FINAL

Tijuana River Sediment Management Work Plan

March 2023

Funding provided by State Coastal Conservancy through Proposition 68 California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 resources

PROP 68 State of California Parks + Water Bond 2018

Coastal Conservancy

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Table of Contents

Funding provided by State Coastal Conservancy through Proposition 68 California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 resources

Funding provided by State Coastal Conservancy through Proposition 68 California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 resources

APPENDICES

FIGURES

TABLES

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Acronyms and Abbreviations

Acronym	Definition
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
cy	cubic yard
LCP	Local Coastal Program
NMFS	National Marine Fisheries Service
RWQCB	Regional Water Quality Control Board
SCOUP	Sand Compatibility and Opportunistic Use Program Plan
S/S	stabilization/solidification
SLR	sea-level rise
TAC	Technical Advisory Committee
TRW	Tijuana River watershed
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
Valley	Tijuana River Valley
WDR	Waste Discharge Requirement

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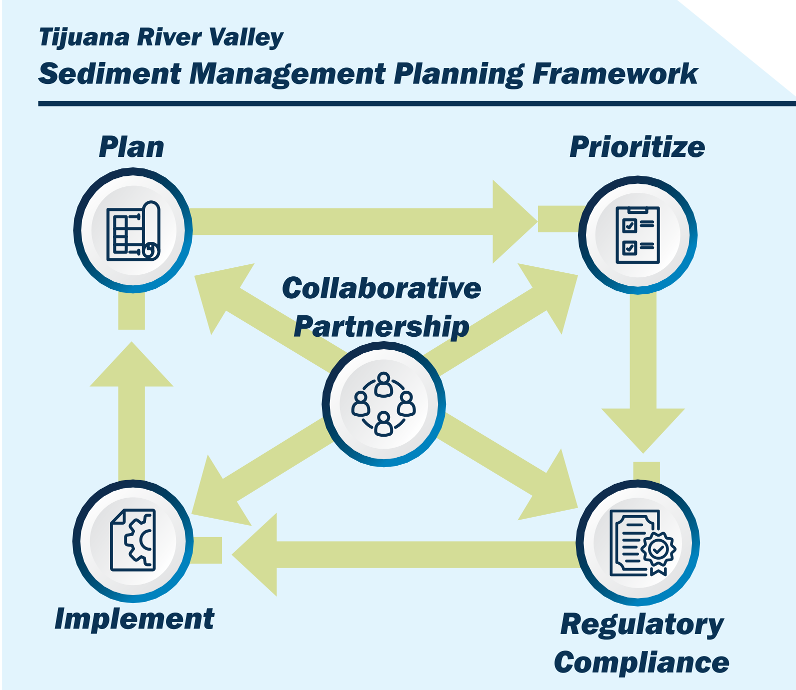
Tijuana River Valley

Sediment Management Work Plan

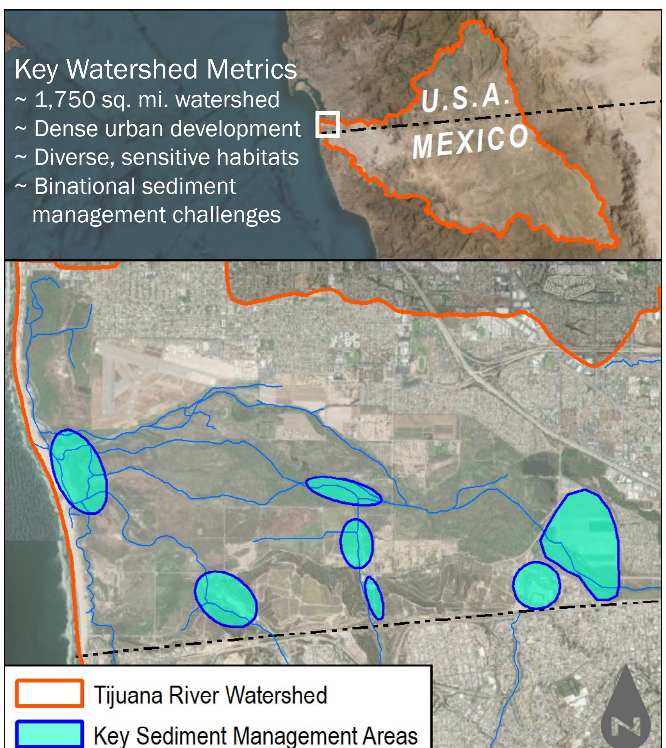
February 2023

Executive Summary



This Sediment Management Work Plan (Work Plan) is intended to serve as a guide for agencies and organizations responsible for sediment management activities in the Tijuana River Valley (Valley). Sediment management in the Valley is conducted to address flood risk, protect habitat, control pollutants, and increase resilience to climate change. Goals of this Work Plan are to outline strategies to efficiently plan, prioritize, and implement sediment management activities through collaborative partnerships and a consistent regulatory framework, and establish a roadmap for streamlined sediment management in the Valley.

Rain events and watershed dynamics distribute sediment to low-lying areas and receiving waters. The Valley is the terminus of a large binational watershed with significant sediment and trash transport challenges. Agencies with habitat management and flood management responsibilities in the Valley, including federal, state, and local stakeholders, perform sediment management activities resulting in the excavation of large amounts of sediment. Sediment management in this context is considered the process of one-time or periodic handling, treatment, and beneficial reuse or disposal. Beneficial reuse and/or disposal of excavated sediment has been a long-standing challenge due to watershed configuration and nearby coastal dynamics, logistics, costs, regulatory compliance, and public perception.



This Work Plan provides a Valley-specific framework for sediment management options with stakeholder input-derived recommendations to support short- and long-term goals for optimization of sediment beneficial reuse and disposal processes. The Work Plan provides an overview of the watershed, areas with sediment management need (sources), summary of processes used to excavate, handle, and transport sediment, common beneficial reuse and disposal pathways, and a synopsis of associated regulatory permitting elements including monitoring and reporting.

The Goat Canyon sediment basins are a key source area requiring ongoing management and sediment export.

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Tijuana River Valley

Sediment Management Work Plan

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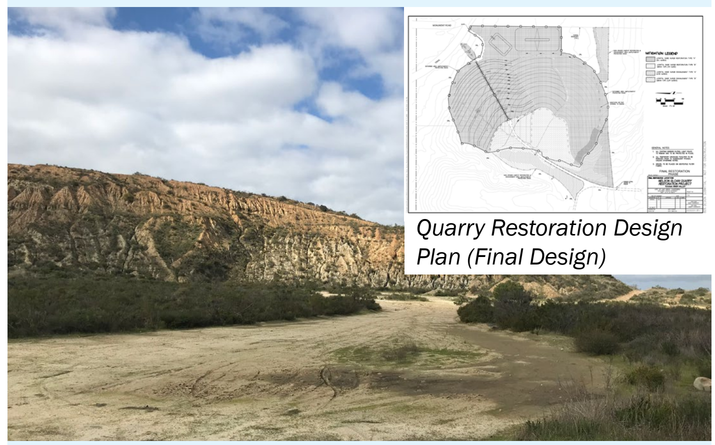
Work Plan contents are intended to guide and support agency planning and implementation activities.

Important follow up actions outlined in this Work Plan are for affected agencies to take proactive steps to:

- Coordinate with key stakeholders to facilitate efficient sediment management;
- Maximize source control in upstream areas and Mexico to minimize anthropogenic contributions to sediment loads;
- Reduce barriers to beneficial reuse by performing pilots to refine implementation strategies, coordinate with regulatory agencies, and perform collaborative work to maximize cost-efficiency and environmental protections;
- Develop standard and streamlined permitting strategies in collaboration with appropriate regulatory agencies;
- Develop and maintain a centralized data repository for sediment management information and data to support activity planning, permitting, and implementation;
- Support science and technology advancements to enhance understanding of sediment fate and transport and improve management policies and projects; and
- Develop a comprehensive program to identify, develop, and route sustainable funding sources toward Valley sediment management needs.

The recommendations presented in this Work Plan are intended to support successful implementation of sediment management projects throughout the Valley over the next decade and beyond. The Work Plan outlines series of short-term and long-term goals to work toward overcoming known sediment management hurdles. Short-term goals aim to leverage existing processes and programs to facilitate agency collaboration to standardize and optimize sediment management planning and implementation efforts. Long-term goals build on the short-term actions and emphasize a multiagency, coordinated approach to sediment management to the level of formalized partnerships and streamlined project implementation. These efforts would be supported by research/pilot projects, consistent, regional funding, and aligned with resource agency goals.

Periodic excavation of channel conveyances to reduce flood risk requires cost-efficient sediment reuse and disposal options.



Quarry Restoration Design Plan (Final Design)

Historic quarry restoration through placement of clean excavated sediment provides a beneficial reuse option.

Sediment placement in nearshore environment may provide sustainable, long-term management solution with multiple benefits.

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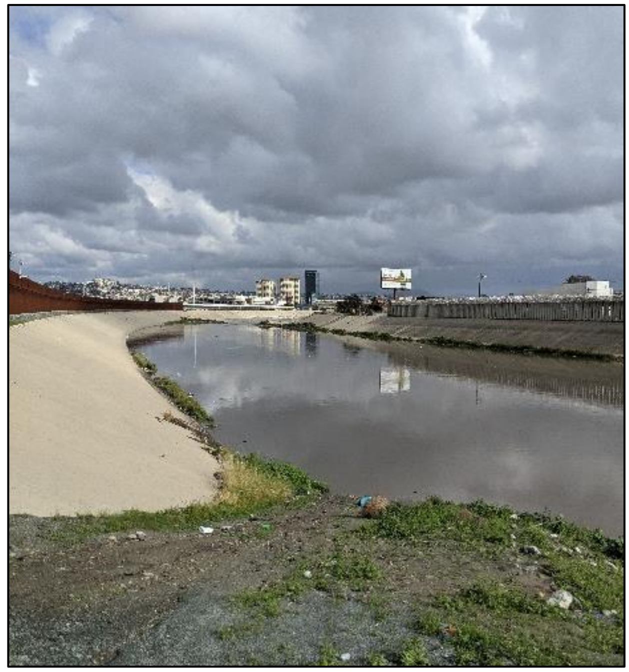
1 Introduction

This Tijuana River Valley Sediment Management Work Plan (Work Plan) provides a summary of sediment management needs and opportunities for the Tijuana River Watershed (TRW). Within the context of this report, sediment management is considered the process of one-time or periodic handling, treatment, and potential disposal or beneficial reuse options for known and anticipated areas of sediment accretion in the lower TRW. Given the diverse and sensitive habitat types; presence of intermingled and overlapping federal, state, and local jurisdictional and regulatory agency stakeholders; and dynamic watershed-scale processes that coalesce in the lower watershed, active environmental and sediment management is needed to address flood risk, protect habitat, control pollutants, increase resilience to climate change, and create efficiencies in permitting and regulatory compliance for projects and activities that provide repeatable and sustainable benefits.



Sediment management is needed in the TRW to address flood risk, habitat, and pollutants and create efficiencies in permitting and regulatory compliance to create sustainable benefits.

Key goals of this effort are to provide a programmatic pathway to plan, prioritize, and program future coastal sediment management activities, develop a collaborative agency approach to provide a consistent framework for project proponents, and establish a roadmap for streamlined sediment management-related project approvals in the Valley.

Watershed systems are dynamic landscape features that transport precipitation through streams and rivers to the ocean and other receiving waters. A natural function of this process is the downstream transport of sediment and debris as part of routine and episodic events. In the TRW, sediment transported from upstream natural and disturbed watershed areas converges in the lower TRW or Tijuana River Valley (Valley) through contributions from the main Tijuana River and several prominent tributaries in both the United States and Mexico. The Valley also supports a diverse array of critical habitats and infrastructure, serving as a hydrological and biological crossroads, where there is interaction between upland, wetland, estuarine, and ocean environments.

Within this unique ecological and important Southern California coastal community environment, management of sediment delivered from natural watershed processes and human interventions serves as a critical conservation element. Previous work has identified sediment management and beneficial reuse as a key project need for the Valley (TRVRT 2013; County of San Diego 2020a). However, sediment management within the context of distinct projects and multi-agency efforts includes coordination, cost, contaminant, and permitting constraints that have challenged project implementation (Goodrich et al. 2019). This Work Plan outlines current conditions, sediment management needs, available strategies that may maximize the local beneficial reuse of sediment, and preliminary implementation feasibility assessments for the Valley. The Work Plan addresses the unique sediment management challenges identified for the Valley and develops a framework for stakeholders and resource agencies to identify optimal sediment management, beneficial reuse, and disposal options.

1.1 Tijuana River Watershed Overview

The TRW is a binational drainage basin that covers approximately 1,750 square miles in southern San Diego County, United States, and northern Baja California, Mexico (Figure 1-1). Approximately 73% of the watershed lies in Mexico, and 27% in the United States (USACE 2020). The watershed is characterized by steep, hilly terrain and a Mediterranean climate. Vegetation cover is dominated by chaparral and coastal sage scrub, along with wetlands (vernal pools and riparian zones) and oaks and conifers in the mountains. The Laguna Mountains in California and Sierra de Juárez

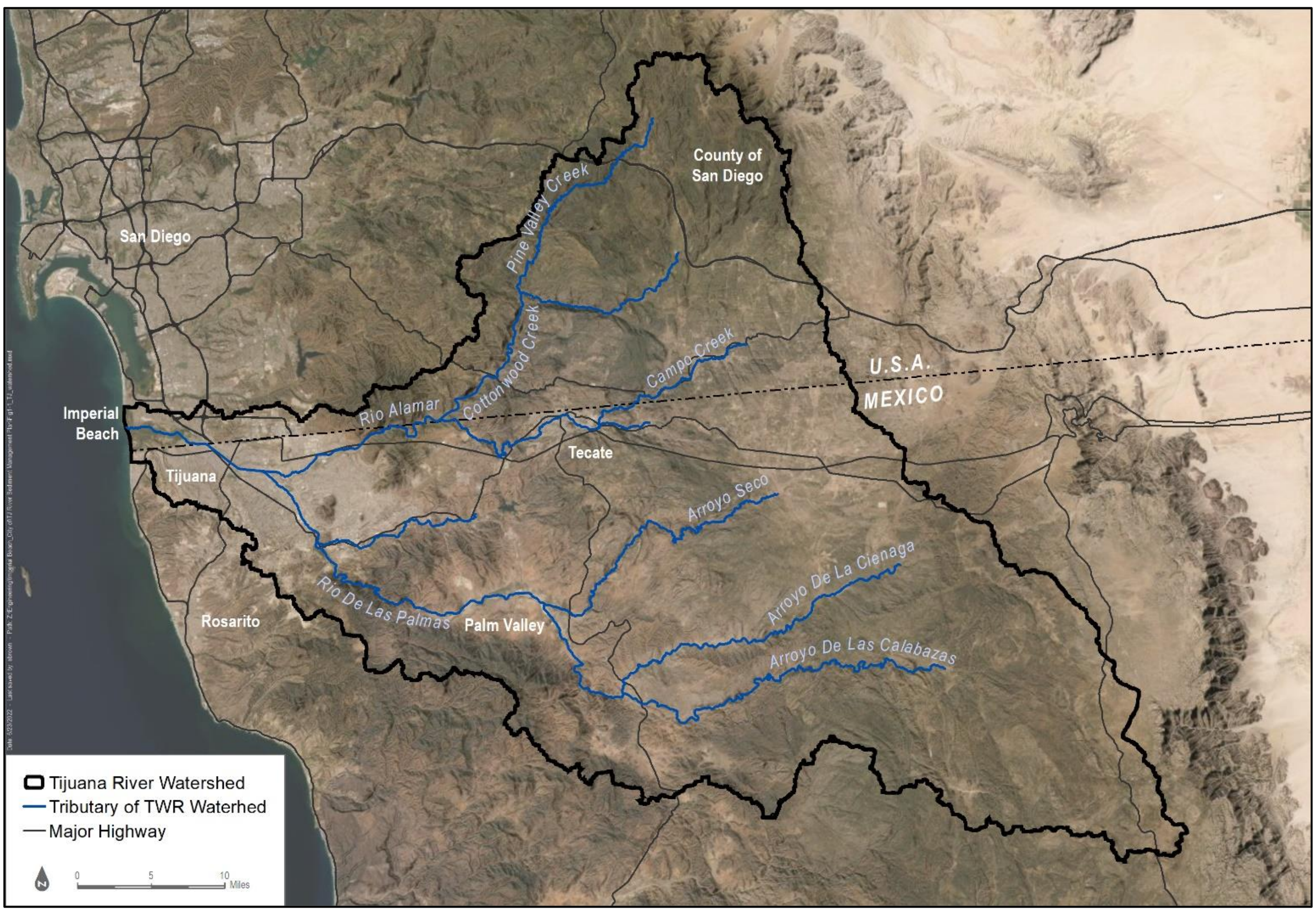


Figure 1-1: Tijuana River Watershed

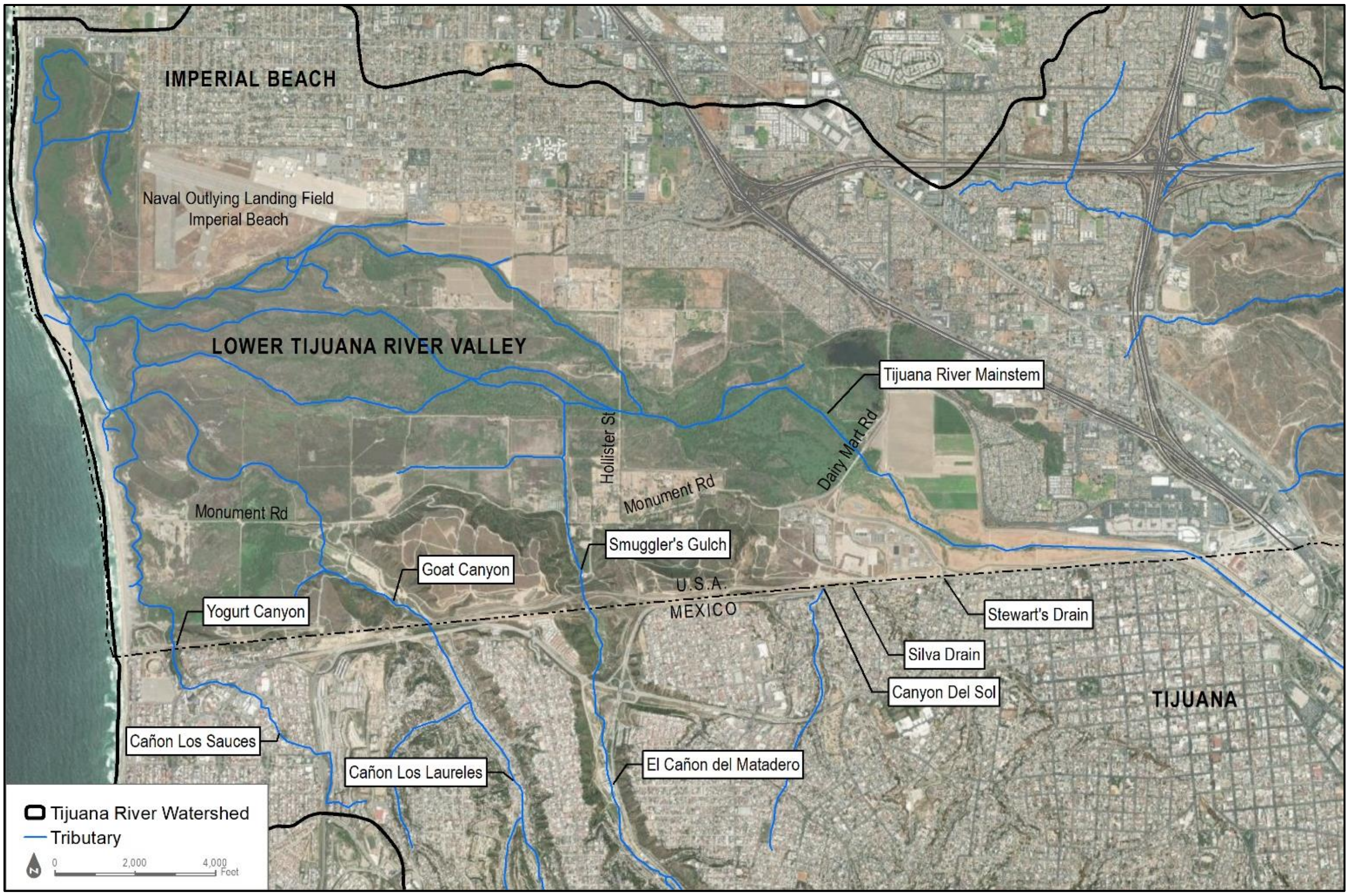


Figure 1-2: Tributaries to the Lower Tijuana River Watershed

Mountains in Baja California feed the roughly 120-mile-long Tijuana River that enters the United States approximately 6 miles from the Pacific Ocean near the community of San Ysidro. In the United States, the Tijuana River receives flow from Cottonwood Creek and Pine Creek before traversing the U.S./Mexico border. In Mexico, the Río Las Palmas and Rio Alomar systems feed the Tijuana River prior to re-entry into the United States (USACE 2020). Once across the border, the Tijuana River traverses the Valley before entering the Tijuana River Estuary and discharging into the Pacific Ocean just south of the City of Imperial Beach, California. Several tributary areas join the lower river in the Valley on the U.S. side of the border with Mexico (Figure 1-2). Three main tributary drainages include Smugglers Gulch (El Cañon del Matadero), Goat Canyon (Cañon Los Laureles) and Yogurt Canyon (Cañon Los Sauces). Additionally, several smaller cross-border discharge points contribute flows to the lower river including Stewart's Drain, Silva Drain, and Canyon Del Sol. Each of these tributary drainages are highly urbanized and contribute significant trash, waste tires, and erosion of sediment from steep canyon walls.

Varied land uses are present in the TRW. The upper watershed is largely undeveloped open space and includes diverse habitats like pine forest, chaparral, and riparian areas. In the middle and lower watershed, urbanization clustered adjacent to the border in both Mexico and the United States has led to a mixture of open space and disturbed land, residential, commercial, military, and industrial areas. The City of Tijuana in Mexico is the largest urban area within the watershed. Tijuana covers approximately 246 square miles and is home to approximately 2.2 million people as of 2022 (PopulationStat 2021). In the United States, urbanized portions of the watershed are generally within the jurisdiction of the County of San Diego, City of San Diego, and City of Imperial Beach.

1.2 Changing Landscape and Environmental Impacts

Anthropogenic alterations in the TRW over the past 150 years, including urban and agricultural land development, dam construction, and channelization of the Tijuana River, have led to changes in watershed form and function in the Valley. Prior to these changes, the watershed had a rich, heterogeneous landscape. The Tijuana River floodplain was more than 1 kilometer wide and densely vegetated. Floodplain habitats included sandy river wash, dense riparian scrub, and groundwater-fed ponds (Safran et al. 2017). Perennial freshwater wetlands, vernal pools, and alkali meadows were present, and upland areas included grassland and coastal sage scrub. The wider and often braided mainstem of the river shifted greatly with periodic high flow events that punctuated long, dry periods.

In the early to mid-1900s, several large dams were built in the TRW (Barrett and Morena in the United States and Rodríguez and El Carrizo in Mexico), which now control a large majority of the surface water flow in the watershed (USACE 2018) (Figure 1-3). While these dams provide reservoirs of potable water to support residents and associated infrastructure on both sides of the border, they also serve as traps for the downstream movement of sediment to the lower watershed. Further, controlled releases from the dams, along with urban stormwater, wastewater, and agricultural runoff, have contributed to the shift to perennial streamflow in the Valley.

Urban and agricultural development now occupy more than two-thirds of the Valley. With these

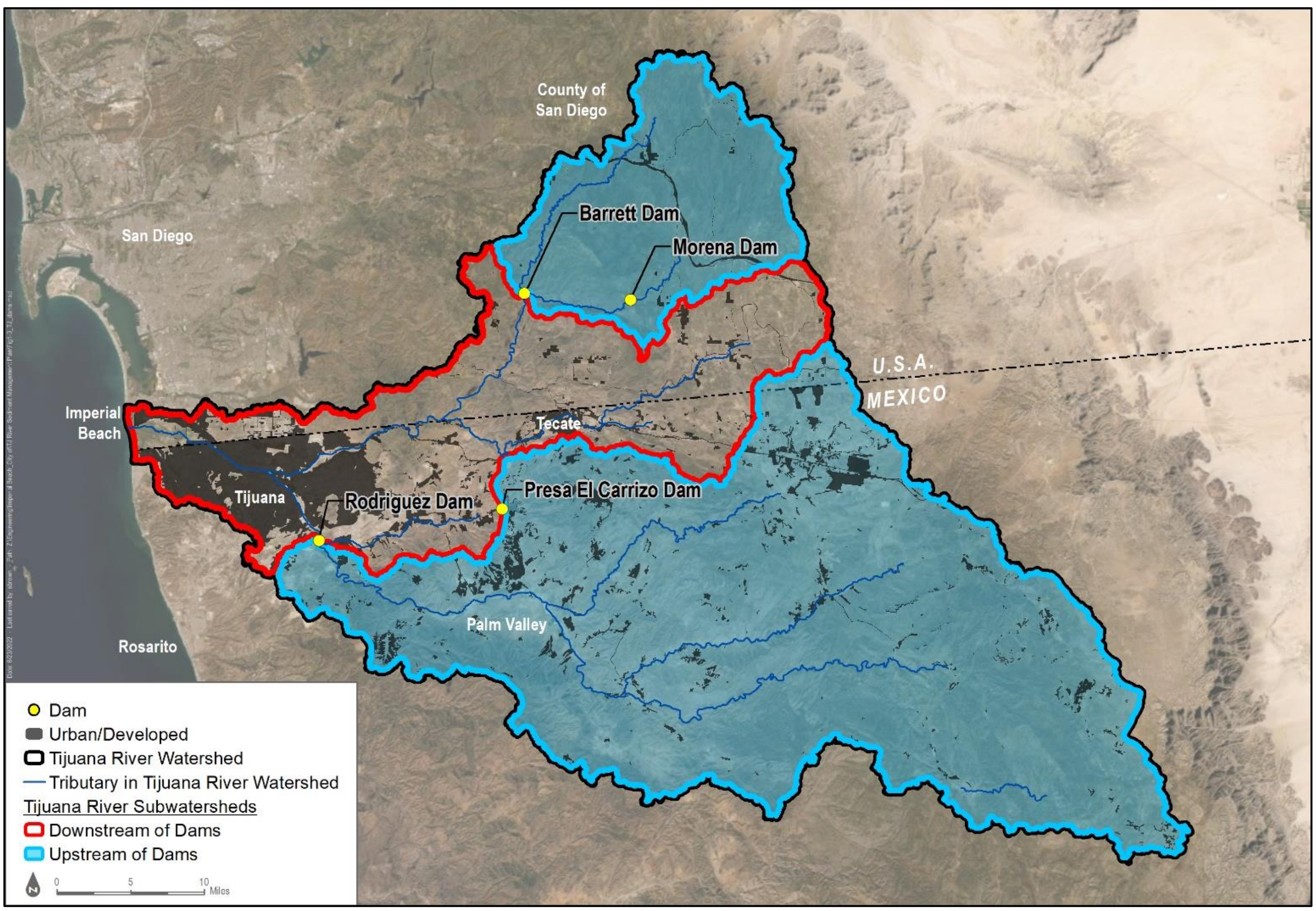


Figure 1-3: Tijuana River Sub-Watersheds Above and Below Dams

developments came changes in Tijuana River hydrology, sediment transport, and groundwater levels, which led to significant changes in floodplain, habitat, and estuary characteristics. The change in flow regime and channelization of the Tijuana River has reduced geomorphic diversity and in turn habitat diversity. Significant habitat loss has occurred, including much of the wetlands that once dominated the valley floor (Safran et al. 2017). It is estimated there has been a decrease of 40%–80% in every major historical habitat type in the U.S. portion of the TRW and more than 90% in Mexico as compared to pre-urbanization conditions (Safran et al. 2017). Further, the hydrology and hydraulic modifications have contributed to conversion of habitat types, including the shift from riparian scrub to riparian forest along the river corridor and from unvegetated tidal flats to vegetated salt marsh in the estuary.

Historic sediment transport of the Tijuana River and estuary to the nearshore ocean environment has been greatly disrupted (CDPR 2008). Dams operating for flood control hold back the peak runoff from a storm and release the flow over time at a level more manageable for downstream infrastructure. While this is beneficial for downstream communities, it reduces the sediment transport capabilities of the river. Therefore, even though urban and agricultural development has locally increased erosion below the dams, there is not enough flow to carry the sediment to the ocean and nourish the nearshore environment. This condition leads to accumulation in tributaries and in the Tijuana Estuary. Further, the sediment-laden flows create significant management challenges as they damage critical infrastructure and impair water quality (Biggs et al. 2018). The Tijuana Estuary is a National Estuarine Sanctuary that supports a variety of threatened and endangered plants and animals that are sensitive to changing sediment inundation regimes.

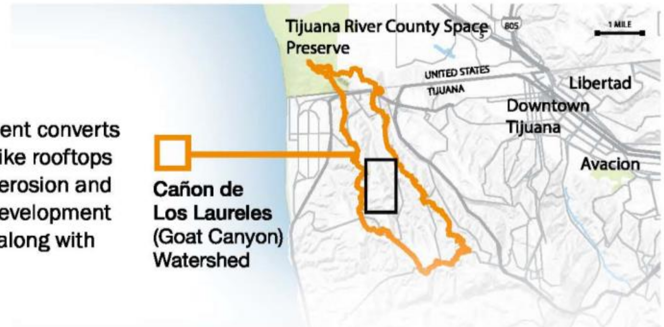
The challenge of increased erosion and reduced sediment transport in the Valley is compounded by the associated increases in trash and pollutant discharges. A significant amount of waste tires and trash accumulate in the TRW each year. River flows containing coliform bacteria, trace metals, and other urban, agricultural, and industrial pollutants in addition to anthropogenic (human-induced) sediment threaten the health of downstream habitat (CalRecycle 2010). Water quality degradation from non-point agricultural sources in the United States and both point and non-point sources in Mexico has resulted in the classification of the Tijuana River as a Category 1 (impaired) watershed by the California State Water Resources Control Board. A Total Maximum Daily Load to address bacteria and trash impairments is in development by the San Diego Regional Water Quality Control Board (RWQCB 2022).

The following two pages illustrate the impacts of development in the Valley.

Development Impacts

Goat Canyon example

Land development can have impacts on stormwater runoff. Development converts vegetated and natural pervious ground cover to impervious surfaces like rooftops and streets. Increased runoff volume and velocities amplify landform erosion and sediment transport, impacting downstream waterways. Additionally, development contributes higher levels of pollutants and trash that are transported along with sediment to downstream, depositional areas in the Valley.



1994

The Goat Canyon watershed had relatively sparse development and a limited amount of impervious surface present in the 1990's.

2020

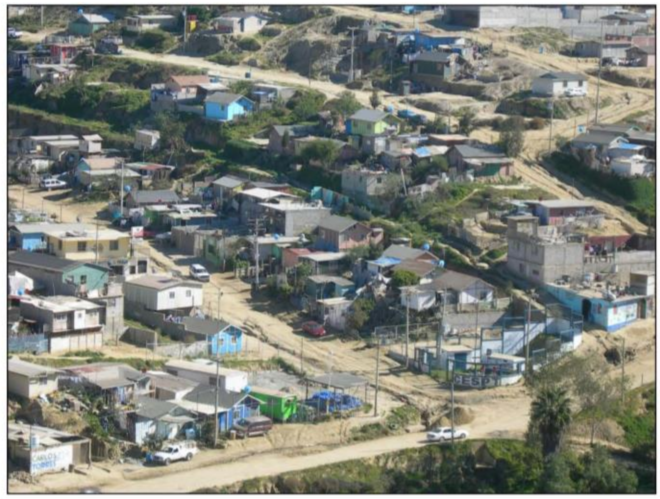
In the following 30 years, population pressure and increased development in the city of Tijuana has led to significant increases in impervious surfaces in the high-relief canyon area.

Sparse Development Conditions

Native vegetation and pastoral-type land uses allow precipitation and runoff to infiltrate and evapotranspire. Runoff in areas with minimal impervious surface can be as little as 10-20% of precipitation.

Dense Development Conditions

Areas with >50% impervious surfaces like rooftops and concrete can significantly increase runoff volume and direct concentrated flows downstream. These conditions can lead to erosion and increased sediment transport.



1.3 Sediment Management Overview and Objectives

Tijuana River sediment management in the United States is focused on the lower TRW, or Valley, which includes the downstream end of the Smuggler's Gulch, Goat Canyon, and Yogurt Canyon subbasins and the Tijuana River mainstem extending from the border to the estuary and ocean. It is assumed that the sediment and trash produced in the 462-square-mile area downstream of the dams are the areas with most significant impacts to the Valley. Sediment is produced and transported naturally through watershed processes, but also can occur as a result of anthropogenic disturbance. Sediment is critical to the function of habitats within a river system and estuary; however, increased sediment delivery as a result of anthropogenic disturbance poses multiple issues, including but not limited to impacts to riparian and estuarine habitat due to burial from excessive deposition, restriction of flood conveyance and tidal influence through excessive deposition in and obstruction of channels, and the introduction of unnatural turbidity and contaminants

Management of sediment can follow two distinct paths: beneficial reuse or disposal. Beneficial reuse refers to the repurposing of sediment from a waste product into a resource. Conversely, disposal refers to the framing of sediment as a waste material or byproduct of an activity such as sediment capture or dredging.

Understanding the science of sediment transport in the Valley and nearshore environment is critical to the sediment management project planning process. It is equally important to understand and navigate the challenging coordination, cost, contaminant, and permitting constraints that have hindered sediment management projects in the past (Goodrich et al. 2019). As such, this Work Plan provides an overview of the following topics:

- A description of the physical processes that drive sediment transport and deposition

Anthropogenic disturbance such as urban and agricultural development in the TRW has impacted sediment transport to the Valley.

- Tijuana River sediment sources
- An overview of sediment management components
- Sediment management activities and pathways, including project examples
- Regulatory framework
- Monitoring and reporting considerations
- Preliminary implementation feasibility assessments
- Strategies to maximize local beneficial reuse of sediment

In addition to compiling the above information, the main objective of this Work Plan is to provide a framework for stakeholders and resource agencies to identify optimal sediment disposal options. The Valley is host to multiple regulatory agency stakeholders with often overlapping jurisdiction and varied objectives, including flood risk reduction and water quality and habitat and sensitive species protection. Sediment management in the Valley requires a collaborative effort and, where possible, streamlining of regulatory requirements for projects that benefit the environment.

2 Watershed and Coastal Processes

Physical processes relevant to this Work Plan include riverine and ocean sediment transport processes. Generally speaking, sediment is eroded from upland sites during storm events and/or anthropogenic disturbances and is carried through streams to the coast. In an estuary environment, sediment transport is affected by tidal exchange. Once sediment reaches the ocean it is subject to the dynamic forces of tides, waves, currents, and wind. The typical lifecycle a grain of sand undergoes is summarized in the following text and depicted in Figure 2-1 (CCSMW 2011).

Sediment deposition occurs when flow velocities decrease below the level at which transport can be sustained, such as in relatively more "quiet" or sheltered zones within a watershed and along the coast. These sheltered zones can occur in the

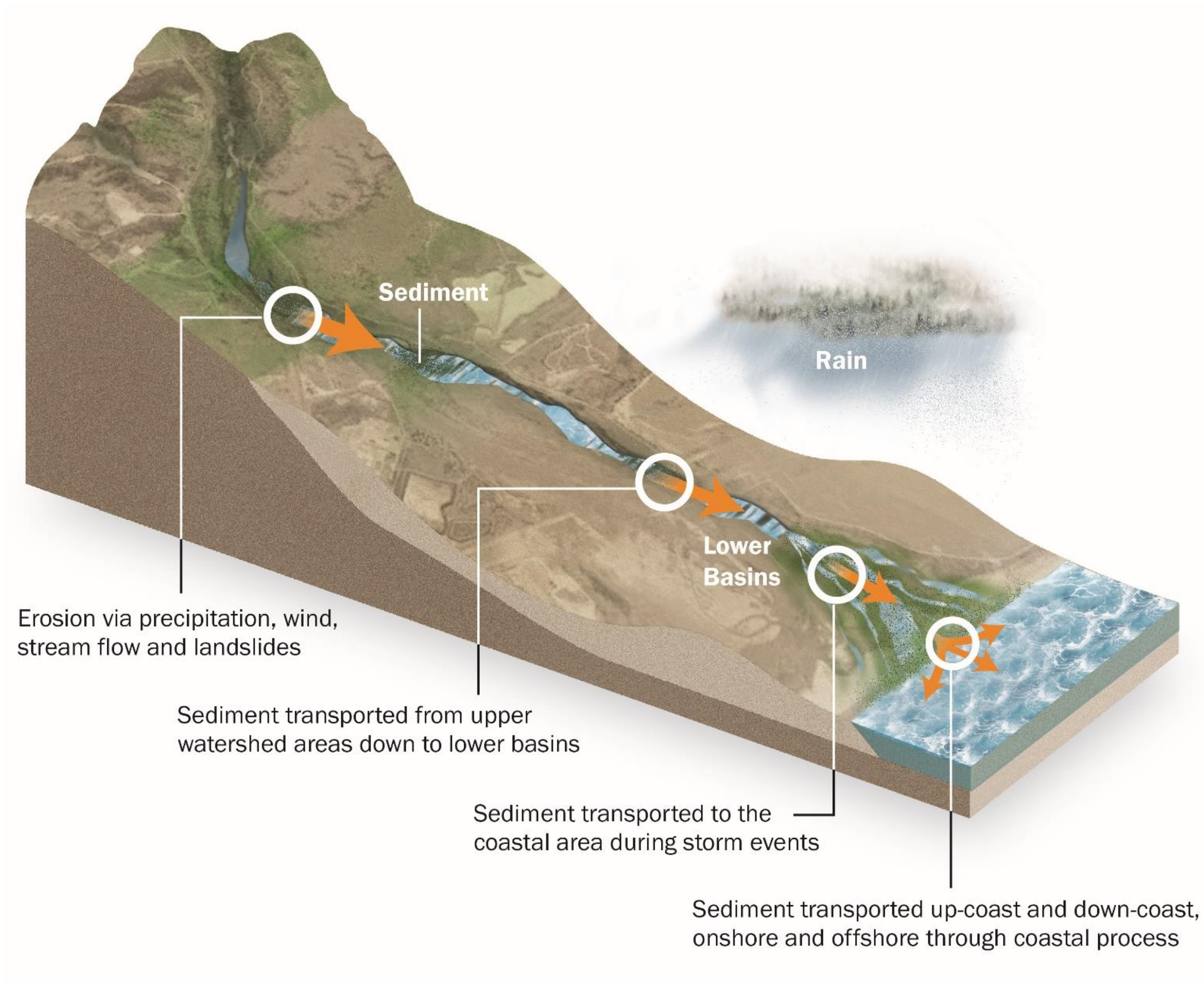


Figure 2-1: Natural Sediment Transport Processes (Adapted from CCSMW 2011)

floodplain, river channels, estuary and inlet, and the open ocean. Finer sediment, such as silts and clays, are more easily transported than coarser sediments, which range from sand to cobble to rock. Sediment deposition in river, estuary, and ocean environments is described in detail in the following sections.

2.1 Riverine Processes

To transport sediment from upland to the estuary, river flow velocity must meet or exceed the necessary velocity to move sediment along the stream channel bed (i.e., bed load) or entrain sediment and transport it in the water column (i.e., suspended load). Sediment will deposit at bends in the river planform where water flow velocities drop at the inside of a bend, forming a “point bar.” If the stream is not in equilibrium state (common in areas of anthropogenic disturbance) and is unable to transport the sediment load, sediment may deposit in bars within the active channel. Sand bars can then recruit riparian vegetation. Once established, the riparian vegetation can impose greater friction to subsequent flows thus slowing velocities and causing more sedimentation. This can become a perpetuating loop with progressive buildup of sediment over time (accretion or aggradation) and expansion of the riparian habitat area. This effect can cause the stream course to rise in elevation and change in geomorphology and function. Coarsest grade sediments, such as rocks, cobbles, and pebbles, deposit first because they are heavier than finer-grained sediments. This is followed by deposition of progressively finer-grained sediments, such as sand, silts and clays, with increased distance downstream.

Flood events are a key component to the riverine sediment transport process. High stormflows have much greater capacity to scour and transport sediment than low flows due to the exponential increase in flow velocities (and sediment carrying capacity) with increased flow discharge. As mentioned above, the presence of riparian vegetation can promote additional sedimentation by trapping sediment during higher flows. Riparian areas then grow as a portion of channel converts to river terrace or upland. The movement of sediment with varying flows accounts for a river’s geomorphic change over time.

2.2 Estuarine Processes

At the coast, finer-grained sediment is deposited in riverine estuaries. Riverine estuaries interact with the open ocean, creating brackish waters and unique ecosystems such as beach, dune, salt marsh, brackish marsh, riparian, and upland ecosystems within and adjacent to the floodplain. During low rainfall periods, the estuary becomes more tidally influenced as oceanic transport deposits sediment in the vicinity of the river mouth (i.e., tidal inlet). This sediment delivery results in shoaling just inside the estuary (flood shoal), outside of the estuary (ebb shoal), and within the actual inlet channel. The tidal inlet geomorphology responds by constricting during neap tides (low range tides during quarter moons) and scouring during spring tides (large range tides during new and full moons. During high rainfall periods (stormflow events), flood waters carry and deposit sediment, mostly silts and clays, across the floodplain and impact salt marsh habitat distribution in the tidal estuary.

