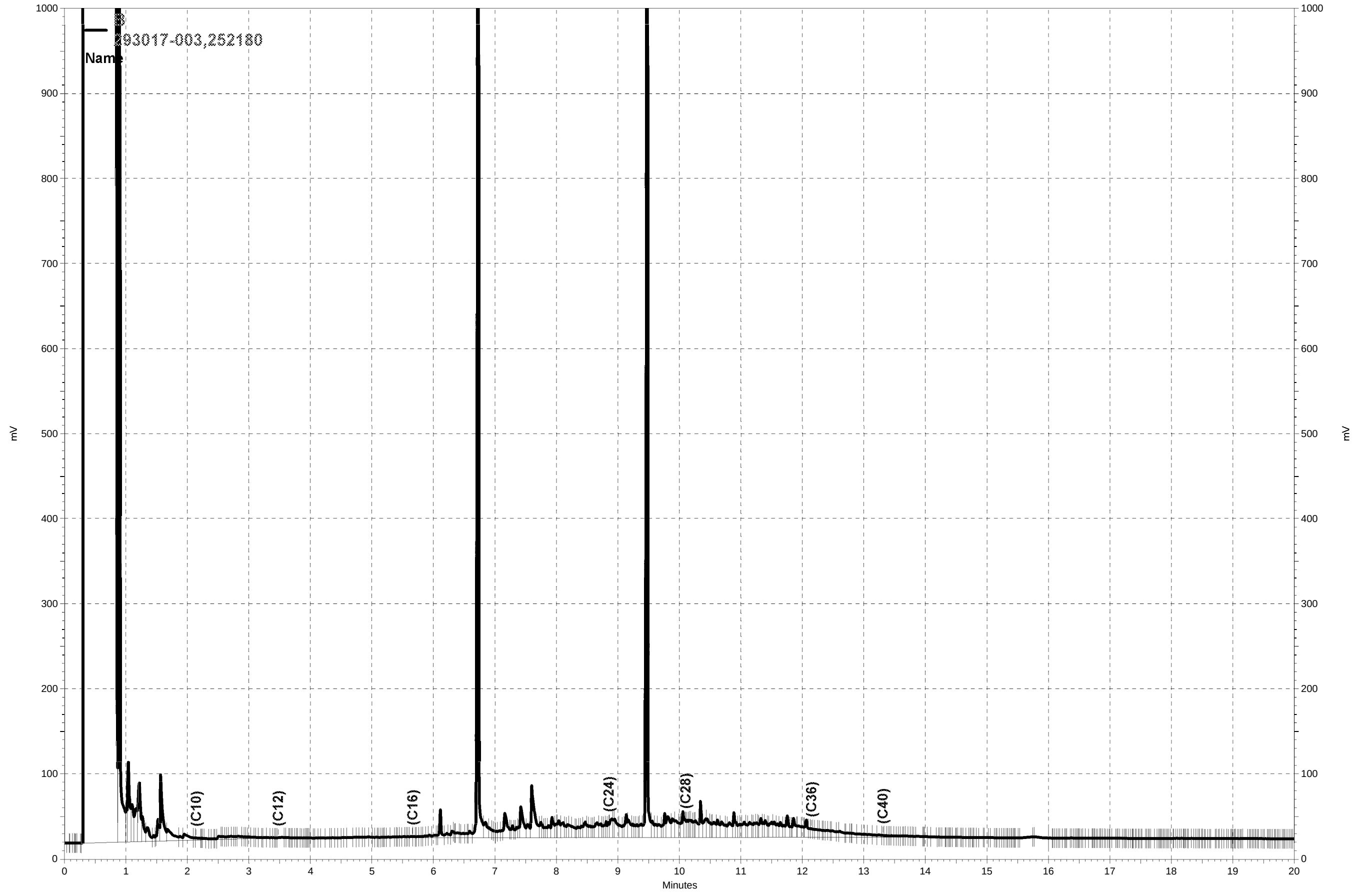

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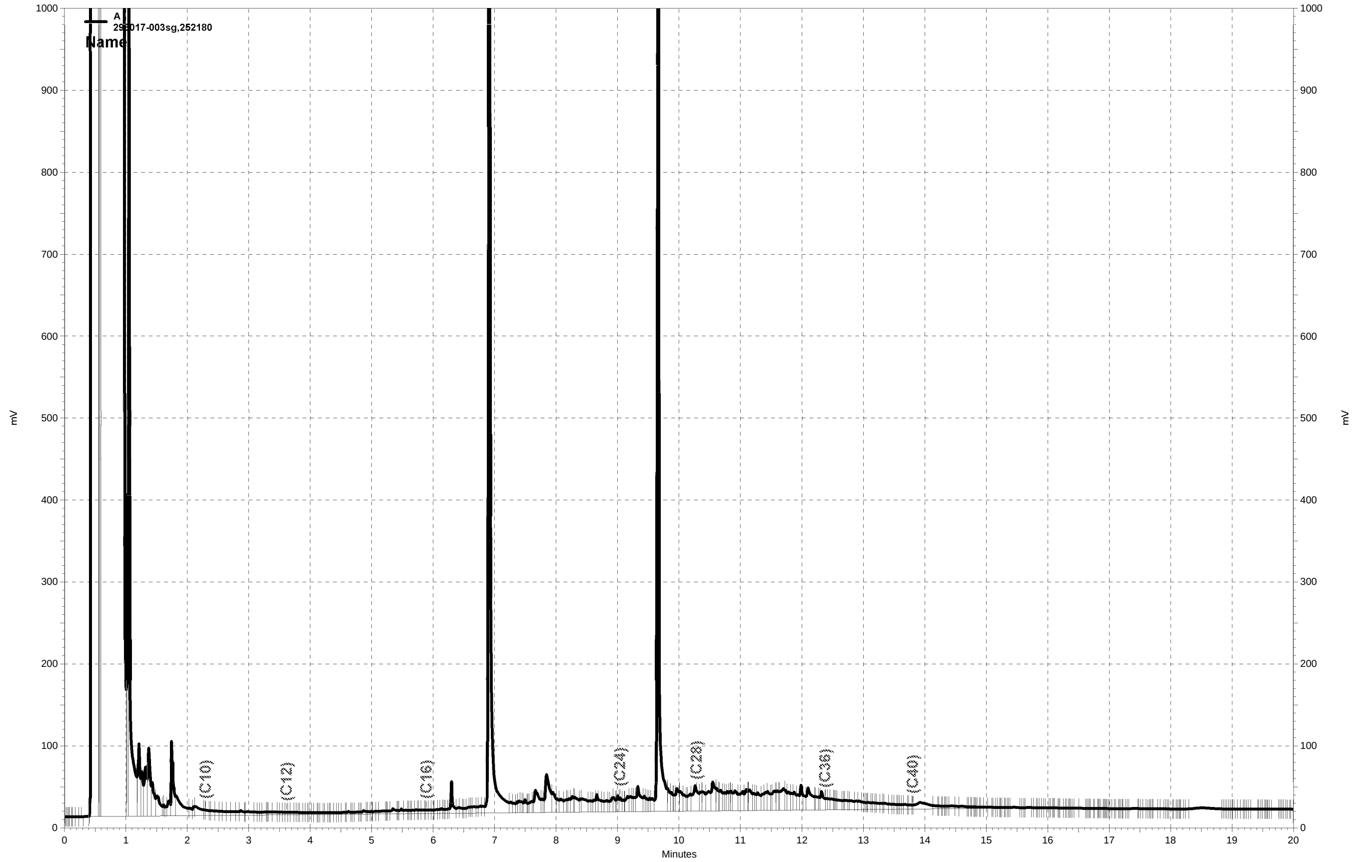

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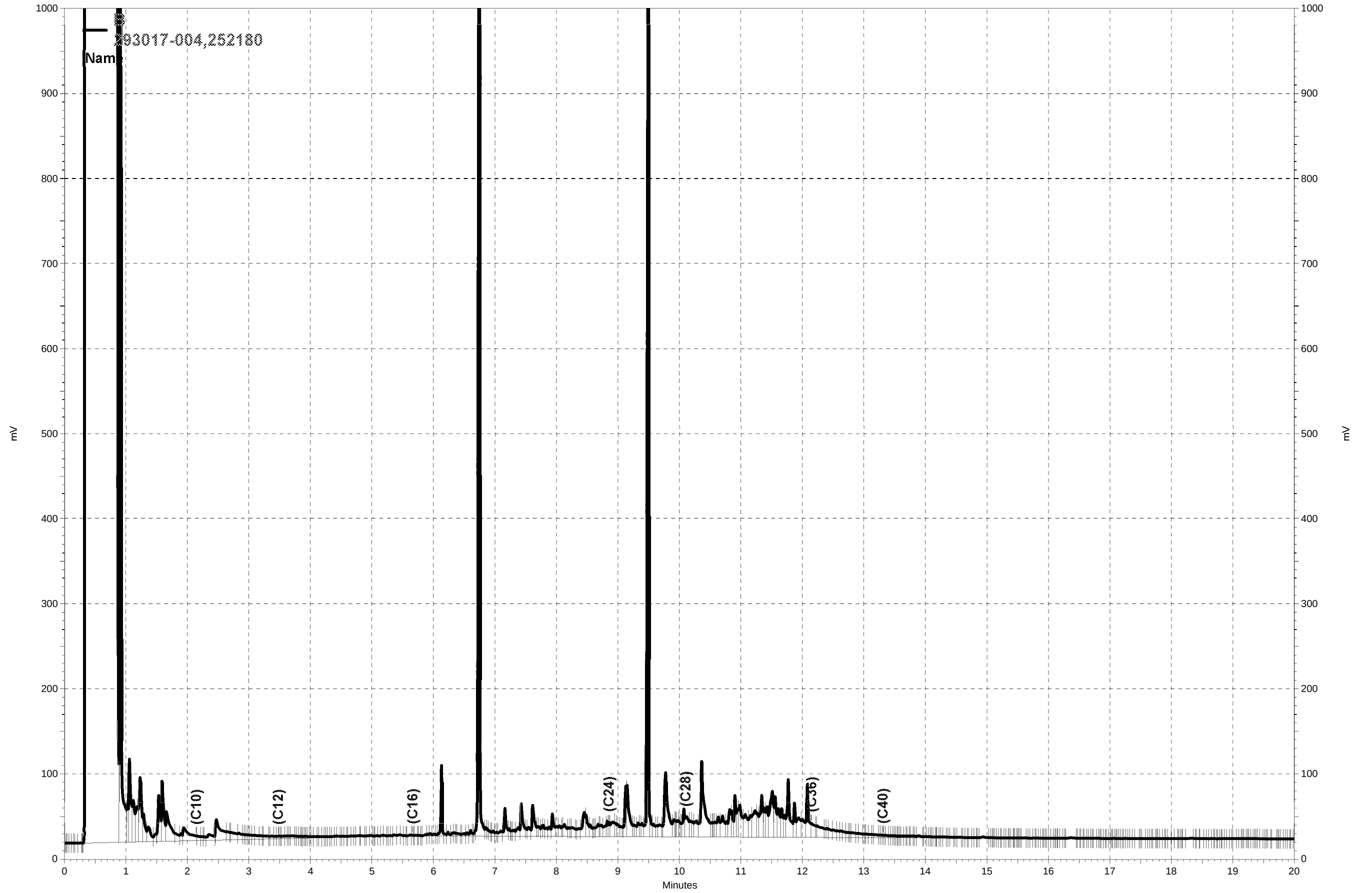

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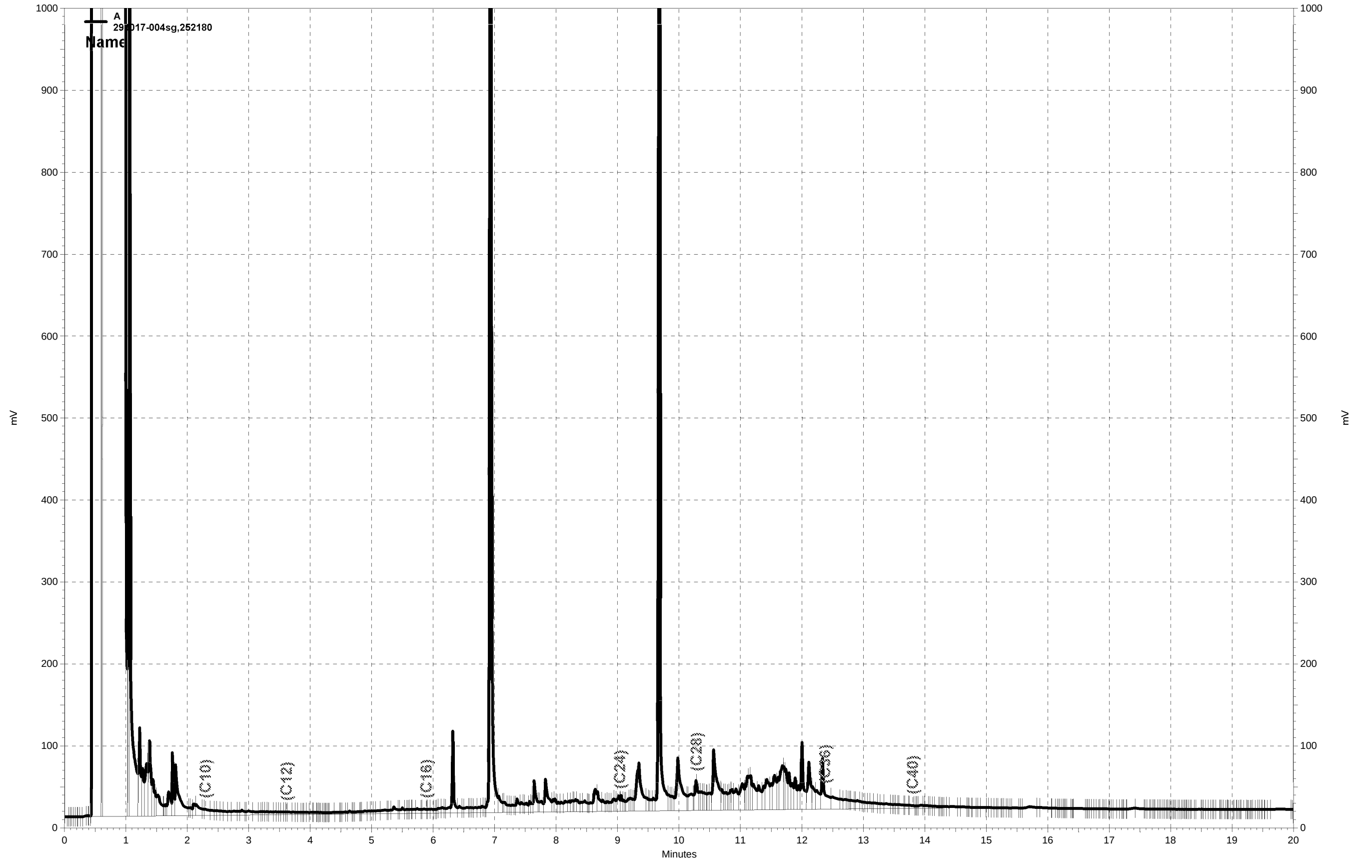

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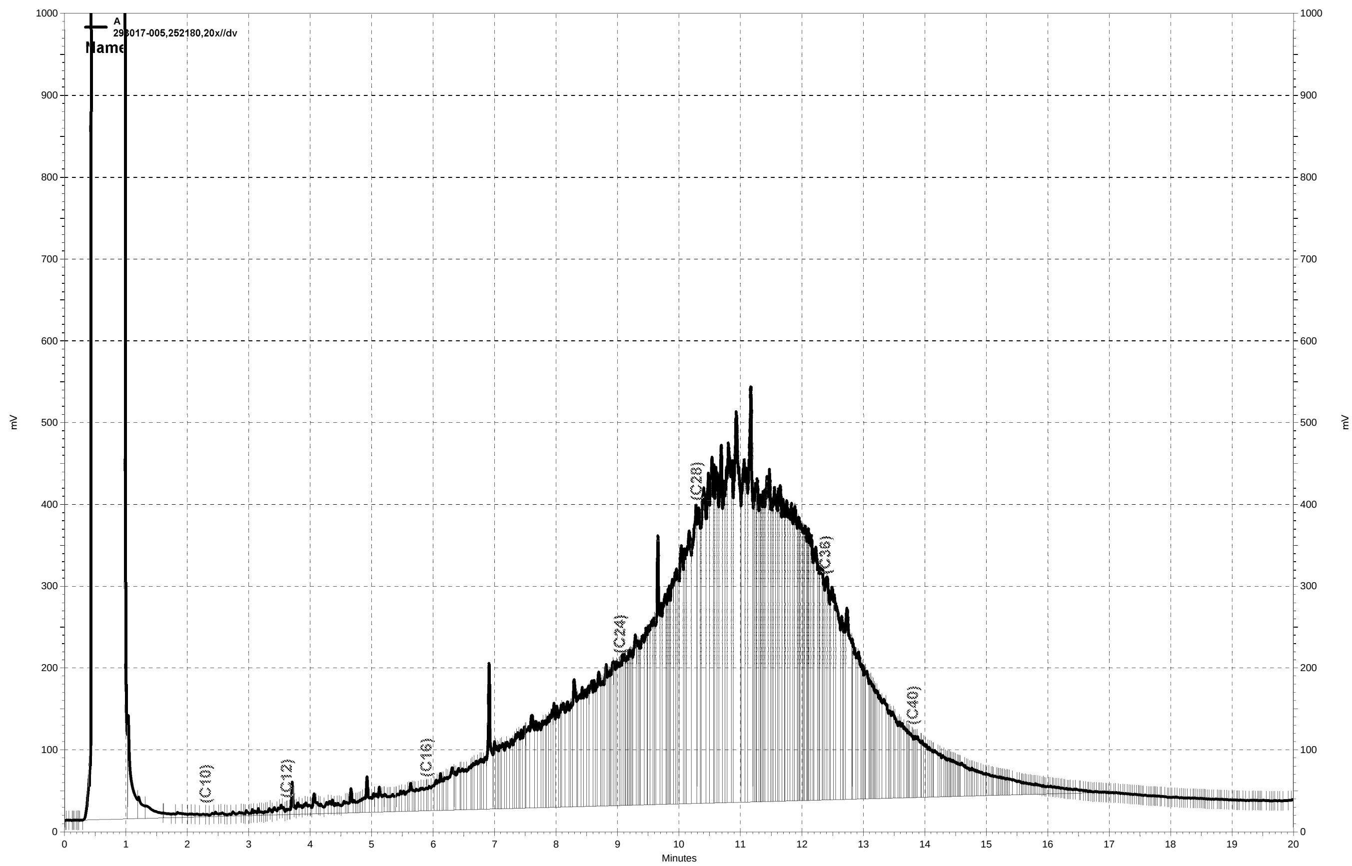

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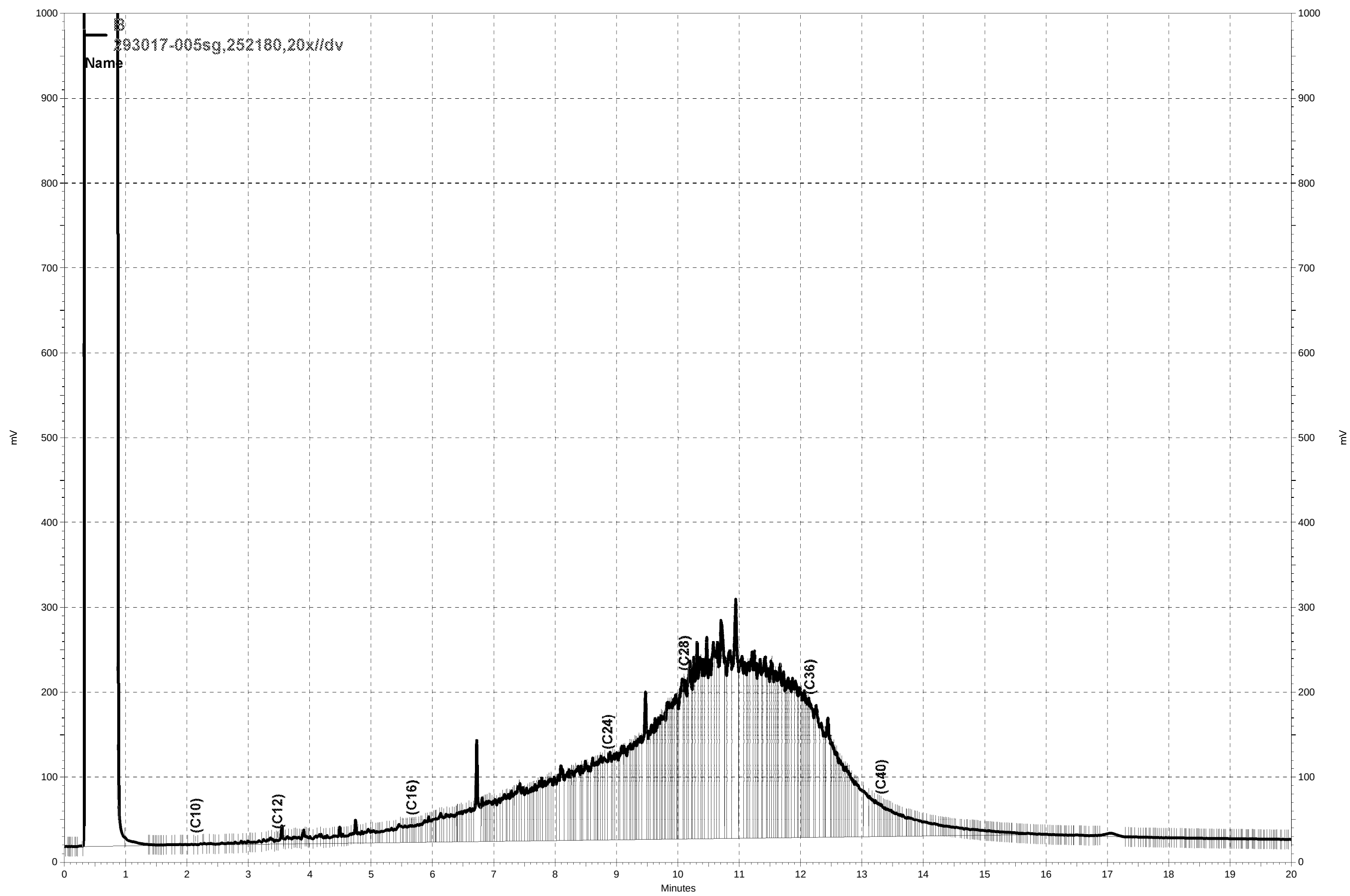

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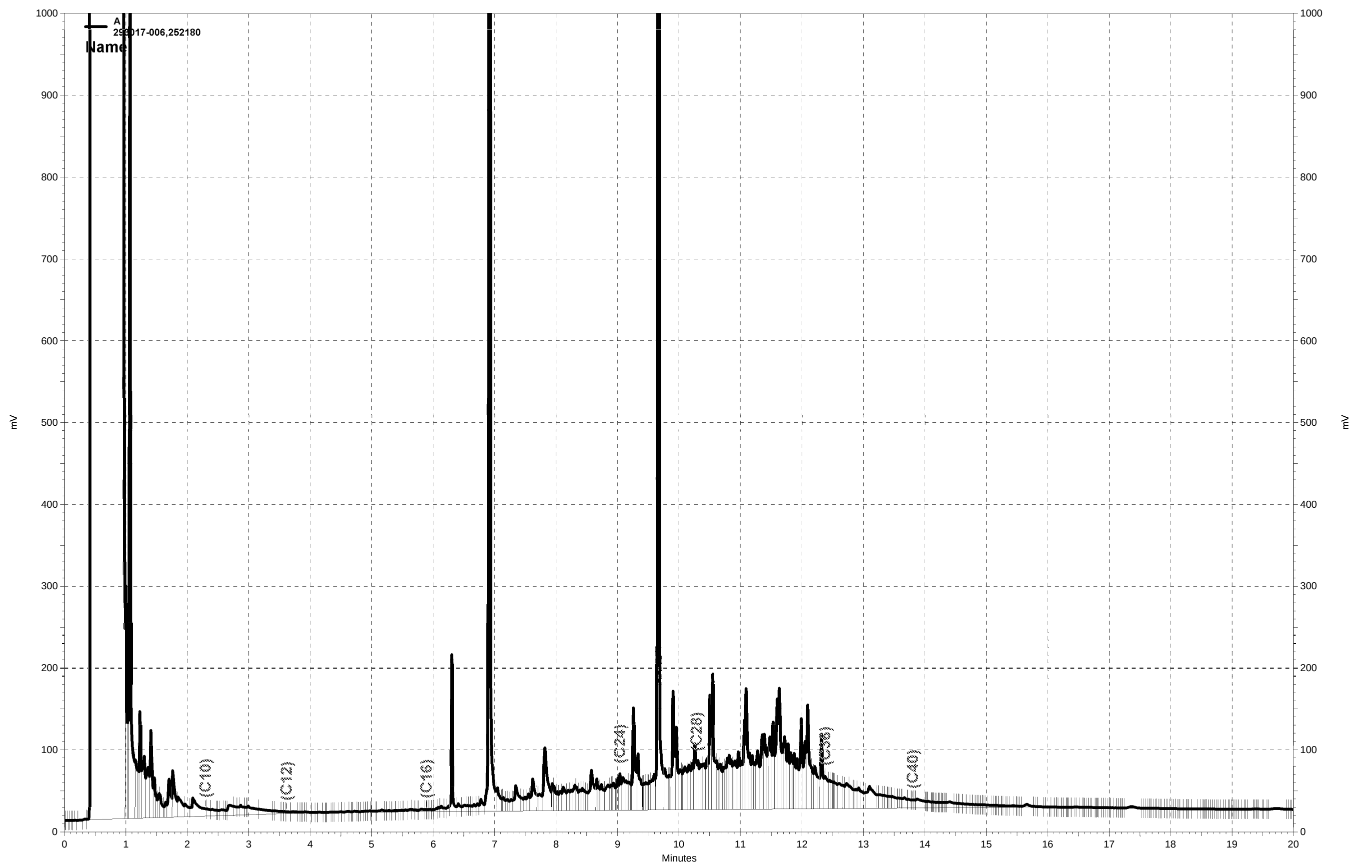

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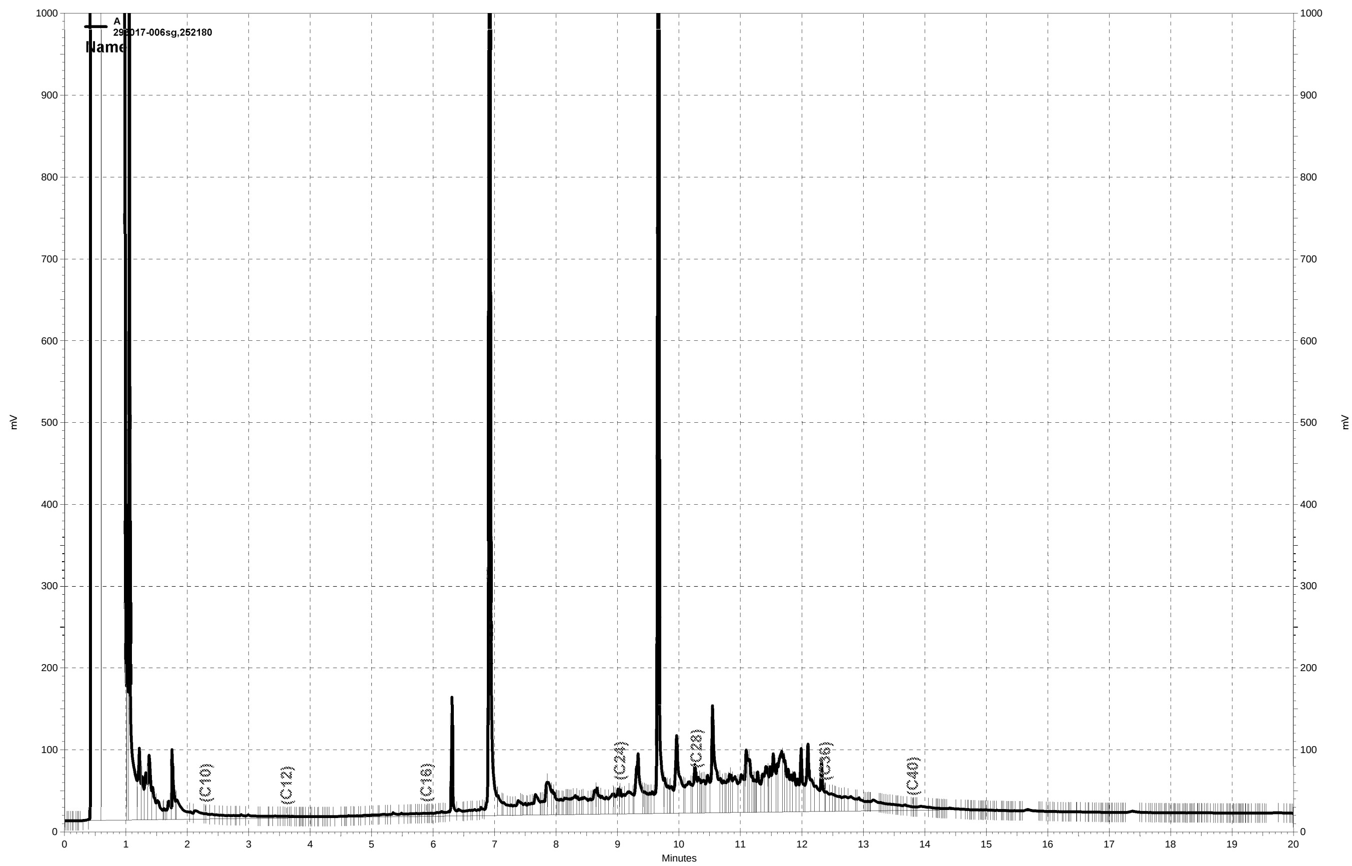

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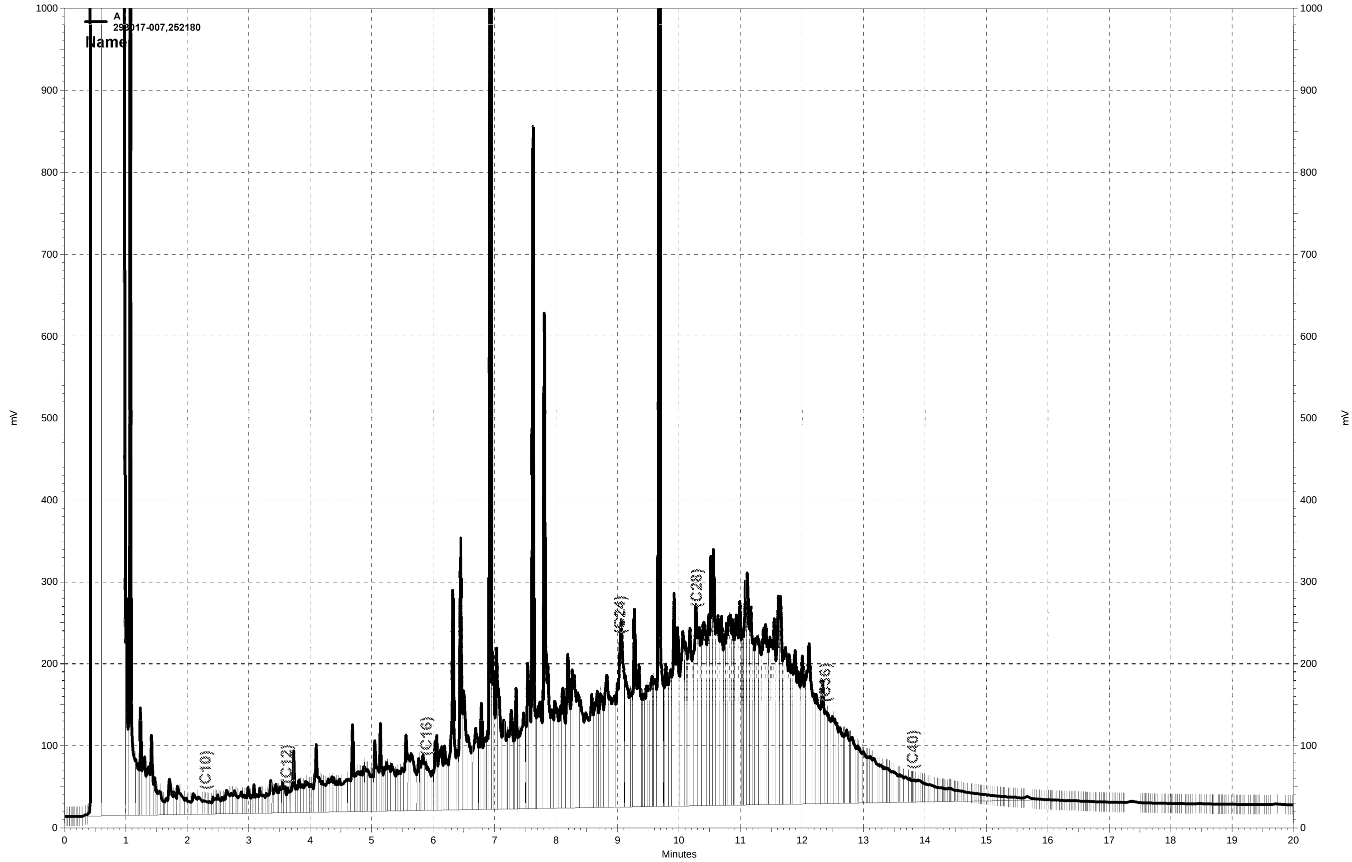

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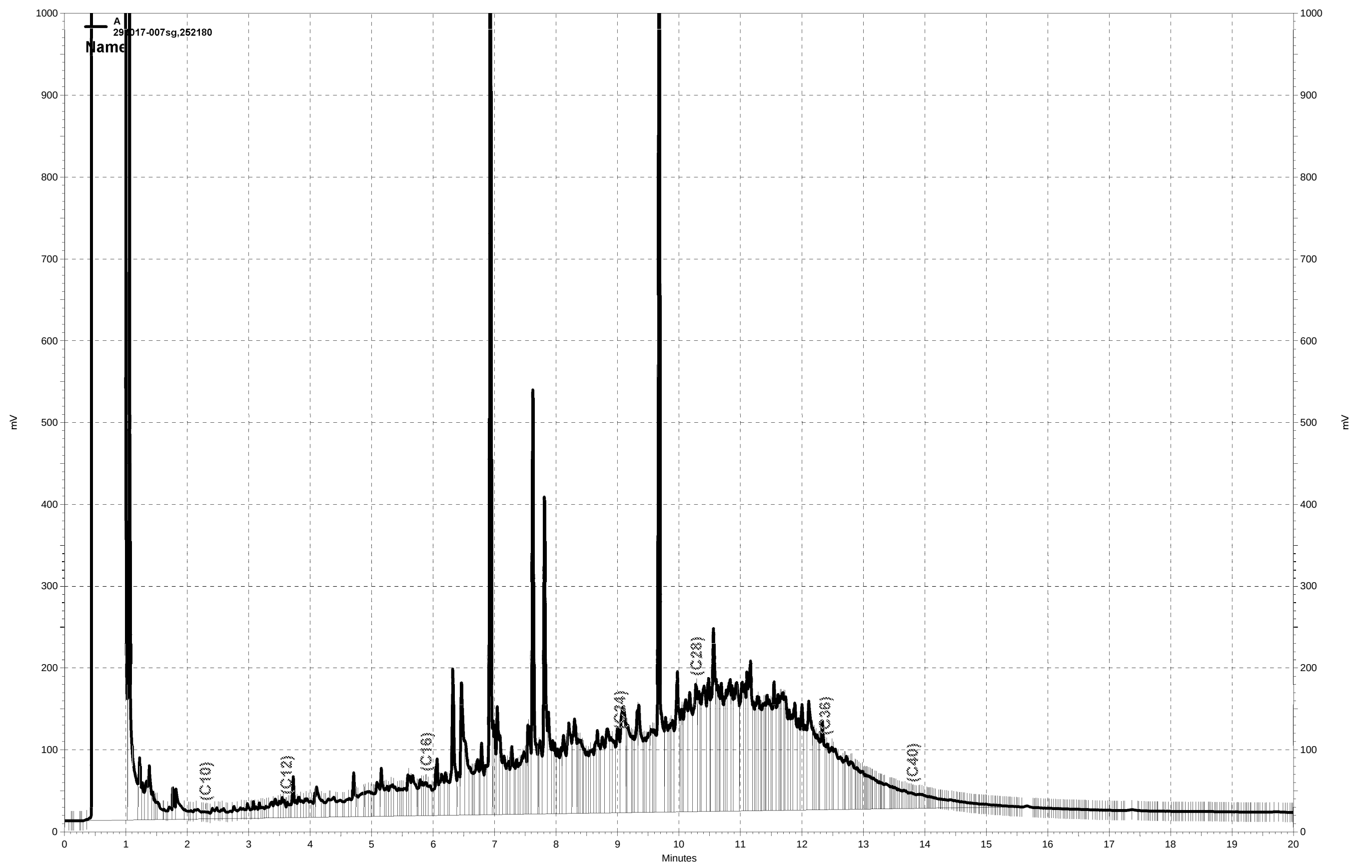

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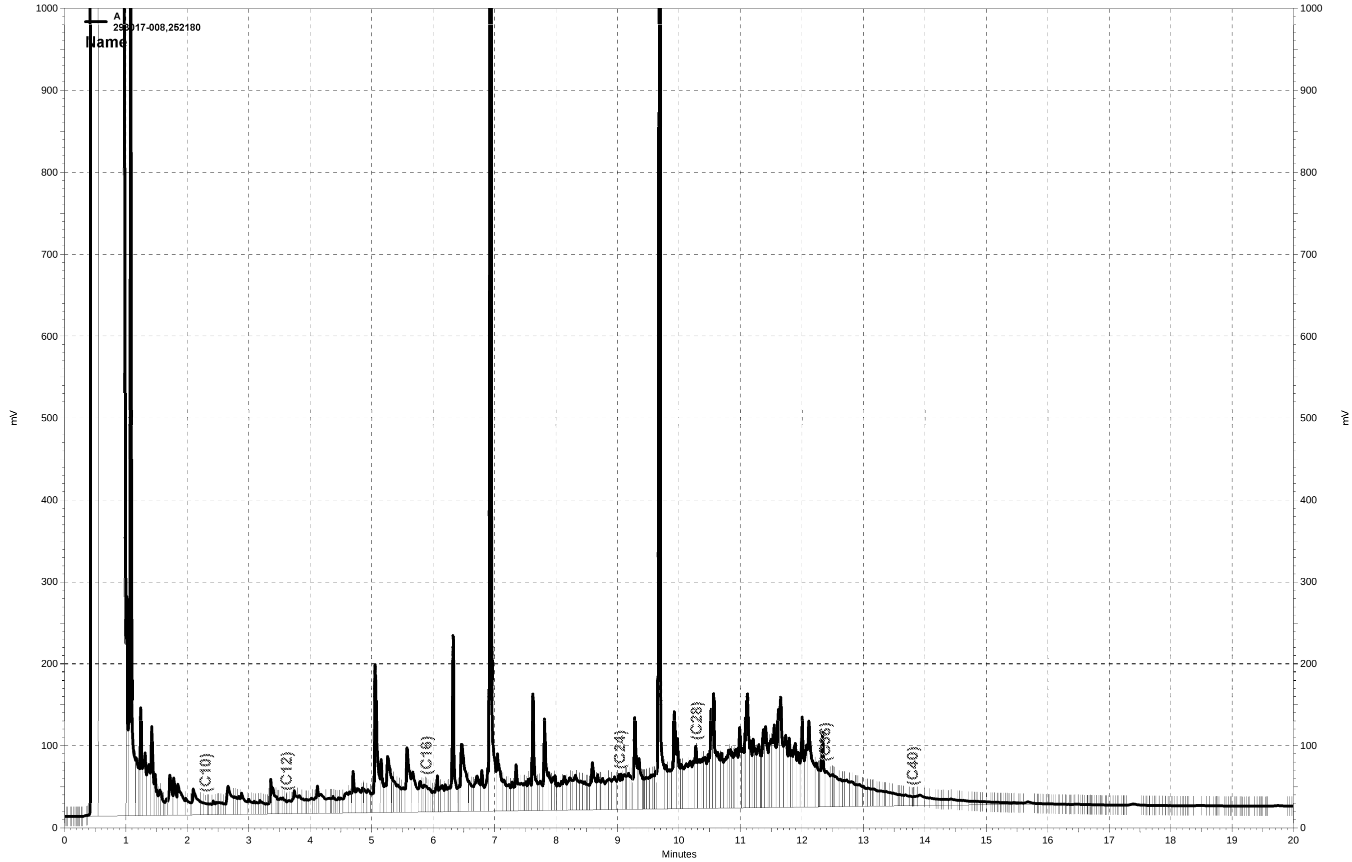

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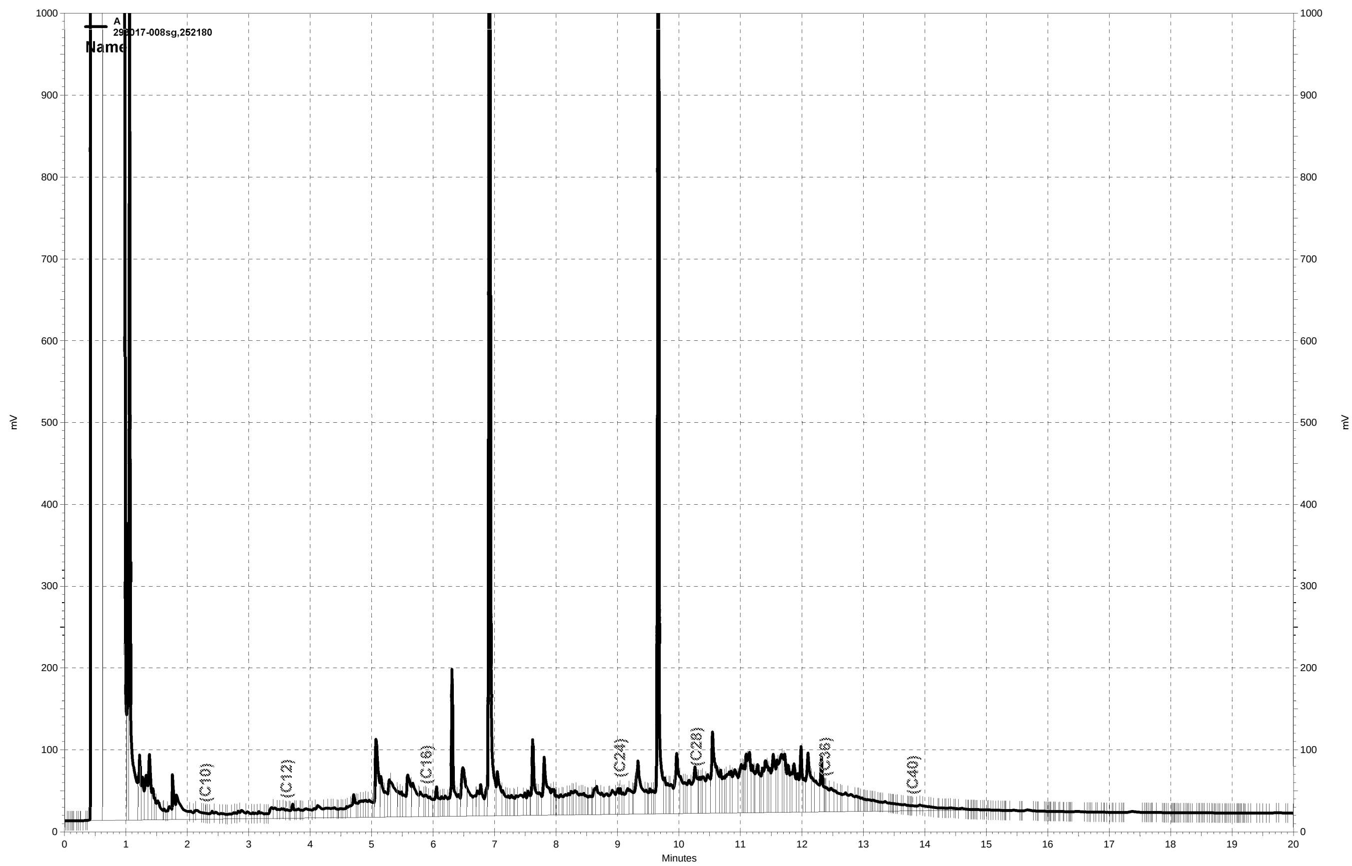

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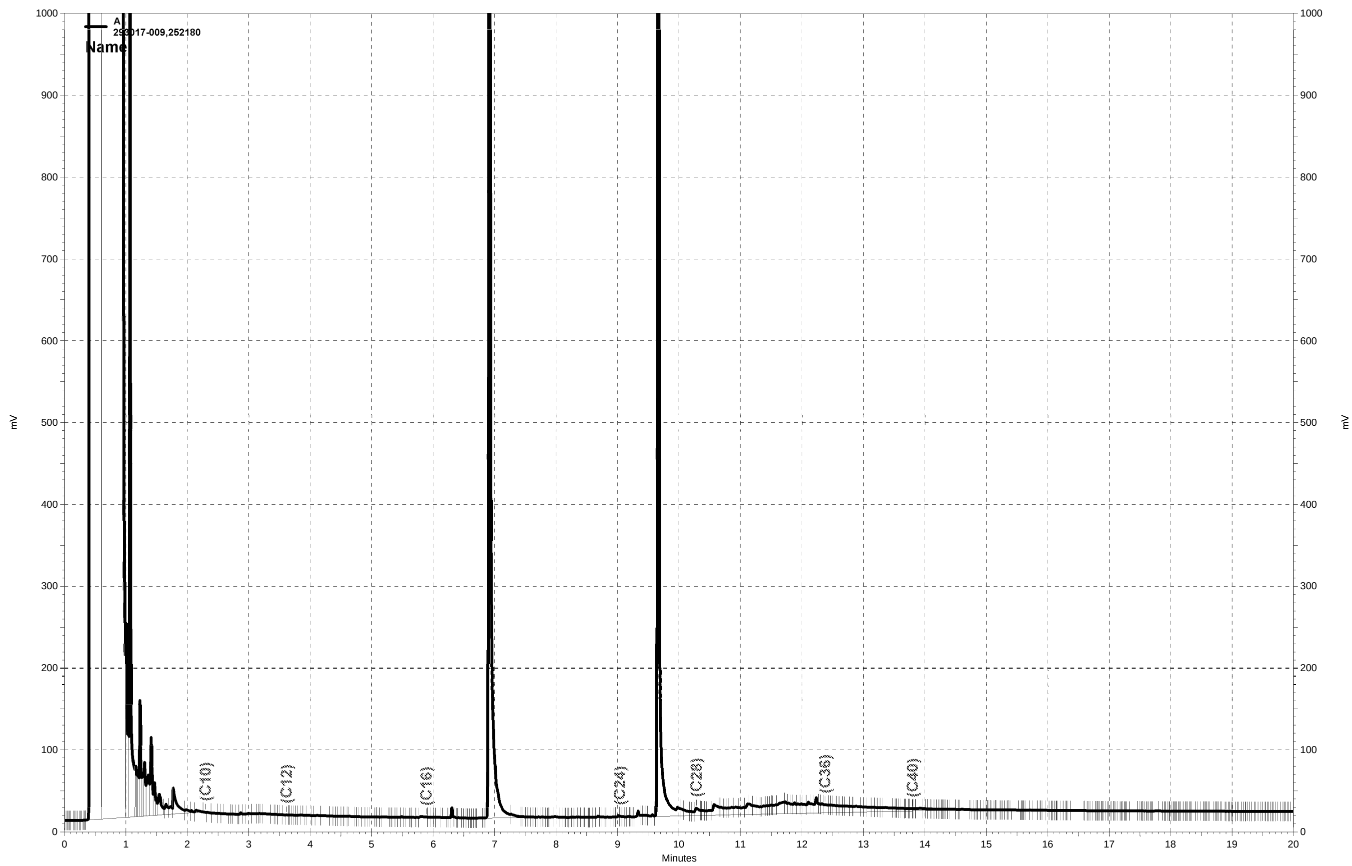

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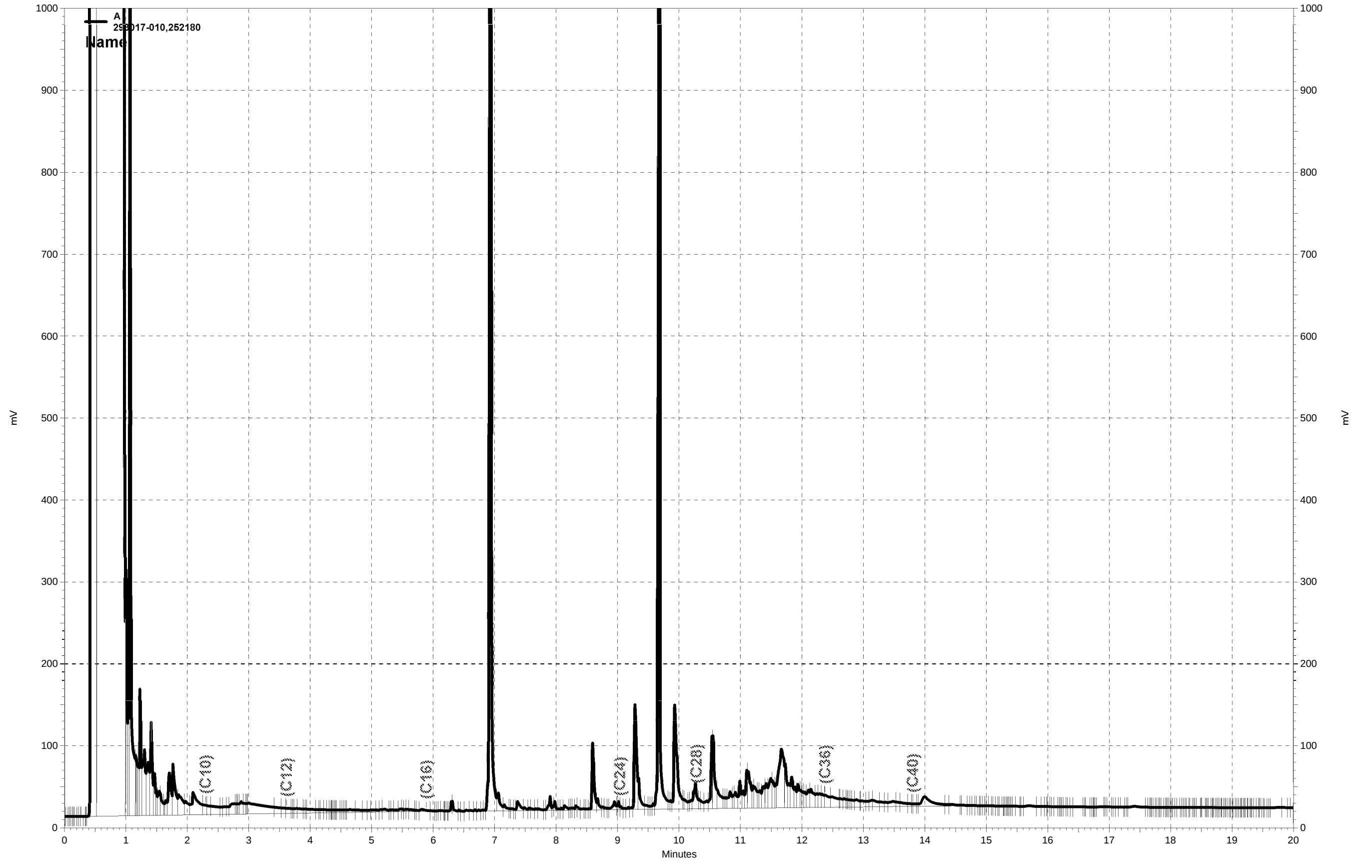

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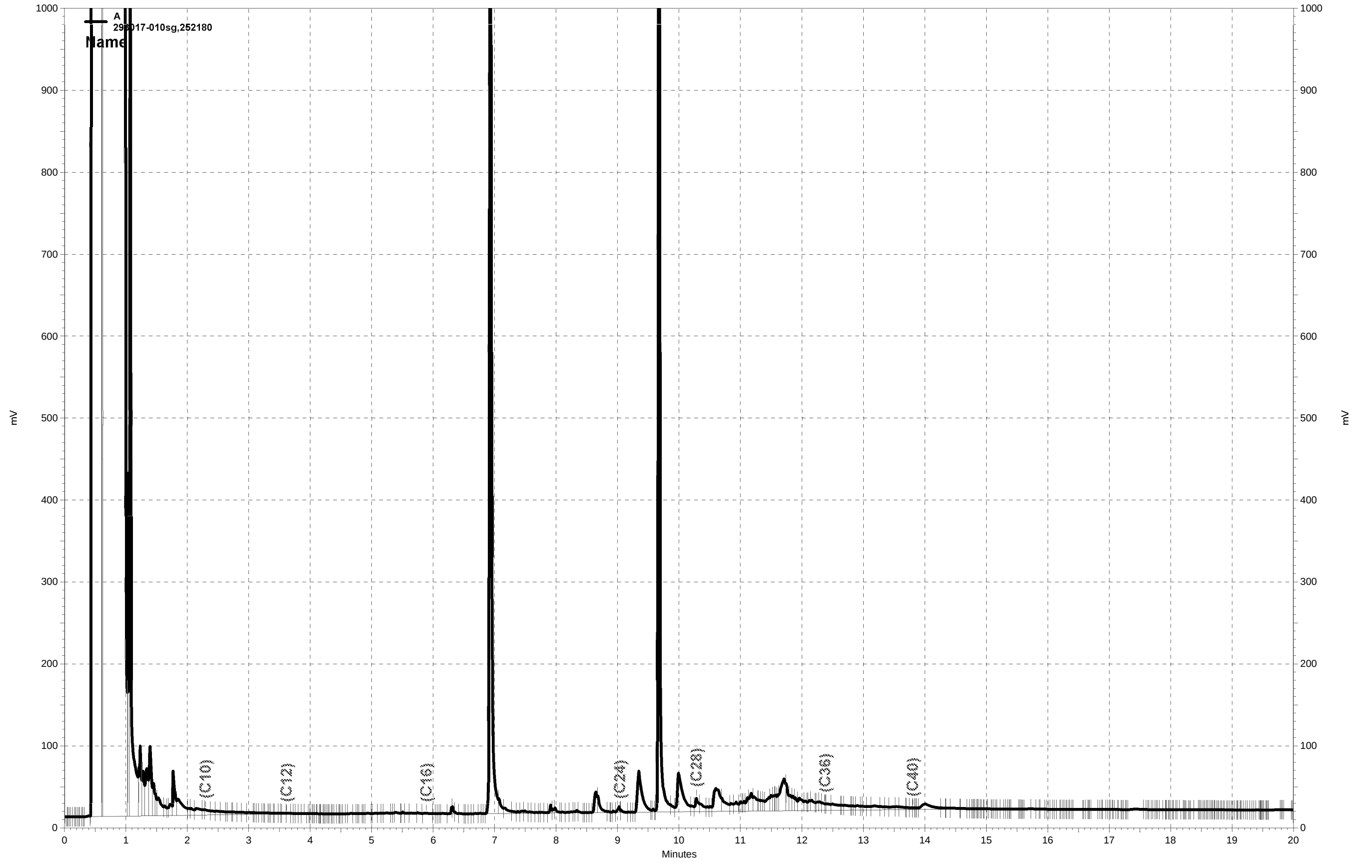

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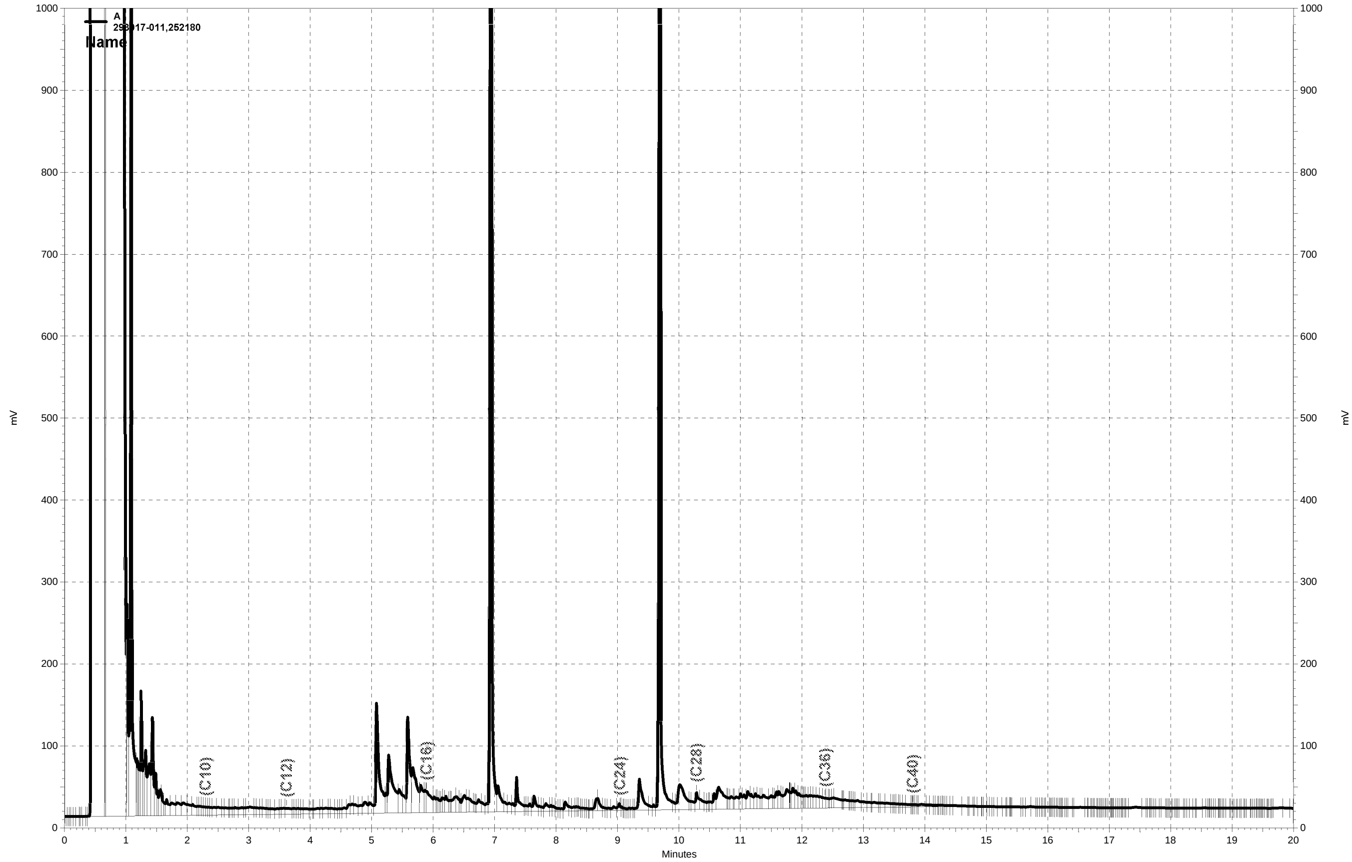