The estuary is home to salt marsh habitat that consists of both vegetated and unvegetated intertidal sub-habitats. Vegetated salt marsh habitats colonize at specific elevation ranges relative to long-term average tidal elevations, and thus are subject to change over time as river dynamics may change sedimentation patterns within the estuary, and as sea-level rise (SLR) impacts water levels. It is anticipated that with SLR, vegetation at lower tidal elevations may die off while vegetation at upper elevations may expand if there is area to colonize. The resulting process is a transgression of salt marsh habitats upward. If SLR occurs without sedimentation, the area of available ground to colonize may decrease over time and vegetated salt marsh habitat may eventually be eliminated.

2.3 Littoral Processes

Once sediment reaches the ocean, sediment transport is completely influenced by waves and currents caused by a combination of forces that move along and across the shore. Sediment transport along the coast, called "longshore sediment transport," occurs within geographically distinct compartments called littoral cells. The littoral zone extends from the highest reaches of the waves on a beach out to water depths of approximately −30 feet relative to the mean lower-low water level in Southern California. The littoral zone is the band or ribbon of sediment transport along the coast. This band of littoral sediment transport is interrupted by natural and human-made features extending outward into the sea such as large points, promontories/headlands, submarine canyons, harbors, and jetties. Oceanographic conditions that influence the dynamics of a littoral cell include tides, waves, currents, storm surges, and SLR. These oceanographic conditions, combined with characteristics of the coast such as its orientation, planform, slope, sand grain size, and volume, determine the sand transport rate and direction over time and space. This process can vary along a coast depending on the shoreline condition and exposure to oceanographic forces. For instance, a coast that is acutely angled to the direction of wave approach and exposed to high wave energy may experience a high sediment transport rate if there is sufficient sand in the system to be moved. Conversely, coasts oriented more parallel to the direction of wave approach tend to experience a lower rate of sediment transport, given the same sand supply.

Sediment may be transported with the longshore current in one direction for some time, then transported in the reverse direction in a season with an opposing wave approach angle (Figure 2-2). On a yearly timescale, gross sediment transport refers to the total volume moved in directions combined (e.g., north and south), while net transport is the difference between north and south transport rates and represents the annual amount of sediment moving in the dominant direction, also termed littoral drift.

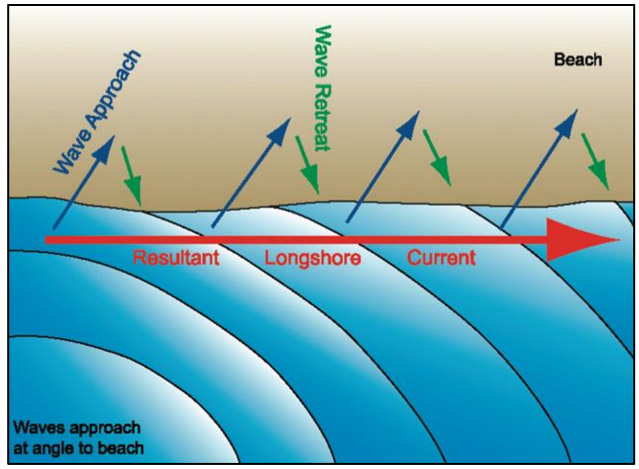


Figure 2-2: Example of Longshore Current set up by Angled Wave Approach (Patsch and Griggs 2006)

Cross-shore sediment transport, the movement of sediment perpendicular to the shore, is primarily characterized by contrasting winter and summer dynamics. Stormy winter months tend to temporarily move sand off of the shore into nearshore bars causing narrowing of beaches and widening of the wave breaking zone. Sediment typically returns during the summer's relatively calm wave climate, widening the beaches and narrowing the nearshore zone of breaking waves (Figure 2-3) (Elgar et al. 2001).

A description of littoral processes specific to Southern California and northern Baja California, which impact estuary management and beneficial reuse of sediment at the coast, is included in Section 2.4, Regional Discussion.

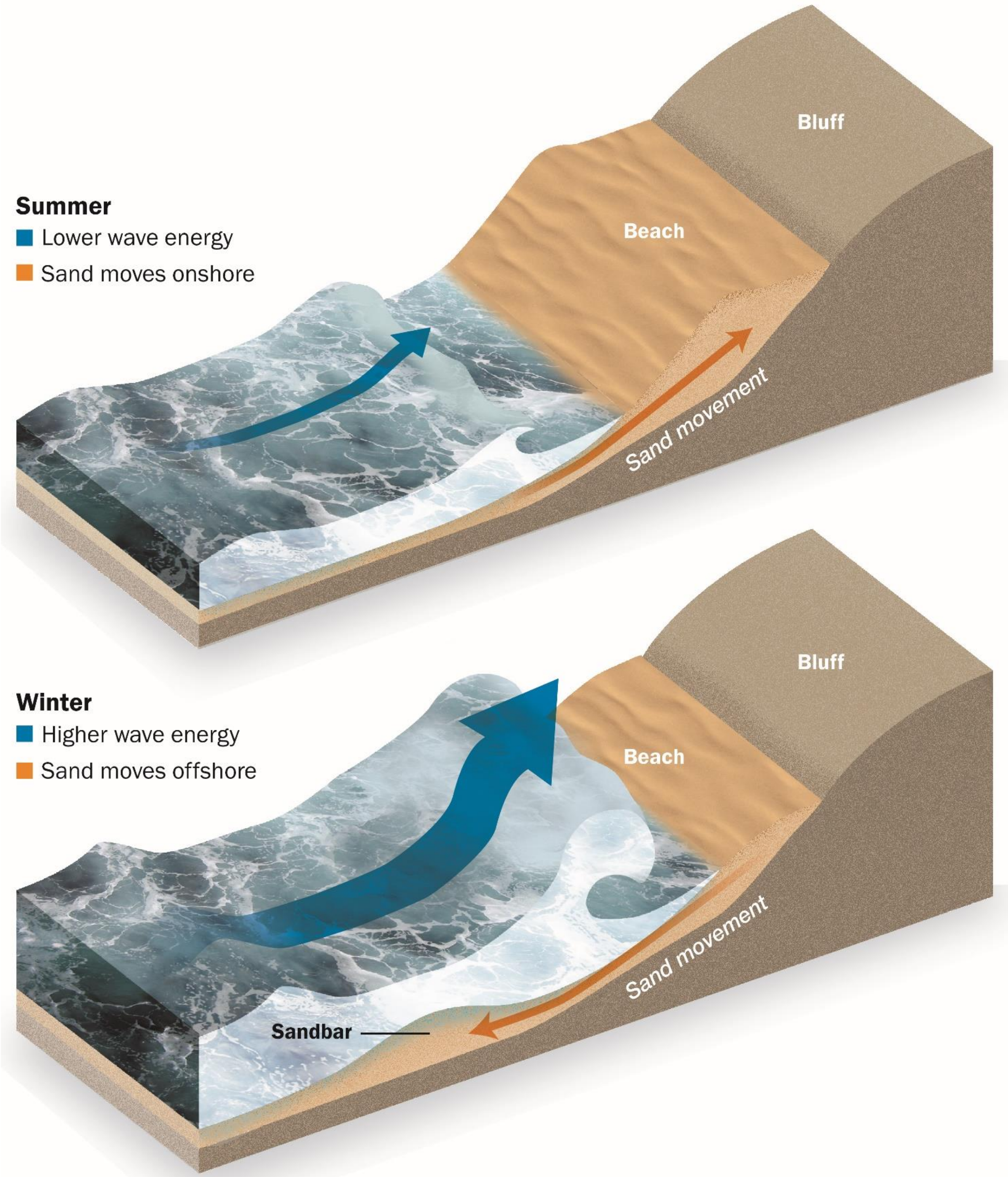


Figure 2-3: Example of Seasonal Beach Profiles (Adapted from Patsch and Griggs 2006)

2.4 Regional Discussion

In coastal Southern California and northern Baja California, sediment transport is largely driven by episodic rainfall, which leads to runoff, erosion, river flow, and discharge to the ocean. The region's Mediterranean climate generally drives a dry summer season and wet winter season. Furthermore, extended droughts commonly occur, with intermittent wet years often brought on by the Pacific Decadal Oscillation and resultant El Niños. High stormflows have an incredible capacity to transport sediment. One example of this is a 100-year storm event that essentially flushed the Tijuana River floodplain of sediment and left it in a large delta in the ocean offshore. Following high stormflows, subsequent lower flows resume sediment deposition over time within the floodplain. The cycle of flooding, erosion, and sediment transport, along with anthropogenic influence, accounts for the continuous evolution of the river's course. The Tijuana River has shifted position laterally by up to 1 kilometer in a single storm event (Safran et al. 2017).

The Tijuana River empties into the Silver Strand Littoral Cell. Figure 2-4 depicts the Silver Strand Littoral Cell, which is defined as an approximately 17 mile geographic reach of coastline beginning 3 miles south of the U.S./Mexico border at the Playas de Tijuana headland and continuing north to Zuniga Jetty at the entrance to San Diego Bay (USACE 1991). Patsch and Griggs (2006) estimate gross sediment transport throughout the Silver Strand Littoral Cell to be approximately 740,000 cubic yards per year and net longshore sediment transport is to the north from between 120,000 and 200,000 cubic yards per year. Oceanographic conditions that influence the dynamics of the Silver Strand Littoral Cell and thus sediment management and beneficial reuse in the region are described in Table 2-1.

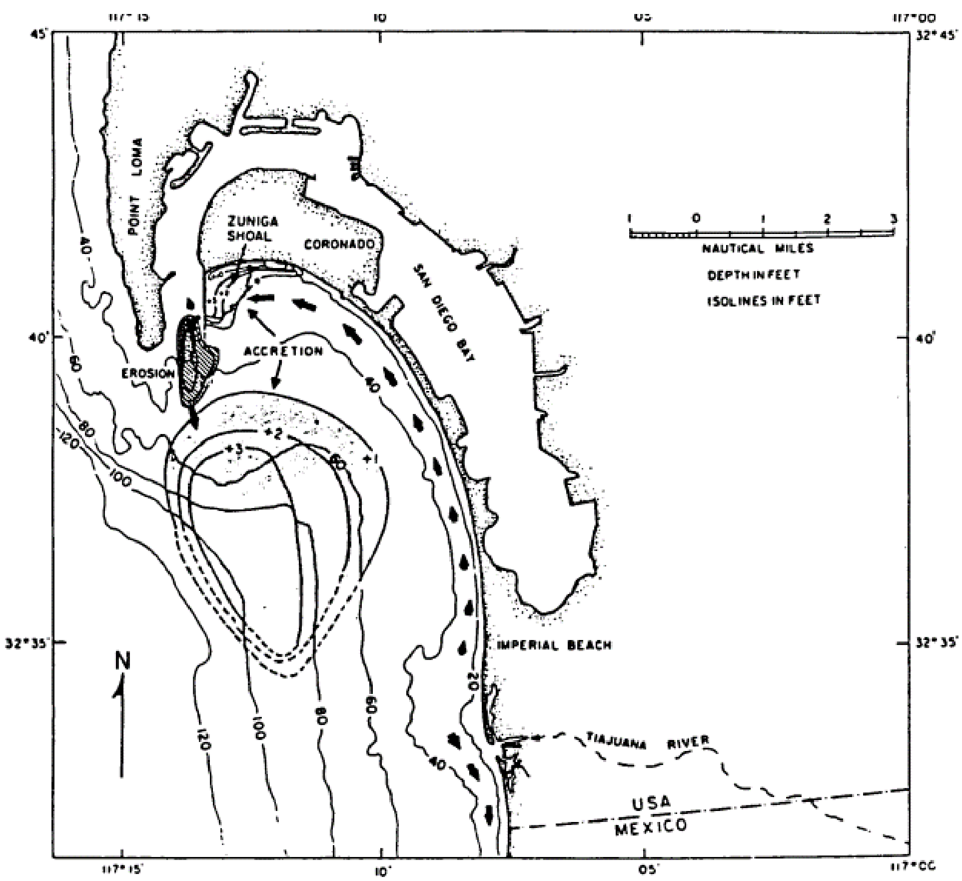


Figure 2-4: Conceptual Model of Sediment Transport Pathways in the Silver Strand Littoral Cell (USACE 1991)

Table 2-1. Oceanographic Conditions that Influence the Dynamics of the Silver Strand Littoral Cell

Oceanic Condition	Southern California/Baja California Conditions	Sediment Transport Considerations
Tides	• Astronomical tides: mixed semidiurnal, with two high tides and two low tides of different magnitude occurring each lunar day (an approximately 25-hour time period). Account for the most significant amount of variation in the total water level, ranging approximately 5.72 feet between the mean lower-low water level and the mean higher-high water level.[1] • King tides: largest tides of the year, occurring in winter and summer. High tides exceed the average mean higher-high water level by up to 2 feet or greater. • El Niño-southern oscillation cycles: can cause water level increase due to thermal expansion, strong onshore winds, and air pressure changes. • Storm surges: can cause water level increase due to thermal expansion, strong onshore winds, and air pressure changes.	• Dry-weather water level variations caused by tides play a primary role in estuarine dynamics, including geomorphic evolution, water circulation, habitat establishment, and resilience.
Waves	• Predominant wave exposure: west-northwest swell generated by Gulf of Alaska storms and south-southwest swell from the southern Hemisphere.[2] In summer, the California high-pressure system generates additional northwestern swell from local sea breezes. • Wave height: swell waves tend to peak in height and period in the winter, although southern swells can have very long periods. • Wind/storm waves: less frequent exposure to other wind and storm generated waves from the south and southwest.[2]	• Waves entrain sand. • Waves drive cross-shore and longshore currents. • Waves can cause short-duration coastal flooding events due to dynamic increases in water levels and wave runup, and in turn impact sediment transport.
Currents	• Longshore currents: wave-driven currents parallel to shore. • Cross-shore currents: wave-driven currents perpendicular to shore. In this region, stormy winter months tend to temporarily move sand off of the shore into nearshore bars causing narrowing of beaches and widening of the wave breaking zone.	• Longshore currents are the vehicle for longshore sediment transport, the movement of sediment parallel to the shore. Sediment may be transported in one direction for some time, then transported in the reverse direction in a season with an opposing wave approach angle. • Cross-shore currents carry sediment perpendicular to the shore.

Table 2-1. Oceanographic Conditions that Influence the Dynamics of the Silver Strand Littoral Cell

Oceanic Condition	Southern California/Baja California Conditions	Sediment Transport Considerations
Sea Level Rise	• Sea-level rise (SLR) predictions:[3] For the 2030-time horizon, the likely range of SLR for San Diego is 0.4–0.6 feet. At the 2050-time horizon, the likely range of SLR increases slightly to 0.7–1.2 feet. The likely range of SLR at the 2100-time horizon is 1.8–3.6 feet. • Sedimentation rates have historically met or exceeded the rate of SLR, allowing marsh habitats to persist. However, the rate of SLR is projected to accelerate significantly, introducing the potential for habitats to be submerged and ultimately changed to different habitat types (e.g., vegetated habitat may change to unvegetated habitat).	• Sedimentation rates below SLR rates may result in a subtidal basin rather than an estuary, and sedimentation rates above SLR rates can promote expansion of salt marsh habitat and resilience over time. • Sediment may become a more important commodity to retain within estuaries if the goal is to retain vegetated salt marsh habitat.

Notes:
1 NOAA 2021.
2 Ludka et al. 2019.
3 The current best-available science for potential SLR was prepared by the Ocean Protection Council (OPC 2018).

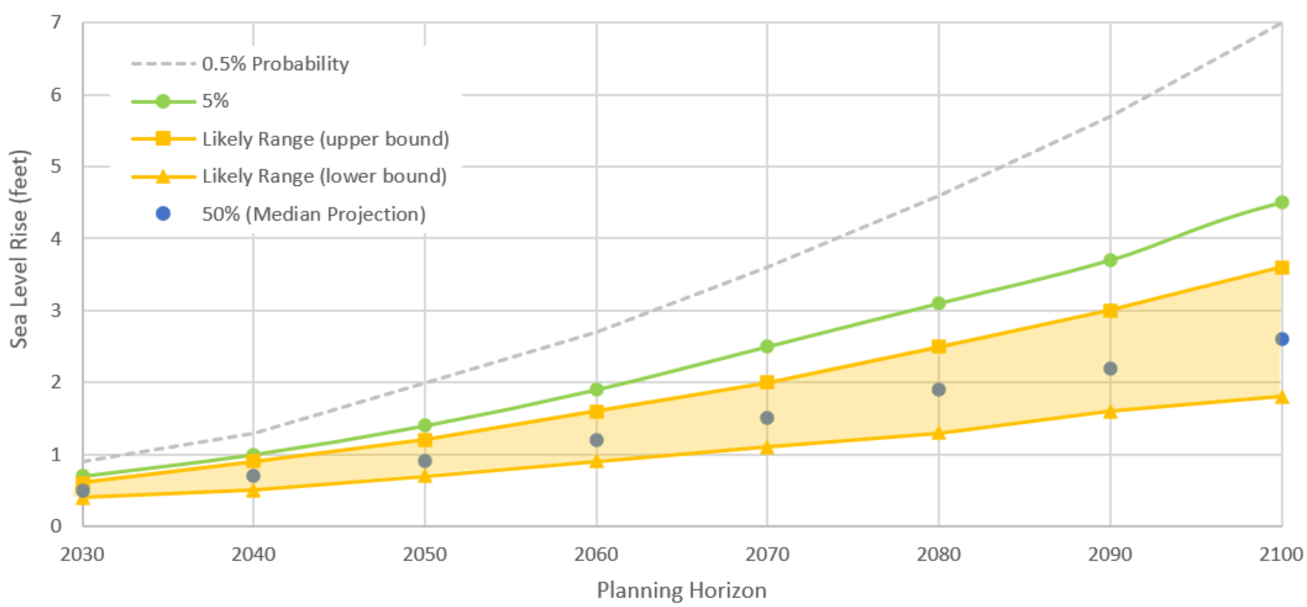


Figure 2-5: Sea Level Rise Projections, San Diego Bay, CA (Adapted From OPC 2018 by Moffatt and Nichol)

SLR in Southern California is projected to occur exponentially as shown in Figure 2-5. The long-term impact of SLR on the Tijuana River Estuary and its salt marsh habitat is of particular importance to sediment management planning. Ocean shoaling may occur farther into the estuary, while river sedimentation may also occur differently, depending on the landward extent of the seawater/freshwater interface. Ultimately, there may be a transgression of salt marsh habitats upward, and if there is a lack of sedimentation providing new ground to colonize, salt marsh habitat may decline and eventually be eliminated.

As discussed in Section 1.2, other anthropogenic impacts to sediment transport processes are developments for water storage, flood control, and urban development, which have been shown to decrease the sand supply to the coastline. Increased development, including dam construction, in the southwestern area of the United States and in Tijuana, Mexico, in modern times has affected the morphological state of the region's beach environments and offshore sediment sinks. The change in sediment transport in the TRW has left regional areas such as the Silver Strand Littoral Cell with an annual deficit, meaning that, without intervention, the region is in an annual state of erosion. Although a sediment deficit at the coastline may sound counter-intuitive when a significant amount of erosion caused by development in Tijuana is smothering the Tijuana Estuary and River habitat located in the United States, diminished peak river flows have reduced the sediment carrying capacity (i.e., sediment transport) of the Tijuana River.

In part to offset this deficit, the Silver Strand Littoral Cell has been the recipient of significant beach nourishment projects. Prior to the year 2000, nearly 35 million cubic yards (cy) of sand was placed on its beaches, making it the most highly altered length of shoreline in Southern California (Flick 1993). Since then, two major beach nourishment efforts, Regional Beach Sand Projects I and II, placed an additional 120,000 cy and 450,000 cy in 2001 and 2012, respectively (SANDAG 2020). As a result, today the Silver Strand is characterized by relatively wide sandy beaches. However, beach erosion is still actively occurring, especially south of Coronado and at Imperial Beach. Bluff erosion has also been experienced along the coast of Tijuana, Mexico.

3 Tijuana River Valley Sediment Sources

This section provides an overview of sediment deposition patterns in the Valley. Existing and potential sediment sources including specific sediment locations, ownership, typical availability, and sediment characteristics are also presented. General sediment sources for use in sediment management projects include uplands, the channel/flood corridor, reservoirs, sediment basins, and the estuary.

3.1 Sediment Deposition in the Tijuana River Valley

Development in the TRW, including construction of dams in the upper watershed and of large urban areas within the lower watershed, has changed how and where sediment deposits in the Valley. Prior to development of dams and other flood control infrastructure, sediment deposition likely occurred more frequently and was distributed more broadly throughout the watershed. Ephemeral tributaries drained into the Valley through numerous canyons and washes to the east and south, depositing sediment slowly as they meandered toward the mainstem of the Tijuana River (Safran et al. 2017).

Increased urbanization has resulted in accelerated sediment in the Valley and estuary, which has impacted estuarine processes and habitat.

Sediment carried by the mainstem of the river gradually deposited at the outlet creating the flat plain of the Tijuana River Estuary as we know it today.

In present day, dams have impounded sediment in the upper watershed while increased urbanization and development below the dams have caused an acceleration of sediment input into the Valley and estuary. The acceleration is caused by vegetation removal, replacement of naturally vegetated ground surfaces with impervious surfaces, and collection/concentration of storm drainage. Under these conditions, exposed soil erodes, is carried swiftly downstream with concentrated runoff, and deposits when it reaches the flat areas of the Valley. As a result, sediment has accumulated at higher rates within the tributary canyons and washes in the Valley, as well as on the floodplain itself. Sediment accumulates and is trapped in the estuary, impacting estuarine processes and habitat, while the beaches and nearshore environment are starved of sediment.

The majority of erosion and sediment deposition within the TRW occurs during high flow events. Under current conditions, discharge for a 1% annual exceedance probability flood (100-year flood) in the TRW is estimated to be 67,100 cubic feet per second (USACE 2018). The 100-year flood event is estimated to transport approximately 712,070 cy of sediment to the open ocean, 51% of which is considered to be fine material (silts and clays), and 49% of which is considered to be very fine sand or coarser (USACE 2020). Two recorded flood events that exemplify the potential for sediment transport within the Valley occurred in 1937 and 1983, which together transported a total 20 million cubic yards across two singular events. To provide perspective, the peak annual river discharge has ranged from near 0 to 30,088 cubic feet per second, with an average peak discharge of 2,407 cubic feet per second, recorded by the International Boundary and

Water Commission at the international border gauge no. 11013300 (Safran et al. 2017).

The locations of sediment accumulation in the Valley follow general patterns related to the watershed processes that were described in Section 2. Under current conditions, sediment deposition occurs in bars within the mainstem of the Tijuana River and at point bars that form around bends in the tributaries, where flow velocities drop in these meandering channels. In the lower mainstem of the river, just downstream of the international border in the vicinity of Dairy Mart Road (see Figure 1-2 for location), channelized river flow rapidly fans out as the width of the floodplain increases, creating another sediment deposition area. Willow trees colonize a very large area of the lower river from Dairy Mart Road to approximately 1 mile downstream of Hollister Street, within a half mile of the upstream end of the estuary. The willows promote additional sedimentation within this reach. Downstream of this riparian area there is a broad transitional zone to where the farthest upstream influence of the tides occurs. Less sedimentation occurs within this reach because the willows have trapped a significant amount of the sediment. This section of the main river corridor is more natural in function and sedimentation than the smaller tributaries that meet the floodplain farther downstream. However, it is still highly human-influenced due to the existence of the concrete flood channels through Tijuana.

The downstream end of the Tijuana River meets with the upstream end of the estuary between the locations of the Naval Outlying Landing Field Imperial Beach and Goat Canyon, approximately 1.3 miles

Significant erosion and sediment transport with the TRW occurs during high flow events.

upstream from the ocean. Tributaries to the Tijuana River contribute sediment within this reach through Smuggler's Gulch, Goat Canyon, and Yogurt Canyon. These tributaries deposit sediment at discharge points along the southern boundary of the Valley. Sediment sizes range broadly from rock to silt because of lack of sediment and drainage control south of the border, very steep-gradient watersheds, and the "flashy" nature of urbanized runoff, that is, runoff exhibiting a hydrograph with steep vertical jumps and rapid declines. The tributaries are highly impacted by anthropogenic disturbance and transport pollutant-laden deposits. Finally, silts and clays are deposited within the relatively quiet waters of the intertidal zone. Closer to the beach the sediment deposited within the estuary is sandier than within the interior estuary and is deposited by incoming tidal currents from the ocean. Sand bars form at the mouth as a flood tidal delta within the estuary, and an ebb tidal delta exists just offshore in the ocean.

3.2 Existing and Potential Sediment Sources

This section includes TRW sediment source locations and ownership information, as well as details on quantity, quality, and timing of availability to aide in sediment management and reuse or disposal planning. Currently, management of sediment in the Valley is carried out by various local, state, and federal agencies, reflecting the patchwork of ownership and jurisdiction over various sediment sources (Figure 3-1).

Sediment quantities, characteristics, and quality at various locations within the Valley have been evaluated in numerous studies over the past two decades. A comprehensive literature review was conducted for existing and potential sources of sediment for reuse or disposal, including the following sites: Goat Canyon Sediment Basin Complex, Smuggler's Gulch north of Monument Road and Pilot Channel, Smuggler's Gulch south of Monument Road, Tijuana River Main Channel (Flood Control Channel to Dairy Mart Road), Brown Fill Area,[1] and the Tijuana River Estuary. Appendix A presents a summary of available information reviewed, as well as results from the recent Tijuana River Valley Sediment Management Plan and Monitoring Program Technical Results Memorandum (Appendix B) conducted in support of this Work Plan. The Technical Results Memorandum included sediment and water quality sampling and trash evaluations.

Under Senate Bill 507, proposed projects are being considered for the Tijuana River, of which the following directly relate to sediment: new sedimentation basins in the Tijuana River and Smuggler's Gulch, a pilot channel in Yogurt Canyon, and Nelson Sloan Quarry Restoration and soil sampling. Proposed projects indirectly related to sediment include installation of trash booms, non-governmental organization clean-up programs, water quality monitoring, low-flow diversions, in-stream water quality detention basins, flow diversions, and water treatment (County of San Diego 2020a, 2020b).

1 Brown Fill Area was evaluated as a potential sediment source, the amount of sediment available may be a limiting factor for re-use opportunities.

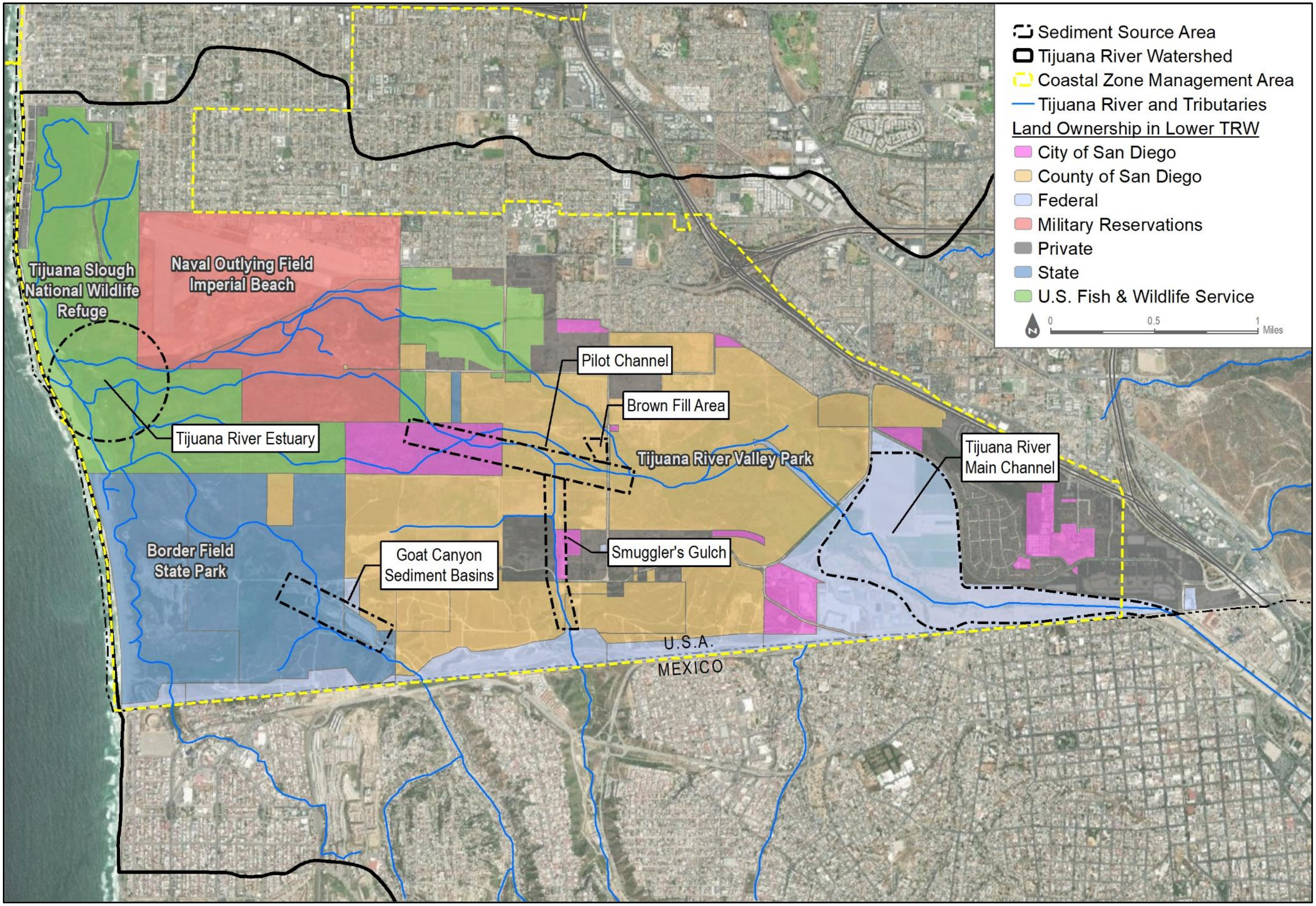


Figure 3-1: Land Ownership and Sediment Sources within the Tijuana River Valley

SEDIMENT SOURCE

3.2.1 Goat Canyon

Location *Lower reach of Goat Canyon/Los Laureles Canyon near Monument Road in Border Field State Park*

Ownership *California State Parks*

Type of Source *Constructed sediment basins*

Size *19 acres*

Estimated Annual Sediment Yield *25,000–60,000 cubic yards*

Maintenance *Annual; includes processing to remove trash/debris at an on site processing area*

Other Considerations *When at capacity, sediment-laden flows are bypassed to areas downstream including the Model Marsh (associated with the Tijuana Estuary Tidal Restoration Program)*

Summary of Sediment Characteristics

Particle Size **(approximate)**	*60% sands, 40% fines*
Color	*Light gray to pale olive, micaceous*
Contaminants	*No hazardous waste*
Trash Rating	*Very High*

See Appendix A for additional detail and references

Constructed in 2005, the purpose of the Goat Canyon Sediment Basin Complex is to reduce cross-border sediment impacts to infrastructure and the Tijuana Estuary.

Location of Goat Canyon Sediment Basins

Goat Canyon Upper Basin Prior to Excavation (2022)

SEDIMENT SOURCE

3.2.2 Smuggler's Gulch North of Monument Road and Pilot Channel

Location *Smuggler's Gulch is a tributary to the mainstem Tijuana River in the vicinity of Monument Road and Hollister Avenue; Pilot Channel is a section of the Tijuana River Mainstem at the confluence with Smuggler's Gulch*

Ownership *City and County of San Diego*

Type of Source *Managed natural channel*

Size *Smuggler's Gulch north of Monument Road is 0.5 miles long; Pilot Channel is 1 mile long*

Estimated Annual Sediment Yield *200–30,000 cubic yards combined*

Maintenance *Annual and post-storm event; includes processing to remove trash/debris at an on site processing area*

Other Considerations *A proposed sediment basin south of Monument Road (see Section 3.2.3) could reduce maintenance needs in Smuggler's Gulch north*

Summary of Sediment Characteristics

Particle Size (approximate)	*Smugglers: 15–70% sand, 30–85% fines; Pilot: 70–80% sand, 20–30% fines* *(varies seasonally and by location)*
Color	*Light gray to pale yellow, olive, micaceous*
Contaminants	*No hazardous waste*
Trash Rating	*Very High*

See Appendix A for additional detail and references

Upstream increases in erosion have resulted in excessive deposition of sediment where flow velocities decrease in the flatter channels of the Valley such as Smuggler's Gulch and Pilot Channel.

Location of Smuggler's Gulch North of Monument Road and Pilot Channel

Smuggler's Gulch Before and After Maintenance (City of San Diego 2009)

SEDIMENT SOURCE

3.2.3 Smuggler's Gulch South of Monument Road

Location *Smuggler's Gulch is a tributary to the mainstem Tijuana River in the vicinity of Monument Road and Hollister Avenue*

Ownership *County of San Diego*

Type of Source *Managed natural channel and potential constructed sediment basin*

Size *0.17-mile-long channel segment, plus 4.7-acre proposed basin area (County of San Diego 2021)*

Estimated Annual Sediment Yield *Historically, 8,000–10,000 cubic yards from channel*

Maintenance *Historically, twice per year in channel*

Other Considerations *A Smuggler's Gulch sediment basin upstream of Monument Road has been proposed as part of the improvements under Senate Bill 507 to address the negative impacts of transboundary flows*

Summary of Sediment Characteristics

Particle Size (approximate)	*Smugglers: 15-70% sand, 30–85% fines (varies seasonally and by location)*
Color	*Light gray to pale yellow, olive, micaceous*
Contaminants	*No hazardous waste*
Trash Rating	*Very High*

See Appendix A for additional detail and references

This erosional area threatens to undermine infrastructure at Monument Road. A proposed sediment basin could improve site conditions and trap sediment that typically accumulates in Smuggler's Gulch and areas downstream.

Location of Smuggler's Gulch South of Monument Road

Smuggler's Gulch South of Monument Road, Looking Upstream Away from Road
(Coastal Consevancy 2021)

SEDIMENT SOURCE

3.2.4 Tijuana River Main Channel (Flood Control Channel to Dairy Mart Road)

Constructed in 1977, this area was designed by the U.S. Army Corps of Engineers (USACE) for flood control and is bound by levees on the north and south, creating a floodplain where sediment deposits.

Location *Mainstem of the Tijuana River downstream of the international border to the Dairy Mart Road Bridge*

Ownership *International Boundary and Water Commission*

Type of Source *Constructed/altered channel and floodplain*

Size *1.7 miles long*

Estimated Annual Sediment Yield *Estimates range from 3,400 -–15,000 cubic yards (note: 109,000 cy sediment existing – approximately 1.7M cy sediment and trash existing)*

Maintenance *Periodic*

Other Considerations *Development of in-channel and off-channel sediment basins have been evaluated*

Summary of Sediment Characteristics

Particle Size (approximate)	*40–70% sand, 30–60% fines (varies seasonally and by location)*
Color	*Olive gray to light olive gray, micaceous*
Contaminants	*No hazardous waste*
Trash Rating	*Low*

See Appendix A for additional detail and references

Location of Tijuana River Main Channel

Tijuana River Main Channel (USACE 2020)

SEDIMENT SOURCE

3.2.5 Brown Fill Area

Potential upland source where private property owners placed 16,000 cubic yards of fill on the riverbank following a flood in 1980. Subsequent flooding in 1993 caused major damage that was largely attributed to the fill.

Location *Part of a horse ranch immediately south of the San Diego Park Department ranger station, north of the Tijuana River, and west of the Hollister Street Bridge*

Ownership *Private property*

Type of Source *Constructed fill*

Size *Approximately 4.2 acres*

Estimated Annual Sediment Yield *16,000–35,000 cubic yards (one-time removal)*

Maintenance *One-time removal; will require processing to remove trash/debris*

Other Considerations *The California Integrated Waste Management Board conducted a study of the fill and determined it to be non-hazardous but with large debris and trash. Quantity of sediment may be a limiting factor for re-use opportunities.*

Summary of Sediment Characteristics

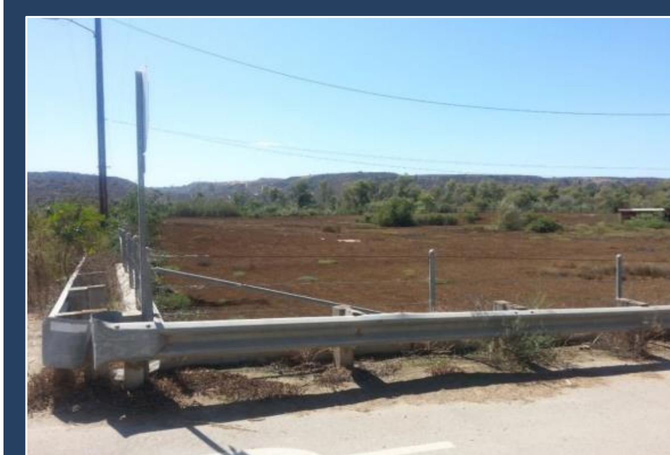
Particle Size	*17–70% sand, 30–83% fines (varies by location)*
Color	*No data*
Contaminants	*No hazardous waste*
Trash Rating	*Low*[1]

See Appendix A for additional detail and references

[1]Trash Rating based on surface observation only. Brown Fill is known to contain significant trash/debris.

Location of Brown Fill

Brown Fill Area, Looking South at the Manufactured Fill (USACE 2018)



SEDIMENT SOURCE

3.2.6 Tijuana River Estuary

Location *Terminus of the Tijuana River at the Pacific Ocean, within the Tijuana Slough National Wildlife Refuge and Border Field State Park*
Ownership *California State Parks and U.S. Fish and Wildlife Service (USFWS)*
Type of Source *Natural area*
Size *1,072 acres (USFWS)*
Estimated Annual Sediment Yield *No data*
Maintenance *Periodic dredging/ maintenance of the river mouth*
Other Considerations *The Estuary is impacted by both watershed and littoral processes, and supports sensitive habitat; current Estuary dynamics/ management result in sediment deposition within the estuary and a deficit offshore*

Summary of Sediment Characteristics

Particle Size (approximate)	*40–60% sand, 40–60% fines (varies by location)*
Color	*Light gray, olive gray, pale olive*
Contaminants	*No hazardous waste*
Trash Rating	*No rating; listed as impaired for trash*

See Appendix A for additional detail and references

Constructed in 1977, this area was designed by USACE for flood control and is bound by levees on the north and south, creating a floodplain where sediment deposits.

Location of Tijuana River Estuary

Looking West at the Tijuana River Estuary from a High Vantage Point (USACE 2020)

3.3 Sediment Sources in Mexico

A suite of sediment basins exists in the upper TRW in Mexico and should be considered in sediment management planning for the region (Figure 3-2). There are 24 known sediment basins ranging in capacity from 200 cy to 13,000 cy. Combined, the basins have approximately 100,000 cy capacity for holding sediment.

Additional considerations for utilization of sediment sources in Mexico include binational collaboration, potential use of Mexico-based contractors and laboratories, and cross-border transport.

Mexico sediment basins in the TRW should be considered in sediment management planning.

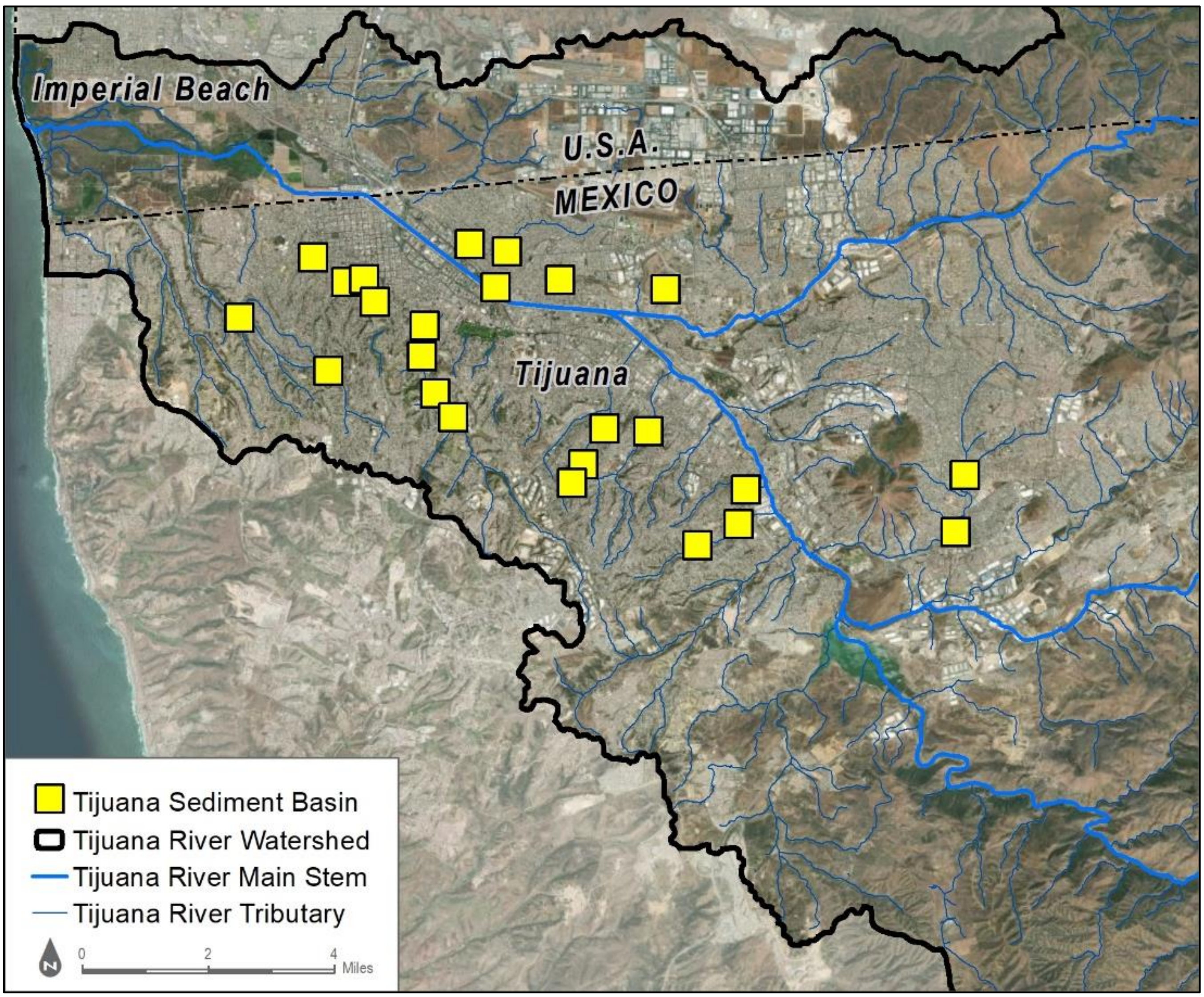


Figure 3-2: Sediment Basins in the Upper Tijuana River Watershed

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4 Sediment Management Components

Watershed systems include areas of sediment deposition as part of natural processes, including large flow events and altered flow regimes from anthropogenic activities and infrastructure. In both natural areas and managed basins, periodic management to maintain flow conveyance, remove accumulated sediment and trash, protect downstream habitat, and reduce flood risk is often needed. Management activities generally include handling and sorting, characterization, and transport for beneficial reuse or disposal. This section describes sediment management components in the following categories (Figure 4-1):

1. Excavation/dredging
2. Staging and storage
3. Processing (dewatering, screening, separation, debris removal, contaminant stabilization)
4. Sediment characterization and testing
5. Transport
6. Beneficial reuse or disposal

Sediment management details are described below.

Figure 4-1: Sediment Management Process

4.1 Excavation/Dredging

Excavation from engineered sediment basins and natural deposition areas is typically performed in dry conditions using earthmoving equipment such as excavators, loaders, and bulldozers. During excavation and maintenance activities, it may also be necessary to remove waste tires and debris captured by debris barriers (e.g., trash booms) if present. Typically, excavators remove material from the basin or channel. Loaders move sediment onto trucks for transportation to a processing pad. The excavation process often requires repeat use of short-distance haul routes. Excavation equipment access areas and haul routes require careful planning to optimize efficiency and minimize impacts to habitat.

In wet conditions, dredging activities are used to maintain river channels, estuary areas, bays, and inlets. Inundation conditions, material, and disposal options are factors that affect the selection of appropriate dredging methods for a particular site. Hydraulic dredging involves removal of sediment using a floating dredge and discharge pipeline to relocate material. This method is generally applicable to locations where the disposal site is within approximately 1 mile of the dredging site. Booster pumps or transport scows may be used to transport hydraulically dredged material longer distances. Recent work at San Elijo Lagoon included pumping of sand for 3 miles from source location to discharge site using two booster pumps spaced at intervals of 1 mile. Booster pumps do not work well in cobble or stony environments because the rocks/cobbles can damage the equipment.

Excavation equipment access areas and haul routes are carefully planned to optimize efficiency and minimize impacts to habitat.

Mechanical dredging uses heavy equipment operating from a barge or from shore and is better suited for certain types of material. This method often captures a greater proportion of sediment to water and lessens the need for dewatering during material processing. Mechanical dredging types include clamshell, excavator, and amphibious dredges.

- A clamshell dredge consists of a barge-mounted crane outfitted with a clamshell bucket for excavation and is suitable for excavating all types of material except for solid rock.
- An excavator dredge consists of a barge-mounted hydraulic excavator. Excavator dredges are used when the characteristics of the dredge site limit clamshell dredge cost-efficiency. The excavator dredge is especially suited for excavating hard materials.
- Amphibious excavators are specialty equipment for environments that are both wet and dry. Certain areas of the Tijuana River Estuary may require use of an amphibious excavator.

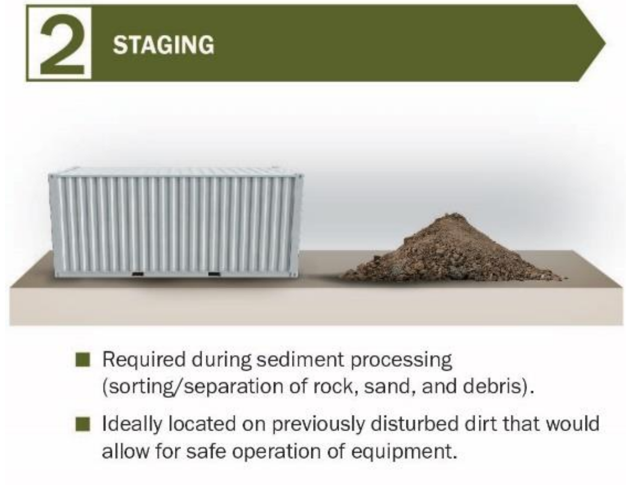
Site-specific conditions and project goals will dictate excavation or dredge method application within the TRW.

4.2 Staging and Storage

Staging and storage areas are used to manage and temporarily store sediment as part of operational activities. Sediment derived from riverine and estuarine systems is almost certain to require some form of processing (described in Section 4.4) to separate rock, sand, and debris.

A staging and storage area is ideally located on previously disturbed native dirt that would allow earthmoving and other processing equipment to safely operate. The area needs to be sized appropriately to accommodate sediment stockpiles, processing operations, equipment storage, stormwater pollution prevention best management practices, and employee parking if necessary. Access to the area for off-site transportation of processed sediment must be sufficient to accommodate dump trucks and other large earthmoving equipment.

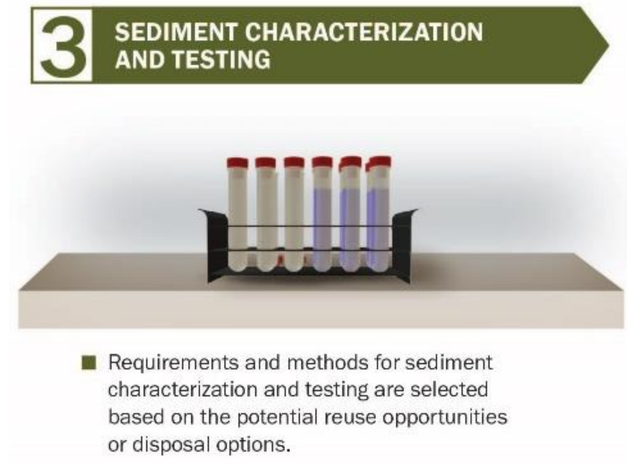
As part of the sediment staging process, short-term storage may also be necessary. Sediment stockpiles are stored in large piles sized according to staging area configuration, equipment capability, processing stage, and expected storage duration. Storage also allows for aeration and UV-exposure to reduce potential contaminants such as fecal coliform bacteria. For longer durations stockpiles, visqueen covering is used to prevent stormwater and wind erosion. Staging areas may also temporarily stockpile segregated trash, debris, and tires prior to legal disposal.



Additionally, certain beneficial reuse and disposal alternatives may be subject to extended permitting or funding timelines. Accordingly, storage area capacity and permitting parameters may be limiting factors for some sediment management activities.

Examples of sediment and debris stockpiles.

4.3 Sediment Characterization and Testing



The requirements and methods for sediment characterization and testing are selected based on the potential reuse opportunities or disposal options. Sampling collection follows the procedures explained in the USPEA's Methods for Collection, Storage, and Manipulation of Sediments for Chemical and Toxicological Analyses: Technical Manual (EPA 2001). Analysis methods are summarized in Table 4.1. A list of analytes to test for in sediment samples is provided in the Tijuana River Valley Sediment Management Plan and Monitoring Program (City of Imperial Beach 2021).

Table 4-1. Sediment Management Pathway Types and Testing Criteria

Sediment Management Pathway	Type	Applicable Testing Criteria
Beneficial Reuse	Beach and Nearshore Nourishment	SCOUP
	Thin-layer Sediment Addition	CCR Title 22 and SCOUP[1]
	Levee Rehabilitation	CCR Title 22
	Construction and Landscape Material	CCR Title 22
	Mine Reclamation	SCOUP[1]
Disposal	Upland Landfill Disposal and Daily Cover	CCR Title 22, Waste Acceptance Guidelines

Notes:
SCOUP = Sand Compatibility and Opportunistic Use Program Plan
1 Potential reuse for thin-layer sediment addition and mine reclamation do not have an associated testing criterion. The listed criteria above are being used as a conservative basis for determining reuse potential.

Any proposed beach and nearshore nourishment project will require characterization and testing following the general guidelines of the Inland Testing Manual (USACE and EPA 1998) and documentation with a sampling and analysis plan. The sampling and analysis plan will outline the sediment characterization and testing approach pursuant to the Inland Testing Manual, and will include critical analyses such as physical grain size testing and chemical testing for potential contamination of the source material, and potentially physical testing of the receiver site. A good reference is San Diego Association of Government's Final Sand Compatibility and Opportunistic Use Program Plan (SCOUP), which describes the required sediment characterization and testing required for beach and nearshore nourishment (SANDAG 2006).

For sediment characterization and testing of construction and landscape material, levee rehabilitation and upland landfill disposal and daily cover; Title 22 of the California Code of Regulations (CCR Title 22) is required. Waste Acceptance Guidelines are additional requirements for landfill disposal (City of Imperial Beach 2021).

Sediment characterization and testing for mine reclamation and thin-layer sediment addition do not have mandatory criterion. A conservative assumption for these beneficial reuse options is to use the methods from CCR Title 22 and SCOUP for thin-layer sediment addition and SCOUP for mine reclamation (City of Imperial Beach 2021).

4.4 Processing

- Material may require processing methods such as screening, dewatering and stabilization.
- Depending upon contamination level, stabilization/solidification may be required for certain disposal alternatives.

As part of the sediment management process, material may require processing methods such as screening, dewatering, and stabilization to prepare it for beneficial reuse or certain types of disposal. Gross debris (e.g., tires and other large objects) are generally removed in early stages of processing.

Sediment screening is used to sort/segregate relatively finer material (sand/silt/clay) more suitable for an estuary and beach from coarser material (cobble/rock). Sifters are used to filter trash, stones, and cobble from finer material. Subsequent finer-level mechanical screening to remove trash, debris, and plastics is anticipated to be necessary for most applications of beneficial reuse and disposal.

Material dewatering is only likely to be employed for mechanically dredged material to reduce the effort required to handle and transport material. Dewatering refers to the separation of water from dredged material. Dewatering is preferred to occur at the site of dredging if water quality management processes allow. The water is typically returned to the environment unless treatment and disposal is required due to contamination concerns. Dewatering is especially likely for management alternatives involving upland reuse such as incorporation as construction material. Dewatering may also be able to occur at the processing pad if sufficient runoff control measures can be implemented.

Depending upon the level of contamination determined to be present within the material, stabilization/solidification (S/S) may be required for certain disposal alternatives. S/S is a soil remediation process by which contaminants are rendered immobile through reactions with additives or processes. Stabilization is the general term for a process that transforms contaminants into a less mobile or toxic form. The process could take the form of mixing contaminated sediments with fixative agents such as fly-ash or special grout mixtures to render the sediments inert, or thermal treatments to remove broad spectrum contaminants. Solidification is a more specific process that treats material to increase its solidity and structural integrity. Solidification does not remove or degrade contaminants but prevents their transport by eliminating or significantly hindering their mobility. This process is also referred to as immobilization, fixation, or encapsulation. Contaminants may be chemically bound or encapsulated into a matrix during this process. The S/S process accomplishes one or more of the following:

1. Improved handling and physical characteristics of sediment
2. Decreased surface area of the sediment mass through which transfer/contaminant leakage can occur
3. Limited solubility of hazardous constituents in the waste

However, the S/S process is a potentially significant additional cost due to the added need for materials and handling. Therefore, reuse and disposal options that do not require S/S processing are often preferred.

Microplastics are an emerging environmental concern with sediment processing implications (Brander et al. 2021). Microplastics are defined in California as plastic particles less than 5 millimeters in length. Current technical and operational capabilities limit options for feasible and cost-efficient processing steps to sift particles that meet the microplastic definition. Ongoing multi-disciplinary work is needed to support microplastic reduction efforts statewide.

4.5 Transport

Once processed, sediment is typically transported to beneficial reuse or disposal sites via truck. Dry, processed material is transported using single or double dump trucks, in 7 and 14 cy volumes. Trucking operations require a suite of best management practices to limit air quality, stormwater, and roadway-related impacts. Examples include tracking controls, load coverings, and operations hours limitations to accommodate local traffic demands.

Sediment transport via pipeline may be an option for certain locations and beneficial reuse options. Hydraulic dredging operations conducted at certain locations may transport sediment slurry material to the beach or nearshore ocean using a dredge pipeline. Dredge pipelines are typically 6 to 10 inches in diameter but may be as large as 36 inches in diameter. Booster pumps may be required if the pumping distance exceeds 1 mile. Pipe and booster pump placement may be constrained by habitat and sensitive fauna receptors in natural areas. Noise protection such as housing, shrouds, or similar items to reduce impacts may be required.

Sediment transported to beneficual reuse or disposal via truck requires best management practices including tracking controls, load coverings, and limited operational hours.

To facilitate deposition of sediment out of the slurry, earthmoving equipment would be used to build training dikes on the beach, allowing sand-sized suspended sediment to settle on the beach, as was performed in Imperial Beach during Regional Beach Sand Projects I and II, while fines remain suspended and disperse offshore. Training dikes would be longitudinal sand berms that direct slurry along and parallel to the beach at a shallow slope, slowing slurry flow to the point where suspended sandy sediment can fall out and accumulate as a beach berm while fine sediment entrained in water runs off into the ocean.

A conveyor belt system is also a potential option for transport of sediment over short, approximately 0.5-mile distances. Conveyor belt systems are typically used for moving a high volume of sediment and require significant infrastructure. Additional considerations include right-of-way issues, roadway safety if placed next to a road, noise, energy requirements, and cost.

4.6 Beneficial Reuse or Disposal

Excavated and processed sediment is transported to a beneficial reuse or disposal site. Types of beneficial reuse and disposal are described in the following section, along with relevant sediment requirements, example projects and cost considerations.

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5 Sediment Management Activities/Pathways

Coastal sediment can provide many beneficial uses for wildlife and humans. Clean sand and gravel provide wildlife habitat within streams and beaches. Sand also provides recreational beach space and access, as well as improves shoreline protection and coastal resiliency to sea level rise. Silt and clay derived from river substrates supply needed nutrients for nearshore habitats. Combinations of these materials can be used by the construction industry for infrastructure development. Easy access to this important construction material has been a factor in California's economic growth. This section describes potential beneficial reuse pathways for source areas in the Tijuana River Valley, including beach and nearshore nourishment, thin layer sediment addition, levee rehabilitation, construction and landscape material, mine reclamation, and upland landfill disposal. For any pathway requiring mitigation, there is an opportunity for estuary restoration.

Multi-variate considerations and site-specific conditions impact the feasibility and cost-efficiency of potential beneficial reuse and disposal options available for Valley sediment sources. Key elements include sediment composition and contaminant characterization information, environmental and constructability considerations, and source volume, distance to beneficial reuse location, and timing factors. Each of these elements independently and/or collectively impact site-specific decision-making for specific reuse or disposal options. Table 5-1 provides an overview of key beneficial reuse and disposal mechanisms available for Valley sediment sources. Each pathway is further discussed in the sections below.

Multi-variate considerations and site-specific conditions impact the feasibility and cost-efficiency of potential beneficial reuse and disposal options.

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Table 5-1. Sediment Management Alternatives Summary

Activity	Composition	Contaminants	Environmental Considerations	Constructability Considerations	Transport Considerations	Volume	Timing	Cost[1]
Dune, Beach, and Nearshore Nourishment	Generally sand with limited fines up to 25%; Higher percentage fines material may be viable in certain conditions	Material needs to be free from trash, plastics, hazardous substances (i.e., heavy metals and petroleum), fecal coliform bacteria; Potential microplastics considerations	Improves beach profile, may provide limited sea level rise mitigation Potential for improved nearshore habitat	Conventional land-based equipment	Truck transport costs may limit receiver site locations; Potential for pipeline transport in certain conditions	Approximately 50,000 cy to 250,000 cy per placement event	Wet season (fall and winter)	$20–$30 per cy -Dune enhancement anticipated to include additional costs
Thin-Layer Sediment Addition[2]	Silts and clays to coarse sand	Material needs to be free from trash, plastics, hazardous substances (i.e., heavy metals and petroleum), fecal coliform bacteria; Potential microplastics considerations	Habitat improvement, improved tidal hydrology and circulation, and increased resilience to sea level rise	Conventional dredging equipment and dredge/hydraulic jetting device	Local applications only; off-site transport cost prohibitive	Approximately 3,000 cy per acre filled	Biological work windows limited to September 15-February 15 (i.e., outside breeding season for endangered birds)	Approximately $30 to $40 per cy; Site-specific conditions may impact costs
Levee Rehabilitation	Fines and sand Cobble and rock may be used as riprap	Material needs to be free from trash, plastics, hazardous substances (i.e., heavy metals and petroleum), fecal coliform bacteria	Improved flood protection	Conventional land-based equipment Geotechnical constraints	Local applications only; off-site transport cost prohibitive	Unknown; likely limited material needed	Potential constraints associated with adjacent sensitive habitat	Approximately $30 to $50 per cy; Site-specific conditions may impact costs
Construction and Landscape Material	Must meet geotechnical engineering and soil properties of project or product	Material needs to be free from trash, plastics, hazardous substances (i.e., heavy metals and petroleum), fecal coliform bacteria	Transport distance may have ancillary impacts	Conventional land-based equipment Geotechnical constraints-material must meet project-specific criteria	Truck transport costs may limit receiver site locations	Variable; depends on receiver site project need On the order of 10,000 cy	Potential daily transport timing limitations	Potentially cost neutral
Mine Reclamation	Fines, sands, cobble, rock	Material needs to be free from trash, plastics, hazardous substances (i.e., heavy metals and petroleum), fecal coliform bacteria SPLP testing may be required by RWQCB[3]	Potential for habitat restoration	Conventional land-based equipment	Truck transport costs may limit receiver site locations	Approximately 1 million cy	No restrictions/ constraints	$25 to $35 per cubic yard
Commercial Landfill (Landfill Daily Cover)	Fines, sands, cobble, rock	Screen material to separate trash and sediment Meet individual landfill WDRs and the Integrated Waste Management Board regulations (CalEPA)[3] Potential testing required–RWQCB WET or STLC[3]	Limited direct environmental benefits; Indirect benefits include reuse of excavated material	Conventional land-based equipment	Truck transport costs may limit receiver site locations	Approximately 80–120 cy per day (contact the landfill for capacity)	Potential daily transport timing limitations	$65 to $90 per cubic yard

Notes: cy = cubic yard; RWQCB = Regional Water Quality Control Board; CalEPA = California Environmental Protection Agency; WDR = Waste Discharge Requirement
1 Cost information based on available/historical data predating the COVID-19 pandemic.
2 Although thin layer sediment addition is a potential option for some estuaries, a number of regulatory and stakeholder decisions are required for this to be a viable option.
3 LACSTF 2005.

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BENEFICIAL RE-USE AND DISPOSAL

5.1
Dune, Beach, and Nearshore Nourishment

What is Dune, Beach, and Nearshore Nourishment?

Definition: The placement of appropriate material to restore the historical beach dune system, onto the beach, or in the nearshore environment either in or just outside the surf zone. Potential recurring nourishment for these environments can each improve complexity and heterogeneity of beach-dune habitats.

Goal: Improvem habitat and support the sediment transport withing the littoral cell and increase the volume of sediment with the littoral zone.

Typical Project Summary

Volume	50,000 cy to 250,000 cy per placement
Timing	Wet Season (fall and winter)
Cost	$20-$30 per cy *Cost information based on available/historical data predating the COVID-19 pandemic. **Dune enhancement anticipated to include additional costs

Appropriate Sediment Characteristics

Location	Near source by truck, may be able to transit further by barge/hopper dredge
Composition	Sand with limited fines up to 25
Color	Similar color to beach is preferred
Contaminants	Material needs to be free from hazardous substances (i.e., heavy metals and petroleum), fecal coliform bacteria; Potential microplastics considerations
Trash	Must be removed

Considerations

Environmental	Constructability	Distance
Improves beach profile, may provide limited sea level rise mitigation. Potential for improved nearshore.	Conventional land-based equipment.	Truck transport costs may limit receiver site locations. Potential for pipeline transport in certain conditions.

Example Project

Tijuana Estuary Fine Sediment Fate and Transport Demonstration Project

- Placed over 40,000 cy of material obtained from the Goat Canyon sediment basins at the waterline at low tide south of the river mouth.
- Material contained a high percentage of fine sediment consisting of silt and clay (approximately 40%).
- Material was excavated from the basins, stockpiled at a nearby processing pad, sorted for trash and debris, tested for grain size and chemistry, and trucked to and placed in the intertidal zone south of the Tijuana River mouth.
- Environmental conditions showed temporarily elevated ocean turbidity but rapid dispersion with no permanent impacts, and no significant levels of seabed burial of nearshore and offshore habitat areas.

COST Excavating • Processing • Transporting • Placing ▸▸ *$20/cy - $30/cy*

- Does not include mobilization/demobilization of excavation/dredging and transportation equipment, any extraneous costs such as remediation, contractor markup, and contingency, material characterization, and post placement sediment and dune community monitoring.
- Sediment testing and treatment are separate costs that can greatly vary depending on the different tests/treatments that are required and can be cost-prohibitive.

BENEFICIAL RE-USE AND DISPOSAL

5.2

Thin Layer Sediment Addition (TLSA)

What is Thin Layer Sediment Addition?

Definition: Practice of raising the marsh platform to extend its functional lifespan. Opportunity for beneficial use of dredged material could be to apply dredged material in thin layers to sediment-starved coastal marsh areas within the estuary.

Benefits: Enhance wetland longevity, promote continued vegetation growth during SLR, protect against sediment loss, and raising the marsh plain to counteract the effects of SLR. While TLSA is a potential option for some estuaries, a number of regulatory and stakeholder decisions are required for this to be a viable option.

Typical Project Summary

Volume	3,000 cy per acre filled
Timing	Biological work window; limited to Sept 15 - Feb 15 (i.e. outside of breeding season for endangered birds)
Cost	$30-$40 per cy, site-specific conditions impact costs **Cost information based on available/historical data predating the COVID-19 pandemic.*

Appropriate Sediment Characteristics

Location	Near source
Composition	Sand and fines
Color	Any
Contaminants	Material needs to be free from hazardous substances (i.e., heavy metals and petroleum), fecal coliform bacteria; Potential microplastics considerations
Trash	Must be removed

Considerations

Environmental	Constructability	Distance
Habitat improvement, improved tidal hydrology and circulation, and increased resilience to sea level rise.	Conventional dredging equipment and dredge hydraulic jetting device.	Local application only–offsite transport cost prohibitive.

Example Project

Seal Beach National Wildlife Refuge Augmentation

- TLSA was performed to improve tidal hydrology and wetland quality.
- Fine material from the routine maintenance dredging of a nearby harbor was hydraulically pumped to the project site and aerially sprayed to achieve target elevation gains.
- Hay bales secured with rebar with natural bindings were used for containment of slurry material. Sandbags and geotextile fabric were used to supplement containment in locations where loss was occurring.
- The application thickness was measured two-months post-placement and found to be an average of 8.5 inches.
- Following completion of the project, monitoring showed that vegetation was naturally recovering in patches (Garvey and Brodeur 2016).

COST Excavating • Processing • Transporting • Placing ▸▸ *$30/cy - $40/cy*

- Does not include mobilization/demobilization of excavation/dredging and transportation equipment, any extraneous costs such as remediation, contractor markup, and contingency, material characterization, and post placement sediment monitoring.
- Sediment testing and treatment are separate costs that can greatly vary depending on the different tests/treatments that are required.
- To assess the cost of TLSA it is important to consider the type of dredge, area-specific dredging requirements, and placement/ grooming of the material.

BENEFICIAL RE-USE AND DISPOSAL

5.3 Levee Rehabilitation

What is Levee Rehabilitation?

Definition: Dredge material used to rehabilitate levees, also called dikes.

Benefits: The material may be used as a stabilizing berm to prevent slope failure due to liquefaction from earthquakes or oversteepening of the slope from erosion of weak soils. Additionally, material placement atop levees could help protect against sea level rise.

Typical Project Summary

Volume	Unknown; likely limited material needed
Timing	Potential constraints associated with adjacent sensitive habitat
Cost	$30-$50 per cy, site-specific conditions impact costs **Cost information based on available/historical data predating the COVID-19 pandemic.*

Appropriate Sediment Characteristics

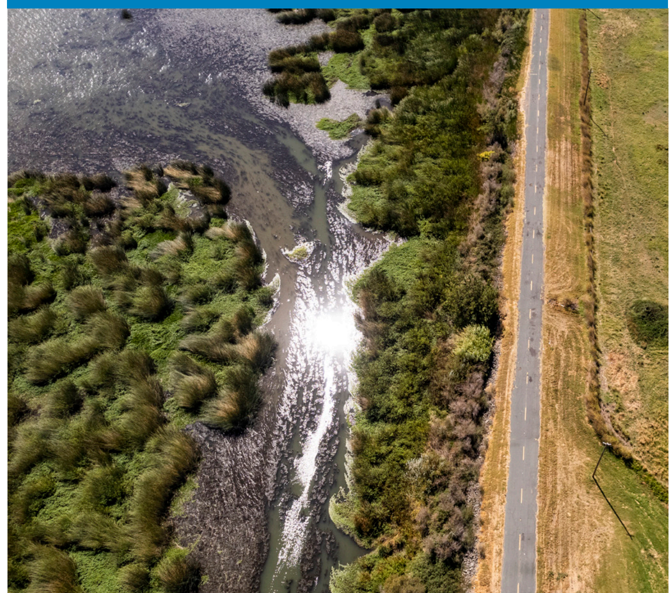
Location	Near source
Composition	Fines and sand; cobble and rock maybe used as riprap. Must meet geotechnical engineering properties of the levee location.
Color	Any
Contaminants	Material needs to be free from hazardous substances (i.e., heavy metals and petroleum), fecal coliform bacteria. Treated material accepted.
Trash	Must be removed

Considerations

Environmental	Constructability	Distance
Improved flood protection.	Conventional land-based equipment Geotechnical constraints - material must meet USACE standards.	Local application only–offsite transport cost prohibitive.

Example Project

Sacramento-San Joaquin Delta



» In Northern California, weak soils, such as a silt/clay mix or peat, are characteristic along the bay shore of the Sacramento-San Joaquin Delta.

» If the bay-side of the dike erodes, combined with the weak soil, the slope failure safety factor for the dike is greatly reduced. This can lead to high structural fragility of the dikes.

» When protected habitat exists on the bay-side of the dike, reestablishing a reasonable slope is unacceptable. In these instances, dredged material has been placed on the landward side of dikes in the Sacramento-San Joaquin Delta to act as a stabilizing berm against static or earthquake loading (CCSMW 2017).

COST Excavating • Processing • Transporting • Placing ▸▸ *$30/cy - $50/cy*

» Does not include mobilization/demobilization of excavation/dredging and transportation equipment, any extraneous costs such as remediation, contractor markup, and contingency, material characterization, and post placement sediment monitoring.

» Sediment testing and treatment are separate costs that can greatly vary depending on the different tests/treatments that are required.

» The excavation and transport of sediment for levee rehabilitation is essentially the same as that for beach nourishment.

BENEFICIAL RE-USE AND DISPOSAL

5.4 Construction and Landscape Material

What is Construction and Landscape Material?

Definition: Use of excavated or dredged sediments in production of construction material. Some material types are a viable end-product for contaminated material and potentially require lower standard of treatment.

Benefits: Using both clean and contaminated dredge material as a construction product is achievable with dewatering. Material must meet geotechnical engineering properties and sediment cannot exceed criteria set by RWQCB for chloride leaching to prevent groundwater contamination (LACSTF 2005).

Typical Project Summary

Volume	Variable; on the order of 10,000 cy
Timing	Potential daily transport timing limitations
Cost	Potentially cost neutral **Cost information based on available/historical data predating the COVID-19 pandemic*

Appropriate Sediment Characteristics

Location	Near source
Composition	Dependent on required geotechnical engineering properties for the construction project or soil properties required by the product
Color	Any
Contaminants	Accepted depending on the type of project and if the contaminants can be isolated from the environment
Trash	Must be removed

Considerations

Environmental	Constructability	Distance
Transport distance may have ancillary impacts.	Conventional land-based equipment. Geotechnical constraints - material must meet project-specific criteria.	Truck transport costs may limit receiver site locations.

Example Project

Goat Canyon Sediment Basins

» Sediment excavated from the Goat Canyon sediment basins is re-used as base material at a local landscape nursery to blend with mulch and plant debris to create soil amendment. Final products are used for landscape applications.

» A single nursery equipped with the proper processing equipment and methods can accept approximately 10,000 cy annually (Evans, pers. comm. 2022).

» A local concrete and asphalt supplier may use as base material to blend with other materials to create commercially acceptable products for use in pavement and other hardscape materials. Annual amount they can accept (single supplier equipped with proper processing equipment and methods) is approximately 10,000 cy.

COST Excavating • Processing • Transporting • Placing ▸▸ *\$46/m³ in 2005*

» Does not include mobilization/demobilization of excavation/dredging and transportation equipment, any extraneous costs such as remediation, contractor markup, and contingency, material characterization, and post placement sediment monitoring.

» Sediment testing and treatment are separate costs that can greatly vary depending on the different tests/treatments that are required.

BENEFICIAL RE-USE AND DISPOSAL

5.5 Mine Reclamation

What is Mine Reclamation?

Definition: Recovery of a mine or quarry at the end of its life. Usually the equipment is dismantled, any hazardous waste is removed or mitigated and the remaining pit where the raw materials were extracted is regraded. The final project may be left as open space, reclaimed to habitat or developed into agriculture or residential/commercial areas.

Benefits: Dredged or excavated sediment may be re-used as a component of the manufactured fill and topsoil (CDPR 2021).

Typical Project Summary

Volume	1 million cy
Timing	No restrictions/constraints
Cost	$25 - $35/cy **Cost information based on available/historical data predating the COVID-19 pandemic.*

Appropriate Sediment Characteristics

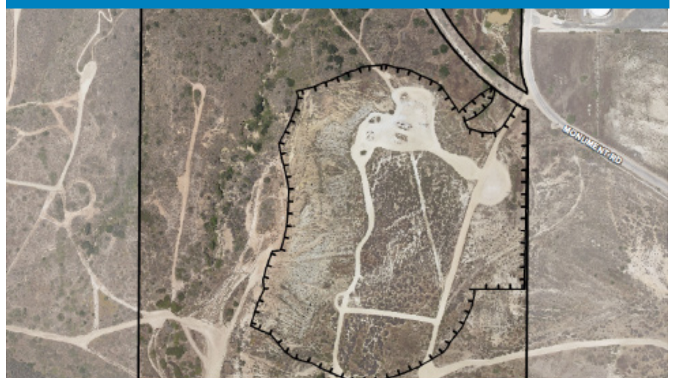
Location	Near source
Composition	Any, manufactured fill needs both silt and sand
Color	Any
Contaminants	Material needs to be free from hazardous substances (i.e., heavy metals and petroleum), fecal coliform bacteria. Treated material accepted.
Trash	Must be removed

Considerations

Environmental	Constructability	Distance
Landform and habitat restoration.	Must be dewatered first.	Nearby; would be cost prohibitive to truck sediment long distance.

Example Project

Nelson Sloan Quarry Restoration and Beneficial Reuse of Sediment Project



- Project beneficially re-uses sediment for the purpose of landform and habitat restoration.
- Sediment is derived from several on-going and proposed sediment management activities including sediment basins (e.g., Goat Canyon), flood control facilities and conveyances, and habitat restoration and enhancement projects.
- Phased approach to restore previously mined portions of the property to its original grade. A total of about 1 million cy of fill material may be beneficially re-used.
- Limited by transportation cost and tipping fees, which includes the monetary cost of hauling the sediment to the landfill, truck noise, environmental effects of the truck exhaust and the effect of numerous truck trips to the transportation infrastructure.
- Prior to hauling, the material must be dewatered.
- The landfill permit will require TCLP and STCL analyses to confirm material may be used for daily cover.

COST **Excavating • Processing • Transporting • Placing ▸▸** *$25/cy-$35/cy*

- Does not include mobilization/demobilization of excavation/dredging and transportation equipment, any extraneous costs such as remediation, contractor markup, and contingency, material characterization, and post placement sediment monitoring.
- Sediment testing and treatment are separate costs that can greatly vary depending on the different tests/treatments that are required.

BENEFICIAL RE-USE AND DISPOSAL

5.6 Upland Landfill Disposal

What is Upland Landfill Disposal?

Definition: Last resort for dredged material because it can be quite costly. Consideration include identification of a permitted upland landfill that will accept the sediment, quantity of material, contamination level, debris content and CEQA document inclusion. Excavated and dredged material needs to be completely dewatered before transport to prevent any discharge from the trucks and leaching in the landfill.

Benefits: In contaminated soil conditions, may be the only option.

Typical Project Summary

Volume	Approximately 80-120 cy/day (contact the landfill for capacity)
Timing	Potential daily transport timing limitation
Cost	$65 - $90/cy **Cost information based on available/historical data predating the COVID-19 pandemic*

Appropriate Sediment Characteristics

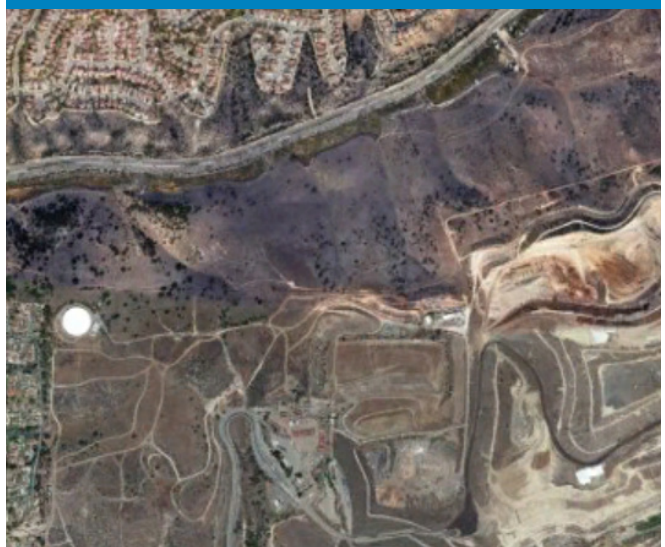
Location	Near source
Composition	Any
Color	Any
Contaminants	Screen material to separate trash and sediment, but all would go to the landfill. Meet individual landfill WDRs and the Integrated Waste Management Board regulations (CalEPA). Potential testing required-RWQCB WET or STLC.
Trash	Accepted

Considerations

Environmental	Constructability	Distance
Limited direct environmental benefits Indirect benefits include reuse of excavated material.	Conventional land-based equipment.	Truck transport costs may limit receiver site locations.

Example Project

Republic Services Otay Landfill



- California State Parks has recently planned for the upland landfill disposal of sediment from the Goat Canyon sediment basins (CSP 2018).
- All material is proposed for landfill disposal, including sediment, tires, plastics, and trash. Although all material is targeted for landfill disposal, the excavated or dredged material is still anticipated to be screened so that trash and sediment can be separated.
- The nearest landfill, Republic Services Otay Landfill, is approximately 10 miles northeast of the Goat Canyon sediment basins at 1700 Maxwell Rd, Chula Vista, CA 91911.
- Guidelines and required forms for the Republic Services landfills in San Diego are provided in Appendix B.

COST **Excavating • Processing • Transporting • Placing ▸▸** *$65/cy - $90/cy*

- Does not include mobilization/demobilization of excavation/dredging and transportation equipment, any extraneous costs such as remediation, contractor markup, and contingency, material characterization, and post placement sediment monitoring.
- Sediment testing and treatment are separate costs that can greatly vary depending on the different tests/treatments that are required.

6 Regulatory Framework

Sediment management activities in the Tijuana River Valley are currently managed as agency-driven ad-hoc projects performed on a case-by-case basis. Each project is subject to myriad federal, state, and regional/local statutes and regulations that govern dredging, beneficial use and/or disposal. This section outlines roles of key regulatory agencies and the project-specific permitting framework for sediment management beneficial reuse and disposal options.

A regional perspective is needed to coordinate a long-term vision allowing for improved cost-efficiency of sediment management activities within the Tijuana River Valley. Within the context of the growing interest in California to streamline regulatory processes for permitting environmental projects (CLSN 2020), this section outlines anticipated project permits and a thoughtful permitting strategy to both guide project proponents and serve as basis for permitting discussion at a policy level.

Projects are subject to myriad federal, state, and regional/local statutes and regulations that govern dredging, beneficial use and/or disposal in the Valley.

6.1 Overview

Multiple federal, state, and regional legislative statues and regulations govern current and future sediment management activities in the Valley (Table 6-1). A glossary of terms, pertinent agencies, and applicable legislation/regulatory guidelines is included as Appendix D.

A regional perspective is needed to coordinate a long-term vision allowing for improved cost-efficiency of sediment management activities within the Tijuana River Valley.

Table 6-1. Federal, State, and Regional Statutes and Regulations Governing Sediment Management Activities in the Tijuana River Valley

Regulatory Level	Agencies	Applicable Legislation/Regulatory Guidance
Federal	U.S. Army Corps of Engineers U.S. Fish and Wildlife Service U. S. Environmental Protection Agency National Oceanic Atmospheric Administration International Boundary and Water Commission	Clean Water Act of 1977 Rivers and Harbors Act (Section 10) National Environmental Policy Act of 1969 Marine Protection, Research, and Sanctuaries Act Coastal Zone Management Act Fish and Wildlife Coordination Act of 1958 Federal Endangered Species Act of 1973 Migratory Bird Treaty Act National Historic Preservation Act of 1966 Federal Water Project Recreation Act Resource Conservation and Recovery Act Magnuson–Stevens Fishery Conservation and Management Act Federal Antidegradation Policy
State	California Coastal Commission State Water Resources Control Board Regional Water Quality Control Board (RWQCB) California Department of Fish and Wildlife California State Lands Commission California State Department of Parks and Recreation	California Coastal Act of 1976 Porter Cologne Water Quality Act California Ocean Protection Act California Environmental Quality Act Construction General Permit California Endangered Species Act California Toxics Rule California Antidegradation Policy California Fish and Game Code – Sections 1600-1616
Regional	RWQCB County of San Diego City of San Diego City of Imperial Beach	National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems Draining the Watersheds within the San Diego; Order R9-2013-0001 – amended by Order Nos. R9-2015-001, and R9-2015-0100. County of San Diego General Plan City of San Diego General Plan Tijuana River Valley Local Coastal Program Land Use Plan and Coastal Development Permit San Diego Multiple Species Conservation Program and Local Incidental Take Permits

Within this regulatory framework, a suite of agency permits are generally required for sediment management activities. A summary of key permit types and descriptions is presented in Table 6-2.

Table 6-2. Summary of Key Permit Types and Descriptions

Agency	Permit Type	Description
U.S. Army Corps of Engineers (USACE)	Clean Water Act Section 404 Permit and Rivers and Harbors Act Section 10 Permit	Section 404 of the federal Clean Water Act regulates the discharge of dredged or fill material into waters of the United States. Section 10 of the Rivers and Harbors Act regulates structures and work in or over navigable waters of the United States. For beach nourishment projects and some other reuse activities, compliance involves demonstration that the sediment proposed for placement will not degrade water quality, closely matches the sediment grain size of the receiver beach sediment, contains a minimum quantity of silt and clay, and is free of contaminants. Sediment sampling and testing of the proposed source sediment and the beach receiver site must be performed to demonstrate compatibility; review and approval of the sediment testing program and results is the responsibility of the U.S. Environmental Protection Agency and USACE. Additional requirements include the submittal and implementation of a detailed pre- and post-monitoring report.
U.S. Fish and Wildlife Service (USFWS)/ National Marine Fisheries Service (NMFS)	Biological Opinion	USFWS works collaboratively to consult USACE to evaluate potential federally-listed species impacts through the Endangered Species Act (ESA) Section 7 process to ensure the issuance of a USACE permit (the federal action) would not jeopardize any federally listed species or adversely modify designated critical habitat. The Biological Opinion is used to quantify species impacts and provide conservation recommendations and reasonable and prudent measures to minimize take. In instances when the USACE permit may affect federally-listed marine species, NMFS conducts Section 7 consultations.
	ESA Section 10 Permit	In the event a proposed project may result in take of a threatened or endangered species and there is no ESA Section 7 nexus, such as a USACE permit, a Section 10 permit, also known as Incidental Take Permit, is required. The permittee must develop a Habitat Conservation Plan that includes an assessment of the likely impacts on protected species, measures that will be taken to mitigate potential impacts, and an analysis of alternative mitigation efforts. A plan to monitor and manage species and habitat is also required. Typically, the National Environmental Policy Act/California Environmental Quality Act process will identify the potential need for a Habitat Conservation Plan. In certain instances when federally-listed marine species may be impacted, NMFS administers ESA Section 10 permits.
California Coastal Commission (CCC)	Coastal Development Permit	The California Coastal Act of 1976 established the statewide program requirement to obtain a state permit for any development or work within the coastal zone so that existing resources and public uses are protected. Applications must demonstrate that the excavation, conveyance, and placement of source sediment at a receiver site complies with a broad spectrum of policies and guidelines that are outlined in the act. Protection of biological resources, preservation of public access, public acceptance of the project proposal, and minimization of temporary or permanent environmental impacts associated with sand placement are the key assessment criteria commonly involved when reviewing beach nourishment projects.