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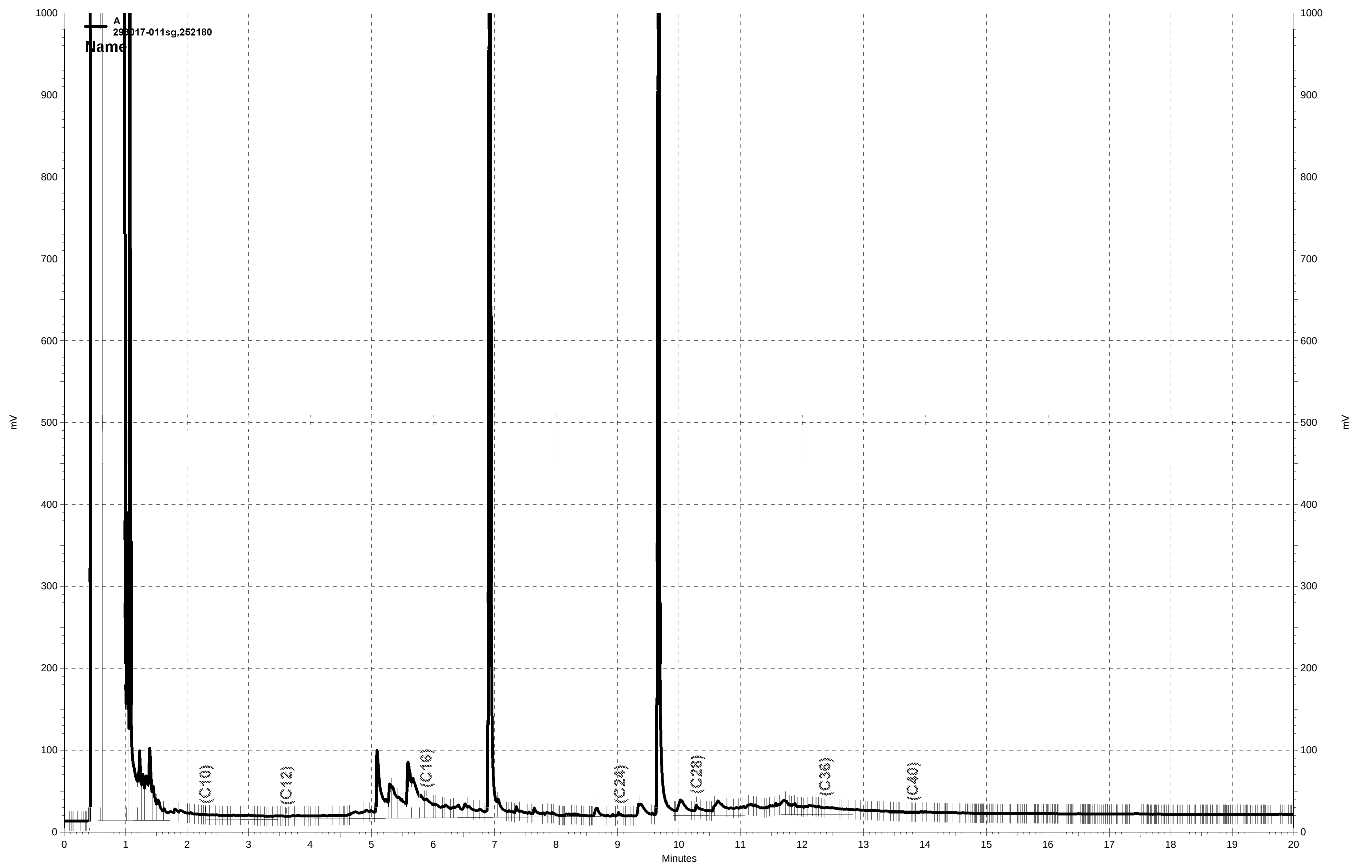

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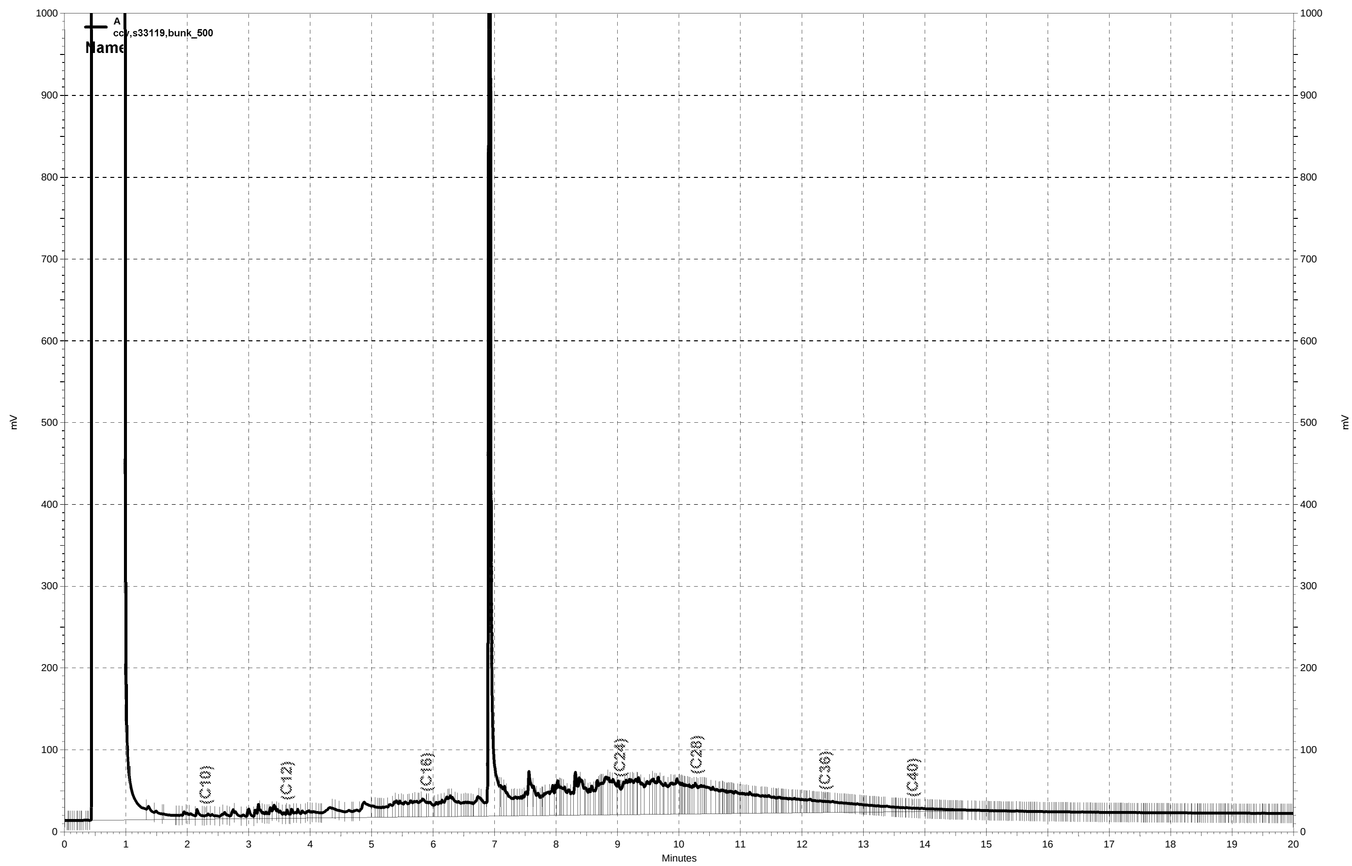

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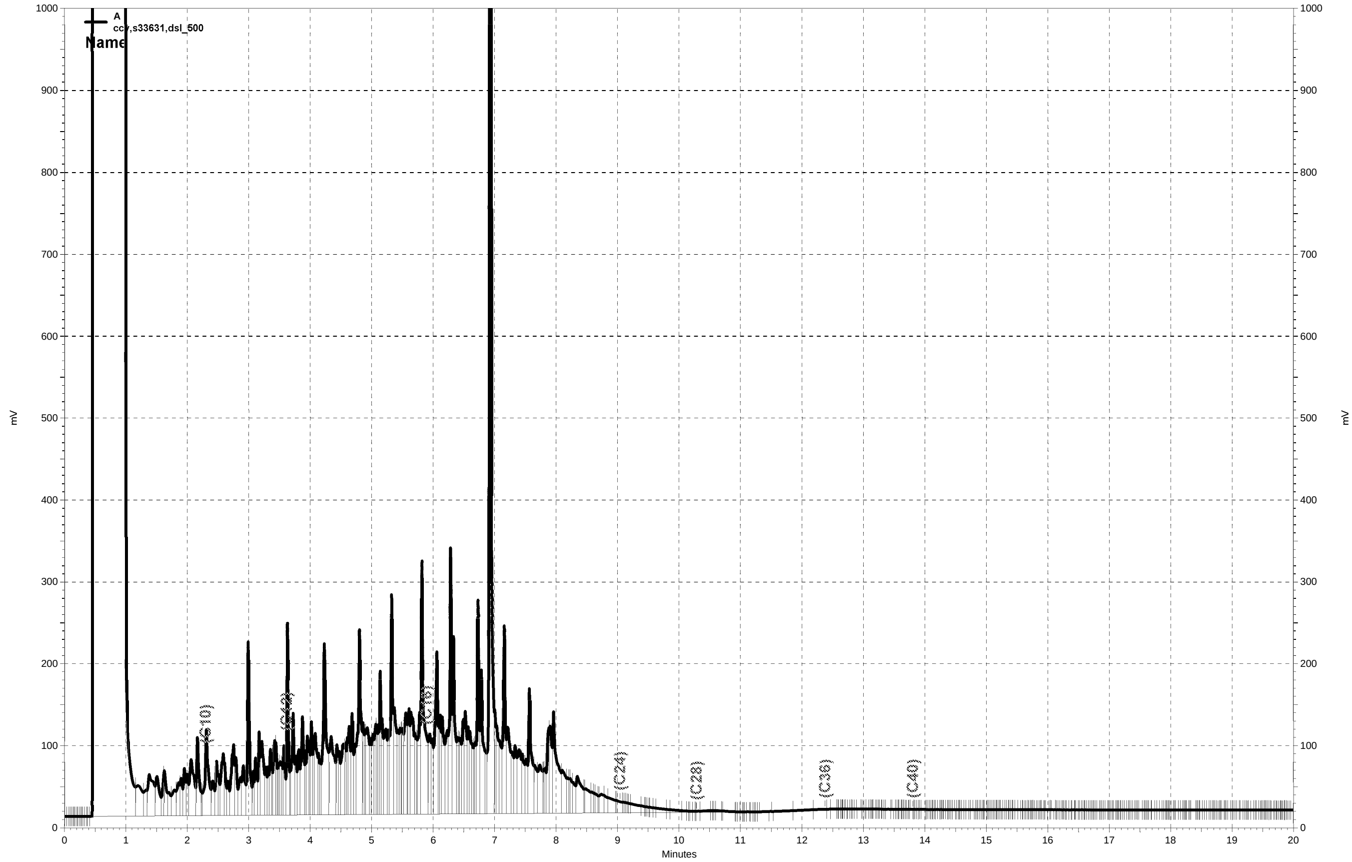

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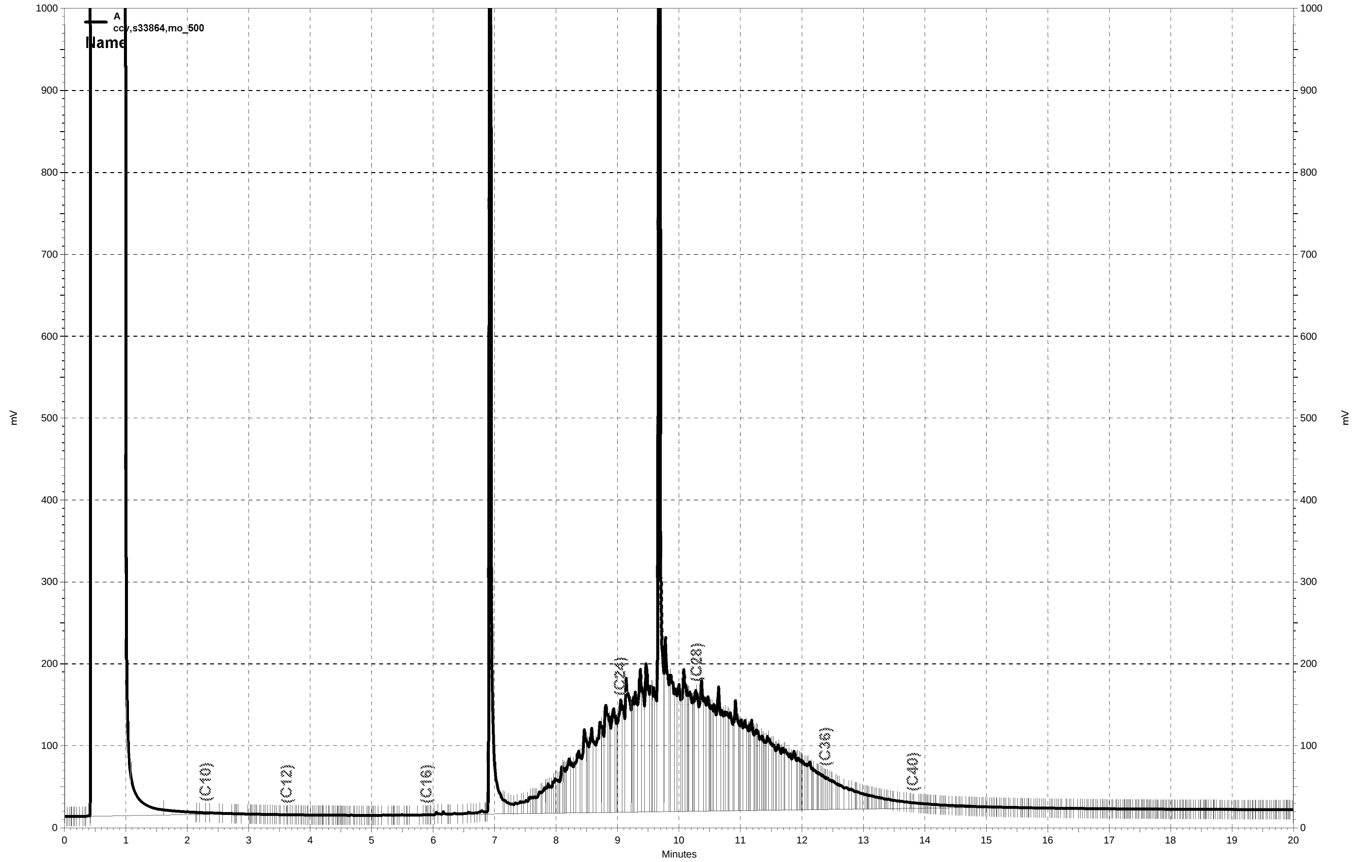

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ENTHALPY

ANALYTICAL

Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 292760
ANALYTICAL REPORT

SLR International 110 11th Street Oakland, CA 94607	Project : 102.01422.00001 Location : Jean Sweeney Level : II

Sample ID	Lab ID
JS-SW-B18	292760-001
JS-BS-B18	292760-002
JS-SW-B19	292760-003
JS-BS-B19	292760-004
JS-SW-B20	292760-005
JS-BS-B20	292760-006

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 following signature. 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.

Signature: ______________________ Date: 09/26/2017

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number:	**292760**
Client:	**SLR International**
Project:	**102.01422.00001**
Location:	**Jean Sweeney**
Request Date:	**09/22/17**
Samples Received:	**09/15/17**

This data package contains sample and QC results for six soil samples, requested for the above referenced project on 09/22/17. The samples were received cold and intact. This report was revised and reissued on 10/10/17 to include revised client sample IDs.

TPH-Extractables by GC (EPA 8015B):
Matrix spikes QC902184,QC902185 (batch 251980) were not reported because the parent sample required a dilution that would have diluted out the spikes. No other analytical problems were encountered.

MONTROSE
AIR QUALITY SERVICES

Patrick McCarthy <pmccarthy@montrose-env.com>

Name Change for Report 292760

1 message

Perth Silvers <psilvers@slrconsulting.com> Tue, Oct 10, 2017 at 2:39 PM
To: Patrick McCarthy <patrick.mccarthy@enthalpy.com>

Hey Patrick,

Could you please change the sample names on this report as follows:

ABN1-SW →JS-SW-B18

ABN1-BS → JS-BS-B18

ABN2-SW →JS-SW-B19

ABN2-BS →JS-BS-B19

ABN3-SW →JS-SW-B20

ABN3-BS →JS-BS-B20

Thank you,

SLR

Perth Silvers
Staff Scientist

d 510-451-1746 x206
c 404-435-0758
o 510-451-1761
e psilvers@slrconsulting.com

SLR International Corporation
110 - 11th Street, 2nd Floor, Oakland, CA, 94607

WINNERS: International Business Excellence Award, 2016

MONTROSE
AIR QUALITY SERVICES

Patrick McCarthy <pmccarthy@montrose-env.com>

Taking Samples off Hold

2 messages

Perth Silvers <psilvers@slrconsulting.com> Fri, Sep 22, 2017 at 5:07 PM
To: Patrick McCarthy <patrick.mccarthy@enthalpy.com>

Hey Patrick,

I forgot to mention in my previous email that we would like some samples run that were previously put on hold. They are all from the day we put a ton of samples (except one) on hold.

Could you please run the following on RUSH turnaround:

- ABN1-SW
- ABN1-BS
- ABN2-SW
- ABN2-BS
- ABN3-SW
- ABN3-BS

Please run these for TPD-D, TPH-MO, and Bunker C (by EPA 8015D) one regular trial and one trail with Silica gel.

Thanks,

Perth

SLR

Perth Silvers
Staff Scientist

510-451-1746 x206
404-435-0758
510-451-1761
psilvers@slrconsulting.com

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

C&T LOGIN # ~~272406~~ 292760

Page 1 of 3

Chain of Custody #

Project No: JS05P

Project Name:

Project P. O. No:

EDD Format:

Report Level ☐ II ☐ III ☐ IV

Turnaround Time: ☑ RUSH 24 hrs ☐ Standard

Sampler: Hugo Vazquez

Report To: Hugo Vazquez

Company: SLR

Telephone: 510 473 6809

Email: hvazquez@slrconsulting.com

Lab No.	Sample ID.	SAMPLING: Date Collected	SAMPLING: Time Collected	MATRIX: Water	MATRIX: Solid			# of Containers	CHEMICAL PRESERVATIVE: HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: Lead
	JS-SW-L101	9/15	11:15		✓									+
	JS-SW-L102		11:17											
	JS-SW-L103		11:19											
	JS-SW-L104		11:21											
	JS-BS-L101		11:23											
	JS-SW-L201		11:32											
	JS-SW-L202		11:35											
	JS-SW-L203		11:37											
	JS-SW-L204		11:39											
	JS-BS-L201		11:41											
	JS-SW-L301		11:55											
	JS-SW-L302		11:57											
	JS-SW-L303		11:59											

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
[signature]	9/15	1534	[signature]	9/15	1534
[signature]	9/15	1650	[signature]	9/15	16:50

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs

2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Page 2 of 3
Chain of Custody #
C&T LOGIN # 242490

Project No: JS05P
Project Name:
Project P. O. No:
EDD Format: Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH 24 HRS ☐ Standard

Sampler: Hugo Vazquez
Report To:
Company:
Telephone:
Email:

Lab No.	Sample ID.	SAMPLING: Date Collected	SAMPLING: Time Collected	MATRIX: Water	MATRIX: Solid	# of Containers	CHEMICAL PRESERVATIVE: HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: Lead
	JS-SW-L304	12:01	9/15		X							X
	JS-BS-L301	12:03										
	JS-SW-L401	12:06										
	JS-SW-L402	12:08										
	JS-SW-L403	12:10										
	JS-SW-L404	12:12										
	JS-BS-L401	12:14										
	JS-SW-L501	12:27										
	JS-SW-L502	12:29										
	JS-SW-L503	12:31										
	JS-SW-L504	12:33										
	JS-BS-L501	12:35										

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	9/15	1534	[signature]	9/15	1534
[signature]	9/15	1650	[signature]	9/15	16:50

CHAIN OF CUSTODY

ENTHALPY ANALYTICAL
Formerly Curtis & Tompkins Labs
2323 Fifth Street
Berkeley, CA 94710
Phone (510) 486-0900
Fax (510) 486-0532

Page 3 of 3

Chain of Custody #

C&T LOGIN # 29240

Project No: J508P

Sampler: Hugo Vazquez

Project Name:

Report To:

Project P. O. No:

Company:

EDD Format: Report Level ☐ II ☐ III ☐ IV

Telephone:

Turnaround Time: ☐ RUSH ☐ Standard

Email:

Lab No.	Sample ID.	SAMPLING: Date Collected	SAMPLING: Time Collected	MATRIX: Water	MATRIX: Solid			# of Containers	CHEMICAL PRESERVATIVE: HCl	H2SO4	HNO3	NaOH	None	ANALYTICAL REQUEST: HOLD
	ABN1-SW	9/15	14:38		X									X
	ABN1-BS		14:40											
	ABN2-SW		14:42											
	ABN2-BS		14:44											
	ABN3-SW		14:46											
	ABN3-BS		14:48											

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	9.15	1534	[signature]	9.15	1534
[signature]	9.15	1650	[signature]	9/15	16:52

COOLER RECEIPT CHECKLIST

ENTHALPY Berkeley

Login # 292490 Date Received 09/15/17 Number of coolers 1
Client SLR Project JSOSP

Date Opened 09/15/17 By (print) EHS (sign)
Date Logged in 09/15/17 By (print) EHS (sign)
Date Labelled 09/15/17 By (print) EHS (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES **NO**
   Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many Name Date
2B. Were custody seals intact upon arrival? YES NO **N/A**
3. Were custody papers dry and intact when received? **YES** NO
4. Were custody papers filled out properly (ink, signed, etc)? **YES** NO
5. Is the project identifiable from custody papers? (If so fill out top of form) **YES** NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 2.5

☐ Temperature blank(s) included? ☐ Thermometer# ☒ IR Gun# A

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES **NO**
   If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? **YES** NO
10. Are there any missing / extra samples? YES **NO**
11. Are samples in the appropriate containers for indicated tests? **YES** NO
12. Are sample labels present, in good condition and complete? **YES** NO
13. Do the sample labels agree with custody papers? **YES** NO
14. Was sufficient amount of sample sent for tests requested? **YES** NO
15. Are the samples appropriately preserved? YES NO **N/A**
16. Did you check preservatives for all bottles for each sample? YES NO **N/A**
17. Did you document your preservative check? (pH strip lot#) YES NO **N/A**
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO **N/A**
19. Did you change the hold time in LIMS for preserved terracores? YES NO **N/A**
20. Are bubbles > 6mm absent in VOA samples? YES NO **N/A**
21. Was the client contacted concerning this sample delivery? YES **NO**
    If YES, Who was called? By Date:

COMMENTS

Rev 14, 8/01/17

ENTHALPY ANALYTICAL

Detections Summary for 292760

Results for any subcontracted analyses are not included in this summary.

Client : SLR International
Project : 102.01422.00001
Location : Jean Sweeney

Client Sample ID : JS-SW-B18 Laboratory Sample ID : 292760-001

No Detections

Client Sample ID : JS-BS-B18 Laboratory Sample ID : 292760-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	9.1	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	9.9	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	45		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	55		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	110		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	130		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-B19 Laboratory Sample ID : 292760-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	10	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	12	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	67		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	84		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	150		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	190		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-B19 Laboratory Sample ID : 292760-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	12	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	7.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	39		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	35		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	99		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	86		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-SW-B20 Laboratory Sample ID : 292760-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.8	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Diesel C10-C24	3.5	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	37		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Motor Oil C24-C36	39		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	85		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Bunker C C12-C40	88		5.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : JS-BS-B20 Laboratory Sample ID : 292760-006

No Detections

Y = Sample exhibits chromatographic pattern which does not resemble standard

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292760	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	251980
Units:	mg/Kg	Sampled:	09/15/17
Basis:	as received	Received:	09/15/17
Diln Fac:	1.000	Prepared:	09/25/17

Field ID: JS-SW-B18 Lab ID: 292760-001
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	ND	1.0	09/26/17
Diesel C10-C24 (SGCU)	ND	1.0	09/25/17
Motor Oil C24-C36	ND	5.0	09/26/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/25/17
Bunker C C12-C40	ND	5.0	09/26/17
Bunker C C12-C40 (SGCU)	ND	5.0	09/25/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	101	55-133	09/26/17
o-Terphenyl (SGCU)	92	55-133	09/25/17

Field ID: JS-BS-B18 Lab ID: 292760-002
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	9.1 Y	1.0	09/26/17
Diesel C10-C24 (SGCU)	9.9 Y	1.0	09/25/17
Motor Oil C24-C36	45	5.0	09/26/17
Motor Oil C24-C36 (SGCU)	55	5.0	09/25/17
Bunker C C12-C40	110	5.0	09/26/17
Bunker C C12-C40 (SGCU)	130	5.0	09/25/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	105	55-133	09/26/17
o-Terphenyl (SGCU)	101	55-133	09/25/17

Field ID: JS-SW-B19 Lab ID: 292760-003
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	10 Y	0.99	09/26/17
Diesel C10-C24 (SGCU)	12 Y	0.99	09/25/17
Motor Oil C24-C36	67	5.0	09/26/17
Motor Oil C24-C36 (SGCU)	84	5.0	09/25/17
Bunker C C12-C40	150	5.0	09/26/17
Bunker C C12-C40 (SGCU)	190	5.0	09/25/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	103	55-133	09/26/17
o-Terphenyl (SGCU)	111	55-133	09/25/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

ENTHALPY ANALYTICAL

Total Extractable Hydrocarbons

Lab #:	292760	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	251980
Units:	mg/Kg	Sampled:	09/15/17
Basis:	as received	Received:	09/15/17
Diln Fac:	1.000	Prepared:	09/25/17

Field ID:	JS-BS-B19	Lab ID:	292760-004
Type:	SAMPLE	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	12 Y	1.0	09/26/17
Diesel C10-C24 (SGCU)	7.3 Y	1.0	09/25/17
Motor Oil C24-C36	39	5.0	09/26/17
Motor Oil C24-C36 (SGCU)	35	5.0	09/25/17
Bunker C C12-C40	99	5.0	09/26/17
Bunker C C12-C40 (SGCU)	86	5.0	09/25/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	100	55-133	09/26/17
o-Terphenyl (SGCU)	81	55-133	09/25/17

Field ID:	JS-SW-B20	Lab ID:	292760-005
Type:	SAMPLE	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	4.8 Y	1.0	09/26/17
Diesel C10-C24 (SGCU)	3.5 Y	1.0	09/25/17
Motor Oil C24-C36	37	5.0	09/26/17
Motor Oil C24-C36 (SGCU)	39	5.0	09/25/17
Bunker C C12-C40	85	5.0	09/26/17
Bunker C C12-C40 (SGCU)	88	5.0	09/25/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	99	55-133	09/26/17
o-Terphenyl (SGCU)	89	55-133	09/25/17

Field ID:	JS-BS-B20	Lab ID:	292760-006
Type:	SAMPLE	Cleanup Method:	EPA 3630C

Analyte	Result	RL	Analyzed
Diesel C10-C24	ND	1.0	09/26/17
Diesel C10-C24 (SGCU)	ND	1.0	09/25/17
Motor Oil C24-C36	ND	5.0	09/26/17
Motor Oil C24-C36 (SGCU)	ND	5.0	09/25/17
Bunker C C12-C40	ND	5.0	09/26/17
Bunker C C12-C40 (SGCU)	ND	5.0	09/25/17

Surrogate	%REC	Limits	Analyzed
o-Terphenyl	107	55-133	09/26/17
o-Terphenyl (SGCU)	94	55-133	09/25/17

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Total Extractable Hydrocarbons

Lab #:	292760	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	251980
Units:	mg/Kg	Sampled:	09/15/17
Basis:	as received	Received:	09/15/17
Diln Fac:	1.000	Prepared:	09/25/17

Type:	BLANK	Analyzed:	09/25/17
Lab ID:	QC902182	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Diesel C10-C24 (SGCU)	ND	0.99
Motor Oil C24-C36	ND	5.0
Motor Oil C24-C36 (SGCU)	ND	5.0
Bunker C C12-C40	ND	5.0
Bunker C C12-C40 (SGCU)	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	110	55-133
o-Terphenyl (SGCU)	93	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit
SGCU= Silica gel cleanup

Batch QC Report

Total Extractable Hydrocarbons

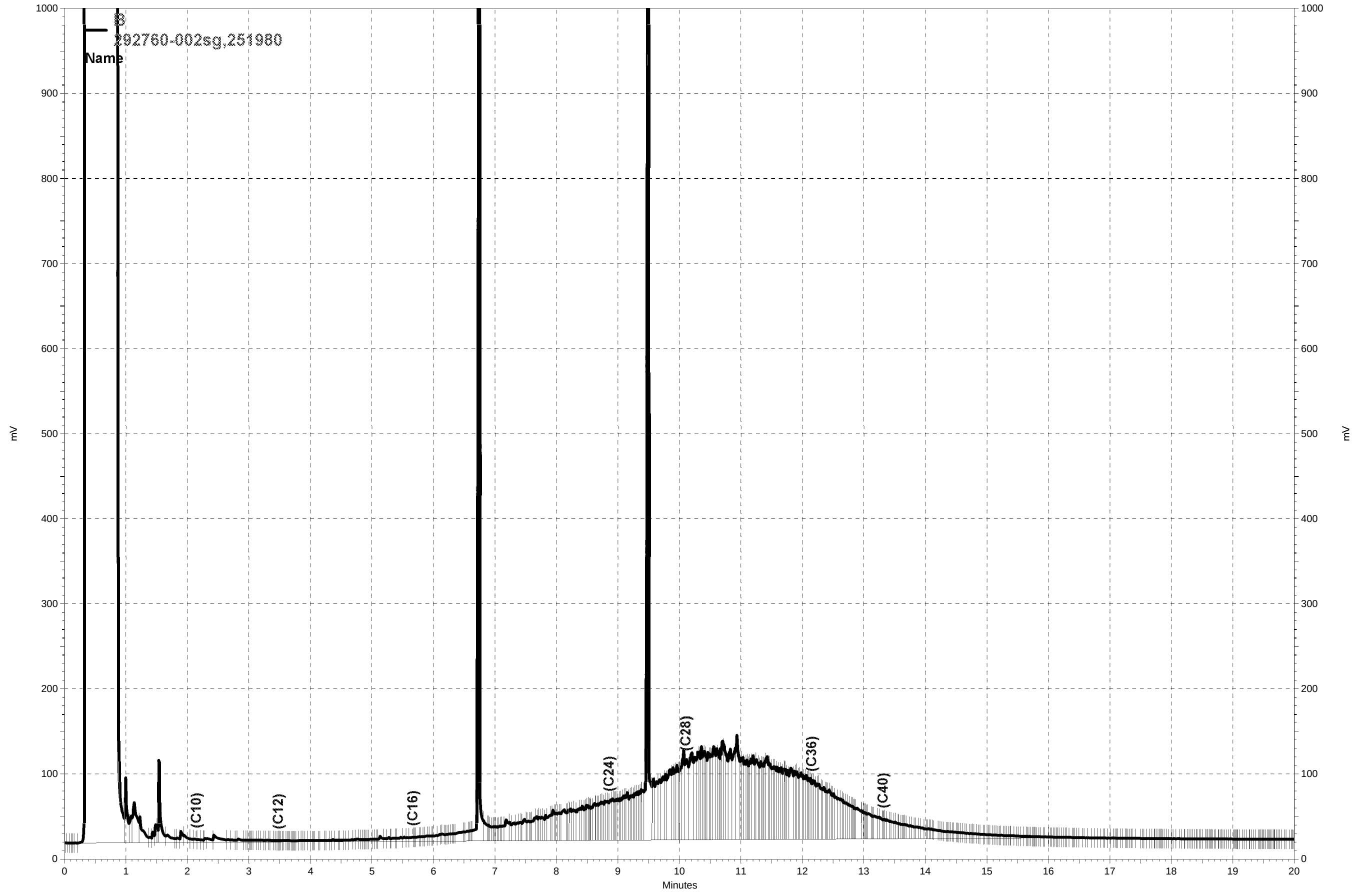
Lab #:	292760	Location:	Jean Sweeney
Client:	SLR International	Prep:	EPA 3550C
Project#:	102.01422.00001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC902183	Batch#:	251980
Matrix:	Soil	Prepared:	09/25/17
Units:	mg/Kg	Analyzed:	09/25/17

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.67	49.05	99	51-137
Diesel C10-C24 (SGCU)	49.67	42.87	86	51-137

Surrogate	%REC	Limits
o-Terphenyl	105	55-133
o-Terphenyl (SGCU)	99	55-133

SGCU= Silica gel cleanup



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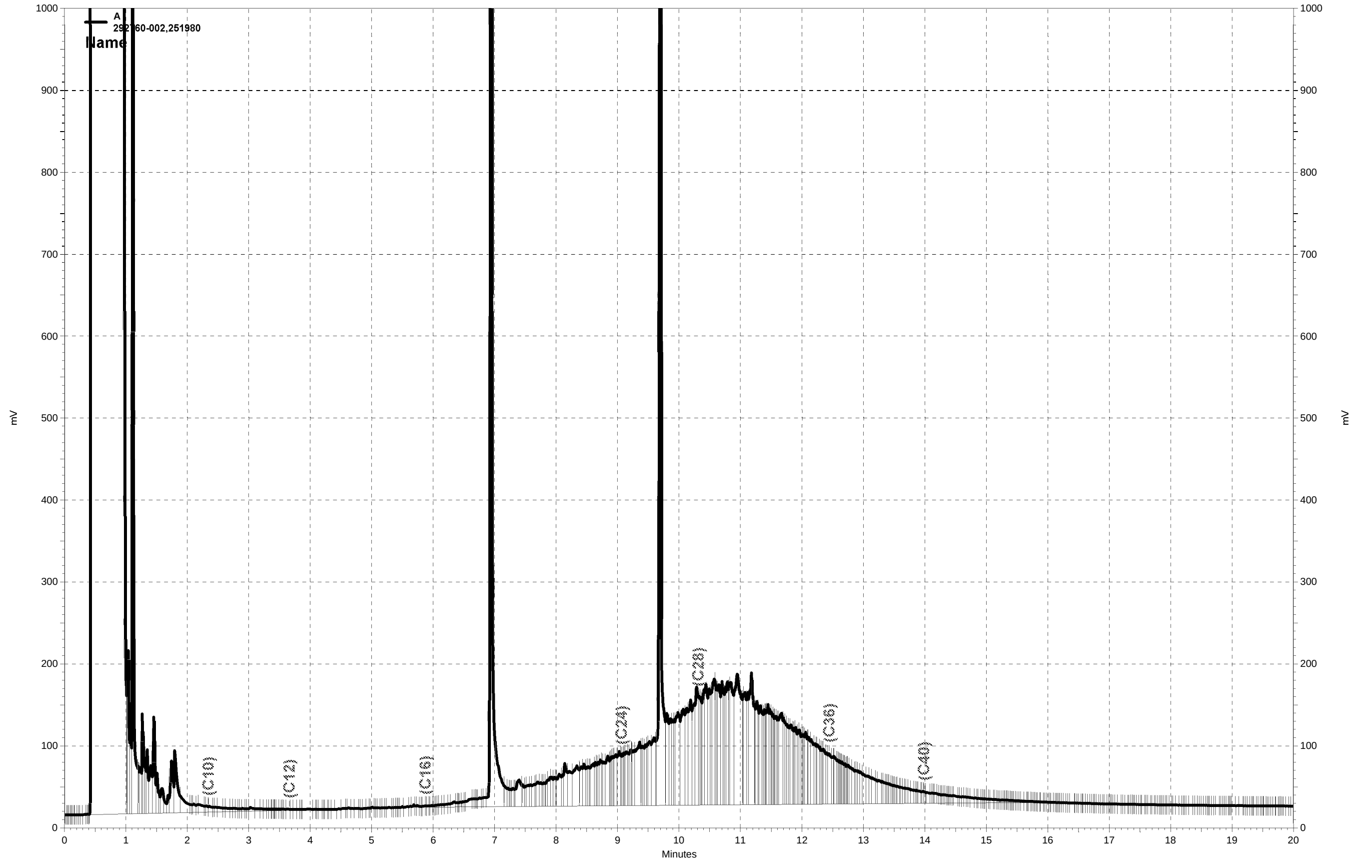

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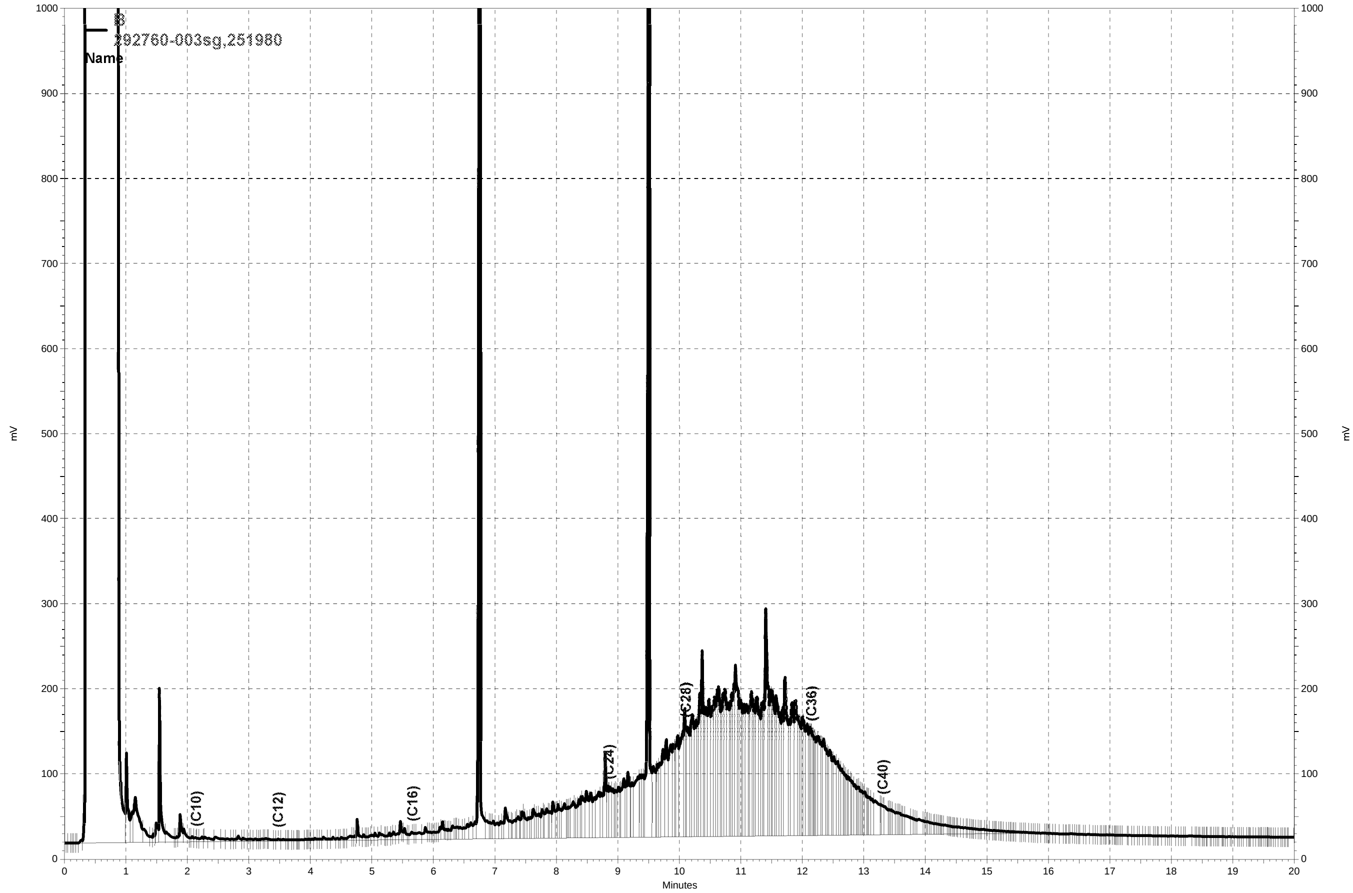

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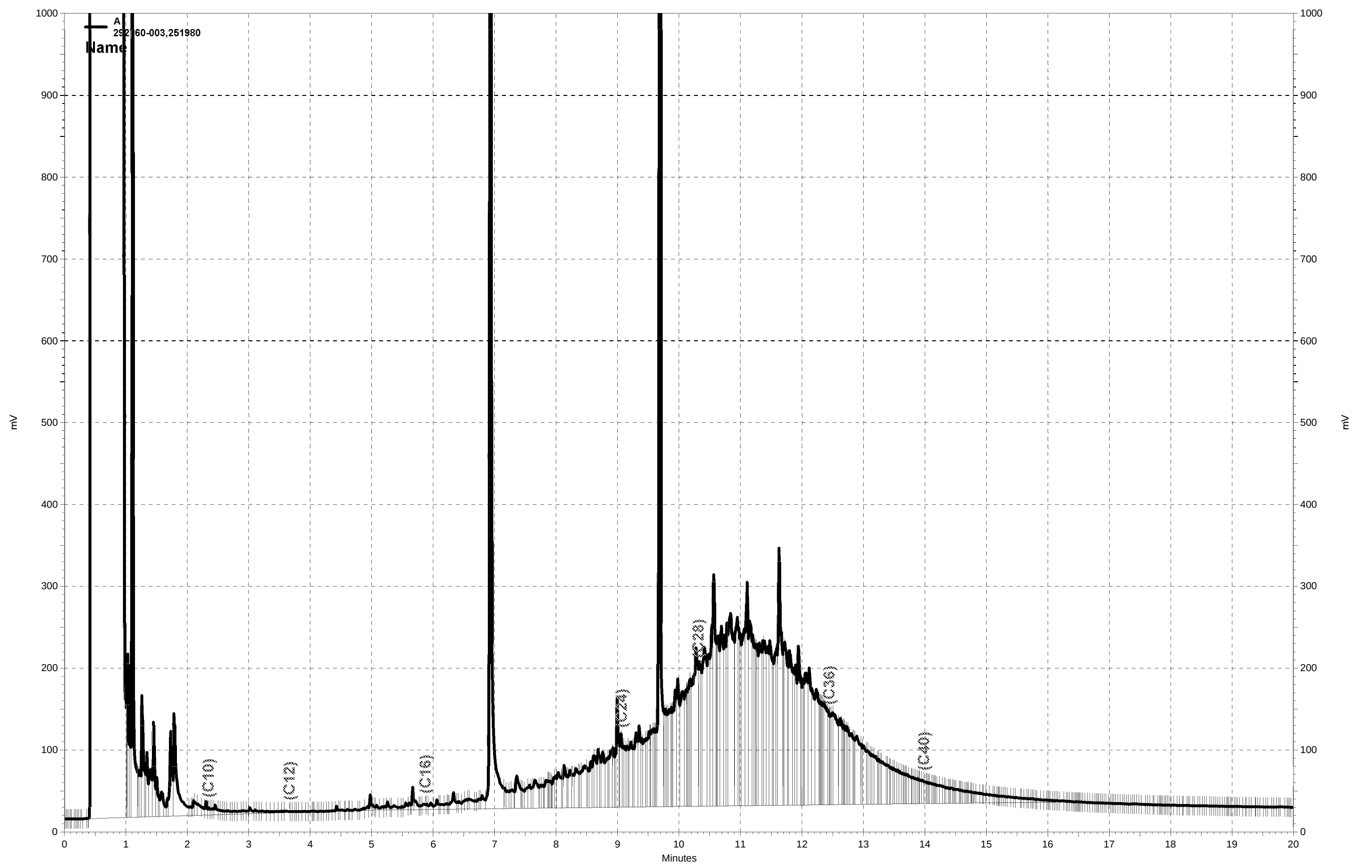

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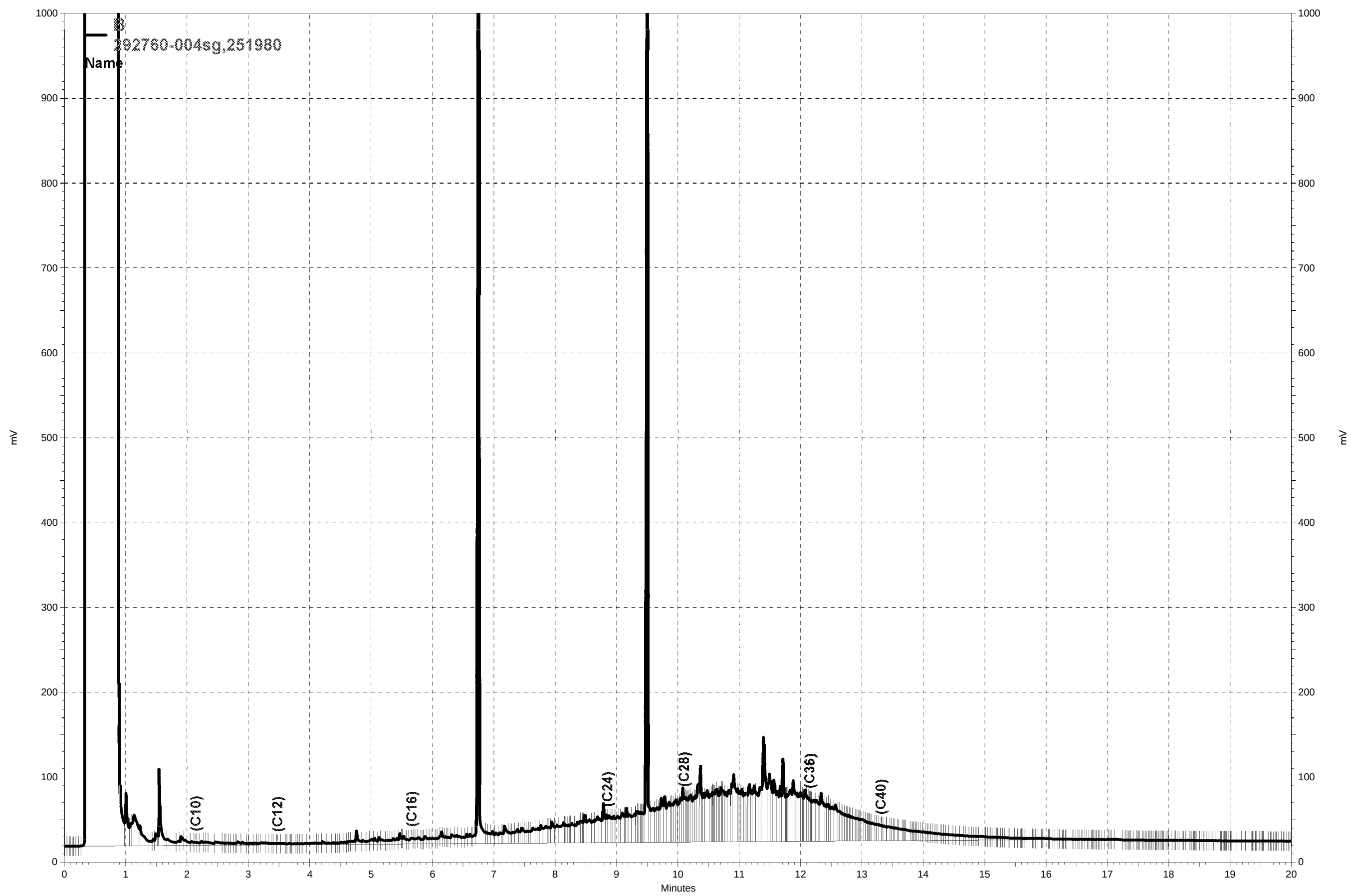

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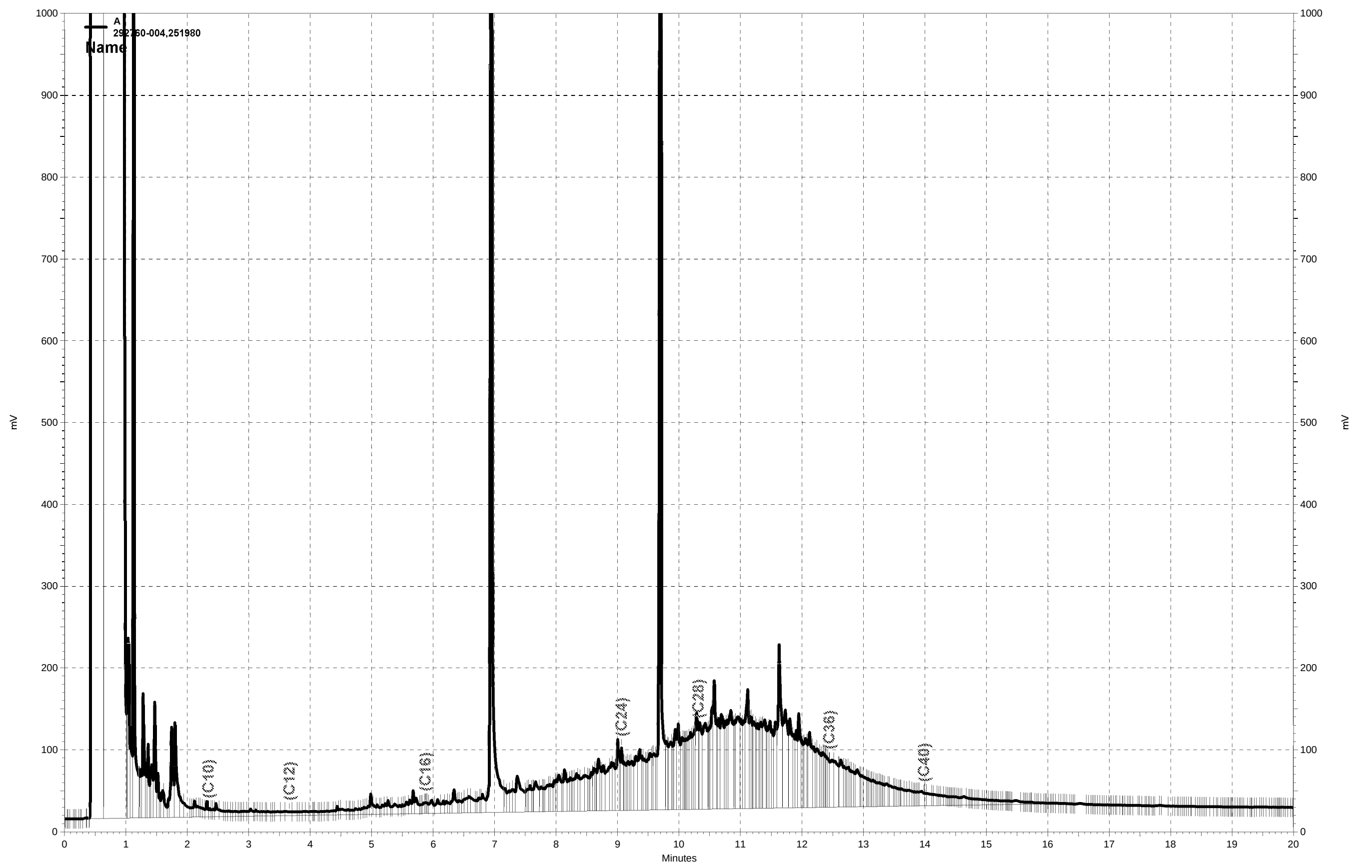

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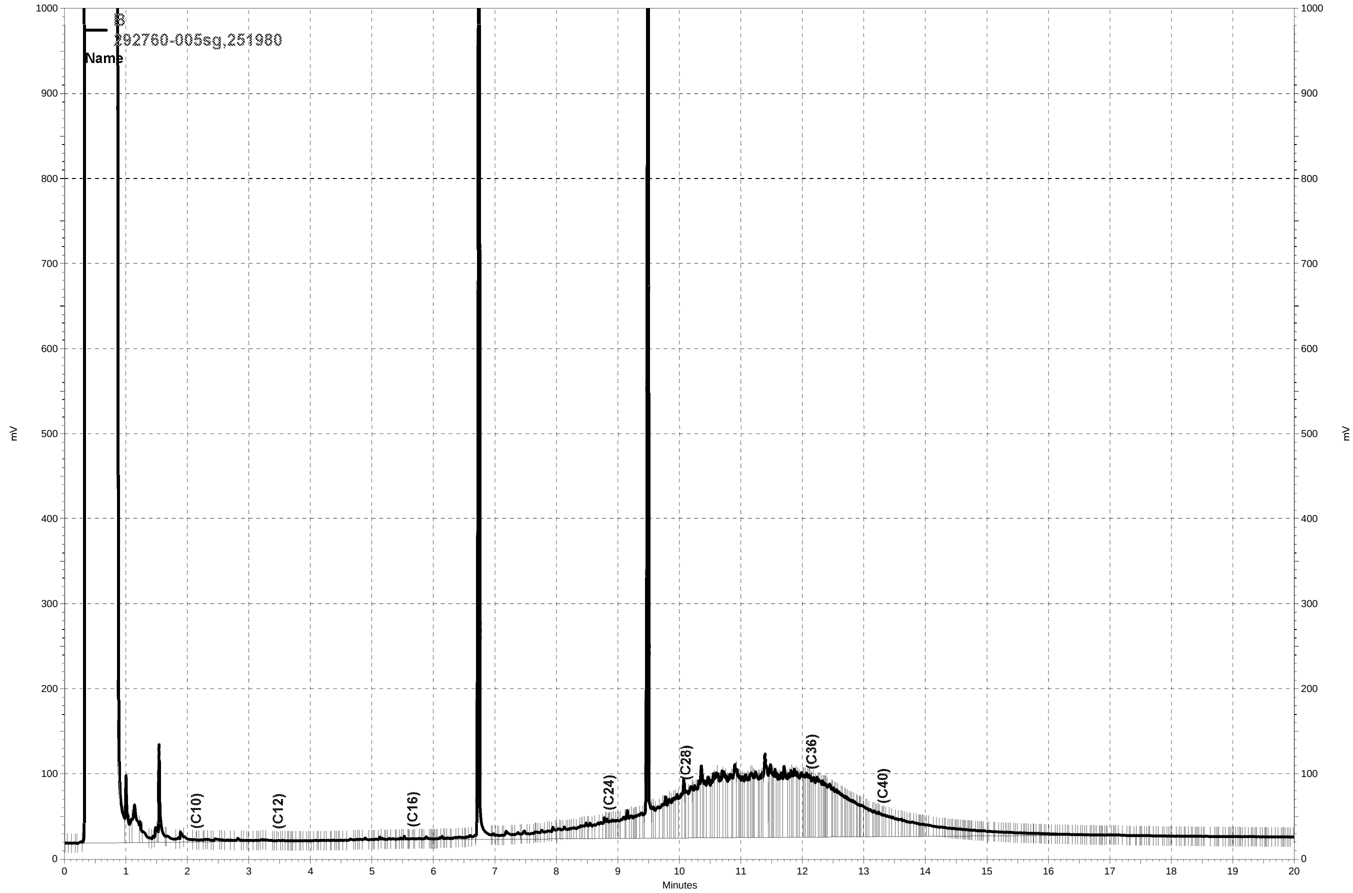

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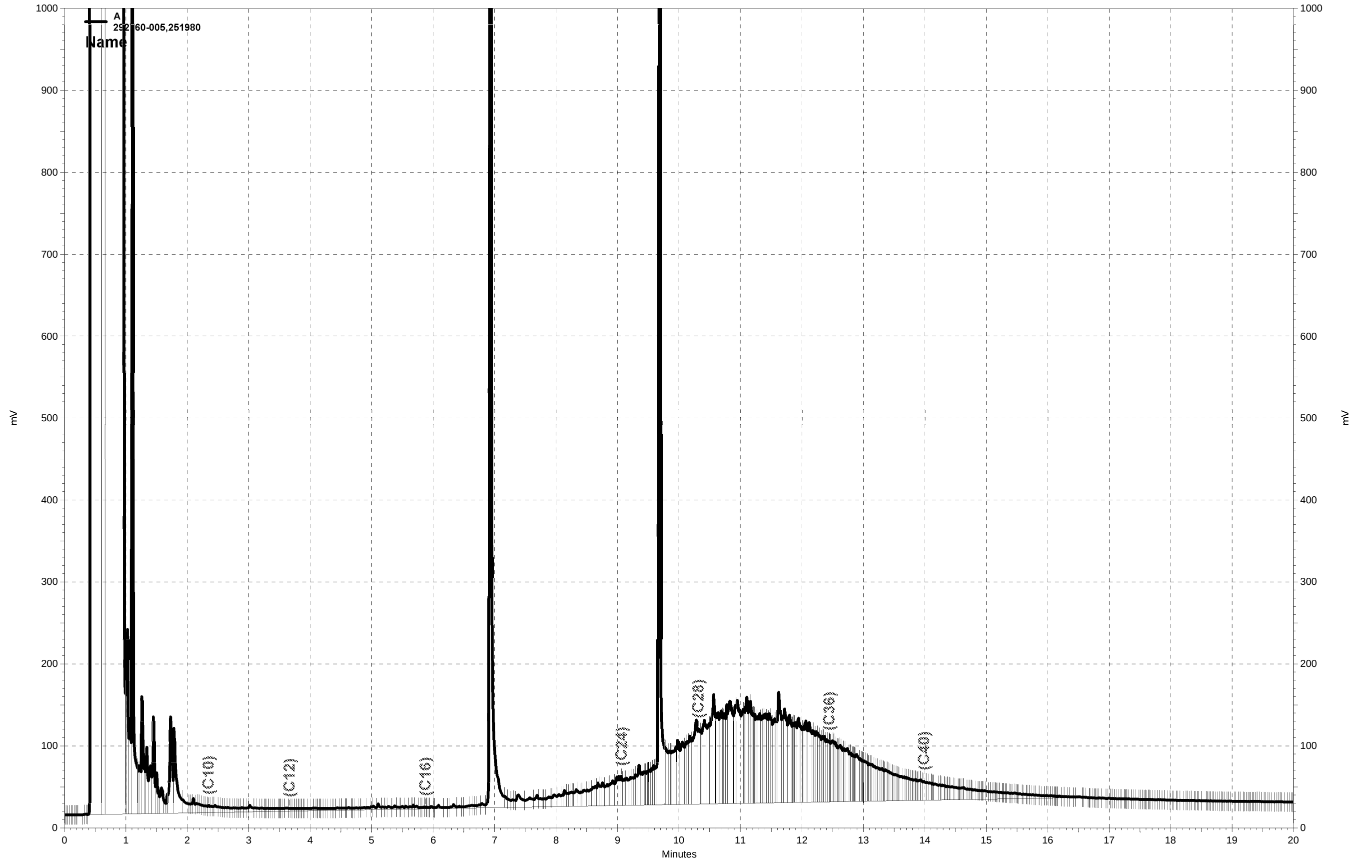

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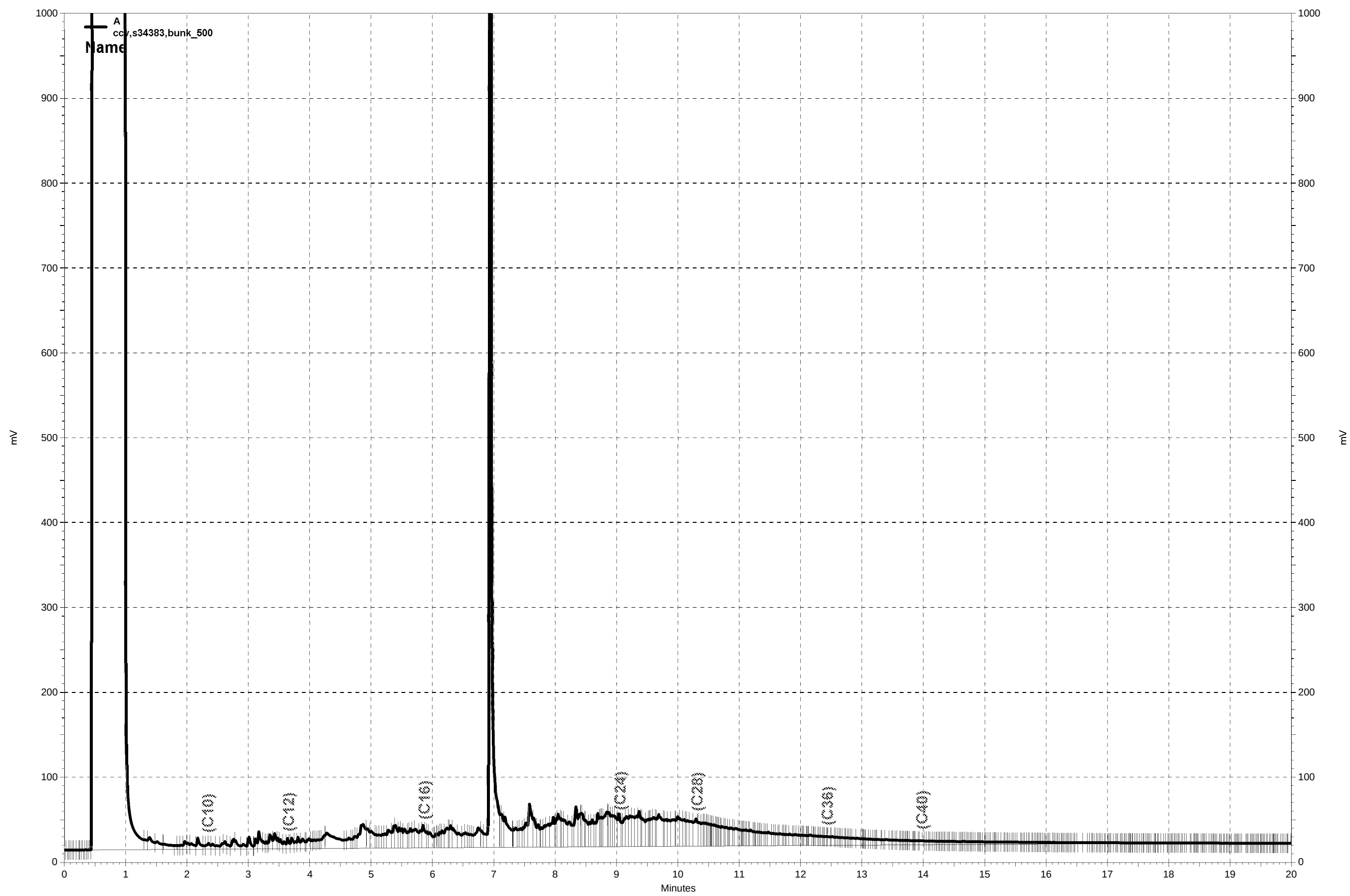

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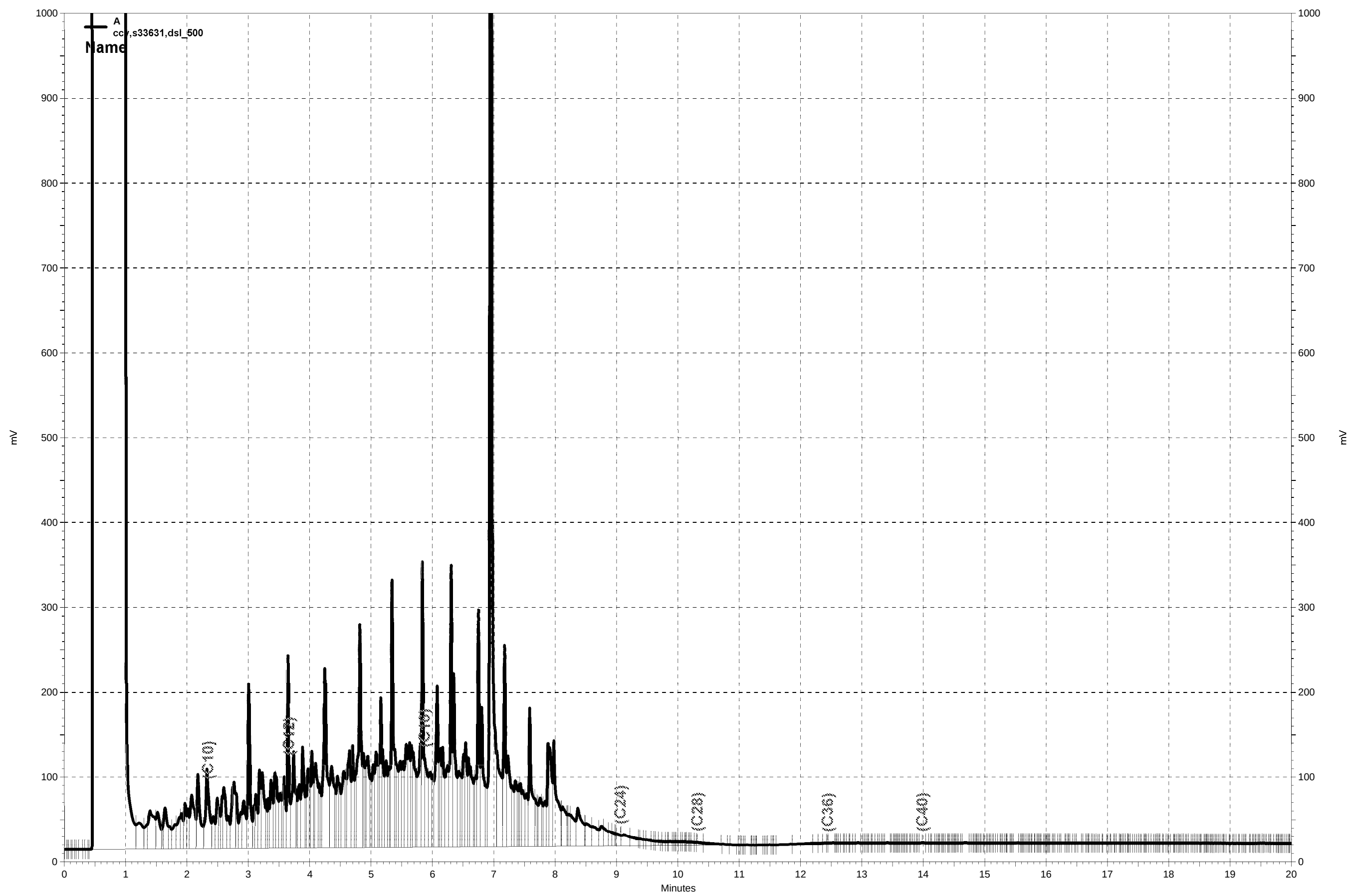

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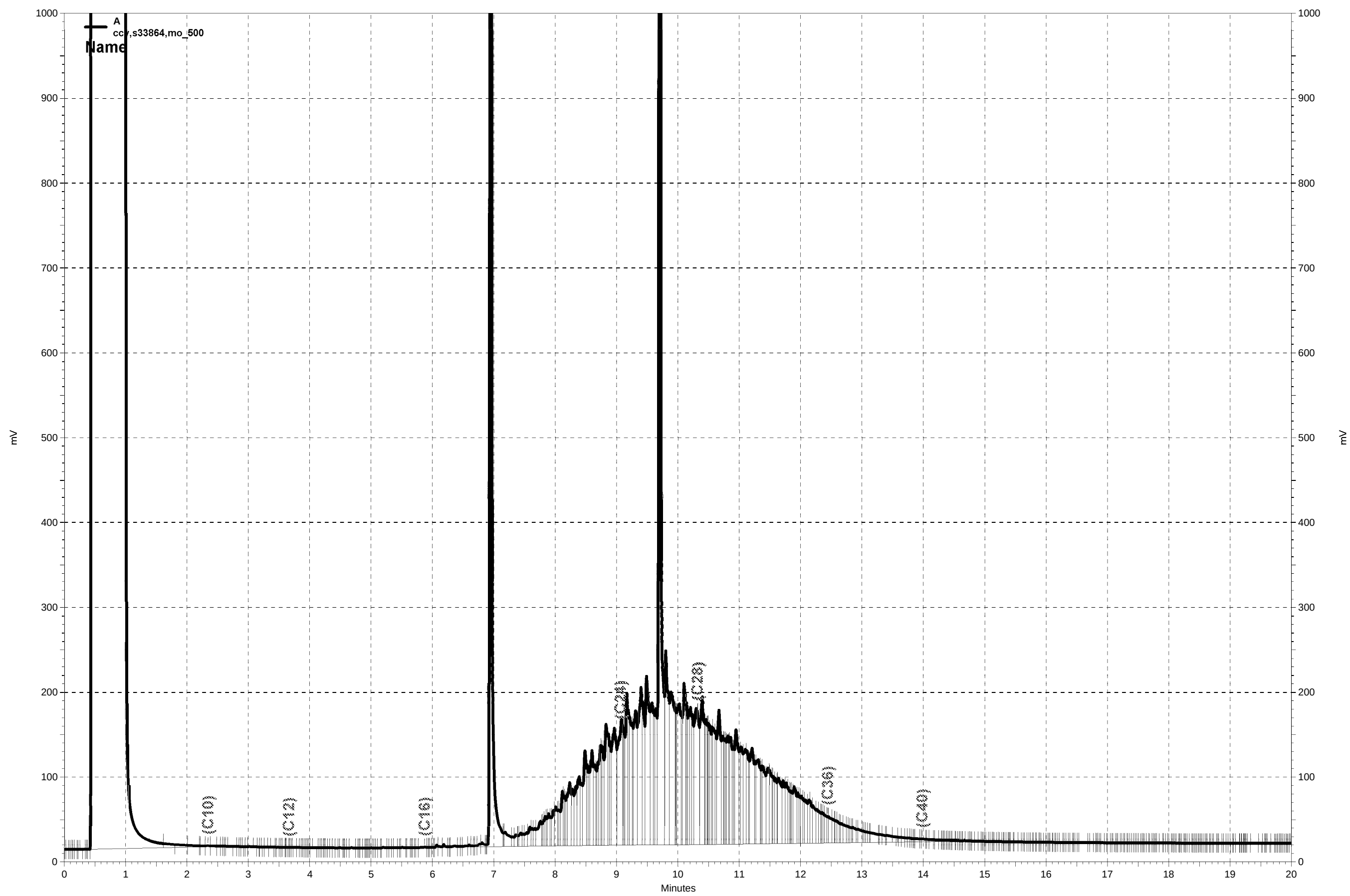

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APPENDIX B

SITE PHOTO LOG

Photo 1: McGuire and Hester Performing Excavation Activities from Excavation Area A

Photo 2: View of Excavation Area A Overexcavation

Photo 3: Overexcavation of Southeast Corner of Excavation Area A

Photo 4: Completion of Initial Limits of Excavation Area B

Photo 5: Impacted Sidewall in Excavation Area B Prior to Overexcavation

Photo 6: Water Table Encountered at Overexcavated Section from Area

SLR	Jean Sweeney Open Space Park 1925 Sherman Avenue Alameda, CA
SITE PHOTOGRAPHS 09/08/17 – 10/20/17	Job No: 102.01422.00001

Photo 7: Removal of Concrete Sump from the South Corner of Excavation Area B after Overexcavation

Photo 8: Completed Removal of Impacted Soil from Excavation Area D

Photo 9: Railroad Platforms and Ties Encountered During the Excavation of Area C

Photo 10: Impacted Patch of Soil and Debris from under Railroad Platforms in Excavation Area C Prior to Removal

Photo 11: Removal of Patch of Impacted Soil and Debris from Northeast Arm of Excavation Area C

Photo 12: Office Stockpiling of Non-Saturated Impacted Soil from Excavation Area C on Visqueen for Offhaul

Photo 13: Near Completion of Removal of Impacted Soil from Excavation Area C

Photo 14: Completed Removal of Impacted Soil from East Lead Impacted Area

Photo 15: Placement of Non-Saturated Soil into the HDPE Lined Consolidation Area

Photo 16: Compaction of Non-Saturated Impacted Soil Placed in HDPE Lined Consolidation Area

Photo 17: Sealing of HDPE Liner with Adhesive

Photo 18: Sealed HDPE Lined Consolidation Area

Photo 19: View of AB Layer on top of compacted and sealed Consolidation Area

Photo 20: Paving of Asphalt Layer of Cap

Photo 21: Completed Section of Cap/Paved Bike Path

Photo 22: Concrete Sump Pieces Placed in Loader to Move to Truck for Transportation and Disposal

Photo 23: Loader Places Excess Impacted Soil and Visqueen Liner into Truck for Transportation and Disposal

Photo 24: Loader and Excavator Place Metal Sump in Truck for Transportation and Disposal

SLR	Jean Sweeney Open Space Park 1925 Sherman Avenue Alameda, CA
SITE PHOTOGRAPHS 09/08/17 – 10/20/17	Job No: 102.01422.00001

Photo 25: View of the Northeast Air Monitor

APPENDIX C

WASTE MANIFEST, BILLS OF LADING

Soil Waste

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: N/A
2. Page 1 of: 1
3. Emergency Response Phone: 510-786-1818
4. **Waste Tracking Number**: 0188925

5. Generator's Name and Mailing Address
City of Alameda Public Works
950 West Mall Square
Alameda, CA 94501 USA
Generator's Phone: 510-541-1761

Generator's Site Address (if different than mailing address)
1925 Sherman Street
Alameda, CA 94501 USA

6. Transporter 1 Company Name
U.S. EPA ID Number: N/A

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Potrero Hills Landfill, Inc
3675 Potrero Hills Lane
Suisun, CA 94585 USA
Facility's Phone: 707-432-4627
U.S. EPA ID Number: CAR000089466

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Contaminated (non-hazardous) waste soil	1	DT	15	Y	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
Wear proper PPE when handling waste
Potrero Hills Approval #: PHLF-17-833 Dump under Dirt Shop, Inc. account

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name | Signature | Month | Day | Year
Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name | Signature | Month | Day | Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number N/A	2. Page 1 of 1	3. Emergency Response Phone 510-786-1818	4. Waste Tracking Number 0188926

GENERATOR

5. Generator's Name and Mailing Address
City of Alameda Public Works
950 West Mall Square
Alameda, CA 94501 USA
Generator's Phone: 510-541-1761

Generator's Site Address (if different than mailing address)
1925 Sherman Street
Alameda, CA 94501 USA

6. Transporter 1 Company Name — U.S. EPA ID Number N/A

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
Potrero Hills Landfill, Inc.
3675 Potrero Hills Lane
Suisun, CA 94585 USA
Facility's Phone: 707-432-4627

U.S. EPA ID Number CAR000089466

	9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Contaminated (non-hazardous) waste soil	1	DT	15	Y
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Wear proper PPE when handling waste

Potrero Hills Approval #: PHLF-17-833 Dump under Dirt Shop, Inc. account

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name — Signature — Month Day Year
Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name — Signature — Month Day Year

169-BLC-O 6 10498 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number: N/A	2. Page 1 of: 1	3. Emergency Response Phone: 510-786-1818	4. Waste Tracking Number: 0188927

GENERATOR

5. Generator's Name and Mailing Address
City of Alameda Public Works
950 West Mall Square
Alameda, CA 94501 USA

Generator's Site Address (if different than mailing address)
1925 Sherman Street
Alameda, CA 94501 USA

Generator's Phone: 510-541-1761

6. Transporter 1 Company Name

U.S. EPA ID Number: N/A

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Potrero Hills Landfill, Inc.
3675 Potrero Hills Lane
Suisun, CA 94585 USA

U.S. EPA ID Number: CAR000089466

Facility's Phone: 707-432-4627

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Contaminated (non-hazardous) waste soil	1	DT	15	Y
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

Wear proper PPE when handling waste

Potrero Hills Approval #: PHLF-17-833 Dump under Dirt Shop, Inc account

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name | Signature | Month | Day | Year
Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name | Signature | Month | Day | Year

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: N/A	2. Page 1 of: 1	3. Emergency Response Phone: 510-786-1818	**4. Waste Tracking Number**: 0188928

5. Generator's Name and Mailing Address
City of Alameda Public Works
950 West Mall Square
Alameda, CA 94501 USA
Generator's Phone: 510-541-1761

Generator's Site Address (if different than mailing address)
1925 Sherman Street
Alameda, CA 94501 USA

6. Transporter 1 Company Name — U.S. EPA ID Number: N/A

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Potrero Hills Landfill, Inc.
3675 Potrero Hills Lane
Suisun, CA 94585 USA
Facility's Phone: 707-432-4627

U.S. EPA ID Number: CAR000089466

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Contaminated (non-hazardous) waste soil	1	DT	15	Y
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

Wear proper PPE when handling waste

Potrero Hills Approval #: PHLF-17-833 Dump under Dirt Shop, Inc. account

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name — Signature — Month / Day / Year: / 11 / 17

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name — Signature — Month / Day / Year: 10 / 14 / 17
Transporter 2 Printed/Typed Name — Signature — Month / Day / Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month / Day / Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name — Signature — Month / Day / Year

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	510-786-1818	0188929

5. Generator's Name and Mailing Address
City of Alameda Public Works
950 West Mall Square
Alameda, CA 94501 USA

Generator's Phone: 510-541-1761

Generator's Site Address (if different than mailing address)
1925 Sherman Street
Alameda, CA 94501 USA

6. Transporter 1 Company Name — U.S. EPA ID Number: N/A

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Potrero Hills Landfill, Inc.
3675 Potrero Hills Lane
Suisun, CA 94585 USA

Facility's Phone: 707-432-4627

U.S. EPA ID Number: CAR000089466

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Contaminated (non-hazardous) waste soil	1	DT	15	Y
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

Wear proper PPE when handling waste

Potrero Hills Approval #: PHLF-17-833   Dump under Dirt Shop, Inc. account

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name | Signature | Month | Day | Year
Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name | Signature | Month | Day | Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: N/A

2. Page 1 of: 1

3. Emergency Response Phone: 510-786-1818

4. Waste Tracking Number: 0188930

5. Generator's Name and Mailing Address
City of Alameda Public Works
950 West Mall Square
Alameda, CA 94501 USA
Generator's Phone: 510-541-1761

Generator's Site Address (if different than mailing address)
1925 Sherman Street
Alameda, CA 94501 USA

6. Transporter 1 Company Name — U.S. EPA ID Number: N/A

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Potrero Hills Landfill, Inc.
3675 Potrero Hills Lane
Suisun, CA 94585 USA
Facility's Phone: 707-432-4627
U.S. EPA ID Number: CAR000089466

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Contaminated (non-hazardous) waste soil	1	DT	15	Y
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
Wear proper PPE when handling waste
Potrero Hills Approval #: PHLF-17-833 Dump under Dirt Shop, Inc. account

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name | Signature | Month | Day | Year
Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name | Signature | Month | Day | Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	510-786-1818	0188931

5. Generator's Name and Mailing Address
City of Alameda Public Works
950 West Mall Square
Alameda, CA 94501 USA
Generator's Phone: 510-541-1761

Generator's Site Address (if different than mailing address)
1925 Sherman Street
Alameda, CA 94501 USA

6. Transporter 1 Company Name — U.S. EPA ID Number: N/A

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Potrero Hills Landfill, Inc
3675 Potrero Hills Lane
Suisun, CA 94585 USA
Facility's Phone: 707-432-4627

U.S. EPA ID Number: CAR000089466

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Contaminated (non-hazardous) waste soil	1	DT	15	Y
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Wear proper PPE when handling waste

Potrero Hills Approval #: PHLF-17-833   Dump under Dirt Shop, Inc. account

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name | Signature | Month 10 | Day 20 | Year 17

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name | Signature | Month | Day | Year
Transporter 2 Printed/Typed Name | Signature | Month 10 | Day 20 | Year 17

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name | Signature | Month | Day | Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

169-BLC-O 6 10498 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

City of Alameda, California

October 18, 2017

Re.; Cross Alameda Trail, Non-Hazardous Waste Manifests

To Whom This May Concern;

This letter serves as permission for Amy Wooldridge, Director of City of Alameda ARPD, and/or Joe Blanco, of Mack 5, Construction Manager, for the Cross Alameda Trail Project, to sign and certify the Non-Hazardous Waste Manifests, on my behalf, for the Cross Alameda Trail project, representing the Generator for this project

Sincerely,

Date: October 18, 2017

Jack Dybas, Project Manager II
City of Alameda / Public Works
950 West Mall Square / Alameda, CA 94501
(510) 747-7948 / jdybas@alamedaca.gov

City of Alameda, Public Works Department
950 W. Mall Square, Room 110
Alameda, California 94501

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	N/A	1	510-786-1818	0188944

GENERATOR

5. Generator's Name and Mailing Address
City of Alameda Public Works
950 West Mall Square
Alameda, CA 94501 USA
Generator's Phone: 510-541-1761

Generator's Site Address (if different than mailing address)
1925 Sherman Street
Alameda, CA 94501 USA

6. Transporter 1 Company Name — U.S. EPA ID Number: N/A

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Potrero Hills Landfill, Inc.
3675 Potrero Hills Lane
Suisun, CA 94585 USA
Facility's Phone: 707-432-4627

U.S. EPA ID Number: CAR000089466

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Contaminated (non-hazardous) waste soil	1	DT	15	Y
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

Wear proper PPE when handling waste

Potrero Hills Approval #: PHLF-17-833 Dump under Dirt Shop, Inc. account

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]			17

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
[illegible]				17

Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number:

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name	Signature	Month	Day	Year

169-BLC-O 6 10498 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

GENERATOR

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number N/A	2. Page 1 of 1	3. Emergency Response Phone 510-786-1818	**4. Waste Tracking Number** 0188916

5. Generator's Name and Mailing Address
City of Alameda Public Works
950 West Mall Square
Alameda, CA 94501 USA
Generator's Phone: 510-541-1761

Generator's Site Address (if different than mailing address)
1925 Sherman Street
Alameda, CA 94501 USA

6. Transporter 1 Company Name — U.S. EPA ID Number: N/A

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Potrero Hills Landfill, Inc
3675 Potrero Hills Lane
Suisun, CA 94585 USA
Facility's Phone: 707-432-4627
U.S. EPA ID Number: CAR000089466

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Contaminated (non-hazardous) waste soil	1	DT	15	Y
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

Wear proper PPE when handling waste

Potrero Hills Approval # PHLF-17-833 Dump under Dirt Shop, Inc. account

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Joe Bianco — Signature: — Month — Day — Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name — Signature — Month — Day — Year
Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name — Signature — Month — Day — Year

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	N/A	1	510-786-1818	0188947

GENERATOR

5. Generator's Name and Mailing Address
City of Alameda Public Works
950 West Mall Square
Alameda, CA 94501 USA
Generator's Phone: 510-541-1761

Generator's Site Address (if different than mailing address)
1925 Sherman Street
Alameda, CA 94501 USA

6. Transporter 1 Company Name — U.S. EPA ID Number: N/A

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Potrero Hills Landfill, Inc
3675 Potrero Hills Lane
Suisun, CA 94585 USA
Facility's Phone: 707-432-4627
U.S. EPA ID Number: CAR000089466

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Contaminated (non-hazardous) waste soil	1	DT	15	Y
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Wear proper PPE when handling waste

Potrero Hills Approval #: PHLF-17-833 Dump under Dirt Shop, Inc. account

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

	Printed/Typed Name	Signature	Month	Day	Year
Transporter 1					
Transporter 2					

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name	Signature	Month	Day	Year

169-BLC-O 6 10498 (Rev. 9/09)

GENERATOR'S/SHIPPER'S INITIAL COPY

Debris Recovery

Bay-Friendly
DEBRIS RECOVERY PLAN

Project Address: 1925 Sherman Street City, Zip: Alameda, 94501
Date: 3/2/18 Contractor: McGuire and Hester
Contact: Joe Cornell Title: Project Manager
Phone: 925-766-3762 Email: jcornell@mcguireandhester.com
Project Type: ☐ Multifamily ☐ Streetscape ☑ Park ☐ Commercial ☐ Educational Facility ☐ Civic (plaza, library, ect)

Specify whether materials will be reused, recycled or disposed by completing the table below. The project must divert 50% of all waste generated plus 100% of excavated soil and land clearing debris. Contaminated materials are exempt from this calculation. Check the designated box and provide the name of each facility or service provider to be used. If the materials are to be reused on site, describe under the facilities/service providers column. For example, wood waste chipped on site for mulch in plant beds. Salvaged materials from deconstruction should be designated as reuse.

Material	**Reuse**	**Recycle**	**Dispose**	**Facility/Service Provider to be used**
Asphalt		549 tons		Argent Materials, and Inner City Recycling
Brick				
Cardboard & Paper		.6 tons		Alameda County Industries
Carpet				
Concrete		1236 tons		Argent Materials, and Inner City Recycling
Dirt/Clean Fill*				
Dry Wall				
Metal		25.44 tons		Alco Iron & Metal
Pallets	.6 tons			McGuire and Hester
Plant Debris, Soil, and contaminated materials*			Not allowed*	
Plastics		.24 tons		Alameda County Indutries
Roofing – asphalt composition shingle, tile, wood shake, tar or gravel				
Wood - clean		2.08 tons		Bee Green Recycing & Supply
Wood - treated			1 tons	Alameda County Industries
Plastic pots, flats			.05 tons	Alameda County Industries
Other			40 tons	Alameda County Industries

* See http://www.stopwaste.org/home/index.asp?page=941 for more information on the Alameda County Landfill Ban.

CROSS ALAMEDA TRAIL
JEAN SWEENEY IMPROVEMENTS
Bay-Friendly
DEBRIS RECOVERY PLAN CALCULATIONS AND NOTES

Waste Processing
Qantity will be measured by: Weight (Tons)

Waste Material	Waste Quantity	Diverted %	Reuse	Recycle	Dispose	Facility/Service Provider to be used
Asphalt	549	100%		549		Argent Materials, and Inner City Recycling
Brick						
Cardboard & Paper	0.6	100%		0.6		ACI - Alameda County Indistries
Carpet						
Concrete	1236	100%		1236		Argent Materials, and Inner City Recycling
Dirt/Clean Fill*						
Dry Wall						
Metal	25.44	100%		25.44		Alco Iron & Metal
Pallets	0.6	100%	0.6			McGuire and Hester
Plant Debris, Soil, and contaminated materials*					Not allowed*	
Plastics	0.24	100%		0.24		ACI - Alameda County Indistries
Roofing – asphalt composition shingle, tile, wood shake, tar or gravel						
Wood - clean	2.08	100%		2.08		Bee Green Recycling & Supply
Wood - treated	1	0%			1	ACI - Alameda County Industries
Plastic pots, flats	0.05	0%			0.05	ACI - Alameda County Industries
Other (General Construction Debris)	40	0%			40	ACI - Alameda County Industries
Toltals	1855.01	98%	0.6	1813.36	41.05	

WASTE MANAGEMENT

EZ Profile™

Requested Facility: Altamont Landfill & Resource Recovery ☐ Unsure Profile Number: 632875CA

☐ Multiple Generator Locations (Attach Locations) ☑ Request Certificate of Disposal ☐ Renewal? Original Profile Number: ________

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: City Of Alameda
2. Site Address: 1925 Sherman St.
   (City, State, ZIP) Alameda CA 94501
3. County: Alameda
4. Contact Name: Estevan Munoz
5. Email: estevan@suarezmunoz.com
6. Phone: (510) 935-9989 7. Fax: ________
8. Generator EPA ID: ________ ☑ N/A
9. State ID: ________ ☑ N/A

B. BILLING INFORMATION ☐ SAME AS GENERATOR

1. Billing Name: 2490
2. Billing Address: American Ave.
   (City, State, ZIP) Hayward CA 94545
3. Contact Name: Estevan Munoz
4. Email: estevan@suarezmunoz.com
5. Phone: (510) 935-9989 6. Fax: ________
7. WM Hauled? ☐ Yes ☑ No
8. P.O. Number: 17-030
9. Payment Method: ☑ Credit Account ☐ Cash ☐ Credit Card

C. MATERIAL INFORMATION

1. Common Name: Wooden Railroad Ties
   Describe Process Generating Material: ☐ See Attached
   Demolition/dismantling uncontaminated, weathered wood products with preservatives (e.g. creosote, CCA, pentachlorophenol). Treated wood is either RCRA exmpt per 40 CFR 261.4(b)(9) or is Non RCRA regulated. Treated wood is exempt per CA
2. Material Composition and Contaminants: ☐ See Attached

1. Treated Wood e.g. railroad ties, supports	100 %
2.	
3.	
4.	
Total comp. must be equal to or greater than 100%	≥100%

3. State Waste Codes: ________ ☑ N/A
4. Color: Various
5. Physical State at 70°F: ☑ Solid ☐ Liquid ☐ Other: ________
6. Free Liquid Range Percentage: ________ to ________ ☑ N/A
7. pH: ________ to ________ ☑ N/A
8. Strong Odor: ☐ Yes ☑ No Describe: ________
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☐ ≥200° ☑ N/A

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☑ No
   Code: ________
2. State Hazardous Waste? ☐ Yes ☑ No
   Code: ________
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☑ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☑ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☑ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☑ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☑ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☑ No

***If Yes, see Addendum (page 2) for additional questions and space.**

9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☑ No
   a. Regulated by 40 CFR 761? ☐ Yes ☐ No
   b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
   c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☑ No
11. Contains Asbestos? ☐ Yes ☑ No
   → If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☐ Yes
   Please identify applicable samples and/or lab reports:
2. Other information attached (such as MSDS)? ☐ Yes

F. SHIPPING AND DOT INFORMATION

1. ☑ One-Time Event ☐ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 100
   ☑ Tons ☐ Yards ☐ Drums ☐ Gallons ☐ Other: ________
3. Container Type and Size: Transfer Truck
4. USDOT Proper Shipping Name: ☑ N/A

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 - Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

If I am an agent signing on behalf of the Generator, I have confirmed with the Generator that information contained in this Profile is accurate and complete.

Name (Print): Estevan Munoz Date: 11/10/2017

Title: Project Engineer

Company: Suarez & Munoz Construction, Inc.

Certification Signature

Estevan Munoz

ae00d211f2...

EZ Profile™ Addendum

Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: 632875CA

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1): If more space is needed, please attach additional pages.

Health and Safety Code 25150.7.

Material Composition and Contaminants (Continued from page 1): If more space is needed, please attach additional pages.

5.	
6.	
7.	
8.	
9.	
Total composition must be equal to or greater than 100%	≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste
   a. Please list all USEPA listed and characteristic waste code numbers:

   b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)? ❑ Yes ❑ No
   c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4. ❑ Yes ❑ No
   d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)? ❑ Yes ❑ No
      → If Yes, please check **one** of the following:
      ❑ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))
      ❑ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.
2. State Hazardous Waste → Please list all state waste codes: ______
3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:
   ❑ Delisted Hazardous Waste ❑ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: ______
   ❑ Treated Hazardous Waste Debris ❑ Treated Characteristic Hazardous Waste → If checked, complete question 4.
4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:

5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.
   a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue. ❑ Yes ❑ No
   b. Does this material contain benzene? ❑ Yes ❑ No
      1. If yes, what is the flow weighted average concentration? ______ ppmw
   c. What is your facility's current total annual benzene quantity in Megagrams? ❑ <1 Mg ❑ 1–9.99 Mg ❑ ≥10 Mg
   d. Is this waste soil from a remediation? ❑ Yes ❑ No
      1. If yes, what is the benzene concentration in remediation waste? ______ ppmw
   e. Does the waste contain >10% water/moisture? ❑ Yes ❑ No
   f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw? ❑ Yes ❑ No
   g. Is material exempt from controls in accordance with 40 CFR 61.342? ❑ Yes ❑ No
      → If yes, specify exemption: ______
   h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF? ❑ Yes ❑ No
6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination? ❑ Yes ❑ No
7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.
8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: ______

Non-Hazardous WAM Approval

WASTE MANAGEMENT

Requested Management Facility: Altamont Landfill & Resource Recovery

Profile Number: 632875CA

Waste Approval Expiration Date: 11/10/2018

APPROVAL DETAILS

Approval Decision: ☑ Approved ☐ Not Approved

Profile Renewal: ☐ Yes ☑ No

Management Method: Direct Landfill

Generator Name: City Of Alameda

Material Name: Wooden Railroad Ties (WM025A)

Management Facility Precautions, Special Handling Procedures or Limitation on approval:

Generator Conditions

- Shall not contain free liquids.
- Shipment must be scheduled into the disposal facility at least 24 hours in advance. Contact information will be provided by your TSR.
- Waste manifest or applicable shipping document must accompany load.
- The waste profile number must appear on the shipping papers.

Treated wood must be weathered, uncontaminated, and exempt per CA HSC 25150.7

Cecilia Canoza [11/10/2017]:

- Amendment: Updated Billing Name B1) Suarez and Munoz Construction

Facility Conditions

Treated wood waste for disposal

WM Authorization Name: Leslie Fichera

Title: Waste Approval Manager

WM Authorization Signature: Leslie Fichera

Date: 11/10/2017

Agency Authorization (if Required): ____________________

Date: ____________________

THINK GREEN.

QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE

WASTE MANAGEMENT

WEIGHMASTER-Altamont Landfill & RRF
10840 Altamont Pass Road
Livermore, CA, 94551
Ph: (925)455-7300

Original
Ticket# 1214705

Customer Name SUAREZANDMUNOZCONSTRUCTIONINC
Ticket Date 11/28/2017
Payment Type Credit Account
Manual Ticket#
Billing # 0388941

Carrier GEN Altamont Generic
Vehicle# 9b94589
Container
BAINS BROS TRKN 336
License#

Manifest wam
PO 17-030
Profile 632875CA (WOODEN RAILROAD TIES)
Generator 164-CITY OF ALAMEDA 1925 CITY OF ALAMEDA (1925 SHERMAN ST)

Time	Scale	Deputy Weighmaster	Inbound		
In 11/28/2017 10:21:16	Scale1 In	R Rojas		Gross	54440 lb
Out11/28/2017 10:21:16		R Rojas		Tare	33300 lb
				Net	21140 lb
				Tons	10.57

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Treated Wood-Tons	100	10.57	Tons				Alameda
2	FUEL-Fuel Surcharg	100		%				Alameda

10.57 Tons

WASTE MANAGEMENT

WEIGHMASTER-Altamont Landfill & RRF
10840 Altamont Pass Road
Livermore, CA, 94551
Ph: (925)455-7300

Original
Ticket# 1214283

Customer Name	SUAREZANDMUNOZCONSTRUCTIONINC	Carrier	GEN Altamont Generic
Ticket Date	11/22/2017	Vehicle#	9F75363
Payment Type	Credit Account	Container	
Manual Ticket#		LS TRK 101	
Billing #	0388341	License#	

Manifest	WAM
PO	17-030
Profile	632875CA (WOODEN RAILROAD TIES)
Generator	164-CITY OF ALAMEDA 1925 CITY OF ALAMEDA (1925 SHERMAN ST)

	Time	Scale	Deputy Weighmaster	Inbound		
In	11/22/2017 13:09:39	Scale1 In	R Rojas		Gross	48020 lb*
Out	11/22/2017 13:09:39		R Rojas		Tare	33340 lb*
					Net	14680 lb
			* Manual Weight		Tons	7.34

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Treated Wood-Tons	100	7.34	Tons				Alameda
2	FUEL-Fuel Surcharg	100		%				Alameda
3				%				Alameda

7.34 Tons

WASTE MANAGEMENT

WEIGHMASTER-Altamont Landfill & RRF
10840 Altamont Pass Road
Livermore, CA 94551
Ph: (925)455-7300

Original
Ticket# 1214268

Customer Name SUAREZANDMUNOZCONSTRUCTIONINC Carrier GEN Altamont Generic
Ticket Date 11/22/2017 Vehicle# 9F43403
Payment Type Credit Account Container
Manual Ticket# LS TRKN 68
Billing # 0388941 License#

Manifest wam
PO 17-030
Profile 632875CA (WOODEN RAILROAD TIES)
Generator 164-CITY OF ALAMEDA 1925 CITY OF ALAMEDA (1925 SHERMAN ST)

	Time	Scale	Deputy Weighmaster	Inbound		
In	11/22/2017 11:59:15	Scale 3 I	R Rojas		Gross	46100 lb
Out	11/22/2017 11:59:15		R Rojas		Tare	34460 lb
					Net	11640 lb
					Tons	5.82

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Treated Wood-Tons-	100	5.82	Tons				Alameda
2	FUEL-Fuel Surcharg	100		%				Alameda

5.82 Tons

WASTE MANAGEMENT

WEIGHMASTER-Altamont Landfill & RRF
10840 Altamont Pass Road
Livermore, CA, 94551
Ph: (925)455-7300

Original
Ticket# 1214227

Customer Name SUAREZANDMUNOZCONSTRUCTIONINC Carrier GEN Altamont Generic
Ticket Date 11/22/2017 Vehicle# 9F43403
Payment Type Credit Account Container
Manual Ticket# LS TRKN 68
Billing # 0388941 License#

Manifest WAM
PO 17-030
Profile 632875CA (WOODEN RAILROAD TIES)
Generator 164-CITY OF ALAMEDA 1925 CITY OF ALAMEDA (1925 SHERMAN ST)

Time	Scale	Deputy Weighmaster	Inbound		
In 11/22/2017 08:43:00	Scale 3 I	R Rojas		Gross	49280 lb
Out 11/22/2017 09:03:18	Scale1 Inb	R Rojas		Tare	34460 lb
				Net	14820 lb
				Tons	7.41

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Treated Wood-Tons-	100	7.41	Tons				Alameda
2	FUEL-Fuel Surcharg	100		%				Alameda
3	RCR-Rc-Regulatory C	100		%				Alameda

7.41 Tons

WASTE MANAGEMENT

WEIGHMASTER-Altamont Landfill & RRF
10840 Altamont Pass Road
Livermore, CA, 94551
Ph: (925)455-7300

Original
Ticket# 1214542

Customer Name SUAREZANDMUNOZCONSTRUCTIONINC
Ticket Date 11/27/2017
Payment Type Credit Account
Manual Ticket#
Billing # 0388941

Carrier GEN Altamont Generic
Vehicle# 9e03853
Container .
EK TRKN 88
License#

Manifest wam
PO 17-030
Profile 632875CA (WOODEN RAILROAD TIES)
Generator 164-CITY OF ALAMEDA 1925 CITY OF ALAMEDA (1925 SHERMAN ST)

Time	Scale	Deputy Weighmaster	Inbound		
In 11/27/2017 10:38:35	Scale 3 I	P Ratto		Gross	45040 lb
Out 11/27/2017 10:57:11	Scale1 InbP	Ratto		Tare	32820 lb
				Net	12220 lb
				Tons	6.11

Comments

R

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Treated Wood-Tons-	100	6.11	Tons				Alameda
2	FUEL-Fuel Surcharg	100		%				Alameda

6.11 Tons

WASTE MANAGEMENT

WEIGHMASTER-Altamont Landfill & RRF
10840 Altamont Pass Road
Livermore, CA, 94551
Ph: (925)455-7300

Original
Ticket# 1214553

Customer Name SUAREZANDMUNOZCONSTRUCTIONINC Carrier GEN Altamont Generic
Ticket Date 11/27/2017 Vehicle# 9e28805
Payment Type Credit Account Container
Manual Ticket# PTI 79WT
Billing # 0388941 License#

Manifest wam
PO 17-030
Profile 632875CA (WOODEN RAILROAD TIES)
Generator 164-CITY OF ALAMEDA 1925 CITY OF ALAMEDA (1925 SHERMAN ST)

Time	Scale	Deputy Weighmaster	Inbound		
In 11/27/2017 11:05:40	Scale 3 I P	Ratto		Gross	42700 lb
Out11/27/2017 11:29:54	Scale1 InbP	Ratto		Tare	32040 lb
				Net	10660 lb
				Tons	5.33

Comments

R

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Treated Wood-Tons-	100	5.33	Tons				Alameda
2	FUEL-Fuel Surcharg	100		%				Alameda
3	RCR-P-Regulatory C	100		%				Alameda
4	WWM-P-Waste Water	100		%				Alameda
5	EVF-L-Standard Env	100	1	Load				Alameda

5.33 Tons

DRIVER: ____________________

Total Tax
Total Ticket

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

404WMCA

WASTE MANAGEMENT

WEIGHMASTER-Altamont Landfill & RRF
10840 Altamont Pass Road
Livermore, CA, 94551
Ph: (925)455-7300

Original
Ticket# 1214231

Customer Name SUAREZANDMUNOZCONSTRUCTIONINC Carrier GEN Altamont Generic
Ticket Date 11/22/2017 Vehicle# 9F75363
Payment Type Credit Account Container
Manual Ticket# LS TRK 101
Billing # 0388941 License#

Manifest wam
PO 17-030
Profile 632875CA (WOODEN RAILROAD TIES)
Generator 164-CITY OF ALAMEDA 1925 CITY OF ALAMEDA (1925 SHERMAN ST)

Time	Scale	Deputy Weighmaster	Inbound		
In 11/22/2017 08:54:34	Scale 3	I R Rojas		Gross	44280 lb
Out11/22/2017 09:15:05	Scale1	InbR Rojas		Tare	33340 lb
				Net	10940 lb
				Tons	5.47

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Treated Wood-Tons-	100	5.47	Tons				Alameda
2	FUEL-Fuel Surcharg	100		%				Alameda

5.47 Tons

0054770-0000001-0059510

WASTE MANAGEMENT

WEIGHMASTER Altamont Landfill & RRF
10840 Altamont Pass Road
Livermore, CA, 94551
Ph: (925)455 7300

Original
Ticket# 1220863

Customer Name	SUAREZANDMUNOZCONSTRUCTIONINC	Carrier	GEN Altamont Generic
Ticket Date	02/08/2018	Vehicle#	69525ti
Payment Type	Credit Account	Container	
Manual Ticket#			
Billing #	0388941	License#	

Manifest	wam
PO	17-030
Profile	632875CA (WOODEN RAILROAD TIES)
Generator	164-CITY OF ALAMEDA 1925 CITY OF ALAMEDA (1925 SHERMAN ST)

	Time	Scale	Deputy Weighmaster	Inbound		
In	02/08/2018 13:25:02	Scale1 In			Gross	49700 lb
Out	02/08/2018 14:03:19	Scale1 Inb			Tare	31820 lb
					Net	17880 lb
					Tons	8.94

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Treated Wood Tons	100	8.94	Tons 8.94 TN				Alameda
2	FUEL Fuel Surcharg	100		%				Alameda
3	RCR F Regulatory F	100		%				Alameda
4	WWM-P-Waste Water	100		%				Alameda
5	EVF 4 Standard En	100	1	Load				Alameda

Total Tax
Total Ticket

DRIVER: ______

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

404WMCA

(925) 455-7383 FAX

0054770 01 AB 0.405 **AUTO T6 0 7047 94545-181090 -C01-P54824-I1 1255489

SUAREZ AND MUNOZ CONSTRUCTION INC
2490 AMERICAN AVE
HAYWARD CA 94545-1810

25540001756409330070004910200000018538600000185386 5

ALTAMONT LANDFILL & RESOURCE RECOVERY
PO BOX 541065
LOS ANGELES CA 90054-1065

THINK GREEN.®

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554-0388941-2554-1

APPENDIX D

DETAILED AIR MONITORING DATA

Time Weighted Averages (μ/m^3)

Day	Northwest	Northeast	Southwest	Southeast
9/8/2017	11	30	30	63
9/11/2017	22	51	26	21
9/12/2017	21	57	32	39
9/13/2017	N/A[1]	34	1	20
9/14/2017	28	65	39	N/A[2]
9/15/2017	24	43	35	40
9/21/2017	10	30	18	18
9/22/2017	24	60	26	29
9/25/2017	63	79	23	26
9/26/2017	10	N/A[3]	69	N/A[4]

Notes:

1. Air Monitor Malfunction
2. Air monitor reading omitted due to lack of consistency with visual operations or other air monitor
3. Reading inaccurate due to lawn Mowing, weed whacking, and clearing alongside outside edge of site
4. Reading high due activities unrelated to excavation. Placement of mulch filled wattle caused excess dust and debris i
5. The same air monitors were used for each location everyday air monitoring was used
6. In the case two or more air logging periods, the time weighted average was calculated between the two overall avera

in the air.

ge concentrations of PM10 and is shown above

Date	Time	Average (mg/m^3)
8-Sep	07:44:20	0.029
8-Sep	07:45:20	0.03
8-Sep	07:46:20	0.026
8-Sep	07:47:20	0.024
8-Sep	07:48:20	0.019
8-Sep	07:49:20	0.02
8-Sep	07:50:20	0.022
8-Sep	07:51:20	0.022
8-Sep	07:52:20	0.058
8-Sep	07:53:20	0.024
8-Sep	07:54:20	0.017
8-Sep	07:55:20	0.025
8-Sep	07:56:20	0.017
8-Sep	07:57:20	0.011
8-Sep	07:58:20	0.013
8-Sep	07:59:20	0.019
8-Sep	08:00:20	0.016
8-Sep	08:01:20	0.022
8-Sep	08:02:20	0.024
8-Sep	08:03:20	0.024
8-Sep	08:04:20	0.022
8-Sep	08:05:20	0.028
8-Sep	08:06:20	0.029
8-Sep	08:07:20	0.029
8-Sep	08:08:20	0.024
8-Sep	08:09:20	0.023
8-Sep	08:10:20	0.023
8-Sep	08:11:20	0.029
8-Sep	08:12:20	0.024
8-Sep	08:13:20	0.021
8-Sep	08:14:20	0.028
8-Sep	08:15:20	0.021
8-Sep	08:16:20	0.024
8-Sep	08:17:20	0.022
8-Sep	08:18:20	0.027
8-Sep	08:19:20	0.031
8-Sep	08:20:20	0.025
8-Sep	08:21:20	0.022
8-Sep	08:22:20	0.019
8-Sep	08:23:20	0.018
8-Sep	08:24:20	0.023
8-Sep	08:25:20	0.021
8-Sep	08:26:20	0.017
8-Sep	08:27:20	0.018
8-Sep	08:28:20	0.018
8-Sep	08:29:20	0.021

8-Sep	08:30:20	0.024
8-Sep	08:31:20	0.027
8-Sep	08:32:20	0.02
8-Sep	08:33:20	0.033
8-Sep	08:34:20	0.027
8-Sep	08:35:20	0.024
8-Sep	08:36:20	0.022
8-Sep	08:37:20	0.022
8-Sep	08:38:20	0.022
8-Sep	08:39:20	0.021
8-Sep	08:40:20	0.023
8-Sep	08:41:20	0.017
8-Sep	08:42:20	0.016
8-Sep	08:43:20	0.018
8-Sep	08:44:20	0.027
8-Sep	08:45:20	0.028
8-Sep	08:46:20	0.027
8-Sep	08:47:20	0.025
8-Sep	08:48:20	0.023
8-Sep	08:49:20	0.028
8-Sep	08:50:20	0.02
8-Sep	08:51:20	0.02
8-Sep	08:52:20	0.015
8-Sep	08:53:20	0.015
8-Sep	08:54:20	0.015
8-Sep	08:55:20	0.015
8-Sep	08:56:20	0.023
8-Sep	08:57:20	0.019
8-Sep	08:58:20	0.016
8-Sep	08:59:20	0.015
8-Sep	09:00:20	0.015
8-Sep	09:01:20	0.013
8-Sep	09:02:20	0.014
8-Sep	09:03:20	0.099
8-Sep	09:04:20	0.023
8-Sep	09:05:20	0.022
8-Sep	09:06:20	0.015
8-Sep	09:07:20	0.032
8-Sep	09:08:20	0.02
8-Sep	09:09:20	0.02
8-Sep	09:10:20	0.019
8-Sep	09:11:20	0.024
8-Sep	09:12:20	0.03
8-Sep	09:13:20	0.029
8-Sep	09:14:20	0.029
8-Sep	09:15:20	0.026
8-Sep	09:16:20	0.025

8-Sep	09:17:20	0.021
8-Sep	09:18:20	0.024
8-Sep	09:19:20	0.025
8-Sep	09:20:20	0.025
8-Sep	09:21:20	0.022
8-Sep	09:22:20	0.02
8-Sep	09:23:20	0.02
8-Sep	09:24:20	0.022
8-Sep	09:25:20	0.019
8-Sep	09:26:20	0.026
8-Sep	09:27:20	0.022
8-Sep	09:28:20	0.029
8-Sep	09:29:20	0.036
8-Sep	09:30:20	0.025
8-Sep	09:31:20	0.026
8-Sep	09:32:20	0.021
8-Sep	09:33:20	0.022
8-Sep	09:34:20	0.03
8-Sep	09:35:20	0.015
8-Sep	09:36:20	0.01
8-Sep	09:37:20	0.009
8-Sep	09:38:20	0.007
8-Sep	09:39:20	0.011
8-Sep	09:40:20	0.019
8-Sep	09:41:20	0.007
8-Sep	09:42:20	0.003
8-Sep	09:43:20	0.007
8-Sep	09:44:20	0
8-Sep	09:45:20	0.001
8-Sep	09:46:20	0
8-Sep	09:47:20	0.001
8-Sep	09:48:20	0
8-Sep	09:49:20	0
8-Sep	09:50:20	0
8-Sep	09:51:20	0.003
8-Sep	09:52:20	0
8-Sep	09:53:20	0
8-Sep	09:54:20	0
8-Sep	09:55:20	0
8-Sep	09:56:20	0
8-Sep	09:57:20	0
8-Sep	09:58:20	0
8-Sep	09:59:20	0
8-Sep	10:00:20	0
8-Sep	10:01:20	0
8-Sep	10:02:20	0.006
8-Sep	10:03:20	0

8-Sep	10:04:20	0
8-Sep	10:05:20	0.001
8-Sep	10:06:20	0
8-Sep	10:07:20	0.002
8-Sep	10:08:20	0
8-Sep	10:09:20	0
8-Sep	10:10:20	0
8-Sep	10:11:20	0
8-Sep	10:12:20	0
8-Sep	10:13:20	0
8-Sep	10:14:20	0
8-Sep	10:15:20	0
8-Sep	10:16:20	0
8-Sep	10:17:20	0
8-Sep	10:18:20	0
8-Sep	10:19:20	0
8-Sep	10:20:20	0
8-Sep	10:21:20	0.001
8-Sep	10:22:20	0
8-Sep	10:23:20	0
8-Sep	10:24:20	0.264
8-Sep	10:25:20	0.006
8-Sep	10:26:20	0
8-Sep	10:27:20	0
8-Sep	10:28:20	0
8-Sep	10:29:20	0
8-Sep	10:30:20	0
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8-Sep	10:34:20	0
8-Sep	10:35:20	0
8-Sep	10:36:20	0
8-Sep	10:37:20	0
8-Sep	10:38:20	0
8-Sep	10:39:20	0
8-Sep	10:40:20	0
8-Sep	10:41:20	0
8-Sep	10:42:20	0
8-Sep	10:43:20	0
8-Sep	10:44:20	0
8-Sep	10:45:20	0
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8-Sep	10:47:20	0
8-Sep	10:48:20	0
8-Sep	10:49:20	0
8-Sep	10:50:20	0

8-Sep	10:51:20	0.001
8-Sep	10:52:20	0
8-Sep	10:53:20	0
8-Sep	10:54:20	0
8-Sep	10:55:20	0
8-Sep	10:56:20	0
8-Sep	10:57:20	0
8-Sep	10:58:20	0
8-Sep	10:59:20	0
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8-Sep	11:01:20	0
8-Sep	11:02:20	0
8-Sep	11:03:20	0
8-Sep	11:04:20	0
8-Sep	11:05:20	0
8-Sep	11:06:20	0
8-Sep	11:07:20	0
8-Sep	11:08:20	0
8-Sep	11:09:20	0
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8-Sep	11:11:20	0
8-Sep	11:12:20	0
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8-Sep	11:18:20	0
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8-Sep	11:32:20	0
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8-Sep	11:36:20	0
8-Sep	11:37:20	0

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8-Sep	11:41:20	0
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8-Sep	11:46:20	0
8-Sep	11:47:20	0
8-Sep	11:48:20	0
8-Sep	11:49:20	0
8-Sep	11:50:20	0
8-Sep	11:51:20	0
8-Sep	11:52:20	0
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8-Sep	11:55:20	0
8-Sep	11:56:20	0
8-Sep	11:57:20	0
8-Sep	11:58:20	0
8-Sep	11:59:20	0
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8-Sep	12:03:20	0
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8-Sep	12:05:20	0
8-Sep	12:06:20	0
8-Sep	12:07:20	0.001
8-Sep	12:08:20	0.001
8-Sep	12:09:20	0
8-Sep	12:10:20	0.002
8-Sep	12:11:20	0
8-Sep	12:12:20	0
8-Sep	12:13:20	0
8-Sep	12:14:20	0
8-Sep	12:15:20	0
8-Sep	12:16:20	0
8-Sep	12:17:20	0
8-Sep	12:18:20	0
8-Sep	12:19:20	0.001
8-Sep	12:20:20	0
8-Sep	12:21:20	0
8-Sep	12:22:20	0
8-Sep	12:23:20	0
8-Sep	12:24:20	0

8-Sep	12:25:20	0.071
8-Sep	12:26:20	0
8-Sep	12:27:20	0
8-Sep	12:28:20	0
8-Sep	12:29:20	0
8-Sep	12:30:20	0.001
8-Sep	12:31:20	0
8-Sep	12:32:20	0.001
8-Sep	12:33:20	0.002
8-Sep	12:34:20	0.001
8-Sep	12:35:20	0.002
8-Sep	12:36:20	0.001
8-Sep	12:37:20	0.002
8-Sep	12:38:20	0.227
8-Sep	12:39:20	0.042
8-Sep	12:40:20	0.017
8-Sep	12:41:20	0.015
8-Sep	12:42:20	0.006
8-Sep	12:43:20	0.002
8-Sep	12:44:20	0.002
8-Sep	12:45:20	0.001
8-Sep	12:46:20	0.001
8-Sep	12:47:20	0.003
8-Sep	12:48:20	0.005
8-Sep	12:49:20	0.007
8-Sep	12:50:20	0.004
8-Sep	12:51:20	0.004
8-Sep	12:52:20	0.005
8-Sep	12:53:20	0.004
8-Sep	12:54:20	0.005
8-Sep	12:55:20	0.003
8-Sep	12:56:20	0.006
8-Sep	12:57:20	0.004
8-Sep	12:58:20	0.005
8-Sep	12:59:20	0.006
8-Sep	13:00:20	0.007
8-Sep	13:01:20	0.007
8-Sep	13:02:20	0.008
8-Sep	13:03:20	0.007
8-Sep	13:04:20	0.007
8-Sep	13:05:20	0.007
8-Sep	13:06:20	0.008
8-Sep	13:07:20	0.009
8-Sep	13:08:20	0.007
8-Sep	13:09:20	0.008
8-Sep	13:10:20	0.008
8-Sep	13:11:20	0.008