Table 6-2. Summary of Key Permit Types and Descriptions

Agency	Permit Type	Description
California Department of Fish and Wildlife (CDFW)	1600-1601 Streambed Alteration Agreement	A Lake and Streambed Alteration Agreement is required if a project will affect any river, lake, or stream, for example if the receiver site is at or adjacent to an existing river mouth or streambed and may affect that stream.
	California Endangered Species Act (CESA) Incidental Take Permit 2081(b)	A CESA Incidental Take Permit 2081(b) is required if there is a likelihood of taking a state listed species. If a species is listed by both the ESA and the CESA, California Fish and Game Code Section 2080.1 allows an applicant who has obtained federal Section 7 consultation or a federal Incidental Take Permit to request that the Director of CDFW find the federal documents consistent with CESA. If the federal documents are found to be consistent with CESA, a consistency determination is issued, and no further authorization or approval is necessary under CESA.
State Water Resources Control Board	General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit)	Projects that disturb one or more acres of soil or disturb less than one acre are required to obtain coverage under the Construction General Permit. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation. A stormwater pollution prevention plan containing site maps, best management practices, and visual and chemical monitoring programs is required.
Regional Water Quality Control Board, San Diego Region	Section 401 Certification and Waste Discharge Requirements (WDRs) Enrollment	A Clean Water Act Section 401 water quality certification is required for any federal actions, including USACE permit actions, that may result in any discharge into waters of the United States. The project must be reviewed to ensure that the proposed discharge will comply with applicable state water quality standards. Limitations on turbidity and sediment toxicity are the primary criteria for assessment in the Tijuana River watershed. WDR encompass all discharges that "could affect the quality of the state." WDR are required pursuant to the Porter-Cologne Water Quality Control Act for projects that propose to discharge into waters of the state. Requirements are created by considering beneficial uses to be protected, water quality objectives, other waste discharges in the water body, the need to prevent nuisance, and economic considerations.
California State Parks	Encroachment Permit	An Encroachment Permit will be required if the receiver site is located within a State Park or State Beach, or if access across state property is necessary for project implementation. This program could also require a special use permit or right of entry permit.
California State Lands Commission	Lease of State Lands	A Lease of State Lands is necessary for any work occurring below the mean high tide line. Prior to placement of sand below the mean high tide line a mean high tide line survey is required. Additional surveys may be required every few years for long-term programs. Supplemental maps and CAD drawing files of the survey may also be required.
Applicable Local Jurisdiction	Grading Permit	A grading permit is required for any grading, public right-of-way improvement, construction changes to an existing grading or public improvement permit, site reconnaissance and testing, and as-graded soils reports within City jurisdiction.

Table 6-2. Summary of Key Permit Types and Descriptions

Agency	Permit Type	Description
Applicable Local Jurisdiction	Coastal Development Permit	For development within the coastal zone of a city or county with a certified Local Coastal Program (LCP), a coastal development permit must be obtained using the LCP as the standard of review. LCP policies normally mirror those of the California Coastal Act in terms of impact avoidance to biological resources, public access, and environmental conditions. In the event that a single project straddles multiple local and/or CCC permitting jurisdictions, CCC may issue a single consolidated Coastal Development Permit for the entire project.

Notes: ESA = federal Endangered Species Act; CDFW = California Department of Fish and Wildlife; CCC = California Coastal Commission.

6.2 Applicable Permits to Relevant Sediment Source Locations and Pathways

Within the complex multi-agency regulatory framework, project-specific permitting pathways can be challenging to delineate, costly to navigate, and require extensive lead times. Key factors in permit application preparation and agency review include project location and description, sediment characterization information, biological and historical resources both within and adjacent to the project site, and potential short- and long-term project impacts associated with implementation. A summary of key potential permitting elements for Valley sediment management projects is presented below.

The first element of sediment management is excavation from the source location. Table 6-3 presents a summary list of applicable permits needed to remove sediment from the Valley depositional sites. A key discerning factor for permit applicability for the Valley source locations is whether the sediment is being removed from within waters of the United States and within the State Coastal Zone.

The second aspect of sediment management permitting is proposed sediment beneficial reuse options and placement locations. Table 6-4 lists beneficial reuse options and associated anticipated permit requirements. Similar to the permit strategy for source areas, not all permits apply to each proposed sediment beneficial reuse option.

Table 6-3. Probable Permit Requirements for Tijuana River Valley Sediment Source Locations

	USACE Section 404/10	USFWS/NMFS/CDFW/Local Incidental Take Permit and/or Federal Section7 Consultation	CCC/Local Cities Coastal Development Permit	CDFW 1600-1601 Streambed Alteration Agreement:	CDPR Encroachment Permit:	SLC Lease of State Lands	RWQCB Section 401 Certification/ WDR enrollment	Local Grading Permit
Tijuana River Main Channel	🟢	🟡 *	🟢	🟢	🔴	🔴	🟢	🔴
Pilot Channel	🟢	🟢 *	🟢	🟢	🔴	🔴	🟢	🟢
Brown Fill Area	🟢	🔴	🟢	🟢	🔴	🔴	🟢	🟢
Smuggler's Gulch North of Monument Road/Pilot Channel	🟢	🟢	🟢	🟢	🔴	🔴	🟢	🟢 **
Smuggler's Gulch South of Monument Road	🟢	🟢	🟢	🟢	🔴	🔴	🟢	🟢 **
Goat Canyon Sediment Basins	🟢	🔴	🟢	🟢	🟢	🔴	🟢	🔴
Tijuana River Estuary	🟢	🟢	🟢	🟢	🔴	🟢	🟢	🔴

Notes: 🟢 = Yes; 🔴 = No; 🟡 = Possible.

* Dependent on if excavation site is near least Bell's vireo habitat.

** Needs both City and County Permits.

USACE = U.S. Army Corps of Engineers; USFWS = U.S. Fish and Wildlife Service; NMFS = National Marine Fisheries Service; CDFW = California Department of Fish and Wildlife; CCC = California Coastal Commission; CDPR = California Department of Parks and Recreation; SLC = State Lands Commission; RWQCB = Regional Water Quality Control Board; WDR = Waste Discharge Requirement

Table 6-4. Applicable Permits to Relevant Sediment Pathways

	USACE Section 404/10	USFWS/NMFS/CDFW/Local Incidental Take Permit and/or Federal §7 Consultation	CCC/Local Cities Coastal Development Permit	CDFW Streambed Alteration Agreement	CDPR Encroachment Permit	SLC Lease of State Lands	RWQCB Section 401 Certification/ WDR Enrollment	Local Grading Permit	Other
Beach and Nearshore Nourishment	🟢	🟡	🟢	🔴	🟡	🟢	🟢	🔴	
Thin-Layer Sediment Addition	🟢	🟢	🟢	🟡	🟡	🔴	🟢	🟡	
Levee Rehabilitation	🟡	🟡	🟢	🟡	🔴	🔴	🟡	🟢	
Construction and Landscape Material	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	Haul Permit
Landfill Daily Cover	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	Haul Permit
Mine Reclamation	🟡	🟢	🟢	🔴	🔴	🔴	🟡	🟢	Haul Permit

Notes: 🟢 = Yes; 🔴 = No; 🟡 = Possible.
* Port of San Diego has its own permitting process within its jurisdiction.
USACE = U.S. Army Corps of Engineers; USFWS = U.S. Fish and Wildlife Service; NMFS = National Marine Fisheries Service; CDFW = California Department of Fish and Wildlife; CCC = California Coastal Commission; CDPR = California Department of Parks and Recreation; SLC = State Lands Commission; RWQCB = Regional Water Quality Control Board; WDR = Waste Discharge Requirement

The required permits for a particular action can be determined by cross-walking between Tables 6-3 and 6-4. An example scenario may entail removal of sediment from a main Tijuana River source area and placing it in the nearshore environment for beach nourishment. Permit requirements and notes for this scenario are presented in Table 6-5.

Table 6-5. Example permit requirement scenario for excavation of main Tijuana River source area and placement in City of Imperial Beach nearshore environment.

Agency	Permit	Sediment Excavation Permit Requirements - Main Proposed Smugglers Gulch Sediment Basin South of Monument Road	Sediment Placement Permit Requirements – Nearshore Beach Replenishment City of Imperial Beach	Notes
USACE	Section 404/10	🟡[1]	🟢	
USFWS/NMFS/CDFW	Incidental Take Permit and/or Federal Section 7 Consultation	🟡	🟡	
CCC/Local Cities	Coastal Development Permit	🟢	🟢	Dependent upon receiving site location within an approved local coastal plan and status, local jurisdiction may issue a CDP.
CDFW	1600-1601 Streambed Alteration Agreement	🟡[1]	🔴	
CDPR	Encroachment Permit	🔴	🔴	If nearshore replenishment project encroaches onto CA State Parks property, encroachment permit required.
SLC	Lease of State Lands	🔴	🟢	
RWQCB	401 Certification/WDR enrollment	🟡[1]	🟢	
City or County	Grading Permit Encroachment permit	🔴	🔴	

Notes: USACE = U.S. Army Corps of Engineers; USFWS = U.S. Fish and Wildlife Service; NMFS = National Marine Fisheries Service; CDFW = California Department of Fish and Wildlife; CCC = California Coastal Commission; CDPR = California Department of Parks and Recreation; SLC = State Lands Commission; RWQCB = Regional Water Quality Control Board; WDR = Waste Discharge Requirement

1 Permit required if basin is built within jurisdictional area adjacent to stream.

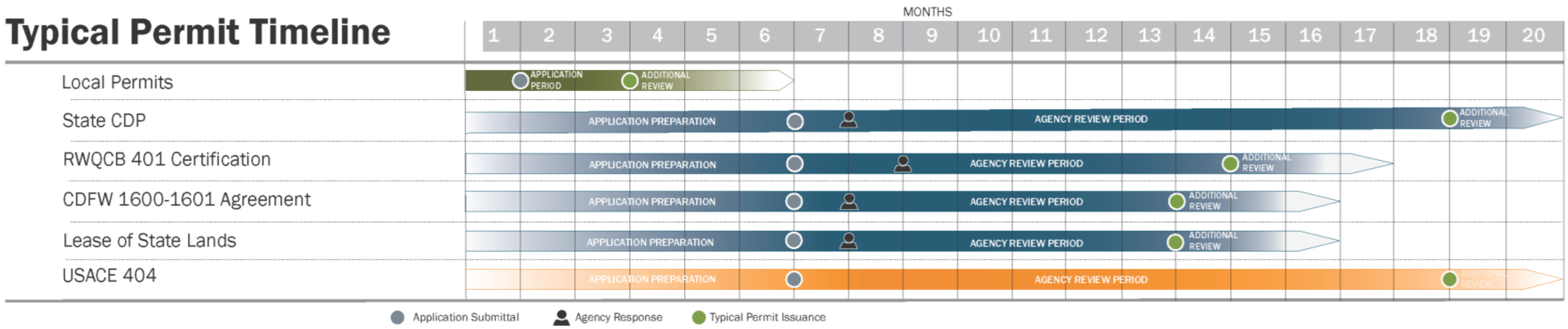


Figure 6-1: Example Permit Timelines for Typical Sediment Management and Beneficial Reuse Projects

6.3 Permitting Process/Timeline

Implementing sediment excavation activities and beneficial reuse projects in the Valley will require multiple permits from a suite of federal and state agencies, depending on type of activity and project locations. Local agencies may also require additional grading and access permits, as well as potential variances to applicable ordinances for certain activities. Individual project permits can require long lead times, extensive permit condition negotiations, and potentially onerous monitoring requirements. Accordingly, a thorough, thoughtful permitting strategy can provide multiple benefits including saving time and short- and long-term costs.

Typically, the permitting process is divided into two components: local permits, such as grading, coastal development, and others issued by municipal agencies with local jurisdiction, and state and federal permits issued by respective regulatory agencies. It is important to begin with preparing local permit applications because many state and federal agencies require these as exhibits for issuing their own permits. Additionally local permits often require less processing time allowing for review and approval in 6 months or less.

State and federal permits typically have more requirements than local permits and require longer lead time to process (Figure 6-1). In general. agencies have mandated application completeness response time parameters for permit applicants. However, the response time parameters are variable time among agencies. For example, the California Coastal Commission is required to respond within 30 days for a Coastal Development Permit application, but the Regional Water Quality Control Board has 60 days for a Section 401 Certification.

Typically, for complex or potentially environmentally sensitive projects such as sediment excavation and/or beneficial reuse in sensitive environments like the Valley, agencies request additional information to be provided to deem an application complete. There can be multiple rounds of information requests and project proponent submittals before an application is deemed complete. After each additional information submittal, agencies are granted an additional review window. This process is iterative and can be time-consuming. Depending on the permitting agency, scope of the project, level of environmental review, number of iterations required, and public comment and/or sensitivity to certain project details, issuance of certain types of federal and state permits can take one to several years.

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7 Monitoring and Reporting

Monitoring of environmental effects will be required for beneficial reuse of sediment from the Valley. Disposal of the sediment without a beneficial reuse component will not necessitate monitoring. Monitoring is a requirement of the permits to be secured for proposed actions. Beneficial sediment reuse options requiring monitoring include the following:

- Beach and nearshore nourishment
- Thin-layer sediment addition
- Levee rehabilitation
- Remedial cap
- Mine reclamation

The primary categories of monitoring that cover biogeochemical conditions associated with material removal, transport, and placement to be required are as follows:

- Physical monitoring of landform (e.g., elevation, bathymetry, sedimentation, erosion)
- Biological monitoring of habitat and species (e.g., riparian, salt marsh, and upland including plants and animals, fish)
- Chemical monitoring of water and sediment quality

Sections 7.1 and 7.2 provide additional detail on each monitoring category and outline monitoring requirements based on type of sediment reuse.

7.1 Typical Beneficial Reuse Monitoring Requirements

Types of monitoring required for beneficial reuse projects are briefly described below. For all projects, it is required prior to construction to set the baseline of the receiver site prior to disturbance, monitor during construction to document any unintended adverse impacts, and monitor then after construction to document recovery or lack thereof. It serves as the basis for regulatory agencies to quantify adverse impacts from a project that trigger the need for compensatory mitigation. A monitoring plan will be required by the California Coastal Commission and other agencies that demonstrates a satisfactory monitoring approach to document changes, potentially both positive and negative.

Physical Monitoring

Physical monitoring is typically done using topographic and bathymetric (underwater) survey methods. These can be traditional land-based methods and/or done remotely with drones, depending on the character of the site. Surveying quantifies the three-dimensional elevation conditions over the site and documents changes caused by the project. Typically, a survey is conducted at both the source location and the receiver site prior to construction to verify the quantity placed and the location of placement. In-water removal and/or placement requires a similar approach to land-based operations. Nearly all actions will trigger the need for physical monitoring.

Physical monitoring also includes the water quality parameters of temperature, pH, salinity, dissolved oxygen, biological oxygen demand, and turbidity. These water quality constituents are typically monitored in a water body or stream prior to and after construction to document any impairment caused by the project.

Biological Monitoring

Biological monitoring is conducted with a team that documents many properties of the habitat such as the presence of sensitive and endangered species; vegetation type, cover, and maturity; and existence of invasive vegetation. Specific surveys for endangered bird species are conducted using specialized expertise according to established protocols by the resource agencies. A wide variety of sensitive and endangered birds may be present at this location due to the multiple types of mature and functioning habitat such as salt marsh, riparian, and upland. The overall objective of the biological monitoring is to determine if functioning habitat is disturbed by material reuse operations including sediment removal, transport, and placement.

The monitoring is done prior to construction, during construction, and after construction to quantify changes caused by the project. Pre- and post-construction monitoring is established as a systematic approach to directly compare changes in habitat type, area, function, and value. Therefore, consistent methods are employed repeatedly over time to document progressive change and habitat evolution. Monitoring during construction is done to protect sensitive species and prevent inadvertent incursions into protected areas. It is used to enforce restrictions, document damage, and identify required mitigation if needed.

Chemical Monitoring

Chemical monitoring addresses potential contamination in soils that can be contributed to a receiver site. It involves sediment quality characterization prior to sediment removal to prevent contamination of a placement site. This work is covered by the sampling and analysis plan process overseen by the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. Monitoring will vary by project but will be required for every action proposed herein. More specific information by project type is provided in Section 7.2.

7.2 Monitoring Requirements by Type of Beneficial Reuse

Probable monitoring requirements of potential projects are detailed in Table 7-1 and followed by a brief discussion of monitoring for each beneficial reuse option. Monitoring of certain actions may be required to extend well beyond the completion of construction, such as for 5 years, while others may not. Costs of monitoring can be fairly high and range from $50,000 to $500,000 or more. For reference, beach nourishment monitoring for the Tijuana Estuary Fate and Transport Study project was on the order of $500,000.

Beach Nourishment

This option triggers all of the monitoring requirements at the receiver site. Permits will require each type of monitoring with the exception of fish and invertebrates. Beach nourishment typically requires monitoring for up to 1 year after placement depending on the quantity of material placed, with longer periods required for larger projects done in sensitive coastal areas.

Table 7-1. Probable Monitoring Requirements of Potential Projects

Beneficial Reuse	Monitoring Requirements						
	Sampling and Analysis Plan Process	*Topography/ Bathymetry Surveying*	*Water Quality (at least one of turbidity, DO, Temp, pH, salinity)*	*Habitat Mapping (Marine, Riparian, Salt Marsh or Upland)*	*Bird Surveys*	*Fish and Invertebrates*	*Burial by Sediment*
Beach Nourishment	Yes	Yes	Yes	Yes	Yes	No	Yes
Thin Layer Addition	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine Reclamation	Yes	Yes	No	No	No	No	No

Thin Layer Addition

Thin layer addition also triggers monitoring of all types without exception. Placement of material over an existing wetland is extremely sensitive and requires careful scrutiny for up to 5 years after placement.

Mine Reclamation

Mine reclamation is less sensitive and may require monitoring for the time needed to document settlement of the fill and achievement of the target final grades. Less monitoring is required of this option as it typically done in a less sensitive environment.

Table 7-2 shows the outline of probable monitoring requirements for beach nourishment projects. This is representative of any similar action proposed within the Valley. Also, two specific example monitoring plans are provided in Appendix E for actions related to beach nourishment with sediment from the Valley for the same project. They are pertinent documents to review and may serve as typical models of monitoring plans that may be required for future actions.

Table 7-2. Overview of Anticipated Monitoring Requirements for Beach Nourishment Projects

Overview of Anticipated Monitoring Requirements for Beach Nourishment Projects		
Project Phase	*Type of Monitoring*	*Timing/Duration*
Pre-Project/Baseline	Survey (topographic and/or bathymetric) of source location and receiver site	Within one month of project start
	Archeological Resources • Identification of presence or absence	Prior to project start
	Biological Resources • Habitat mapping • Identification of sensitive plants and wildlife	Within one month or less of project start (based on permit specifics)
	Sediment Characterization and Testing (grain size, contaminants)	Prior to project start
	Photo Documentation • All areas of permanent and temporary impact	Prior to project start
During Construction	Construction best management practice (BMP) monitoring	Daily or weekly during construction (based on BMP)
	Archeological Resources • Protection of resources (if applicable)	Daily or periodic (based on resources)
	Biological Resources • Sensitive species • Daily construction monitoring • Periodic inspections	Daily and periodic during all phases of construction (coordination with regulatory agencies required prior to construction for specifics)
	Sediment Characterization and Testing (grain size, contaminants)	Potential for periodic testing requirement
	Water Quality at source location and receiver site (at a minimum temperature, pH, salinity, dissolved oxygen, turbidity)	Daily or weekly during construction

Table 7-2. Overview of Anticipated Monitoring Requirements for Beach Nourishment Projects

Overview of Anticipated Monitoring Requirements for Beach Nourishment Projects		
Project Phase	*Type of Monitoring*	*Timing/Duration*
	Visual observation of nourishment site including: • Speed and direction of currents • Tidal stage • Trash/debris • Oil/petroleum • Discoloration and extent of any visible turbidity plume • Odors	Daily during nourishment activities
	Photo Documentation • All areas of permanent and temporary impact	Periodic
Post-Construction	Survey (topographic and/or bathymetric) of source location and receiver site to confirm quantity placed	Upon completion of construction
	Photo Documentation • All areas of permanent and temporary impact	Upon completion of construction
Post-Project	Survey (topographic and/or bathymetric)	Likely within 1 year of project completion
Year(s) Following Project	Survey (topographic and/or bathymetric)	Possible requirement 1–5 years after project completion

8 Recommendations

Planning for effective sediment management in the Valley requires consideration of multiple technical, environmental, policy, and economic factors. Each sediment source area includes unique stakeholders, management components, reuse and disposal process options, and multi-faceted regulatory considerations. This Work Plan is intended to serve as a reference and tool for development of short- and long-term activities to support cost-effective sediment management activities. This section summarizes recommendations and next steps that support the vision of this Work Plan to advance more streamlined management and permitting processes and provide multiple social, environmental, and economic benefits for the region.

KEY RECOMMENDATIONS FOR COORDINATION

- *Forging partnerships and coordinating services among stakeholders with similar goals is an important strategy to successfully plan, implement, and sustain efficient sediment management activities.*

8.1 Coordination

The complexity of bi-national watershed processes, sediment transport and deposition dynamics, ongoing sediment management, and beneficial reuse operations within a framework of multi-jurisdictional agency roles and responsibilities necessitates strong coordination efforts among stakeholders. Coordinating related projects, communities, and programs can reduce duplication of services and improve efficiency.

Stakeholders to be considered for coordinated efforts in sediment management include the following:

- International
  - CILA
  - State of Baja
  - CONAGUA
  - City of Tijuana
- Federal
  - International Boundary and Water Commission U.S. Environmental Protection Agency
  - National Oceanic Atmospheric Administration
  - U.S. Army Corps of Engineers
  - U.S. Fish and Wildlife Service
- State
  - California Environmental Protection Agency
  - California Department of Resources Recycling and Recovery
  - California Department of Parks and Recreation
  - State Water Resources Control Board
  - California Department of Fish and Wildlife
  - Regional Water Quality Control Board
  - California Coastal Commission
  - Ocean Protection Council
- Regional
  - San Diego Association of Governments
  - Integrated Regional Water Management
  - San Diego County
  - City of Imperial Beach
  - City of San Diego
  - City of Chula Vista
  - Local Native American Tribes
  - Local businesses with potential sediment beneficial reuse opportunities
  - Stakeholders concerned about impacts to coastal resources, health, safety, and surfing

KEY RECOMMENDATIONS FOR SOURCE CONTROL

- *Educate the public in the United States and Mexico on impacts of development and impervious-surface-related erosion, as well as source-control techniques.*
- *Provide technical support for urban development, including grading and erosion controls, site design, green infrastructure, and operations and maintenance activities, and include incentives for local enforcement.*
- *Develop programs for incentives and local enforcement of source control activities in both the United States and Mexico.*

Coordination efforts may range from ad hoc informal or formal meetings to development and implementation of formal working agreements to memoranda of understanding to implement projects or programs. Early communication and coordination among agencies and project stakeholders with common administrative needs, sediment management needs, and/or strategic goals may help facilitate future project delivery.

8.2 Source Control

Sediment source control includes soil conservation and stormwater management practices, as well as point and non-point source contaminant controls, designed to minimize anthropogenic contributions to sediment loads naturally carried through dynamic watershed systems, such as the Valley. Source control efforts require careful planning and participation of watershed stakeholders to implement in a cost-effective manner and to maximize benefits. Garnering participation in a watershed-scale approach to sediment management can be a challenge because there is often a disconnect in how the sediment source impacts areas far downstream via uncontrolled sediment discharges. In the Valley, this disconnect is compounded by the bi-national nature of the watershed, where many residents are physically separated from downstream depositional areas by the international border. Given this unique condition, a focused bi-national approach to promotion of sediment source controls is needed to further social, environmental, and economic benefits of various source control opportunities and implementation options.

8.3 Reduce Barriers to Beneficial Reuse

As described in previous sections, beneficial reuse of sediment refers to the repurposing of local sediment sources for activities that improve environmental conditions, assist in infrastructure development, and/or support local processes that can integrate excess sediment into building and landscape materials. However, in many locations, beneficial reuse is constrained by a suite of regulatory, technical, physical, and inter-organizational barriers

KEY RECOMMENDATIONS TO MAXIMIZE BENEFICIAL REUSE

- *Create streamlined permitting approaches for beneficial reuse projects meeting certain predefined criteria.*
- *Support additional studies, modeling, and pilot projects (see Section 8.6) to advance beneficial reuse practices.*
- *Clarify expectations around the 80/20 rule and use existing and potential future pilot studies to support regulatory agency permit condition development.*
- *Educate the public and regulatory agency staff about sediment beneficial reuse techniques, especially for beaches or recreational areas.*
- *Relax the requirement for governments to use the lowest-cost option when an alternative meets diverse social or environmental needs.*
- *Identify standardized methods to integrate the environmental benefit of sediment delivery to coastal environments into project planning and analysis.*
- *Provide facilitation and incentives for inter-organizational coordination and innovation.*
- *Support organizations to act as leaders in regional sediment management via funding.*
- *Support existing inter-agency sediment management workgroups to better coordinate activities.*

(Ulibarri et al. 2020). Work is needed to support development of sustainable beneficial reuse options through development of cross-cutting solutions to reduce barriers in implementation.

8.4 Permitting Strategies

Within the context of complex sediment excavation and beneficial reuse projects with multiple agency planning and permitting requirements, consideration of permit efficiency strategies may provide multiple stakeholder benefits. Permit efficiency strategies range in scale and complexity from simple techniques, like creation and use of baseline permit condition templates, to development of multi-agency partnerships and regional approaches for specific sediment management activities. Key potential project permitting efficiency strategies include the following:

- Submittal Ordering: Approved local agency permits, including grading and, in some cases, local stormwater ordinance compliance documents, are often requirements for and/or helpful exhibits for certain regulatory agency permit applications. Local agencies can have relatively rapid processing times for certain permit applications, especially with coordination with local agency representatives.

KEY RECOMMENDATIONS FOR PERMITTING EFFICIENCY

- *Submittal ordering:*
  - *Approved local agency permits.*
  - *Followed by regulatory agency permits.*
- *Concurrent application submittals for state and federal permits.*
- *Applicant-drafted permits that proactively build off existing project permit conditions to facilitate discussion with regulatory agencies.*
- *Detailed permit condition reviews.*
- *Short-term permit condition alternative.*
- *Long-term mitigation condition specificity.*

- Concurrent Application Submittals: State and federal permit applications should be prepared and submitted concurrently, to the extent feasible, to retain consistency in information content. Many of the permits have overlapping but slightly different planning and monitoring requirements. Preparing documents that can be submitted for multiple permits can promote efficiency, consistency, and clarity. Also, submitting permit applications to multiple agencies concurrently is important because permitting agencies coordinate; feedback from one agency may be applicable to the processing of other agency permits.
- Applicant-Drafted Permits: Regional agencies and staff have conducted a suite of sediment management projects ranging from routine operations and maintenance within limited existing disturbed locations to complex in-situ excavation activities in sensitive environmental areas. Additionally, local and regional pilot projects and innovative collaborations have allowed for advancements in certain project implementation strategies. In some cases, previously issued regulatory agency permit conditions for these projects provide guidelines for future similar or related sediment management project activities. As part of development of this Work Plan, typical 401 Water Quality Certification permit conditions for beach nourishment projects in San Diego were compiled and reviewed with stakeholders (Appendix F). Further documentation and evaluation of existing permit conditions could be used to proactively develop draft permit conditions to initiate discussions with regulatory agencies for future projects.
- Detailed Permit Condition Reviews: Regulatory documents and agency-generated permits often include “boilerplate” language that may be inconsistent with the specifics of a given project (e.g., a species identified in the permit is not on the project site). An

experienced permitting specialist and the project's technical team (engineers, construction managers, environmental experts) should conduct a draft permit review prior to advance negotiations with the permitting agency to identify unnecessary obstacles and develop workaround solutions. Identification of key elements and development of appropriate solutions may assist in opening the way to effective negotiations with the resource agencies. Most permit language is negotiable if the changes create greater harmony between the permit language and the project details.

- Short-Term Permit Condition Alternative: Permits frequently have considerations that are both short term (for construction) and long term (for operation and mitigation). An important short-term consideration is to identify opportunities to negotiate construction-term conditions to allow for appropriate flexibility and reduce potential project implementation delays. Boilerplate language that may not apply to a particular project, and may cause unnecessary delays, can be identified and modified where appropriate.
- Long-Term Mitigation Condition Specificity: Vague or poorly worded long-term mitigation requirements can become a significant barrier to project success if impact mitigation is included as part of the overall project. In some cases, project proponents are seeking sign-off on permit conditions up to 5 years after the permit was written. This timing can lead to regulatory staff not involved in writing the original permit language being asked to interpret vague or complicated requirements and delay the sign-off process. The more specific the language, the less potential there is for future disagreements about the achievement of mitigation goals and performance standards.

8.5 Data Management

Within the context of sediment management activities in the Valley, a data management system to compile and store information on key projects/programs will allow for analysis that is critical for decision making and long-term cost efficiency. As agencies and organizations create and consume data to support project planning, permitting, implementation, and reporting, effective data management solutions become essential to development of sustainable, efficient operations.

KEY RECOMMENDATIONS FOR DATA MANAGEMENT

- *Develop a centralized sediment management project and data repository with multiple agency contributors and restricted/public access portals.*
- *Provide project planning and permitting templates.*
- *Create an identification and tracking mechanism for commercial applications and markets of exported sediment material.*
- *Provide landfill disposal options and capacity.*

8.6 Science Advancement

Science can play an essential role in shaping planning, permitting, and implementation of diverse sediment management activities in dynamic environments like the Valley. Policies and projects that support the development of improved data collection and curation, comprehensive evaluation of individual project and programmatic environmental and logistical cost-benefits, and emerging pollutant management technologies will support long-term sustainable actions.

KEY RECOMMENDATIONS FOR SCIENCE ADVANCEMENT

- *Improved understanding of fate and transport associated with beneficial reuse of sediment within the nearshore ocean.*
- *Establishment of a regional program that provides a process whereby opportunistic material (with both optimum and less-than-optimum sands) can be evaluated for compatibility and placed on a predetermined beach nourishment site under a programmatic approach for sediment management.*
- *Integration of climate resiliency to long-term sediment management planning.*
- *Implementation of microplastics testing and removal research.*

8.7 Funding

Current and projected sediment management needs across the diverse matrix of federal, state, and local agencies with responsibilities in the Valley suggest various funding sources are needed to support ongoing project planning and operations and maintenance activities. Compounding factors of ongoing sediment deposition in the Valley, historical underfunding of sediment management capital improvement projects and operations and maintenance, increasingly stringent regulatory requirements related to beneficial reuse options, and low levels of federal and state financial support are expected to continue to widen the gap between costs and available funding for sediment management activities. Left unaddressed, this chronic underfunding can lead to flooding, water quality impairments, property damage, higher future costs, potential fines, and public liability costs. Inadequate funding for sediment management activities might also have large-scale and long-term impacts on the region's environmental quality, infrastructure, and public recreation resources. Accordingly, a comprehensive and multi-faceted program to identify, develop, and route sustainable funding sources toward Valley sediment management needs is necessary for long-term success.

KEY RECOMMENDATIONS FOR FUNDING

- *Identify funding options, financing strategies, and opportunities to reduce ongoing sediment management funding needs through efficiencies and innovations.*
- *Evaluate potential funding strategy options through a set of criteria, including whether the options can provide cost recoverability for Valley stakeholders.*
- *Benchmark sediment management operations and maintenance and beneficial reuse options against other regions to support agency- and project-specific planning and implementation efforts.*
- *Engage stakeholders, including policy and budget decision-makers at the federal, state, and local levels to accurately describe needs, costs, and benefits.*
- *Prioritize projects and funding options to support regional efficiency and cost-effective solutions.*

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9 Next Steps and Conclusion

The recommendations presented in this Work Plan are intended to support successful implementation of sediment management projects throughout the Valley over the next decade and beyond. A series of interagency next steps were identified by the Technical Advisory Committee (TAC) group members in fall 2022; these steps have been organized into short- and long-term goals in the sections below. Short-term goals are achievable now through interagency collaboration and the leveraging of existing processes and programs to overcome known hurdles to sediment management in the Valley. Long-term goals build on the short-term actions to support Valley-wide perspectives on sediment management and streamlined pathways to project implementation.

9.1 Short Term Goals/ Current Action Items

The following broad short-term goals were identified, discussed, and commented on by TAC group members during final development of this Work Plan:

- Coordinated ongoing processes
- Project development/ implementation agreement
- Project-level pre-consultation meetings
- Legacy trash/sediment/debris cleanup
- Coordinated funding development
- University/research collaboration

Each goal is described further in the sections below.

Coordinated Ongoing Processes

There are numerous agencies and programs in the United States and Mexico associated with ongoing sediment management in the Valley. Coordination efforts should leverage existing relationships and explore new partnerships to increase efficiency for existing and future operations. A short-term goal is to collaborate to identify shared goals and resources for existing, ongoing projects.

Specific short-term action items for coordinated ongoing processes include the following:

- Develop a list of existing, ongoing sediment management processes, including contact information, location, and other basic program/project information that is updated on an annual basis and available to the TAC (potential starting point for future centralized data repository).
- Identify and consolidate information for existing or proposed projects with similar timelines, goals, and other elements.
- Identify ongoing sediment management operations with capacity to process and/or store additional sediment from new or existing sediment management operations.

Appropriate organizational coordination leads include the International Boundary and Water Commission's Minute 320 Binational Core Group; the Tijuana River Valley Recovery Team; working groups led by local, regional, or state legislators; and working groups that may form in response to the proposed total maximum daily loads for indicator bacteria and trash.

Project Development/Implementation Agreement

In addition to supporting implementation of existing sediment management projects in the Valley, development of new projects and research/investigations were identified as short-term goals by TAC group members. Continuation of existing projects is not only important for maintaining momentum of the overall sediment management objectives identified for the Valley, but also to inform planning of new projects, including scheduling, budget forecasting, and permitting. Research that would support new projects includes pre-emptive studies to characterize new sediment sources and feasibility of sediment sinks/receiver locations.

Specific short-term action items for project development/implementation include the following:

- Develop a list of potential projects, including contact information, location, and other basic project information, as well as potential limiting factors for implementation that is updated on an annual basis and available to the TAC.
- Identify potential pilot projects.
- Create a list of potential receiver sites and associated research needs and seek regulatory consensus on their feasible use.
- Improve overall cost tracking for sediment management projects by cataloguing existing project cost by type and quantity.
- Improve individual project cost planning by forecasting costs of operations and maintenance in project planning/budgeting (consider creating project planning/budgeting templates).

Project-Level Pre-Application Consultation Meetings

Nearly all sediment management projects in the Valley, including removal and beneficial reuse or disposal, require approved environmental permits from a suite of agencies prior to implementation. Permit conditions development and approval processes can often have lead times and require detailed reviews. Accordingly, pre-permit application consultation meetings with applicable regulatory agencies during project planning can assist permit applicants and agency staff in improving efficiency.

Section 6.2 of this Work Plan identifies the permitting and consultation requirements by sediment management project type. The TAC group includes representatives from these regulatory agencies with previous sediment management projects in the Valley and elsewhere in the United States. TAC group feedback indicated that initiating consultation meetings well in advance of permit application submittal is an efficient way to define and refine appropriate permit conditions applicable to site-, project-, and agency-specific circumstances. Early consultation can also be used to inform project design, potentially minimize environmental impacts and permit condition requirements, and facilitate project implementation.

Specific short-term action items for pre-application consultation meetings include the following:

- Early consideration of potential project-specific requirements for consultation meeting requirements. Where feasible, initiate discussions to facilitate development of project description and/or exhibits needed to support pre-application consultation discussion of key issues.
- Develop timeline guidance by project type for when to initiate consultation meetings and appropriate frequency of consultation meetings during the permit application processes.

Legacy Trash/Sediment/Debris Cleanup

Cleanup of legacy trash, sediment, and debris impacting the Valley's natural resources has both short-term and long-term impacts. Effective cleanup efforts require a combination of lead agency organizational alignment with cleanup goals, support volunteer/partner resources, access to key cleanup site needs, funding for project development and material disposal, and other administrative support for tasks such as insurance, right-of-entry permits, and waivers.

Specific short-term action items for trash, debris, and sediment cleanup efforts include the following:

- Identify appropriate agency representative "champions" and support development of management support for lead agency organizational support.
- Facilitate relationships between appropriate lead agency and volunteer/partner resources to support repeatable cleanups.
- Define steps for a repeatable permitting process to help streamline future cleanup efforts.
- Compile and categorize cleanup site information to support repeatable efforts.

- Identify appropriate funding agencies and resources for cleanup administrative and disposal costs.

Coordinated Funding Development

A significant challenge to regional sediment management is developing a multiagency approach for securing project-level funding for capital improvements and, more importantly, long-term operations and maintenance activities. Due to the fragmented distribution of land ownership and maintenance responsibilities, historical sediment management projects have typically been funded by individual agencies or sources for project-specific needs. This practice can sometimes limit the extent and quantity of work and overall impact of the project. A subset of the potential projects proposed in this Work Plan will require multiagency coordination, implementation agreements, and likely funding. Of particular importance is the consideration of long-term agreements for performing and funding operations and maintenance for any Capital Improvement Program project.

Specific short-term action items for developing a coordinated funding approach are as follows:

- Evaluate existing projects and funding sources to help identify gaps, potential options, and pathways to fund future efforts.
- Coordinate with local, regional, and federal legislators and elected officials to help identify funding for sediment management projects, including operations and maintenance and support multiagency collaboration at a legislative level.
- Develop a multiagency structure for coordinating funding requests (e.g. Joint Powers Authority, Memorandum of Understanding, other) and administering projects.
- Identify funding pathways for infrastructure/construction projects and long-term operations and maintenance.
- Develop a coordinated approach for funding regional operations and maintenance programs.

University/Research Collaboration

Sediment-related research performed by universities and public agencies has been critical for informing and supporting implementation of sediment management projects in the Valley. Example topics of previous research include sediment characterization, watershed dynamic studies, riparian and estuary ecology studies, nearshore and marine dynamic studies, project opportunity prioritization, and policy analysis. A continued and coordinated approach to baseline research and special studies designed to improve understanding of processes affecting Tijuana River erosion, sediment transport, and impacts to ecology was identified by the TAC group to advance the regional management goals identified in this Work Plan.

Specific action items for developing a coordinated research approach are as follows:

- Develop support mechanisms, including funding, agency partnerships, and ongoing professional development to support ongoing and planned research and special studies. Look for overlaps in near-shore replenishment research and monitoring being conducted by the University of California at Irvine and Southern California Coastal Water Research Project.
- Coordinate with the funding and policy research being conducted at San Diego State University.
- Correlate sediment management and monitoring research projects in the region and state to sediment management in the Valley.

9.2 Long Term Goals

Long-term sediment management goals and strategies identified by the TAC group are flexible by design to allow for adaptation following lessons learned during implementation of the short-term goals. The long-term strategies presented in this Work Plan build on the short-term goals that emphasize a multiagency, coordinated approach to sediment management. As detailed above, short-term goals focus on identifying and better supporting existing processes, identifying project partnerships and pilot projects, clarifying and providing guidance on permit requirements, identifying funding pathways, and coordinating research efforts. Long-term strategies seek to progress these efforts to the level of formalized partnerships and streamlined project implementation that is supported by research/pilot projects and regional funding, and aligned with resource agency goals. Identified long-term strategies include the following:

- Coordinate interagency project implementation.
- Build capacity for adaptive management.
- Develop a programmatic and/or streamlined approach to environmental permitting.

Ideally, coordinated efforts to manage and responsibly dispose of or re-use sediments, combined with upstream source control, will create a sustainable program for sediment management in the Valley.

Interagency Implementation Coordination

Long-term strategies for interagency coordination focus on holistic approaches that incorporate agency efforts in both the United States and Mexico. Source control is a key concern for almost every agency that manages sediment within the Valley. Approximately two-thirds of the watershed is in Mexico, so international collaboration is essential for source control and the overall success of management activities in the lower watershed.

Specific action items for interagency implementation coordination are as follows:

- Develop a centralized sediment management project and data repository with multiple agency contributors.
- Work with Mexican officials to streamline pathways for permitting and placement of sediment from the Valley onto beaches in Baja California.
- Look for collaborative solutions to sediment management that include the use and promotion of natural processes.
- Focus on partnerships that align with a Valley-wide perspective to sediment management.

Build Capacity for Adaptive Management

The long-term strategies presented in this section are designed to follow an adaptive management process. To do so, land managers and resource agencies within the Valley must build a framework for recording, analyzing, and evaluating results from sediment management activities, and find a central repository for which the data can be accessed by stakeholders.

Specific action items to build capacity for adaptive management include the following:

- Evaluate sediment management techniques and technologies through implementation of pilot studies.
- Maintain a database of permitting efforts by project type and permitting approach to assist new project planning.
- Document monitoring requirements by project type and identify successful strategies.
- Develop partnerships with university research programs that have resources for performing program assessments.

Programmatic/Streamlined Environmental Permits

The TAC group identified environmental permitting as one of the more time-consuming and resource-intensive sediment management project planning activities. To help streamline the permitting process for groups of similar projects, the TAC group seeks to develop a programmatic approach to permitting that will increase the viability of project success through the reduction of repeated administrative work. Environmental permitting is necessary to ensure that projects consider the potential direct and indirect impacts to the environment, but projects of similar size, location, and technique may be able to share overlapping components of the permitting process.

Specific action items to develop a programmatic approach to environmental permitting include the following:

- Develop list of environmental permitting needs and specific document requirements by project type and location.
- Identify overlaps in monitoring requirements that can be shared by multiple projects.

9.3 Conclusion

This Sediment Management Work Plan is intended to serve as a guide for agencies and organizations responsible for sediment management activities in the Valley and in the upstream watershed of the Tijuana River. It outlines watershed and coastal processes that govern sediment deposition and transport; potential sediment sources within the watershed; a comprehensive list of sediment management project components; and the regulatory requirements for sediment management projects, including permitting, monitoring, and reporting. The future recommended activities should be cataloged and assessed against the concepts and actions laid out in this Work Plan to facilitate efficient, reasonable, and cost-effective actions to improve sediment management and protect natural resources in the Valley. The concepts, ideas, and recommendations presented in this Work Plan were formulated based on feedback received from the TAC group members, and generally reflect the interests of participating local, state, federal, and international stakeholders.