8-Sep	13:12:20	0.006
8-Sep	13:13:20	0.008
8-Sep	13:14:20	0.008
8-Sep	13:15:20	0.009
8-Sep	13:16:20	0.009
8-Sep	13:17:20	0.009
8-Sep	13:18:20	0.012
8-Sep	13:19:20	0.013
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8-Sep	13:58:20	0.01

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8-Sep	14:07:20	0.011
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8-Sep	14:12:20	0.011
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8-Sep	14:15:20	0.009
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8-Sep	14:20:20	1.107
8-Sep	14:21:20	0.038
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8-Sep	15:32:20	0.022

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12-Sep	07:12:39	0.032
12-Sep	07:13:39	0.033
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12-Sep	07:17:39	0.025

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12-Sep	07:23:39	0.022
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13-Sep	10:58:30	0
13-Sep	10:59:30	0
13-Sep	11:00:30	0
13-Sep	11:01:30	0
13-Sep	11:02:30	0.001
14-Sep	09:51:23	0.027
14-Sep	09:52:23	0.027
14-Sep	09:53:23	0.024
14-Sep	09:54:23	0.024
14-Sep	09:55:23	0.023
14-Sep	09:56:23	0.023
14-Sep	09:57:23	0.023
14-Sep	09:58:23	0.028
14-Sep	09:59:23	0.024
14-Sep	10:00:23	0.024
14-Sep	10:01:23	0.023
14-Sep	10:02:23	0.023
14-Sep	10:03:23	0.025
14-Sep	10:04:23	0.023
14-Sep	10:05:23	0.022
14-Sep	10:06:23	0.024
14-Sep	10:07:23	0.025
14-Sep	10:08:23	0.025
14-Sep	10:09:23	0.027
14-Sep	10:10:23	0.024
14-Sep	10:11:23	0.025
14-Sep	10:12:23	0.023
14-Sep	10:13:23	0.024
14-Sep	10:14:23	0.025
14-Sep	10:15:23	0.027
14-Sep	10:16:23	0.028
14-Sep	10:17:23	0.03
14-Sep	10:18:23	0.026
14-Sep	10:19:23	0.027
14-Sep	10:20:23	0.028
14-Sep	10:21:23	0.029
14-Sep	10:22:23	0.028
14-Sep	10:23:23	0.025
14-Sep	10:24:23	0.025
14-Sep	10:25:23	0.029
14-Sep	10:26:23	0.031
14-Sep	10:27:23	0.031
14-Sep	10:28:23	0.038
14-Sep	10:29:23	0.043
14-Sep	10:30:23	0.028

14-Sep	10:31:23	0.028
14-Sep	10:32:23	0.026
14-Sep	10:33:23	0.035
14-Sep	10:34:23	0.024
14-Sep	10:35:23	0.026
14-Sep	10:36:23	0.026
14-Sep	10:37:23	0.027
14-Sep	10:38:23	0.028
14-Sep	10:39:23	0.026
14-Sep	10:40:23	0.029
14-Sep	10:41:23	0.026
14-Sep	10:42:23	0.025
14-Sep	10:43:23	0.024
14-Sep	10:44:23	0.025
14-Sep	10:45:23	0.028
14-Sep	10:46:23	0.029
14-Sep	10:47:23	0.031
14-Sep	10:48:23	0.028
14-Sep	10:49:23	0.024
14-Sep	10:50:23	0.024
14-Sep	10:51:23	0.024
14-Sep	10:52:23	0.033
14-Sep	10:53:23	0.025
14-Sep	10:54:23	0.024
14-Sep	10:55:23	0.025
14-Sep	10:56:23	0.027
14-Sep	10:57:23	0.024
14-Sep	10:58:23	0.023
14-Sep	10:59:23	0.023
14-Sep	11:00:23	0.026
14-Sep	11:01:23	0.027
14-Sep	11:02:23	0.025
14-Sep	11:03:23	0.024
14-Sep	11:04:23	0.029
14-Sep	11:05:23	0.026
14-Sep	11:06:23	0.026
14-Sep	11:07:23	0.026
14-Sep	11:08:23	0.026
14-Sep	11:09:23	0.026
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14-Sep	11:12:23	0.025
14-Sep	11:13:23	0.025
14-Sep	11:14:23	0.025
14-Sep	11:15:23	0.025
14-Sep	11:16:23	0.022
14-Sep	11:17:23	0.03

14-Sep	11:18:23	0.037
14-Sep	11:19:23	0.026
14-Sep	11:20:23	0.026
14-Sep	11:21:23	0.026
14-Sep	11:22:23	0.026
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14-Sep	11:50:23	0.035
14-Sep	11:51:23	0.029
14-Sep	11:52:23	0.03
14-Sep	11:53:23	0.03
14-Sep	11:54:23	0.027
14-Sep	11:55:23	0.03
14-Sep	11:56:23	0.028
14-Sep	11:57:23	0.028
14-Sep	11:58:23	0.028
14-Sep	11:59:23	0.029
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14-Sep	12:01:23	0.027
14-Sep	12:02:23	0.026
14-Sep	12:03:23	0.026
14-Sep	12:04:23	0.028

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14-Sep	12:07:23	0.027
14-Sep	12:08:23	0.029
14-Sep	12:09:23	0.032
14-Sep	12:10:23	0.028
14-Sep	12:11:23	0.03
14-Sep	12:12:23	0.028
14-Sep	12:13:23	0.027
14-Sep	12:14:23	0.026
14-Sep	12:15:23	0.04
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14-Sep	12:18:23	0.025
14-Sep	12:19:23	0.023
14-Sep	12:20:23	0.024
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14-Sep	12:24:23	0.044
14-Sep	12:25:23	0.044
14-Sep	12:26:23	0.03
14-Sep	12:27:23	0.028
14-Sep	12:28:23	0.033
14-Sep	12:29:23	0.029
14-Sep	12:30:23	0.028
14-Sep	12:31:23	0.03
14-Sep	12:32:23	0.031
14-Sep	12:33:23	0.029
14-Sep	12:34:23	0.03
14-Sep	12:35:23	0.03
14-Sep	12:36:23	0.029
14-Sep	12:37:23	0.03
14-Sep	12:38:23	0.029
14-Sep	12:39:23	0.03
14-Sep	12:40:23	0.03
14-Sep	12:41:23	0.026
14-Sep	12:42:23	0.029
14-Sep	12:43:23	0.031
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14-Sep	12:46:23	0.03
14-Sep	12:47:23	0.033
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14-Sep	12:49:23	0.028
14-Sep	12:50:23	0.028
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14-Sep	12:55:23	0.028
14-Sep	12:56:23	0.027
14-Sep	12:57:23	0.031
14-Sep	12:58:23	0.028
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15-Sep	10:15:33	0.013
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15-Sep	10:17:33	0.013
15-Sep	10:18:33	0.013
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15-Sep	10:20:33	0.015
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15-Sep	10:52:33	0.016
15-Sep	10:53:33	0.015
15-Sep	10:54:33	0.015
15-Sep	10:55:33	0.015
15-Sep	10:56:33	0.014
15-Sep	10:57:33	0.014
15-Sep	10:58:33	0.012
15-Sep	10:59:33	0.013
15-Sep	11:00:33	0.014
15-Sep	11:01:33	0.014
15-Sep	11:02:33	0.013
15-Sep	11:03:33	0.015
15-Sep	11:04:33	0.014
15-Sep	11:05:33	0.014
15-Sep	11:06:33	0.016
15-Sep	11:07:33	0.016
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15-Sep	11:28:33	0.013
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15-Sep	11:30:33	0.013
15-Sep	11:31:33	0.013
15-Sep	11:32:33	0.013

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15-Sep	11:36:33	0.012
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15-Sep	12:49:33	0.012
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15-Sep	12:57:33	0.016
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15-Sep	12:59:33	0.01
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15-Sep	13:02:33	0.012
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15-Sep	13:05:33	0.016
15-Sep	13:06:33	0.016

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15-Sep	13:23:33	0.014
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15-Sep	13:49:33	0.013
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15-Sep	13:53:33	0.014

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15-Sep	13:58:33	0.018
15-Sep	13:59:33	0.018
15-Sep	14:00:33	0.016
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21-Sep	08:23:35	0.016
21-Sep	08:24:35	0.032
21-Sep	08:25:35	0.062
21-Sep	08:26:35	0.016
21-Sep	08:27:35	0.014
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21-Sep	08:30:35	0.014
21-Sep	08:31:35	0.012
21-Sep	08:32:35	0.013
21-Sep	08:33:35	0.011
21-Sep	08:34:35	0.013
21-Sep	08:35:35	0.013
21-Sep	08:36:35	0.013
21-Sep	08:37:35	0.012
21-Sep	08:38:35	0.014
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21-Sep	08:42:35	0.013
21-Sep	08:43:35	0.015
21-Sep	08:44:35	0.013
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21-Sep	08:47:35	0.012
21-Sep	08:48:35	0.014
21-Sep	08:49:35	0.016
21-Sep	08:50:35	0.012
21-Sep	08:51:35	0.012
21-Sep	08:52:35	0.016
21-Sep	08:53:35	0.013
21-Sep	08:54:35	0.011
21-Sep	08:55:35	0.01
21-Sep	08:56:35	0.014
21-Sep	08:57:35	0.01
21-Sep	08:58:35	0.013
21-Sep	08:59:35	0.013

21-Sep	09:00:35	0.011
21-Sep	09:01:35	0.012
21-Sep	09:02:35	0.014
21-Sep	09:03:35	0.01
21-Sep	09:04:35	0.01
21-Sep	09:05:35	0.009
21-Sep	09:06:35	0.011
21-Sep	09:07:35	0.01
21-Sep	09:08:35	0.011
21-Sep	09:09:35	0.011
21-Sep	09:10:35	0.009
21-Sep	09:11:35	0.009
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21-Sep	09:15:35	0.008
21-Sep	09:16:35	0.009
21-Sep	09:17:35	0.009
21-Sep	09:18:35	0.008
21-Sep	09:19:35	0.009
21-Sep	09:20:35	0.01
21-Sep	09:21:35	0.011
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21-Sep	09:36:35	0.01
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21-Sep	09:38:35	0.008
21-Sep	09:39:35	0.012
21-Sep	09:40:35	0.008
21-Sep	09:41:35	0.009
21-Sep	09:42:35	0.009
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21-Sep	09:44:35	0.009
21-Sep	09:45:35	0.009
21-Sep	09:46:35	0.01

21-Sep	09:47:35	0.009
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21-Sep	09:49:35	0.01
21-Sep	09:50:35	0.008
21-Sep	09:51:35	0.011
21-Sep	09:52:35	0.01
21-Sep	09:53:35	0.007
21-Sep	09:54:35	0.009
21-Sep	09:55:35	0.009
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21-Sep	09:57:35	0.01
21-Sep	09:58:35	0.008
21-Sep	09:59:35	0.012
21-Sep	10:00:35	0.009
21-Sep	10:01:35	0.007
21-Sep	10:02:35	0.008
21-Sep	10:03:35	0.013
21-Sep	10:04:35	0.009
21-Sep	10:05:35	0.008
21-Sep	10:06:35	0.009
21-Sep	10:07:35	0.008
21-Sep	10:08:35	0.007
21-Sep	10:09:35	0.007
21-Sep	10:10:35	0.008
21-Sep	10:11:35	0.009
21-Sep	10:12:35	0.008
21-Sep	10:13:35	0.008
21-Sep	10:14:35	0.008
21-Sep	10:15:35	0.01
21-Sep	10:16:35	0.007
21-Sep	10:17:35	0.008
21-Sep	10:18:35	0.008
21-Sep	10:19:35	0.007
21-Sep	10:20:35	0.007
21-Sep	10:21:35	0.007
21-Sep	10:22:35	0.007
21-Sep	10:23:35	0.008
21-Sep	10:24:35	0.007
21-Sep	10:25:35	0.007
21-Sep	10:26:35	0.007
21-Sep	10:27:35	0.008
21-Sep	10:28:35	0.011
21-Sep	10:29:35	0.013
21-Sep	10:30:35	0.011
21-Sep	10:31:35	0.008
21-Sep	10:32:35	0.01
21-Sep	10:33:35	0.008

21-Sep	10:34:35	0.007
21-Sep	10:35:35	0.009
21-Sep	10:36:35	0.011
21-Sep	10:37:35	0.016
21-Sep	10:38:35	0.009
21-Sep	10:39:35	0.007
21-Sep	10:40:35	0.008
21-Sep	10:41:35	0.007
21-Sep	10:42:35	0.006
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21-Sep	10:44:35	0.007
21-Sep	10:45:35	0.023
21-Sep	10:46:35	0.009
21-Sep	10:47:35	0.01
21-Sep	10:48:35	0.008
21-Sep	10:49:35	0.007
21-Sep	10:50:35	0.007
21-Sep	10:51:35	0.007
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21-Sep	10:54:35	0.008
21-Sep	10:55:35	0.006
21-Sep	10:56:35	0.007
21-Sep	10:57:35	0.005
21-Sep	10:58:35	0.006
21-Sep	10:59:35	0.005
21-Sep	11:00:35	0.005
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21-Sep	11:02:35	0.005
21-Sep	11:03:35	0.006
21-Sep	11:04:35	0.008
21-Sep	11:05:35	0.007
21-Sep	11:06:35	0.006
21-Sep	11:07:35	0.006
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21-Sep	11:11:35	0.008
21-Sep	11:12:35	0.007
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21-Sep	11:16:35	0.007
21-Sep	11:17:35	0.006
21-Sep	11:18:35	0.004
21-Sep	11:19:35	0.004
21-Sep	11:20:35	0.007

21-Sep	11:21:35	0.006
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21-Sep	11:24:35	0.006
21-Sep	11:25:35	0.005
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21-Sep	11:28:35	0.006
21-Sep	11:29:35	0.006
21-Sep	11:30:35	0.005
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21-Sep	11:37:35	0.006
21-Sep	11:38:35	0.006
21-Sep	11:39:35	0.005
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21-Sep	11:47:35	0.005
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21-Sep	11:49:35	0.004
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21-Sep	12:06:35	0.004
21-Sep	12:07:35	0.005

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21-Sep	12:09:35	0.004
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21-Sep	12:18:35	0.005
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21-Sep	12:24:35	0.004
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21-Sep	12:27:35	0.005
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21-Sep	12:36:35	0.005
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21-Sep	12:38:35	0.004
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21-Sep	13:34:35	0.008
21-Sep	13:35:35	0.008
21-Sep	13:36:35	0.008
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21-Sep	13:38:35	0.008
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21-Sep	13:49:35	0.01
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21-Sep	13:57:35	0.008
21-Sep	13:58:35	0.008
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21-Sep	14:03:35	0.008
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21-Sep	14:08:35	0.009
21-Sep	14:09:35	0.008
21-Sep	14:10:35	0.008
21-Sep	14:11:35	0.008
21-Sep	14:12:35	0.007
21-Sep	14:13:35	0.009
21-Sep	14:14:35	0.008
21-Sep	14:15:35	0.013
21-Sep	14:16:35	0.01
21-Sep	14:17:35	0.008
21-Sep	14:18:35	0.009
21-Sep	14:19:35	0.009
21-Sep	14:20:35	0.009
21-Sep	14:21:35	0.01
21-Sep	14:22:35	0.008
21-Sep	14:23:35	0.007
21-Sep	14:24:35	0.008
21-Sep	14:25:35	0.011
21-Sep	14:26:35	0.011
21-Sep	14:27:35	0.029
21-Sep	14:28:35	0.026

21-Sep	14:29:35	0.012
21-Sep	14:30:35	0.016
21-Sep	14:31:35	0.144
21-Sep	14:32:35	0.019
21-Sep	14:33:35	0.007
21-Sep	14:34:35	0.007
21-Sep	14:35:35	0.007
21-Sep	14:36:35	0.011
21-Sep	14:37:35	0.012
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21-Sep	14:45:35	0.008
21-Sep	14:46:35	0.1
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22-Sep	07:31:40	0.038
22-Sep	07:32:40	0.037
22-Sep	07:33:40	0.041
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22-Sep	07:35:40	0.082
22-Sep	07:36:40	0.222
22-Sep	07:37:40	0.073
22-Sep	07:38:40	0.063
22-Sep	07:39:40	0.048
22-Sep	07:40:40	0.042
22-Sep	07:41:40	0.04

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22-Sep	07:43:40	0.042
22-Sep	07:44:40	0.046
22-Sep	07:45:40	0.065
22-Sep	07:46:40	0.037
22-Sep	07:47:40	0.043
22-Sep	07:48:40	0.038
22-Sep	07:49:40	0.046
22-Sep	07:50:40	0.047
22-Sep	07:51:40	0.057
22-Sep	07:52:40	0.052
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22-Sep	07:54:40	0.038
22-Sep	07:55:40	0.042
22-Sep	07:56:40	0.038
22-Sep	07:57:40	0.04
22-Sep	07:58:40	0.047
22-Sep	07:59:40	0.056
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22-Sep	08:07:40	0.047
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22-Sep	08:11:40	0.03
22-Sep	08:12:40	0.031
22-Sep	08:13:40	0.028
22-Sep	08:14:40	0.032
22-Sep	08:15:40	0.032
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22-Sep	08:18:40	0.033
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22-Sep	08:20:40	0.03
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22-Sep	08:22:40	0.043
22-Sep	08:23:40	0.045
22-Sep	08:24:40	0.039
22-Sep	08:25:40	0.04
22-Sep	08:26:40	0.041
22-Sep	08:27:40	0.041
22-Sep	08:28:40	0.032

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22-Sep	08:33:40	0.054
22-Sep	08:34:40	0.036
22-Sep	08:35:40	0.036
22-Sep	08:36:40	0.031
22-Sep	08:37:40	0.032
22-Sep	08:38:40	0.03
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22-Sep	08:40:40	0.036
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22-Sep	08:42:40	0.05
22-Sep	08:43:40	0.041
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22-Sep	08:49:40	0.026
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22-Sep	08:51:40	0.027
22-Sep	08:52:40	0.029
22-Sep	08:53:40	0.03
22-Sep	08:54:40	0.032
22-Sep	08:55:40	0.027
22-Sep	08:56:40	0.029
22-Sep	08:57:40	0.029
22-Sep	08:58:40	0.026
22-Sep	08:59:40	0.025
22-Sep	09:00:40	0.028
22-Sep	09:01:40	0.027
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22-Sep	09:12:40	0.026
22-Sep	09:13:40	0.026
22-Sep	09:14:40	0.025
22-Sep	09:15:40	0.025

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22-Sep	09:19:40	0.027
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22-Sep	09:23:40	0.021
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22-Sep	09:30:40	0.027
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22-Sep	09:33:40	0.02
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22-Sep	09:36:40	0.055
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22-Sep	10:02:40	0.02

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22-Sep	10:07:40	0.022
22-Sep	10:08:40	0.022
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22-Sep	10:23:40	0.015
22-Sep	10:24:40	0.016
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22-Sep	10:28:40	0.167
22-Sep	10:29:40	0.045
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22-Sep	10:34:40	0.016
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22-Sep	10:36:40	0.015
22-Sep	10:37:40	0.015
22-Sep	10:38:40	0.044
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22-Sep	10:43:40	0.016
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22-Sep	10:45:40	0.015
22-Sep	10:46:40	0.014
22-Sep	10:47:40	0.016
22-Sep	10:48:40	0.015
22-Sep	10:49:40	0.017

22-Sep	10:50:40	0.016
22-Sep	10:51:40	0.015
22-Sep	10:52:40	0.018
22-Sep	10:53:40	0.017
22-Sep	10:54:40	0.016
22-Sep	10:55:40	0.017
22-Sep	10:56:40	0.018
22-Sep	10:57:40	0.017
22-Sep	10:58:40	0.016
22-Sep	10:59:40	0.014
22-Sep	11:00:40	0.017
22-Sep	11:01:40	0.015
22-Sep	11:02:40	0.016
22-Sep	11:03:40	0.015
22-Sep	11:04:40	0.016
22-Sep	11:05:40	0.015
22-Sep	11:06:40	0.015
22-Sep	11:07:40	0.014
22-Sep	11:08:40	0.014
22-Sep	11:09:40	0.015
22-Sep	11:10:40	0.014
22-Sep	11:11:40	0.015
22-Sep	11:12:40	0.019
22-Sep	11:13:40	0.017
22-Sep	11:14:40	0.016
22-Sep	11:15:40	0.018
22-Sep	11:16:40	0.016
22-Sep	11:17:40	0.014
22-Sep	11:18:40	0.015
22-Sep	11:19:40	0.014
22-Sep	11:20:40	0.015
22-Sep	11:21:40	0.016
22-Sep	11:22:40	0.015
22-Sep	11:23:40	0.015
22-Sep	11:24:40	0.016
22-Sep	11:25:40	0.015
22-Sep	11:26:40	0.015
22-Sep	11:27:40	0.015
22-Sep	11:28:40	0.015
22-Sep	11:29:40	0.016
22-Sep	11:30:40	0.019
22-Sep	11:31:40	0.016
22-Sep	11:32:40	0.014
22-Sep	11:33:40	0.015
22-Sep	11:34:40	0.014
22-Sep	11:35:40	0.015
22-Sep	11:36:40	0.014

22-Sep	11:37:40	0.014
22-Sep	11:38:40	0.016
22-Sep	11:39:40	0.015
22-Sep	11:40:40	0.019
22-Sep	11:41:40	0.019
22-Sep	11:42:40	0.017
22-Sep	11:43:40	0.016
22-Sep	11:44:40	0.015
22-Sep	11:45:40	0.015
22-Sep	11:46:40	0.016
22-Sep	11:47:40	0.014
22-Sep	11:48:40	0.016
22-Sep	11:49:40	0.018
22-Sep	11:50:40	0.016
22-Sep	11:51:40	0.016
22-Sep	11:52:40	0.017
22-Sep	11:53:40	0.017
22-Sep	11:54:40	0.015
22-Sep	11:55:40	0.016
22-Sep	11:56:40	0.015
22-Sep	11:57:40	0.016
22-Sep	11:58:40	0.017
22-Sep	11:59:40	0.018
22-Sep	12:00:40	0.018
22-Sep	12:01:40	0.017
22-Sep	12:02:40	0.018
22-Sep	12:03:40	0.018
22-Sep	12:04:40	0.018
22-Sep	12:05:40	0.016
22-Sep	12:06:40	0.017
22-Sep	12:07:40	0.016
22-Sep	12:08:40	0.018
22-Sep	12:09:40	0.017
22-Sep	12:10:40	0.017
22-Sep	12:11:40	0.016
22-Sep	12:12:40	0.017
22-Sep	12:13:40	0.017
22-Sep	12:14:40	0.017
22-Sep	12:15:40	0.016
22-Sep	12:16:40	0.017
22-Sep	12:17:40	0.016
22-Sep	12:18:40	0.017
22-Sep	12:19:40	0.016
22-Sep	12:20:40	0.016
22-Sep	12:21:40	0.017
22-Sep	12:22:40	0.017
22-Sep	12:23:40	0.018

22-Sep	12:24:40	0.017
22-Sep	12:25:40	0.015
22-Sep	12:26:40	0.017
22-Sep	12:27:40	0.017
22-Sep	12:28:40	0.018
22-Sep	12:29:40	0.017
22-Sep	12:30:40	0.017
22-Sep	12:31:40	0.017
22-Sep	12:32:40	0.097
22-Sep	12:33:40	0.027
22-Sep	12:34:40	0.042
22-Sep	12:35:40	0.017
22-Sep	12:36:40	0.017
22-Sep	12:37:40	0.13
22-Sep	12:38:40	0.022
22-Sep	12:39:40	0.015
22-Sep	12:40:40	0.018
22-Sep	12:41:40	0.018
22-Sep	12:42:40	0.017
22-Sep	12:43:40	0.018
22-Sep	12:44:40	0.015
22-Sep	12:45:40	0.017
22-Sep	12:46:40	0.016
22-Sep	12:47:40	0.016
22-Sep	12:48:40	0.017
22-Sep	12:49:40	0.016
22-Sep	12:50:40	0.016
22-Sep	12:51:40	0.015
22-Sep	12:52:40	0.015
22-Sep	12:53:40	0.016
22-Sep	12:54:40	0.015
22-Sep	12:55:40	0.015
22-Sep	12:56:40	0.013
22-Sep	12:57:40	0.016
22-Sep	12:58:40	0.015
22-Sep	12:59:40	0.018
22-Sep	13:00:40	0.027
22-Sep	13:01:40	0.018
22-Sep	13:02:40	0.015
22-Sep	13:03:40	0.014
22-Sep	13:04:40	0.015
22-Sep	13:05:40	0.014
22-Sep	13:06:40	0.014
22-Sep	13:07:40	0.014
22-Sep	13:08:40	0.032
22-Sep	13:09:40	0.014
22-Sep	13:10:40	0.014

22-Sep	13:11:40	0.014
22-Sep	13:12:40	0.014
22-Sep	13:13:40	0.013
22-Sep	13:14:40	0.012
22-Sep	13:15:40	0.014
22-Sep	13:16:40	0.013
22-Sep	13:17:40	0.015
22-Sep	13:18:40	0.012
22-Sep	13:19:40	0.016
22-Sep	13:20:40	0.014
22-Sep	13:21:40	0.015
22-Sep	13:22:40	0.018
22-Sep	13:23:40	0.015
22-Sep	13:24:40	0.013
22-Sep	13:25:40	0.013
22-Sep	13:26:40	0.046
22-Sep	13:27:40	0.016
22-Sep	13:28:40	0.013
22-Sep	13:29:40	0.014
22-Sep	13:30:40	0.016
22-Sep	13:31:40	0.013
22-Sep	13:32:40	0.026
22-Sep	13:33:40	0.018
22-Sep	13:34:40	0.013
22-Sep	13:35:40	0.012
22-Sep	13:36:40	0.012
22-Sep	13:37:40	0.012
22-Sep	13:38:40	0.013
22-Sep	13:39:40	0.013
22-Sep	13:40:40	0.014
22-Sep	13:41:40	0.012
22-Sep	13:42:40	0.012
22-Sep	13:43:40	0.014
22-Sep	13:44:40	0.012
22-Sep	13:45:40	0.011
22-Sep	13:46:40	0.012
22-Sep	13:47:40	0.012
22-Sep	13:48:40	0.012
22-Sep	13:49:40	0.01
22-Sep	13:50:40	0.071
22-Sep	13:51:40	0.057
22-Sep	13:52:40	0.012
22-Sep	13:53:40	0.012
22-Sep	13:54:40	0.014
22-Sep	13:55:40	0.012
22-Sep	13:56:40	0.025
22-Sep	13:57:40	0.162

22-Sep	13:58:40	0.026
22-Sep	13:59:40	0.014
22-Sep	14:00:40	0.02
22-Sep	14:01:40	0.012
22-Sep	14:02:40	0.012
22-Sep	14:03:40	0.012
22-Sep	14:04:40	0.021
22-Sep	14:05:40	0.012
22-Sep	14:06:40	0.012
22-Sep	14:07:40	0.011
22-Sep	14:08:40	0.101
22-Sep	14:09:40	0.03
22-Sep	14:10:40	0.013
22-Sep	14:11:40	0.011
22-Sep	14:12:40	0.011
22-Sep	14:13:40	0.014
22-Sep	14:14:40	0.012
22-Sep	14:15:40	0.011
22-Sep	14:16:40	0.011
22-Sep	14:17:40	0.014
22-Sep	14:18:40	0.013
22-Sep	14:19:40	0.011
22-Sep	14:20:40	0.012
22-Sep	14:21:40	0.011
22-Sep	14:22:40	0.01
22-Sep	14:23:40	0.012
22-Sep	14:24:40	0.013
22-Sep	14:25:40	0.011
22-Sep	14:26:40	0.011
22-Sep	14:27:40	0.011
22-Sep	14:28:40	0.011
22-Sep	14:29:40	0.012
22-Sep	14:30:40	0.012
22-Sep	14:31:40	0.012
22-Sep	14:32:40	0.016
22-Sep	14:33:40	0.016
22-Sep	14:34:40	0.011
22-Sep	14:35:40	0.011
22-Sep	14:36:40	0.011
22-Sep	14:37:40	0.012
22-Sep	14:38:40	0.012
22-Sep	14:39:40	0.013
22-Sep	14:40:40	0.011
22-Sep	14:41:40	0.012
22-Sep	14:42:40	0.012
25-Sep	11:17:38	0.053
25-Sep	11:18:38	0.031

25-Sep	11:19:38	0.041
25-Sep	11:20:38	0.042
25-Sep	11:21:38	0.025
25-Sep	11:22:38	0.023
25-Sep	11:23:38	0.027
25-Sep	11:24:38	0.039
25-Sep	11:25:38	0.036
25-Sep	11:26:38	0.059
25-Sep	11:27:38	0.037
25-Sep	11:28:38	0.059
25-Sep	11:29:38	0.039
25-Sep	11:30:38	0.358
25-Sep	11:31:38	0.323
25-Sep	11:32:38	0.106
25-Sep	11:33:38	0.263
25-Sep	11:34:38	0.023
25-Sep	11:35:38	0.04
25-Sep	11:36:38	0.034
25-Sep	11:37:38	0.039
25-Sep	11:38:38	0.045
25-Sep	11:39:38	0.027
25-Sep	11:40:38	0.027
25-Sep	11:41:38	0.019
25-Sep	11:42:38	0.109
25-Sep	11:43:38	0.019
25-Sep	11:44:38	0.02
25-Sep	11:45:38	0.02
25-Sep	11:46:38	0.023
25-Sep	11:47:38	0.018
25-Sep	11:48:38	0.018
25-Sep	11:49:38	0.031
25-Sep	11:50:38	0.018
25-Sep	11:51:38	0.019
25-Sep	11:52:38	0.017
25-Sep	11:53:38	0.017
25-Sep	11:54:38	0.02
25-Sep	11:55:38	0.018
25-Sep	11:56:38	0.016
25-Sep	11:57:38	0.018
25-Sep	11:58:38	0.02
25-Sep	11:59:38	0.017
25-Sep	12:00:38	0.068
25-Sep	12:01:38	0.017
25-Sep	12:02:38	0.019
25-Sep	12:03:38	0.017
25-Sep	12:04:38	0.041
25-Sep	12:05:38	0.017

25-Sep	12:06:38	0.019
25-Sep	12:07:38	0.017
25-Sep	12:08:38	0.016
25-Sep	12:09:38	0.015
25-Sep	12:10:38	0.017
25-Sep	12:11:38	0.084
25-Sep	12:12:38	0.187
25-Sep	12:13:38	0.063
25-Sep	12:14:38	0.155
25-Sep	12:15:38	0.109
25-Sep	12:16:38	0.127
25-Sep	12:17:38	0.017
25-Sep	12:18:38	0.016
25-Sep	12:19:38	0.103
25-Sep	12:20:38	0.017
25-Sep	12:21:38	0.015
25-Sep	12:22:38	0.014
25-Sep	12:23:38	0.014
25-Sep	12:24:38	0.054
25-Sep	12:25:38	0.035
25-Sep	12:26:38	0.017
25-Sep	12:27:38	0.016
25-Sep	12:28:38	0.186
25-Sep	12:29:38	0.017
25-Sep	12:30:38	0.756
25-Sep	12:31:38	0.184
25-Sep	12:32:38	0.031
25-Sep	12:33:38	0.261
25-Sep	12:34:38	0.017
25-Sep	12:35:38	0.02
25-Sep	12:36:38	0.057
25-Sep	12:37:38	0.02
25-Sep	12:38:38	0.034
25-Sep	12:39:38	0.018
25-Sep	12:40:38	0.016
25-Sep	12:41:38	0.015
25-Sep	12:42:38	0.016
25-Sep	12:43:38	0.017
25-Sep	12:44:38	0.018
25-Sep	12:45:38	0.019
25-Sep	12:46:38	0.017
25-Sep	12:47:38	0.02
25-Sep	12:48:38	0.016
25-Sep	12:49:38	0.015
25-Sep	12:50:38	0.02
25-Sep	12:51:38	0.015
25-Sep	12:52:38	0.015

25-Sep	12:53:38	0.016
25-Sep	12:54:38	0.032
25-Sep	12:55:38	0.15
25-Sep	12:56:38	0.044
25-Sep	12:57:38	0.018
25-Sep	12:58:38	0.03
25-Sep	12:59:38	0.015
25-Sep	13:00:38	0.016
25-Sep	13:01:38	0.016
25-Sep	13:02:38	0.017
25-Sep	13:03:38	0.017
25-Sep	13:04:38	0.031
25-Sep	13:05:38	0.025
25-Sep	13:06:38	0.039
25-Sep	13:07:38	0.209
25-Sep	13:08:38	0.152
25-Sep	13:09:38	0.015
25-Sep	13:10:38	0.015
25-Sep	13:11:38	0.026
25-Sep	13:12:38	0.301
25-Sep	13:13:38	1.999
25-Sep	13:14:38	0.017
25-Sep	13:15:38	0.022
25-Sep	13:16:38	0.026
25-Sep	13:17:38	0.017
25-Sep	13:18:38	0.019
25-Sep	13:19:38	0.016
25-Sep	13:20:38	0.024
25-Sep	13:21:38	0.024
25-Sep	13:22:38	0.123
25-Sep	13:23:38	0.016
25-Sep	13:24:38	0.016
25-Sep	13:25:38	0.015
25-Sep	13:26:38	0.021
25-Sep	13:27:38	0.208
25-Sep	13:28:38	0.023
25-Sep	13:29:38	0.101
25-Sep	13:30:38	0.015
25-Sep	13:31:38	0.02
25-Sep	13:32:38	0.018
25-Sep	13:33:38	0.016
25-Sep	13:34:38	0.015
25-Sep	13:35:38	0.017
25-Sep	13:36:38	0.095
25-Sep	13:37:38	0.019
25-Sep	13:38:38	0.018
25-Sep	13:39:38	0.373

25-Sep	13:40:38	0.022
25-Sep	13:41:38	0.017
25-Sep	13:42:38	0.017
25-Sep	13:43:38	0.017
25-Sep	13:44:38	0.015
25-Sep	13:45:38	0.019
25-Sep	13:46:38	0.018
25-Sep	13:47:38	0.017
25-Sep	13:48:38	0.015
25-Sep	13:49:38	0.015
25-Sep	13:50:38	0.017
25-Sep	13:51:38	0.023
25-Sep	13:52:38	0.016
25-Sep	13:53:38	0.016
25-Sep	13:54:38	0.017
25-Sep	13:55:38	0.019
25-Sep	13:56:38	0.015
25-Sep	13:57:38	0.015
25-Sep	13:58:38	0.018
25-Sep	13:59:38	0.016
25-Sep	14:00:38	0.02
25-Sep	14:01:38	0.021
25-Sep	14:02:38	0.026
25-Sep	14:03:38	0.015
25-Sep	14:04:38	0.016
25-Sep	14:05:38	0.015
25-Sep	14:06:38	0.017
25-Sep	14:07:38	0.016
25-Sep	14:08:38	0.016
25-Sep	14:09:38	0.016
25-Sep	14:10:38	0.016
25-Sep	14:11:38	0.018
25-Sep	14:12:38	0.017
25-Sep	14:13:38	0.017
25-Sep	14:14:38	0.016

Date	Time	Average (mg/m^3)
8-Sep	07:49:30	0.024
8-Sep	07:50:30	0.023
8-Sep	07:51:30	0.027
8-Sep	07:52:30	0.021
8-Sep	07:53:30	0.024
8-Sep	07:54:30	0.025
8-Sep	07:55:30	0.024
8-Sep	07:56:30	0.023
8-Sep	07:57:30	0.024
8-Sep	07:58:30	0.022
8-Sep	07:59:30	0.03
8-Sep	08:00:30	0.033
8-Sep	08:01:30	0.036
8-Sep	08:02:30	0.036
8-Sep	08:03:30	0.037
8-Sep	08:04:30	0.034
8-Sep	08:05:30	0.035
8-Sep	08:06:30	0.038
8-Sep	08:07:30	0.036
8-Sep	08:08:30	0.038
8-Sep	08:09:30	0.045
8-Sep	08:10:30	0.037
8-Sep	08:11:30	0.041
8-Sep	08:12:30	0.039
8-Sep	08:13:30	0.041
8-Sep	08:14:30	0.042
8-Sep	08:15:30	0.038
8-Sep	08:16:30	0.036
8-Sep	08:17:30	0.037
8-Sep	08:18:30	0.042
8-Sep	08:19:30	0.048
8-Sep	08:20:30	0.042
8-Sep	08:21:30	0.039
8-Sep	08:22:30	0.041
8-Sep	08:23:30	0.043
8-Sep	08:24:30	0.041
8-Sep	08:25:30	0.044
8-Sep	08:26:30	0.043
8-Sep	08:27:30	0.055
8-Sep	08:28:30	0.047
8-Sep	08:29:30	0.047
8-Sep	08:30:30	0.049
8-Sep	08:31:30	0.048
8-Sep	08:32:30	0.049
8-Sep	08:33:30	0.048
8-Sep	08:34:30	0.05

8-Sep	08:35:30	0.052
8-Sep	08:36:30	0.051
8-Sep	08:37:30	0.047
8-Sep	08:38:30	0.049
8-Sep	08:39:30	0.047
8-Sep	08:40:30	0.045
8-Sep	08:41:30	0.051
8-Sep	08:42:30	0.054
8-Sep	08:43:30	0.056
8-Sep	08:44:30	0.057
8-Sep	08:45:30	0.054
8-Sep	08:46:30	0.052
8-Sep	08:47:30	0.054
8-Sep	08:48:30	0.051
8-Sep	08:49:30	0.052
8-Sep	08:50:30	0.05
8-Sep	08:51:30	0.05
8-Sep	08:52:30	0.053
8-Sep	08:53:30	0.051
8-Sep	08:54:30	0.055
8-Sep	08:55:30	0.056
8-Sep	08:56:30	0.051
8-Sep	08:57:30	0.05
8-Sep	08:58:30	0.048
8-Sep	08:59:30	0.047
8-Sep	09:00:30	0.048
8-Sep	09:01:30	0.051
8-Sep	09:02:30	0.05
8-Sep	09:03:30	0.053
8-Sep	09:04:30	0.055
8-Sep	09:05:30	0.052
8-Sep	09:06:30	0.057
8-Sep	09:07:30	0.052
8-Sep	09:08:30	0.055
8-Sep	09:09:30	0.054
8-Sep	09:10:30	0.057
8-Sep	09:11:30	0.057
8-Sep	09:12:30	0.056
8-Sep	09:13:30	0.056
8-Sep	09:14:30	0.059
8-Sep	09:15:30	0.065
8-Sep	09:16:30	0.059
8-Sep	09:17:30	0.058
8-Sep	09:18:30	0.059
8-Sep	09:19:30	0.061
8-Sep	09:20:30	0.062
8-Sep	09:21:30	0.061

8-Sep	09:22:30	0.057
8-Sep	09:23:30	0.053
8-Sep	09:24:30	0.055
8-Sep	09:25:30	0.056
8-Sep	09:26:30	0.062
8-Sep	09:27:30	0.056
8-Sep	09:28:30	0.057
8-Sep	09:29:30	0.058
8-Sep	09:30:30	0.057
8-Sep	09:31:30	0.057
8-Sep	09:32:30	0.056
8-Sep	09:33:30	0.059
8-Sep	09:34:30	0.054
8-Sep	09:35:30	0.051
8-Sep	09:36:30	0.052
8-Sep	09:37:30	0.055
8-Sep	09:38:30	0.056
8-Sep	09:39:30	0.055
8-Sep	09:40:30	0.051
8-Sep	09:41:30	0.052
8-Sep	09:42:30	0.042
8-Sep	09:43:30	0.036
8-Sep	09:44:30	0.042
8-Sep	09:45:30	0.036
8-Sep	09:46:30	0.033
8-Sep	09:47:30	0.032
8-Sep	09:48:30	0.043
8-Sep	09:49:30	0.036
8-Sep	09:50:30	0.026
8-Sep	09:51:30	0.027
8-Sep	09:52:30	0.026
8-Sep	09:53:30	0.025
8-Sep	09:54:30	0.03
8-Sep	09:55:30	0.022
8-Sep	09:56:30	0.02
8-Sep	09:57:30	0.02
8-Sep	09:58:30	0.021
8-Sep	09:59:30	0.019
8-Sep	10:00:30	0.019
8-Sep	10:01:30	0.019
8-Sep	10:02:30	0.027
8-Sep	10:03:30	0.027
8-Sep	10:04:30	0.02
8-Sep	10:05:30	0.02
8-Sep	10:06:30	0.021
8-Sep	10:07:30	0.021
8-Sep	10:08:30	0.02

8-Sep	10:09:30	0.024
8-Sep	10:10:30	0.03
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8-Sep	10:12:30	0.027
8-Sep	10:13:30	0.027
8-Sep	10:14:30	0.026
8-Sep	10:15:30	0.026
8-Sep	10:16:30	0.024
8-Sep	10:17:30	0.025
8-Sep	10:18:30	0.034
8-Sep	10:19:30	0.028
8-Sep	10:20:30	0.026
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8-Sep	10:22:30	0.023
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8-Sep	10:32:30	0.022
8-Sep	10:33:30	0.031
8-Sep	10:34:30	0.037
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8-Sep	10:36:30	0.021
8-Sep	10:37:30	0.022
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8-Sep	10:41:30	0.024
8-Sep	10:42:30	0.021
8-Sep	10:43:30	0.022
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8-Sep	10:46:30	0.022
8-Sep	10:47:30	0.023
8-Sep	10:48:30	0.023
8-Sep	10:49:30	0.023
8-Sep	10:50:30	0.025
8-Sep	10:51:30	0.023
8-Sep	10:52:30	0.03
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8-Sep	10:55:30	0.021

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8-Sep	10:57:30	0.02
8-Sep	10:58:30	0.019
8-Sep	10:59:30	0.02
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8-Sep	11:01:30	0.02
8-Sep	11:02:30	0.019
8-Sep	11:03:30	0.02
8-Sep	11:04:30	0.018
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8-Sep	11:08:30	0.019
8-Sep	11:09:30	0.018
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8-Sep	11:42:30	0.029

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8-Sep	12:13:30	0.018
8-Sep	12:14:30	0.018
8-Sep	12:15:30	0.018
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8-Sep	12:18:30	0.028
8-Sep	12:19:30	0.044
8-Sep	12:20:30	0.02
8-Sep	12:21:30	0.018
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8-Sep	13:15:30	0.02
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8-Sep	14:21:30	0.364
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8-Sep	15:23:30	0.025
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11-Sep	08:00:20	0.047
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11-Sep	08:31:20	0.044
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11-Sep	08:34:20	0.046
11-Sep	08:35:20	0.049
11-Sep	08:36:20	0.041
11-Sep	08:37:20	0.045
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11-Sep	08:39:20	0.043
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11-Sep	08:48:20	0.044
11-Sep	08:49:20	0.048

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11-Sep	08:55:20	0.045
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11-Sep	08:57:20	0.043
11-Sep	08:58:20	0.057
11-Sep	08:59:20	0.046
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11-Sep	09:14:20	0.044
11-Sep	09:15:20	0.042
11-Sep	09:16:20	0.042
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11-Sep	09:18:20	0.043
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11-Sep	09:23:20	0.045
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11-Sep	09:26:20	0.048
11-Sep	09:27:20	0.051
11-Sep	09:28:20	0.048
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11-Sep	10:29:20	0.042
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12-Sep	12:58:25	0.066
12-Sep	12:59:25	0.062
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12-Sep	13:02:25	0.069
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13-Sep	07:32:20	0.033
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14-Sep	12:56:22	0.061
14-Sep	12:57:22	0.062
14-Sep	12:58:22	0.066
14-Sep	12:59:22	0.069
14-Sep	13:00:22	0.064
14-Sep	13:01:22	0.068
14-Sep	13:02:22	0.062
14-Sep	13:03:22	0.063
14-Sep	13:04:22	0.066
14-Sep	13:05:22	0.062
14-Sep	13:06:22	0.063
14-Sep	13:07:22	0.062
14-Sep	13:08:22	0.062
14-Sep	13:09:22	0.092
14-Sep	13:10:22	0.067
14-Sep	13:11:22	0.07
14-Sep	13:12:22	0.064
14-Sep	13:13:22	0.071
14-Sep	13:14:22	0.117
14-Sep	13:15:22	0.066
14-Sep	13:16:22	0.064

14-Sep	13:17:22	0.064
14-Sep	13:18:22	0.065
14-Sep	13:19:22	0.066
14-Sep	13:20:22	0.064
14-Sep	13:21:22	0.063
14-Sep	13:22:22	0.066
14-Sep	13:23:22	0.063
14-Sep	13:24:22	0.061
14-Sep	13:25:22	0.066
14-Sep	13:26:22	0.061
14-Sep	13:27:22	0.061
14-Sep	13:28:22	0.063
14-Sep	13:29:22	0.062
14-Sep	13:30:22	0.063
14-Sep	13:31:22	0.065
14-Sep	13:32:22	0.062
14-Sep	13:33:22	0.065
14-Sep	13:34:22	0.063
14-Sep	13:35:22	0.062
14-Sep	13:36:22	0.068
14-Sep	13:37:22	0.064
14-Sep	13:38:22	0.063
14-Sep	13:39:22	0.065
14-Sep	13:40:22	0.068
14-Sep	13:41:22	0.063
14-Sep	13:42:22	0.064
15-Sep	10:11:02	0.044
15-Sep	10:12:02	0.039
15-Sep	10:13:02	0.039
15-Sep	10:14:02	0.042
15-Sep	10:15:02	0.04
15-Sep	10:16:02	0.039
15-Sep	10:17:02	0.044
15-Sep	10:18:02	0.045
15-Sep	10:19:02	0.051
15-Sep	10:20:02	0.044
15-Sep	10:21:02	0.043
15-Sep	10:22:02	0.042
15-Sep	10:23:02	0.047
15-Sep	10:24:02	0.045
15-Sep	10:25:02	0.045
15-Sep	10:26:02	0.078
15-Sep	10:27:02	0.057
15-Sep	10:28:02	0.075
15-Sep	10:29:02	0.08
15-Sep	10:30:02	0.077
15-Sep	10:31:02	0.081

15-Sep	10:32:02	0.077
15-Sep	10:33:02	0.068
15-Sep	10:34:02	0.053
15-Sep	10:35:02	0.064
15-Sep	10:36:02	0.04
15-Sep	10:37:02	0.04
15-Sep	10:38:02	0.04
15-Sep	10:39:02	0.043
15-Sep	10:40:02	0.039
15-Sep	10:41:02	0.036
15-Sep	10:42:02	0.039
15-Sep	10:43:02	0.037
15-Sep	10:44:02	0.035
15-Sep	10:45:02	0.044
15-Sep	10:46:02	0.032
15-Sep	10:47:02	0.033
15-Sep	10:48:02	0.033
15-Sep	10:49:02	0.031
15-Sep	10:50:02	0.03
15-Sep	10:51:02	0.03
15-Sep	10:52:02	0.029
15-Sep	10:53:02	0.031
15-Sep	10:54:02	0.03
15-Sep	10:55:02	0.032
15-Sep	10:56:02	0.03
15-Sep	10:57:02	0.031
15-Sep	10:58:02	0.03
15-Sep	10:59:02	0.03
15-Sep	11:00:02	0.032
15-Sep	11:01:02	0.029
15-Sep	11:02:02	0.029
15-Sep	11:03:02	0.033
15-Sep	11:04:02	0.031
15-Sep	11:05:02	0.031
15-Sep	11:06:02	0.03
15-Sep	11:07:02	0.028
15-Sep	11:08:02	0.03
15-Sep	11:09:02	0.03
15-Sep	11:10:02	0.034
15-Sep	11:11:02	0.03
15-Sep	11:12:02	0.033
15-Sep	11:13:02	0.035
15-Sep	11:14:02	0.033
15-Sep	11:15:02	0.031
15-Sep	11:16:02	0.029
15-Sep	11:17:02	0.032
15-Sep	11:18:02	0.029

15-Sep	11:19:02	0.031
15-Sep	11:20:02	0.03
15-Sep	11:21:02	0.03
15-Sep	11:22:02	0.029
15-Sep	11:23:02	0.028
15-Sep	11:24:02	0.028
15-Sep	11:25:02	0.029
15-Sep	11:26:02	0.029
15-Sep	11:27:02	0.029
15-Sep	11:28:02	0.028
15-Sep	11:29:02	0.029
15-Sep	11:30:02	0.028
15-Sep	11:31:02	0.028
15-Sep	11:32:02	0.03
15-Sep	11:33:02	0.029
15-Sep	11:34:02	0.031
15-Sep	11:35:02	0.029
15-Sep	11:36:02	0.029
15-Sep	11:37:02	0.03
15-Sep	11:38:02	0.029
15-Sep	11:39:02	0.028
15-Sep	11:40:02	0.03
15-Sep	11:41:02	0.026
15-Sep	11:42:02	0.031
15-Sep	11:43:02	0.027
15-Sep	11:44:02	0.039
15-Sep	11:45:02	0.03
15-Sep	11:46:02	0.028
15-Sep	11:47:02	0.028
15-Sep	11:48:02	0.03
15-Sep	11:49:02	0.027
15-Sep	11:50:02	0.024
15-Sep	11:51:02	0.026
15-Sep	11:52:02	0.025
15-Sep	11:53:02	0.026
15-Sep	11:54:02	0.026
15-Sep	11:55:02	0.028
15-Sep	11:56:02	0.027
15-Sep	11:57:02	0.026
15-Sep	11:58:02	0.027
15-Sep	11:59:02	0.024
15-Sep	12:00:02	0.027
15-Sep	12:01:02	0.023
15-Sep	12:02:02	0.021
15-Sep	12:03:02	0.021
15-Sep	12:04:02	0.025
15-Sep	12:05:02	0.022

15-Sep	12:06:02	0.021
15-Sep	12:07:02	0.021
15-Sep	12:08:02	0.022
15-Sep	12:09:02	0.021
15-Sep	12:10:02	0.02
15-Sep	12:11:02	0.024
15-Sep	12:12:02	0.022
15-Sep	12:13:02	0.019
15-Sep	12:14:02	0.022
15-Sep	12:15:02	0.02
15-Sep	12:16:02	0.071
15-Sep	12:17:02	0.025
15-Sep	12:18:02	0.034
15-Sep	12:19:02	0.021
15-Sep	12:20:02	0.054
15-Sep	12:21:02	0.044
15-Sep	12:22:02	0.11
15-Sep	12:23:02	0.067
15-Sep	12:24:02	0.112
15-Sep	12:25:02	0.054
15-Sep	12:26:02	0.096
15-Sep	12:27:02	0.044
15-Sep	12:28:02	0.028
15-Sep	12:29:02	0.023
15-Sep	12:30:02	0.027
15-Sep	12:31:02	0.289
15-Sep	12:32:02	0.101
15-Sep	12:33:02	0.017
15-Sep	12:34:02	0.02
15-Sep	12:35:02	0.018
15-Sep	12:36:02	0.056
15-Sep	12:37:02	0.022
15-Sep	12:38:02	0.019
15-Sep	12:39:02	0.016
15-Sep	12:40:02	0.021
15-Sep	12:41:02	0.018
15-Sep	12:42:02	0.019
15-Sep	12:43:02	0.018
15-Sep	12:44:02	0.02
15-Sep	12:45:02	0.051
15-Sep	12:46:02	0.017
15-Sep	12:47:02	0.021
15-Sep	12:48:02	0.018
15-Sep	12:49:02	0.018
15-Sep	12:50:02	0.017
15-Sep	12:51:02	0.022
15-Sep	12:52:02	0.073

15-Sep	12:53:02	0.017
15-Sep	12:54:02	0.017
15-Sep	12:55:02	0.147
15-Sep	12:56:02	0.191
15-Sep	12:57:02	0.024
15-Sep	12:58:02	0.03
15-Sep	12:59:02	0.036
15-Sep	13:00:02	0.023
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15-Sep	13:02:02	0.023
15-Sep	13:03:02	0.023
15-Sep	13:04:02	0.022
15-Sep	13:05:02	0.02
15-Sep	13:06:02	0.056
15-Sep	13:07:02	0.064
15-Sep	13:08:02	0.132
15-Sep	13:09:02	0.064
15-Sep	13:10:02	0.064
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15-Sep	13:12:02	0.065
15-Sep	13:13:02	0.065
15-Sep	13:14:02	0.063
15-Sep	13:15:02	0.165
15-Sep	13:16:02	0.068
15-Sep	13:17:02	0.063
15-Sep	13:18:02	0.072
15-Sep	13:19:02	0.063
15-Sep	13:20:02	0.091
15-Sep	13:21:02	0.064
15-Sep	13:22:02	0.06
15-Sep	13:23:02	0.06
15-Sep	13:24:02	0.06
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15-Sep	13:26:02	0.058
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15-Sep	13:28:02	0.057
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15-Sep	13:34:02	0.057
15-Sep	13:35:02	0.059
15-Sep	13:36:02	0.056
15-Sep	13:37:02	0.054
15-Sep	13:38:02	0.054
15-Sep	13:39:02	0.059

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15-Sep	13:42:02	0.079
15-Sep	13:43:02	0.054
15-Sep	13:44:02	0.053
15-Sep	13:45:02	0.055
15-Sep	13:46:02	0.062
15-Sep	13:47:02	0.053
15-Sep	13:48:02	0.055
15-Sep	13:49:02	0.053
15-Sep	13:50:02	0.054
15-Sep	13:51:02	0.055
21-Sep	08:47:23	0.049
21-Sep	08:48:23	0.042
21-Sep	08:49:23	0.035
21-Sep	08:50:23	0.039
21-Sep	08:51:23	0.043
21-Sep	08:52:23	0.039
21-Sep	08:53:23	0.046
21-Sep	08:54:23	0.039
21-Sep	08:55:23	0.036
21-Sep	08:56:23	0.045
21-Sep	08:57:23	0.045
21-Sep	08:58:23	0.04
21-Sep	08:59:23	0.037
21-Sep	09:00:23	0.033
21-Sep	09:01:23	0.033
21-Sep	09:02:23	0.028
21-Sep	09:03:23	0.026
21-Sep	09:04:23	0.028
21-Sep	09:05:23	0.029
21-Sep	09:06:23	0.026
21-Sep	09:07:23	0.027
21-Sep	09:08:23	0.024
21-Sep	09:09:23	0.025
21-Sep	09:10:23	0.027
21-Sep	09:11:23	0.027
21-Sep	09:12:23	0.027
21-Sep	09:13:23	0.026
21-Sep	09:14:23	0.028
21-Sep	09:15:23	0.026
21-Sep	09:16:23	0.026
21-Sep	09:17:23	0.024
21-Sep	09:18:23	0.025
21-Sep	09:19:23	0.025
21-Sep	09:20:23	0.025
21-Sep	09:21:23	0.025

21-Sep	09:22:23	0.024
21-Sep	09:23:23	0.023
21-Sep	09:24:23	0.023
21-Sep	09:25:23	0.025
21-Sep	09:26:23	0.024
21-Sep	09:27:23	0.022
21-Sep	09:28:23	0.023
21-Sep	09:29:23	0.025
21-Sep	09:30:23	0.022
21-Sep	09:31:23	0.02
21-Sep	09:32:23	0.02
21-Sep	09:33:23	0.017
21-Sep	09:34:23	0.02
21-Sep	09:35:23	0.02
21-Sep	09:36:23	0.018
21-Sep	09:37:23	0.021
21-Sep	09:38:23	0.02
21-Sep	09:39:23	0.019
21-Sep	09:40:23	0.019
21-Sep	09:41:23	0.023
21-Sep	09:42:23	0.02
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21-Sep	09:46:23	0.017
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21-Sep	09:48:23	0.016
21-Sep	09:49:23	0.016
21-Sep	09:50:23	0.017
21-Sep	09:51:23	0.019
21-Sep	09:52:23	0.022
21-Sep	09:53:23	0.016
21-Sep	09:54:23	0.017
21-Sep	09:55:23	0.017
21-Sep	09:56:23	0.016
21-Sep	09:57:23	0.018
21-Sep	09:58:23	0.015
21-Sep	09:59:23	0.013
21-Sep	10:00:23	0.015
21-Sep	10:01:23	0.016
21-Sep	10:02:23	0.019
21-Sep	10:03:23	0.012
21-Sep	10:04:23	0.017
21-Sep	10:05:23	0.012
21-Sep	10:06:23	0.016
21-Sep	10:07:23	0.014
21-Sep	10:08:23	0.016

21-Sep	10:09:23	0.016
21-Sep	10:10:23	0.015
21-Sep	10:11:23	0.015
21-Sep	10:12:23	0.013
21-Sep	10:13:23	0.014
21-Sep	10:14:23	0.017
21-Sep	10:15:23	0.015
21-Sep	10:16:23	0.014
21-Sep	10:17:23	0.015
21-Sep	10:18:23	0.016
21-Sep	10:19:23	0.016
21-Sep	10:20:23	0.015
21-Sep	10:21:23	0.012
21-Sep	10:22:23	0.015
21-Sep	10:23:23	0.019
21-Sep	10:24:23	0.015
21-Sep	10:25:23	0.023
21-Sep	10:26:23	0.015
21-Sep	10:27:23	0.017
21-Sep	10:28:23	0.016
21-Sep	10:29:23	0.015
21-Sep	10:30:23	0.013
21-Sep	10:31:23	0.015
21-Sep	10:32:23	0.018
21-Sep	10:33:23	0.012
21-Sep	10:34:23	0.016
21-Sep	10:35:23	0.015
21-Sep	10:36:23	0.014
21-Sep	10:37:23	0.02
21-Sep	10:38:23	0.047
21-Sep	10:39:23	0.021
21-Sep	10:40:23	0.014
21-Sep	10:41:23	0.015
21-Sep	10:42:23	0.015
21-Sep	10:43:23	0.014
21-Sep	10:44:23	0.014
21-Sep	10:45:23	0.042
21-Sep	10:46:23	0.202
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21-Sep	10:55:23	0.019

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21-Sep	10:59:23	0.018
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21-Sep	11:03:23	0.02
21-Sep	11:04:23	0.018
21-Sep	11:05:23	0.019
21-Sep	11:06:23	0.021
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21-Sep	11:08:23	0.021
21-Sep	11:09:23	0.797
21-Sep	11:10:23	0.025
21-Sep	11:11:23	0.021
21-Sep	11:12:23	0.02
21-Sep	11:13:23	0.021
21-Sep	11:14:23	0.02
21-Sep	11:15:23	0.02
21-Sep	11:16:23	0.024
21-Sep	11:17:23	0.024
21-Sep	11:18:23	0.018
21-Sep	11:19:23	0.024
21-Sep	11:20:23	0.022
21-Sep	11:21:23	0.022
21-Sep	11:22:23	0.019
21-Sep	11:23:23	0.023
21-Sep	11:24:23	0.02
21-Sep	11:25:23	0.019
21-Sep	11:26:23	0.022
21-Sep	11:27:23	0.021
21-Sep	11:28:23	0.02
21-Sep	11:29:23	0.021
21-Sep	11:30:23	0.02
21-Sep	11:31:23	0.02
21-Sep	11:32:23	0.022
21-Sep	11:33:23	0.02
21-Sep	11:34:23	0.02
21-Sep	11:35:23	0.03
21-Sep	11:36:23	0.021
21-Sep	11:37:23	0.02
21-Sep	11:38:23	0.027
21-Sep	11:39:23	0.072
21-Sep	11:40:23	0.024
21-Sep	11:41:23	0.021
21-Sep	11:42:23	0.02

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21-Sep	11:46:23	0.037
21-Sep	11:47:23	0.022
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21-Sep	11:52:23	0.021
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21-Sep	11:54:23	0.02
21-Sep	11:55:23	0.02
21-Sep	11:56:23	0.02
21-Sep	11:57:23	0.023
21-Sep	11:58:23	0.02
21-Sep	11:59:23	0.024
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21-Sep	12:02:23	0.024
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21-Sep	12:06:23	0.023
21-Sep	12:07:23	0.022
21-Sep	12:08:23	0.02
21-Sep	12:09:23	0.02
21-Sep	12:10:23	0.022
21-Sep	12:11:23	0.026
21-Sep	12:12:23	0.021
21-Sep	12:13:23	0.02
21-Sep	12:14:23	0.02
21-Sep	12:15:23	0.02
21-Sep	12:16:23	0.021
21-Sep	12:17:23	0.023
21-Sep	12:18:23	0.027
21-Sep	12:19:23	0.025
21-Sep	12:20:23	0.024
21-Sep	12:21:23	0.023
21-Sep	12:22:23	0.025
21-Sep	12:23:23	0.027
21-Sep	12:24:23	0.028
21-Sep	12:25:23	0.028
21-Sep	12:26:23	0.03
21-Sep	12:27:23	0.032
21-Sep	12:28:23	0.027
21-Sep	12:29:23	0.03

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21-Sep	12:57:23	0.028
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21-Sep	13:02:23	0.118
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21-Sep	13:04:23	0.027
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21-Sep	13:13:23	0.024
21-Sep	13:14:23	0.033
21-Sep	13:15:23	0.023
21-Sep	13:16:23	0.022

21-Sep	13:17:23	0.025
21-Sep	13:18:23	0.14
21-Sep	13:19:23	0.03
21-Sep	13:20:23	0.043
21-Sep	13:21:23	0.03
21-Sep	13:22:23	0.032
21-Sep	13:23:23	0.032
21-Sep	13:24:23	0.027
21-Sep	13:25:23	0.032
21-Sep	13:26:23	0.035
21-Sep	13:27:23	0.035
21-Sep	13:28:23	0.035
21-Sep	13:29:23	0.029
21-Sep	13:30:23	0.026
21-Sep	13:31:23	0.038
21-Sep	13:32:23	0.029
21-Sep	13:33:23	0.049
21-Sep	13:34:23	0.029
21-Sep	13:35:23	0.029
21-Sep	13:36:23	0.049
21-Sep	13:37:23	0.034
21-Sep	13:38:23	0.056
21-Sep	13:39:23	0.029
21-Sep	13:40:23	0.046
21-Sep	13:41:23	0.027
21-Sep	13:42:23	0.037
21-Sep	13:43:23	0.035
21-Sep	13:44:23	0.032
21-Sep	13:45:23	0.027
21-Sep	13:46:23	0.036
21-Sep	13:47:23	0.043
21-Sep	13:48:23	0.028
21-Sep	13:49:23	0.029
21-Sep	13:50:23	0.031
21-Sep	13:51:23	0.029
21-Sep	13:52:23	0.028
21-Sep	13:53:23	0.028
21-Sep	13:54:23	0.027
21-Sep	13:55:23	0.029
21-Sep	13:56:23	0.067
21-Sep	13:57:23	0.031
21-Sep	13:58:23	0.028
21-Sep	13:59:23	0.027
21-Sep	14:00:23	0.028
21-Sep	14:01:23	0.028
21-Sep	14:02:23	0.03
21-Sep	14:03:23	0.035

21-Sep	14:04:23	0.035
21-Sep	14:05:23	0.03
21-Sep	14:06:23	0.028
21-Sep	14:07:23	0.03
21-Sep	14:08:23	0.03
21-Sep	14:09:23	0.036
21-Sep	14:10:23	0.03
21-Sep	14:11:23	0.032
21-Sep	14:12:23	0.03
21-Sep	14:13:23	0.032
21-Sep	14:14:23	0.03
21-Sep	14:15:23	0.047
21-Sep	14:16:23	0.034
21-Sep	14:17:23	0.034
21-Sep	14:18:23	0.032
21-Sep	14:19:23	0.033
21-Sep	14:20:23	0.036
21-Sep	14:21:23	0.036
21-Sep	14:22:23	0.029
21-Sep	14:23:23	0.032
21-Sep	14:24:23	0.031
21-Sep	14:25:23	0.032
21-Sep	14:26:23	0.038
21-Sep	14:27:23	0.047
21-Sep	14:28:23	0.048
21-Sep	14:29:23	0.055
21-Sep	14:30:23	0.033
21-Sep	14:31:23	0.049
21-Sep	14:32:23	0.045
21-Sep	14:33:23	0.095
21-Sep	14:34:23	0.033
21-Sep	14:35:23	0.03
21-Sep	14:36:23	0.03
21-Sep	14:37:23	0.043
21-Sep	14:38:23	0.041
21-Sep	14:39:23	0.037
21-Sep	14:40:23	0.037
21-Sep	14:41:23	0.038
21-Sep	14:42:23	0.032
21-Sep	14:43:23	0.032
21-Sep	14:44:23	0.059
21-Sep	14:45:23	0.051
21-Sep	14:46:23	0.04
21-Sep	14:47:23	0.039
21-Sep	14:48:23	0.031
21-Sep	14:49:23	0.03
21-Sep	14:50:23	0.031

21-Sep	14:51:23	0.037
21-Sep	14:52:23	0.035
21-Sep	14:53:23	0.032
21-Sep	14:54:23	0.031
21-Sep	14:55:23	0.031
21-Sep	14:56:23	0.033
21-Sep	14:57:23	0.033
21-Sep	14:58:23	0.033
21-Sep	14:59:23	0.042
21-Sep	15:00:23	0.031
21-Sep	15:01:23	0.031
22-Sep	07:25:08	0.048
22-Sep	07:26:08	0.043
22-Sep	07:27:08	0.047
22-Sep	07:28:08	0.046
22-Sep	07:29:08	0.051
22-Sep	07:30:08	0.045
22-Sep	07:31:08	0.047
22-Sep	07:32:08	0.049
22-Sep	07:33:08	0.047
22-Sep	07:34:08	0.046
22-Sep	07:35:08	0.048
22-Sep	07:36:08	0.066
22-Sep	07:37:08	0.066
22-Sep	07:38:08	0.056
22-Sep	07:39:08	0.054
22-Sep	07:40:08	0.061
22-Sep	07:41:08	0.057
22-Sep	07:42:08	0.054
22-Sep	07:43:08	0.051
22-Sep	07:44:08	0.053
22-Sep	07:45:08	0.051
22-Sep	07:46:08	0.049
22-Sep	07:47:08	0.049
22-Sep	07:48:08	0.047
22-Sep	07:49:08	0.048
22-Sep	07:50:08	0.056
22-Sep	07:51:08	0.054
22-Sep	07:52:08	0.047
22-Sep	07:53:08	0.046
22-Sep	07:54:08	0.048
22-Sep	07:55:08	0.048
22-Sep	07:56:08	0.047
22-Sep	07:57:08	0.047
22-Sep	07:58:08	0.044
22-Sep	07:59:08	0.046
22-Sep	08:00:08	0.049

22-Sep	08:01:08	0.052
22-Sep	08:02:08	0.049
22-Sep	08:03:08	0.05
22-Sep	08:04:08	0.047
22-Sep	08:05:08	0.048
22-Sep	08:06:08	0.046
22-Sep	08:07:08	0.05
22-Sep	08:08:08	0.044
22-Sep	08:09:08	0.05
22-Sep	08:10:08	0.051
22-Sep	08:11:08	0.052
22-Sep	08:12:08	0.045
22-Sep	08:13:08	0.05
22-Sep	08:14:08	0.046
22-Sep	08:15:08	0.047
22-Sep	08:16:08	0.044
22-Sep	08:17:08	0.044
22-Sep	08:18:08	0.048
22-Sep	08:19:08	0.046
22-Sep	08:20:08	0.047
22-Sep	08:21:08	0.054
22-Sep	08:22:08	0.053
22-Sep	08:23:08	0.055
22-Sep	08:24:08	0.058
22-Sep	08:25:08	0.063
22-Sep	08:26:08	0.055
22-Sep	08:27:08	0.05
22-Sep	08:28:08	0.054
22-Sep	08:29:08	0.05
22-Sep	08:30:08	0.054
22-Sep	08:31:08	0.054
22-Sep	08:32:08	0.055
22-Sep	08:33:08	0.058
22-Sep	08:34:08	0.056
22-Sep	08:35:08	0.053
22-Sep	08:36:08	0.049
22-Sep	08:37:08	0.051
22-Sep	08:38:08	0.051
22-Sep	08:39:08	0.055
22-Sep	08:40:08	0.049
22-Sep	08:41:08	0.05
22-Sep	08:42:08	0.053
22-Sep	08:43:08	0.054
22-Sep	08:44:08	0.056
22-Sep	08:45:08	0.055
22-Sep	08:46:08	0.053
22-Sep	08:47:08	0.054

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22-Sep	08:49:08	0.053
22-Sep	08:50:08	0.053
22-Sep	08:51:08	0.053
22-Sep	08:52:08	0.052
22-Sep	08:53:08	0.051
22-Sep	08:54:08	0.059
22-Sep	08:55:08	0.054
22-Sep	08:56:08	0.053
22-Sep	08:57:08	0.055
22-Sep	08:58:08	0.055
22-Sep	08:59:08	0.054
22-Sep	09:00:08	0.052
22-Sep	09:01:08	0.053
22-Sep	09:02:08	0.059
22-Sep	09:03:08	0.053
22-Sep	09:04:08	0.048
22-Sep	09:05:08	0.138
22-Sep	09:06:08	0.058
22-Sep	09:07:08	0.053
22-Sep	09:08:08	0.049
22-Sep	09:09:08	0.051
22-Sep	09:10:08	0.054
22-Sep	09:11:08	0.051
22-Sep	09:12:08	0.052
22-Sep	09:13:08	0.055
22-Sep	09:14:08	0.047
22-Sep	09:15:08	0.046
22-Sep	09:16:08	0.046
22-Sep	09:17:08	0.045
22-Sep	09:18:08	0.044
22-Sep	09:19:08	0.052
22-Sep	09:20:08	0.044
22-Sep	09:21:08	0.043
22-Sep	09:22:08	0.045
22-Sep	09:23:08	0.048
22-Sep	09:24:08	0.052
22-Sep	09:25:08	0.041
22-Sep	09:26:08	0.069
22-Sep	09:27:08	0.04
22-Sep	09:28:08	0.039
22-Sep	09:29:08	0.048
22-Sep	09:30:08	0.047
22-Sep	09:31:08	0.042
22-Sep	09:32:08	0.047
22-Sep	09:33:08	0.045
22-Sep	09:34:08	0.057

22-Sep	09:35:08	0.048
22-Sep	09:36:08	0.048
22-Sep	09:37:08	0.044
22-Sep	09:38:08	0.041
22-Sep	09:39:08	0.042
22-Sep	09:40:08	0.042
22-Sep	09:41:08	0.041
22-Sep	09:42:08	0.041
22-Sep	09:43:08	0.043
22-Sep	09:44:08	0.04
22-Sep	09:45:08	0.043
22-Sep	09:46:08	0.041
22-Sep	09:47:08	0.048
22-Sep	09:48:08	0.158
22-Sep	09:49:08	0.471
22-Sep	09:50:08	0.046
22-Sep	09:51:08	0.035
22-Sep	09:52:08	0.034
22-Sep	09:53:08	0.035
22-Sep	09:54:08	0.035
22-Sep	09:55:08	0.034
22-Sep	09:56:08	0.036
22-Sep	09:57:08	0.038
22-Sep	09:58:08	0.054
22-Sep	09:59:08	0.04
22-Sep	10:00:08	0.043
22-Sep	10:01:08	0.045
22-Sep	10:02:08	0.036
22-Sep	10:03:08	0.04
22-Sep	10:04:08	0.036
22-Sep	10:05:08	0.034
22-Sep	10:06:08	0.036
22-Sep	10:07:08	0.039
22-Sep	10:08:08	0.039
22-Sep	10:09:08	0.042
22-Sep	10:10:08	0.036
22-Sep	10:11:08	0.036
22-Sep	10:12:08	0.036
22-Sep	10:13:08	0.037
22-Sep	10:14:08	0.037
22-Sep	10:15:08	0.034
22-Sep	10:16:08	0.035
22-Sep	10:17:08	0.035
22-Sep	10:18:08	0.035
22-Sep	10:19:08	0.034
22-Sep	10:20:08	0.033
22-Sep	10:21:08	0.033

22-Sep	10:22:08	0.034
22-Sep	10:23:08	0.034
22-Sep	10:24:08	0.033
22-Sep	10:25:08	0.032
22-Sep	10:26:08	0.031
22-Sep	10:27:08	0.032
22-Sep	10:28:08	0.033
22-Sep	10:29:08	0.032
22-Sep	10:30:08	0.032
22-Sep	10:31:08	0.034
22-Sep	10:32:08	0.031
22-Sep	10:33:08	0.031
22-Sep	10:34:08	0.073
22-Sep	10:35:08	0.075
22-Sep	10:36:08	0.034
22-Sep	10:37:08	0.033
22-Sep	10:38:08	0.03
22-Sep	10:39:08	0.03
22-Sep	10:40:08	0.086
22-Sep	10:41:08	0.06
22-Sep	10:42:08	0.031
22-Sep	10:43:08	0.03
22-Sep	10:44:08	0.029
22-Sep	10:45:08	0.03
22-Sep	10:46:08	0.03
22-Sep	10:47:08	0.032
22-Sep	10:48:08	0.045
22-Sep	10:49:08	0.039
22-Sep	10:50:08	0.031
22-Sep	10:51:08	0.03
22-Sep	10:52:08	0.029
22-Sep	10:53:08	0.03
22-Sep	10:54:08	0.029
22-Sep	10:55:08	0.029
22-Sep	10:56:08	0.03
22-Sep	10:57:08	0.03
22-Sep	10:58:08	0.031
22-Sep	10:59:08	0.031
22-Sep	11:00:08	0.047
22-Sep	11:01:08	0.033
22-Sep	11:02:08	0.036
22-Sep	11:03:08	0.033
22-Sep	11:04:08	0.148
22-Sep	11:05:08	0.032
22-Sep	11:06:08	0.03
22-Sep	11:07:08	0.031
22-Sep	11:08:08	0.03

22-Sep	11:09:08	0.032
22-Sep	11:10:08	0.055
22-Sep	11:11:08	0.029
22-Sep	11:12:08	0.029
22-Sep	11:13:08	0.029
22-Sep	11:14:08	0.055
22-Sep	11:15:08	0.038
22-Sep	11:16:08	0.033
22-Sep	11:17:08	0.033
22-Sep	11:18:08	0.03
22-Sep	11:19:08	0.031
22-Sep	11:20:08	0.029
22-Sep	11:21:08	0.031
22-Sep	11:22:08	0.03
22-Sep	11:23:08	0.029
22-Sep	11:24:08	0.029
22-Sep	11:25:08	0.029
22-Sep	11:26:08	0.03
22-Sep	11:27:08	0.032
22-Sep	11:28:08	0.054
22-Sep	11:29:08	0.033
22-Sep	11:30:08	0.072
22-Sep	11:31:08	0.05
22-Sep	11:32:08	0.051
22-Sep	11:33:08	0.031
22-Sep	11:34:08	0.03
22-Sep	11:35:08	0.03
22-Sep	11:36:08	0.03
22-Sep	11:37:08	0.036
22-Sep	11:38:08	0.031
22-Sep	11:39:08	0.034
22-Sep	11:40:08	0.031
22-Sep	11:41:08	0.058
22-Sep	11:42:08	0.05
22-Sep	11:43:08	0.038
22-Sep	11:44:08	0.097
22-Sep	11:45:08	0.048
22-Sep	11:46:08	0.289
22-Sep	11:47:08	0.032
22-Sep	11:48:08	0.041
22-Sep	11:49:08	0.043
22-Sep	11:50:08	0.072
22-Sep	11:51:08	0.032
22-Sep	11:52:08	0.033
22-Sep	11:53:08	0.038
22-Sep	11:54:08	0.046
22-Sep	11:55:08	0.038

22-Sep	11:56:08	0.044
22-Sep	11:57:08	0.031
22-Sep	11:58:08	0.094
22-Sep	11:59:08	0.538
22-Sep	12:00:08	0.064
22-Sep	12:01:08	0.033
22-Sep	12:02:08	0.043
22-Sep	12:03:08	0.038
22-Sep	12:04:08	0.035
22-Sep	12:05:08	0.065
22-Sep	12:06:08	0.036
22-Sep	12:07:08	0.04
22-Sep	12:08:08	0.031
22-Sep	12:09:08	0.033
22-Sep	12:10:08	0.032
22-Sep	12:11:08	0.112
22-Sep	12:12:08	0.048
22-Sep	12:13:08	0.035
22-Sep	12:14:08	0.064
22-Sep	12:15:08	0.034
22-Sep	12:16:08	0.035
22-Sep	12:17:08	0.039
22-Sep	12:18:08	0.052
22-Sep	12:19:08	0.045
22-Sep	12:20:08	0.035
22-Sep	12:21:08	0.036
22-Sep	12:22:08	0.034
22-Sep	12:23:08	0.033
22-Sep	12:24:08	0.072
22-Sep	12:25:08	0.272
22-Sep	12:26:08	0.059
22-Sep	12:27:08	0.072
22-Sep	12:28:08	0.044
22-Sep	12:29:08	0.037
22-Sep	12:30:08	0.037
22-Sep	12:31:08	0.034
22-Sep	12:32:08	0.079
22-Sep	12:33:08	0.038
22-Sep	12:34:08	0.036
22-Sep	12:35:08	0.036
22-Sep	12:36:08	0.037
22-Sep	12:37:08	0.035
22-Sep	12:38:08	0.095
22-Sep	12:39:08	0.033
22-Sep	12:40:08	0.111
22-Sep	12:41:08	0.039
22-Sep	12:42:08	0.034

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22-Sep	12:44:08	0.222
22-Sep	12:45:08	0.299
22-Sep	12:46:08	0.152
22-Sep	12:47:08	0.041
22-Sep	12:48:08	0.033
22-Sep	12:49:08	0.037
22-Sep	12:50:08	0.057
22-Sep	12:51:08	0.088
22-Sep	12:52:08	0.074
22-Sep	12:53:08	0.035
22-Sep	12:54:08	0.037
22-Sep	12:55:08	0.037
22-Sep	12:56:08	0.035
22-Sep	12:57:08	0.329
22-Sep	12:58:08	0.253
22-Sep	12:59:08	0.036
22-Sep	13:00:08	0.049
22-Sep	13:01:08	0.037
22-Sep	13:02:08	0.086
22-Sep	13:03:08	0.979
22-Sep	13:04:08	0.055
22-Sep	13:05:08	0.108
22-Sep	13:06:08	0.08
22-Sep	13:07:08	0.043
22-Sep	13:08:08	0.036
22-Sep	13:09:08	0.107
22-Sep	13:10:08	0.061
22-Sep	13:11:08	0.128
22-Sep	13:12:08	0.051
22-Sep	13:13:08	0.045
22-Sep	13:14:08	0.169
22-Sep	13:15:08	0.154
22-Sep	13:16:08	0.037
22-Sep	13:17:08	0.056
22-Sep	13:18:08	0.127
22-Sep	13:19:08	0.445
22-Sep	13:20:08	0.158
22-Sep	13:21:08	0.047
22-Sep	13:22:08	0.062
22-Sep	13:23:08	0.051
22-Sep	13:24:08	0.349
22-Sep	13:25:08	0.077
22-Sep	13:26:08	0.05
22-Sep	13:27:08	0.047
22-Sep	13:28:08	0.049
22-Sep	13:29:08	0.052

22-Sep	13:30:08	0.076
22-Sep	13:31:08	0.062
22-Sep	13:32:08	0.206
22-Sep	13:33:08	0.047
22-Sep	13:34:08	0.046
22-Sep	13:35:08	0.05
22-Sep	13:36:08	0.053
22-Sep	13:37:08	0.063
22-Sep	13:38:08	0.186
22-Sep	13:39:08	0.193
22-Sep	13:40:08	0.06
22-Sep	13:41:08	0.058
22-Sep	13:42:08	0.067
22-Sep	13:43:08	0.054
22-Sep	13:44:08	0.05
25-Sep	11:10:58	0.063
25-Sep	11:11:58	0.054
25-Sep	11:12:58	0.052
25-Sep	11:13:58	0.057
25-Sep	11:14:58	0.055
25-Sep	11:15:58	0.108
25-Sep	11:16:58	0.048
25-Sep	11:17:58	0.04
25-Sep	11:18:58	0.039
25-Sep	11:19:58	0.192
25-Sep	11:20:58	0.037
25-Sep	11:21:58	0.04
25-Sep	11:22:58	0.038
25-Sep	11:23:58	0.08
25-Sep	11:24:58	0.062
25-Sep	11:25:58	0.043
25-Sep	11:26:58	0.047
25-Sep	11:27:58	0.16
25-Sep	11:28:58	0.08
25-Sep	11:29:58	0.04
25-Sep	11:30:58	0.038
25-Sep	11:31:58	0.038
25-Sep	11:32:58	0.055
25-Sep	11:33:58	0.078
25-Sep	11:34:58	0.036
25-Sep	11:35:58	0.035
25-Sep	11:36:58	0.036
25-Sep	11:37:58	0.034
25-Sep	11:38:58	0.034
25-Sep	11:39:58	0.034
25-Sep	11:40:58	0.035
25-Sep	11:41:58	0.034

25-Sep	11:42:58	0.038
25-Sep	11:43:58	0.068
25-Sep	11:44:58	0.063
25-Sep	11:45:58	0.064
25-Sep	11:46:58	0.039
25-Sep	11:47:58	0.037
25-Sep	11:48:58	0.041
25-Sep	11:49:58	0.039
25-Sep	11:50:58	0.041
25-Sep	11:51:58	0.047
25-Sep	11:52:58	0.043
25-Sep	11:53:58	0.041
25-Sep	11:54:58	0.05
25-Sep	11:55:58	0.046
25-Sep	11:56:58	0.043
25-Sep	11:57:58	0.047
25-Sep	11:58:58	0.044
25-Sep	11:59:58	0.044
25-Sep	12:00:58	0.225
25-Sep	12:01:58	0.134
25-Sep	12:02:58	0.058
25-Sep	12:03:58	0.075
25-Sep	12:04:58	0.043
25-Sep	12:05:58	0.054
25-Sep	12:06:58	0.044
25-Sep	12:07:58	0.043
25-Sep	12:08:58	0.044
25-Sep	12:09:58	0.047
25-Sep	12:10:58	0.173
25-Sep	12:11:58	0.1
25-Sep	12:12:58	0.133
25-Sep	12:13:58	0.052
25-Sep	12:14:58	0.053
25-Sep	12:15:58	0.057
25-Sep	12:16:58	0.124
25-Sep	12:17:58	0.048
25-Sep	12:18:58	0.049
25-Sep	12:19:58	0.043
25-Sep	12:20:58	0.168
25-Sep	12:21:58	0.062
25-Sep	12:22:58	0.042
25-Sep	12:23:58	0.042
25-Sep	12:24:58	0.062
25-Sep	12:25:58	0.083
25-Sep	12:26:58	0.039
25-Sep	12:27:58	0.177
25-Sep	12:28:58	0.041

25-Sep	12:29:58	0.194
25-Sep	12:30:58	0.176
25-Sep	12:31:58	0.085
25-Sep	12:32:58	0.106
25-Sep	12:33:58	0.075
25-Sep	12:34:58	0.041
25-Sep	12:35:58	0.04
25-Sep	12:36:58	0.044
25-Sep	12:37:58	0.041
25-Sep	12:38:58	0.04
25-Sep	12:39:58	0.04
25-Sep	12:40:58	0.038
25-Sep	12:41:58	0.309
25-Sep	12:42:58	0.058
25-Sep	12:43:58	0.041
25-Sep	12:44:58	0.162
25-Sep	12:45:58	0.055
25-Sep	12:46:58	0.059
25-Sep	12:47:58	0.039
25-Sep	12:48:58	0.039
25-Sep	12:49:58	0.04
25-Sep	12:50:58	0.039
25-Sep	12:51:58	0.039
25-Sep	12:52:58	0.063
25-Sep	12:53:58	0.04
25-Sep	12:54:58	0.042
25-Sep	12:55:58	0.038
25-Sep	12:56:58	0.041
25-Sep	12:57:58	0.368
25-Sep	12:58:58	0.044
25-Sep	12:59:58	0.039
25-Sep	13:00:58	0.039
25-Sep	13:01:58	0.039
25-Sep	13:02:58	0.039
25-Sep	13:03:58	0.039
25-Sep	13:04:58	0.168
25-Sep	13:05:58	0.323
25-Sep	13:06:58	0.045
25-Sep	13:07:58	0.041
25-Sep	13:08:58	0.038
25-Sep	13:09:58	0.038
25-Sep	13:10:58	0.041
25-Sep	13:11:58	0.038
25-Sep	13:12:58	0.039
25-Sep	13:13:58	0.14
25-Sep	13:14:58	0.038
25-Sep	13:15:58	0.039

25-Sep	13:16:58	0.18
25-Sep	13:17:58	1.879
25-Sep	13:18:58	0.186
25-Sep	13:19:58	0.039
25-Sep	13:20:58	0.04
25-Sep	13:21:58	0.039
25-Sep	13:22:58	0.04
25-Sep	13:23:58	0.074
25-Sep	13:24:58	0.046
25-Sep	13:25:58	0.06
25-Sep	13:26:58	0.112
25-Sep	13:27:58	0.042
25-Sep	13:28:58	0.044
25-Sep	13:29:58	0.074
25-Sep	13:30:58	0.041
25-Sep	13:31:58	0.04
25-Sep	13:32:58	0.046
25-Sep	13:33:58	0.043
25-Sep	13:34:58	0.044
25-Sep	13:35:58	0.049
25-Sep	13:36:58	0.154
25-Sep	13:37:58	0.048
25-Sep	13:38:58	0.267
25-Sep	13:39:58	0.123
25-Sep	13:40:58	0.199
25-Sep	13:41:58	0.045
25-Sep	13:42:58	0.047
25-Sep	13:43:58	0.041
25-Sep	13:44:58	0.04
25-Sep	13:45:58	0.043
25-Sep	13:46:58	0.042
25-Sep	13:47:58	0.042
25-Sep	13:48:58	0.04
25-Sep	13:49:58	0.04
25-Sep	13:50:58	0.041
25-Sep	13:51:58	0.04
25-Sep	13:52:58	0.044
25-Sep	13:53:58	0.042
25-Sep	13:54:58	0.069
25-Sep	13:55:58	0.053
25-Sep	13:56:58	0.244
25-Sep	13:57:58	0.044
25-Sep	13:58:58	0.041
25-Sep	13:59:58	0.041
25-Sep	14:00:58	0.041
25-Sep	14:01:58	0.073
25-Sep	14:02:58	0.041

25-Sep	14:03:58	0.241
25-Sep	14:04:58	0.048
25-Sep	14:05:58	0.046
25-Sep	14:06:58	0.04
25-Sep	14:07:58	0.043
25-Sep	14:08:58	0.041
25-Sep	14:09:58	0.044
25-Sep	14:10:58	0.041
25-Sep	14:11:58	0.04
26-Sep	07:26:01	0.064
26-Sep	07:27:01	0.062
26-Sep	07:28:01	0.07
26-Sep	07:29:01	0.08
26-Sep	07:30:01	0.09
26-Sep	07:31:01	0.106
26-Sep	07:32:01	0.105
26-Sep	07:33:01	0.121
26-Sep	07:34:01	0.12
26-Sep	07:35:01	0.083
26-Sep	07:36:01	0.148
26-Sep	07:37:01	0.345
26-Sep	07:38:01	0.324
26-Sep	07:39:01	0.121
26-Sep	07:40:01	0.125
26-Sep	07:41:01	0.137
26-Sep	07:42:01	0.126
26-Sep	07:43:01	0.128
26-Sep	07:44:01	0.124
26-Sep	07:45:01	0.115
26-Sep	07:46:01	0.086
26-Sep	07:47:01	0.089
26-Sep	07:48:01	0.102
26-Sep	07:49:01	0.177
26-Sep	07:50:01	0.173
26-Sep	07:51:01	0.094
26-Sep	07:52:01	0.293
26-Sep	07:53:01	0.221
26-Sep	07:54:01	0.201
26-Sep	07:55:01	0.206
26-Sep	07:56:01	0.146
26-Sep	07:57:01	0.106
26-Sep	07:58:01	0.11
26-Sep	07:59:01	0.116
26-Sep	08:00:01	0.101
26-Sep	08:01:01	0.112
26-Sep	08:02:01	0.082
26-Sep	08:03:01	0.091

26-Sep	08:04:01	0.085
26-Sep	08:05:01	0.095
26-Sep	08:06:01	0.086
26-Sep	08:07:01	0.079
26-Sep	08:08:01	0.08
26-Sep	08:09:01	0.085
26-Sep	08:10:01	0.083
26-Sep	08:11:01	0.075
26-Sep	08:12:01	0.07
26-Sep	08:13:01	0.076
26-Sep	08:14:01	0.097
26-Sep	08:15:01	0.071
26-Sep	08:16:01	0.072
26-Sep	08:17:01	0.071
26-Sep	08:18:01	0.102
26-Sep	08:19:01	0.09
26-Sep	08:20:01	0.083
26-Sep	08:21:01	0.074
26-Sep	08:22:01	0.072
26-Sep	08:23:01	0.074
26-Sep	08:24:01	0.068
26-Sep	08:25:01	0.073
26-Sep	08:26:01	0.087
26-Sep	08:27:01	0.076
26-Sep	08:28:01	0.078
26-Sep	08:29:01	0.092
26-Sep	08:30:01	0.081
26-Sep	08:31:01	0.084
26-Sep	08:32:01	0.085
26-Sep	08:33:01	0.074
26-Sep	08:34:01	0.08
26-Sep	08:35:01	0.088
26-Sep	08:36:01	0.088
26-Sep	08:37:01	0.092
26-Sep	08:38:01	0.111
26-Sep	08:39:01	0.084
26-Sep	08:40:01	0.079
26-Sep	08:41:01	0.078
26-Sep	08:42:01	0.077
26-Sep	08:43:01	0.073
26-Sep	08:44:01	0.071
26-Sep	08:45:01	0.073
26-Sep	08:46:01	0.073
26-Sep	08:47:01	0.072
26-Sep	08:48:01	0.074
26-Sep	08:49:01	0.071
26-Sep	08:50:01	0.572

26-Sep	08:51:01	0.073
26-Sep	08:52:01	0.073
26-Sep	08:53:01	0.073
26-Sep	08:54:01	0.21
26-Sep	08:55:01	0.077
26-Sep	08:56:01	0.076
26-Sep	08:57:01	0.073
26-Sep	08:58:01	0.072
26-Sep	08:59:01	0.072
26-Sep	09:00:01	0.081
26-Sep	09:01:01	0.079
26-Sep	09:02:01	0.078
26-Sep	09:03:01	0.073
26-Sep	09:04:01	0.087
26-Sep	09:05:01	0.074
26-Sep	09:06:01	0.081
26-Sep	09:07:01	0.084
26-Sep	09:08:01	0.074
26-Sep	09:09:01	0.07
26-Sep	09:10:01	0.068
26-Sep	09:11:01	0.068
26-Sep	09:12:01	0.071
26-Sep	09:13:01	0.069
26-Sep	09:14:01	0.071
26-Sep	09:15:01	0.069
26-Sep	09:16:01	0.069
26-Sep	09:17:01	0.067
26-Sep	09:18:01	0.067
26-Sep	09:19:01	0.07
26-Sep	09:20:01	0.07
26-Sep	09:21:01	0.07
26-Sep	09:22:01	0.068
26-Sep	09:23:01	0.068
26-Sep	09:24:01	0.069
26-Sep	09:25:01	0.073
26-Sep	09:26:01	0.074
26-Sep	09:27:01	0.067
26-Sep	09:28:01	0.066
26-Sep	09:29:01	0.072
26-Sep	09:30:01	0.067
26-Sep	09:31:01	0.069
26-Sep	09:32:01	0.066
26-Sep	09:33:01	0.065
26-Sep	09:34:01	0.068
26-Sep	09:35:01	0.065
26-Sep	09:36:01	0.066
26-Sep	09:37:01	0.069

26-Sep	09:38:01	0.072
26-Sep	09:39:01	0.067
26-Sep	09:40:01	0.067
26-Sep	09:41:01	0.071
26-Sep	09:42:01	0.075
26-Sep	09:43:01	0.069
26-Sep	09:44:01	0.069
26-Sep	09:45:01	0.072
26-Sep	09:46:01	0.07
26-Sep	09:47:01	0.072
26-Sep	09:48:01	0.072
26-Sep	09:49:01	0.074
26-Sep	09:50:01	0.072
26-Sep	09:51:01	0.068
26-Sep	09:52:01	0.069
26-Sep	09:53:01	0.067
26-Sep	09:54:01	0.07
26-Sep	09:55:01	0.069
26-Sep	09:56:01	0.069
26-Sep	09:57:01	0.067
26-Sep	09:58:01	0.069
26-Sep	09:59:01	0.069
26-Sep	10:00:01	0.07
26-Sep	10:01:01	0.067
26-Sep	10:02:01	0.069
26-Sep	10:03:01	0.077
26-Sep	10:04:01	0.068
26-Sep	10:05:01	0.069
26-Sep	10:06:01	0.069
26-Sep	10:07:01	0.068
26-Sep	10:08:01	0.072
26-Sep	10:09:01	0.068
26-Sep	10:10:01	0.071
26-Sep	10:11:01	0.066
26-Sep	10:12:01	0.067
26-Sep	10:13:01	0.068
26-Sep	10:14:01	0.069
26-Sep	10:15:01	0.07
26-Sep	10:16:01	0.067
26-Sep	10:17:01	0.07
26-Sep	10:18:01	0.069
26-Sep	10:19:01	0.067
26-Sep	10:20:01	0.067
26-Sep	10:21:01	0.066
26-Sep	10:22:01	0.072
26-Sep	10:23:01	0.067
26-Sep	10:24:01	0.066

26-Sep	10:25:01	0.066
26-Sep	10:26:01	0.064
26-Sep	10:27:01	0.065
26-Sep	10:28:01	0.084
26-Sep	10:29:01	0.07
26-Sep	10:30:01	0.067
26-Sep	10:31:01	0.068
26-Sep	10:32:01	0.068
26-Sep	10:33:01	0.066
26-Sep	10:34:01	0.065
26-Sep	10:35:01	0.068
26-Sep	10:36:01	0.07
26-Sep	10:37:01	0.239
26-Sep	10:38:01	0.071
26-Sep	10:39:01	0.077
26-Sep	10:40:01	0.068
26-Sep	10:41:01	0.069
26-Sep	10:42:01	0.067
26-Sep	10:43:01	0.065
26-Sep	10:44:01	0.065
26-Sep	10:45:01	0.067
26-Sep	10:46:01	0.069
26-Sep	10:47:01	0.064
26-Sep	10:48:01	0.065
26-Sep	10:49:01	0.067
26-Sep	10:50:01	0.07
26-Sep	10:51:01	0.067
26-Sep	10:52:01	0.067
26-Sep	10:53:01	0.074
26-Sep	10:54:01	0.07
26-Sep	10:55:01	0.073
26-Sep	10:56:01	0.074
26-Sep	10:57:01	0.068
26-Sep	10:58:01	0.067

Date	Time	Average (mg/m^3)
8-Sep	08:00:24	0.096
8-Sep	08:01:24	0.055
8-Sep	08:02:24	0.104
8-Sep	08:03:24	0.044
8-Sep	08:04:24	0.038
8-Sep	08:05:24	0.042
8-Sep	08:06:24	0.046
8-Sep	08:07:24	0.046
8-Sep	08:08:24	0.044
8-Sep	08:09:24	0.06
8-Sep	08:10:24	0.065
8-Sep	08:11:24	0.044
8-Sep	08:12:24	0.042
8-Sep	08:13:24	0.041
8-Sep	08:14:24	0.04
8-Sep	08:15:24	0.043
8-Sep	08:16:24	0.043
8-Sep	08:17:24	0.044
8-Sep	08:18:24	0.043
8-Sep	08:19:24	0.043
8-Sep	08:20:24	0.044
8-Sep	08:21:24	0.043
8-Sep	08:22:24	0.043
8-Sep	08:23:24	0.044
8-Sep	08:24:24	0.044
8-Sep	08:25:24	0.045
8-Sep	08:26:24	0.04
8-Sep	08:27:24	0.041
8-Sep	08:28:24	0.045
8-Sep	08:29:24	0.04
8-Sep	08:30:24	0.04
8-Sep	08:31:24	0.038
8-Sep	08:32:24	0.045
8-Sep	08:33:24	0.046
8-Sep	08:34:24	0.044
8-Sep	08:35:24	0.045
8-Sep	08:36:24	0.043
8-Sep	08:37:24	0.044
8-Sep	08:38:24	0.042
8-Sep	08:39:24	0.042
8-Sep	08:40:24	0.043
8-Sep	08:41:24	0.043
8-Sep	08:42:24	0.045
8-Sep	08:43:24	0.047
8-Sep	08:44:24	0.047
8-Sep	08:45:24	0.049

8-Sep	08:46:24	0.05
8-Sep	08:47:24	0.049
8-Sep	08:48:24	0.047
8-Sep	08:49:24	0.05
8-Sep	08:50:24	1.724
8-Sep	08:51:24	0.146
8-Sep	08:52:24	0.056
8-Sep	08:53:24	0.049
8-Sep	08:54:24	0.046
8-Sep	08:55:24	0.049
8-Sep	08:56:24	0.048
8-Sep	08:57:24	0.049
8-Sep	08:58:24	0.045
8-Sep	08:59:24	0.044
8-Sep	09:00:24	0.037
8-Sep	09:01:24	0.045
8-Sep	09:02:24	0.044
8-Sep	09:03:24	0.043
8-Sep	09:04:24	0.045
8-Sep	09:05:24	0.047
8-Sep	09:06:24	0.043
8-Sep	09:07:24	0.049
8-Sep	09:08:24	0.055
8-Sep	09:09:24	0.053
8-Sep	09:10:24	0.058
8-Sep	09:11:24	0.06
8-Sep	09:12:24	0.057
8-Sep	09:13:24	0.059
8-Sep	09:14:24	0.054
8-Sep	09:15:24	0.053
8-Sep	09:16:24	0.058
8-Sep	09:17:24	0.055
8-Sep	09:18:24	0.054
8-Sep	09:19:24	0.055
8-Sep	09:20:24	0.053
8-Sep	09:21:24	0.054
8-Sep	09:22:24	0.059
8-Sep	09:23:24	0.051
8-Sep	09:24:24	0.055
8-Sep	09:25:24	0.051
8-Sep	09:26:24	0.054
8-Sep	09:27:24	0.054
8-Sep	09:28:24	0.055
8-Sep	09:29:24	0.055
8-Sep	09:30:24	0.052
8-Sep	09:31:24	0.058
8-Sep	09:32:24	0.049

8-Sep	09:33:24	0.05
8-Sep	09:34:24	0.05
8-Sep	09:35:24	0.043
8-Sep	09:36:24	0.066
8-Sep	09:37:24	0.043
8-Sep	09:38:24	0.054
8-Sep	09:39:24	0.043
8-Sep	09:40:24	0.04
8-Sep	09:41:24	0.034
8-Sep	09:42:24	0.033
8-Sep	09:43:24	0.029
8-Sep	09:44:24	0.025
8-Sep	09:45:24	0.028
8-Sep	09:46:24	0.025
8-Sep	09:47:24	0.023
8-Sep	09:48:24	0.02
8-Sep	09:49:24	0.02
8-Sep	09:50:24	0.018
8-Sep	09:51:24	0.018
8-Sep	09:52:24	0.015
8-Sep	09:53:24	0.013
8-Sep	09:54:24	0.012
8-Sep	09:55:24	0.013
8-Sep	09:56:24	0.013
8-Sep	09:57:24	0.012
8-Sep	09:58:24	0.011
8-Sep	09:59:24	0.012
8-Sep	10:00:24	0.013
8-Sep	10:01:24	0.012
8-Sep	10:02:24	0.013
8-Sep	10:03:24	0.013
8-Sep	10:04:24	0.014
8-Sep	10:05:24	0.015
8-Sep	10:06:24	0.013
8-Sep	10:07:24	0.014
8-Sep	10:08:24	0.017
8-Sep	10:09:24	0.016
8-Sep	10:10:24	0.015
8-Sep	10:11:24	0.019
8-Sep	10:12:24	0.019
8-Sep	10:13:24	0.021
8-Sep	10:14:24	0.019
8-Sep	10:15:24	0.018
8-Sep	10:16:24	0.017
8-Sep	10:17:24	0.014
8-Sep	10:18:24	0.013
8-Sep	10:19:24	0.015

8-Sep	10:20:24	0.016
8-Sep	10:21:24	0.016
8-Sep	10:22:24	0.017
8-Sep	10:23:24	0.016
8-Sep	10:24:24	0.015
8-Sep	10:25:24	0.013
8-Sep	10:26:24	0.013
8-Sep	10:27:24	0.014
8-Sep	10:28:24	0.015
8-Sep	10:29:24	0.015
8-Sep	10:30:24	0.014
8-Sep	10:31:24	0.013
8-Sep	10:32:24	0.014
8-Sep	10:33:24	0.016
8-Sep	10:34:24	0.016
8-Sep	10:35:24	0.014
8-Sep	10:36:24	0.016
8-Sep	10:37:24	0.015
8-Sep	10:38:24	0.015
8-Sep	10:39:24	0.016
8-Sep	10:40:24	0.015
8-Sep	10:41:24	0.013
8-Sep	10:42:24	0.016
8-Sep	10:43:24	0.016
8-Sep	10:44:24	0.016
8-Sep	10:45:24	0.016
8-Sep	10:46:24	0.014
8-Sep	10:47:24	0.015
8-Sep	10:48:24	0.014
8-Sep	10:49:24	0.015
8-Sep	10:50:24	0.015
8-Sep	10:51:24	0.014
8-Sep	10:52:24	0.014
8-Sep	10:53:24	0.016
8-Sep	10:54:24	0.02
8-Sep	10:55:24	0.015
8-Sep	10:56:24	0.014
8-Sep	10:57:24	0.015
8-Sep	10:58:24	0.015
8-Sep	10:59:24	0.015
8-Sep	11:00:24	0.014
8-Sep	11:01:24	0.012
8-Sep	11:02:24	0.012
8-Sep	11:03:24	0.013
8-Sep	11:04:24	0.013
8-Sep	11:05:24	0.014
8-Sep	11:06:24	0.012

8-Sep	11:07:24	0.013
8-Sep	11:08:24	0.013
8-Sep	11:09:24	0.011
8-Sep	11:10:24	0.011
8-Sep	11:11:24	0.012
8-Sep	11:12:24	0.013
8-Sep	11:13:24	0.015
8-Sep	11:14:24	0.017
8-Sep	11:15:24	0.016
8-Sep	11:16:24	0.015
8-Sep	11:17:24	0.017
8-Sep	11:18:24	0.017
8-Sep	11:19:24	0.017
8-Sep	11:20:24	0.017
8-Sep	11:21:24	0.017
8-Sep	11:22:24	0.016
8-Sep	11:23:24	0.015
8-Sep	11:24:24	0.017
8-Sep	11:25:24	0.017
8-Sep	11:26:24	0.017
8-Sep	11:27:24	0.017
8-Sep	11:28:24	0.016
8-Sep	11:29:24	0.017
8-Sep	11:30:24	0.016
8-Sep	11:31:24	0.015
8-Sep	11:32:24	0.017
8-Sep	11:33:24	0.017
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8-Sep	11:36:24	0.015
8-Sep	11:37:24	0.016
8-Sep	11:38:24	0.015
8-Sep	11:39:24	0.015
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8-Sep	11:53:24	0.016

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11-Sep	12:58:18	0.022

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11-Sep	13:03:18	0.021
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11-Sep	13:05:18	0.023
11-Sep	13:06:18	0.023
11-Sep	13:07:18	0.02
11-Sep	13:08:18	0.026
11-Sep	13:09:18	0.026
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11-Sep	13:11:18	0.022
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11-Sep	13:13:18	0.023
11-Sep	13:14:18	0.027
11-Sep	13:15:18	0.024
11-Sep	13:16:18	0.021
11-Sep	13:17:18	0.021
11-Sep	13:18:18	0.02
11-Sep	13:19:18	0.02
11-Sep	13:20:18	0.022
11-Sep	13:21:18	0.024
11-Sep	13:22:18	0.023
11-Sep	13:23:18	0.023
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11-Sep	13:37:18	0.02
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11-Sep	13:45:18	0.021

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11-Sep	13:50:18	0.02
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12-Sep	12:15:46	0.023

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12-Sep	14:24:46	0.023
12-Sep	14:25:46	0.022
12-Sep	14:26:46	0.023
12-Sep	14:27:46	0.022
12-Sep	14:28:46	0.022
12-Sep	14:29:46	0.023
12-Sep	14:30:46	0.025
12-Sep	14:31:46	0.022
12-Sep	14:32:46	0.025
12-Sep	14:33:46	0.025
12-Sep	14:34:46	0.025
12-Sep	14:35:46	0.026
12-Sep	14:36:46	0.025

12-Sep	14:37:46	0.022
12-Sep	14:38:46	0.022
12-Sep	14:39:46	0.021
12-Sep	14:40:46	0.02
12-Sep	14:41:46	0.021
12-Sep	14:42:46	0.021
12-Sep	14:43:46	0.023
12-Sep	14:44:46	0.037
12-Sep	14:45:46	0.021
12-Sep	14:46:46	0.021
12-Sep	14:47:46	0.248
12-Sep	14:48:46	0.025
12-Sep	14:49:46	0.024
12-Sep	14:50:46	0.024
12-Sep	14:51:46	0.023
12-Sep	14:52:46	0.024
12-Sep	14:53:46	0.025
12-Sep	14:54:46	0.026
13-Sep	07:19:05	0.008
13-Sep	07:20:05	0.002
13-Sep	07:21:05	0.002
13-Sep	07:22:05	0.002
13-Sep	07:23:05	0
13-Sep	07:24:05	0
13-Sep	07:25:05	0
13-Sep	07:26:05	0
13-Sep	07:27:05	0
13-Sep	07:28:05	0
13-Sep	07:29:05	0
13-Sep	07:30:05	0.017
13-Sep	07:31:05	0
13-Sep	07:32:05	0
13-Sep	07:33:05	0
13-Sep	07:34:05	0
13-Sep	07:35:05	0.001
13-Sep	07:36:05	0
13-Sep	07:37:05	0
13-Sep	07:38:05	0
13-Sep	07:39:05	0
13-Sep	07:40:05	0
13-Sep	07:41:05	0
13-Sep	07:42:05	0.001
13-Sep	07:43:05	0
13-Sep	07:44:05	0
13-Sep	07:45:05	0
13-Sep	07:46:05	0
13-Sep	07:47:05	0

13-Sep	07:48:05	0
13-Sep	07:49:05	0
13-Sep	07:50:05	0.001
13-Sep	07:51:05	0
13-Sep	07:52:05	0
13-Sep	07:53:05	0.001
13-Sep	07:54:05	0
13-Sep	07:55:05	0
13-Sep	07:56:05	0
13-Sep	07:57:05	0
13-Sep	07:58:05	0
13-Sep	07:59:05	0
13-Sep	08:00:05	0
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13-Sep	08:02:05	0
13-Sep	08:03:05	0
13-Sep	08:04:05	0
13-Sep	08:05:05	0
13-Sep	08:06:05	0
13-Sep	08:07:05	0
13-Sep	08:08:05	0
13-Sep	08:09:05	0.001
13-Sep	08:10:05	0
13-Sep	08:11:05	0
13-Sep	08:12:05	0
13-Sep	08:13:05	0.004
13-Sep	08:14:05	0
13-Sep	08:15:05	0
13-Sep	08:16:05	0
13-Sep	08:17:05	0
13-Sep	08:18:05	0
13-Sep	08:19:05	0
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13-Sep	08:22:05	0
13-Sep	08:23:05	0
13-Sep	08:24:05	0
13-Sep	08:25:05	0
13-Sep	08:26:05	0.001
13-Sep	08:27:05	0
13-Sep	08:28:05	0
13-Sep	08:29:05	0
13-Sep	08:30:05	0
13-Sep	08:31:05	0
13-Sep	08:32:05	0
13-Sep	08:33:05	0
13-Sep	08:34:05	0

13-Sep	08:35:05	0
13-Sep	08:36:05	0
13-Sep	08:37:05	0
13-Sep	08:38:05	0
13-Sep	08:39:05	0
13-Sep	08:40:05	0.001
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13-Sep	08:46:05	0
13-Sep	08:47:05	0.001
13-Sep	08:48:05	0
13-Sep	08:49:05	0.002
13-Sep	08:50:05	0.001
13-Sep	08:51:05	0
13-Sep	08:52:05	0.001
13-Sep	08:53:05	0.001
13-Sep	08:54:05	0.001
13-Sep	08:55:05	0.001
13-Sep	08:56:05	0
13-Sep	08:57:05	0
13-Sep	08:58:05	0
13-Sep	08:59:05	0.001
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13-Sep	09:02:05	0
13-Sep	09:03:05	0
13-Sep	09:04:05	0
13-Sep	09:05:05	0
13-Sep	09:06:05	0
13-Sep	09:07:05	0.007
13-Sep	09:08:05	0
13-Sep	09:09:05	0
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13-Sep	09:16:05	0
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13-Sep	09:18:05	0
13-Sep	09:19:05	0
13-Sep	09:20:05	0
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13-Sep	09:27:05	0
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13-Sep	09:29:05	0
13-Sep	09:30:05	0
13-Sep	09:31:05	0
13-Sep	09:32:05	0.001
13-Sep	09:33:05	0
13-Sep	09:34:05	0
13-Sep	09:35:05	0
13-Sep	09:36:05	0.001
13-Sep	09:37:05	0
13-Sep	09:38:05	0
13-Sep	09:39:05	0.005
13-Sep	09:40:05	0.016
13-Sep	09:41:05	0.001
13-Sep	09:42:05	0
13-Sep	09:43:05	0
13-Sep	09:44:05	0
13-Sep	09:45:05	0.001
13-Sep	09:46:05	0
13-Sep	09:47:05	0
13-Sep	09:48:05	0
13-Sep	09:49:05	0.002
13-Sep	09:50:05	0.002
13-Sep	09:51:05	0.001
13-Sep	09:52:05	0.001
13-Sep	09:53:05	0.002
13-Sep	09:54:05	0.004
13-Sep	09:55:05	0.002
13-Sep	09:56:05	0.003
13-Sep	09:57:05	0.003
13-Sep	09:58:05	0.003
13-Sep	09:59:05	0.002
13-Sep	10:00:05	0.001
13-Sep	10:01:05	0.001
13-Sep	10:02:05	0
13-Sep	10:03:05	0.003
13-Sep	10:04:05	0.003
13-Sep	10:05:05	0.003
13-Sep	10:06:05	0.004
13-Sep	10:07:05	0.005
13-Sep	10:08:05	0.003

13-Sep	10:09:05	0.003
13-Sep	10:10:05	0.001
13-Sep	10:11:05	0
13-Sep	10:12:05	0
13-Sep	10:13:05	0
13-Sep	10:14:05	0.001
13-Sep	10:15:05	0.001
13-Sep	10:16:05	0.002
13-Sep	10:17:05	0.002
13-Sep	10:18:05	0.008
13-Sep	10:19:05	0.01
13-Sep	10:20:05	0.002
13-Sep	10:21:05	0.001
13-Sep	10:22:05	0.002
13-Sep	10:23:05	0.002
13-Sep	10:24:05	0.002
13-Sep	10:25:05	0.003
13-Sep	10:26:05	0.001
13-Sep	10:27:05	0.002
13-Sep	10:28:05	0.002
13-Sep	10:29:05	0.004
13-Sep	10:30:05	0.002
13-Sep	10:31:05	0.006
13-Sep	10:32:05	0.003
13-Sep	10:33:05	0.003
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13-Sep	10:35:05	0.004
13-Sep	10:36:05	0.004
13-Sep	10:37:05	0.006
13-Sep	10:38:05	0.004
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13-Sep	10:43:05	0.007
13-Sep	10:44:05	0.006
13-Sep	10:45:05	0.005
13-Sep	10:46:05	0.004
13-Sep	10:47:05	0.005
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13-Sep	10:50:05	0.003
13-Sep	10:51:05	0.004
13-Sep	10:52:05	0.006
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13-Sep	10:55:05	0.004

13-Sep	10:56:05	0.011
13-Sep	10:57:05	0.005
13-Sep	10:58:05	0.006
13-Sep	10:59:05	0.005
13-Sep	11:00:05	0.006
13-Sep	11:01:05	0.042
13-Sep	11:02:05	0.006
13-Sep	11:03:05	0.005
13-Sep	11:04:05	0.008
13-Sep	11:05:05	0.007
14-Sep	09:53:26	0.041
14-Sep	09:54:26	0.05
14-Sep	09:55:26	0.039
14-Sep	09:56:26	0.036
14-Sep	09:57:26	0.036
14-Sep	09:58:26	0.041
14-Sep	09:59:26	0.053
14-Sep	10:00:26	0.055
14-Sep	10:01:26	0.036
14-Sep	10:02:26	0.038
14-Sep	10:03:26	0.039
14-Sep	10:04:26	0.037
14-Sep	10:05:26	0.043
14-Sep	10:06:26	0.182
14-Sep	10:07:26	0.051
14-Sep	10:08:26	0.04
14-Sep	10:09:26	0.04
14-Sep	10:10:26	0.036
14-Sep	10:11:26	0.039
14-Sep	10:12:26	0.037
14-Sep	10:13:26	0.038
14-Sep	10:14:26	0.041
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14-Sep	10:16:26	0.041
14-Sep	10:17:26	0.04
14-Sep	10:18:26	0.039
14-Sep	10:19:26	0.038
14-Sep	10:20:26	0.035
14-Sep	10:21:26	0.039
14-Sep	10:22:26	0.036
14-Sep	10:23:26	0.042
14-Sep	10:24:26	0.047
14-Sep	10:25:26	0.046
14-Sep	10:26:26	0.06
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14-Sep	10:28:26	0.051
14-Sep	10:29:26	0.052

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14-Sep	10:32:26	0.054
14-Sep	10:33:26	0.052
14-Sep	10:34:26	0.065
14-Sep	10:35:26	0.054
14-Sep	10:36:26	0.046
14-Sep	10:37:26	0.048
14-Sep	10:38:26	0.047
14-Sep	10:39:26	0.051
14-Sep	10:40:26	0.049
14-Sep	10:41:26	0.044
14-Sep	10:42:26	0.048
14-Sep	10:43:26	0.044
14-Sep	10:44:26	0.056
14-Sep	10:45:26	0.058
14-Sep	10:46:26	0.048
14-Sep	10:47:26	0.042
14-Sep	10:48:26	0.04
14-Sep	10:49:26	0.04
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14-Sep	10:56:26	0.036
14-Sep	10:57:26	0.038
14-Sep	10:58:26	0.035
14-Sep	10:59:26	0.037
14-Sep	11:00:26	0.037
14-Sep	11:01:26	0.042
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14-Sep	11:12:26	0.035
14-Sep	11:13:26	0.036
14-Sep	11:14:26	0.036
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14-Sep	11:16:26	0.036