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Appendix A

Characteristics of Existing and Potential Sediment Sources Table

Funding provided by State Coastal Conservancy through Proposition 68 California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 resources

Appendix A – Characteristics of Existing and Potential Sediment Sources

Source	Quantity Estimates[1]	Particle Size Distribution: 2021/22 Monitoring[o]	Particle Size Distribution: Literature	Color	Contaminants: 2021/22 Monitoring[o]	Contaminants: Literature	Trash: 2021/22 Monitoring[o]	Trash: Literature	Plastics
Goat Canyon Sediment Basin Complex	25,000–55,000 cy/yr based on truck loads actual removal;[e] 25,000–60,000 cy/yr based on maintenance records;[b] average 40,000 cy/yr but can hold 60,000 cy/yr[c]	Not monitored	60% sands, 40% fines[c]	Both light and dark material (dark material due to organics and/or petroleum hydrocarbons)[a] Light gray to pale olive, micaceous[d]	No hazardous waste[n]	Possible petroleum hydrocarbons[a]	Trash Evaluation Rating: very high Types observed: cans, bottles, paper, plastics[o]	Trash present;[c] large amounts trash present particularly at debris screens and in vegetation[a] Estimated 40.9 pounds/ acre annually[b]	Plastic detected from visual inspection[o]
Smugglers Gulch (North of Monument Road)	Smuggler's and Pilot combined: 200–30,000 cy/yr (data from 1999–2013);[i] 10,644 cy in 2001 and 668 cy in 2002[g]	10/21/21 / 1/7/22 Sand: 15.7% / 67.7% Fines: 84.8% / 32.2%	Silty, clayey (sometimes poorly graded) sand[b,f] Stockpile 1: 56% sand, 8% fines, 14% cobbles, 22% gravel[b,f] Stockpile 2: 89% sand, 8% fines, 3% gravel[b,f]	Olive brown[f] Light gray to pale yellow and olive gray to olive, micaceous[d]	No hazardous waste[n]	SVOCs/BEHP, PAHs, OCPs/4,4'-DDE not detected above analytical detection limit; Dioxins and Furans and TPH carbon chain data available; metals exceedances: CHHSL-arsenic;[h] Metal detections in samples all represent background DTSC levels, with the exception of arsenic in the stockpile, hazardous waste levels found within regulatory limits;[f] Stockpile sediment: PAHs and OCPs detected below CHHSL/RSL; 4,4' -DDT detected above Effects Range-Low and	Trash Evaluation Rating: very high Types observed: plastic bags, bottles, polystyrene, paper, tires, plastics, wood[o]	Estimated 13,454 lbs present 2010[h]	Di(2-ehtyl exyl)phthalate/DEHP present in concentrations well below screening criteria[f] Plastic bags and other plastics from visual inspection[o]

Appendix A – Characteristics of Existing and Potential Sediment Sources

Source	Quantity Estimates[1]	Particle Size Distribution		Color	Contaminants		Trash		Plastics
		2021/22 Monitoring[o]	*Literature*		*2021/22 Monitoring*[o]	*Literature*	*2021/22 Monitoring*[o]	*Literature*	
						requires further investigation for use in marine environment; non-hazardous when compared to hazardous waste criteria[c]			
Smugglers Gulch (South of Monument Road)[2]	County excavation 8,000–10,000 cy[p]	10/21/21 1/7/22 Sand 15.7% 67.7% Fines 84.8% 32.2%	Silty, clayey (sometimes poorly graded) sand[b,f]	Olive brown[f] Light gray to pale yellow and olive gray to olive, micaceous[d]	No hazardous waste[n]	N/D	Trash Evaluation Rating: very high Types observed: plastic bags, bottles, polystyrene, paper, tires, plastics, wood[o]	N/D	Plastic bags and other plastics from visual inspection[o]
Pilot Channel	Smuggler's North of Monument Road and Pilot Channel combined: 200–30,000 cy/yr (data from 1999–2013)[i]	10/21/21 1/7/22 Sand 71.3% 79.0% Fines 28.8% 21.4%	56.2% sand, 38.5% fines, 5.3% gravel[d] Sand, silt, and some gravel[g] Slightly micaceous, silty, clayey, sand[d]	Yellowish-brown, yellow, and olive[g] Olive, micaceous[d]	No hazardous waste[n]	SVOCs/BEHP, PAHs, OCPs/4,4'-DDE not detected above analytical detection limit; Dioxins and Furans and TPH carbon chain data available; metals exceedances: CHHSL-arsenic[h]	Trash Evaluation Rating: very high Types observed: plastic bags, bottles, polystyrene, paper, tires, plastics, wood[o]	Trash screening necessary[c]	Plastic bags and other plastics from visual inspection[o]

Appendix A – Characteristics of Existing and Potential Sediment Sources

Source	Quantity Estimates[1]	Particle Size Distribution: 2021/22 Monitoring[o]	Particle Size Distribution: Literature	Color	Contaminants: 2021/22 Monitoring[o]	Contaminants: Literature	Trash: 2021/22 Monitoring[o]	Trash: Literature	Plastics
Tijuana River Main Channel	109,000 cy sediment existing[k, r] – approximately 1.7M cy sediment and trash existing[h]; estimated 3,406 cy/yr[k]; International Boundary and Water Commission staff estimated up to 15,000 cy/yr[p]	10/21/21 1/7/22 Sand 38.5% 70.6% Fines 61.3% 29.5%	3%–27% fines, 6%–97% silt and clay fractions, remainder is sand[j]	Olive gray to light olive gray, micaceous	No hazardous waste[n]	SVOCs/BEHP, PAHs, OCPs/4,4’-DDE not detected above analytical detection limit (one sample with SVOCs/BEHP 0.63- no units or exceedance level provided in report), Dioxins and Furans and TPH carbon chain data available; metals exceedances: CHHSL-arsenic;[h] Legacy contamination likely[k]	Trash Evaluation Rating: low Types observed: cigarette butts[o]	Estimated 1,087,943 lbs present 2010;[h] trash/debris present[k]	N/D
Brown Fill Area[3]	16,000-35,000 cy one-time removal[q]	10/21/21 1/7/22 Sand 17.2% 69.2% Fines 82.9% 30.4%	N/D	N/D	No hazardous waste[n]	Low levels of hydrocarbons and herbicides; metals concentrations lower than DTSC regulatory limits, presence of diesel and waste oil, solid waste not observed	Trash Evaluation Rating: low[4] Types observed: plastic[o]	3200 cy Municipal Solid Waste, asbestos containing pipe debris found in fill	Plastic detected from visual inspection[o]

Appendix A – Characteristics of Existing and Potential Sediment Sources

Source	Quantity Estimates[1]	Particle Size Distribution		Color	Contaminants		Trash		Plastics
		2021/22 Monitoring[o]	*Literature*		*2021/22 Monitoring*[o]	*Literature*	*2021/22 Monitoring*[o]	*Literature*	
Tijuana Estuary	N/D	Not monitored	Mouth[l] Sand: 38.23% Fines: 61.76% Channelized Area Upstream Sand: 59.75% Fines: 40.25%	Light gray, olive gray, pale olive[d]	No hazardous waste[n]	—	—	Tijuana River and the Tijuana River Estuary are impaired for trash[m]	Plastics present[m]

Notes:

1 Existing quantity estimate information derived from numerous studies and resources, additional study may be required to refine site-specific estimates.

2 Smuggler's Gulch south of Monument Road was assumed to have similar sediment characteristics to Smuggler's Gulch north of Monument Road. Wood sampling occurred in both areas and was summarized as one location.

3 Brown Fill Area was evaluated as a potential sediment source however the amount of sediment available may be a limiting factor for re-use opportunities.

4 Brown Fill Area is known to contain high amounts of trash. The trash evaluation only included a visual examination of the surface soil.

References:

a SWIA 2007.
b City of San Diego 2013.
c CDPR 2008.
d USACE 2020.
e Biggs et al. 2018.
f City of San Diego 2009.
g City of San Diego 2011.
h CalRecycle 2010.
i City of San Diego 2015.
j IBWC 2018.
k IBWC 2020.
l County of San Diego 2015.
m EPA and RWQCB 2010.
n No hazardous waste by the standards of Title 22 Section 66261.24 TTLC comparison; zero exceedances of the TTLC, STLC or TCLP benchmarks. (City of Imperial Beach 2022).
o City of Imperial Beach 2022.
p CDPR 2021.
q CIWMB no date.
r City of San Diego 2012.

Appendix B

Draft Tijuana River Valley Sediment Management Plan and Monitoring Program Technical Results Memorandum

Funding provided by State Coastal Conservancy through Proposition 68 California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 resources

TIJUANA RIVER VALLEY SEDIMENT MANAGEMENT PLAN AND MONITORING PROGRAM

TECHNICAL RESULTS MEMORANDUM

PRELIMINARY FINAL

Submitted to:

California Coastal Conservancy
on behalf of the City of Imperial Beach

Prepared by:

wood.

July 2022

EXECUTIVE SUMMARY

To support development of a Tijuana River Valley Sediment Management Plan (Management Plan) and evaluate potential sediment reuse opportunities in the Tijuana River Valley, the Water Quality and Sediment Monitoring Program (Monitoring Program) was developed and then implemented. Water Quality Characterization Monitoring was conducted to supplement the existing dataset characterizing indicator bacteria levels at main river and canyon inputs to the Tijuana River and better characterize the conditions of what enters the Tijuana River Valley from cross border flows (related to sediment and water quality). Sediment Characterization Monitoring and Trash Evaluations were conducted to provide baseline data to guide potential management options for reuse or disposal of sediment from areas within the Tijuana River Valley.

Study locations included the main channel, canyon inputs, and valley of the Tijuana River. The Monitoring Program was conducted from March 2021 through January 2022, and comprised two wet weather water quality characterization events, two dry weather water quality characterization events and two dry weather sediment and trash characterization events.

Water Quality Characterization Monitoring: Water quality measurements including *in-situ* field constituents, chemical parameters and indicator bacteria were taken during both dry and wet weather conditions and compared to Basin Plan water quality objectives (WQOs), non-stormwater action level (NAL) and stormwater action level (SAL) regulatory benchmarks from the MS4 Permit (San Diego Water Board, 2015), and Border Patrol Study results (United States Customs and Border Protection, 2018). Basin Plan WQOs establish thresholds/water quality standards applicable to discharges to inland surface waters, enclosed bays and estuaries considered protective of a range of uses (beneficial uses applicable to Tijuana River Valley include recreation [REC-1, REC-2], warm freshwater habitat [WARM] and wildlife habitat [WILD]). Most Water Quality Characterization results exceeded applicable WQOs from the Basin Plan, NALs and SALs, and resulted in worse condition than results from the Border Patrol Study from 2018.

Sediment Characterization Monitoring: Sediment was sampled from five sediment source areas to identify potential reuse opportunities from each source area. Monitoring was conducted during dry weather and samples were analyzed according to the Cal/EPA Total Threshold Limit Concentration (TTLC), Soluble Threshold Limit Concentration (STLC), and federal Toxicity Characteristic Leaching Procedure (TCLP) thresholds. Results were compared to California Code of Regulations Title 22 Section 66261.24 (Title 22) hazardous waste determination thresholds to determine if the sediment contained any hazardous waste properties that make it potentially dangerous or harmful to human health or the environment. Existing sediment characterization data for two additional potential reuse source areas, Goat Canyon Sediment Basin Complex and the Tijuana Estuary, were evaluated in lieu of monitoring.

Trash Evaluations: Visual assessments of trash conditions were conducted at the same sediment source areas to support determination of sediment reuse potential, with the highest densities of trash found at Goat Canyon and the main Tijuana River flood control channel and the lowest at the Brown Fill Project.

Sediment reuse and disposal opportunities being considered are:

- Beach and nearshore nourishment
- Thin-layer sediment addition
- Mine reclamation
- Construction material
- Levee rehabilitation
- Commercial landfill
- Remedial cap
- Landfill daily cover
- Upland landfill disposal

The average results from both sediment sampling and the existing data evaluation yielded no exceedances of Title 22 TTLC, STLC, or TLCP benchmarks, meaning none of the samples were initially considered hazardous for the analytes monitored. Overall, sediment monitoring results indicated that tested sediment source areas were not hazardous and therefore have potential for reuse or disposal, provided completion of further required sediment monitoring and testing for each specific use (Figure ES-1).

SEDIMENT:
Potential Management Options

PROJECT LOCATION	Beficial Reuse: Beach and nearshore nourishment	Beneficial Reuse: Thin-layer sediment addition	Beneficial Reuse: Mine reclamation	Beneficial Reuse: Construction material	Beneficial Reuse: Levee rehabilitation	Beneficial Reuse: Commercial landfill	Beneficial Reuse: Remedial cap	Beneficial Reuse: Landfill daily cover	Disposal: Upland landfill disposal	Monitoring Type
Brown Fill Removal/Restoration Project	✓	✓	✓	✓	✓	✓	✓	✓	✓	*Sediment Characterization Monitoring*
Flood Control Channel	✓	✓	✓	✓	✓	✓	✓	✓	✓	*Sediment Characterization Monitoring*
Potential Basin Complex – Main Tijuana River	✓	✓	✓	✓	✓	✓	✓	✓	✓	*Sediment Characterization Monitoring*
Potential Basin Complex – Smugglers	✓	✓	✓	✓	✓	✓	✓	✓	✓	*Sediment Characterization Monitoring*
Smuggler's Gulch/Pilot Channel	✓	✓	✓	✓	✓	✓	✓	✓	✓	*Sediment Characterization Monitoring*
Tijuana Estuary	✓	✓	✓	✓	✓	✓	✓	✓	✓	*Utilized existing data sets*
Goat Canyon	✓	✓	✓	✓	✓	✓	✓	✓	✓	*Utilized existing data sets*

Figure ES-1
Potential Options for Sediment Reuse and Disposal in Tijuana River Valley

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

Acronyms and Abbreviations

°	Degree
%	Percent
Basin Plan	San Diego Basin Plan (San Diego Water Board, 2008)
CBOD	Carbonaceous Biochemical Oxygen Demand
CCR	California Code of Regulations
DI	Deionized
DO	Dissolved Oxygen
E. coli	*Escherichia coli*
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
FDS	Field Data Sheet
FIB	Fecal Indicator Bacteria
g	Grams
HEM	Oil & Grease Hexane-Extractable Material
ID	Identification
Inland Testing Manual	Dredged Material Proposed for Discharge in Waters of the US - Testing Manual
kg	Kilograms
LCS	Laboratory Control Samples
LD	Laboratory Duplicate
Management Plan	Tijuana River Valley Sediment Management Plan and Monitoring Program
mg	Milligrams
mL	Milliliter(s)
Monitoring Program	Water Quality and Sediment Monitoring Program in Support of the Management Plan
MPN	Most Probable Number
MQO	Measurement Quality Objectives
MS4	Municipal Separate Storm Sewer System

ACRONYMS AND ABBREVIATIONS (continued)

MS4 Permit	Order Number R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100: National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer System (MS4) Draining the Watersheds Within the San Diego Region (San Diego Water Board, 2015)
MS	Matrix Spike
MSD	Matrix Spike Duplicate
mS	Millisiemens
mV	Millivolts
NA	Not Applicable
NAL	Non-Storm Water Action Level
ng	Nanograms
ORP	Oxygen Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
pCi	Picocurie Radioactive Unit
*.pdf	Portable Document Format
pH	Scale for Potential of Hydrogen
Project	Monitoring Program Project
QA	Quality Assurance
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
SAL	Storm Water Action Level
San Diego Water Board	San Diego Water Quality Control Board
SCOUP	Sand Compatibility and Opportunistic Use Program Plan
SRM	Standard Reference Material
SSM	Single Sample Maximum
STLC	Soluble Threshold Limit Concentration

ACRONYMS AND ABBREVIATIONS (continued)

STV	Statistical Threshold Value
SVOCs	Semi-Volatile Organic Compounds
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbon
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
ug/kg	Micrograms per Kilogram
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

1.0 Introduction

The Water Quality and Sediment Monitoring Program (Monitoring Program) was developed in support of the Tijuana River Valley Sediment Management Work Plan (Management Plan). This Monitoring Program was developed to characterize water quality and sediment reuse potential in the Tijuana River Valley under the Coastal Conservancy Grant, which was awarded to develop the overall Management Plan and address unique sediment management challenges in the Tijuana River Valley. The three elements of the Monitoring Program included:

- Water Quality Characterization Monitoring for fecal indicator bacteria (FIB), total suspended sediment (TSS), and carbonaceous biochemical oxygen demand (CBOD) in cross-border flows;
- Sediment Characterization Monitoring for characterization of sediment quality and reuse potential; and
- Trash Evaluations to determine the quantity and types of trash present to assess the impact of accumulated trash on potential sediment disposal and reuse opportunities.

The Monitoring Program was conducted from March 2021 through January 2022, and comprised two wet weather water quality characterization events, two dry weather water quality characterization events and two dry weather sediment and trash characterization events. Details regarding monitoring methods can be found in the “Tijuana River Valley Sediment Management Plan and Monitoring Program: Monitoring Plan” (Wood Environment & Infrastructure Solutions, Inc., 2021). This Technical Memorandum describes the results of monitoring efforts and assessments performed under the Monitoring Program and provides preliminary conclusions based on the results of the assessment.

Water Quality Characterization monitoring was intended to add to the current available data set and characterize indicator bacteria levels at main river and canyon inputs to the Tijuana River and in the Tijuana River Valley. Results from Water Quality Characterization monitoring were compared against applicable water quality objectives (WQOs) from the San Diego Basin Plan (San Diego Water Board, 2008), NAL and SAL regulatory benchmarks from the MS4 Permit (San Diego Water Board, 2015) and results from a previously completed water quality study (United States Customs and Border Protection, 2018). Sediment Characterization Monitoring and Trash Evaluations were intended to provide baseline data to guide potential management options for reuse or disposal of sediment from areas within the Tijuana River Valley. Where recent sediment data was available, assessment of existing data was performed in lieu of monitoring. This included two sites: Tijuana River Estuary and Goat Canyon Sediment Basin Complex. Results from both the sediment and trash evaluations were used to inform potential sediment reuse or disposal options for the seven sediment source areas assessed in this study.

2.0 Water Quality Characterization Monitoring

Seven monitoring locations were selected to characterize indicator bacteria levels at the main river and canyon inputs to the Tijuana River and in the Tijuana River Valley (Figure 2-1). Water quality monitoring locations were sampled twice each in dry weather and wet weather.

Figure 2-1
Overview Map of Water Quality Characterization Monitoring Locations and Waterbodies

2.1 Water Quality Characterization Monitoring Methods

The collection of Water Quality Characterization samples at each of the seven sites adhered to sampling protocols outlined in "Standard Operating Procedures (SOP) for the Collection of Bacteria Samples from Storm Drains and Receiving Waters (Creeks, Lagoons, Bays, and Ocean)" used by the San Diego Copermittees for the Coastal Storm Drain and Lagoon Monitoring (County of San Diego, 2007). This included collection of grab samples from the middle of the water column height or just below the water surface to avoid collecting surface scum and sediment from the bottom, where possible. After sample containers were filled, they were promptly placed on ice in a clean cooler (maximum temperature of 10 degrees Celsius) in the dark and transported to the laboratory for processing to meeting holding times. Additionally, *in-situ* field measurements were performed for pH, conductivity, temperature, dissolved oxygen (DO), oxidation reduction potential (ORP), and turbidity using a multi-parameter water quality meter. Field measurements for each site were recorded on field data sheets (FDSs), along with field observations and potential sources of pollutants within the vicinity of each site. For full details on Water Quality Characterization Monitoring methods, see section 3.2 of the Monitoring Plan (Wood, 2021).

2.2 Water Quality Characterization Monitoring Results

This section presents the results of dry and wet weather water quality characterization monitoring, completed between March and December 2021.

2.2.1 Dry Weather Water Quality Results

During both dry weather sampling events, grab samples and *in-situ* field measurements were successfully collected at seven locations. Enviromatrix Analytical, Inc., an ELAP certified laboratory, provided analytical services for chemistry and indicator bacteria parameters. Table 2-1 details the antecedent dry periods and dates for each dry weather sampling event, while Table 2-2 presents results for both dry weather events. Quality Assurance/Quality Control (QA/QC) results are presented in Attachment A. Field data sheets for these sampling events are in Attachment B, and laboratory reports with results are in Attachment C.

Table 2-1
Antecedent Dry Days for Dry Weather Water Quality Characterization Monitoring Events

Event	Dry Weather Event 1	Dry Weather Event 2
Event Date	6/23/21	11/12/21
Antecedent Dry Days[1]	119 days	9 days

Notes:
1. As measured by rainfall at San Ysidro ALERT Gauge (**https://sandiego.onerain.com/home.php).** Antecedent dry days defined as number of days before sampling event that received <0.1 inches of rainfall.

Table 2-2
Dry Weather Water Quality Characterization Results

Site ID	Yogurt Canyon (YGTCYN)		Goat Canyon (GOATCYN)		Smuggler's Gulch (SMGGLCH)		Silva's Drain (SILVDR)		Canyon Del Sol (CYNSOL)		Stewart's Drain (STEWDR)		Tijuana River Main Channel (TJMAIN)	
Event Date	**6/23/21**	**11/12/21**	**6/23/21**	**11/12/21**	**6/23/21**	**11/12/21**	**6/23/21**	**11/12/21**	**6/23/21**	**11/12/21**	**6/23/21**	**11/12/21**	**6/23/21**	**11/12/21**
Dissolved Oxygen (DO) (mg/L)	6.1	5.62	6.98	7.68	7.65	1.65	6.48	8.03	7.88	NC (Dry)	8.00	2.02	2.85	5.74
pH	7.54	7.5	8.0	8.09	7.68	7.92	8.34	8.05	7.54	NC (Dry)	8.44	6.68	8.37	8.05
Specific Conductivity (mS/cm)	1.378	6.259	1.31	2.827	0.377	2.223	2.007	2.96	0.953	NC (Dry)	2.016	2.542	5.66	3.599
Temperature (°C)	21.3	15.8	23.2	18.1	21.7	17.1	20.8	16.9	21.8	NC (Dry)	20.4	15.2	19.6	23.4
Oxidation Reduction Potential (ORP) (mV)[1]	130.8	NC	127.5	NC	112	NC	-6.0	NC	14	NC (Dry)	NC	NC	NC	NC
Turbidity (NTU)	103	20.63	2,460	302.17	116.2	264.81	53.3	198.75	465	NC (Dry)	63.7	350.48	1,036	33.26
Carbonaceous Biochemical Oxygen Demand (CBOD) (mg/L)	52.4	8.64	128	17.6	57.8	121	76.0	218	455	NC (Dry)	119	400	43.6	<20
Total Suspended Solids (TSS) (mg/L)	148	24	11,500	21,600	199	66	160	700	2,700	NC (Dry)	272	6,380	22	72
Total Coliform (MPN/100mL)	1,410,000	8,160	>2,420,000	>2,420,000	>2,420,000	>2,420,000	>2,420,000	>2,420,000	>2,420,000	NC (Dry)	866,000	>2,420,000	>2,420,000	276,000
Fecal Coliform (MPN/100mL)	240,000	400	>1,600,000	>1,600,000	<2,000	>1,600,000	900,000	>1,600,000	>1,600,000	NC (Dry)	240,000	>1,600,000	800	2,000
E. coli (MPN/100mL)	435,000	200	>2,420,000	>2,420,000	9,600	>2,420,000	548,000	>2,420,000	>2,420,000	NC (Dry)	45,700	>2,420,000	<1,000	2,000
Enterococcus (MPN/100mL)	155,000	100	>2,420,000	980,000	75,600	1,300,000	866,000	>2,420,000	>2,420,000	NC (Dry)	225,000	1,050,000	2,380	9,700

Notes:

> = exceeded upper limit of reportable range; < = less than; >= greater than; °C = degrees Celsius; CBOD = Carbonaceous Biochemical Oxygen Demand; cm = centimeter; DO = dissolved oxygen; *E. coli* = *Escherichia coli;* ID = identification; L = liter; mg = milligrams; MPN/100mL = Most Probable Number per 100 milliliters; mS = millisiemens; mV = millivolts; NC = not collected; NTU = Nephelometric Turbidity Unit; ORP = oxidation reduction potential; pH = Scale for potential of hydrogen; TSS = total suspended solids

1. Field meter used during the November 12, 2021 event did not have ORP measurement capability.

2.2.2 Wet Weather Water Quality Results

During both wet weather sampling events, grab samples and *in-situ* field measurements were successfully collected at seven locations. Enviromatrix Analytical, Inc., provided analytical services for chemistry and indicator bacteria parameters. Rainfall totals for each event are presented in Table 2-3, while Table 2-4 presents the results from both wet weather events. QA/QC results are presented in Attachment A. Field data sheets for these sampling events are in Attachment B, and laboratory reports with results are in Attachment C.

Table 2-3
Rainfall Totals for Wet Weather Water Quality Characterization Monitoring Events

Event	Wet Weather Event 1	Wet Weather Event 2
Event Date	3/10/21	12/14/21
Rainfall Total (inches)[1]	0.84	1.16

Notes:
1. Rainfall total at San Ysidro ALERT Gauge (**https://sandiego.onerain.com/home.php)**

Table 2-4
Wet Weather Water Quality Characterization Results

Site ID	Yogurt Canyon (YGTCYN)		Goat Canyon (GOATCYN)		Smuggler's Gulch (SMGGLCH)		Silva's Drain (SILVDR)		Canyon Del Sol (CYNSOL)		Stewart's Drain (STEWDR)		Tijuana River Main Channel (TJMAIN)	
Event Date	**3/10/21**	**12/14/21**	**3/10/21**	**12/14/21**	**3/10/21**	**12/14/21**	**3/10/21**	**12/14/21**	**3/10/21**	**12/14/21**	**3/10/21**	**12/14/21**	**3/10/21**	**12/14/21**
Dissolved Oxygen (DO) (mg/L)	5.04	6.75	5.48	7.88	6.00	6.17	8.45	6.38	6.42	6.35	1.58	4.37	2.95	7.02
pH	7.56	9.15	8.49	9.36	8.18	8.77	8.21	8.63	8.10	8.97	7.24	7.98	7.80	9.23
Specific Conductivity (mS/cm)	0.8220	0.2414	0.8450	0.6860	0.6970	0.5860	0.4990	0.4016	1.220	0.5690	1.130	0.8330	0.8570	0.2382
Temperature (°C)	17.64	15.40	20.78	14.50	19.80	15.90	16.77	16.70	18.11	16.10	18.26	16.70	18.39	15.80
Oxidation Reduction Potential (ORP) (mV)	-9.0	-60.9	-19.0	40.4	24.0	-56.9	7.0	3.5	-58.0	38.7	-136.0	76.0	82.0	59.6
Turbidity (NTU)	38.9	>1,000	>1,000	>1,000	322	>1,000	270	665	269	447	508	746	814	>1,000
Carbonaceous Biochemical Oxygen Demand (CBOD) (mg/L)	<20	26.7	49.2	158	42.7	212	25.0	88.6	230	167	220	268	49.1	54.2
Total Suspended Solids (TSS) (mg/L)	28	1,270	3,820	29,900	262	1,150	128	5,980	204	450	1,060	1,050	832	3,260
Total Coliform (MPN/100mL)	1,410,000	>242,000	>2,420,000	>2,420,000	>2,420,000	<100[1]	1,550,000	>2,420,000	>2,420,000	>2,420,000	>2,420,000	>2,420,000	>2,420,000	>2,420,000
Fecal Coliform (MPN/100mL)	>1,600,000	500,000	>1,600,000	>1,600,000	1,600,000	>1,600,000	300,000	500,000	>1,600,000	>1,600,000	>1,600,000	>1,600,000	>1,600,000	>1,600,000
E. coli (MPN/100mL)	39,900	173,000	>2,420,000	1,990,000	>2,420,000	<100[1]	88,200	1,410,000	>2,420,000	>2,420,000	>2,420,000	>2,420,000	1,990,000	866,000
Enterococcus (MPN/100mL)	34,500	242,000	1,550,000	>2,420,000	1,200,000	1,730,000	214,000	345,000	1,730,000	>2,420,000	1,990,000	>2,420,000	613,000	1,730,000

Notes:
< = less than; >= greater than; °C = degrees Celsius; CBOD = Carbonaceous Biochemical Oxygen Demand; cm = centimeter; DO = dissolved oxygen; *E. coli* = *Escherichia coli;* ID = identification; L = liter; mg = milligrams; MPN/100mL = Most Probable Number per 100 milliliters; mS = millisiemens; mV = millivolts; NTU = Nephelometric Turbidity Unit; ORP = oxidation reduction potential; pH = Scale for potential of hydrogen; TSS = total suspended solids

1. During the data QA process, result was flagged. A lab error was suspected in these results. Based on previous results, the magnitude of Total Coliform and E. Coli results are anticipated to match those of Fecal Coliform and *Enterococcus*. For the purposes of this study, these results were rejected and were not assessed against benchmarks.

2.2.3 Water Quality Characterization Monitoring QA/QC Results Summary

Water quality data were compared with applicable measurement data quality objectives (MQOs) defined in the Monitoring Plan (Wood, 2021). Both field QA/QC samples (field duplicates and field blanks) and laboratory QA/QC samples (method blanks, lab duplicates, and standard reference material) were assessed against MQOs. Only one field duplicate MQO (CBOD >25% RPD) and one field blank MQO (CBOD >RL) were exceeded during the course of this monitoring. See Attachment A for more information.

2.3 Water Quality Characterization Data Assessment

Dry and wet weather sample results for each site were compared to:

- Applicable San Diego Basin Plan WQOs (San Diego Regional Water Quality Control Board (San Diego Water Board, 2008) (Table 2-5);
- Applicable non-stormwater action level (NALs) and stormwater action levels (SALs) from the MS4 Permit (San Diego Water Board, 2015) (Table 2-6); and
- Historical data from a study completed in 2018 by the United States Customs and Border Protection in which samples were collected at most of the same site locations (United States Customs and Border Protection, 2018). Border Patrol Study samples were taken during both wet weather and dry weather, so Water Quality Characterization data were compared as they apply (Table 2-7 and Table 2-8). Attachment D provides graphs with these data comparisons, also showing applicable Basin Plan WQOs for reference.

2.3.1 San Diego Basin Plan Data Comparisons

The San Diego Basin Plan (Basin Plan) WQOs establish thresholds/water quality standards applicable to discharges to inland surface waters, enclosed bays and estuaries considered protective of a range of beneficial uses. The beneficial uses applicable to Tijuana River Valley include recreation (REC-1 and REC-2), warm freshwater habitat (WARM) and wildlife habitat (WILD). Table 2-5 shows that most water quality characterization results exceeded applicable WQOs from the Basin Plan, notably for fecal coliform, *E. coli*, and *Enterococcus*. Specifically regarding TSS, the Tijuana River Valley is an area with known historical sediment pollution issues (USACE, 2018 and 2020); therefore, detectable levels of TSS are expected. TSS results for this study ranged from 24 – 21,600 mg/L for dry weather and 28 – 29,900 mg/L for wet weather. The TSS WQO from the Basin Plan for TSS is a narrative, stating that “Waters shall not contain suspended and settleable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses.” While TSS results (especially at Goat Canyon) were high due to suspected sediment loading, other factors would need to be considered to confirm that the TSS levels were causing a nuisance to the beneficial uses that which apply to this water body.

Table 2-5
Water Quality Characterization Results Comparison to Basin Plan WQOs

Analyte	Basin Plan WQO	Applicable Basin Plan Beneficial Use Designation[1]	Number of Dry Weather Exceedances of Basin Plan WQO (out of 14 Samples)	Number of Wet Weather Exceedances of Basin Plan WQO (out of 14 Samples)
Dissolved Oxygen (DO) (mg/L)	>5	WARM	3	3
pH	6.5 – 8.5	None	0	6
Specific Conductivity (mS/cm)	NA	NA	NA	NA
Temperature (ºC)	NA	NA	NA	NA
Oxidation Reduction Potential (ORP) (mV)	NA	NA	NA	NA
Turbidity (NTU)	<20[2]	None	0	0
CBOD (mg/L)	NA	NA	NA	NA
TSS (mg/L)	Narrative[3]	None	NA	NA
Total Coliform (MPN/100mL)	NA[4,5]	NA	NA	NA
Fecal Coliform (MPN/100mL)	4,000 (SSM)[4,6]	REC-2	9	14
E. coli (MPN/100mL)	320 (STV)[4,7]	REC-1	12	13[8]
Enterococcus (MPN/100mL)	110 (STV)[4,9]	REC-1	12	14

Notes:
°C = degrees Celsius; Basin Plan = San Diego Basin Plan (San Diego Water Board, 2008); CBOD = carbonaceous biochemical oxygen demand; DO = dissolved oxygen; *E. coli* = *Escherichia co*li; mg = milligrams; MPN/100mL = Most Probable Number per 100 milliliters; mS = millisiemens; mV = millivolts; NA = not applicable; NC = Not Collected; ORP = oxygen reduction potential; pH = Scale for potential of hydrogen; SSM = single sample maximum; STV = statistical threshold value; TSS = total suspended solids

1. The Tijuana River Valley (Inland Surface Waters) is listed as a current non-contact recreation (REC-2) beneficial use and potential contact recreation (REC-1) use in the revised San Diego Basin Plan (Adopted Chapter 3 Proposed Updates (ca.gov)).
2. WQO for Inland Surface Waters, San Ysidro HSA from Table 3-9 in San Diego Basin Plan

Table 2-5 (continued)
Water Quality Characterization Results Comparison to Basin Plan WQOs

Analyte	Basin Plan WQO	Applicable Basin Plan Beneficial Use Designation[1]	Number of Dry Weather Exceedances of Basin Plan WQO (out of 14 Samples)	Number of Wet Weather Exceedances of Basin Plan WQO (out of 14 Samples)

3. Waters shall not contain suspended and settleable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses. The Tijuana River Valley is an area where sediment is known to transport from upstream to downstream, therefore, some detectable levels of TSS are expected.
4. WQO for Inland Surface Waters
5. Total coliform WQOs are only listed for shellfish (SHELL) beneficial use water bodies in the revised San Diego Basin Plan. Shellfish beneficial use WQOs do not apply to The Tijuana River or its tributaries.
6. Single-Sample Maximum Value in a 30-day period.
7. *E. coli* will be selected for analyses for all waters where the salinity is equal to or less than 1 ppt 95 percent or more of the time, and *Enterococcus* will be selected for analyses for all waters where the salinity is greater than 1 ppt more than 5 percent of the time. For all assessed waters, salinity was equal to or less than 1 ppt 95 percent or more of the time, so the *E. Coli* Basin Plan WQO is applicable for assessment.
8. During the data QA process, two WW2 Smuggler’s Gulch results were flagged. A lab error was suspected in these results. Based on previous results, the magnitude of Total Coliform and *E. Coli* results are anticipated to match those of Fecal Coliform and *Enterococcus*. For the purposes of this study, these results were rejected and were not assessed against benchmarks.
9. STV not to be exceeded by more than 10% of the samples collected in a 30-day period.

2.3.2 MS4 Permit NAL and SAL Data Comparisons

NALs and SALs are action levels included in the MS4 Permit that are typically applied to outfall sampling results incorporated in the Water Quality Improvement Plan monitoring programs. As a point of reference, Water Quality Characterization results were compared to NALs and SALs from the MS4 Permit. Dry weather turbidity and fecal indicator bacteria results exceeded applicable NALs, and all but one wet weather turbidity result exceeded SALs.

Table 2-6
Water Quality Characterization Results Comparison to MS4 Permit NALs and SALs

Analyte	MS4 Permit NAL	Number of Dry Weather Exceedances of MS4 Permit NAL	MS4 Permit SAL	Number of Wet Weather Exceedances of MS4 Permit SAL
Dissolved Oxygen (DO) (mg/L)	>5 for WARM[1]	3	NA	NA
pH	6.5-8.5[1] 6.0-9.0[2]	0	NA	NA
Specific Conductivity (mS/cm)	NA	NA	NA	NA
Temperature (ºC)	NA	NA	NA	NA
Oxidation Reduction Potential (ORP) (mV)	NA	NA	NA	NA
Turbidity (NTU)	20[1] 225[2,3]	13	126	13
CBOD (mg/L)	NA	NA	NA	NA
TSS (mg/L)	NA	NA	NA	NA
Total Coliform (MPN/100mL)	NA	NA	NA	NA
Fecal Coliform (MPN/100mL)	200[1,4] 400[2]	13	NA	NA
E. coli (MPN/100mL)	NA	NA	NA	NA
Enterococcus (MPN/100mL)	33[1] 104[2]	13	NA	NA

Notes:
°C = degrees Celsius; CBOD = carbonaceous biochemical oxygen demand; DO = dissolved oxygen; *E. coli* = *Escherichia co*li; mg = milligrams; MPN/100mL = Most Probable Number per 100 milliliters; mS = millisiemens; MS4 = municipal separate storm sewer system; mV = millivolts; NA = not applicable; NAL = Non-Storm Water Action Level ORP = oxygen reduction potential; pH = Scale for potential of hydrogen; SAL = Storm Water Action Level; TSS = total suspended solids

1. Applies to Inland Surface Waters
2. Applies to Bay, Harbor, Lagoons/Estuary waters
3. Instantaneous maximum
4. Minimum of not less than five samples for any 30-day period

2.3.3 Border Patrol Study Data Comparisons

The Border Patrol Study (United States Customs and Border Protection, 2018) presented average results at each site for dry weather and for wet weather conditions. Water Quality Characterization study results were separated by dry or wet weather, and averaged per site for the two monitoring events. Each average result was compared to Border Patrol Study results at the same site, each for dry and wet weather, to determine if it showed a better or worse condition than the Border Patrol Study result. It was determined to be a worse condition if:

- Dissolved Oxygen and ORP: Water Quality Characterization results were LOWER than Border Patrol Study results
- Specific Conductivity, Temperature, Turbidity, Indicator Bacteria: Water Quality Characterization results were HIGHER than Border Patrol Study results
- pH: Not applicable

For dry weather, analytes whose concentrations resulted in a worse condition than Border Patrol Study results were dissolved oxygen and indicator bacteria, including fecal coliform, *E. coli*, and *Enterococcus*. For wet weather, all monitored analytes that were also monitored in the Border Patrol Study resulted in a worse condition than Border Patrol Study results including dissolved oxygen, specific conductivity, temperature, and ORP.

Table 2-7
Water Quality Characterization Dry Weather Results Data Comparison to Border Patrol Study Results

Location	Yogurt Canyon	Goat Canyon	Smuggler's Gulch	Silva's Drain	Canyon del Sol	Stewart's Drain	Tijuana River Main Channel	Number of Stations with Average Dry Weather Results Worse Condition Than Border Patrol Study Results
Analyte	**Dry Weather Border Patrol Study Results**							
Dissolved Oxygen (DO) (mg/L)	10.96	6.31	24.00	NC	NC	9.84	NC	3 (out of 4)
pH	7.57	7.58	6.10	NC	NC	8.02	NC	NA
Specific Conductivity (mS/cm)	10.08	4.56	1.20	NC	NC	2.74	NC	1 (out of 4)
Temperature (ºC)	19.83	17.99	8.40	NC	NC	23.58	NC	2 (out of 4)
Oxidation Reduction Potential (ORP) (mV)	166.30	123.41	240.00	NC	NC	172.01	NC	2 (out of 4)
Turbidity (NTU)	NC	NC	NC	NC	NC	NC	NC	NA
CBOD (mg/L)	NC	NC	NC	NC	NC	NC	NC	NA
TSS (mg/L)	NC	NC	NC	NC	NC	NC	NC	NA

Table 2-7 (continued)
Water Quality Characterization Dry Weather Results Data Comparison to Border Patrol Study Results

Location	Yogurt Canyon	Goat Canyon	Smuggler's Gulch	Silva's Drain	Canyon del Sol	Stewart's Drain	Tijuana River Main Channel	Number of Stations with Average Dry Weather Results Worse Condition Than Border Patrol Study Results
Analyte	**Dry Weather Border Patrol Study Results**							
Total Coliform (MPN/100mL)	401,393	1,891,379	1,767,000	NC	2,420,000	2,179,909	NC	4 (out of 5)
Fecal Coliform (MPN/100mL)	NC	NC	NC	NC	NC	NC	NC	NA
E. coli (MPN/100mL)	587	1,715,127	1,648,333	NC	2,420,000	1,652,636	NC	3 (out of 5)
Enterococcus (MPN/100mL)	1,481	860,600	660,000	NC	500,000	929,091	NC	4 (out of 5)

Notes:
°C = degrees Celsius; CBOD = carbonaceous biochemical oxygen demand; DO = dissolved oxygen; *E. coli* = *Escherichia coli*; mg = milligrams; MPN/100mL = Most Probable Number per 100 milliliters; mS = millisiemens; mV = millivolts; NA = not applicable; NC = Not Collected for Border Patrol Study; ORP = oxygen reduction potential; pH = Scale for potential of hydrogen; SSM = single sample maximum; STV = statistical threshold value; TSS = total suspended solids

Table 2-8
Water Quality Characterization Wet Weather Results Data Comparison to Border Patrol Study Results

Location	Yogurt Canyon	Goat Canyon	Smuggler's Gulch	Silva's Drain	Canyon del Sol	Stewart's Drain	Tijuana River Main Channel	Number of Stations with Average Dry Weather Results Worse Condition Than Border Patrol Study Results
Analyte	**Wet Weather Border Patrol Study Results**							
Dissolved Oxygen (DO) (mg/L)	NC	NC	11.41	NC	9.87	3.41	NC	3 (out of 3)
pH	NC	NC	8.43	NC	6.95	7.29	NC	NA
Specific Conductivity (mS/cm)	NC	NC	0.66	NC	0.69	0.80	NC	3 (out of 3)
Temperature (ºC)	NC	NC	14.99	NC	15.61	17.18	NC	3 (out of 3)
Oxidation Reduction Potential (ORP) (mV)	NC	NC	21.65	NC	65.20	74.10	NC	3 (out of 3)
Turbidity (NTU)	NC	NC	NC	NC	NC	NC	NC	NA
CBOD (mg/L)	NC	NC	NC	NC	NC	NC	NC	NA
TSS (mg/L)	NC	NC	NC	NC	NC	NC	NC	NA
Total Coliform (MPN/100mL)	NC	NC	NC	NC	NC	NC	NC	NA

Table 2-8 (continued)
Water Quality Characterization Wet Weather Results Data Comparison to Border Patrol Study Results

Location	Yogurt Canyon	Goat Canyon	Smuggler's Gulch	Silva's Drain	Canyon del Sol	Stewart's Drain	Tijuana River Main Channel	Number of Stations with Average Dry Weather Results Worse Condition Than Border Patrol Study Results
Analyte	**Wet Weather Border Patrol Study Results**							
Fecal Coliform (MPN/100mL)	NC	NC	NC	NC	NC	NC	NC	NA
E. coli (MPN/100mL)	NC	NC	NC	NC	NC	NC	NC	NA
Enterococcus (MPN/100mL)	NC	NC	NC	NC	NC	NC	NC	NA

Notes:
°C = degrees Celsius; CBOD = carbonaceous biochemical oxygen demand; DO = dissolved oxygen; *E. coli* = *Escherichia co*li; mg = milligrams; MPN/100mL = Most Probable Number per 100 milliliters; mS = millisiemens; mV = millivolts; NA = not applicable; NC = Not Collected for Border Patrol Study; ORP = oxygen reduction potential; pH = Scale for potential of hydrogen; SSM = single sample maximum; STV = statistical threshold value; TSS = total suspended solids

3.0 Sediment Characterization Monitoring

Seven sediment source area locations were selected to characterize sediment deposition and makeup at the main river and canyon inputs to the Tijuana River and in the Tijuana River Valley. Recent data were available for Tijuana River Estuary and Goat Canyon Sediment Basin Complex, so no additional monitoring was conducted at those sites. Dry weather monitoring occurred at the remaining five sites twice between October 2021 and January 2022.