14-Sep	11:17:26	0.036
14-Sep	11:18:26	0.034
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14-Sep	11:20:26	0.033
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14-Sep	11:32:26	0.035
14-Sep	11:33:26	0.035
14-Sep	11:34:26	0.035
14-Sep	11:35:26	0.037
14-Sep	11:36:26	0.037
14-Sep	11:37:26	0.036
14-Sep	11:38:26	0.036
14-Sep	11:39:26	0.036
14-Sep	11:40:26	0.034
14-Sep	11:41:26	0.036
14-Sep	11:42:26	0.037
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14-Sep	11:47:26	0.036
14-Sep	11:48:26	0.036
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14-Sep	11:56:26	0.037
14-Sep	11:57:26	0.035
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14-Sep	12:03:26	0.035

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14-Sep	12:20:26	0.037
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14-Sep	12:26:26	0.037
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14-Sep	12:33:26	0.038
14-Sep	12:34:26	0.041
14-Sep	12:35:26	0.04
14-Sep	12:36:26	0.035
14-Sep	12:37:26	0.035
14-Sep	12:38:26	0.038
14-Sep	12:39:26	0.034
14-Sep	12:40:26	0.035
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14-Sep	12:47:26	0.043
14-Sep	12:48:26	0.035
14-Sep	12:49:26	0.034
14-Sep	12:50:26	0.035

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14-Sep	12:52:26	0.036
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14-Sep	12:54:26	0.035
14-Sep	12:55:26	0.036
14-Sep	12:56:26	0.036
14-Sep	12:57:26	0.036
14-Sep	12:58:26	0.036
14-Sep	12:59:26	0.041
14-Sep	13:00:26	0.039
14-Sep	13:01:26	0.04
14-Sep	13:02:26	0.042
14-Sep	13:03:26	0.036
14-Sep	13:04:26	0.036
14-Sep	13:05:26	0.036
14-Sep	13:06:26	0.035
14-Sep	13:07:26	0.037
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14-Sep	13:18:26	0.037
14-Sep	13:19:26	0.033
14-Sep	13:20:26	0.033
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14-Sep	13:22:26	0.033
14-Sep	13:23:26	0.034
14-Sep	13:24:26	0.033
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14-Sep	13:26:26	0.034
14-Sep	13:27:26	0.033
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14-Sep	13:30:26	0.033
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14-Sep	13:35:26	0.034
14-Sep	13:36:26	0.034
14-Sep	13:37:26	0.033

14-Sep	13:38:26	0.035
14-Sep	13:39:26	0.035
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14-Sep	13:42:26	0.036
14-Sep	13:43:26	0.034
14-Sep	13:44:26	0.034
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14-Sep	13:46:26	0.039
14-Sep	13:47:26	0.035
14-Sep	13:48:26	0.039
15-Sep	10:04:52	0.022
15-Sep	10:05:52	0.019
15-Sep	10:06:52	0.021
15-Sep	10:07:52	0.02
15-Sep	10:08:52	0.02
15-Sep	10:09:52	0.02
15-Sep	10:10:52	0.019
15-Sep	10:11:52	0.019
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15-Sep	10:13:52	0.021
15-Sep	10:14:52	0.02
15-Sep	10:15:52	0.022
15-Sep	10:16:52	0.02
15-Sep	10:17:52	0.022
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15-Sep	10:19:52	0.022
15-Sep	10:20:52	0.024
15-Sep	10:21:52	0.021
15-Sep	10:22:52	0.021
15-Sep	10:23:52	0.02
15-Sep	10:24:52	0.02
15-Sep	10:25:52	0.02
15-Sep	10:26:52	0.023
15-Sep	10:27:52	0.021
15-Sep	10:28:52	0.021
15-Sep	10:29:52	0.021
15-Sep	10:30:52	0.024
15-Sep	10:31:52	0.022
15-Sep	10:32:52	0.022
15-Sep	10:33:52	0.022
15-Sep	10:34:52	0.02
15-Sep	10:35:52	0.02
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15-Sep	10:38:52	0.02
15-Sep	10:39:52	0.019

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15-Sep	10:41:52	0.021
15-Sep	10:42:52	0.02
15-Sep	10:43:52	0.02
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15-Sep	10:45:52	0.021
15-Sep	10:46:52	0.02
15-Sep	10:47:52	0.021
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15-Sep	10:49:52	0.021
15-Sep	10:50:52	0.02
15-Sep	10:51:52	0.02
15-Sep	10:52:52	0.021
15-Sep	10:53:52	0.02
15-Sep	10:54:52	0.019
15-Sep	10:55:52	0.018
15-Sep	10:56:52	0.02
15-Sep	10:57:52	0.018
15-Sep	10:58:52	0.018
15-Sep	10:59:52	0.017
15-Sep	11:00:52	0.018
15-Sep	11:01:52	0.019
15-Sep	11:02:52	0.017
15-Sep	11:03:52	0.017
15-Sep	11:04:52	0.02
15-Sep	11:05:52	0.016
15-Sep	11:06:52	0.017
15-Sep	11:07:52	0.017
15-Sep	11:08:52	0.02
15-Sep	11:09:52	0.017
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15-Sep	11:35:52	0.016
15-Sep	11:36:52	0.014
15-Sep	11:37:52	0.014
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15-Sep	11:59:52	0.016
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15-Sep	12:05:52	0.015
15-Sep	12:06:52	0.014
15-Sep	12:07:52	0.016
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15-Sep	12:11:52	0.014
15-Sep	12:12:52	0.021
15-Sep	12:13:52	0.015

15-Sep	12:14:52	0.018
15-Sep	12:15:52	0.044
15-Sep	12:16:52	0.056
15-Sep	12:17:52	0.291
15-Sep	12:18:52	0.073
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15-Sep	12:22:52	0.131
15-Sep	12:23:52	0.055
15-Sep	12:24:52	0.132
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15-Sep	12:26:52	0.039
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21-Sep	08:39:34	0.062
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21-Sep	08:41:34	0.02
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21-Sep	10:27:34	0.014
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21-Sep	10:34:34	0.02
21-Sep	10:35:34	0.013
21-Sep	10:36:34	0.014

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21-Sep	14:40:34	0.027
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21-Sep	14:42:34	0.023
21-Sep	14:43:34	0.023
21-Sep	14:44:34	0.023
21-Sep	14:45:34	0.022
21-Sep	14:46:34	0.023
21-Sep	14:47:34	0.023
21-Sep	14:48:34	0.024
21-Sep	14:49:34	0.028
21-Sep	14:50:34	0.024
21-Sep	14:51:34	0.025
21-Sep	14:52:34	0.027
21-Sep	14:53:34	0.024
21-Sep	14:54:34	0.024
21-Sep	14:55:34	0.023
21-Sep	14:56:34	0.025
21-Sep	14:57:34	0.023
21-Sep	14:58:34	0.027
21-Sep	14:59:34	0.026
21-Sep	15:00:34	0.024
21-Sep	15:01:34	0.024
21-Sep	15:02:34	0.025
21-Sep	15:03:34	0.025
21-Sep	15:04:34	0.023
21-Sep	15:05:34	0.021
22-Sep	07:34:17	0.044
22-Sep	07:35:17	0.039
22-Sep	07:36:17	0.053
22-Sep	07:37:17	0.054
22-Sep	07:38:17	0.12
22-Sep	07:39:17	0.057
22-Sep	07:40:17	0.058
22-Sep	07:41:17	0.063
22-Sep	07:42:17	0.094
22-Sep	07:43:17	0.083
22-Sep	07:44:17	0.063
22-Sep	07:45:17	0.068
22-Sep	07:46:17	0.07

22-Sep	07:47:17	0.059
22-Sep	07:48:17	0.049
22-Sep	07:49:17	0.048
22-Sep	07:50:17	0.049
22-Sep	07:51:17	0.054
22-Sep	07:52:17	0.056
22-Sep	07:53:17	0.049
22-Sep	07:54:17	0.048
22-Sep	07:55:17	0.048
22-Sep	07:56:17	0.048
22-Sep	07:57:17	0.042
22-Sep	07:58:17	0.046
22-Sep	07:59:17	0.041
22-Sep	08:00:17	0.041
22-Sep	08:01:17	0.041
22-Sep	08:02:17	0.039
22-Sep	08:03:17	0.039
22-Sep	08:04:17	0.041
22-Sep	08:05:17	0.045
22-Sep	08:06:17	0.038
22-Sep	08:07:17	0.036
22-Sep	08:08:17	0.038
22-Sep	08:09:17	0.038
22-Sep	08:10:17	0.039
22-Sep	08:11:17	0.037
22-Sep	08:12:17	0.045
22-Sep	08:13:17	0.039
22-Sep	08:14:17	0.047
22-Sep	08:15:17	0.04
22-Sep	08:16:17	0.042
22-Sep	08:17:17	0.035
22-Sep	08:18:17	0.038
22-Sep	08:19:17	0.04
22-Sep	08:20:17	0.039
22-Sep	08:21:17	0.041
22-Sep	08:22:17	0.04
22-Sep	08:23:17	0.041
22-Sep	08:24:17	0.042
22-Sep	08:25:17	0.043
22-Sep	08:26:17	0.048
22-Sep	08:27:17	0.048
22-Sep	08:28:17	0.043
22-Sep	08:29:17	0.043
22-Sep	08:30:17	0.043
22-Sep	08:31:17	0.043
22-Sep	08:32:17	0.046
22-Sep	08:33:17	0.045

22-Sep	08:34:17	0.044
22-Sep	08:35:17	0.037
22-Sep	08:36:17	0.047
22-Sep	08:37:17	0.038
22-Sep	08:38:17	0.037
22-Sep	08:39:17	0.043
22-Sep	08:40:17	0.043
22-Sep	08:41:17	0.043
22-Sep	08:42:17	0.04
22-Sep	08:43:17	0.046
22-Sep	08:44:17	0.039
22-Sep	08:45:17	0.041
22-Sep	08:46:17	0.037
22-Sep	08:47:17	0.044
22-Sep	08:48:17	0.044
22-Sep	08:49:17	0.042
22-Sep	08:50:17	0.037
22-Sep	08:51:17	0.037
22-Sep	08:52:17	0.034
22-Sep	08:53:17	0.038
22-Sep	08:54:17	0.038
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22-Sep	08:56:17	0.037
22-Sep	08:57:17	0.038
22-Sep	08:58:17	0.036
22-Sep	08:59:17	0.035
22-Sep	09:00:17	0.035
22-Sep	09:01:17	0.035
22-Sep	09:02:17	0.037
22-Sep	09:03:17	0.034
22-Sep	09:04:17	0.034
22-Sep	09:05:17	0.037
22-Sep	09:06:17	0.038
22-Sep	09:07:17	0.038
22-Sep	09:08:17	0.036
22-Sep	09:09:17	0.038
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22-Sep	09:11:17	0.037
22-Sep	09:12:17	0.035
22-Sep	09:13:17	0.038
22-Sep	09:14:17	0.032
22-Sep	09:15:17	0.034
22-Sep	09:16:17	0.032
22-Sep	09:17:17	0.032
22-Sep	09:18:17	0.032
22-Sep	09:19:17	0.035
22-Sep	09:20:17	0.031

22-Sep	09:21:17	0.029
22-Sep	09:22:17	0.028
22-Sep	09:23:17	0.027
22-Sep	09:24:17	0.028
22-Sep	09:25:17	0.029
22-Sep	09:26:17	0.026
22-Sep	09:27:17	0.029
22-Sep	09:28:17	0.026
22-Sep	09:29:17	0.035
22-Sep	09:30:17	0.033
22-Sep	09:31:17	0.027
22-Sep	09:32:17	0.028
22-Sep	09:33:17	0.026
22-Sep	09:34:17	0.028
22-Sep	09:35:17	0.052
22-Sep	09:36:17	0.064
22-Sep	09:37:17	0.045
22-Sep	09:38:17	0.029
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22-Sep	09:43:17	0.031
22-Sep	09:44:17	0.029
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22-Sep	09:51:17	0.027
22-Sep	09:52:17	0.025
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22-Sep	10:12:17	0.023
22-Sep	10:13:17	0.024
22-Sep	10:14:17	0.025
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22-Sep	10:17:17	0.055
22-Sep	10:18:17	0.061
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22-Sep	10:23:17	0.025
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22-Sep	10:36:17	0.024
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22-Sep	12:12:17	0.026
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22-Sep	12:15:17	0.025
22-Sep	12:16:17	0.025
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22-Sep	12:18:17	0.025
22-Sep	12:19:17	0.025
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22-Sep	12:57:17	0.023
22-Sep	12:58:17	0.023
22-Sep	12:59:17	0.023
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22-Sep	13:12:17	0.021
22-Sep	13:13:17	0.021
22-Sep	13:14:17	0.03
22-Sep	13:15:17	0.022

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22-Sep	13:17:17	0.021
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22-Sep	13:29:17	0.022
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22-Sep	13:34:17	0.022
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22-Sep	13:36:17	0.02
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22-Sep	13:51:17	0.02
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22-Sep	13:57:17	0.021
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22-Sep	14:02:17	0.02

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22-Sep	14:04:17	0.018
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22-Sep	14:07:17	0.02
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22-Sep	14:10:17	0.02
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22-Sep	14:12:17	0.02
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22-Sep	14:15:17	0.021
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22-Sep	14:17:17	0.02
22-Sep	14:18:17	0.02
22-Sep	14:19:17	0.021
22-Sep	14:20:17	0.019
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22-Sep	14:23:17	0.02
22-Sep	14:24:17	0.02
22-Sep	14:25:17	0.02
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22-Sep	14:35:17	0.02
22-Sep	14:36:17	0.02
22-Sep	14:37:17	0.019
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22-Sep	14:39:17	0.021
22-Sep	14:40:17	0.02
22-Sep	14:41:17	0.021
22-Sep	14:42:17	0.02
22-Sep	14:43:17	0.021
22-Sep	14:44:17	0.021
22-Sep	14:45:17	0.023
22-Sep	14:46:17	0.021
25-Sep	11:21:11	0.027
25-Sep	11:22:11	0.027
25-Sep	11:23:11	0.03

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25-Sep	12:10:11	0.02

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25-Sep	12:46:11	0.02
25-Sep	12:47:11	0.019
25-Sep	12:48:11	0.02
25-Sep	12:49:11	0.021
25-Sep	12:50:11	0.018
25-Sep	12:51:11	0.021
25-Sep	12:52:11	0.02
25-Sep	12:53:11	0.019
25-Sep	12:54:11	0.018
25-Sep	12:55:11	0.021
25-Sep	12:56:11	0.019
25-Sep	12:57:11	0.019

25-Sep	12:58:11	0.018
25-Sep	12:59:11	0.021
25-Sep	13:00:11	0.02
25-Sep	13:01:11	0.019
25-Sep	13:02:11	0.03
25-Sep	13:03:11	0.022
25-Sep	13:04:11	0.028
25-Sep	13:05:11	0.02
25-Sep	13:06:11	0.017
25-Sep	13:07:11	0.018
25-Sep	13:08:11	0.018
25-Sep	13:09:11	0.019
25-Sep	13:10:11	0.018
25-Sep	13:11:11	0.019
25-Sep	13:12:11	0.019
25-Sep	13:13:11	0.018
25-Sep	13:14:11	0.023
25-Sep	13:15:11	0.02
25-Sep	13:16:11	0.021
25-Sep	13:17:11	0.02
25-Sep	13:18:11	0.02
25-Sep	13:19:11	0.02
25-Sep	13:20:11	0.02
25-Sep	13:21:11	0.02
25-Sep	13:22:11	0.02
25-Sep	13:23:11	0.019
25-Sep	13:24:11	0.021
25-Sep	13:25:11	0.019
25-Sep	13:26:11	0.019
25-Sep	13:27:11	0.02
25-Sep	13:28:11	0.02
25-Sep	13:29:11	0.021
25-Sep	13:30:11	0.024
25-Sep	13:31:11	0.025
25-Sep	13:32:11	0.019
25-Sep	13:33:11	0.024
25-Sep	13:34:11	0.088
25-Sep	13:35:11	0.037
25-Sep	13:36:11	0.124
25-Sep	13:37:11	0.033
25-Sep	13:38:11	0.022
25-Sep	13:39:11	0.022
25-Sep	13:40:11	0.03
25-Sep	13:41:11	0.02
25-Sep	13:42:11	0.02
25-Sep	13:43:11	0.025
25-Sep	13:44:11	0.021

25-Sep	13:45:11	0.02
25-Sep	13:46:11	0.02
25-Sep	13:47:11	0.023
25-Sep	13:48:11	0.021
25-Sep	13:49:11	0.021
25-Sep	13:50:11	0.022
25-Sep	13:51:11	0.021
25-Sep	13:52:11	0.023
25-Sep	13:53:11	0.031
25-Sep	13:54:11	0.033
25-Sep	13:55:11	0.033
25-Sep	13:56:11	0.023
25-Sep	13:57:11	0.364
25-Sep	13:58:11	0.143
25-Sep	13:59:11	0.03
25-Sep	14:00:11	0.022
25-Sep	14:01:11	0.025
25-Sep	14:02:11	0.021
25-Sep	14:03:11	0.022
25-Sep	14:04:11	0.086
25-Sep	14:05:11	0.027
25-Sep	14:06:11	0.021
25-Sep	14:07:11	0.021
25-Sep	14:08:11	0.024
25-Sep	14:09:11	0.022
25-Sep	14:10:11	0.028
25-Sep	14:11:11	0.043
25-Sep	14:12:11	0.044
25-Sep	14:13:11	0.022
25-Sep	14:14:11	0.025
25-Sep	14:15:11	0.021
25-Sep	14:16:11	0.021
25-Sep	14:17:11	0.024
26-Sep	07:33:41	0.082
26-Sep	07:34:41	0.056
26-Sep	07:35:41	0.045
26-Sep	07:36:41	0.055
26-Sep	07:37:41	0.095
26-Sep	07:38:41	1.294
26-Sep	07:39:41	0.988
26-Sep	07:40:41	0.717
26-Sep	07:41:41	0.046
26-Sep	07:42:41	0.047
26-Sep	07:43:41	0.055
26-Sep	07:44:41	0.05
26-Sep	07:45:41	0.055
26-Sep	07:46:41	0.067

26-Sep	07:47:41	0.054
26-Sep	07:48:41	0.065
26-Sep	07:49:41	0.047
26-Sep	07:50:41	0.067
26-Sep	07:51:41	0.057
26-Sep	07:52:41	0.05
26-Sep	07:53:41	0.046
26-Sep	07:54:41	0.068
26-Sep	07:55:41	0.105
26-Sep	07:56:41	0.829
26-Sep	07:57:41	0.381
26-Sep	07:58:41	0.438
26-Sep	07:59:41	0.138
26-Sep	08:00:41	0.07
26-Sep	08:01:41	0.105
26-Sep	08:02:41	0.104
26-Sep	08:03:41	0.095
26-Sep	08:04:41	0.085
26-Sep	08:05:41	0.077
26-Sep	08:06:41	0.074
26-Sep	08:07:41	0.072
26-Sep	08:08:41	0.065
26-Sep	08:09:41	0.067
26-Sep	08:10:41	0.071
26-Sep	08:11:41	0.074
26-Sep	08:12:41	0.062
26-Sep	08:13:41	0.063
26-Sep	08:14:41	0.063
26-Sep	08:15:41	0.061
26-Sep	08:16:41	0.052
26-Sep	08:17:41	0.055
26-Sep	08:18:41	0.057
26-Sep	08:19:41	0.06
26-Sep	08:20:41	0.055
26-Sep	08:21:41	0.06
26-Sep	08:22:41	0.054
26-Sep	08:23:41	0.057
26-Sep	08:24:41	0.044
26-Sep	08:25:41	0.05
26-Sep	08:26:41	0.054
26-Sep	08:27:41	0.047
26-Sep	08:28:41	0.062
26-Sep	08:29:41	0.052
26-Sep	08:30:41	0.04
26-Sep	08:31:41	0.044
26-Sep	08:32:41	0.041
26-Sep	08:33:41	0.045

26-Sep	08:34:41	0.056
26-Sep	08:35:41	0.046
26-Sep	08:36:41	0.05
26-Sep	08:37:41	0.042
26-Sep	08:38:41	0.043
26-Sep	08:39:41	0.04
26-Sep	08:40:41	0.047
26-Sep	08:41:41	0.043
26-Sep	08:42:41	0.04
26-Sep	08:43:41	0.039
26-Sep	08:44:41	0.042
26-Sep	08:45:41	0.042
26-Sep	08:46:41	0.04
26-Sep	08:47:41	0.042
26-Sep	08:48:41	0.04
26-Sep	08:49:41	0.039
26-Sep	08:50:41	0.041
26-Sep	08:51:41	0.041
26-Sep	08:52:41	0.039
26-Sep	08:53:41	0.037
26-Sep	08:54:41	0.042
26-Sep	08:55:41	0.038
26-Sep	08:56:41	0.036
26-Sep	08:57:41	0.038
26-Sep	08:58:41	0.039
26-Sep	08:59:41	0.038
26-Sep	09:00:41	0.037
26-Sep	09:01:41	0.04
26-Sep	09:02:41	0.036
26-Sep	09:03:41	0.034
26-Sep	09:04:41	0.036
26-Sep	09:05:41	0.036
26-Sep	09:06:41	0.037
26-Sep	09:07:41	0.035
26-Sep	09:08:41	0.029
26-Sep	09:09:41	0.034
26-Sep	09:10:41	0.034
26-Sep	09:11:41	0.032
26-Sep	09:12:41	0.033
26-Sep	09:13:41	0.041
26-Sep	09:14:41	0.035
26-Sep	09:15:41	0.031
26-Sep	09:16:41	0.03
26-Sep	09:17:41	0.031
26-Sep	09:18:41	0.034
26-Sep	09:19:41	0.031
26-Sep	09:20:41	0.029

26-Sep	09:21:41	0.032
26-Sep	09:22:41	0.03
26-Sep	09:23:41	0.033
26-Sep	09:24:41	0.03
26-Sep	09:25:41	0.031
26-Sep	09:26:41	0.031
26-Sep	09:27:41	0.032
26-Sep	09:28:41	0.032
26-Sep	09:29:41	0.028
26-Sep	09:30:41	0.03
26-Sep	09:31:41	0.036
26-Sep	09:32:41	0.028
26-Sep	09:33:41	0.034
26-Sep	09:34:41	0.032
26-Sep	09:35:41	0.032
26-Sep	09:36:41	0.031
26-Sep	09:37:41	0.038
26-Sep	09:38:41	0.035
26-Sep	09:39:41	0.033
26-Sep	09:40:41	0.036
26-Sep	09:41:41	0.033
26-Sep	09:42:41	0.038
26-Sep	09:43:41	0.034
26-Sep	09:44:41	0.033
26-Sep	09:45:41	0.033
26-Sep	09:46:41	0.035
26-Sep	09:47:41	0.03
26-Sep	09:48:41	0.032
26-Sep	09:49:41	0.032
26-Sep	09:50:41	0.03
26-Sep	09:51:41	0.03
26-Sep	09:52:41	0.031
26-Sep	09:53:41	0.033
26-Sep	09:54:41	0.031
26-Sep	09:55:41	0.03
26-Sep	09:56:41	0.031
26-Sep	09:57:41	0.033
26-Sep	09:58:41	0.034
26-Sep	09:59:41	0.032
26-Sep	10:00:41	0.033
26-Sep	10:01:41	0.034
26-Sep	10:02:41	0.035
26-Sep	10:03:41	0.034
26-Sep	10:04:41	0.03
26-Sep	10:05:41	0.031
26-Sep	10:06:41	0.032
26-Sep	10:07:41	0.033

26-Sep	10:08:41	0.032
26-Sep	10:09:41	0.031
26-Sep	10:10:41	0.032
26-Sep	10:11:41	0.032
26-Sep	10:12:41	0.03
26-Sep	10:13:41	0.034
26-Sep	10:14:41	0.033
26-Sep	10:15:41	0.03
26-Sep	10:16:41	0.03
26-Sep	10:17:41	0.029
26-Sep	10:18:41	0.028
26-Sep	10:19:41	0.034
26-Sep	10:20:41	0.031
26-Sep	10:21:41	0.029
26-Sep	10:22:41	0.028
26-Sep	10:23:41	0.028
26-Sep	10:24:41	0.03
26-Sep	10:25:41	0.028
26-Sep	10:26:41	0.027
26-Sep	10:27:41	0.027
26-Sep	10:28:41	0.028
26-Sep	10:29:41	0.03
26-Sep	10:30:41	0.029
26-Sep	10:31:41	0.029
26-Sep	10:32:41	0.029
26-Sep	10:33:41	0.03
26-Sep	10:34:41	0.031
26-Sep	10:35:41	0.038
26-Sep	10:36:41	0.037
26-Sep	10:37:41	0.037
26-Sep	10:38:41	0.032
26-Sep	10:39:41	0.029
26-Sep	10:40:41	0.085
26-Sep	10:41:41	0.099
26-Sep	10:42:41	0.032
26-Sep	10:43:41	0.03
26-Sep	10:44:41	0.033
26-Sep	10:45:41	0.028
26-Sep	10:46:41	0.03
26-Sep	10:47:41	0.049
26-Sep	10:48:41	0.565
26-Sep	10:49:41	0.111
26-Sep	10:50:41	0.091

Date	Time	Average (mg/m^3)
8-Sep	07:55:32	0.121
8-Sep	07:56:32	0.091
8-Sep	07:57:32	0.062
8-Sep	07:58:32	0.039
8-Sep	07:59:32	0.032
8-Sep	08:00:32	0.029
8-Sep	08:01:32	0.036
8-Sep	08:02:32	0.044
8-Sep	08:03:32	0.041
8-Sep	08:04:32	0.041
8-Sep	08:05:32	0.047
8-Sep	08:06:32	0.038
8-Sep	08:07:32	0.037
8-Sep	08:08:32	0.069
8-Sep	08:09:32	0.049
8-Sep	08:10:32	0.046
8-Sep	08:11:32	0.042
8-Sep	08:12:32	0.04
8-Sep	08:13:32	0.041
8-Sep	08:14:32	0.061
8-Sep	08:15:32	0.043
8-Sep	08:16:32	0.05
8-Sep	08:17:32	0.049
8-Sep	08:18:32	0.047
8-Sep	08:19:32	0.043
8-Sep	08:20:32	0.045
8-Sep	08:21:32	0.045
8-Sep	08:22:32	0.046
8-Sep	08:23:32	0.043
8-Sep	08:24:32	0.042
8-Sep	08:25:32	0.042
8-Sep	08:26:32	0.042
8-Sep	08:27:32	0.041
8-Sep	08:28:32	0.041
8-Sep	08:29:32	0.043
8-Sep	08:30:32	0.047
8-Sep	08:31:32	0.044
8-Sep	08:32:32	0.045
8-Sep	08:33:32	0.045
8-Sep	08:34:32	0.044
8-Sep	08:35:32	0.044
8-Sep	08:36:32	0.043
8-Sep	08:37:32	0.043
8-Sep	08:38:32	0.042
8-Sep	08:39:32	0.048
8-Sep	08:40:32	0.046

8-Sep	08:41:32	0.051
8-Sep	08:42:32	0.049
8-Sep	08:43:32	0.049
8-Sep	08:44:32	0.05
8-Sep	08:45:32	0.048
8-Sep	08:46:32	0.048
8-Sep	08:47:32	0.048
8-Sep	08:48:32	0.047
8-Sep	08:49:32	0.048
8-Sep	08:50:32	2.375
8-Sep	08:51:32	0.279
8-Sep	08:52:32	0.092
8-Sep	08:53:32	0.048
8-Sep	08:54:32	0.049
8-Sep	08:55:32	0.053
8-Sep	08:56:32	0.051
8-Sep	08:57:32	0.05
8-Sep	08:58:32	0.046
8-Sep	08:59:32	0.046
8-Sep	09:00:32	0.048
8-Sep	09:01:32	0.048
8-Sep	09:02:32	0.05
8-Sep	09:03:32	0.046
8-Sep	09:04:32	0.052
8-Sep	09:05:32	0.051
8-Sep	09:06:32	0.053
8-Sep	09:07:32	0.056
8-Sep	09:08:32	0.053
8-Sep	09:09:32	0.057
8-Sep	09:10:32	0.057
8-Sep	09:11:32	0.052
8-Sep	09:12:32	0.054
8-Sep	09:13:32	0.053
8-Sep	09:14:32	0.052
8-Sep	09:15:32	0.052
8-Sep	09:16:32	0.052
8-Sep	09:17:32	0.051
8-Sep	09:18:32	0.051
8-Sep	09:19:32	0.054
8-Sep	09:20:32	0.052
8-Sep	09:21:32	0.05
8-Sep	09:22:32	0.05
8-Sep	09:23:32	0.05
8-Sep	09:24:32	0.055
8-Sep	09:25:32	0.052
8-Sep	09:26:32	0.052
8-Sep	09:27:32	0.052

8-Sep	09:28:32	0.05
8-Sep	09:29:32	0.05
8-Sep	09:30:32	0.053
8-Sep	09:31:32	0.051
8-Sep	09:32:32	0.048
8-Sep	09:33:32	0.045
8-Sep	09:34:32	0.045
8-Sep	09:35:32	0.047
8-Sep	09:36:32	0.044
8-Sep	09:37:32	0.044
8-Sep	09:38:32	0.043
8-Sep	09:39:32	0.042
8-Sep	09:40:32	0.044
8-Sep	09:41:32	0.034
8-Sep	09:42:32	0.037
8-Sep	09:43:32	0.031
8-Sep	09:44:32	0.037
8-Sep	09:45:32	0.027
8-Sep	09:46:32	0.027
8-Sep	09:47:32	0.025
8-Sep	09:48:32	0.026
8-Sep	09:49:32	0.023
8-Sep	09:50:32	0.022
8-Sep	09:51:32	0.02
8-Sep	09:52:32	0.017
8-Sep	09:53:32	0.016
8-Sep	09:54:32	0.014
8-Sep	09:55:32	0.016
8-Sep	09:56:32	0.015
8-Sep	09:57:32	0.016
8-Sep	09:58:32	0.016
8-Sep	09:59:32	0.015
8-Sep	10:00:32	0.015
8-Sep	10:01:32	0.015
8-Sep	10:02:32	0.015
8-Sep	10:03:32	0.016
8-Sep	10:04:32	0.018
8-Sep	10:05:32	0.015
8-Sep	10:06:32	0.016
8-Sep	10:07:32	0.015
8-Sep	10:08:32	0.015
8-Sep	10:09:32	0.019
8-Sep	10:10:32	0.021
8-Sep	10:11:32	0.022
8-Sep	10:12:32	0.021
8-Sep	10:13:32	0.021
8-Sep	10:14:32	0.02

8-Sep	10:15:32	0.018
8-Sep	10:16:32	0.018
8-Sep	10:17:32	0.017
8-Sep	10:18:32	0.019
8-Sep	10:19:32	0.019
8-Sep	10:20:32	0.018
8-Sep	10:21:32	0.018
8-Sep	10:22:32	0.018
8-Sep	10:23:32	0.018
8-Sep	10:24:32	0.016
8-Sep	10:25:32	0.013
8-Sep	10:26:32	0.015
8-Sep	10:27:32	0.015
8-Sep	10:28:32	0.015
8-Sep	10:29:32	0.016
8-Sep	10:30:32	0.015
8-Sep	10:31:32	0.016
8-Sep	10:32:32	0.016
8-Sep	10:33:32	0.016
8-Sep	10:34:32	0.015
8-Sep	10:35:32	0.015
8-Sep	10:36:32	0.016
8-Sep	10:37:32	0.016
8-Sep	10:38:32	0.015
8-Sep	10:39:32	0.015
8-Sep	10:40:32	0.015
8-Sep	10:41:32	0.016
8-Sep	10:42:32	0.014
8-Sep	10:43:32	0.021
8-Sep	10:44:32	0.014
8-Sep	10:45:32	0.014
8-Sep	10:46:32	0.015
8-Sep	10:47:32	0.015
8-Sep	10:48:32	0.013
8-Sep	10:49:32	0.014
8-Sep	10:50:32	0.014
8-Sep	10:51:32	0.013
8-Sep	10:52:32	0.013
8-Sep	10:53:32	0.015
8-Sep	10:54:32	0.016
8-Sep	10:55:32	0.014
8-Sep	10:56:32	0.013
8-Sep	10:57:32	0.018
8-Sep	10:58:32	0.013
8-Sep	10:59:32	0.014
8-Sep	11:00:32	0.014
8-Sep	11:01:32	0.013

8-Sep	11:02:32	0.013
8-Sep	11:03:32	0.013
8-Sep	11:04:32	0.014
8-Sep	11:05:32	0.014
8-Sep	11:06:32	0.014
8-Sep	11:07:32	0.013
8-Sep	11:08:32	0.012
8-Sep	11:09:32	0.013
8-Sep	11:10:32	0.011
8-Sep	11:11:32	0.012
8-Sep	11:12:32	0.012
8-Sep	11:13:32	0.013
8-Sep	11:14:32	0.013
8-Sep	11:15:32	0.014
8-Sep	11:16:32	0.014
8-Sep	11:17:32	0.016
8-Sep	11:18:32	0.015
8-Sep	11:19:32	0.017
8-Sep	11:20:32	0.016
8-Sep	11:21:32	0.016
8-Sep	11:22:32	0.016
8-Sep	11:23:32	0.014
8-Sep	11:24:32	0.013
8-Sep	11:25:32	0.013
8-Sep	11:26:32	0.014
8-Sep	11:27:32	0.014
8-Sep	11:28:32	0.015
8-Sep	11:29:32	0.015
8-Sep	11:30:32	0.015
8-Sep	11:31:32	0.015
8-Sep	11:32:32	0.013
8-Sep	11:33:32	0.014
8-Sep	11:34:32	0.013
8-Sep	11:35:32	0.014
8-Sep	11:36:32	0.015
8-Sep	11:37:32	0.014
8-Sep	11:38:32	0.014
8-Sep	11:39:32	0.013
8-Sep	11:40:32	0.014
8-Sep	11:41:32	0.014
8-Sep	11:42:32	0.013
8-Sep	11:43:32	0.012
8-Sep	11:44:32	0.013
8-Sep	11:45:32	0.012
8-Sep	11:46:32	0.011
8-Sep	11:47:32	0.012
8-Sep	11:48:32	0.014

8-Sep	11:49:32	0.011
8-Sep	11:50:32	0.014
8-Sep	11:51:32	0.015
8-Sep	11:52:32	0.016
8-Sep	11:53:32	0.017
8-Sep	11:54:32	0.016
8-Sep	11:55:32	0.015
8-Sep	11:56:32	0.016
8-Sep	11:57:32	0.019
8-Sep	11:58:32	0.022
8-Sep	11:59:32	0.023
8-Sep	12:00:32	0.028
8-Sep	12:01:32	0.028
8-Sep	12:02:32	0.034
8-Sep	12:03:32	0.03
8-Sep	12:04:32	0.038
8-Sep	12:05:32	0.042
8-Sep	12:06:32	0.035
8-Sep	12:07:32	0.049
8-Sep	12:08:32	0.055
8-Sep	12:09:32	0.045
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8-Sep	12:13:32	0.048
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8-Sep	12:15:32	0.058
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8-Sep	12:20:32	0.095
8-Sep	12:21:32	0.122
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8-Sep	12:24:32	0.109
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8-Sep	12:26:32	0.111
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8-Sep	12:29:32	0.218
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8-Sep	12:35:32	0.219

8-Sep	12:36:32	0.218
8-Sep	12:37:32	0.206
8-Sep	12:38:32	0.229
8-Sep	12:39:32	0.256
8-Sep	12:40:32	0.22
8-Sep	12:41:32	0.18
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8-Sep	12:43:32	0.099
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8-Sep	12:46:14	0.088
8-Sep	12:47:14	0.092
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8-Sep	12:52:14	0.056
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8-Sep	12:55:14	0.046
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8-Sep	12:57:14	0.042
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8-Sep	12:59:14	0.037
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8-Sep	13:03:14	0.036
8-Sep	13:04:14	0.037
8-Sep	13:05:14	0.037
8-Sep	13:06:14	0.04
8-Sep	13:07:14	0.047
8-Sep	13:08:14	0.045
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8-Sep	13:10:14	0.045
8-Sep	13:11:14	0.05
8-Sep	13:12:14	0.068
8-Sep	13:13:14	0.085
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8-Sep	13:16:14	0.141
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8-Sep	13:18:14	0.155
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8-Sep	13:21:14	0.121
8-Sep	13:22:14	0.126
8-Sep	13:23:14	0.093

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8-Sep	13:55:14	0.126
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8-Sep	14:10:14	0.126

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8-Sep	15:50:14	0.091
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11-Sep	13:37:10	0.015
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12-Sep	08:28:09	0.034

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12-Sep	14:24:09	0.026
12-Sep	14:25:09	0.021
12-Sep	14:26:09	0.023
12-Sep	14:27:09	0.028
12-Sep	14:28:09	0.024
12-Sep	14:29:09	0.027
12-Sep	14:30:09	0.025
12-Sep	14:31:09	0.034
12-Sep	14:32:09	0.022
12-Sep	14:33:09	0.025
12-Sep	14:34:09	0.021
12-Sep	14:35:09	0.025
12-Sep	14:36:09	0.025
12-Sep	14:37:09	0.027
12-Sep	14:38:09	0.024
12-Sep	14:39:09	0.023
12-Sep	14:40:09	0.021
12-Sep	14:41:09	0.027
12-Sep	14:42:09	0.023
12-Sep	14:43:09	0.021
12-Sep	14:44:09	0.024

12-Sep	14:45:09	0.033
12-Sep	14:46:09	0.029
12-Sep	14:47:09	0.035
12-Sep	14:48:09	0.04
12-Sep	14:49:09	0.084
12-Sep	14:50:09	0.042
12-Sep	14:51:09	0.044
12-Sep	14:52:09	0.042
12-Sep	14:53:09	0.044
12-Sep	14:54:09	0.045
12-Sep	14:55:09	0.049
12-Sep	14:56:09	0.047
12-Sep	14:57:09	0.048
12-Sep	14:58:09	0.052
12-Sep	14:59:09	0.081
13-Sep	07:23:49	0.027
13-Sep	07:24:49	0.024
13-Sep	07:25:49	0.022
13-Sep	07:26:49	0.022
13-Sep	07:27:49	0.022
13-Sep	07:28:49	0.021
13-Sep	07:29:49	0.02
13-Sep	07:30:49	0.026
13-Sep	07:31:49	0.022
13-Sep	07:32:49	0.021
13-Sep	07:33:49	0.021
13-Sep	07:34:49	0.02
13-Sep	07:35:49	0.02
13-Sep	07:36:49	0.02
13-Sep	07:37:49	0.02
13-Sep	07:38:49	0.02
13-Sep	07:39:49	0.02
13-Sep	07:40:49	0.02
13-Sep	07:41:49	0.019
13-Sep	07:42:49	0.02
13-Sep	07:43:49	0.02
13-Sep	07:44:49	0.02
13-Sep	07:45:49	0.02
13-Sep	07:46:49	0.02
13-Sep	07:47:49	0.02
13-Sep	07:48:49	0.021
13-Sep	07:49:49	0.019
13-Sep	07:50:49	0.02
13-Sep	07:51:49	0.02
13-Sep	07:52:49	0.02
13-Sep	07:53:49	0.019
13-Sep	07:54:49	0.018

13-Sep	07:55:49	0.018
13-Sep	07:56:49	0.021
13-Sep	07:57:49	0.019
13-Sep	07:58:49	0.02
13-Sep	07:59:49	0.02
13-Sep	08:00:49	0.019
13-Sep	08:01:49	0.02
13-Sep	08:02:49	0.021
13-Sep	08:03:49	0.021
13-Sep	08:04:49	0.021
13-Sep	08:05:49	0.021
13-Sep	08:06:49	0.02
13-Sep	08:07:49	0.021
13-Sep	08:08:49	0.021
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13-Sep	08:14:49	0.023
13-Sep	08:15:49	0.022
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13-Sep	08:19:49	0.022
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13-Sep	08:22:49	0.023
13-Sep	08:23:49	0.022
13-Sep	08:24:49	0.022
13-Sep	08:25:49	0.023
13-Sep	08:26:49	0.024
13-Sep	08:27:49	0.022
13-Sep	08:28:49	0.021
13-Sep	08:29:49	0.02
13-Sep	08:30:49	0.021
13-Sep	08:31:49	0.021
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13-Sep	08:33:49	0.02
13-Sep	08:34:49	0.02
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13-Sep	08:38:49	0.019
13-Sep	08:39:49	0.019
13-Sep	08:40:49	0.019
13-Sep	08:41:49	0.018

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13-Sep	08:43:49	0.021
13-Sep	08:44:49	0.02
13-Sep	08:45:49	0.025
13-Sep	08:46:49	0.02
13-Sep	08:47:49	0.019
13-Sep	08:48:49	0.019
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13-Sep	08:54:49	0.018
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13-Sep	09:04:49	0.018
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13-Sep	10:08:49	0.022
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13-Sep	10:10:49	0.021
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13-Sep	10:12:49	0.018
13-Sep	10:13:49	0.018
13-Sep	10:14:49	0.018
13-Sep	10:15:49	0.019

13-Sep	10:16:49	0.02
13-Sep	10:17:49	0.021
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13-Sep	10:22:49	0.019
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13-Sep	10:38:49	0.021
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13-Sep	11:02:49	0.028

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13-Sep	11:04:49	0.023
13-Sep	11:05:49	0.025
13-Sep	11:06:49	0.031
13-Sep	11:07:49	0.025
14-Sep	09:55:37	0.274
14-Sep	09:56:37	0.26
14-Sep	09:57:37	0.251
14-Sep	09:58:37	0.228
14-Sep	09:59:37	0.235
14-Sep	10:00:37	0.228
14-Sep	10:01:37	0.231
14-Sep	10:02:37	0.241
14-Sep	10:03:37	0.235
14-Sep	10:04:37	0.249
14-Sep	10:05:37	0.246
14-Sep	10:06:37	0.239
14-Sep	10:07:37	0.238
14-Sep	10:08:37	0.226
14-Sep	10:09:37	0.189
14-Sep	10:10:37	0.213
14-Sep	10:11:37	0.191
14-Sep	10:12:37	0.202
14-Sep	10:13:37	0.207
14-Sep	10:14:37	0.206
14-Sep	10:15:37	0.209
14-Sep	10:16:37	0.224
14-Sep	10:17:37	0.233
14-Sep	10:18:37	0.236
14-Sep	10:19:37	0.236
14-Sep	10:20:37	0.229
14-Sep	10:21:37	0.219
14-Sep	10:22:37	0.212
14-Sep	10:23:37	0.2
14-Sep	10:24:37	0.196
14-Sep	10:25:37	0.191
14-Sep	10:26:37	0.197
14-Sep	10:27:37	0.179
14-Sep	10:28:37	0.198
14-Sep	10:29:37	0.178
14-Sep	10:30:37	0.211
14-Sep	10:31:37	0.233
14-Sep	10:32:37	0.236
14-Sep	10:33:37	0.249
14-Sep	10:34:37	0.269
14-Sep	10:35:37	0.273
14-Sep	10:36:37	0.269

14-Sep	10:37:37	0.27
14-Sep	10:38:37	0.267
14-Sep	10:39:37	0.264
14-Sep	10:40:37	0.276
14-Sep	10:41:37	0.264
14-Sep	10:42:37	0.266
14-Sep	10:43:37	0.245
14-Sep	10:44:37	0.225
14-Sep	10:45:37	0.192
14-Sep	10:46:37	0.142
14-Sep	10:47:37	0.121
14-Sep	10:48:37	0.138
14-Sep	10:49:37	0.121
14-Sep	10:50:37	0.126
14-Sep	10:51:37	0.137
14-Sep	10:52:37	0.107
14-Sep	10:53:37	0.094
14-Sep	10:54:37	0.076
14-Sep	10:55:37	0.081
14-Sep	10:56:37	0.079
14-Sep	10:57:37	0.082
14-Sep	10:58:37	0.086
14-Sep	10:59:37	0.081
14-Sep	11:00:37	0.073
14-Sep	11:01:37	0.088
14-Sep	11:02:37	0.103
14-Sep	11:03:37	0.092
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14-Sep	11:05:37	0.096
14-Sep	11:06:37	0.099
14-Sep	11:07:37	0.102
14-Sep	11:08:37	0.156
14-Sep	11:09:37	0.192
14-Sep	11:10:37	0.179
14-Sep	11:11:37	0.167
14-Sep	11:12:37	0.12
14-Sep	11:13:37	0.117
14-Sep	11:14:37	0.104
14-Sep	11:15:37	0.089
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14-Sep	11:17:37	0.088
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14-Sep	11:22:37	0.069
14-Sep	11:23:37	0.084

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14-Sep	11:26:37	0.061
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14-Sep	11:28:37	0.061
14-Sep	11:29:37	0.065
14-Sep	11:30:37	0.056
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14-Sep	11:32:37	0.053
14-Sep	11:33:37	0.058
14-Sep	11:34:37	0.066
14-Sep	11:35:37	0.051
14-Sep	11:36:37	0.056
14-Sep	11:37:37	0.051
14-Sep	11:38:37	0.05
14-Sep	11:39:37	0.063
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14-Sep	11:52:37	0.068
14-Sep	11:53:37	0.073
14-Sep	11:54:37	0.083
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14-Sep	11:56:37	0.087
14-Sep	11:57:37	0.072
14-Sep	11:58:37	0.058
14-Sep	11:59:37	0.05
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14-Sep	12:07:37	0.031
14-Sep	12:08:37	0.037
14-Sep	12:09:37	0.036
14-Sep	12:10:37	0.033

14-Sep	12:11:37	0.035
14-Sep	12:12:37	0.033
14-Sep	12:13:37	0.031
14-Sep	12:14:37	0.035
14-Sep	12:15:37	0.034
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14-Sep	12:17:37	0.034
14-Sep	12:18:37	0.036
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14-Sep	12:21:37	0.033
14-Sep	12:22:37	0.034
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14-Sep	12:34:37	0.044
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14-Sep	12:38:37	0.036
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14-Sep	12:53:37	0.032
14-Sep	12:54:37	0.033
14-Sep	12:55:37	0.031
14-Sep	12:56:37	0.035
14-Sep	12:57:37	0.033

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14-Sep	13:07:37	0.033
14-Sep	13:08:37	0.033
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14-Sep	13:11:37	0.03
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14-Sep	13:13:37	0.03
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14-Sep	13:42:37	0.03
14-Sep	13:43:37	0.03
14-Sep	13:44:37	0.03

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15-Sep	10:14:47	0.149
15-Sep	10:15:47	0.128
15-Sep	10:16:47	0.123
15-Sep	10:17:47	0.114
15-Sep	10:18:47	0.166
15-Sep	10:19:47	0.142
15-Sep	10:20:47	0.134
15-Sep	10:21:47	0.189
15-Sep	10:22:47	0.167
15-Sep	10:23:47	0.125
15-Sep	10:24:47	0.12
15-Sep	10:25:47	0.132
15-Sep	10:26:47	0.137
15-Sep	10:27:47	0.122
15-Sep	10:28:47	0.169
15-Sep	10:29:47	0.103
15-Sep	10:30:47	0.084
15-Sep	10:31:47	0.085
15-Sep	10:32:47	0.071
15-Sep	10:33:47	0.031
15-Sep	10:34:47	0.047
15-Sep	10:35:47	0.056
15-Sep	10:36:47	0.052
15-Sep	10:37:47	0.041
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15-Sep	10:39:47	0.033
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15-Sep	10:47:47	0.043

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15-Sep	10:51:47	0.061
15-Sep	10:52:47	0.084
15-Sep	10:53:47	0.102
15-Sep	10:54:47	0.057
15-Sep	10:55:47	0.068
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15-Sep	10:57:47	0.034
15-Sep	10:58:47	0.037
15-Sep	10:59:47	0.027
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15-Sep	11:01:47	0.041
15-Sep	11:02:47	0.04
15-Sep	11:03:47	0.046
15-Sep	11:04:47	0.044
15-Sep	11:05:47	0.043
15-Sep	11:06:47	0.041
15-Sep	11:07:47	0.026
15-Sep	11:08:47	0.03
15-Sep	11:09:47	0.034
15-Sep	11:10:47	0.027
15-Sep	11:11:47	0.024
15-Sep	11:12:47	0.029
15-Sep	11:13:47	0.017
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15-Sep	11:15:47	0.021
15-Sep	11:16:47	0.02
15-Sep	11:17:47	0.022
15-Sep	11:18:47	0.021
15-Sep	11:19:47	0.021
15-Sep	11:20:47	0.021
15-Sep	11:21:47	0.027
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15-Sep	11:23:47	0.021
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15-Sep	11:25:47	0.019
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15-Sep	11:34:47	0.012

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15-Sep	11:36:47	0.014
15-Sep	11:37:47	0.012
15-Sep	11:38:47	0.013
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15-Sep	11:43:47	0.014
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15-Sep	11:45:47	0.012
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15-Sep	11:52:47	0.013
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15-Sep	11:59:47	0.013
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15-Sep	12:17:47	0.184
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15-Sep	12:30:47	0.072
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15-Sep	12:32:47	0.01
15-Sep	12:33:47	0.015
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15-Sep	12:35:47	0.07
15-Sep	12:36:47	0.027
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15-Sep	12:58:47	0.017
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15-Sep	13:00:47	0.01
15-Sep	13:01:47	0.012
15-Sep	13:02:47	0.01
15-Sep	13:03:47	0.014
15-Sep	13:04:47	0.01
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21-Sep	09:59:34	0.014

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21-Sep	14:59:34	0.026
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21-Sep	15:01:34	0.024
21-Sep	15:02:34	0.025
21-Sep	15:03:34	0.025
21-Sep	15:04:34	0.023
21-Sep	15:05:34	0.021
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22-Sep	07:38:55	0.224
22-Sep	07:39:55	0.2
22-Sep	07:40:55	0.154
22-Sep	07:41:55	0.068
22-Sep	07:42:55	0.062
22-Sep	07:43:55	0.063
22-Sep	07:44:55	0.051
22-Sep	07:45:55	0.046
22-Sep	07:46:55	0.031
22-Sep	07:47:55	0.033
22-Sep	07:48:55	0.036
22-Sep	07:49:55	0.044
22-Sep	07:50:55	0.041
22-Sep	07:51:55	0.049
22-Sep	07:52:55	0.043
22-Sep	07:53:55	0.045
22-Sep	07:54:55	0.035
22-Sep	07:55:55	0.037
22-Sep	07:56:55	0.035
22-Sep	07:57:55	0.037
22-Sep	07:58:55	0.034
22-Sep	07:59:55	0.031

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22-Sep	08:03:55	0.03
22-Sep	08:04:55	0.034
22-Sep	08:05:55	0.03
22-Sep	08:06:55	0.032
22-Sep	08:07:55	0.026
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22-Sep	08:34:55	0.029
22-Sep	08:35:55	0.029
22-Sep	08:36:55	0.031
22-Sep	08:37:55	0.029
22-Sep	08:38:55	0.03
22-Sep	08:39:55	0.03
22-Sep	08:40:55	0.03
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22-Sep	09:22:55	0.245
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22-Sep	09:25:55	0.26
22-Sep	09:26:55	0.225
22-Sep	09:27:55	0.197
22-Sep	09:28:55	0.168
22-Sep	09:29:55	0.142
22-Sep	09:30:55	0.14
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22-Sep	09:33:55	0.09

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22-Sep	09:38:55	0.091
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25-Sep	12:35:33	0.012
25-Sep	12:36:33	0.011
25-Sep	12:37:33	0.012
25-Sep	12:38:33	0.012
25-Sep	12:39:33	0.012
25-Sep	12:40:33	0.011
25-Sep	12:41:33	0.011
25-Sep	12:42:33	0.011
25-Sep	12:43:33	0.012
25-Sep	12:44:33	0.011
25-Sep	12:45:33	0.017
25-Sep	12:46:33	0.011
25-Sep	12:47:33	0.012
25-Sep	12:48:33	0.013
25-Sep	12:49:33	0.011
25-Sep	12:50:33	0.012
25-Sep	12:51:33	0.011
25-Sep	12:52:33	0.012
25-Sep	12:53:33	0.012
25-Sep	12:54:33	0.011
25-Sep	12:55:33	0.011
25-Sep	12:56:33	0.011
25-Sep	12:57:33	0.011
25-Sep	12:58:33	0.011
25-Sep	12:59:33	0.011
25-Sep	13:00:33	0.011
25-Sep	13:01:33	0.01
25-Sep	13:02:33	0.011
25-Sep	13:03:33	0.011
25-Sep	13:04:33	0.012
25-Sep	13:05:33	0.01
25-Sep	13:06:33	0.011
25-Sep	13:07:33	0.01
25-Sep	13:08:33	0.012
25-Sep	13:09:33	0.009
25-Sep	13:10:33	0.011
25-Sep	13:11:33	0.01

25-Sep	13:12:33	0.012
25-Sep	13:13:33	0.011
25-Sep	13:14:33	0.011
25-Sep	13:15:33	0.011
25-Sep	13:16:33	0.012
25-Sep	13:17:33	0.01
25-Sep	13:18:33	0.013
25-Sep	13:19:33	0.013
25-Sep	13:20:33	0.011
25-Sep	13:21:33	0.011
25-Sep	13:22:33	0.012
25-Sep	13:23:33	0.012
25-Sep	13:24:33	0.012
25-Sep	13:25:33	0.012
25-Sep	13:26:33	0.012
25-Sep	13:27:33	0.012
25-Sep	13:28:33	0.011
25-Sep	13:29:33	0.011
25-Sep	13:30:33	0.011
25-Sep	13:31:33	0.012
25-Sep	13:32:33	0.012
25-Sep	13:33:33	0.012
25-Sep	13:34:33	0.011
25-Sep	13:35:33	0.012
25-Sep	13:36:33	0.012
25-Sep	13:37:33	0.014
25-Sep	13:38:33	0.014
25-Sep	13:39:33	0.015
25-Sep	13:40:33	0.012
25-Sep	13:41:33	0.012
25-Sep	13:42:33	0.013
25-Sep	13:43:33	0.012
25-Sep	13:44:33	0.016
25-Sep	13:45:33	0.013
25-Sep	13:46:33	0.013
25-Sep	13:47:33	0.015
25-Sep	13:48:33	0.018
25-Sep	13:49:33	0.014
25-Sep	13:50:33	0.016
25-Sep	13:51:33	0.014
25-Sep	13:52:33	0.013
25-Sep	13:53:33	0.015
25-Sep	13:54:33	0.013
25-Sep	13:55:33	0.014
25-Sep	13:56:33	0.016
25-Sep	13:57:33	0.012
25-Sep	13:58:33	0.012

25-Sep	13:59:33	0.011
25-Sep	14:00:33	0.011
25-Sep	14:01:33	0.011
25-Sep	14:02:33	0.012
25-Sep	14:03:33	0.011
25-Sep	14:04:33	0.012
25-Sep	14:05:33	0.035
25-Sep	14:06:33	0.432
25-Sep	14:07:33	1.281
25-Sep	14:08:33	0.017
25-Sep	14:09:33	0.019
25-Sep	14:10:33	0.029
25-Sep	14:11:33	0.121
25-Sep	14:12:33	0.056
25-Sep	14:13:33	0.014
25-Sep	14:14:33	0.012
25-Sep	14:15:33	0.012
25-Sep	14:16:33	0.012
25-Sep	14:17:33	0.013
25-Sep	14:18:33	0.012
26-Sep	07:37:25	0.044
26-Sep	07:38:25	0.14
26-Sep	07:39:25	9.78
26-Sep	07:40:25	3.775
26-Sep	07:41:25	1.093
26-Sep	07:42:25	0.252
26-Sep	07:43:25	0.3
26-Sep	07:44:25	0.226
26-Sep	07:45:25	0.312
26-Sep	07:46:25	0.293
26-Sep	07:47:25	0.259
26-Sep	07:48:25	0.263
26-Sep	07:49:25	0.162
26-Sep	07:50:25	0.117
26-Sep	07:51:25	0.072
26-Sep	07:52:25	0.046
26-Sep	07:53:25	0.035
26-Sep	07:54:25	0.036
26-Sep	07:55:25	0.038
26-Sep	07:56:25	0.044
26-Sep	07:57:25	0.041
26-Sep	07:58:25	0.042
26-Sep	07:59:25	0.04
26-Sep	08:00:25	0.047
26-Sep	08:01:25	0.037
26-Sep	08:02:25	0.056
26-Sep	08:03:25	0.052

26-Sep	08:04:25	0.062
26-Sep	08:05:25	0.055
26-Sep	08:06:25	0.048
26-Sep	08:07:25	0.051
26-Sep	08:08:25	0.052
26-Sep	08:09:25	0.038
26-Sep	08:10:25	0.045
26-Sep	08:11:25	0.046
26-Sep	08:12:25	0.048
26-Sep	08:13:25	0.067
26-Sep	08:14:25	0.048
26-Sep	08:15:25	0.052
26-Sep	08:16:25	0.046
26-Sep	08:17:25	0.045
26-Sep	08:18:25	0.038
26-Sep	08:19:25	0.046
26-Sep	08:20:25	0.036
26-Sep	08:21:25	0.042
26-Sep	08:22:25	0.042
26-Sep	08:23:25	0.037
26-Sep	08:24:25	0.037
26-Sep	08:25:25	0.039
26-Sep	08:26:25	0.043
26-Sep	08:27:25	0.038
26-Sep	08:28:25	0.04
26-Sep	08:29:25	0.041
26-Sep	08:30:25	0.032
26-Sep	08:31:25	0.034
26-Sep	08:32:25	0.032
26-Sep	08:33:25	0.034
26-Sep	08:34:25	0.033
26-Sep	08:35:25	0.03
26-Sep	08:36:25	0.033
26-Sep	08:37:25	0.051
26-Sep	08:38:25	0.031
26-Sep	08:39:25	0.043
26-Sep	08:40:25	0.031
26-Sep	08:41:25	0.043
26-Sep	08:42:25	0.03
26-Sep	08:43:25	0.03
26-Sep	08:44:25	0.031
26-Sep	08:45:25	0.031
26-Sep	08:46:25	0.029
26-Sep	08:47:25	0.032
26-Sep	08:48:25	0.034
26-Sep	08:49:25	0.033
26-Sep	08:50:25	0.037

26-Sep	08:51:25	0.029
26-Sep	08:52:25	0.033
26-Sep	08:53:25	0.038
26-Sep	08:54:25	0.038
26-Sep	08:55:25	0.034
26-Sep	08:56:25	0.036
26-Sep	08:57:25	0.037
26-Sep	08:58:25	0.032
26-Sep	08:59:25	0.04
26-Sep	09:00:25	0.044
26-Sep	09:01:25	0.042
26-Sep	09:02:25	0.04
26-Sep	09:03:25	0.05
26-Sep	09:04:25	0.06
26-Sep	09:05:25	0.076
26-Sep	09:06:25	0.103
26-Sep	09:07:25	0.147
26-Sep	09:08:25	0.248
26-Sep	09:09:25	0.216
26-Sep	09:10:25	0.122
26-Sep	09:11:25	0.118
26-Sep	09:12:25	0.101
26-Sep	09:13:25	0.1
26-Sep	09:14:25	0.088
26-Sep	09:15:25	0.079
26-Sep	09:16:25	0.09
26-Sep	09:17:25	0.048
26-Sep	09:18:25	0.036
26-Sep	09:19:25	0.03
26-Sep	09:20:25	0.026
26-Sep	09:21:25	0.027
26-Sep	09:22:25	0.023
26-Sep	09:23:25	0.027
26-Sep	09:24:25	0.026
26-Sep	09:25:25	0.023
26-Sep	09:26:25	0.022
26-Sep	09:27:25	0.02
26-Sep	09:28:25	0.022
26-Sep	09:29:25	0.021
26-Sep	09:30:25	0.023
26-Sep	09:31:25	0.021
26-Sep	09:32:25	0.022
26-Sep	09:33:25	0.021
26-Sep	09:34:25	0.024
26-Sep	09:35:25	0.023
26-Sep	09:36:25	0.024
26-Sep	09:37:25	0.025

26-Sep	09:38:25	0.027
26-Sep	09:39:25	0.031
26-Sep	09:40:25	0.025
26-Sep	09:41:25	0.026
26-Sep	09:42:25	0.025
26-Sep	09:43:25	0.023
26-Sep	09:44:25	0.026
26-Sep	09:45:25	0.024
26-Sep	09:46:25	0.023
26-Sep	09:47:25	0.025
26-Sep	09:48:25	0.024
26-Sep	09:49:25	0.02
26-Sep	09:50:25	0.027
26-Sep	09:51:25	0.025
26-Sep	09:52:25	0.023
26-Sep	09:53:25	0.023
26-Sep	09:54:25	0.024
26-Sep	09:55:25	0.021
26-Sep	09:56:25	0.022
26-Sep	09:57:25	0.025
26-Sep	09:58:25	0.022
26-Sep	09:59:25	0.02
26-Sep	10:00:25	0.021
26-Sep	10:01:25	0.023
26-Sep	10:02:25	0.025
26-Sep	10:03:25	0.022
26-Sep	10:04:25	0.023
26-Sep	10:05:25	0.023
26-Sep	10:06:25	0.023
26-Sep	10:07:25	0.03
26-Sep	10:08:25	0.022
26-Sep	10:09:25	0.024
26-Sep	10:10:25	0.023
26-Sep	10:11:25	0.022
26-Sep	10:12:25	0.021
26-Sep	10:13:25	0.024
26-Sep	10:14:25	0.022
26-Sep	10:15:25	0.021
26-Sep	10:16:25	0.022
26-Sep	10:17:25	0.021
26-Sep	10:18:25	0.021
26-Sep	10:19:25	0.021
26-Sep	10:20:25	0.02
26-Sep	10:21:25	0.025
26-Sep	10:22:25	0.02
26-Sep	10:23:25	0.019
26-Sep	10:24:25	0.02

26-Sep	10:25:25	0.02
26-Sep	10:26:25	0.019
26-Sep	10:27:25	0.019
26-Sep	10:28:25	0.019
26-Sep	10:29:25	0.021
26-Sep	10:30:25	0.023
26-Sep	10:31:25	0.022
26-Sep	10:32:25	0.02
26-Sep	10:33:25	0.018
26-Sep	10:34:25	0.022
26-Sep	10:35:25	0.022
26-Sep	10:36:25	0.021
26-Sep	10:37:25	0.023
26-Sep	10:38:25	0.707
26-Sep	10:39:25	0.08
26-Sep	10:40:25	0.02
26-Sep	10:41:25	0.022
26-Sep	10:42:25	0.059
26-Sep	10:43:25	0.036
26-Sep	10:44:25	0.021
26-Sep	10:45:25	0.025
26-Sep	10:46:25	0.102
26-Sep	10:47:25	0.018
26-Sep	10:48:25	0.024
26-Sep	10:49:25	0.039
26-Sep	10:50:25	0.025
26-Sep	10:51:25	0.02
26-Sep	10:52:25	0.025
26-Sep	10:53:25	0.026

Regulated Standard Used for Jean Sweeney Open Space Preserve Project is with Respect to Time Weighted Averages. All other data was included in this table.

On four occaisons air monitors gave abnormal readings that were not consistant with field observations or other measuremeants. Measurements from air monitor Northwest should be disregarded on 9/13/2017. Measurements on air monitor Southeast should be disregarded on 9/14/2017 and 9/26/2017. Measurements on Northeast should be disregarded on 9/26/2017. For reasons for the abnormal readings please see the RACR.

Appendix E:

Noise and Vibration Assessment

ALAMEDA AQUATIC CENTER NOISE AND VIBRATION ASSESSMENT

Alameda, California

April 14, 2025

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INTRODUCTION

The project proposes an Aquatic Center on approximately 2.35 acres of undeveloped park land at the Jean Sweeney Open Space Park in Alameda, California. The proposed aquatic center would include an approximately 5,740-square-foot, one-story, L-shaped building and two outdoor pools (one 30-meter swimming pool and one activity pool). During events and competitions, the aquatic center would have amplified sound, and a permanent scoreboard, which would only be used during competitions, would be mounted on the pool storage.

There would be a perforated wind-wall around the exterior of the facility serving as the perimeter fencing. It would be a maximum height of 12 feet with vegetation planting along the base and would not be lighted.

The service enclosure/trash would be located in the parking lot to the east side. It would be serviceable from both sides and approximately 8 feet tall. There would be pool storage on the south side of the building.

The project proposes to provide lighting for the aquatic center through a combination of pole lighting, illuminated building signage, wall grazer lighting, recessed down lighting, wall mounted fixture lighting. All lighting would consist of down lights, and the pools would have lighting in the water. The building will have exterior low-level lighting along the perimeter and walkways leading to the entrance. Typical lighting would occur on the pool deck and in the pools during winter months and dusk hours.

A surface parking lot would be constructed to the west of the aquatic center with a total of 72 parking spaces. The adjacent parking lot to the north for the Peralta Community College District would accommodate 125 shared spaces for overflow parking. This parking would be available nights, weekends, and for special events.

The proposed aquatic center would be open seven days a week, except on City holidays. Proposed hours of operation are weekdays from 5:30 a.m. to 9:30 p.m.; Saturdays from 7:00 a.m. to 9:30 p.m.; and Sundays from 7:00 a.m. to 8:00 p.m. The primary uses of the aquatic center would be for swim lessons, practices, swim meets, and public swimming. A total of 180 spectator seats are proposed around the perimeter of the 30-meter pool. Typical regular hourly attendance is expected to be approximately 35 to 45 people. It is anticipated that the aquatic center would have approximately 100,000 to 150,000 visitors per year, with a daily average of 450 visitors and an hourly average of 37visitors.

Events would include swim meet competitions that would occur twice per year, with up to 500 visitors. The swim meet events are typically one to two days long and would take place primarily on weekends during the hours of 9:00 a.m. to 6:00 p.m. The swim meet events would have approximately eight to 10 teams with six to 10 members per team. Not all teams would be present at the same time but rather staggered throughout the day, with a maximum of 185 attendees on site at any given time. Most teams are expected to carpool or use vans.

The facility would also host smaller community events that would be held six to eight times per year, with approximately 100 people in attendance. These user events are community events, such as watching a movie in the pool, or holiday related, such as Halloween or Santa events. These events usually occur on Saturdays or Sundays between noon and 4:00 p.m., with approximately 100 people or less. Movies in the pool events would take place during operating hours in the evening. Water polo tournaments are not scheduled at this facility but may be requested by the School District if the District's pools are not available. Water polo games would include 10 to 12 players per team with approximately 20 spectators, or approximately 40 people per hour throughout a given day. These are typically one-to-two-day events that usually occur on weekends.

The facility would employ three full-time staff and would have part-time staff supporting programming. During the winter season, part-time staff numbers would range from five to 10 per day with three staff members on deck per hour per day. The summer part-time staffing would range from 20 to 30 per day, with 10 to 15 staff members on deck per hour.

This report evaluates the project's potential to result in significant impacts with respect to applicable California Environmental Quality Act (CEQA) guidelines. The report is divided into two sections: the Setting Section provides a brief description of the fundamentals of environmental noise and groundborne vibration, summarizes applicable regulatory criteria, and discusses ambient noise conditions in the project vicinity; and the Impacts and Mitigation Measures Section describes the significance criteria used to evaluate project impacts, provides a discussion of each project impact, and presents mitigation measures, where necessary, to mitigate project impacts to a less-than-significant level.

SETTING

Fundamentals of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (*frequency*) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is the intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

TABLE 1 Definition of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e. g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level (dBA).* This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise descriptor* is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level* (*CNEL*) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 p.m. to 10:00 p.m.) and a 10 dB addition to nocturnal (10:00 p.m. to 7:00 a.m.) noise levels. The *Day/Night Average Sound Level* (L_{dn} or *DNL*) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noises of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA L_{dn}. Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn} and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12 to 17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling.[1] Sleep and speech interference is therefore possible when exterior noise levels are about 57 to 62 dBA L_{dn} with open windows and 65 to 70 dBA L_{dn} if the windows are closed.

[1] Based on the U.S. Department of Transportation Federal Highway Administration document "Highway Traffic Noise: Analysis and Abatement Guidance" (2010) and data from Illingworth & Rodkin, Inc. noise monitoring projects.

TABLE 2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), California Department of Transportation, September 2013.

Levels of 55 to 60 dBA are common along collector streets and secondary arterials, while 65 to 70 dBA is a typical value for a primary/major arterial. Levels of 75 to 80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed, those facing major roadways and freeways typically need special glass windows.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation between noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 50 dBA L_{dn}. At a L_{dn} of about 60 dBA, approximately 12 percent of the population is highly annoyed. When the L_{dn} increases to 70 dBA, the percentage of the population highly annoyed increases to about 25 to 30 percent of the population. There is, therefore, an increase of about 2 percent per dBA between a L_{dn} of 60 to 70 dBA. Between a L_{dn} of 70 to 80 dBA, each decibel increase increases by about 3 percent the percentage of the population highly annoyed. People appear to respond more adversely to aircraft noise. When the L_{dn} is 60 dBA, approximately 30 to 35 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about 3 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a 4 percent increase in the percentage of the population highly annoyed.[2]

Fundamentals of Groundborne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One method is the Peak Particle Velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. In this report, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints. Table 3 displays the reactions of people and the effects on buildings that continuous or frequent intermittent vibration levels produce. The guidelines in Table 3 represent syntheses of vibration criteria for human response and potential damage to buildings resulting from construction vibration.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to cause damage and the degree of annoyance for humans.

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[2] Kryter, Karl D. The Effects of Noise on Man. Menlo Park, Academic Press, Inc., 1985.

TABLE 3 Reaction of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Threshold at which there is a risk of damage to fragile buildings with no risk of damage to most buildings
0.25	Strongly perceptible to severe	Threshold at which there is a risk of damage to historic and some old buildings.
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential structures
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to new residential and modern commercial/industrial structures

Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as paint flaking or minimal extension of cracks in building surfaces; minor, including limited surface cracking; or major which could threaten the structural integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher. The damage criteria presented in Table 3 include several categories for ancient, fragile, and historic structures, the types of structures most at risk to damage. Most buildings are included within the categories ranging from “Historic and some old buildings” to “Modern industrial/commercial buildings”. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

The annoyance levels shown in Table 3 should be interpreted with care since vibration may be found to be annoying at lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

Regulatory Background – Noise

This section describes the relevant guidelines, policies, and standards established by Federal Agencies, State Agencies, Alameda County, and the City of Alameda. The State CEQA Guidelines, Appendix G, are used to assess the potential significance of impacts pursuant to local General Plan policies or the applicable standards of other agencies. A summary of the applicable regulatory criteria is provided below.

Federal Government

Federal Transit Administration. The Federal Transit Administration (FTA) has identified construction noise thresholds in the *Transit Noise and Vibration Impact Assessment Manual*,[3] which limit daytime construction noise to 80 dBA L_{eq} at residential land uses, to 85 dBA L_{eq} at commercial and office uses, and to 90 dBA L_{eq} at industrial land uses.

State of California

State CEQA Guidelines. The California Environmental Quality Act (CEQA) contains guidelines to evaluate the significance of effects of environmental noise attributable to a proposed project. Under CEQA, noise impacts would be considered significant if the project would result in:

(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

(b) Generation of excessive groundborne vibration or groundborne noise levels;

(c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

Alameda County

Oakland International Airport: Airport Land Use Commission Compatibility Plan. The Airport Land Use Compatibility Plan was prepared for the Alameda County ALUC in December 2012, and included noise compatibility policies to prevent the development of noise-sensitive land uses in portions of the airport environ that are exposed to significant levels of aircraft noise. The compatibility of new nonresidential development with noise levels generated by the Airport is provided in Table 3-1.

[3] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018.

TABLE 3-1
NOISE COMPATIBILITY CRITERIA

Land Use Category	Exterior Noise Exposure (dB CNEL)		
	60	65	70
Agricultural, Recreational, and Animal-Related			
Outdoor amphitheaters			
Zoos; animal shelters; neighborhood parks; playgrounds			
Regional parks; athletic fields; golf courses; outdoor spectator sports; water recreation facilities			
Nature preserves; wildlife preserves; livestock breeding or farming			
Agriculture (except residences and livestock); fishing			
Residential, Lodging, and Care			
Residential, (including single-family, multi-family, and mobile homes)*			
Residential hotels; retirement homes; hospitals; nursing homes; intermediate care facilities			
Hotels; motels; other transient lodging			
Public			
Schools; libraries			
Auditoriums; concert halls; indoor arenas; places of worship; cemeteries			
Commercial and Industrial			
Office buildings; office areas of industrial facilities; medical clinics; clinical laboratories; commercial - retail; shopping centers; restaurants; movie theaters			
Commercial - wholesale; research and development			
Industrial; manufacturing; utilities; public rights-of-way			

Land Use	Acceptability	Interpretation/Comments
	Compatible	*Indoor Uses*: Standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL). *Outdoor Uses*: Activities associated with the land use may be carried out with essentially no interference from aircraft noise. * The maximum acceptable noise exposure for new residential development in the vicinity of OAK is anything below 60 CNEL (see Policy 3.3.1.2 (b).)
	Conditional	*Indoor Uses*: Building structure must be capable of attenuating exterior noise to the indoor CNEL of 45 dB; standard construction methods will normally suffice. *Outdoor Uses*: CNEL is acceptable for outdoor activities, although some noise interference may occur; caution should be exercised with regard to noise-sensitive uses.
	Incompatible	*Indoor Uses*: Unacceptable noise interference if windows are open; at exposures above 65 dB CNEL, extensive mitigation techniques are required to make the indoor environment acceptable for performance of activities. *Outdoor Uses*: Severe noise interference makes outdoor activities unacceptable.

Source: ESA, 2007; *California Airport Land Use Compatibility Handbook* (Caltrans, 2002); PUC 21001 *et seq.*, California State Aeronautics Act.
Note: The layout of this table was created using the framework developed in previous compatibility plans (Mead & Hunt, 2006).

Source: Oakland International Airport, Airport Land Use Compatibility Plan, December 2010, Amended December 15, 2012.

City of Alameda

City of Alameda General Plan 2040. Chapter 6 of the City of Alameda General Plan 2040, which was amended in June 2022, includes policies and actions with the goal of maintaining an adequate noise environment in the City of Alameda. The following are applicable to this proposed project:

Objective 6. Protect Alameda residents from the harmful effects of exposure to excessive noise from aircraft, buses, boats, trucks and automobiles, and adjacent land uses.

Policy HS-41: **Support Policies to Reduce Transportation Noise.** Support state and federal legislation to reduce transportation noise from cars, trucks, and aircraft.

Policy HS-58: **Business Operations.** To the extent feasible, through the development entitlement process, require local businesses to reduce noise impacts on the community by avoiding or replacing excessively noisy equipment and machinery, applying noise-reduction technology, and following operating procedures that limit the potential for conflicts.

Policy HS-59: **Require Noise Reduction Strategies in All Construction Projects.** Require a vibration impact assessment for proposed projects in which heavy-duty construction equipment would be used (e.g. pile driving, bulldozing) within 200 feet of an existing structure or sensitive receptor. If applicable, the City shall require all feasible mitigation measures to be implemented to ensure that no damage to structures will occur and disturbance to sensitive receptors will be minimized.

Policy HS-60: **Significant CEQA Impacts.** In making a determination of impact under the California Environmental Quality Act (CEQA), consider the following impacts to be "significant" if the proposed project causes: an increase in the day-night average sound level (L_{dn}) of 4 or more dBA if the resulting noise level would exceed that described as normally acceptable for the affected land use, as indicated by State guidelines, or any increase in L_{dn} of 6 dBA or more.

City of Alameda Municipal Code. Chapter IV of the City's Municipal Code includes noise control regulations, and the following apply to the proposed project:

Chapter 4-10.4 – Exterior Noise Standards

b. Exterior noise levels when measured at any receiving single or multiple family residential, school, hospital, church, public library or commercial property situated in the City do not conform to the provisions of this subsection when they exceed the noise level standards set forth in Table I or Table II (Tables 4 and 5, respectively, in this report) following:

TABLE 4 Receiving Land Use Noise Level Standards, dB(A) – Single or Multiple Family Residential, School, Hospital, Church, or Public Library Properties

Category	Cumulative Number of Minutes in Any One (1) Hour Time Period	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
1[a]	30	55	50
2	15	60	55
3	5	65	60
4	1	70	65
5	0	75	70

[a] For example, this means the measured noise level may not exceed fifty-five (55) dB(A) for more than thirty (30) minutes out of any one (1) hour time period.

TABLE 5 Receiving Land Use Noise Level Standards, dB(A) – Commercial Properties

Category	Cumulative Number of Minutes in Any One (1) Hour Time Period	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
1[a]	30	65	60
2	15	70	65
3	5	75	70
4	1	80	75
5	0	85	80

c. In the event the measured ambient noise level exceeds the applicable noise level standard in any category above, the applicable standards shall be adjusted so as to equal said ambient noise level.

d. Each of the noise level standards specified above shall be reduced by five (5) dB(A) for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

Chapter 4-10.5 – Prohibited Acts

b. *Specific Provisions.* The following acts, and the causing or permitting thereof, are a violation of this section:

7. Loading and Unloading. Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects between the hours of 10:00 p.m. and 7:00 a.m. in such a manner as to cause a noise disturbance across a residential real property line. This action shall not apply to such activities where the items handled are still in interstate commerce.

8. Vibration. Operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the

property boundary of the source if on private property or at one hundred fifty (150′) feet (forty-six [46] meters) from the source if on a public space or public right-of-way.

10. Construction. Construction other than during the following hours: 7:00 a.m. to 7:00 p.m. Monday through Fridays and 8:00 a.m. to 5:00 p.m. on Saturdays.

Chapter 4-10.7 – Special Provisions (Exceptions)

e. *Construction*. The provisions of this section shall not apply to noise sources associated with construction provided the activities take place between the hours of 7:00 a.m. to 7:00 p.m. Monday through Fridays or 8:00 a.m. to 5:00 p.m. on Saturdays.

i. *City Parks.* The provisions of this Chapter shall not apply to recreational programs or activities conducted within City parks between the hours of 9:00 a.m. and 10:15 p.m.

Existing Noise Environment

The Alameda Aquatic Center is proposed on the west side of Jean Sweeney Open Space Park, southeast of the Wilma Chan Way/Atlantic Avenue intersection, in the City of Alameda. The site is bound by Wilma Chan Way to the west; Atlantic Avenue to the north; single-family residences and small commercial uses to the south; and the park to the east. Other surrounding land uses include single-family residences and the Ismaili Cultural Center to the north, opposite Atlantic Avenue and multi-family residences and commercial uses to the west, opposite Wilma Chan Way.

The noise environment at the site and in the surrounding area results primarily from distant traffic along Webster Street and local traffic along Wilma Chan Way and Atlantic Avenue. Aircraft associated with Oakland International Airport also contributes to the noise environment.

A noise monitoring survey consisting of three long-term (LT-1 through LT-3) and three short-term (ST-1 through ST-3) noise measurements was made between Wednesday, January 15, 2025, and Friday, January 17, 2025. All measurement locations are shown in Figure 1.

Long-term noise measurement LT-1 was made in front of 1850 8th Street, approximately 20 feet east of the centerline of the roadway. Hourly average noise levels at LT-1 typically ranged from 51 to 65 dBA L_{eq} during daytime hours (7:00 a.m. and 10:00 p.m.) and from 41 to 64 dBA L_{eq} during nighttime hours (10:00 p.m. and 7:00 a.m.). The day-night average noise level on Thursday, January 16, 2025, was 57 dBA L_{dn}. The daily trend in noise levels at LT-1 is shown in Figures A1 through A3 of Appendix A below.

LT-2 was made along Wilma Chan Way, approximately 35 feet east of the centerline. Hourly average noise levels at LT-2 typically ranged from 68 to 72 dBA L_{eq} during daytime hours and from 59 to 71 dBA L_{eq} during nighttime hours. The day-night average noise level on Thursday, January 16, 2025, was 73 dBA L_{dn}. The daily trend in noise levels at LT-2 is shown in Figures A4 through A6 of Appendix A.

FIGURE 1 Aerial Image of the Project Site and Surrounding Area with the Noise Measurement Locations Identified

Source: Google Earth, 2025.

LT-3 was made behind the residence at 2001 Bartlet Drive, approximately 60 feet north of the centerline of Atlantic Avenue. Hourly average noise levels at LT-3 typically ranged from 58 to 71 dBA L_{eq} during daytime hours and from 47 to 61 dBA L_{eq} during nighttime hours. The day-night average noise level on Thursday, January 16, 2025, was 65 dBA L_{dn}. The daily trend in noise levels at LT-2 is shown in Figures A7 through A9 of Appendix A.

Short-term, 10-minute noise measurements ST-1 through ST-3 were made on Wednesday, January 15, 2025, between 1:00 p.m. and 1:50 p.m. Table 6 summarizes the noise measurement results at each location.

ST-1 was made along the walking trail located on the project site, approximately 250 feet south of the Atlantic Avenue centerline and approximately 610 feet east of the Wilma Chan Way centerline. Background traffic noise from Atlantic Avenue consisted of 48 passenger vehicles (46 to 52 dBA) and four heavy trucks (50 to 54 dBA). Additionally, a jet flying overhead generated noise levels of 59 dBA. The 10-minute L_{eq} measured at ST-1 was 50 dBA.

ST-2 was made along the northern boundary of the project site, approximately 35 feet south of the Atlantic Avenue centerline. During the ST-2 measurement, traffic along Atlantic Avenue included one bus (66 dBA) and 58 passenger cars (63 to 72 dBA). Nearby train horns were audible at ST-2, generating noise levels of 52 to 54 dBA. Additionally, a helicopter (64 dBA) and jet (53 dBA) contributed to the noise measurement during ST-2. The 10-minute L_{eq} measured at ST-2 was 63 dBA.

ST-3 was made in the food bank parking lot, approximately 60 feet east of the Wilma Chan Way centerline. Traffic along Wilma Chan Way included 189 passenger cars (58 to 78 dBA). Traffic noise from nearby Atlantic Avenue generated noise levels ranging from 60 to 62 dBA at ST-3. A nearby train horn generated noise levels of 57 dBA at ST-3. The 10-minute L_{eq} measured at ST-3 was 64 dBA.

TABLE 6 Summary of Short-Term Noise Measurements (dBA)

Noise Measurement Location	Date, Time	Measured Noise Level, dBA					
		L_{max}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{eq}
ST-1: walking trail roundabout at the park	1/15/2025, 13:00-13:10	60	55	52	50	49	50
ST-2: ~35 feet south of the Atlantic Avenue centerline	1/15/2025, 13:20-13:30	72	70	68	64	57	63
ST-3: ~60 feet east of the Wilma Chan Way centerline	1/15/2025, 13:40-13:50	78	71	69	64	61	64

IMPACTS AND MITIGATION MEASURES

This section describes the significance criteria used to evaluate project impacts under CEQA and provides a discussion of each project impact.

Significance Criteria

The following criteria were used to evaluate the significance of environmental noise resulting from the project:

(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

(b) Generation of excessive groundborne vibration or groundborne noise levels;

(c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

Impact 1a: **Temporary Construction Noise.** Noise-sensitive land uses surrounding the project site would be exposed to a temporary increase in ambient noise levels for a period exceeding one year. However, temporary construction noise levels are not expected to exceed FTA thresholds at the property lines of the nearest surrounding noise-sensitive land uses. With the incorporation of construction best management practices, the impact would be reduced to a **less-than-significant** level.

The project's construction schedule assumed that the earliest possible start date would be early November 2025 with completion by late May 2027 (a total construction period of about 20 months). The applicant proposes construction between 7:00 a.m. and 4:00 p.m. Construction phases would include demolition, site preparation, grading, trenching, building construction, architectural coating, and paving. During each phase of construction, there would be a different mix of equipment operating, and noise levels would vary by phase and vary within phases, based on the amount of equipment in operation and the location at which the equipment is operating.

Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.

Chapter 4-10.5 of the City's Municipal Code limits construction work hours to between 7:00 a.m. and 7:00 p.m. Monday through Fridays and 8:00 a.m. to 5:00 p.m. on Saturdays.

While the City of Alameda does not establish noise level thresholds for construction activities, this analysis uses the noise limits established by the Federal Transit Administration (FTA) to identify the potential for impacts due to substantial temporary construction noise. The FTA identifies construction noise limits in the *Transit Noise and Vibration Impact Assessment Manual*. During daytime hours, an exterior threshold of 80 dBA L_{eq} shall be applied at residential land uses, 85 dBA L_{eq} shall be applied at commercial and office uses, and 90 dBA L_{eq} shall be applied at industrial land uses.

Construction activities for individual projects are typically carried out in phases. During each phase of construction, there would be a different mix of equipment operating, and noise levels would vary by phase and vary within phases, based on the amount of equipment in operation and the location at which the equipment is operating. The typical range of maximum instantaneous noise levels for the proposed project would be 70 to 90 dBA L_{max} at a distance of 50 feet (see Table 7) from the equipment.

Table 8 shows the hourly average noise level ranges, by construction phase, typical for various types of projects. Hourly average noise levels generated by construction typically are about 71 to 89 dBA L_{eq} for recreational facilities, measured at a distance of 50 feet from the center of a busy construction site. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain often results in lower construction noise levels at distant receptors.

Federal Highway Administration's (FHWA's) Roadway Construction Noise Model (RCNM) was used to calculate the typical hourly average noise levels for each phase of construction, assuming the two loudest pieces of equipment would operate simultaneously, as recommended by the Federal Transit Administration (FTA) for construction noise evaluations. This construction noise model includes representative sound levels for the most common types of construction equipment and the approximate usage factors of such equipment that were developed based on an extensive database of information gathered during the construction of the Central Artery/Tunnel Project in Boston, Massachusetts (CA/T Project or "Big Dig"). The usage factors represent the percentage of time that the equipment would be operating at full power.

TABLE 7 Construction Equipment 50-Foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes:

[1] Measured at 50 feet from the construction equipment, with a "slow" (1 sec.) time constant.

[2] Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.

[3]Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

TABLE 8 Typical Ranges of Construction Noise Levels at 50 Feet, L_{eq} (dBA)

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	**II**	**I**	**II**	**I**	**II**	**I**	**II**
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I - All pertinent equipment present at site.
II - Minimum required equipment present at site.

Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

Equipment expected to be used in each construction phase are summarized in Table 9, along with the quantity of each type of equipment and the reference noise level at 50 feet, assuming the operation of the two loudest pieces of construction equipment for each construction phase, per recommendation by the FTA.

TABLE 9 Construction Noise Levels for the Proposed Project at a Distance of 50 feet

Phase of Construction	Total Workdays	Construction Equipment (Quantity)	Estimated Construction Noise Level at 50 feet, dBA L_{eq}
Demolition	20	Concrete/Industrial Saw (1)[a] Excavator (1) Rubber-Tired Dozer (1) Tractor/Loader/Backhoe (1)[a]	85
Site Preparation	10	Grader (1)[a] Rubber-Tired Dozer (1) Tractor/Loader/Backhoe (1)[a]	84
Grading/Excavation	30	Excavator (2) Grader (1)[a] Rubber-Tired Dozer (1)[a]	83
Trenching/Foundation	20	Tractor/Loader/Backhoe (1)[a] Excavator (2)[a]	82
Building – Exterior	180	Forklift (3) Tractor/Loader/Backhoe (1)[a] Welder (2)[a]	82
Building – Interior/ Architectural Coating	100	Air Compressor (1)[a] Aerial Lift (2)[a]	75
Paving	20	Paving Equipment (1)[a] Roller (1) Tractor/Loader/Backhoe (1)[a]	84

[a] Denotes two loudest pieces of construction equipment per phase.

Temporary construction noise was also assessed at the receiving property lines of all existing receptors in the area that would have direct exposure to the project site. Table 10 summarizes the hourly average noise levels calculated for all construction equipment operating simultaneously in each phase for the proposed building construction when the source levels are positioned at the center of the project site and propagated to the receiving property lines. Noise levels in Table 10 do not assume reductions due to intervening buildings or existing barriers.

As shown in Tables 9 and 10, construction noise levels would intermittently range from 75 to 85 dBA L_{eq} at a distance of 50 feet from the operational equipment. Construction noise levels would range from 61 to 77 dBA L_{eq} at the nearest residential uses and the cultural center when activities are focused near the center of the proposed project site. Construction noise levels would range from 52 to 63 L_{eq} at the adjoining college building, from 52 to 71 dBA L_{eq} at the surrounding commercial and office buildings, and from 43 to 54 dBA L_{eq} at the park when activities are focused near the center of the proposed project site.

TABLE 10 Construction Noise Levels for the Proposed Project at the Receiving Property Lines in the Project Vicinity

	Calculated Hourly Average Noise Levels, L_{eq} (dBA)					
	South Res. & Comm. (275ft)	**West Alameda Food Bank (360ft)**	**West Comm. (500ft)**	**North Res. & Ismaili Cultural Center (145ft)**	**East College & Office Buildings (720ft)**	**East Park (2,035ft)**
Demolition	71	69	66	77	63	54
Site Preparation	70	67	65	75	61	52
Grading/ Excavation	70	67	64	75	61	52
Trenching/ Foundation	68	66	63	74	60	51
Building – Exterior	67	64	61	72	58	49
Building – Interior/ Architectural Coating	61	58	56	66	52	43
Paving	70	68	65	76	62	53

To minimize annoyance and disruption to all surrounding receptors, the following construction best management practices shall be incorporated into the proposed project as a condition of approval.

Construction Best Management Practices

Construction best management practices shall include, but are not limited to, the following:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

- Prohibit unnecessary idling of internal combustion engines.

- Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from sensitive receptors. Construct temporary noise barriers to screen stationary noise-generating equipment when located near adjoining sensitive land uses.

- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.

- Notify all adjacent business, residences, and other noise-sensitive land uses of the construction schedule, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses and nearby residences.

- Designate a "disturbance coordinator" who shall be responsible for responding to any complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., bad muffler, etc.) and shall require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

With the implementation of the above best management practices, construction noise levels would be reduced as much as possible at the surrounding receptors minimizing disruption and annoyance. Since the FTA thresholds are not expected to be exceeded during project construction, and with the understanding that construction activities would occur for a limited period of time, the temporary construction noise impact would be less-than-significant.

Mitigation Measure 1a: **None required.**

Impact 1b: **Permanent Noise Level Increase/Exceed Applicable Standards.** Operational noise levels would be exempt from the Municipal Code standards between 9:00 a.m. and 10:00 p.m., and noise outside of these hours would not exceed the Municipal Code standards. During swim meet tournaments that occur two weekends a year, noise levels would be substantially increased. This is a **potentially significant** impact.

According to Policy HS-60 of the City's General Code, a significant impact would occur if the proposed project causes: an increase of 4 dBA L_{dn} or more if the resulting noise level would exceed the normally acceptable limit for the affected land use; or any increase of 6 dBA L_{dn} or more.

Chapter 4-10.4 of the City's Municipal code provides exterior noise standards for noise-sensitive uses (i.e., residences, hospitals, churches, etc.) and commercial uses. For activities occurring for more than 30 minutes in a given hour, noise levels would be limited to 55 dBA L_{50} during daytime hours and 50 dBA L_{50} during nighttime hours for noise-sensitive uses and to 65 dBA L_{50} during daytime hours and 60 dBA L_{50} during nighttime hours for commercial uses. For activities occurring for more than five minutes in a given hour, noise levels would be limited to 65 dBA L_{08} during daytime hours and 60 dBA L_{08} during nighttime hours for noise-sensitive uses and to 75 dBA L_{08} during daytime hours and 70 dBA L_{08} during nighttime hours for commercial uses. Maximum instantaneous noise levels would be limited to 75 dBA L_{max} during daytime hours and 70 dBA L_{max} during nighttime hours for noise-sensitive uses and to 85 dBA L_{max} during daytime hours and 80 dBA L_{max} during nighttime hours for commercial uses.

Where ambient conditions exceed these standards, ambient noise levels would be used as the daytime and nighttime standards. Additionally, a 5 dBA penalty shall be applied to the daytime and nighttime standards when the noise source consists of simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. Table 11 summarizes the applicable standards for the proposed project at each of the surrounding receptors.

Additionally, Chapter 4-10.7 of the Municipal Code includes exemptions for the standards in Table 11, which includes noise generated at recreational programs or activities conducted within City parks between the hours of 9:00 a.m. and 10:15 p.m.

TABLE 11 Standards Applied to Each of the Surrounding Receptors

Receptor	Ambient Meter	Daytime Standards			Nighttime Standards		
		More than 30 minutes, dBA L_{50}	More than 5 minutes, dBA L_{08}	Max. Level, dBA L_{max}	More than 30 minutes, dBA L_{50}	More than 5 minutes, dBA L_{08}	Max. Level, dBA L_{max}
South Residences	LT-1[a]	55	65	75	50	60	70
South Commercial Uses	LT-2[b]	68	75	85	60	70	83
West Alameda Food Bank	LT-2[b]	68	75	85	60	70	83
West Commercial Uses	LT-2[b]	68	75	85	60	70	83
North Residences	LT-3[c]	58	67	80	50	60	74
North Ismaili Cultural Center	LT-3[c]	58	67	80	50	60	74
East College	LT-3[c]	58	67	80	50	60	74
East Offices	LT-3[c]	65	75	85	60	70	80

[a] LT-1 represents the existing ambient noise environment at south residences. L_{50} noise levels at LT-1 typically range from 49 to 54 dBA L_{50} (average of 51 dBA L_{50}) during daytime hours and from 39 to 52 dBA L_{50} (average of 47 dBA L_{50}) during the nighttime hours; L_{08} noise levels typically range from 53 to 63 dBA L_{08} (average of 56 dBA L_{08}) during daytime hours and from 43 to 63 dBA L_{08} (average of 51 dBA L_{08}) during the nighttime hours; and L_{max} noise levels typically range from 65 to 92 dBA L_{max} (average of 72 dBA L_{max}) during daytime hours and from 53 to 91 dBA L_{max} (average of 65 dBA L_{max}) during the nighttime hours. Existing ambient L_{dn} at LT-1 is 57 dBA.

[b] LT-2 represents the existing ambient noise environment at south residences. L_{50} noise levels at LT-2 typically range from 65 to 69 dBA L_{50} (average of 68 dBA L_{50}) during daytime hours and from 47 to 66 dBA L_{50} (average of 55 dBA L_{50}) during the nighttime hours; L_{08} noise levels typically range from 73 to 77 dBA L_{08} (average of 75 dBA L_{08}) during daytime hours and from 61 to 76 dBA L_{08} (average of 69 dBA L_{08}) during the nighttime hours; and L_{max} noise levels typically range from 81 to 87 dBA L_{max} (average of 84 dBA L_{max}) during daytime hours and from 79 to 96 dBA L_{max} (average of 83 dBA L_{max}) during the nighttime hours. Existing ambient L_{dn} at LT-2 is 73 dBA.

[c] LT-3 represents the existing ambient noise environment at south residences. L_{50} noise levels at LT-3 typically range from 55 to 62 dBA L_{50} (average of 58 dBA L_{50}) during daytime hours and from 41 to 56 dBA L_{50} (average of 48 dBA L_{50}) during the nighttime hours; L_{08} noise levels typically range from 62 to 73 dBA L_{08} (average of 67 dBA L_{08}) during daytime hours and from 51 to 65 dBA L_{08} (average of 56 dBA L_{08}) during the nighttime hours; and L_{max} noise levels typically range from 73 to 91 dBA L_{max} (average of 80 dBA L_{max}) during daytime hours and from 67 to 84 dBA L_{max} (average of 74 dBA L_{max}) during the nighttime hours. Existing ambient L_{dn} at LT-1 is 65 dBA.

Project Traffic

The traffic study included peak hour turning movements for existing and existing plus project traffic volumes at four intersections in the vicinity of the project site. By comparing the existing plus project traffic scenario to the existing scenario, the project's contribution to the noise level increase was determined to be less than 1 dBA L_{dn} or less along each roadway segment in the project vicinity. The calculated increases are summarized in Table 12. Therefore, the project would not result in a measurable or detectable permanent noise increase at noise-sensitive receptors in the project vicinity.[4]

TABLE 12 Project-Generated Traffic Noise Level Increase

Roadway	**Segment**	**Noise Level Increase, dBA L_{dn}**
Atlantic Avenue	West of Wilma Chan Way	0
	Wilma Chan Way to Bartlett Drive	0
	Bartlett Drive to the project driveway	0
	Project driveway to Challenger Drive	0
	East of Challenger Drive	0
Wilma Chan Way	North of Atlantic Avenue	0
	South of Atlantic Avenue	0
Bartlett Drive	North of Atlantic Avenue	0
Challenger Drive	North of Atlantic Avenue	0

Mechanical Equipment

The northwestern building proposed at the site would contain mechanical equipment associated with the pool operations. Additionally, an enclosure containing a transformer is shown at the north end of the pool deck. All equipment located within the building and the transformer enclosure would be adequately shielded from all surrounding receptors. The City's daytime and nighttime standards, as well as the existing ambient noise level conditions, would not be exceeded. For all existing receptors in the project vicinity, the noise level increase due to fully enclosed mechanical equipment would not be measurable or detectable (0 dBA L_{dn} increase).

The roof of the mechanical equipment building would include two exhaust fans (EF), an HVAC rooftop unit (RTU), 25 pool heating heat-pump chillers (HP), and two heat pump water heaters (HPWH). The roof of the administration building shows two variable refrigerant volume condensing units (CU), one variable refrigerant flow HVAC unit (VRF), a gravity relief exhaust (GR), and a gravity intake vent (GI). The applicant provided specification sheets for all selected equipment expected at the project buildings, and the manufacturers' noise levels are used as source levels in this analysis:

4 The traffic study assumed events would have up to 800 daily visitors with up to 500 visitors at any time. With fewer visitors, the peak-hour traffic volumes would be less than analyzed assuming 800 visitors. Therefore, the updated visitor numbers would be less than assumed previously. This would remain a less-than-significant impact.

- Samsung DVM Heat Pump Chiller, Model Number AG015DSVAJG/AA (HP) – 61 dBA at 3 feet
- Greenheck Belt Drive Centrifugal Roof Exhaust Fan, Model Number GB-098-4 (EF) – 43 dBA (inlet) at 3 feet
- Greenheck HVAC Rooftop Unit, Model Number RVE-40-36D-5A-1-D2 (RTU) – 67 dBA at 3 feet
- Rheem Air to Water 135k BTUh Heat Pump, Model Number HPHD-135VNU-483 (HPWH) – 62 dBA at 10 feet
- Samsung DVM S Eco Series Heat Pump Condensing Unit, Model Number AM060MXMDCH/AA (CU) – 58 to 60 dBA at 3 feet
- Samsung DVM S2 Series Heat Recovery Condensing Unit, Model Number AM072BXVGJR/AA (VRF) – 54 dBA at 3 feet

Assuming both exhaust fans, the HVAC unit, all 25 heat pump chillers, and both heat pump water heaters located on the roof of the mechanical building operate simultaneously over a 24-hour period, the combined noise level would be 76 dBA L_{eq} at 3 feet, and the day-night average noise level would be 82 dBA L_{dn} at 3 feet. While source levels were not provided for the gravity relief exhaust and gravity intake vent located on the roof of the administration building, these units would be small and generate negligible noise. Assuming both heat pump condensing units and the heat recovery condensing unit located on the roof of the administration building operate simultaneously over a 24-hour period, the combined noise level would be up to 64 dBA L_{eq} at 3 feet, and the day-night average noise level would be 70 dBA L_{dn} at 3 feet.

The site plan shows parapet walls surrounding the rooftops that would be tall enough to break the line-of-sight to all surrounding receptors. These parapet walls would be solid from top to bottom with no cracks or gaps. It is assumed that walls would have a minimum surface weight of three lbs/ft^2. For all surrounding receptors, the parapet walls surrounding the rooftops and the elevation of the equipment would provide a minimum 10 dBA attenuation.

Table 13 summarizes the estimated noise levels at all surrounding receptors, assuming all equipment on the rooftops of both buildings operates continuously during daytime and nighttime hours. Conservatively, 10 dBA attenuation is applied to all noise levels in Table 13.

While the surrounding receptors are not subject to the City's standards between 9:00 a.m. and 10:15 p.m., the City noise standards would apply during morning hours before 9:00 a.m. and nighttime hours after 10:15 p.m.

The City's daytime and nighttime noise standards (see Table 11) would not be exceeded at the surrounding receptors. For all surrounding receptors, the noise level increase due to mechanical equipment operations would not be measurable or detectable (0 dBA L_{dn} increase).

TABLE 13 Operational Noise Levels Due to Rooftop Mechanical Equipment

Location of Equipment		**South Res. & Comm. Uses**	**West Alameda Food Bank**	**West Comm. Uses**	**North Res. & Ismaili Cultural Center**	**East College & Offices**
Mechanical Equipment Building	Distance from Center of Roof, feet	325	415	555	100	655
	L_{50}, dBA	25[a]	23[a]	21[a]	36[a]	< 20[a]
Admin Building	Distance from Center of Roof, feet	275	490	630	165	600
	L_{50}, dBA	< 20[a]	< 20[a]	< 20[a]	23[a]	< 20[a]
Combined	**L_{50}, dBA**	**26[a]**	**23[a]**	**21[a]**	**36[a]**	**< 20[a]**
	L_{dn}, dBA	**32[a]**	**30[a]**	**27[a]**	**42[a]**	**26[a]**
	Noise Level Increase, dBA L_{dn}	**0**	**0**	**0**	**0**	**0**

[a] A conservative 10 dBA attenuation is applied to all surrounding receptors due to the elevation of the equipment and the parapet walls surrounding the rooftops.

Pool Activities

The proposed Aquatics Center is expected to have approximately 35 to 45 people per hour during typical operations. Proposed hours of operation are from 5:30 a.m. to 9:30 p.m. Monday through Friday, 7:00 a.m. to 9:30 p.m. on Saturdays, and 7:00 a.m. to 8:00 p.m. on Sundays.

During swim meet competition events, up to 185 people would be at the aquatic center at any given time between 9:00 a.m. and 6:00 p.m. These events would occur up to twice a year. Smaller events would host up to 100 attendees six to eight times a year, with operating hours in the afternoon and evenings (i.e., between noon and 4:00 p.m. or between 7:00 p.m. and 10:00 p.m.). While water polo tournaments are not expected, water polo matches would include a maximum of 40 people per hour throughout a day for one-to-two days.

Illingworth & Rodkin, Inc. (I&R) has monitored noise levels at existing aquatic facilities in the Bay Area that would represent activities proposed at the Alameda Aquatic Center. In August 2006, noise measurements were made at the Ridgway Pool in Santa Rosa, California, as part of the Calistoga Pool Facility Project.[5] The Ridgway Pool has a 25-yard lap pool with nine lanes for competition and a 35-by-50-foot recreational pool with a water feature and a 20-foot slide. Since the dominant noise source at the recreational pool was from the water feature, these source levels were not used for this project; however, measurements were made at the competition pool when public swimming did not occur (i.e., the water feature was off). Activities at the competition pool included Masters Swimming, lap swimming, and practices by the Neptune Swim Team. Masters swimming and lap swimming typically generated average noise levels ranging from 50 to 57 dBA at 115 feet, with maximum noise levels up to 70 dBA. These source levels are used in this assessment for lap swimming activities.

In August 2003, I&R made measurements at the Petaluma Swim Center,[6] which consists of one large T-shaped pool that is 50 meters long by 25 yards wide in the deeper end and about 20 yards wide at the shallow end. During busy periods, the attendance was as high as 200 people, which is more than the expected number of visitors at the Alameda Aquatic Center. While recreational swim produced noise levels that ranged from 66 to 67 dBA at about 100 feet, these source levels were adjusted for the worst-case attendance expected at the Alameda Aquatic Center, which is up to 45 people per hour on a typical day. For purposes of this study, recreational swim is expected to produce noise levels that would range from 60 to 61 dBA at 100 feet. Lifeguards would likely have whistles, which means maximum noise levels would be up to 80 dBA at 100 feet. Noise levels generated by swim lessons were also measured at Petaluma Swim Center. Noise from swim lessons ranged from about 55 to 58 dBA at 100 feet.

A noise survey completed by *I&R* at the Spieker Pool on Bancroft Way on February 7, 2013[7] established noise levels resulting from water polo practices (splashing, yelling, occasional whistles) and a dual swim meets (PA system, splashing, and yelling). While the swim meet had an attendance of 500 spectators, the noise levels were adjusted to accommodate the maximum of 185 spectators expected at Alameda Aquatic Center. The women's water polo practice generated noise levels of 68 dBA at 100 feet, with maximum noise levels due to whistles up to 80 dBA. During a swim meet

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[5] Final Noise Study Calistoga Pool Facility, Calistoga, CA, Illingworth & Rodkin, Inc., February 26, 2007.

[6] Los Altos Aquatic Center Noise Study, Los Altos, CA, Illingworth & Rodin, Inc., November 25, 2003.

[7] Cal Aquatics Facility, Noise and Vibration Assessment, Berkeley, CA, Illingworth & Rodkin, Inc., February 7, 2013.

with up to 500 spectators, average noise levels typically reached 77 dBA, with maximum noise levels reaching 87 dBA at a distance of 100 feet. When adjusted for 185 attendees, typical average noise levels would be about 73 dBA at 100 feet.

Additionally, noise source levels collected by *I&R* at similar neighborhood parks, which would occur during the smaller events at proposed aquatics center (i.e., movie nights or holiday events) would include:

- Amplified sound – average hourly noise levels of 72 dBA L_{eq} at a distance of 50 feet from the speakers; and
- Local events and gatherings – average hourly noise levels of 59 dBA L_{eq} at a distance of 50 feet from the center of the gatherings for events with up to 100 people.

This analysis considers four worst-case scenarios: typical daily activities, swim meet competition tournaments, days with smaller events, and potentially days with water polo tournaments if the local high schools are unable to host their tournaments, which is not expected at this time. Each of these scenarios are discussed below.

Typical Daily Activities

On typical days, the facility will support swim team practices, open lap swim, swim lessons, and open family swim. A typical day would include the following activities:

- Between 5:30 a.m. and 7:00 a.m., when all activities would be subject to the City's nighttime thresholds summarized in Table 11, swim team practice or lap swimming would occur at the 30-meter pool;
- Between 7:00 a.m. and 9:00 a.m., when all activities would be subject to the City's daytime thresholds summarized in Table 11, swim team practice or lap swimming would occur at the 30-meter pool;
- Between 9:00 a.m. and 10:00 a.m., when all activities would be exempt from City thresholds, in accordance with Chapter 4-10.7 of the City's Municipal Code, swim team practice or lap swimming would occur at the 30-meter pool and swim lessons would occur at the recreational pool;
- Between 10:00 a.m. and 10:00 p.m., when all activities would be exempt from City thresholds, in accordance with Chapter 4-10.7 of the City's Municipal Code, lap swimming would occur at the 30-meter pool and swim lessons and open swim would occur at the recreational pool.

Table 14 summarizes the expected L_{50} and L_{max} noise levels for each time period described above propagated to the nearest property lines of the surrounding receptors, as well as the total L_{dn} generated by the proposed aquatics center activities on typical days and the future L_{dn} expected at the surrounding receptors when the project is operational. The facility's buildings would be located to the east of both pools and to the north of the recreational pool. The buildings would provide a minimum attenuation of 10 dBA for the east receptors during all activities at the pool deck and for the north receptors for activities occurring at the recreational pool. Additionally, the pool storage area on the north side of the pool would have a 10-foot-tall corrugated solid metal panel fence along the north side, which would be attached to the facility's building by a gate. Assuming the

TABLE 14 Operational Noise Levels for the Aquatics Center on Typical Days

Pool Activity		South Res. & Comm. Uses	West Alameda Food Bank	West Comm. Uses	North Res. & Ismaili Cultural Center	East College & Offices
Lap Swim/ Swim Practice (5:30 a.m. to 9:00 a.m.)	Dist., feet	255[a]	300[a]	445[a]	175[a]	770[a]
	L_{max}, dBA	63	62	58	57[b]	44[c]
	L_{50}, dBA	50	49	45	44[b]	31[c]
Lap Swim/Swim Practice & Swim Lessons (9:00 a.m. to 10:00 a.m.)	Dist., feet	255[a,d]	300[a] 405[d]	445[a] 555[d]	175[a] 180[d]	770[a] 675[d]
	L_{max}, dBA	63	62	58	57[b]	44[c]
	L_{50}, dBA	53	51	47	47[b,c]	34[c]
Lap Swim/Swim Practice, Swim Lessons & Recreational Swim (10:00 a.m. to 10:00 p.m.)	Dist., feet	255[a,d]	300[a] 405[d]	445[a] 555[d]	175[a] 180[d]	770[a] 675[d]
	L_{max}, dBA	72	68	65	65[c]	53[c]
	L_{50}, dBA	56	53	50	49[b,c]	37[c]
Combined	**Operational L_{dn}, dBA[e]**	**55**	**52**	**49**	**48**	**36**
	Future L_{dn}, dBA[f]	**59**	**73**	**73**	**65**	**65**
	Noise Level Increase, dBA L_{dn}	**2**	**0**	**0**	**0**	**0**

[a] Distance measured from the center of lap pool, which represents the center of the combined noise source.
[b] A conservative 9 dBA attenuation is applied for the north receptors due to the 10-foot solid corrugated fence along the north side of the pool storage area, which partially shields the lap pool.
[c] A conservative 10 dBA attenuation is applied for the north and east receptors due to the intervening project buildings, which partially shields the recreational pool for the north receptors and both pools for the east receptors.
[d] Distance measured from the center of recreational pool, which represents the center of the combined noise source.
[e] Operational L_{dn} is generated by typical daily operations at the Alameda Aquatic Center.
[d] Future L_{dn} is calculated by adding the Operational L_{dn} to the existing ambient L_{dn} at each of the receptors.

fence and gates (when closed) to be solid from ground to top, the fence would provide a minimum attenuation of 9 dBA for lap pool activities at the north receptors. These attenuations are applied in Table 14.

The City's nighttime noise standards (see Table 11) would not be exceeded by lap swimming occurring between 5:30 a.m. and 7:00 a.m. at the surrounding receptors. The City's daytime noise standards (see Table 11) would not be exceeded by lap swimming and swim lessons occurring between 7:00 a.m. and 9:00 a.m. at the surrounding receptors. All combined activities at the Alameda Aquatic Center on a typical day (i.e., lap swimming, swim lessons, and recreational swim) would be exempt from the City's noise standards between 9:00 a.m. and 10:15 p.m.

Typical daily activities would result in a 2 dBA L_{dn} increase in noise levels at the south residences, which would not exceed the City's 4 dBA L_{dn} threshold. For all other receptors, the noise level increase due to the Aquatics Center typical daily activities would not be measurable or detectable (0 dBA L_{dn} increase).

Swim Meet Tournaments

The swim meet events would typically be one to two days long and would take place primarily on weekends between 9:00 a.m. and 6:00 p.m. The swim meet events would have approximately eight to 10 teams with six to 10 members per team. Not all teams would be present at the same time but rather staggered throughout the day, with a maximum of 185 attendees on site at any given time.

Table 15 summarizes the worst-case L_{50} and L_{max} noise levels, the operational L_{dn}, the future L_{dn}, and the estimated noise level increase during the swim meet tournaments when noise levels are propagated to the property lines of the surrounding receptors. The facility's buildings and pool storage fence would provide a minimum attenuation of 10 dBA for the east receptors and a minimum attenuation of 9 dBA for the north receptors. This attenuation is applied in Table 15.

Since park activities are not subject to the City's standards between 9:00 a.m. and 10:15 p.m., swim meet tournaments at the facility would be exempt from the City standards. The noise level increase during days with swim meet tournaments would result in a 5 dBA L_{dn} increase at the south residences, which would exceed the City's 4 dBA L_{dn} threshold. For all other receptors, the noise level increase on days with swim meet tournaments would not be measurable or detectable (0 dBA L_{dn} increase).

Small Events

The facility would host smaller community events six to eight times per year, with approximately 100 people in attendance. These community events would include movie in the pool events (occurring during operating hours in the evening) or holiday related, such as Halloween or Santa events (occurring on Saturdays or Sundays between noon and 4:00 p.m.). Table 16 summarizes the worst-case L_{50} and L_{max} noise levels, the operational L_{dn}, the future L_{dn}, and the estimated noise level increase during small events propagated to the property lines of the surrounding receptors, assuming a minimum attenuation of 10 dBA for the east receptors and 9 dBA at the north receptors.

TABLE 15 Operational Noise Levels for the Aquatics Center during Swim Meet Tournaments

Pool Activity		South Res. & Comm. Uses	West Alameda Food Bank	West Comm. Uses	North Res. & Ismaili Cultural Center	East College & Offices
Swim Meet Tournaments	Dist., feet	255[a]	300[a]	445[a]	175[a]	770[a]
	L_{max}, dBA	75	73	70	69[b]	55[c]
	L_{50}, dBA	65	63	60	59[b]	45[c]
	Operational L_{dn}, dBA[d]	60	59	56	55	41
	Future L_{dn}, dBA[e]	62	73	73	65	65
	Noise Level Increase, dBA L_{dn}	5	0	0	0	0

[a] Distance measured from the center of lap pool, which represents the center of the combined noise source.
[b] A conservative 9 dBA attenuation is applied for the north receptors due to the 10-foot solid corrugated fence along the north side of the pool storage area, which partially shields the lap pool.
[c] A conservative 10 dBA attenuation is applied for the north and east receptors due to the intervening project buildings, which partially shields the recreational pool for the north receptors and both pools for the east receptors.
[d] Operational L_{dn} is generated by swim meet tournament operations at the Alameda Aquatic Center.
[e] Future L_{dn} is calculated by adding the Operational L_{dn} to the existing ambient L_{dn} at each of the receptors.

TABLE 16 Operational Noise Levels for the Aquatics Center during Small Events

Pool Activity		South Res. & Comm. Uses	West Alameda Food Bank	West Comm. Uses	North Res. & Ismaili Cultural Center	East College & Offices
Local Events with up to 100 visitors	Dist., feet	270[a]	455[a]	600[a]	170[a]	630[a]
	L_{50}, dBA	45	40	38	40[b]	27[c]
	Operational L_{dn}, dBA[d]	37	32	30	32[b]	< 20[c]
	Future L_{dn}, dBA[e]	57	73	73	65	65
	Noise Level Increase, dBA L_{dn}	0	0	0	0	0
Amplified Sound	Dist., feet	270[a]	455[a]	600[a]	170[a]	630[a]
	L_{50}, dBA	57	53	50	52[b]	40[c]
	Operational L_{dn}, dBA[d]	50	45	43	45[b]	32[c]
	Future L_{dn}, dBA[e]	58	73	73	65	65
	Noise Level Increase, dBA L_{dn}	1	0	0	0	0

[a] Distance measured from the center of pool deck, which represents the center of the combined noise source.
[b] A conservative 9 dBA attenuation is applied for the north receptors due to the 10-foot solid corrugated fence along the north side of the pool storage area, which partially shields the lap pool.
[c] A conservative 10 dBA attenuation is applied for the north and east receptors due to the intervening project buildings, which partially shields the recreational pool for the north receptors and both pools for the east receptors.
[d] Operational L_{dn} is generated by small event operations at the Alameda Aquatic Center.
[e] Future L_{dn} is calculated by adding the Operational L_{dn} to the existing ambient L_{dn} at each of the receptors.

The L_{50} standards summarized in Table 11 would be exceeded at the south residences during the small events using amplified sound. Since all park activities are not subject to the City's standards between 9:00 a.m. and 10:15 p.m., small community events at the facility would be exempt from the City standards.