The seven sites are representative of potential and existing sediment source areas throughout the Tijuana River Valley (Figure 3-1):

- Brown Fill Removal/Restoration Project;
- Flood Control Channel;
- Potential Basin Complex – Main Tijuana River;
- Potential Basin Complex – Smugglers;
- Smuggler's Gulch/Pilot Channel;
- Tijuana River Estuary (existing data assessment); and
- Goat Canyon Sediment Basin Complex (existing data assessment).

3.1 Sediment Characterization Monitoring Methods

Sediment was collected using a hand auger to a depth of approximately three feet from three locations within each sediment source area, as seen in Figure 3-1. All sediment collected were composited from each core, from the surface to the final depth. The contents were transferred to a clean pre-labeled container. After retrieval, the sediment samples from each site were transferred to a stainless-steel bowl and homogenized into one sample for each sediment source area. Samples were then transported to Physis Environmental Laboratories for analysis of chemical and physical properties.

3.2 Sediment Monitoring Results

Two dry weather monitoring events were performed at five monitoring locations on October 21, 2021 and January 7, 2022. Monitoring QA/QC results are presented in Attachment A. Full sediment monitoring result data tables can be found in Attachment E. Field data sheets for these sampling events are in Attachment F, and laboratory reports with results are in Attachment G.

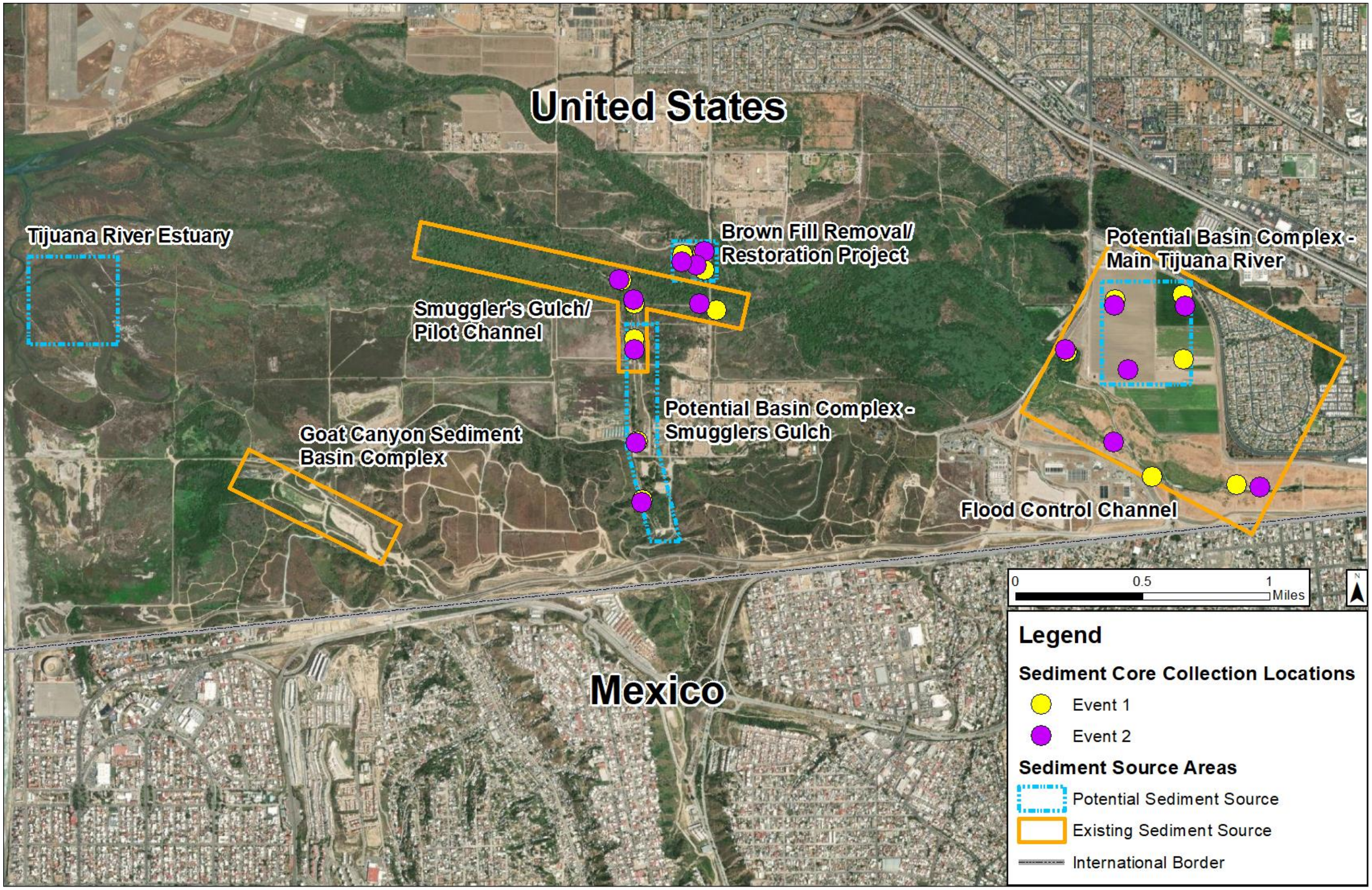


Figure 3-1
Evaluated Sediment Source Areas

3.2.1 Sediment Characterization Monitoring QA/QC Results Summary

Sediment characterization data were compared with applicable measurement data quality objectives (MQOs) defined in the Monitoring Plan (Wood, 2021). Both field QA/QC samples (field duplicates and equipment blanks) and laboratory QA/QC samples (method blanks, lab duplicates, matrix spikes and duplicates, blank spikes and duplicates, laboratory control material, and certified reference material) were assessed against MQOs. Equipment blanks were performed to verify that handling of equipment, air deposition, and cleaning methods between sampling sites were not a source of contamination. They were performed by rinsing equipment with reagent grade DI water in the field during a sampling event into a container. Multiple issues were noted in the QA/QC samples: Fifteen field duplicate analytes exceeded the 25% RPD MQO, five metal analytes in the equipment blank exceeded the RL, four Semi-Volatile Organic Compounds in the method blank exceeded the RL for both events, forty-four lab duplicate analytes exceeded the 25% RPD MQO, N-Nitrosodiphenylamine and Cypermethrin matrix spike duplicates exceeded the 30% RPD MQO, and thirty-eight recovery MQOs were exceeded. Many of these analytes are organics, whose laboratory methods have a high sensitivity and could easily trigger MQO exceedances. While QA/QC issues were noted and discussed with the laboratory, they did not comprise the overall integrity of assessment results. See Attachment A for more information.

3.3 Sediment Characterization Monitoring Data Assessment

The suite of analyses for Sediment Characterization sampling was developed based on testing requirements for the potential reuse opportunities identified for the project. The Dredged Material Proposed for Discharge in Waters of the US - Testing Manual (Inland Testing Manual) (USEPA, 1998) outlining testing procedures for dredged material or sediment intended to be reused for some of the reuse purposes was considered for development of the Monitoring Program. For example, beach replenishment focuses on physical properties more than chemical constituents, however, hazardous materials must still be shown as not being detected. The Sand Compatibility and Opportunistic Use Program (SCOUP) Plan (SANDAG, 2006) outlines regional requirements for sediment reuse and lists permits required for certain reuse types, including consideration of the characteristics of the receiving site.

The Monitoring Program was also designed to present results from multiple sediment sampling events, since runoff due to rainfall is known to transport sediment downstream and alter sediment source area composition. Figure 3-2 illustrates the timeline of the resulting Sediment Characterization sampling events and the rainfall events that occurred in between. The seven rainfall events seen in Figure 3-2 ranged from 0.04 - 1.20 inches over nine events during the Sediment Characterization sampling period.

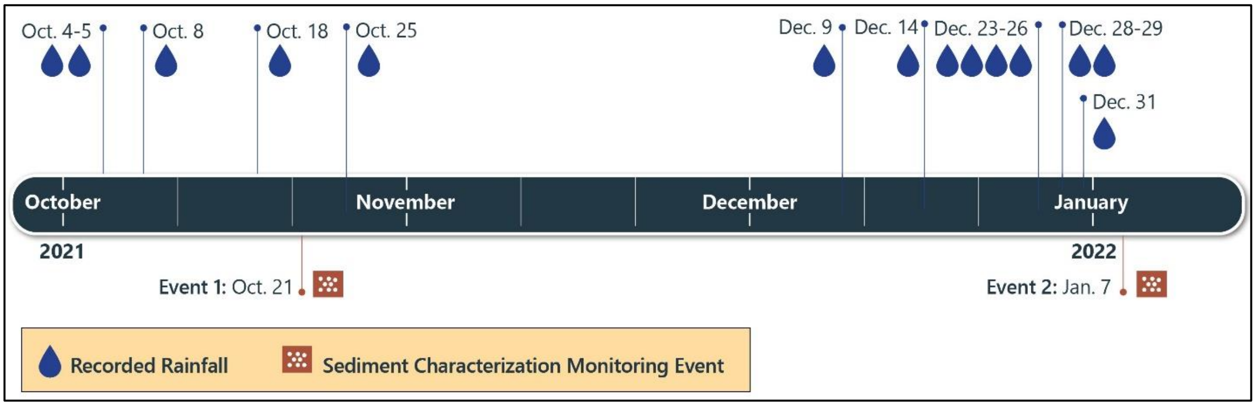


Figure 3-2
Sediment Characterization Sampling Timeline

To examine the resulting potential sediment reuse opportunities, it was first determined if sediments in the sampled locations potentially contained hazardous materials. To determine the hazardous nature of sediments, sample results were compared to Title 22 Section 66261.24 requirements. Sediment Characterization monitoring results were first compared to TTLC wet weight thresholds (mg/kg), as shown in Figure 3-3. If any analytes resulted in a concentration above the TTLC, the material was determined potentially hazardous, and would limit the reuse opportunities available from that sampled location. Sediment Characterization monitoring results were additionally compared against applicable soluble threshold limit concentration (STLC) and toxicity characteristic leaching procedure (TCLP) concentration (mg/L) thresholds, as seen in the Title 22 flowchart (Figure 3-3).

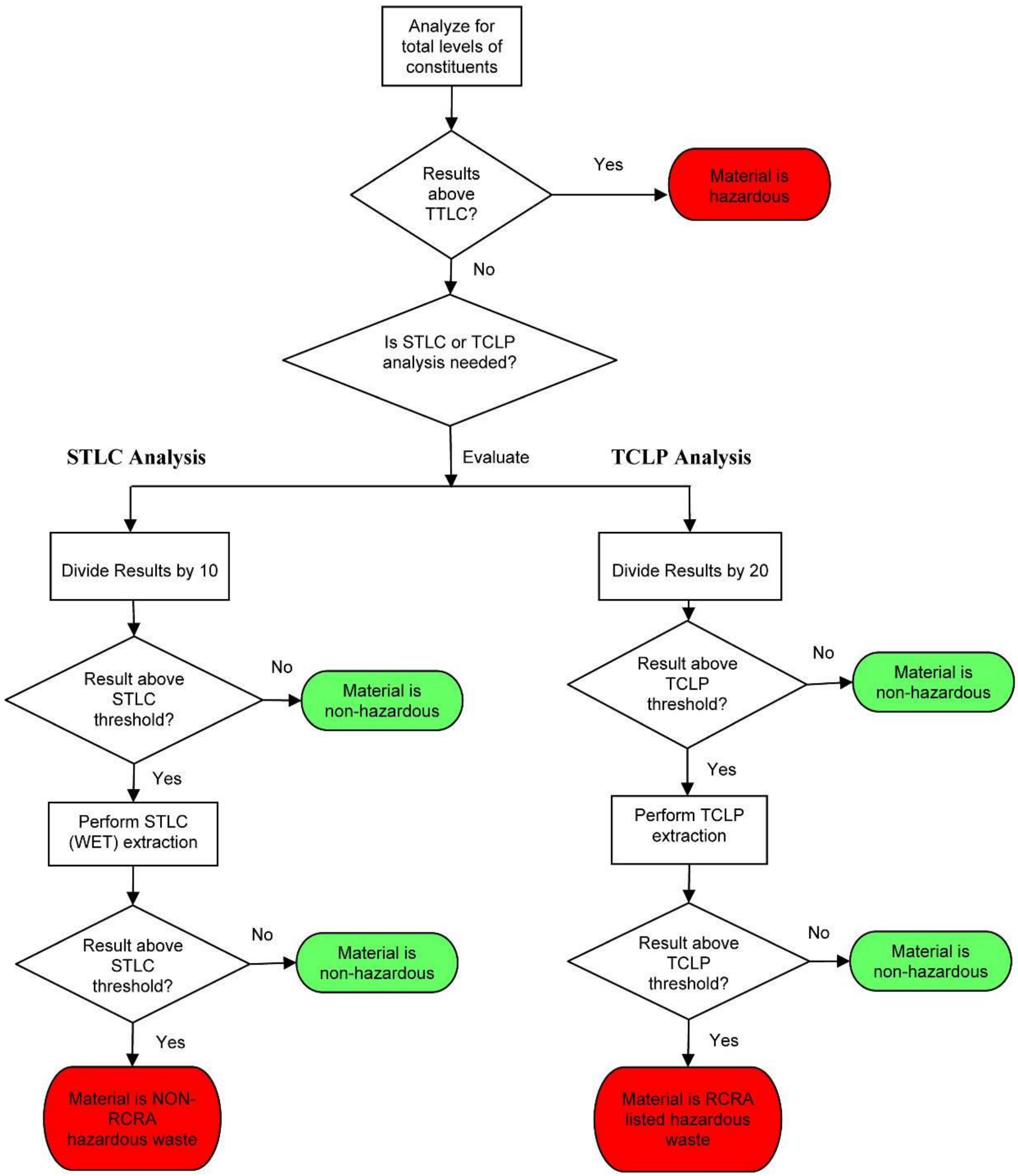


Figure 3-3
Flowchart for Hazardous Waste Determination under Title 22

As shown in Table 3-1**,** Sediment Characterization Monitoring results did not exceed any of the applicable TTLC, STLC, or TCLP benchmarks from Title 22 Section 66261.24. Table 3-2 describes the results of the hazardous material assessment by sampling location.

Table 3-1
Sediment Characterization Monitoring Comparison to Title 22 Benchmarks

Constituent	TTLC Benchmark (mg/kg)	STLC Benchmark (mg/L)	TCLP Benchmark (mg/L)	Total Exceedances of TTLC, STLC, or TCLP Benchmarks
Antimony	500	15.0	NA	0
Arsenic	500	5.0	5.0	0
Barium	10,000	100	100	0
Beryllium	75	0.75	NA	0
Cadmium	100	1.0	1.0	0
Chromium	2,500	5.0	5.0	0
Cobalt	8,000	80	NA	0
Copper	2,500	25	NA	0
Lead	1,000	5.0	5.0	0
Mercury	20	0.2	0.2	0
Molybdenum	3,500	350	NA	0
Nickel	2,000	20	NA	0
Selenium	100	1.0	1.0	0
Silver	500	5.0	5.0	0
Thallium	700	7.0	NA	0
Vanadium	2,400	24	NA	0
Zinc	5,000	250	NA	0
2,4'-DDT	1.0	0.1	NA	0
2,4'-DDD	1.0	0.1	NA	0
2,4'-DDE	1.0	0.1	NA	0
4,4'-DDT	1.0	0.1	NA	0
4,4'-DDD	1.0	0.1	NA	0
4,4'-DDE	1.0	0.1	NA	0
Aldrin	1.4	0.14	NA	0
Chlordane-alpha	2.5	0.25	0.03	0
Chlordane-gamma	2.5	0.25	0.03	0
Dieldrin	8.0	0.8	NA	0
Endrin	0.2	0.02	0.02	0
Heptachlor	4.7	0.47	0.01	0
Kepone	21.0	2.1	NA	0

Table 3-1 (continued)
Sediment Characterization Monitoring Comparison to Title 22 Benchmarks

Constituent	TTLC Benchmark (mg/kg)	STLC Benchmark (mg/L)	TCLP Benchmark (mg/L)	Total Exceedances of TTLC, STLC, or TCLP Benchmarks
Lindane	4.0	0.4	0.4	0
Methoxychlor	100.0	10.0	10.0	0
Mirex	21.0	2.1	NA	0
Pentachlorophenol	17.0	1.7	100.0	0
Polychlorinated biphenyls (PCBs)[1]	50.0	5.0	NA	0
Toxaphene	5.0	0.5	0.5	0
Trichloroethylene	2,040	204.0	0.5	0
Asbestos	1%	NA	NA	0
Total Exceedances				**0**

Notes:
% = percent; kg = kilogram; mg = milligrams; PCB = Polychlorinated biphenyls; STLC = Soluble Threshold Limit Concentration; TCLP = Toxicity Characteristic Leach Procedure; TTLC = total threshold limit concentration; NA = not applicable

1. For comparison to the TTLC benchmark, all 52 PCB Congeners analyzed were summed for the Total PCB concentration result.

Table 3-2
Sediment Characterization Monitoring Hazardous Material Assessment by Location

Site ID	Hazardous Sediments Present Based on Assessment of TTLC Exceedances?	Hazardous Sediments Present Based on Assessment of STLC Exceedances?	Hazardous Sediments Present Based on Assessment of TCLP Exceedances?
Brown Fill Removal/Restoration Project (BRWNFL)	No	No	No
Flood Control Channel (FLDCHNL)	No	No	No
Potential Basin Complex – Main Tijuana River (BASINTJRVR)	No	No	No
Potential Basin Complex – Smugglers (BASINSMGL)	No	No	No
Smuggler's Gulch/Pilot Channel (SMGLPILOT)	No	No	No

Notes:
ID = identification; STLC = Soluble Threshold Limit Concentration; TCLP = Toxicity Characteristic Leach Procedure; TTLC = Total Threshold Limit Concentration

3.4 Existing Sediment Data Assessment

The purpose of the existing data assessment performed was to use existing data to determine potential sediment reuse opportunities. Two recent studies provided comparable data (including similar analytes) to sediment data collected under this Monitoring Program; therefore, additional monitoring was not needed at these sites. The two studies evaluated included:

- Tijuana Estuary Tidal Restoration Program (TETRP) (The Bodhi Group, 2021). The TETRP report presents sediment sampling results from September 2020 within Border Field State Park in the southern part of the Tijuana Estuary

- Goat Canyon Sediment Basins Clean Out and Removal of Deposition Material Report (ERRG, 2021). This report presents sediment sampling results from material dredged from the Goat Canyon Sediment Basins in May 2021.

Assessment of data from these two studies to evaluate potential sediment reuse opportunities was conducted by comparing results to the same Title 22 thresholds as summarized in Section 3.2.

3.4.1 Estuary Sediment Characterization

The Tijuana Estuary Tidal Restoration Program (TETRP) report presents sediment sampling results from September 2020 within Border Field State Park in the southern part of the Tijuana Estuary. Average concentration results and comparisons to the same TTLC, STLC, and TCLP benchmarks as the Sediment Characterization Monitoring results are presented in Table 3-3.

Table 3-3
TETRP Report Results and Comparison to Title 22 Benchmarks

Analyte	Average Resulting Concentration (mg/kg)[1]	TTLC Benchmark (mg/kg)	STLC Benchmark (mg/L)	TCLP Benchmark (mg/L)	Total Exceedances of TTLC, STLC, or TCLP Benchmarks
Total Metals					
Antimony	1.35	500	15	NA	0
Arsenic	2.61	500	5.0	5.0	0
Barium	157.04	10,000	100	100	0
Beryllium	0.50	75	0.75	NA	0
Cadmium	0.63	100	1.0	1.0	0
Chromium	12.27	2,500	5.0	5.0	0
Chromium, Hexavalent	0.20	500	5.0	NA	0
Cobalt	5.50	8,000	80	NA	0
Copper	8.32	2,500	25	NA	0
Lead	4.25	1,000	5.0	5.0	0
Mercury	0.05	20	0.2	0.2	0
Molybdenum	0.74	3,500	350	NA	0
Nickel	5.55	2,000	20	NA	0
Selenium	0.63	100	1.0	1.0	0
Silver	0.63	500	5.0	5.0	0
Thallium	0.45	700	7.0	NA	0
Vanadium	34.53	2,400	24	NA	0
Zinc	42.14	5,000	250	NA	0
PCBs and PCB Mixtures					
PCB-18	0.000123	50	5.0	NA	0
PCB-28	0.000123	50	5.0	NA	0
PCB-37	0.000123	50	5.0	NA	0
PCB-44	0.000123	50	5.0	NA	0
PCB-49	0.000123	50	5.0	NA	0
PCB-52	0.000123	50	5.0	NA	0
PCB-66	0.000123	50	5.0	NA	0
PCB-70	0.000123	50	5.0	NA	0
PCB-74	0.000123	50	5.0	NA	0
PCB-77	0.000123	50	5.0	NA	0
PCB-81	0.000123	50	5.0	NA	0

Table 3-3 (continued)
TETRP Report Results and Comparison to Title 22 Benchmarks

Analyte	Average Resulting Concentration (mg/kg)[1]	TTLC Benchmark (mg/kg)	STLC Benchmark (mg/L)	TCLP Benchmark (mg/L)	Total Exceedances of TTLC, STLC, or TCLP Benchmarks
PCB-87	0.000123	50	5.0	NA	0
PCB-99	0.000123	50	5.0	NA	0
PCB-101	0.000123	50	5.0	NA	0
PCB-105	0.000123	50	5.0	NA	0
PCB-110	0.000123	50	5.0	NA	0
PCB-114	0.000123	50	5.0	NA	0
PCB-118	0.000123	50	5.0	NA	0
PCB-119	0.000123	50	5.0	NA	0
PCB-123	0.000123	50	5.0	NA	0
PCB-126	0.000123	50	5.0	NA	0
PCB-128	0.000123	50	5.0	NA	0
PCB-132/153	0.000246	50	5.0	NA	0
PCB-138/158	0.000246	50	5.0	NA	0
PCB-149	0.000123	50	5.0	NA	0
PCB-151	0.000123	50	5.0	NA	0
PCB-156	0.000123	50	5.0	NA	0
PCB-157	0.000123	50	5.0	NA	0
PCB-167	0.000123	50	5.0	NA	0
PCB-168	0.000123	50	5.0	NA	0
PCB-169	0.000123	50	5.0	NA	0
PCB-170	0.000123	50	5.0	NA	0
PCB-177	0.000123	50	5.0	NA	0
PCB-180	0.000123	50	5.0	NA	0
PCB-183	0.000123	50	5.0	NA	0
PCB-187	0.000123	50	5.0	NA	0
PCB-189	0.000123	50	5.0	NA	0
PCB-194	0.000123	50	5.0	NA	0
PCB-201	0.000123	50	5.0	NA	0
PCB-206	0.000123	50	5.0	NA	0
PCB-209	0.000123	50	5.0	NA	0
Aroclor -1016 Aroclor -1221 Aroclor -1232 Aroclor -1242 Aroclor -1248 Aroclor -1254 Aroclor -1260 Aroclor -1262 Aroclor -1268	0.005	50	5.0	NA	0

Table 3-3 (continued)
TETRP Report Results and Comparison to Title 22 Benchmarks

Analyte	Average Resulting Concentration (mg/kg)[1]	TTLC Benchmark (mg/kg)	STLC Benchmark (mg/L)	TCLP Benchmark (mg/L)	Total Exceedances of TTLC, STLC, or TCLP Benchmarks
Total RMP 40	0.000246	50	5.0	NA	0
Pesticides & Herbicides					
Aldrin	0.00062	1.4	0.14	NA	0
Chlordane	0.00314	2.5	0.25	0.03	0
4,4'-DDD	0.00062	1.0	0.1	NA	0
4,4'-DDE	0.00139	1.0	0.1	NA	0
4,4'-DDT	0.00048	1.0	0.1	NA	0
Dieldrin	0.00013	8.0	0.8	NA	0
Endrin	0.00062	0.2	0.02	0.2	0
Heptachlor	0.00062	4.7	0.47	0.008	0
Lindane (Gamma-BHC)	0.00062	4.0	0.4	0.4	0
Methoxychlor	0.00062	100	10.0	10.0	0
Toxaphene	0.00314	5.0	0.5	0.5	0
2,4,5-Trichlorophenoxy propionic acid (Silvex)	0.00496	10	1.0	1.0	0
2,4-D	0.04964	100	10	10	0
VOCs & SVOCs					
Benzene	0.00081	NA	NA	0.5	0
Carbon Tetrachloride	0.00046	NA	NA	0.5	0
Chlorobenzene	0.00046	NA	NA	100	0
Chloroform	0.00046	NA	NA	6	0
1,2-Dichloroethane	0.00046	NA	NA	0.5	0
1,1-Dichloroethylene	0.00046	NA	NA	0.7	0
Tetrachloroethylene	0.00046	NA	NA	0.7	0
Trichloroethylene	0.00092	2040	204	0.5	0
Vinyl chloride	0.00046	NA	NA	0.2	0
Cresols	0.7479	NA	NA	200	0
1,4-Dichlorobenzene	0.25	NA	NA	7.5	0
2,4-Dinitrotoluene	0.25	NA	NA	0.13	0
Hexachlorobenzene	0.25	NA	NA	0.13	0
Hexachloroethane	0.25	NA	NA	3	0
Nitrobenzene	1	NA	NA	2	0
Pentachlorophenol	1.25	17	1.7	100	0
Pyridine	0.25	NA	NA	5	0
2,4,5-Trichlorophenol	0.25	NA	NA	400	0
2,4,6-Trichlorophenol	0.25	NA	NA	2	0

Table 3-3 (continued)
TETRP Report Results and Comparison to Title 22 Benchmarks

Analyte	Average Resulting Concentration (mg/kg)[1]	TTLC Benchmark (mg/kg)	STLC Benchmark (mg/L)	TCLP Benchmark (mg/L)	Total Exceedances of TTLC, STLC, or TCLP Benchmarks
Total Exceedances			0	0	0

Notes:
kg = kilogram; mg = milligrams; NA = not applicable; PCB = Polychlorinated biphenyls; STLC = Soluble Threshold Limit Concentration; SVOCs = semi-volatile organic compounds; TCLP = Toxicity Characteristic Leach Procedure; TETRP = Tijuana Estuary Tidal Restoration Program; TTLC = total threshold limit concentration; VOCs = volatile organic compounds

1. In calculation of averages, where the result was Not Detected, the calculation used the Reporting Limit. Where a J flag qualifier was on the result, the actual qualified concentration was used for calculation.

In the data contained in the TETRP report, there were zero exceedances of the TTLC, STLC, or TCLP benchmarks, indicating that these sediment locations do not result in hazardous classification by the standards of Title 22 Section 66261.24 TTLC comparison.

3.4.2 Goat Canyon Sediment Characterization

Existing sediment characterization results from the Goat Canyon site were compared to results from dredged sediment stockpile sampling conducted May 17-19, 2021. Results of this assessment were also used to evaluate potential sediment reuse opportunities. Average concentration results from 44 dredged sediment stockpile samples and comparisons to the same TTLC, STLC, and TCLP benchmarks as the Sediment Characterization Monitoring results are presented in Table 3-4.

Table 3-4
Goat Canyon Report Results and Comparison to Title 22 Benchmarks

Analyte	Average Resulting Concentration (mg/kg)[1]	TTLC Benchmark (mg/kg)	STLC Benchmark (mg/L)	TCLP Benchmark (mg/L)	Total Exceedances of TTLC, STLC, or TCLP Benchmarks
Total Metals					
Antimony	0.23	500	15	NA	0
Arsenic	2.43	500	5	5	0
Barium	74.55	10000	100	100	0
Beryllium	0.18	75	0.75	NA	0
Cadmium	0.12	100	1	1	0
Chromium (III)	10.64	2500	5	5	0
Chromium (VI)	0.56	500	5	NA	0
Cobalt	3.45	8000	80	NA	0
Copper	9.13	2500	25	NA	0
Lead	4.73	1000	5	5	0
Mercury	0.05	20	0.2	0.2	0
Molybdenum	0.87	3500	350	NA	0
Nickel	4.40	2000	20	NA	0
Silver	0.13	500	5	5	0
Thallium	0.15	700	7	NA	0
Vanadium	27.35	2400	24	NA	0
Zinc	43.70	5000	250	NA	0
PCBs and PCB Mixtures					
Aroclor-1260	0.01	50	5	NA	0
Pesticides & Herbicides					
4,4'-DDT	0.012	1	0.1	NA	0
VOCs & SVOCs					
Tetrachloroethylene (Tetrachloroethene)	0.0022	NA	NA	0.7	0

Notes:
kg = kilogram; mg = milligrams; NA = not applicable; PCB = Polychlorinated biphenyls; STLC = Soluble Threshold Limit Concentration; SVOCs = semi-volatile organic compounds; TCLP = Toxicity Characteristic Leach Procedure; TTLC = total threshold limit concentration; VOCs = volatile organic compounds

1. In calculation of averages, where the result was Not Detected, the calculation used the Reporting Limit. Where a J flag qualifier was on the result, the actual qualified concentration was used for calculation.

In the data contained in the Goat Canyon dredged sediment stockpile sampling report, there were zero exceedances of the Title 22 TTLC, STLC, or TCLP benchmarks, indicating that Goat Canyon sediment does not result in hazardous classification by the standards of Title 22 Section 66261.24 TTLC comparison.

4.0 Trash Evaluations

The purpose of the trash evaluations is to characterize current trash conditions to help determine the potential for sediment reuse as part of projects and/or capital projects. Results were also assessed against any locations that resulted in potentially containing hazardous sediment from the Sediment Characterization sampling.

4.1 Trash Evaluation Methods

The method used to complete trash evaluations is also used for MS4 Permit (San Diego Water Board, 2015) compliance monitoring in the San Diego region. Trash evaluations were conducted to answer the following study questions:

1. At what level is trash present at the seven monitoring locations (low, moderate, high, very high)?

2. What types of trash are present (plastics, metals, hazardous waste, etc.) and at what relative percentages?

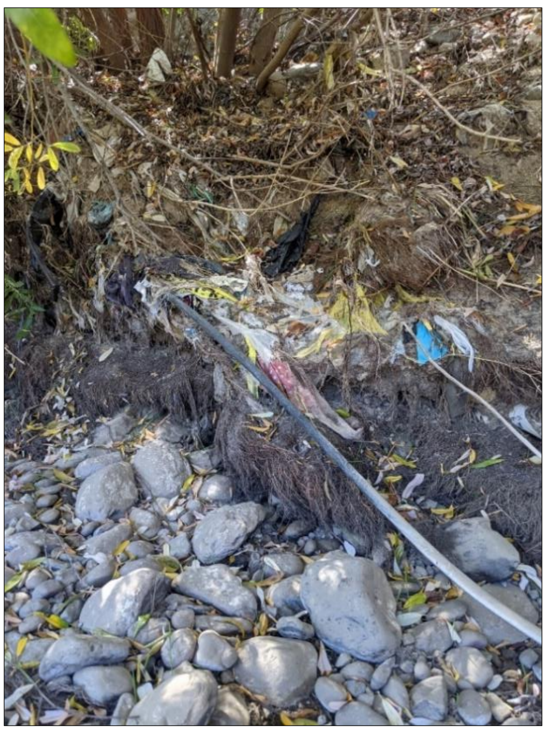
3. What effects do the trash levels have on the potential reuse of sediment?

During trash evaluations, visual assessments provided a resulting trash category based on the following criteria (Figure 4-1):

- Trash Category: Low (1-3)
    - On first glance, little or no trash is visible.
    - One individual could easily remove all trash observed within 30 minutes.
- Trash Category: Medium (4-6)
    - Predominantly free of trash except for a few littered areas.
    - On average, all trash could be cleaned up by two individuals within 30 minutes to one hour.
- Trash Category: High (7-9)
    - Predominantly littered except for a few clean areas. Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.
    - On average, it would take a more organized effort (more than 2 people, but less than 5) to remove all trash from the area. Removal of trash would take 30 mins to 2 hours.
- Trash Category: Very High (10-12)
    - Trash is continuously seen throughout the assessment area. Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing, piles of garbage and debris).
    - On average, it would take a large number of people (more than 5) during an organized effort to remove all trash from the area. Removal of all trash would take more than 2 hours.

Low Trash Category Example

Medium Trash Category Example



High Trash Category Example

Very High Trash Category Example

Figure 4-1
Trash Category Example Photos

4.2 Trash Evaluation Results

Trash evaluation data were successfully collected during the same two sampling events and at the same five sediment sources areas in coordination with Sediment Characterization Monitoring, plus the additional Goat Canyon Sediment Basin Complex site. Resulting trash levels for each event are presented in Table 4-1. Field data sheets for these trash evaluation events are in Attachment G.

Table 4-1
Trash Evaluation Results

Site ID	Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT		Goat Canyon GTBASIN	
Event Date	10/21/21	1/7/22	10/21/21	1/7/22	10/21/21	1/7/22	10/21/21	1/7/22	10/21/21	1/7/22	10/21/21	1/7/22
Is Trash Visible	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Resulting Trash Score	1	2	11	11	1	2	7	9	5	11	2	12
Level of Trash[1]	Low	Low	Very High	Very High	Low	Low	High	High	Medium	Very High	Low	Very High
Types of Trash	None	Plastic	Plastic Bags, Bottles, Polystyrene, Paper/ Cardboard, Cans	Plastic Bags, Bottles, Cans, Fabric, Plastics	None	Cigarette Butts	Plastic Bags, Bottles, Cans, Plastics, Wood	Plastic Bags, Bottles, Cans, Plastics, Wood	Plastic Bags, Bottles, Polystyrene, Paper, Tires	Plastic Bags, Bottles, Polystyrene, Plastics, Wood	Plastic Bags, Fabric, Tires	Cans, Bottles, Paper, Plastics

Notes:
ID = identification
1. Trash Result Scores are grouped into categories: Low (1-3), Medium (4-6), High (7-9), Very High (10-12).

4.3 Trash Evaluation Data Assessment

Overall, the results indicated that trash levels were dependent on both upstream trash mobilization potential and maintenance responsibility in each sediment source area location. Figure 4-2 presents the results by category as a percentage of the completed twelve evaluations.

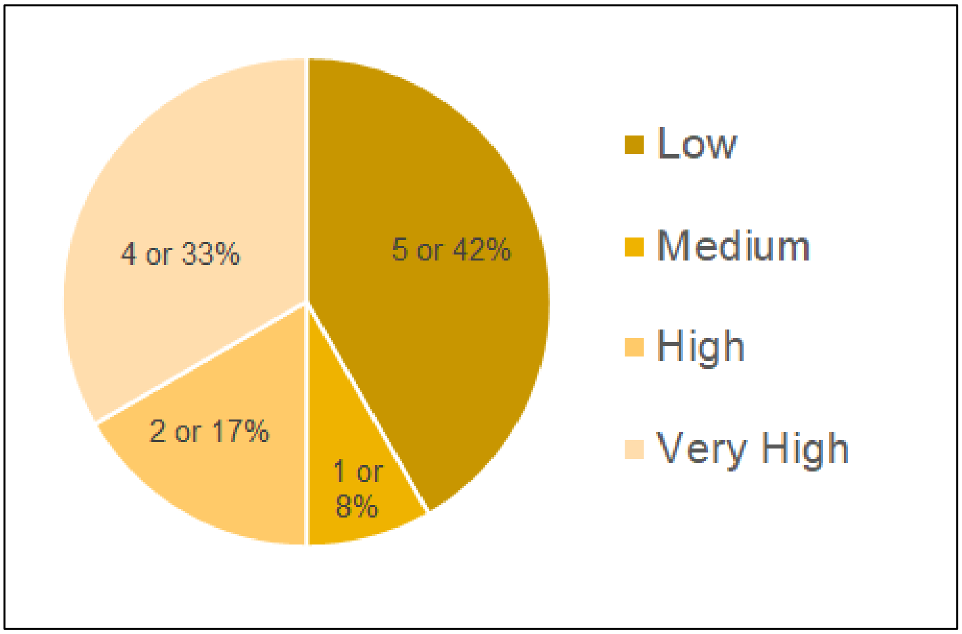


Figure 4-2
Trash Evaluation Results

Trash evaluation results are mapped in Figure 4-3. Notable observations from the trash evaluations include:

- The Brown Fill Removal/Restoration Project site and the Potential Basin Complex – Main Tijuana River site are not in the downstream flow path of where trash would be mobilized. Additionally, the County of San Diego and private agricultural owners are actively implementing maintenance programs that ensure that the areas are clean and free of trash.
- The Flood Control Channel site results were consistently the highest (score of 11 for event both assessments). This is likely caused by the large upstream drainage area, the magnitude of flow capable of mobilizing trash, and the location directly downstream of the channelized to natural channel transition.
- The Goat Canyon Sediment Basin Complex site received a Low score (2) during the October 21, 2021 assessment and then a Very High (12) score during the January 7, 2022 assessment. The Low score is suspected to be a result of the recent dredging of the sediment source area indicated by onsite Engineering/Remediation Resources Group, Inc. staff who met during the assessment (Wechsler, 2021). Between this assessment and the second assessment, wet weather events mobilized a large volume of trash that was caught behind the trash booms, likely resulting in a 12 (Very High) score. The normal trash condition at this site is expected to be higher than the first assessment.

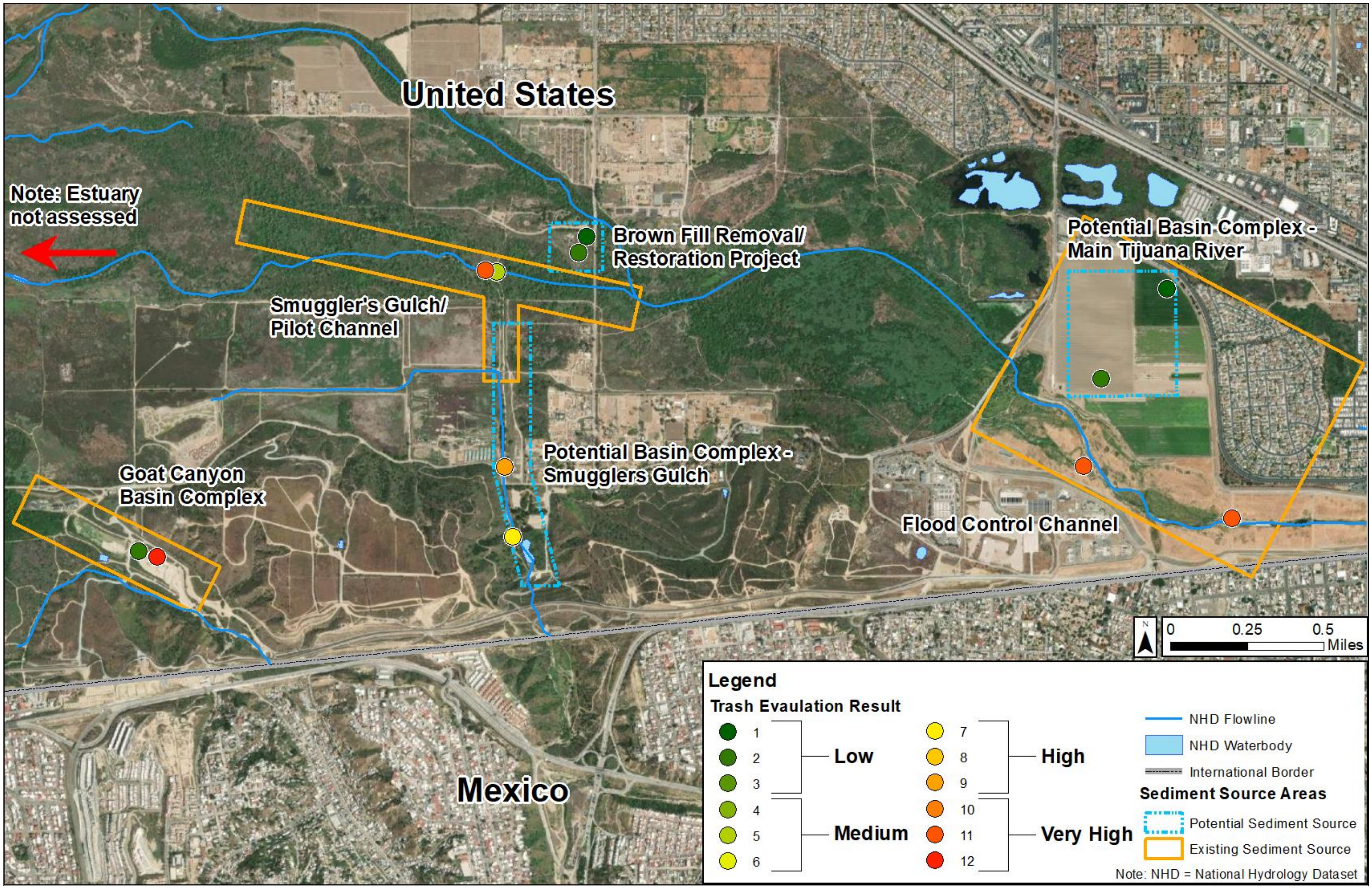


Figure 4-3
Trash Evaluation Results Map

5.0 Monitoring Program Conclusion Summary

Results of the Monitoring Program are intended to guide potential management options for the reuse or disposal of sediment from source areas within the Tijuana River Valley. Water Quality Characterization, Sediment Characterization, and Trash Evaluation results were evaluated in conjunction with each other to draw conclusions about appropriateness of the potential sediment management options being considered for each sediment source area.