The noise level increase during small gatherings would not be measurable or detectable (i.e., 0 dBA L_{dn} increase). The use of amplified sound would result in a noise level increase of 1 dBA L_{dn} at the south residences, which would not exceed the City's 4 dBA L_{dn} threshold. For all other receptors, the noise level increase due to amplified sound would not be measurable or detectable (0 dBA L_{dn} increase).

<u>(Potential) Water Polo Tournaments</u>

Water polo tournaments are not scheduled at this facility but may be requested by the School District if the District's pools are not available. Water polo games would include 10 to 12 players per team with approximately 20 spectators, or approximately 40 people per hour. This typical attendance is assumed each hour between 9:00 a.m. and 6:00 p.m. for one to two days on weekends.

Table 17 summarizes the worst-case L_{50} and L_{max} noise levels, the operational L_{dn}, the future L_{dn}, and the estimated noise level increase during the potential water polo tournaments propagated to the property lines of the surrounding receptors. The facility's buildings and pool storage fence would provide a minimum attenuation of 10 dBA for the east receptors and 9 dBA for the north receptors. This attenuation is applied in Table 17.

The L_{50} standards summarized in Table 11 would be exceeded at the south residences during water polo tournaments. Since all park activities are not subject to the City's standards between 9:00 a.m. and 10:15 p.m., potential water polo tournaments at the facility would be exempt from the City standards.

The noise level increase during days with water polo tournaments would result in a 2 dBA L_{dn} increase at the south residences, which would not exceed the City's 4 dBA L_{dn} threshold. For all other receptors, the noise level increase due to the water polo tournaments would not be measurable or detectable (i.e., 0 dBA L_{dn} increase) at the other surrounding receptors.

TABLE 17 Operational Noise Levels for the Aquatics Center during Potential Water Polo Tournaments

Pool Activity		South Res. & Comm. Uses	West Alameda Food Bank	West Comm. Uses	North Res. & Ismaili Cultural Center	East College & Offices
(Potential) Water Polo Tournaments	Dist., feet	255[a]	300[a]	445[a]	175[a]	770[a]
	L_{max}, dBA	79	78	74	73[b]	59[c]
	L_{50}, dBA	58	57	53	52[b]	38[c]
	Operational L_{dn}, dBA[d]	54	52	49	48[b]	34[c]
	Future L_{dn}, dBA[e]	59	73	73	65	65
	Noise Level Increase, dBA L_{dn}	2	0	0	0	0

[a] Distance measured from the center of the lap pool, which represents the center of the combined noise source.
[b] A conservative 9 dBA attenuation is applied for the north receptors due to the 10-foot solid corrugated fence along the north side of the pool storage area, which partially shields the lap pool.
[c] A conservative 10 dBA attenuation is applied for the north and east receptors due to the intervening project buildings, which partially shields the recreational pool for the north receptors and both pools for the east receptors.
[d] Operational L_{dn} is generated (potential) water polo tournament operations at the Alameda Aquatic Center.
[e] Future L_{dn} is calculated by adding the Operational L_{dn} to the existing ambient L_{dn} at each of the receptors.

Truck Loading and Unloading

While the site plan does not show loading zones, concessions at the Aquatics Center would require regular deliveries. It is assumed that loading and unloading activities would occur at the trash enclosures and along the curb of Atlantic Avenue.

Truck maneuvering noise would include a combination of engine, exhaust, and tire noise, as well as the intermittent sounds of back-up alarms and releases of compressed air associated with truck/trailer air brakes. For uses such as the Aquatics Center, medium-sized delivery and trash trucks would be expected. Medium-sized delivery trucks typically generate maximum noise levels of 60 to 65 dBA at 50 feet. The noise level of backup alarms can vary depending on the type and directivity of the sound, but maximum noise levels are typically in the range of 65 to 75 dBA at a distance of 50 feet.

For all loading and unloading activities, including trash pickup, truck maneuvering would take up to five minutes per delivery. It is assumed that the proposed project would be in accordance with Chapter 4-10.5 of the City's Municipal Code, which prohibits loading and unloading activities between the hours of 10:00 p.m. and 7:00 a.m. Therefore, the daytime L_{08} standards provided in Table 11 for each receptor would apply to this noise source.

Table 18 summarizes expected noise levels generated by typical truck deliveries at the surrounding receptors. All noise levels in Table 18 are unattenuated.

Based on the estimated noise levels in Table 18, truck loading/unloading activities would not exceed the City's L_{08} or L_{50} daytime standards, which are summarized in Table 11. For all existing receptors, the noise level increase due to truck loading/unloading activities would not be measurable or detectable (0 dBA L_{dn} increase).

TABLE 18 Operational Noise Levels for Truck Loading and Unloading Activities at the Aquatics Center

Truck Loading and Unloading Activity		South Res. & Comm. Uses	West Alameda Food Bank	West Comm. Uses	North Res. & Ismaili Cultural Center	East College & Offices
Street Loading Zone	Dist., feet	350[a]	375[a]	510[a]	65[a]	610[a]
	L_{08}, dBA	43 to 48	43 to 48	40 to 45	58 to 63	38 to 43
	L_{50}, dBA	37 to 40	37 to 40	34 to 37	52 to 55	33 to 36
Trash Enclosure Area	Dist., feet	320[b]	815[b]	960[b]	240[b]	275[b]
	L_{08}, dBA	44 to 49	36 to 41	34 to 39	46 to 51	45 to 50
	L_{50}, dBA	38 to 41	30 to 33	29 to 32	41 to 44	39 to 42
Combined	**L_{08}, dBA**	**Up to 52**	**Up to 48**	**Up to 46**	**Up to 63**	**Up to 51**
	L_{50}, dBA	**Up to 44**	**Up to 41**	**Up to 38**	**Up to 55**	**Up to 43**
	Operational L_{dn}, dBA[c]	**30**	**27**	**24**	**41**	**29**
	Future L_{dn}, dBA[d]	**57**	**73**	**73**	**65**	**65**
	Noise Level Increase, dBA L_{dn}	**0**	**0**	**0**	**0**	**0**

[a] Distance measured from the center of the street loading zone, which represents the center of the combined noise source.
[b] Distance measured from the center of the trash enclosure loading zone, which represents the center of the combined noise source.
[c] Operational L_{dn} is generated by typical daily operations at the Alameda Aquatic Center.
[d] Future L_{dn} is calculated by adding the Operational L_{dn} to the existing ambient L_{dn} at each of the receptors.

Total Combined Project-Generated Noise

Operational L_{50} and L_{max} noise levels due to project-generated activities (i.e., traffic, mechanical equipment, typical daily activities, swim meets, small events, potential water polo matches, and truck loading/unloading) would be exempt from City's standards between 9:00 a.m. and 10:15 p.m., and activities occurring between 5:30 a.m. and 9:00 a.m. on typical days would not exceed the City's noise standards summarized in Table 11 at the surrounding receptors.

For all existing receptors in the project vicinity, the noise level increase due to project traffic, mechanical equipment, truck loading/unloading, typical daily activities, small events, and (potential) water polo tournaments would result in a permanent noise level increase of 2 dBA L_{dn} or less.

During swim meet tournaments, the noise level increase would potentially be up to 5 dBA L_{dn} at the south residences. However, this increase would occur for a maximum of four days per year. While this would be a significant increase, it would not be considered a permanent noise increase since the majority of the year, surrounding receptors would not be subject to an increase more than 2 dBA L_{dn} over existing ambient conditions. Therefore, this would be a less-than-significant impact.

Mitigation Measure 1b: None required.

Impact 2: Exposure to Excessive Groundborne Vibration. Construction-related vibration levels would not exceed applicable vibration thresholds at nearby sensitive land uses. This is a **less-than-significant** impact.

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g., jackhammers, hoe rams) are used. Construction activities would include demolition, site preparation work, foundation work, and new building framing and finishing. Pile driving equipment, which can cause excessive vibration, is not expected to be required for the proposed project.

The California Department of Transportation (Caltrans) recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, which typically consist of buildings constructed since the 1990s. Conservative vibration limits of 0.3 in/sec PPV has been used for buildings that are found to be structurally sound but where structural damage is a major concern (see Table 3 for further explanation). For historical buildings and some old buildings, a vibration limit of 0.25 in/sec PPV would apply, and for ruins or ancient monuments, a cautious vibration limit of 0.08 in/sec PPV is often used to provide the highest level of protection. No historical buildings, ancient monuments or ruins have been identified within 200 feet of the project. Conservatively, the 0.3 in/sec PPV threshold would be applied for all structures in the project vicinity.

Table 19 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. Project construction activities, such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), may generate substantial vibration in the immediate vicinity. Jackhammers

TABLE 19 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft. (in/sec)	Minimum Distance to Meet 0.3 in/sec PPV (feet)
Clam shovel drop		0.202	18
Hydromill (slurry wall)	in soil	0.008	1
	in rock	0.017	2
Vibratory Roller		0.210	19
Hoe Ram		0.089	9
Large bulldozer		0.089	9
Caisson drilling		0.089	9
Loaded trucks		0.076	8
Jackhammer		0.035	4
Small bulldozer		0.003	<1

Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation, September 2018, as modified by Illingworth & Rodkin, Inc., January 2025.

typically generate vibration levels of 0.035 in/sec PPV, and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet.

Vibration levels would vary depending on soil conditions, construction methods, and equipment used. Table 19 also summarizes the distances to the 0.3 in/sec PPV threshold for older conventional buildings located in the project vicinity.

Vibration levels are highest close to the source and then attenuate with increasing distance at the rate $\left({D_{ref}}/{D}\right)^{1.1}$, where D is the distance from the source in feet and D_{ref} is the reference distance of 25 feet. While construction noise levels increase based on the cumulative equipment in use simultaneously, construction vibration levels would be dependent on the location of individual pieces of equipment. That is, equipment scattered throughout the site would not generate a collective vibration level, but a vibratory roller, for instance, operating near the project site boundary would generate the worst-case vibration levels for the receptor sharing that property line. Further, construction vibration impacts are assessed based on damage to buildings on receiving land uses, not receptors at the nearest property lines.

The nearest off-site building would be the nearest residence to the north, which would be approximately 70 feet from the northern property line of the project site. When construction equipment is used along the northern property line, vibration levels would be below 0.07 in/sec PPV. All other buildings in the project vicinity would be 100 feet or more from the project site and would be exposed to construction vibration levels below 0.05 in/sec PPV. Therefore, vibration due to construction activities at the project site would be well below the 0.3 in/sec PPV threshold for conventional buildings. This would be a less-than-significant impact.

Neither cosmetic, minor, or major damage would occur at buildings located 30 feet or more from the project site. At these locations, and in other surrounding areas where vibration would not be expected to cause cosmetic damage, vibration levels may still be perceptible. However, as with any type of construction, this would be anticipated and would not be considered significant, given the intermittent and short duration of the phases that have the highest potential of producing vibration (use of jackhammers and other high-power tools). By use of administrative controls, such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration during hours with the least potential to affect nearby businesses, perceptible vibration can be kept to a minimum.

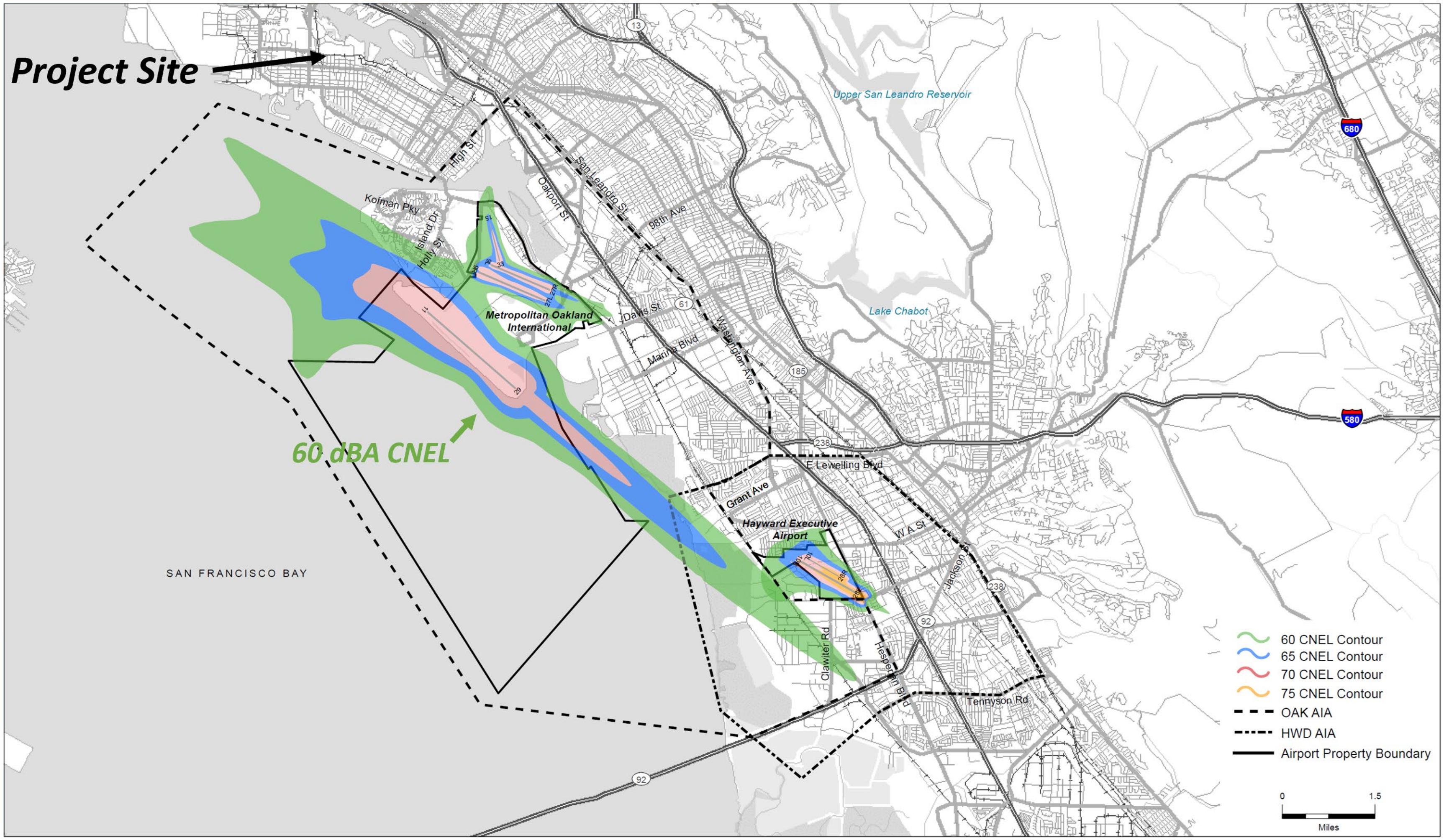
Mitigation Measure 2: None required.

Impact 3: **Excessive Aircraft Noise.** The project site is located more than 4 miles from Oakland International Airport and more than 11 miles from the Hayward Executive Airport. The noise environment attributable to aircraft is considered normally acceptable under the Alameda County ALUC noise compatibility policies. This is a **less-than-significant** impact.

Oakland International Airport is a public-use airport located more than 4 miles southeast of the project site, and the Hayward Executive Airport is located more than 11 miles southeast of the project. According to the Alameda County ALUC, the project site lies well outside the 60 dBA CNEL/L_{dn} contour line (see Figure 2). The proposed project would be compatible with the City's exterior noise standards for aircraft noise and aircraft would not produce excessive noise levels for persons at the site. This would be a less-than-significant impact.

Mitigation Measure 3: None required.

FIGURE 2 Noise Contours for Oakland International Airport and Hayward Executive Airport



SOURCE: ESA Airports, ESRI, OAK Airport Master Plan, Caltrans California Airport Land Use Planning Handbook, 2002

Oakland International Airport Land Use Plan Update . 202229
Figure 3-3
Noise Compatibility Zones

Cumulative Impacts

Cumulative noise impacts would result from either cumulative traffic noise increases under future conditions or temporary construction noise from cumulative construction projects.

A significant cumulative traffic noise increase would occur if two criteria are met: 1) if the cumulative traffic noise level increase was 3 dBA L_{dn} or greater for future levels exceeding 60 dBA L_{dn} or was 5 dBA L_{dn} or greater for future levels at or below 60 dBA L_{dn}; and 2) if the project would make a "cumulatively considerable" contribution to the overall traffic noise increase. A "cumulatively considerable" contribution would be defined as an increase of 1 dBA L_{dn} or more attributable solely to the proposed project.

The traffic study completed for the proposed project did not include future cumulative traffic volumes. The addition of project trips (up to 66 peak hour trips on fall, winter, and spring days and up to 383 peak hour trips on summer days) to the existing traffic volumes along the surrounding roadways would not result in a measurable or detectable noise level increase (i.e., 0 dBA L_{dn}). Under future cumulative conditions, traffic volumes are likely to increase; therefore, these project trips would not result in a less-than-significant cumulative impact.

From the City's website,[8] the nearest planned or approved projects would be located more than 2,000 feet from the project site. Therefore, there would not be a cumulative construction impact associated with the proposed project.

[8] https://www.alamedaca.gov/Departments/Planning-Building-and-Transportation/Planning-Division

APPENDIX A

FIGURE A1 Daily Trend in Noise Levels for LT-1, Wednesday, January 15, 2025

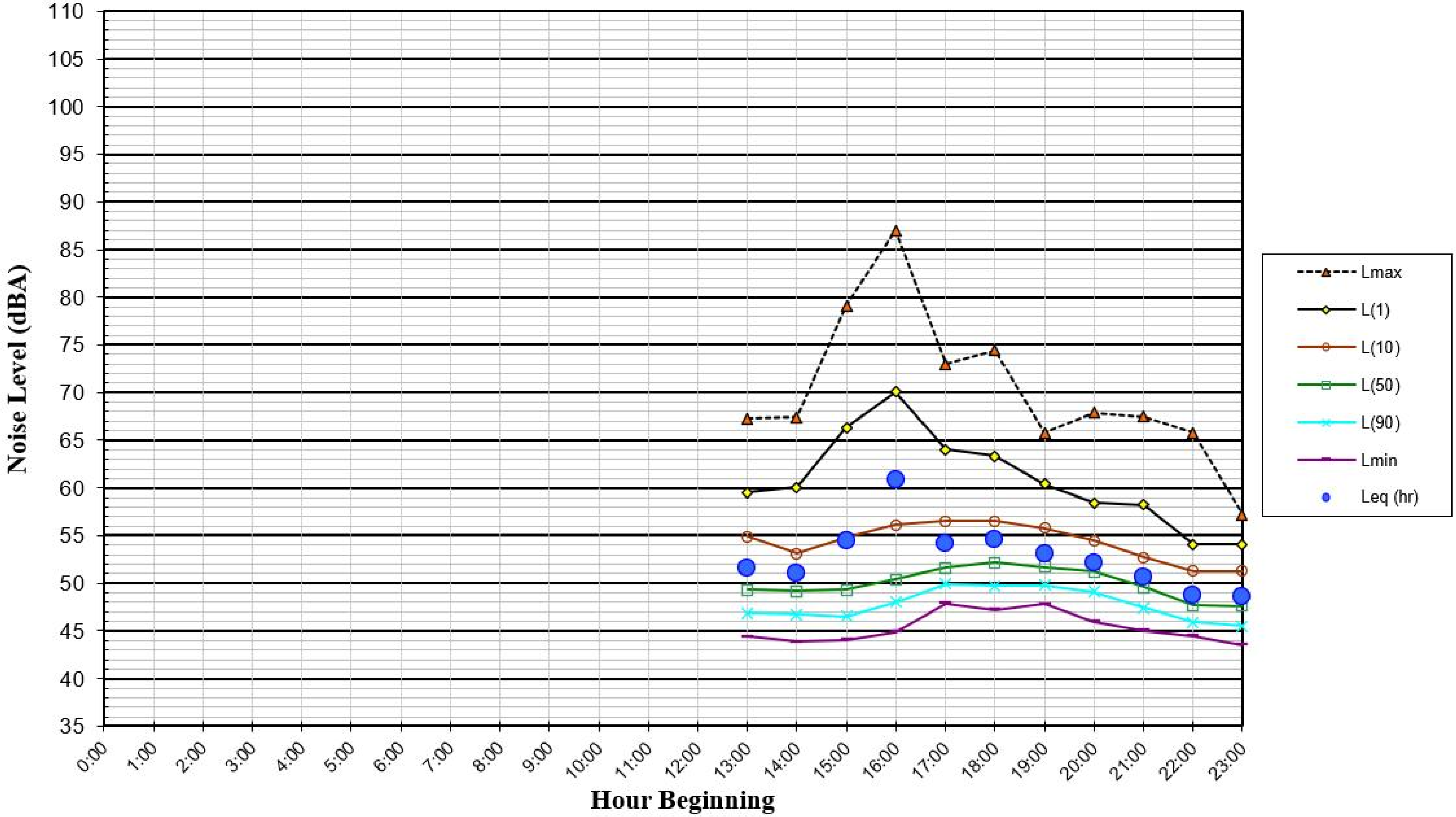


FIGURE A2 Daily Trend in Noise Levels for LT-1, Thursday, January 16, 2025

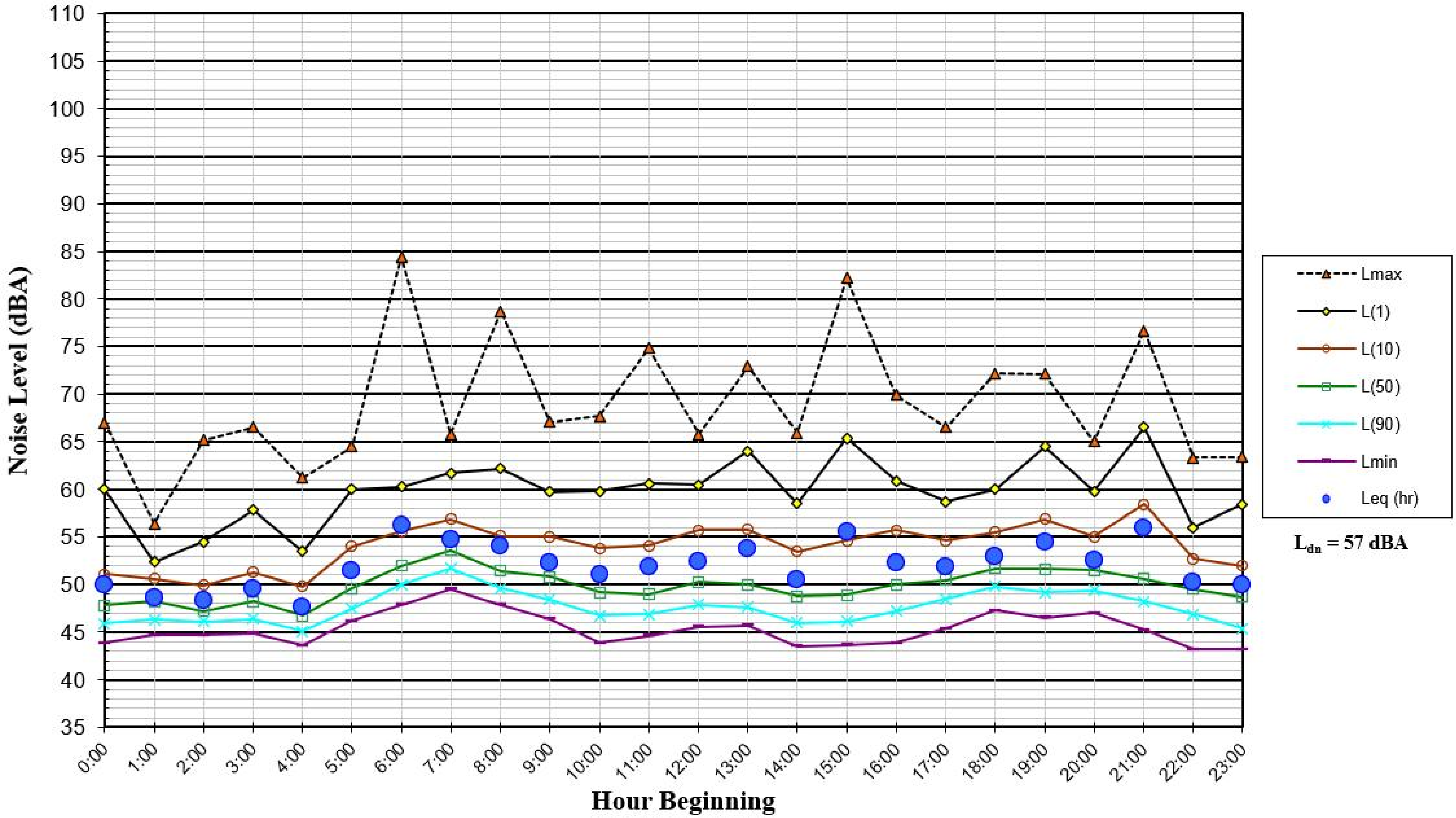


FIGURE A3 Daily Trend in Noise Levels for LT-1, Friday, January 17, 2025

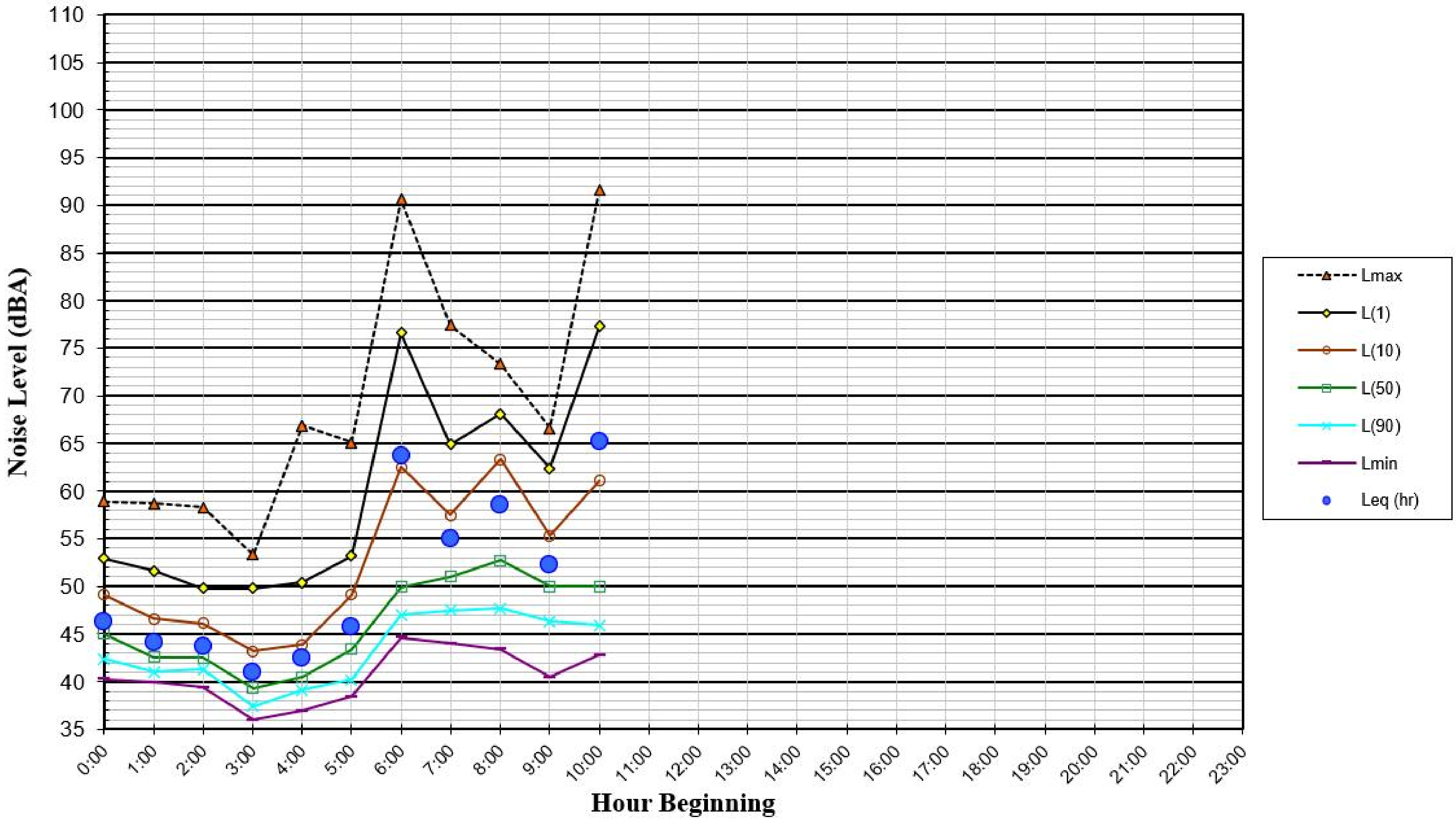


FIGURE A4 Daily Trend in Noise Levels for LT-2, Wednesday, January 15, 2025

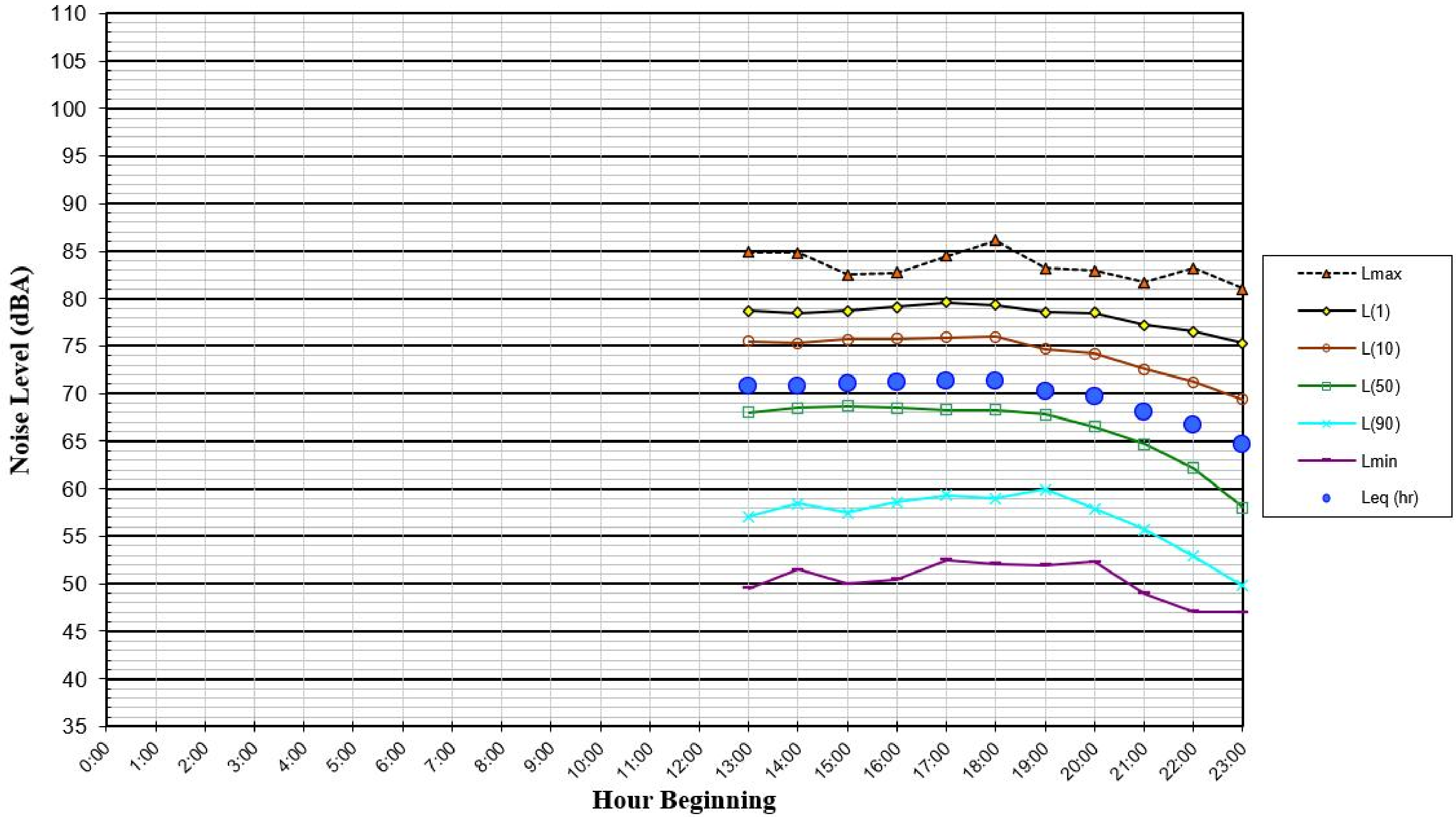


FIGURE A5 Daily Trend in Noise Levels for LT-2, Thursday, January 16, 2025

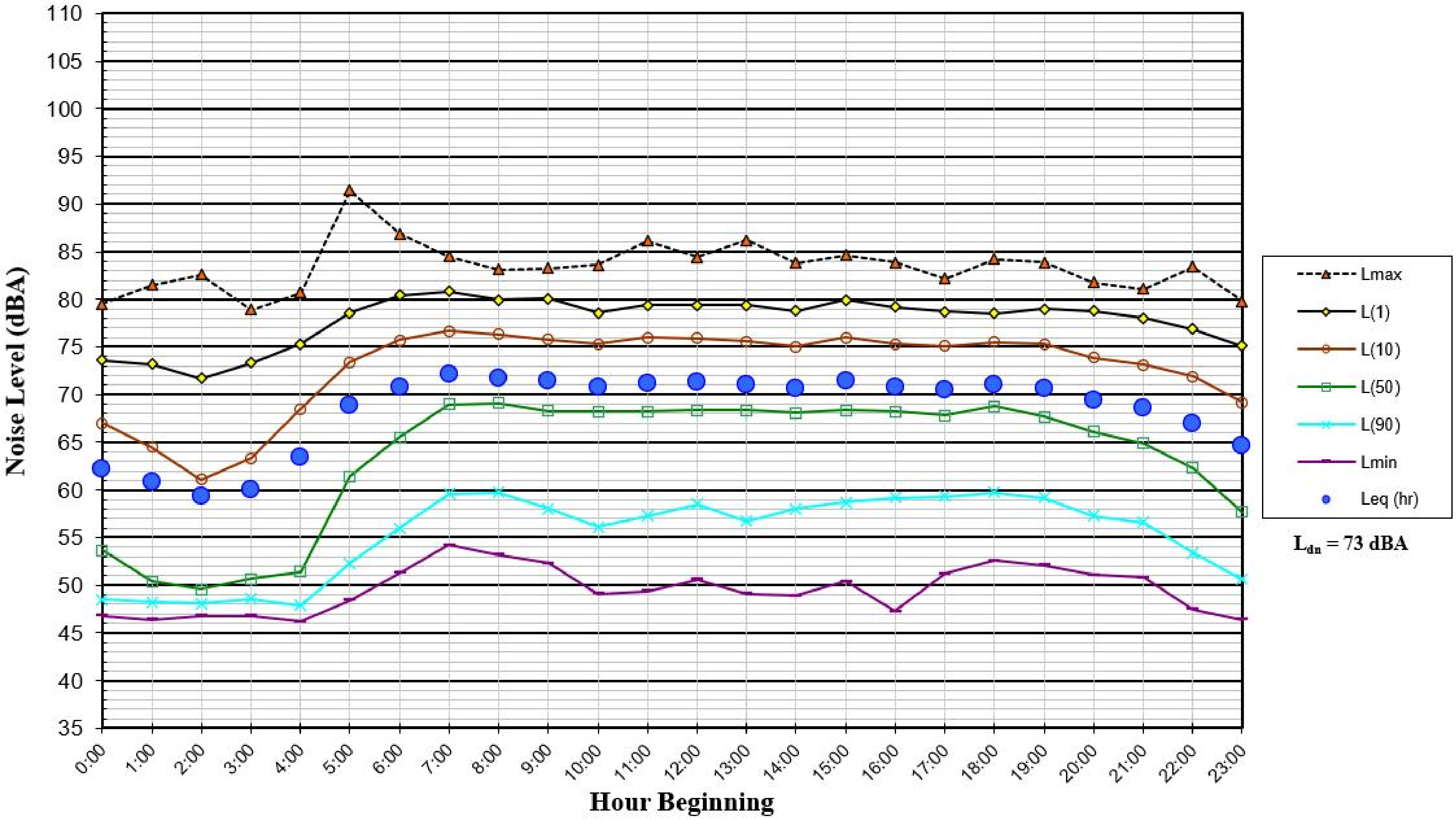


FIGURE A6 Daily Trend in Noise Levels for LT-2, Friday, January 17, 2025

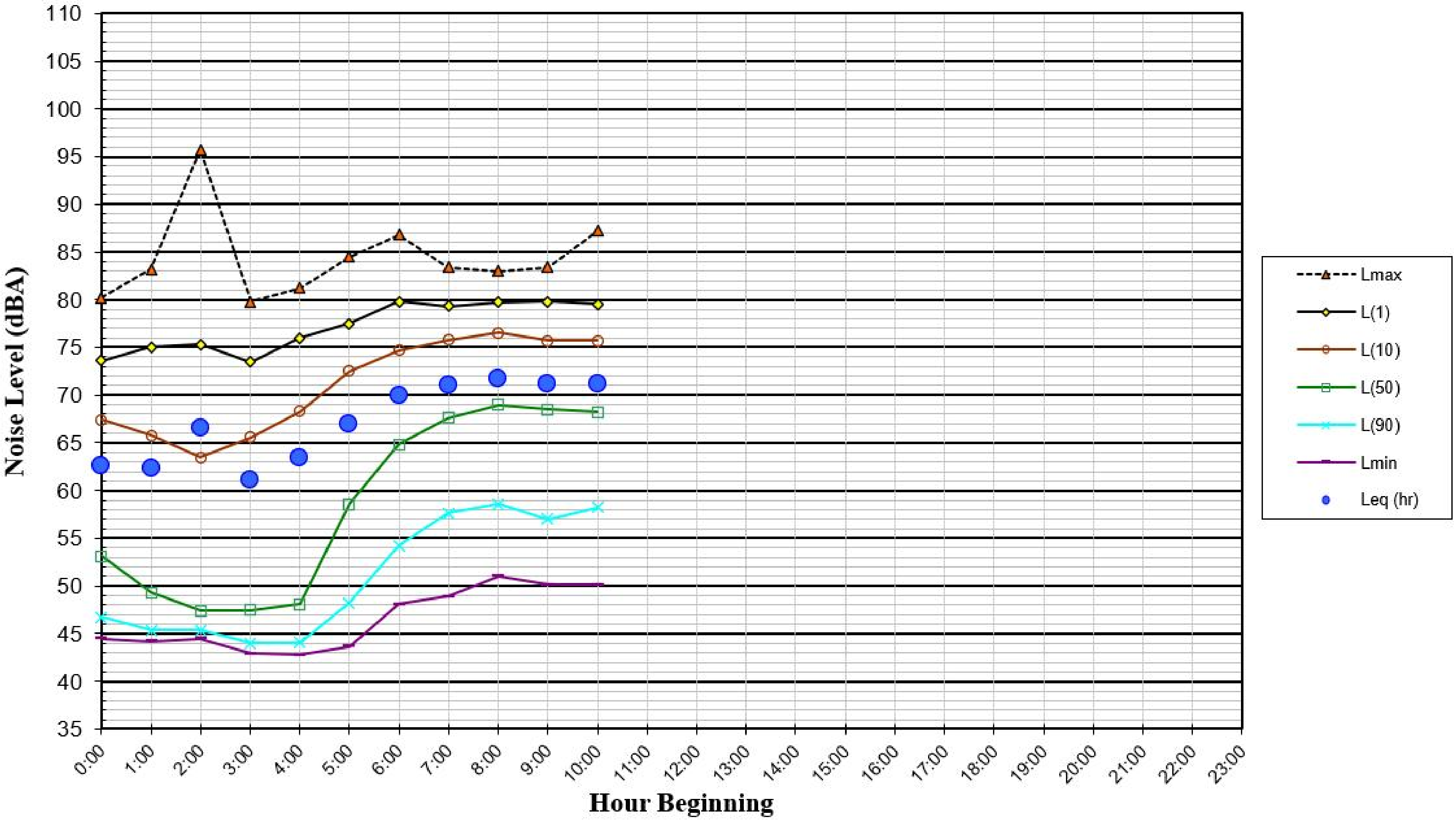


FIGURE A7 Daily Trend in Noise Levels for LT-3, Wednesday, January 15, 2025

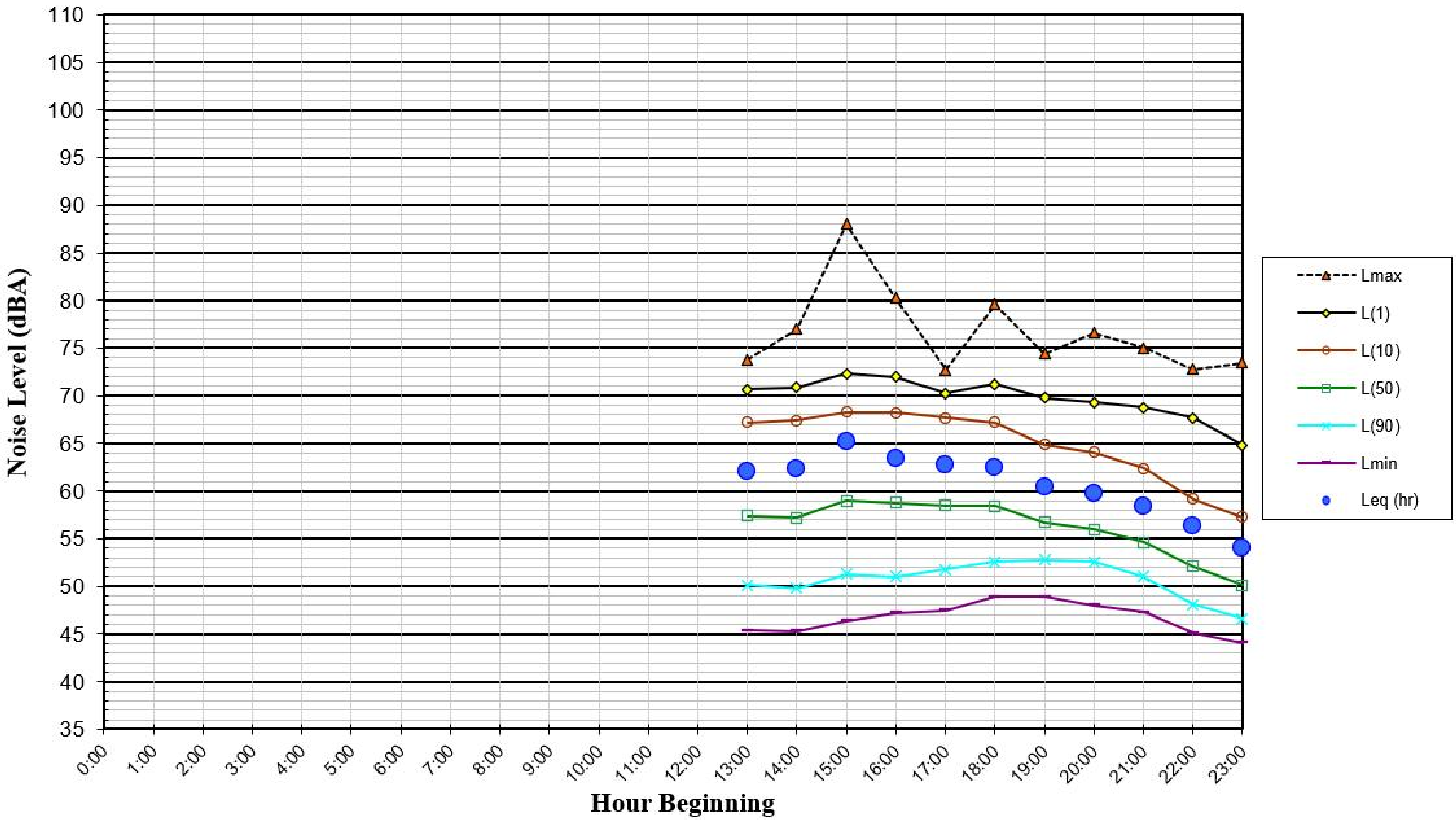


FIGURE A8   Daily Trend in Noise Levels for LT-3, Thursday, January 16, 2025

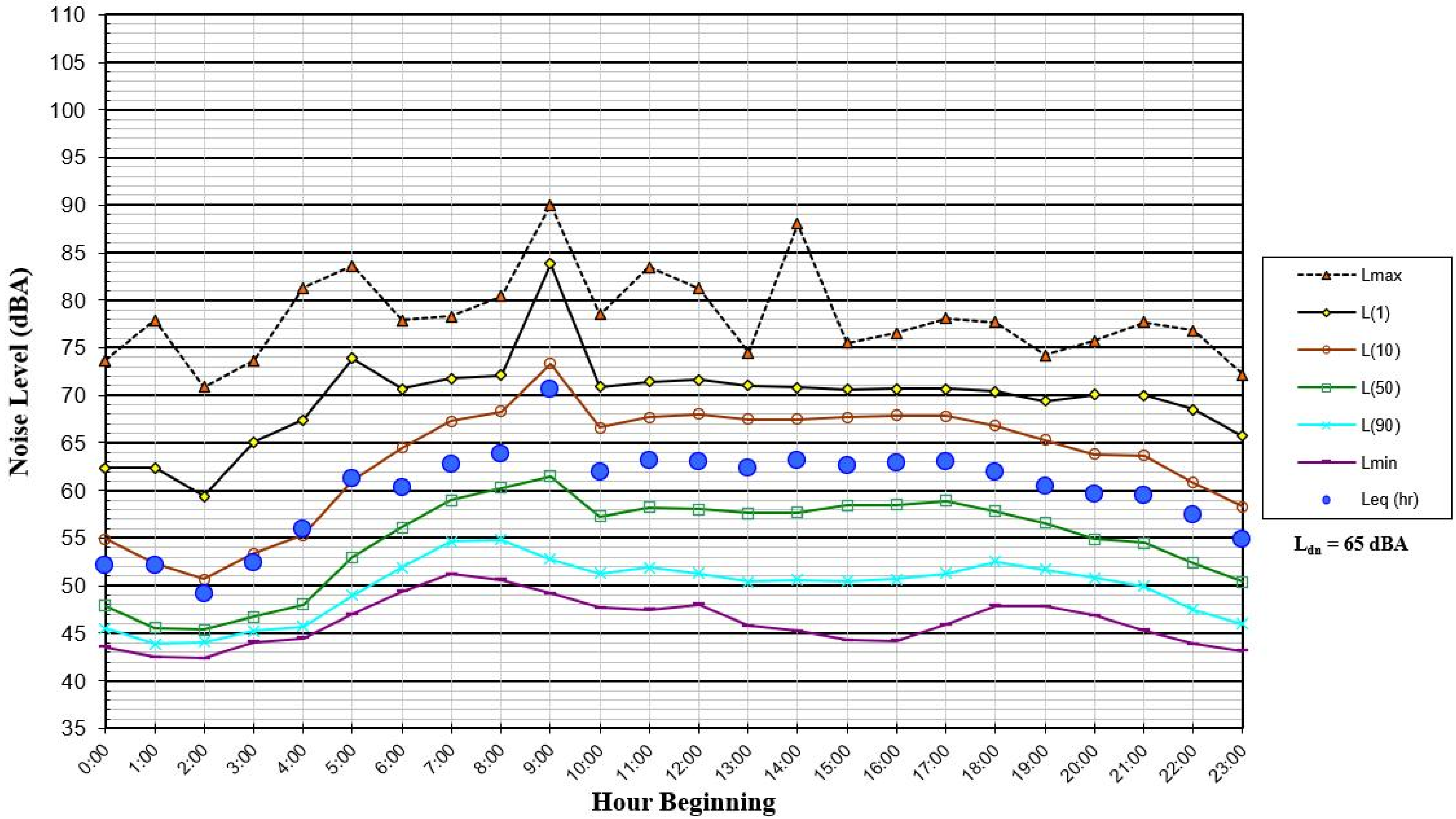
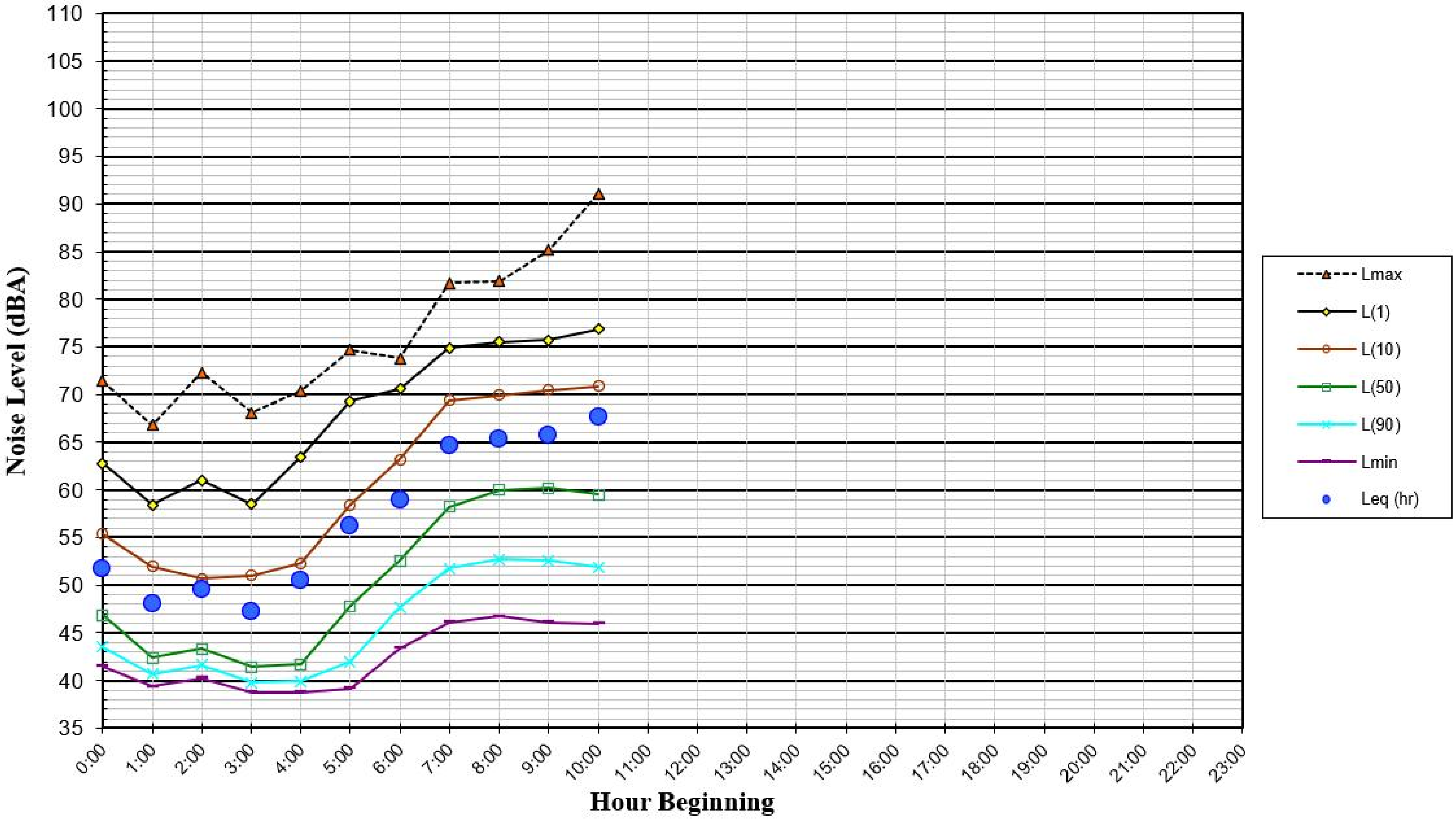


FIGURE A9 Daily Trend in Noise Levels for LT-3, Friday, January 17, 2025



Appendix F: Transportation Analysis

Memorandum

Date: June 3, 2025

To: Natalie Noyes, David J. Powers & Associates

From: Sam Tabibnia and Henry Helmuth, Fehr & Peers

Subject: Alameda Aquatic Center Project – CEQA Transportation Analysis

OK20-0355.03

Fehr & Peers conducted a CEQA transportation assessment for the proposed development, an aquatic center including a one-story multi-purpose building, one 30-meter competition swimming pool, one activity pool, and spectator seating. This memorandum summarizes the Project description and the vehicle miles traveled (VMT) screening assessment for the Project.

Based on our assessment, the Project is considered a local-serving use and is therefore presumed to have a less-than-significant impact on VMT.

The remainder of this memorandum provides detail on our analysis assumptions, methodology, and findings.

1. Project Description

The Project would be located at 800 Atlantic Avenue, along the south side of Atlantic Avenue east of Wilma Chan Way. The Cross Alameda Trail would form the south boundary of the site. The Project is anticipated to serve as the primary aquatic sport center for the City of Alameda and would be used for practices, swim meets, and public uses. The Project site is part of the Jean Sweeney Open Space Park and is currently vacant. **Figure 1** shows the Project site plan.

The Project would provide 71 vehicular parking spaces in a surface parking lot on the east side of the Project. Parking would be accessed via one driveway on Atlantic Avenue, about 300 feet east of Bartlett Drive. The Project parking lot would provide a secondary access point through a drive aisle connecting to the adjacent parking lot for the College of Alameda Science Annex just east of the Project.

The Project would provide 10 long-term bicycle parking spaces in lockers located on the south end of the Project site. Short-term bicycle parking would consist of bike racks accommodating 100 bicycles, provided just east of the main facility entrance and adjacent to the parking lot. Atlantic Avenue on the north side of the Project and the Cross Alameda Trail on the south side of the Project would provide pedestrian and bicycle connections for the Project.

The Project would provide a variety of programming throughout the year. **Attachment A** provides details on planned programming at the proposed aquatic center by time of year and day of week as estimated by the City of Alameda staff, and presents the estimated number of visitors and staff and hours of operations by activity. The Project would be open seven days per week from 5:30 AM to 9:00 PM with most activities occurring from 2:00 PM to 9:00 PM on weekdays and 9:00 AM to 4:00 PM on weekends. The aquatic center would also host summer camp activities on weekdays from 8:00 AM to 7:30 PM, and special events, such as swim meets and water polo tournaments, which occur a few times throughout the year.

Table 1 summarizes the hours of activity and number of staff and visitors for weekdays and weekends under typical operations. During non-summer months, the Project is estimated to have about 275 visitors on a typical weekday, about 315 visitors on a typical weekend day, and three full-time and about five to ten part-time staff on both weekdays and weekends. During summer months, the Project would host summer camp activities on weekdays which would result in about 620 visitors and 20 to 30 part-time staff in addition to the three full-time staff.

The Project would also accommodate several special events. These events, which primarily consist of swim meets and water polo tournaments, would generally occur a few times a year on weekends and can have up to 500 visitors throughout the event.

Table 1: Project Operation Characteristics

Season	Typical Weekday			Typical Weekend		
	Hours of Operations	Visitors	Staff	Hours of Operations	Visitors	Staff
Non-Summer						
Main Activities (lap swim, swim lessons, youth teams, etc.)	5:30 AM to 9:00 PM with most activities from 2:00 PM to 9:00 PM	275	3 full-time and 5-10 part-time	5:30 AM to 9:00 PM with most activities from 8:00 AM to 4:00 PM	315	3 full-time and 5-10 part-time
Summer						
Main Activities (lap swim, swim lessons, youth teams, etc.)	5:30 AM to 9:00 PM with most activities from 8:00 AM to 7:00 PM	320	3 full-time and 5-10 part-time	5:30 AM to 9:00 PM with most activities from 8:00 AM to 4:00 PM	315	3 full-time and 5-10 part-time
Summer Camps (weekly camps, water polo and dive camps, etc.)	8:00 AM to 7:30 PM with most camps occurring from 9:00 AM to 4:00 PM	300	15-20 part-time	None	0	0
Total		620	3 full-time and 20-30 part-time		315	3 full-time and 5-10 part-time

Source: Data provided by City of Alameda and summarized by Fehr & Peers, 2025. See **Attachment A** for details.

2. VMT Evaluation

The effects of the Project on VMT is evaluated based on the guidance provided by the State's Office of Planning and Research (OPR) in their *Technical Advisory on Evaluating Transportation Impacts in CEQA*. The OPR guidance recommends using an efficiency metric (such as VMT per person) rather than an absolute numeric threshold (such as total VMT) because an efficiency metric speaks to how efficiently the people at a given location travel. A project that contributes to a more efficient use of the transportation system would reduce the VMT per person.

According to the OPR guidance, screening criteria can be used to identify projects that can be expected to cause a less-than-significant impact without conducting a detailed analysis. Local-serving uses can be presumed to have a less-than-significant impact on VMT absent substantial evidence to the contrary. Local serving uses, such as grocery stores, local schools, and community centers, can be considered to have a less-than-significant impact on VMT because they would draw most of their users, customers, and/or visitors from a relatively small geographical area. The Project is an aquatic center that would host activities, such as swim lessons, summer camps, and lap swimming, that primarily serve the City of Alameda residents. Although the Project would also host events such as swim meets and water polo tournaments that have a regional draw, these are only expected a few times a year and represent a small portion of the overall trips generated by the site. Thus, most of the trips generated by the Project under typical conditions are expected to be local Alameda residents. In addition, the Project site is easily accessible by non-automobile modes. Class II bicycle lanes on Atlantic Avenue and the Class I Cross Alameda Trail provide non-motorized access adjacent to the site, and Webster Street, about 0.2 miles walking distance west of the Project site, provides high-frequency transit service.

Considering the Project use and availability of non-automobile modes, the Project can be considered a local-serving use and presumed to have a less-than-significant impact on VMT.

Please contact Sam Tabibnia (stabibnia@fehrandpeers.com or 510-835-1943) for questions or comments.

Attachments:

Attachment A – Planned Aquatic Center Programming