Water Quality Characterization results showed that most results exceeded Basin Plan WQOs, NALs, and SALs. Elevated CBOD levels were observed in both dry and wet weather. In raw sewage, levels of CBOD are typically above 200 mg/L (Metcalf and Eddy, Inc. 2003). Accordingly, Water Quality Characterization CBOD results indicate that raw sewage may have been present in dry weather at Goat Canyon, Silva's Drain, Canyon del Sol, and Stewart's Drain; and in wet weather at all seven sampling sites. Fecal indicator bacteria concentrations were also generally higher than the Border Patrol study results from 2018. High TSS levels were observed at most sampling locations, which aligns with known sedimentation issues in the Tijuana River Valley. While TSS results do not provide an estimate of sediment deposition levels in the Tijuana River Valley, the modeling results of the USACE Phase I and II Hydrology, Floodplain, and Sediment Transport Reports (USACE, 2018 and 2020) conclude that 73% of the sediment in the 100-year flood event remains in the Tijuana River overbank instead of exiting to the ocean.

Sediment reuse and disposal opportunities being considered are:

- Beach and nearshore nourishment
- Thin-layer sediment addition
- Mine reclamation
- Construction material
- Levee rehabilitation
- Commercial landfill
- Remedial cap
- Landfill daily cover
- Upland landfill disposal

None of the Sediment Characterization monitoring samples exceeded Title 22 TTLC, STLC, or TCLP hazardous waste thresholds. Existing sediment characterization data at the Tijuana Estuary and Goat Canyon Sedimentation Basins yielded a similar conclusion of no exceedance of the same hazardous waste thresholds. Therefore, each of the sediment source areas evaluated for this project contain sediment that can potentially be reused for the reuse opportunities in <u>Figure 5-1</u>. However, permit applications for actual sediment reuse will require additional analysis. California Code of Regulations (CCR) Title 22 Sections 66261.20 through 66261.24 require that waste be assessed for toxicity, ignitability, corrosivity, and reactivity to determine the hazardous nature of the waste prior to disposal.

Trash evaluations concluded that although there are some areas in the Tijuana River Basin where trash conditions are being maintained, high levels of trash are present at many locations, with the highest trash levels noted at the Goat Canyon and Flood Control Channel sediment source areas.

As a result of the data assessments completed, the sampled sediment source areas were determined to have the Sediment Reuse Opportunities shown in Figure 5-1 and the sediment contained in these areas do have the potential to be used in future capital improvement projects.

SEDIMENT:
Potential Management Options

PROJECT LOCATION	Beneficial Reuse								Disposal	
	Beach and nearshore nourishment	Thin-layer sediment addition	Mine reclamation	Construction material	Levee rehabilitation	Commercial landfill	Remedial cap	Landfill daily cover	Upland landfill disposal	Monitoring Type
Brown Fill Removal/Restoration Project	✓	✓	✓	✓	✓	✓	✓	✓	✓	*Sediment Characterization Monitoring*
Flood Control Channel	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Potential Basin Complex – Main Tijuana River	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Potential Basin Complex – Smugglers	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Smuggler's Gulch/Pilot Channel	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Tijuana Estuary	✓	✓	✓	✓	✓	✓	✓	✓	✓	*Utilized existing data sets*
Goat Canyon	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Figure 5-1
Potential Reuse Opportunity Results

6.0 References

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ATTACHMENT A

QA/QC Results for Water Quality and Sediment Characterization Monitoring

Introduction

This section addresses quality assurance/ quality control (QA/QC) activities for the Tijuana River Valley Sediment Management Plan and Monitoring Program. Both water quality and sediment data were compared with applicable measurement quality objectives (MQOs) defined in the Monitoring Plan (Wood, 2021). MQOs are quantitative and qualitative statements that define project objectives and specify the acceptable ranges of field sampling and laboratory performance. Results that do not meet MQOs are qualified and may be considered estimates. MQOs for this project include objectives for precision, frequency, accuracy, and completeness.

For water quality characterization monitoring, field duplicate and field blank QA/QC samples were collected during monitoring. For sediment characterization monitoring, field duplicate and equipment blank QA/QC samples were collected during monitoring.

Field duplicates measure precision and evaluate the error introduced by field sampling. Duplicate samples consist of two replicates (an original and a duplicate) of the same matrix collected simultaneously and location using the same sampling techniques. The project frequency defined for field duplicates is at least 5% of the total sample count. The relative percent difference (RPD) is calculated to determine the precision between duplicate samples. The MQO for the sediment Field Blank sample was an RPD range between 0-25%. This calculation is as follows:

$$RPD = \frac{abs[log(x_1) - log(x_2)]}{0.5 * [log(x_1) + log(x_2)]}$$

where: abs is the absolute value

x_1 is measurement 1 (primary sample)

x_2 is measurement 2 (e.g., duplicate sample)

Field blanks verify that field conditions, field sampling activities, and air deposition are not sources of contamination. Field blanks for water quality sampling were taken by filling sample bottles with reagent grade, analyte-free deionized (DI) water in the field during sampling events. The samples were then submitted blindly to the laboratory for analysis. The project frequency defined for field blanks is at least 5% of the total sample count. Field blanks for sediment samples were not collected due to cost prohibitions for the project.

Equipment blanks verify that handling of equipment and air deposition and cleaning methods between sampling sites are not sources of contamination. Equipment blanks will be taken by rinsing equipment with reagent grade, analyte-free DI water in the field during a sampling event into a container. The containers were then be submitted blindly to the laboratory for analysis of total metals, nutrients, and Oil and Grease. The MQO for the sediment equipment blank analysis was a concentration below the reporting limit for each analyte.

Additionally, laboratory QA/QC samples were assessed to provide information on potential laboratory contamination, analytical precision, and accuracy. Laboratory replicates, method blanks, and standard reference material (SRM) samples were assessed as part of this QA/QC program per the Monitoring Plan (Wood, 2021). Laboratory replicates were evaluated against a 25% RPD MQO, method blanks were evaluated against a less than their reporting limit MQO, and SRM samples were evaluated against analyte-specific % recovery MQOs.

Quality Assurance/Quality Control of Water Quality Characterization Data

All project samples required to be collected were collected, meeting the 90% completeness MQO. All samples collected were analyzed within their holding times. Field duplicates and field blanks were analyzed at a total program frequency of 6 percent, which met the MQO minimum frequency required of 5 percent of all samples. Lab QA data also met the 5% MQO minimum frequency required.

Table A-1
Water Quality Characterization Quality Assurance/Quality Control Summary

QA/QC Summary	Field Data Exceedances of MQOs		Lab QA Data Exceedances of MQOs		
	Field Duplicate RPD[1]	Field Blank Detections >RL	Method Blank Detection >RL	LD RPD	SRM % Recovery
Total QA/QC Issues	1	1	0	0	0
Total Number of Results	12	12	11	9	9
Percentage of Data with QA/QC Issues	8%	8%	0%	0%	0%

Notes:
% = Percent; LD = laboratory duplicate; MQO = measurement quality objective; QA = quality assurance; QC = quality control; RL = reporting limit; RPD = relative percent difference; SRM = standard reference material

1. MQO for field duplicates is RPD = 0–25.

The field duplicate for CBOD had an RPD of 33%, which did not meet the MQO of <25% RPD. Additionally, the field blank for CBOD resulted in a concentration of 11.5 mg/L, which was above the RL of 2 mg/L. These minority occurrences of QA/QC exceedances do not compromise the overall integrity of assessment results.

Quality Assurance/Quality Control of Sediment Characterization Data

All project samples required to be collected were collected, meeting the 90% completeness MQO. All samples collected were analyzed within their holding times. Field duplicates and equipment blanks were analyzed at a total program frequency of 10 and 9 percent, respectively, which met the MQO minimum frequency required of 5% of all samples. Lab QA data also met the 5% MQO minimum frequency required.

For event 1, the radiometric recovery for the matrix spike (MS) of sample 2110635-6 is below the lower control limit of 70% at 63.1% for gross alpha and 66.4% for gross beta. For method Environmental Protection Agency (EPA) 8015M, low recoveries were observed for diesel C10-C28 in the matrix spike/ matrix spike duplicate (MS/MSD) of 2021-E1-BASINMGL the laboratory control sample (LCS) was within limits, the associated RPD was within limits, and these low recoveries were not associated with any reported results. Samples in method EPA 8015M, 2021-E1-BRWNFL-01 were diluted due to the dark color of the sample extract. For method GC/MS (EPA 8260B), Methylene chloride was detected between the MDL and the reporting limit (RL) in the method blank for batch 276649; this analyte was not detected in samples at or above the RL.

For event 2, the method blank result associated with batch 180-385118 for BOD analysis was higher than the method-required limit of 0.2 mg/L. Additionally, test replicates showed >30% RPD between the highest and lowest replicate for the Potential Basin Complex – Smugglers sample. For this event Iron (Fe) was above the specified acceptance limits for the CRM. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values agree with Physis' past internal results for CRM - ERA D099-540. The radiometric recovery for the matrix spike of sample 2201113-4 was below the lower control limit of 70% at 48.5% for gross alpha and 64.7% for gross beta. For method EPA 8260B, Methylene chloride was detected above the RL in the method blank for batch 281621; this analyte was not detected in samples at or above the RL. Methylene chloride was detected between the MDL and the RL in the method blank for batch 281699.

Table A-2
Sediment Characterization Quality Assurance/Quality Control Summary

QA/QC Summary	Analytical Data		Lab QA Data Exceedances of MQOs			
	Field Duplicate RPD[1]	Equipment Blank Detections >RL	Method Blank Detection >RL	LD RPD	MSD and BSD RPD	BS, BSD, CRM, LCM, MS, MSD % Recovery
Total QA/QC Issues	15	5	8	44	2	38
Total Number of Results	240	27	501	317	736	1742
Percentage of Data with QA/QC Issues	6%	19%	2%	14%	0%	2%

Notes:
% = Percent; BS = blank spike; BSD = blank spike duplicate; CRM = certified reference material; LCM = laboratory control material; LD = laboratory duplicate; MQO = Measurement quality objective; MS = matrix spike; MSD = matrix spike duplicate; QA = quality assurance; QC = quality control; RL = reporting limit; RPD = relative percent difference

1. MQO for field duplicates is RPD = 0–25.

These minority occurrences of QA/QC exceedances do not compromise the overall integrity of assessment results.

ATTACHMENT B

Field Data Sheets (FDS) for Water Quality Characterization Monitoring

Sediment Management Monitoring – Tijuana River Watershed

Site ID: CYNSOL	Date (MM/DD/YYYY): 03/10/2021	Time: 10:52

Jurisdiction:	HU:
Latitude:	Longitude:
Staff: DC HA	Photographs Taken: ☒ Yes ☐ No Number of Photographs: 5
Signature: [signature]	Total Number of Bottles: 4

Sample ID: *Monitoring year (2021) - Event # (W1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - W1 - CYNSOL **-** 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☒ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☒ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 3/10/21 03:45

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*
Grab Sample Time: 10:52

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	18.11		°C		
pH	8.1		pH		
Dissolved Oxygen	6.42		mg/L / ppm		
Specific Conductivity	1.22		mS/cm		
Turbidity	209		NTU		
Oxidation-reduction potential (ORP)	-58		mV		
Flow	5		cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width 6 ft Length ___ ft Depth 1/12 ft Velocity 10 ft/sec	Diameter ___ ft Depth ___ ft Velocity ___ ft/sec	Volume ___ ml Time to Fill ___ sec	Distance ___ ft Time ___ sec	5 ☒ cfs ☐ gpm ☐ gpd

Other observations/notes:

Sediment Management Monitoring – Tijuana River Watershed

Site ID: GOATCYN	**Date (MM/DD/YYYY):** 03/10/2021 **Time:** 11:56
Jurisdiction:	**HU:**
Latitude:	**Longitude:**
Staff: DC HA	**Photographs Taken:** ☒ Yes ☐ No **Number of Photographs:** 2
Signature: Dylan cole	**Total Number of Bottles:** 4

Sample ID: *Monitoring year (2021) - Event # (W1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - W1 - GOATCYN - 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☒ Yes ☐ No
Approx. Storm Start Time: 3/10/21 03:45

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☒ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☒ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*
Grab Sample Time: 11:56

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	20.78		°C		
pH	8.49		pH		
Dissolved Oxygen	5.48		mg/L / ppm		
Specific Conductivity	0.845		mS/cm		
Turbidity	> 1000		NTU	Meter range 0-1000 NTU.	[redacted] DC
Oxidation-reduction potential (ORP)	-19		mV		
Flow	17.5		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width 15 ft Length ___ ft Depth 1/6 ft Velocity 7 ft/sec	Diameter ___ ft Depth ___ ft Velocity ___ ft/sec	Volume ___ ml Time to Fill ___ sec	Distance ___ ft Time ___ sec	17.5 ☒ cfs ☐ gpm ☐ gpd

Other observations/notes:

Sediment Management Monitoring – Tijuana River Watershed

Site ID: SILVDR	**Date (MM/DD/YYYY):** 03/10/21	**Time:** 9:54
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC HA	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs: 1	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (W1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - W1 - SILVDR -01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☒ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☒ Yes ☒ No DC
Approx. Storm Start Time: 3/10/21 03:45

Odor	☒ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☒ Sheen ☐ Algae ☐ Other:
Deposits	☒ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*
Grab Sample Time: 9:54

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	16.77		°C	3/9/21	
pH	8.21		pH	3/9/21	
Dissolved Oxygen	8.45		mg/L / ppm	3/9/21	
Specific Conductivity	0.499		µS/cm	3/9/21	
Turbidity	270		NTU	3/9/21	
Oxidation-reduction potential (ORP)	7		mV	3/9/21	
Flow	0.25		cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width 3 ft Length ___ ft Depth 1/12 ft Velocity 1 ft/sec	Diameter ___ ft Depth ___ ft Velocity ___ ft/sec	Volume ___ ml Time to Fill ___ sec	Distance ___ ft Time ___ sec	0.25 ☒ cfs ☐ gpm ☐ gpd

Other observations/notes:

Sediment Management Monitoring – Tijuana River Watershed

Site ID: SMGGLCH	**Date (MM/DD/YYYY):** 03/10/2021	**Time:** 12:45
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC HA	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs: 2	
Signature: [signature]	**Total Number of Bottles:** 12	

Sample ID: *Monitoring year (2021) - Event # (W1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*

2021 - W1 - SMGGLCH - 01, 02, and 03

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☒ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow

Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:

Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A

Flow Source is Stormwater? ☒ Yes ☐ No

Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No

Approx. Storm Start Time: 3/10/21 03:45

Odor	☒ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☒ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☒ Field Blank ☒ Field Dup *(check all that apply)*

Grab Sample Time: 12:45

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	19.8		°C		
pH	8.18		pH		
Dissolved Oxygen	6.00		mg/L / ppm		
Specific Conductivity	0.697		~~µ~~S/cm		
Turbidity	322		NTU		
Oxidation-reduction potential (ORP)	24		mV		
Flow	28		cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width 14 ft Length ___ ft Depth 4/12 ft Velocity 6 ft/sec	Diameter ___ ft Depth ___ ft Velocity ___ ft/sec	Volume ___ ml Time to Fill ___ sec	Distance ___ ft Time ___ sec	28 ☒ cfs ☐ gpm ☐ gpd

Other observations/notes:

Sediment Management Monitoring – Tijuana River Watershed

Site ID: STEWDR	Date (MM/DD/YYYY): 03/10/2021	Time: 10:30
Jurisdiction:	HU:	
Latitude:	Longitude:	
Staff: DC HA	Photographs Taken: ☒ Yes ☐ No	
	Number of Photographs: 1	
Signature:	Total Number of Bottles: 4	

Sample ID: *Monitoring year (2021) - Event # (W1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*

2021 - W1 - STEWDR **-** 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow

Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:

Flow Reaches Receiving Water? ☐ Yes ☐ No ☒ N/A

Flow Source is Stormwater? ☒ Yes ☐ No

Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No

Approx. Storm Start Time: 3/10/21 03:45

Odor ☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:

Color ☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:

Clarity ☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:

Deposits ☐ None ☐ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ **Field Blank** ☐ **Field Dup** ***(check all that apply)***

Grab Sample Time: 10:30

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	18.26		°C		
pH	7.21		pH		
Dissolved Oxygen	1.58		mg/L / ppm		
Specific Conductivity	1.13		mS/cm		
Turbidity	508		NTU		
Oxidation-reduction potential (ORP)	-136		mV		
Flow	5		cfs / gpm		

Visual Estimation of Flow (choose one method)	**Channel**	**Pipe**	**Bottle Fill**	**Leaf float**	**Estimated/Calculated Flow Rate**
	Width 30 ft	Diameter ____ ft	Volume ____ ml	Distance ____ ft	5 ☒ cfs ☐ gpm ☐ gpd
	Length ____ ft	Depth ____ ft			
	Depth 2/12 ft	Velocity ____ ft/sec	Time to Fill ____ sec	Time ____ sec	
	Velocity 1 ft/sec				

Other observations/notes:

Sediment Management Monitoring – Tijuana River Watershed

Site ID: TJMAIN	**Date (MM/DD/YYYY):** 03/10/2021	**Time:** 15:15
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC HA	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs: 4	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (W1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - W1 - TJ MAIN **- 01**

Conveyance Type: ☒ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☒ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 3/10/21 03:45

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☒ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☐ None ☒ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ **Field Blank** ☐ **Field Dup** ***(check all that apply)***
Grab Sample Time: 15:15

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	18.39		˚C		
pH	7.8		pH		
Dissolved Oxygen	2.95		mg/L / ppm		
Specific Conductivity	0.857		mS/cm		
Turbidity	814		NTU		
Oxidation-reduction potential (ORP)	82		mV		
Flow	200		cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width 200 ft Length ____ ft Depth 2 ft Velocity 0.5 ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	200 ☒ cfs ☐ gpm ☐ gpd

Other observations/notes:

Sediment Management Monitoring – Tijuana River Watershed

Site ID: YGTCYN	**Date (MM/DD/YYYY):** 03/10/2021	**Time:** 11:29
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC HA	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs: 2	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (W1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*

2021 - W1 - YGTCYN - 01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☒ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow

Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:

Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A

Flow Source is Stormwater? ☒ Yes ☐ No

Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No

Approx. Storm Start Time: 3/10/21 03:45

Odor	☒ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☒ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☐ None ☐ Limited ☒ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*

Grab Sample Time: 11:29

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	17.64		°C		
pH	7.56		pH		
Dissolved Oxygen	5.04		mg/L / ppm		
Specific Conductivity	0.822		µS/cm		
Turbidity	38.9		NTU		
Oxidation-reduction potential (ORP)	-9		mV		
Flow	7		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width 35 ft Length ____ ft Depth 0.5 ft Velocity 0.4 ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	7 ☒ cfs ☐ gpm ☐ gpd

Other observations/notes:

Sediment Management Monitoring – Tijuana River Watershed

Site ID: Y GT CYN	**Date (MM/DD/YYYY):** 05/23/2021	**Time:** 11:15
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs:	
Signature: [signature]	**Total Number of Bottles:** 12	

Sample ID: *Monitoring year (2021) - Event # (D1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - D1 - Y GT CYN - 01, 02, and 03

Conveyance Type: ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 09:40

Odor	☐ None ☒ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☒ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	DC ☒ None ☒ Trash ☒ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☒ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☐ None ☐ Limited ☒ Normal ☐ Excessive

Type of Sample: ☒ Grab ☒ Field Blank ☒ Field Dup
Grab Sample Time: 11:[illegible] primary, 11:25 dup, 11:30 field blank

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	21.3	21.5	°C		
pH	7.54	7.44	pH		
Dissolved Oxygen	6.1	6.05	mg/L / ppm		
Specific Conductivity	1.378	1.400	mS/cm		
Turbidity	103	104	NTU		
Oxidation-reduction potential (ORP)	130.8	142.0	mV		
Flow	30	30	cfs / gpm		5 separate inflows added

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Elevated flows due to wet weather runoff, Reaches downstream receiving water (no collector).

Sediment Management Monitoring – Tijuana River Watershed

Site ID: SMG GLCH	**Date (MM/DD/YYYY):** 06/23/2021	**Time:** 10:15
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs:	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (D1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - D1 - SMG GLCH - 1

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☒ No ☐ N/A
Flow Source is Stormwater? ☐ Yes ☒ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☒ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☒ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ **Grab** ☐ **Field Blank** ☐ **Field Dup**
Grab Sample Time: 10:15

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	21.7		°C		
pH	7.68		pH		
Dissolved Oxygen	7.65		mg/L / ppm		
Specific Conductivity	0.377		mS/cm		
Turbidity	116.2		NTU		
Oxidation-reduction potential (ORP)	112		mV		
Flow	0.5		cfs gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Trickle flow, no apparent flow increase due to rain. Water confined to dry weather area, does not reach downstream receiving water.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: GOATCYN	**Date (MM/DD/YYYY):** 06/23/2021	**Time:** 12:00
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs:	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (D1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - D1 - GOATCYN - 1

Conveyance Type: ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 09:40

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☒ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☒ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup
Grab Sample Time: 12:00

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	23.2		°C		
pH	8.0		pH		
Dissolved Oxygen	6.98		mg/L / ppm		
Specific Conductivity	1.31		µS/cm		
Turbidity	2460		NTU		
Oxidation-reduction potential (ORP)	127.5		mV		
Flow	60		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Elevated flows above ambient dry weather levels due to wet weather runoff. Reaches downstream receiving water.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: CYNSOL	**Date (MM/DD/YYYY):** 06/23/2021	**Time:** 09:45

Jurisdiction:	**HU:**
Latitude:	**Longitude:**
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No
	Number of Photographs:
Signature:	**Total Number of Bottles:** 4

Sample ID: *Monitoring year (2021) - Event # (D1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - D1 - CYNSOL -1

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☒ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 09:40

Odor	☐ None ☒ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☒ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup

Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	21.8		°C		
pH	7.54		pH		
Dissolved Oxygen	7.88		mg/L / ppm		
Specific Conductivity	.453		µS/cm		
Turbidity	465		NTU		
Oxidation-reduction potential (ORP)	14		mV		
Flow	>1000		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft	Diameter ____ ft Depth ____ ft	Volume ____ ml	Distance ____ ft	____ ☐ cfs ☐ gpm ☐ gpd
	Velocity ____ ft/sec	Velocity ____ ft/sec	Time to Fill ____ sec	Time ____ sec	

Other observations/notes:

Definite flow increase due to rainfall. Flow and trash accumulation while on-site caused trash gate to open. Flow reaches "gorilla cage" downstream of dry weather flow area.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: SIEVDR	Date (MM/DD/YYYY): 06/23/2021	Time: 09:15
Jurisdiction:	HU:	
Latitude:	Longitude:	
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No	
	Number of Photographs:	
Signature: Dryon Cun	Total Number of Bottles: 4	

Sample ID: *Monitoring year (2021) - Event # (D1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - D1 - SIEVDR - 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☒ No ☐ N/A
Flow Source is Stormwater? ☐ Yes ☒ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time:

Odor	☐ None ☒ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☒ Other: Green (Algae)
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☒ Sheen ☒ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☒ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ **Field Blank** ☐ **Field Dup**
Grab Sample Time: 09:15

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	20.8		°C		
pH	8.34		pH		
Dissolved Oxygen	6.48		mg/L / ppm		
Specific Conductivity	2,007		µS/cm		
Turbidity	53.3		NTU		
Oxidation-reduction potential (ORP)	-6.0		mV		
Flow	10		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft	Diameter ____ ft Depth ____ ft	Volume ____ ml	Distance ____ ft	____ ☐ cfs ☐ gpm ☐ gpd
	Velocity ____ ft/sec	Velocity ____ ft/sec	Time to Fill ____ sec	Time ____ sec	

Other observations/notes:

Flowing. Contained in dry weather collection area.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: STEWDR	**Date (MM/DD/YYYY):** 06/23/2021	**Time:** 08:46

Jurisdiction:	**HU:**
Latitude:	**Longitude:**
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No
	Number of Photographs:
Signature: [signature]	**Total Number of Bottles:** 4

Sample ID: *Monitoring year (2021) - Event # (D1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - D1 - STEWDR - 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☒ No ☐ N/A
Flow Source is Stormwater? ☐ Yes ☒ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☒ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☒ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ **Grab** ☐ **Field Blank** ☐ **Field Dup**
Grab Sample Time: 08:40

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	20.4		˚C		
pH	8.44		pH		
Dissolved Oxygen	8.00		mg/L / ppm		
Specific Conductivity	2.016		mS/cm		
Turbidity	63.7		NTU		
Oxidation-reduction potential (ORP)	—		mV		
Flow	10		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Trickle flow coming from Mexico side. Flow does not reach main river channel, ponded water only in dry weather collection area.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: TJMAIN	Date (MM/DD/YYYY): 06/23/2021	Time: 08:00
Jurisdiction:	HU:	
Latitude:	Longitude:	
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No	
	Number of Photographs:	
Signature:	Total Number of Bottles: 4	

Sample ID: *Monitoring year (2021) - Event # (D1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - D1 - TJMAIN **-** 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☒ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☒ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☒ No ☐ N/A
Flow Source is Stormwater? ☐ Yes ☒ No
Less than 72 Hours since previous (>0.1") rainfall event? ☒ Yes DC ☒ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☒ Coarse Particulate ☒ Fine Particulate ☒ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ **Grab** ☐ **Field Blank** ☐ **Field Dup**
Grab Sample Time: 08:00

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	19.6		°C		
pH	8.37		pH		
Dissolved Oxygen	2.85		mg/L / ppm		
Specific Conductivity	5.66		mS/cm		
Turbidity	1036		NTU		
Oxidation-reduction potential (ORP)	—		mV		
Flow	—		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Ponded at main river channel. Sample taken upstream of transition from concrete-lined to natural channel.

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: Stewart's Drain - STEWDR	Date (MM/DD/YYYY): 11/12/2021 — Time: 07:30
Jurisdiction:	HU:
Latitude:	Longitude:
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No
	Number of Photographs: 2
Signature: Dylan Allen	Total Number of Bottles: 4

Sample ID: *Monitoring year (2021) - Event # (D2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – D2 - STEWDR - 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☒ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☒ No ☐ N/A
Flow Source is Stormwater? ☐ Yes ☒ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☒ Algae ☐ Other:
Deposits	☒ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ~~☒~~ Excessive DC

Type of Sample: ☒ Grab ☐ **Field Blank** ☐ **Field Dup** ***(check all that apply)***
Grab Sample Time: 0735

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	15.2		°C		
pH	6.68		pH		
Dissolved Oxygen	2.02		mg/L / ppm		
Specific Conductivity	2,542		µS/cm		
Turbidity	350.48		NTU		
Oxidation-reduction potential (ORP)			mV		
Flow	2		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Extremely small trickle flow. Large algae presence.

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: Silva's Drain ~ SILVDR	**Date (MM/DD/YYYY):** 11/12/2021	**Time:** 08:00
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DG JOB	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs: 3	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (D2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – D2 - SILVDR **-** 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☒ N/A
Flow Source is Stormwater? ☐ Yes ☒ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☒ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☒ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ **Field Blank** ☐ **Field Dup** *(check all that apply)*
Grab Sample Time: 08:00

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	16.9		°C		
pH	8.05		pH		
Dissolved Oxygen	8.03		mg/L / ppm		
Specific Conductivity	2,960		µS/cm		
Turbidity	198.75		NTU		
Oxidation-reduction potential (ORP)			mV		
Flow	10		cfs / ~~gpm~~		

Visual Estimation of Flow (choose one method)	**Channel**	**Pipe**	**Bottle Fill**	**Leaf float**	**Estimated/Calculated Flow Rate**
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Flow into DW diversion area.

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: Canyon del Sol - CYNSOL	Date (MM/DD/YYYY): 11/12/2021	Time: 08:20
Jurisdiction:	HU:	
Latitude:	Longitude:	
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No	
	Number of Photographs: 2	
Signature: Puzellu	Total Number of Bottles: 0	

Sample ID: *Monitoring year (2021) - Event # (D2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – D2 - -

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☒ N/A
Flow Source is Stormwater? ☐ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility) N/A
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☐ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)* N/A
Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			°C		
pH			pH		
Dissolved Oxygen			mg/L / ppm		
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Site was dry. No samples taken.

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: Smuggler's Gulch -SMGGLCH	**Date (MM/DD/YYYY):** 01/12/2021	**Time:** 08:45
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs: 4	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (D2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – D2 - SMGGLCH - 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☒ N/A
Flow Source is Stormwater? ☐ Yes ☒ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time:

Odor	☒ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☒ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☒ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☒ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ **Field Blank** ☐ **Field Dup** ***(check all that apply)***
Grab Sample Time: 08:50

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	17.1		°C		
pH	7.92		pH		
Dissolved Oxygen	1.65		mg/L / ppm		
Specific Conductivity	2,223		µS/cm		
Turbidity	264.81		NTU		
Oxidation-reduction potential (ORP)			mV		
Flow	12		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Active flow into DW diversion area. Noticable white/milky color to water pool.

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: Goat Canyon - GOATCYN	**Date (MM/DD/YYYY):** 11/12/2021	**Time:** 9:10
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs: 3	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (D2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – D2 - GOATCYN **- 01**

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☒ N/A
Flow Source is Stormwater? ☐ Yes ☒ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No
Approx. Storm Start Time:

Odor ☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color ☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity ☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits ☒ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation ☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ **Field Blank** ☐ **Field Dup** ***(check all that apply)***
Grab Sample Time: 09:15

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	18.1		˚C		
pH	8.09		pH		
Dissolved Oxygen	7.68		mg/L / ppm		
Specific Conductivity	2827		µS/cm		
Turbidity	302.17		NTU		
Oxidation-reduction potential (ORP)			mV		
Flow	8		cfs / ~~gpm~~		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Active flow into DW diversion area. Sewage + nutrient smell in super turbid water.

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: Yogurt Canyon - YGTCYN	Date (MM/DD/YYYY): 11/12/2021	Time: 09:50
Jurisdiction:	HU:	
Latitude:	Longitude:	
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No Number of Photographs: 4	
Signature: [signature]	Total Number of Bottles: 4	

Sample ID: *Monitoring year (2021) - Event # (D2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – D2 - YGTCYN - 01

Conveyance Type: ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☒ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☐N/A
Flow Source is Stormwater? ☐ Yes ☒ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time:

Odor ☒ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color ☒ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity ☐ Clear ☒ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables ☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☒ Algae ☐ Other:
Deposits ☒ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐Other:
Vegetation ☐ None ☐ Limited ☒ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ **Field Blank** ☐ **Field Dup** *(check all that apply)*
Grab Sample Time: 09:50

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	15.8		°C		
pH	7.50		pH		
Dissolved Oxygen	5.62		mg/L / ppm		
Specific Conductivity	6,254		µS/cm		
Turbidity	20.63		NTU		
Oxidation-reduction potential (ORP)			mV		
Flow	0		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Ponded. Algae growth with trash present.

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: Main river channel-TJ MAIN	Date (MM/DD/YYYY): 11/12/2021 — Time: 10:30
Jurisdiction:	HU:
Latitude:	Longitude:
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No
	Number of Photographs: 4
Signature: [signature]	Total Number of Bottles: 4

Sample ID: *Monitoring year (2021) - Event # (D2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – D2 - TJ MAIN - 01

Conveyance Type: ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☒ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☒ No ☐ N/A
Flow Source is Stormwater? ☐ Yes ☒ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time:

Odor ☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color ☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity ☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables ☐ None ☒ Trash ☐ Bubbles/Foam ☒ Sheen ☐ Algae ☐ Other:
Deposits ☐ None ☒ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation ☐ None ☐ Limited ☒ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*
Grab Sample Time: 10:30

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	23.4		˚C		
pH	8.05		pH		
Dissolved Oxygen	5.74		mg/L / ppm		
Specific Conductivity	3.599		mS/cm		
Turbidity	33.26		NTU		
Oxidation-reduction potential (ORP)			mV		
Flow	0		cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Ponded water just downstream of transition from concrete to natural channel.

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: TJ MAIN	**Date (MM/DD/YYYY):** 12/14/2021	**Time:** 15:00

Jurisdiction:	**HU:**
Latitude:	**Longitude:**
Staff: DC SB	**Photographs Taken:** ☒ Yes ☐ No
	Number of Photographs:
Signature: [signature]	**Total Number of Bottles:** 4

Sample ID: *Monitoring year (2021) - Event # (W2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – W2 - TJ MAIN - 01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☒ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 10:30

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☒ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*
Grab Sample Time: 15:00

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	15.8		°C		
pH	9.23		pH		
Dissolved Oxygen	7.02		mg/L / ppm		
Specific Conductivity	238.2		µS/cm		
Turbidity	>1000		NTU		over range
Oxidation-reduction potential (ORP)	59.6		mV		
Flow	750		cfs / gpm		Visual estimate

Visual Estimation of Flow (choose one method)	**Channel**	**Pipe**	**Bottle Fill**	**Leaf float**	**Estimated/Calculated Flow Rate**
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: YGT CYN	Date (MM/DD/YYYY): 12/14/2021	Time: 14:00
Jurisdiction:	HU:	
Latitude:	Longitude:	
Staff: DC SB	Photographs Taken: ☒ Yes ☐ No	
	Number of Photographs:	
Signature: [signature]	Total Number of Bottles: 4	

Sample ID: *Monitoring year (2021) - Event # (W2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – W2 - YGTCYN - 01

Conveyance Type: ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☒ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 10:30

Odor	☒ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☒ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☒ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☒ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☒ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☐ None ☐ Limited ☒ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*
Grab Sample Time: 14:00

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	15.4		°C		
pH	9.15		pH		
Dissolved Oxygen	~~[illegible]~~ 6.75		mg/L / ppm		
Specific Conductivity	241.4		µS/cm		
Turbidity	> 1000		NTU		Overrange
Oxidation-reduction potential (ORP)	-80.9		mV		
Flow	40		cfs / gpm		Visual estimate

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ___ ft Length ___ ft Depth ___ ft Velocity ___ ft/sec	Diameter ___ ft Depth ___ ft Velocity ___ ft/sec	Volume ___ ml Time to Fill ___ sec	Distance ___ ft Time ___ sec	___ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: GOAT CYN	**Date (MM/DD/YYYY):** 12/14/2021	**Time:** 14:25
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC SB	**Photographs Taken:** [x] Yes ☐ No	
	Number of Photographs:	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (W2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – W2 - GOATCYN **- 01**

Conveyance Type: ☐ Concrete Channel [x] Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None [x] Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: [x] Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? [x] Yes ☐ No ☐ N/A
Flow Source is Stormwater? [x] Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes [x] No
Approx. Storm Start Time: 10:30

Odor	☐ None ☐ Sulfides [x] Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow [x] Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) [x] Murky (<4" visibility)
Floatables	☐ None [x] Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None [x] Coarse Particulate [x] Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	[x] None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: [x] **Grab** ☐ **Field Blank** ☐ **Field Dup** *(check all that apply)*
Grab Sample Time: 14:25

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	14.5		˚C		
pH	9.36		pH		
Dissolved Oxygen	7.88		mg/L / ppm		
Specific Conductivity	686		µS/cm		
Turbidity	>1000		NTU		Overrange
Oxidation-reduction potential (ORP)	40.4		mV		
Flow	350		cfs / gpm		Visual estimate

Visual Estimation of Flow (choose one method)	**Channel**	**Pipe**	**Bottle Fill**	**Leaf float**	**Estimated/Calculated Flow Rate**
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: SMG GLCH	**Date (MM/DD/YYYY):** 12/14/2021	**Time:** 13:10
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC SB	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs:	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (W2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – W2 - SMG GLCH **-** 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☒ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 10:30

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☒ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☒ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☐ None ☐ Limited ☒ Normal ☐ Excessive

Type of Sample: ☒ **Grab** ☐ **Field Blank** ☐ **Field Dup** ***(check all that apply)***
Grab Sample Time: 13:10

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	15.9		°C		
pH	8.77		pH		
Dissolved Oxygen	6.17		mg/L / ppm		
Specific Conductivity	586		µS/cm		
Turbidity	>1000		NTU		Overrange
Oxidation-reduction potential (ORP)	-56.9		mV		
Flow	175		cfs / gpm		Visual Estimate

Visual Estimation of Flow (choose one method)	**Channel**	**Pipe**	**Bottle Fill**	**Leaf float**	**Estimated/Calculated Flow Rate**
	Width ____ ft Length ____ ft Depth 1 ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Strong manure smell.

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: CYNSOL	Date (MM/DD/YYYY): 12/14/2021 — Time: 12:00
Jurisdiction:	HU:
Latitude:	Longitude:
Staff: DC SB	Photographs Taken: ☒ Yes ☐ No
	Number of Photographs:
Signature: [signature]	Total Number of Bottles: 4

Sample ID: *Monitoring year (2021) - Event # (W2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – W2 - CYNSOL - 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☒ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☒ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 10:30

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☒ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*

Grab Sample Time: 12:00

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	16.1		°C		
pH	8.97		pH		
Dissolved Oxygen	6.35		mg/L / ppm		
Specific Conductivity	569		µS/cm		
Turbidity	447		NTU		
Oxidation-reduction potential (ORP)	38.7		mV		
Flow			cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width 3 ft	Diameter ____ ft	Volume ____ ml	Distance ____ ft	____ ☐ cfs ☐ gpm ☐ gpd
	Length ____ ft	Depth ____ ft			
	Depth 0.2 ft				
	Velocity 1.2 ft/sec	Velocity ____ ft/sec	Time to Fill ____ sec	Time ____ sec	

Other observations/notes:

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: SILVDR	**Date (MM/DD/YYYY):** 12/14/2021	**Time:** 11:35
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC SB	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs:	
Signature: [signature]	**Total Number of Bottles:** 4	

Sample ID: *Monitoring year (2021) - Event # (W2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – W2 - SILVDR - 01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☒ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 10:30

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*
Grab Sample Time: 11:35

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	16.7		°C		
pH	8.63		pH		
Dissolved Oxygen	6.38		mg/L / ppm		
Specific Conductivity	401.6		µS/cm		
Turbidity	665		NTU		
Oxidation-reduction potential (ORP)	3.5		mV		
Flow	5		cfs / gpm		Visual estimate

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Pipe blocked by trash, flow coming into DW diversion area through wall slats. overtops DW diversion area and reaches RW.

FIB Sampling: Sediment Management Monitoring – Tijuana River Watershed

Site ID: STEWDR	**Date (MM/DD/YYYY):** 12/14/2021 **Time:** 11:10
Jurisdiction:	**HU:**
Latitude:	**Longitude:**
Staff: DC SB	**Photographs Taken:** ☒ Yes ☐ No
	Number of Photographs: 3
Signature: [signature]	**Total Number of Bottles:** 4

Sample ID: *Monitoring year (2021) - Event # (W2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – W2 - STEWDR -01

Conveyance Type: ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☒ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☒ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☒ Yes ☐ No ☐ N/A
Flow Source is Stormwater? ☒ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☒ No
Approx. Storm Start Time: 10:30

Odor	☐ None ☐ Sulfides ☒ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☒ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☒ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☒ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☒ Oil ☐ Other:
Vegetation	☒ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☒ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*
Grab Sample Time: 11:10

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature	16.7		°C		
pH	7.98		pH		
Dissolved Oxygen	4.37		mg/L / ppm		
Specific Conductivity	833		µS/cm		
Turbidity	746		NTU		
Oxidation-reduction potential (ORP)	76.0		mV		
Flow			cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width 2 ft Length ____ ft Depth 0.5 ft Velocity 6 ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

ATTACHMENT C

Laboratory Reports for Water Quality Characterization Monitoring

EnviroMatrix Analytical, Inc.

30 March 2021

Wood Environment & Infrastructure Solutions, Inc.
Attn: Sarah Seifert
9177 Sky Park Court
San Diego, CA 92123

EMA Log #: 21C0488

Project: Dudek TJ Sedi Mgmt Plan Monitoring/5025210002

Enclosed are the results of analyses for samples received by the laboratory on 03/10/21 14:00. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Leland S. Pitt
Laboratory Director

CA ELAP Certification #: 2564

PLEASE NOTE OUR NEW LOCATION:

9590 Chesapeake Dr. - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	EMA Log #: 21C0488
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2021-W1-YGTCYN-01	21C0488-01	Stormwater	03/10/21 11:29	03/10/21 14:00
2021-W1-GOATCYN-01	21C0488-02	Stormwater	03/10/21 11:56	03/10/21 14:00
2021-W1-SMGGLCH-01	21C0488-03	Stormwater	03/10/21 12:45	03/10/21 14:00
2021-W1-CYNSOL-01	21C0488-04	Stormwater	03/10/21 10:52	03/10/21 14:00
2021-W1-STEWDR-01	21C0488-05	Stormwater	03/10/21 10:30	03/10/21 14:00
2021-W1-SILVDR-01	21C0488-06	Stormwater	03/10/21 09:54	03/10/21 14:00
2021-W1-SMGGLCH-02	21C0488-07	Stormwater	03/10/21 12:45	03/10/21 14:00
2021-W1-SMGGLCH-03	21C0488-08	Stormwater	03/10/21 12:45	03/10/21 14:00
2021-W1-YGTCYN-01	21C0488-09	Stormwater	03/10/21 11:29	03/10/21 14:00
2021-W1-GOATCYN-01	21C0488-10	Stormwater	03/10/21 11:56	03/10/21 14:00
2021-W1-SMGGLCH-01	21C0488-11	Stormwater	03/10/21 12:45	03/10/21 14:00
2021-W1-CYNSOL-01	21C0488-12	Stormwater	03/10/21 10:52	03/10/21 14:00
2021-W1-STEWDR-01	21C0488-13	Stormwater	03/10/21 10:30	03/10/21 14:00
2021-W1-SILVDR-01	21C0488-14	Stormwater	03/10/21 09:54	03/10/21 14:00
2021-W1-SMGGLCH-02	21C0488-15	Stormwater	03/10/21 12:45	03/10/21 14:00
2021-W1-SMGGLCH-03	21C0488-16	Stormwater	03/10/21 12:45	03/10/21 14:00
2021-W1-YGTCYN-01	21C0488-17	Stormwater	03/10/21 11:29	03/10/21 14:00
2021-W1-GOATCYN-01	21C0488-18	Stormwater	03/10/21 11:56	03/10/21 14:00
2021-W1-SMGGLCH-01	21C0488-19	Stormwater	03/10/21 12:45	03/10/21 14:00
2021-W1-CYNSOL-01	21C0488-20	Stormwater	03/10/21 10:52	03/10/21 14:00
2021-W1-STEWDR-01	21C0488-21	Stormwater	03/10/21 10:30	03/10/21 14:00
2021-W1-SILVDR-01	21C0488-22	Stormwater	03/10/21 09:54	03/10/21 14:00
2021-W1-SMGGLCH-02	21C0488-23	Stormwater	03/10/21 12:45	03/10/21 14:00
2021-W1-SMGGLCH-03	21C0488-24	Stormwater	03/10/21 12:45	03/10/21 14:00

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21C0488**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-W1-YGTCYN-01 (21C0488-09) Stormwater Sampled: 03/10/21 11:29 Received: 03/10/21 14:00										
Carbonaceous BOD	ND	20.0	20.0	mg/l	10	CC	1032603	03/11/21 08:04 03/16/21 12:50	SM5210 B	
2021-W1-GOATCYN-01 (21C0488-10) Stormwater Sampled: 03/10/21 11:56 Received: 03/10/21 14:00										
Carbonaceous BOD	**49.2**	2.00	2.00	mg/l	1	CC	1032603	03/11/21 08:07 03/16/21 12:53	SM5210 B	A-12
2021-W1-SMGGLCH-01 (21C0488-11) Stormwater Sampled: 03/10/21 12:45 Received: 03/10/21 14:00										
Carbonaceous BOD	**42.7**	2.00	2.00	mg/l	1	CC	1032603	03/11/21 08:10 03/16/21 12:56	SM5210 B	A-12
2021-W1-CYNSOL-01 (21C0488-12) Stormwater Sampled: 03/10/21 10:52 Received: 03/10/21 14:00										
Carbonaceous BOD	**230**	200	200	mg/l	100	CC	1032603	03/11/21 08:11 03/16/21 12:57	SM5210 B	
2021-W1-STEWDR-01 (21C0488-13) Stormwater Sampled: 03/10/21 10:30 Received: 03/10/21 14:00										
Carbonaceous BOD	**220**	200	200	mg/l	100	CC	1032603	03/11/21 08:14 03/16/21 13:00	SM5210 B	
2021-W1-SILVDR-01 (21C0488-14) Stormwater Sampled: 03/10/21 09:54 Received: 03/10/21 14:00										
Carbonaceous BOD	**25.0**	2.00	2.00	mg/l	1	CC	1032603	03/11/21 08:19 03/16/21 13:05	SM5210 B	A-12
2021-W1-SMGGLCH-02 (21C0488-15) Stormwater Sampled: 03/10/21 12:45 Received: 03/10/21 14:00										
Carbonaceous BOD	**38.2**	2.00	2.00	mg/l	1	CC	1032603	03/11/21 08:22 03/16/21 13:08	SM5210 B	A-12
2021-W1-SMGGLCH-03 (21C0488-16) Stormwater Sampled: 03/10/21 12:45 Received: 03/10/21 14:00										
Carbonaceous BOD	**11.5**	2.00	2.00	mg/l	1	CC	1032603	03/11/21 08:25 03/16/21 13:11	SM5210 B	A-12, B-01
2021-W1-YGTCYN-01 (21C0488-17) Stormwater Sampled: 03/10/21 11:29 Received: 03/10/21 14:00										
Total Suspended Solids	**28.0**	1.0	20.0	mg/l	1	NP	1031747	03/11/21 14:56 03/19/21 13:52	SM2540 D	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	EMA Log #: 21C0488
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-W1-GOATCYN-01 (21C0488-18) Stormwater Sampled: 03/10/21 11:56 Received: 03/10/21 14:00										
Total Suspended Solids	**3820**	1.0	20.0	mg/l	1	NP	1031747	03/11/21 14:56 03/19/21 13:52	SM2540 D	
2021-W1-SMGGLCH-01 (21C0488-19) Stormwater Sampled: 03/10/21 12:45 Received: 03/10/21 14:00										
Total Suspended Solids	**262**	1.0	20.0	mg/l	1	NP	1031747	03/11/21 14:56 03/19/21 13:52	SM2540 D	
2021-W1-CYNSOL-01 (21C0488-20) Stormwater Sampled: 03/10/21 10:52 Received: 03/10/21 14:00										
Total Suspended Solids	**204**	1.0	20.0	mg/l	1	NP	1031747	03/11/21 14:56 03/19/21 13:52	SM2540 D	
2021-W1-STEWDR-01 (21C0488-21) Stormwater Sampled: 03/10/21 10:30 Received: 03/10/21 14:00										
Total Suspended Solids	**1060**	1.0	20.0	mg/l	1	NP	1031747	03/11/21 14:56 03/19/21 13:52	SM2540 D	
2021-W1-SILVDR-01 (21C0488-22) Stormwater Sampled: 03/10/21 09:54 Received: 03/10/21 14:00										
Total Suspended Solids	**128**	1.0	20.0	mg/l	1	NP	1031747	03/11/21 14:56 03/19/21 13:52	SM2540 D	
2021-W1-SMGGLCH-02 (21C0488-23) Stormwater Sampled: 03/10/21 12:45 Received: 03/10/21 14:00										
Total Suspended Solids	**272**	1.0	20.0	mg/l	1	NP	1031747	03/11/21 14:56 03/19/21 13:52	SM2540 D	
2021-W1-SMGGLCH-03 (21C0488-24) Stormwater Sampled: 03/10/21 12:45 Received: 03/10/21 14:00										
Total Suspended Solids	ND	1.0	20.0	mg/l	1	NP	1031747	03/11/21 14:56 03/19/21 13:52	SM2540 D	

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-W1-YGTCYN-01 (21C0488-01) Stormwater Sampled: 03/10/21 11:29 Received: 03/10/21 14:00										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	CC	1031584	03/10/21 17:18 03/13/21 15:00	SM 9221 E	A-07
Total Coliforms	**1410000**	1000	1000	"	"	JE	1031582	03/10/21 17:18 03/11/21 17:00	SM9223	
E. Coli	**39900**	1000	1000	"	"	JE	"	03/10/21 17:18 03/11/21 17:00	"	
Enterococcus	**34500**	100	100	"	100	JE	1031583	03/10/21 17:18 03/11/21 17:00	Idexx	
2021-W1-GOATCYN-01 (21C0488-02) Stormwater Sampled: 03/10/21 11:56 Received: 03/10/21 14:00										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	CC	1031584	03/10/21 17:18 03/13/21 15:00	SM 9221 E	A-07
Total Coliforms	**2420000**	1000	1000	"	"	JE	1031582	03/10/21 17:18 03/11/21 17:00	SM9223	A-01
E. Coli	**2420000**	1000	1000	"	"	JE	"	03/10/21 17:18 03/11/21 17:00	"	A-01
Enterococcus	**1550000**	1000	1000	"	"	JE	1031583	03/10/21 17:18 03/11/21 17:00	Idexx	
2021-W1-SMGGLCH-01 (21C0488-03) Stormwater Sampled: 03/10/21 12:45 Received: 03/10/21 14:00										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	CC	1031584	03/10/21 17:18 03/13/21 15:00	SM 9221 E	
Total Coliforms	**2420000**	1000	1000	"	"	JE	1031582	03/10/21 17:18 03/11/21 17:00	SM9223	A-01
E. Coli	**2420000**	1000	1000	"	"	JE	"	03/10/21 17:18 03/11/21 17:00	"	A-01
Enterococcus	**1200000**	1000	1000	"	"	JE	1031583	03/10/21 17:18 03/11/21 17:00	Idexx	
2021-W1-CYNSOL-01 (21C0488-04) Stormwater Sampled: 03/10/21 10:52 Received: 03/10/21 14:00										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	CC	1031584	03/10/21 17:18 03/13/21 15:00	SM 9221 E	A-07
Total Coliforms	**2420000**	1000	1000	"	"	JE	1031582	03/10/21 17:18 03/11/21 17:00	SM9223	A-01
E. Coli	**2420000**	1000	1000	"	"	JE	"	03/10/21 17:18 03/11/21 17:00	"	A-01
Enterococcus	**1730000**	1000	1000	"	"	JE	1031583	03/10/21 17:18 03/11/21 17:00	Idexx	
2021-W1-STEWDR-01 (21C0488-05) Stormwater Sampled: 03/10/21 10:30 Received: 03/10/21 14:00										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	CC	1031584	03/10/21 17:18 03/13/21 15:00	SM 9221 E	A-07

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	EMA Log #: 21C0488
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared / Sample Analyzed	Method	Notes
2021-W1-STEWDR-01 (21C0488-05) Stormwater Sampled: 03/10/21 10:30 Received: 03/10/21 14:00										
Total Coliforms	**2420000**	1000	1000	MPN/100 ml	1000	JE	1031582	03/10/21 17:18 03/11/21 17:00	SM9223	A-01
E. Coli	**2420000**	1000	1000	"	"	JE	"	03/10/21 17:18 03/11/21 17:00	"	A-01
Enterococcus	**1990000**	1000	1000	"	"	JE	1031583	03/10/21 17:18 03/11/21 17:00	Idexx	
2021-W1-SILVDR-01 (21C0488-06) Stormwater Sampled: 03/10/21 09:54 Received: 03/10/21 14:00										
Fecal Coliforms	**300000**	2000	2000	MPN/100 ml	1000	CC	1031584	03/10/21 17:18 03/13/21 15:00	SM 9221 E	
Total Coliforms	**1550000**	1000	1000	"	"	JE	1031582	03/10/21 17:18 03/11/21 17:00	SM9223	
E. Coli	**88200**	1000	1000	"	"	JE	"	03/10/21 17:18 03/11/21 17:00	"	
Enterococcus	**214000**	1000	1000	"	"	JE	1031583	03/10/21 17:18 03/11/21 17:00	Idexx	
2021-W1-SMGGLCH-02 (21C0488-07) Stormwater Sampled: 03/10/21 12:45 Received: 03/10/21 14:00										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	CC	1031584	03/10/21 17:18 03/13/21 15:00	SM 9221 E	A-07
Total Coliforms	**2420000**	1000	1000	"	"	JE	1031582	03/10/21 17:18 03/11/21 17:00	SM9223	A-01
E. Coli	**1730000**	1000	1000	"	"	JE	"	03/10/21 17:18 03/11/21 17:00	"	
Enterococcus	**98400**	1000	1000	"	"	JE	1031583	03/10/21 17:18 03/11/21 17:00	Idexx	
2021-W1-SMGGLCH-03 (21C0488-08) Stormwater Sampled: 03/10/21 12:45 Received: 03/10/21 14:00										
Fecal Coliforms	ND	200	200	MPN/100 ml	100	JE	1031584	03/10/21 17:18 03/12/21 16:22	SM 9221 E	
Total Coliforms	ND	100	100	"	"	JE	1031582	03/10/21 17:18 03/11/21 17:00	SM9223	
E. Coli	ND	100	100	"	"	JE	"	03/10/21 17:18 03/11/21 17:00	"	
Enterococcus	ND	100	100	"	"	JE	1031583	03/10/21 17:18 03/11/21 17:00	Idexx	

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1031747												
Blank (1031747-BLK1)					Prepared: 03/11/21 Analyzed: 03/19/21							
Total Suspended Solids	ND	1.0	20.0	mg/l	NP							
Duplicate (1031747-DUP1)		**Source: 21C0488-24**			Prepared: 03/11/21 Analyzed: 03/19/21							
Total Suspended Solids	ND	1.0	20.0	mg/l	NP		ND				20	
Reference (1031747-SRM1)					Prepared: 03/11/21 Analyzed: 03/19/21							
Total Suspended Solids	104	1.0	20.0	mg/l	NP	100		104	77.1-110			
Batch 1032603												
Duplicate (1032603-DUP1)		**Source: 21C0488-16**			Prepared: 03/11/21 Analyzed: 03/16/21							
Carbonaceous BOD	12.2	2.00	2.00	mg/l	CC		11.5			7	20	
Reference (1032603-SRM1)					Prepared: 03/11/21 Analyzed: 03/16/21							
Carbonaceous BOD	214	2.00	2.00	mg/l	CC	198		108	84-115			

Notes and Definitions

B-01	The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/l dissolved oxygen depletion. Therefore the reported result is an estimated value only.
A-12	The result is an average from diluted samples that meet the criteria for reporting.
A-07	>1600000
A-01	>2420000
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

EnviroMatrix Analytical, Inc.

30 March 2021

Wood Environment & Infrastructure Solutions, Inc.
Attn: Sarah Seifert
9177 Sky Park Court
San Diego, CA 92123

EMA Log #: 21C0499

Project: Dudek TJ Sedi Mgmt Plan Monitoring/5025210002

Enclosed are the results of analyses for samples received by the laboratory on 03/10/21 15:55. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Leland S. Pitt
Laboratory Director

CA ELAP Certification #: 2564

PLEASE NOTE OUR NEW LOCATION:

9590 Chesapeake Dr. - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21C0499**
Project Name: Dudek TJ Sedi Mgmt Plan Monitoring	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2021-W1-TJMAIN-01	21C0499-01	Stormwater	03/10/21 15:15	03/10/21 15:55
2021-W1-TJMAIN-01	21C0499-02	Stormwater	03/10/21 15:15	03/10/21 15:55
2021-W1-TJMAIN-01	21C0499-03	Stormwater	03/10/21 15:15	03/10/21 15:55

Client Name:	Wood Environment & Infrastructure Solutions, Inc.		**EMA Log #: 21C0499**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring		

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-W1-TJMAIN-01 (21C0499-02) Stormwater Sampled: 03/10/21 15:15 Received: 03/10/21 15:55										
Carbonaceous BOD	**49.1**	2.00	2.00	mg/l	1	CC	1032603	03/11/21 08:28 03/16/21 13:14	SM5210 B	A-12
2021-W1-TJMAIN-01 (21C0499-03) Stormwater Sampled: 03/10/21 15:15 Received: 03/10/21 15:55										
Total Suspended Solids	**832**	1.0	20.0	mg/l	1	NP	1031747	03/11/21 14:56 03/19/21 13:52	SM2540 D	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21C0499**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-W1-TJMAIN-01 (21C0499-01) Stormwater Sampled: 03/10/21 15:15 Received: 03/10/21 15:55										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	CC	1031584	03/10/21 17:18 03/13/21 15:00	SM 9221 E	
Total Coliforms	**2420000**	1000	1000	"	"	JE	1031582	03/10/21 17:18 03/11/21 17:00	SM9223	A-01
E. Coli	**1990000**	1000	1000	"	"	JE	"	03/10/21 17:18 03/11/21 17:00	"	
Enterococcus	**613000**	1000	1000	"	"	JE	1031583	03/10/21 17:18 03/11/21 17:00	Idexx	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21C0499**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1031747												
Blank (1031747-BLK1)					Prepared: 03/11/21 Analyzed: 03/19/21							
Total Suspended Solids	ND	1.0	20.0	mg/l	NP							
Duplicate (1031747-DUP1)	**Source: 21C0488-24**				Prepared: 03/11/21 Analyzed: 03/19/21							
Total Suspended Solids	ND	1.0	20.0	mg/l	NP		ND				20	
Reference (1031747-SRM1)					Prepared: 03/11/21 Analyzed: 03/19/21							
Total Suspended Solids	104	1.0	20.0	mg/l	NP	100		104	77.1-110			
Batch 1032603												
Duplicate (1032603-DUP1)	**Source: 21C0488-16**				Prepared: 03/11/21 Analyzed: 03/16/21							
Carbonaceous BOD	12.2	2.00	2.00	mg/l	CC		11.5			7	20	
Reference (1032603-SRM1)					Prepared: 03/11/21 Analyzed: 03/16/21							
Carbonaceous BOD	214	2.00	2.00	mg/l	CC	198		108	84-115			

Notes and Definitions

A-12	The result is an average from diluted samples that meet the criteria for reporting.
A-01	>2420000
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

EnviroMatrix Analytical, Inc.

01 July 2021

Wood Environment & Infrastructure Solutions, Inc. **EMA Log #: 21F0744**

Attn: Sarah Seifert

9177 Sky Park Court

San Diego, CA 92123

Project: Dudek TJ Sedi Mgmt Plan Monitoring/5025210002

Enclosed are the results of analyses for samples received by the laboratory on 06/23/21 13:00. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Leland S. Pitt

Laboratory Director

CA ELAP Certification #: 2564

PLEASE NOTE OUR NEW LOCATION:

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21F0744**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2021-D1-TJMAIN-01	21F0744-01	Stormwater	06/23/21 08:00	06/23/21 13:00
2021-D1-YGTCYN-01	21F0744-02	Stormwater	06/23/21 11:20	06/23/21 13:00
2021-D1-GOATCYN-01	21F0744-03	Stormwater	06/23/21 12:00	06/23/21 13:00
2021-D1-SMGGLCH-01	21F0744-04	Stormwater	06/23/21 10:15	06/23/21 13:00
2021-D1-CYNSOL-01	21F0744-05	Stormwater	06/23/21 09:45	06/23/21 13:00
2021-D1-STEWDR-01	21F0744-06	Stormwater	06/23/21 08:40	06/23/21 13:00
2021-D1-SILVDR-01	21F0744-07	Stormwater	06/23/21 09:15	06/23/21 13:00
2021-D1-YGTCYN-02	21F0744-08	Stormwater	06/23/21 11:25	06/23/21 13:00
2021-D1-YGTCYN-03	21F0744-09	Stormwater	06/23/21 11:30	06/23/21 13:00
2021-D1-TJMAIN-01	21F0744-10	Stormwater	06/23/21 08:00	06/23/21 13:00
2021-D1-YGTCYN-01	21F0744-11	Stormwater	06/23/21 11:20	06/23/21 13:00
2021-D1-GOATCYN-01	21F0744-12	Stormwater	06/23/21 12:00	06/23/21 13:00
2021-D1-SMGGLCH-01	21F0744-13	Stormwater	06/23/21 10:15	06/23/21 13:00
2021-D1-CYNSOL-01	21F0744-14	Stormwater	06/23/21 09:45	06/23/21 13:00
2021-D1-STEWDR-01	21F0744-15	Stormwater	06/23/21 08:40	06/23/21 13:00
2021-D1-SILVDR-01	21F0744-16	Stormwater	06/23/21 09:15	06/23/21 13:00
2021-D1-YGTCYN-02	21F0744-17	Stormwater	06/23/21 11:25	06/23/21 13:00
2021-D1-YGTCYN-03	21F0744-18	Stormwater	06/23/21 11:30	06/23/21 13:00
2021-D1-TJMAIN-01	21F0744-19	Stormwater	06/23/21 08:00	06/23/21 13:00
2021-D1-YGTCYN-01	21F0744-20	Stormwater	06/23/21 11:20	06/23/21 13:00
2021-D1-GOATCYN-01	21F0744-21	Stormwater	06/23/21 12:00	06/23/21 13:00
2021-D1-SMGGLCH-01	21F0744-22	Stormwater	06/23/21 10:15	06/23/21 13:00
2021-D1-CYNSOL-01	21F0744-23	Stormwater	06/23/21 09:45	06/23/21 13:00
2021-D1-STEWDR-01	21F0744-24	Stormwater	06/23/21 08:40	06/23/21 13:00
2021-D1-SILVDR-01	21F0744-25	Stormwater	06/23/21 09:15	06/23/21 13:00
2021-D1-YGTCYN-02	21F0744-26	Stormwater	06/23/21 11:25	06/23/21 13:00
2021-D1-YGTCYN-03	21F0744-27	Stormwater	06/23/21 11:30	06/23/21 13:00

Client Name:	Wood Environment & Infrastructure Solutions, Inc.
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring

EMA Log #: 21F0744

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-D1-TJMAIN-01 (21F0744-10) Stormwater Sampled: 06/23/21 08:00 Received: 06/23/21 13:00										
Total Suspended Solids	**22.0**	1.0	20.0	mg/l	1	NP	1062529	06/25/21 16:35 06/29/21 19:07	SM2540 D	
2021-D1-YGTCYN-01 (21F0744-11) Stormwater Sampled: 06/23/21 11:20 Received: 06/23/21 13:00										
Total Suspended Solids	**148**	1.0	20.0	mg/l	1	NP	1062529	06/25/21 16:35 06/29/21 19:07	SM2540 D	
2021-D1-GOATCYN-01 (21F0744-12) Stormwater Sampled: 06/23/21 12:00 Received: 06/23/21 13:00										
Total Suspended Solids	**11500**	1.0	20.0	mg/l	1	NP	1062529	06/25/21 16:35 06/29/21 19:07	SM2540 D	
2021-D1-SMGGLCH-01 (21F0744-13) Stormwater Sampled: 06/23/21 10:15 Received: 06/23/21 13:00										
Total Suspended Solids	**199**	1.0	20.0	mg/l	1	NP	1062529	06/25/21 16:35 06/29/21 19:07	SM2540 D	
2021-D1-CYNSOL-01 (21F0744-14) Stormwater Sampled: 06/23/21 09:45 Received: 06/23/21 13:00										
Total Suspended Solids	**2700**	1.0	20.0	mg/l	1	NP	1062529	06/25/21 16:35 06/29/21 19:07	SM2540 D	
2021-D1-STEWDR-01 (21F0744-15) Stormwater Sampled: 06/23/21 08:40 Received: 06/23/21 13:00										
Total Suspended Solids	**272**	1.0	20.0	mg/l	1	NP	1062529	06/25/21 16:35 06/29/21 19:07	SM2540 D	
2021-D1-SILVDR-01 (21F0744-16) Stormwater Sampled: 06/23/21 09:15 Received: 06/23/21 13:00										
Total Suspended Solids	**160**	1.0	20.0	mg/l	1	NP	1062529	06/25/21 16:35 06/29/21 19:07	SM2540 D	
2021-D1-YGTCYN-02 (21F0744-17) Stormwater Sampled: 06/23/21 11:25 Received: 06/23/21 13:00										
Total Suspended Solids	**154**	1.0	20.0	mg/l	1	NP	1062529	06/25/21 16:35 06/29/21 19:07	SM2540 D	
2021-D1-YGTCYN-03 (21F0744-18) Stormwater Sampled: 06/23/21 11:30 Received: 06/23/21 13:00										
Total Suspended Solids	ND	1.0	20.0	mg/l	1	NP	1062529	06/25/21 16:35 06/29/21 19:07	SM2540 D	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21F0744**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-D1-TJMAIN-01 (21F0744-19) Stormwater Sampled: 06/23/21 08:00 Received: 06/23/21 13:00										
Carbonaceous BOD	**43.6**	2.00	2.00	mg/l	1	AZ	1062443	06/23/21 14:11 06/28/21 10:48	SM5210 B	A-12
2021-D1-YGTCYN-01 (21F0744-20) Stormwater Sampled: 06/23/21 11:20 Received: 06/23/21 13:00										
Carbonaceous BOD	**52.4**	2.00	2.00	mg/l	1	AZ	1062443	06/23/21 14:14 06/28/21 10:51	SM5210 B	A-12
2021-D1-GOATCYN-01 (21F0744-21) Stormwater Sampled: 06/23/21 12:00 Received: 06/23/21 13:00										
Carbonaceous BOD	**128**	2.00	2.00	mg/l	1	AZ	1062443	06/23/21 14:16 06/28/21 10:53	SM5210 B	A-12
2021-D1-SMGGLCH-01 (21F0744-22) Stormwater Sampled: 06/23/21 10:15 Received: 06/23/21 13:00										
Carbonaceous BOD	**57.8**	2.00	2.00	mg/l	1	AZ	1062443	06/23/21 14:18 06/28/21 10:57	SM5210 B	A-12
2021-D1-CYNSOL-01 (21F0744-23) Stormwater Sampled: 06/23/21 09:45 Received: 06/23/21 13:00										
Carbonaceous BOD	**455**	200	200	mg/l	100	AZ	1062443	06/23/21 14:19 06/28/21 10:58	SM5210 B	
2021-D1-STEWDR-01 (21F0744-24) Stormwater Sampled: 06/23/21 08:40 Received: 06/23/21 13:00										
Carbonaceous BOD	**119**	40.0	40.0	mg/l	20	AZ	1062443	06/23/21 14:23 06/28/21 11:02	SM5210 B	
2021-D1-SILVDR-01 (21F0744-25) Stormwater Sampled: 06/23/21 09:15 Received: 06/23/21 13:00										
Carbonaceous BOD	**76.0**	40.0	40.0	mg/l	20	AZ	1062443	06/23/21 14:26 06/28/21 11:05	SM5210 B	
2021-D1-YGTCYN-02 (21F0744-26) Stormwater Sampled: 06/23/21 11:25 Received: 06/23/21 13:00										
Carbonaceous BOD	**37.4**	20.0	20.0	mg/l	10	AZ	1062443	06/23/21 14:30 06/28/21 11:09	SM5210 B	
2021-D1-YGTCYN-03 (21F0744-27) Stormwater Sampled: 06/23/21 11:30 Received: 06/23/21 13:00										
Carbonaceous BOD	ND	2.00	2.00	mg/l	1	AZ	1062443	06/23/21 14:36 06/28/21 11:15	SM5210 B	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21F0744**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-D1-TJMAIN-01 (21F0744-01) Stormwater Sampled: 06/23/21 08:00 Received: 06/23/21 13:00										
Fecal Coliforms	**800**	200	200	MPN/100 ml	100	AL	1062365	06/23/21 14:41 06/26/21 11:41	SM 9221 E	
Total Coliforms	**2420000**	1000	1000	"	1000	AZ	1062367	06/23/21 14:41 06/24/21 15:05	SM9223	
E. Coli	ND	1000	1000	"	"	AZ	"	06/23/21 14:41 06/24/21 15:05	"	
Enterococcus	**2380**	100	100	"	100	AZ	1062366	06/23/21 14:41 06/24/21 15:08	Idexx	
2021-D1-YGTCYN-01 (21F0744-02) Stormwater Sampled: 06/23/21 11:20 Received: 06/23/21 13:00										
Fecal Coliforms	**240000**	2000	2000	MPN/100 ml	1000	AL	1062365	06/23/21 14:41 06/26/21 11:41	SM 9221 E	
Total Coliforms	**1410000**	1000	1000	"	"	AZ	1062367	06/23/21 14:41 06/24/21 15:05	SM9223	
E. Coli	**435000**	1000	1000	"	"	AZ	"	06/23/21 14:41 06/24/21 15:05	"	
Enterococcus	**155000**	100	100	"	100	AZ	1062366	06/23/21 14:41 06/24/21 15:08	Idexx	
2021-D1-GOATCYN-01 (21F0744-03) Stormwater Sampled: 06/23/21 12:00 Received: 06/23/21 13:00										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AL	1062365	06/23/21 14:41 06/26/21 11:41	SM 9221 E	
Total Coliforms	**2420000**	1000	1000	"	"	AZ	1062367	06/23/21 14:41 06/24/21 15:05	SM9223	A-01
E. Coli	**2420000**	1000	1000	"	"	AZ	"	06/23/21 14:41 06/24/21 15:05	"	A-01
Enterococcus	**2420000**	1000	1000	"	"	AZ	1062366	06/23/21 14:41 06/24/21 15:08	Idexx	
2021-D1-SMGGLCH-01 (21F0744-04) Stormwater Sampled: 06/23/21 10:15 Received: 06/23/21 13:00										
Fecal Coliforms	ND	2000	2000	MPN/100 ml	1000	AL	1062365	06/23/21 14:41 06/26/21 11:41	SM 9221 E	
Total Coliforms	**2420000**	1000	1000	"	"	AZ	1062367	06/23/21 14:41 06/24/21 15:05	SM9223	
E. Coli	**9600**	1000	1000	"	"	AZ	"	06/23/21 14:41 06/24/21 15:05	"	
Enterococcus	**75600**	100	100	"	100	AZ	1062366	06/23/21 14:41 06/24/21 15:08	Idexx	
2021-D1-CYNSOL-01 (21F0744-05) Stormwater Sampled: 06/23/21 09:45 Received: 06/23/21 13:00										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AL	1062365	06/23/21 14:41 06/26/21 11:41	SM 9221 E	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.		**EMA Log #: 21F0744**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring		

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-D1-CYNSOL-01 (21F0744-05) Stormwater Sampled: 06/23/21 09:45 Received: 06/23/21 13:00										
Total Coliforms	**2420000**	1000	1000	MPN/100 ml	1000	AZ	1062367	06/23/21 14:41 06/24/21 15:05	SM9223	A-01
E. Coli	**2420000**	1000	1000	"	"	AZ	"	06/23/21 14:41 06/24/21 15:05	"	A-01
Enterococcus	**2420000**	1000	1000	"	"	AZ	1062366	06/23/21 14:41 06/24/21 15:08	Idexx	A-01
2021-D1-STEWDR-01 (21F0744-06) Stormwater Sampled: 06/23/21 08:40 Received: 06/23/21 13:00										
Fecal Coliforms	**240000**	2000	2000	MPN/100 ml	1000	AL	1062365	06/23/21 14:41 06/26/21 11:41	SM 9221 E	
Total Coliforms	**866000**	1000	1000	"	"	AZ	1062367	06/23/21 14:41 06/24/21 15:05	SM9223	
E. Coli	**45700**	1000	1000	"	"	AZ	"	06/23/21 14:41 06/24/21 15:05	"	
Enterococcus	**225000**	1000	1000	"	"	AZ	1062366	06/23/21 14:41 06/24/21 15:08	Idexx	
2021-D1-SILVDR-01 (21F0744-07) Stormwater Sampled: 06/23/21 09:15 Received: 06/23/21 13:00										
Fecal Coliforms	**900000**	2000	2000	MPN/100 ml	1000	AL	1062365	06/23/21 14:41 06/26/21 11:41	SM 9221 E	
Total Coliforms	**2420000**	1000	1000	"	"	AZ	1062367	06/23/21 14:41 06/24/21 15:05	SM9223	A-01
E. Coli	**548000**	1000	1000	"	"	AZ	"	06/23/21 14:41 06/24/21 15:05	"	
Enterococcus	**866000**	1000	1000	"	"	AZ	1062366	06/23/21 14:41 06/24/21 15:08	Idexx	
2021-D1-YGTCYN-02 (21F0744-08) Stormwater Sampled: 06/23/21 11:25 Received: 06/23/21 13:00										
Fecal Coliforms	**300000**	2000	2000	MPN/100 ml	1000	AL	1062365	06/23/21 14:41 06/26/21 11:41	SM 9221 E	
Total Coliforms	**1200000**	1000	1000	"	"	AZ	1062367	06/23/21 14:41 06/24/21 15:05	SM9223	
E. Coli	**248000**	1000	1000	"	"	AZ	"	06/23/21 14:41 06/24/21 15:05	"	
Enterococcus	**173000**	100	100	"	100	AZ	1062366	06/23/21 14:41 06/24/21 15:08	Idexx	
2021-D1-YGTCYN-03 (21F0744-09) Stormwater Sampled: 06/23/21 11:30 Received: 06/23/21 13:00										
Fecal Coliforms	ND	200	200	MPN/100 ml	100	CC	1062365	06/23/21 14:41 06/25/21 12:41	SM 9221 E	
Total Coliforms	ND	100	100	"	"	AZ	1062367	06/23/21 14:41 06/24/21 15:05	SM9223	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21F0744**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-D1-YGTCYN-03 (21F0744-09) Stormwater Sampled: 06/23/21 11:30 Received: 06/23/21 13:00										
E. Coli	ND	100	100	MPN/100 ml	100	AZ	1062367	06/23/21 14:41 06/24/21 15:05	SM9223	
Enterococcus	ND	100	100	"	"	AZ	1062366	06/23/21 14:41 06/24/21 15:08	Idexx	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	EMA Log #: 21F0744
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1062443												
Duplicate (1062443-DUP1)		**Source: 21F0744-26**			Prepared: 06/23/21 Analyzed: 06/28/21							
Carbonaceous BOD	38.2	20.0	20.0	mg/l	AZ		37.4			2	20	
Reference (1062443-SRM1)					Prepared: 06/23/21 Analyzed: 06/28/21							
Carbonaceous BOD	178	100	100	mg/l	AZ	198		90	84-115			
Batch 1062529												
Blank (1062529-BLK1)					Prepared: 06/25/21 Analyzed: 06/29/21							
Total Suspended Solids	ND	1.0	20.0	mg/l	NP							
Duplicate (1062529-DUP1)		**Source: 21F0744-18**			Prepared: 06/25/21 Analyzed: 06/29/21							
Total Suspended Solids	ND	1.0	20.0	mg/l	NP		ND				20	
Reference (1062529-SRM1)					Prepared: 06/25/21 Analyzed: 06/29/21							
Total Suspended Solids	110	1.0	20.0	mg/l	NP	100		110	77.1-110			

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21F0744**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Notes and Definitions

A-12	The result is an average from diluted samples that meet the criteria for reporting.
A-01	>2420000
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

EnviroMatrix Analytical, Inc.

24 November 2021

Wood Environment & Infrastructure Solutions, Inc. **EMA Log #: 21K0427**
Attn: Sarah Seifert
9177 Sky Park Court
San Diego, CA 92123

Project: Dudek TJ Sedi Mgmt Plan Monitoring/5025210002

Enclosed are the results of analyses for samples received by the laboratory on 11/12/21 11:40. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Leland S. Pitt
Laboratory Director

CA ELAP Certification #: 2564

PLEASE NOTE OUR NEW LOCATION:

9590 Chesapeake Dr. - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21K0427**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2021-D2-TJMAIN-01	21K0427-01	Stormwater	11/12/21 10:30	11/12/21 11:40
2021-D2-YGTCYN-01	21K0427-02	Stormwater	11/12/21 09:50	11/12/21 11:40
2021-D2-GOATCYN-01	21K0427-03	Stormwater	11/12/21 09:15	11/12/21 11:40
2021-D2-SMGGLCH-01	21K0427-04	Stormwater	11/12/21 08:50	11/12/21 11:40
2021-D2-STEWDR-01	21K0427-05	Stormwater	11/12/21 07:35	11/12/21 11:40
2021-D2-SILVDR-01	21K0427-06	Stormwater	11/12/21 08:00	11/12/21 11:40
2021-D2-TJMAIN-01	21K0427-07	Stormwater	11/12/21 10:30	11/12/21 11:40
2021-D2-YGTCYN-01	21K0427-08	Stormwater	11/12/21 09:50	11/12/21 11:40
2021-D2-GOATCYN-01	21K0427-09	Stormwater	11/12/21 09:15	11/12/21 11:40
2021-D2-SMGGLCH-01	21K0427-10	Stormwater	11/12/21 08:50	11/12/21 11:40
2021-D2-STEWDR-01	21K0427-11	Stormwater	11/12/21 07:35	11/12/21 11:40
2021-D2-SILVDR-01	21K0427-12	Stormwater	11/12/21 08:00	11/12/21 11:40
2021-D2-TJMAIN-01	21K0427-13	Stormwater	11/12/21 10:30	11/12/21 11:40
2021-D2-YGTCYN-01	21K0427-14	Stormwater	11/12/21 09:50	11/12/21 11:40
2021-D2-GOATCYN-01	21K0427-15	Stormwater	11/12/21 09:15	11/12/21 11:40
2021-D2-SMGGLCH-01	21K0427-16	Stormwater	11/12/21 08:50	11/12/21 11:40
2021-D2-STEWDR-01	21K0427-17	Stormwater	11/12/21 07:35	11/12/21 11:40
2021-D2-SILVDR-01	21K0427-18	Stormwater	11/12/21 08:00	11/12/21 11:40

Client Name:	Wood Environment & Infrastructure Solutions, Inc.
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring

EMA Log #: 21K0427

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-D2-TJMAIN-01 (21K0427-07) Stormwater Sampled: 11/12/21 10:30 Received: 11/12/21 11:40										
Total Suspended Solids	**72.0**	1.0	20.0	mg/l	1	NP	1111831	11/18/21 09:42 11/24/21 15:13	SM2540 D	
2021-D2-YGTCYN-01 (21K0427-08) Stormwater Sampled: 11/12/21 09:50 Received: 11/12/21 11:40										
Total Suspended Solids	**24.0**	1.0	20.0	mg/l	1	NP	1111831	11/18/21 09:42 11/24/21 15:13	SM2540 D	
2021-D2-GOATCYN-01 (21K0427-09) Stormwater Sampled: 11/12/21 09:15 Received: 11/12/21 11:40										
Total Suspended Solids	**21600**	1.0	20.0	mg/l	1	NP	1111831	11/18/21 09:42 11/24/21 15:13	SM2540 D	
2021-D2-SMGGLCH-01 (21K0427-10) Stormwater Sampled: 11/12/21 08:50 Received: 11/12/21 11:40										
Total Suspended Solids	**66.0**	1.0	20.0	mg/l	1	NP	1111831	11/18/21 09:42 11/24/21 15:13	SM2540 D	
2021-D2-STEWDR-01 (21K0427-11) Stormwater Sampled: 11/12/21 07:35 Received: 11/12/21 11:40										
Total Suspended Solids	**6380**	1.0	20.0	mg/l	1	NP	1111642	11/16/21 08:49 11/24/21 10:58	SM2540 D	
2021-D2-SILVDR-01 (21K0427-12) Stormwater Sampled: 11/12/21 08:00 Received: 11/12/21 11:40										
Total Suspended Solids	**700**	1.0	20.0	mg/l	1	NP	1111642	11/16/21 08:49 11/24/21 10:58	SM2540 D	
2021-D2-TJMAIN-01 (21K0427-13) Stormwater Sampled: 11/12/21 10:30 Received: 11/12/21 11:40										
Carbonaceous BOD	ND	20.0	20.0	mg/l	10	CC	1111729	11/12/21 15:14 11/17/21 13:33	SM5210 B	B-01
2021-D2-YGTCYN-01 (21K0427-14) Stormwater Sampled: 11/12/21 09:50 Received: 11/12/21 11:40										
Carbonaceous BOD	**8.64**	6.00	6.00	mg/l	3	CC	1111729	11/12/21 15:25 11/17/21 13:44	SM5210 B	
2021-D2-GOATCYN-01 (21K0427-15) Stormwater Sampled: 11/12/21 09:15 Received: 11/12/21 11:40										
Carbonaceous BOD	**17.6**	2.00	2.00	mg/l	1	CC	1111729	11/12/21 15:29 11/17/21 13:48	SM5210 B	A-12, B-01, B-02

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21K0427**	
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring		

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-D2-SMGGLCH-01 (21K0427-16) Stormwater Sampled: 11/12/21 08:50 Received: 11/12/21 11:40										
Carbonaceous BOD	**121**	2.00	2.00	mg/l	1	CC	1111729	11/12/21 15:32 11/17/21 13:51	SM5210 B	A-12, B-01, B-02
2021-D2-STEWDR-01 (21K0427-17) Stormwater Sampled: 11/12/21 07:35 Received: 11/12/21 11:40										
Carbonaceous BOD	**400**	2.00	2.00	mg/l	1	CC	1111729	11/12/21 15:36 11/17/21 13:55	SM5210 B	A-12, B-01, B-02
2021-D2-SILVDR-01 (21K0427-18) Stormwater Sampled: 11/12/21 08:00 Received: 11/12/21 11:40										
Carbonaceous BOD	**218**	200	200	mg/l	100	CC	1111729	11/12/21 15:42 11/17/21 14:01	SM5210 B	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring

EMA Log #: 21K0427

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared / Sample Analyzed	Method	Notes
2021-D2-TJMAIN-01 (21K0427-01) Stormwater Sampled: 11/12/21 10:30 Received: 11/12/21 11:40										
Fecal Coliforms	**2000**	2000	2000	MPN/100 ml	1000	AZ	1111235	11/12/21 13:40 11/15/21 10:40	SM 9221 E	
Total Coliforms	**276000**	1000	1000	"	"	AL	1111233	11/12/21 13:40 11/13/21 13:40	SM9223	
E. Coli	**2000**	1000	1000	"	"	AL	"	11/12/21 13:40 11/13/21 13:40	"	
Enterococcus	**9700**	1000	1000	"	"	AL	1111234	11/12/21 13:40 11/13/21 13:40	Idexx	
2021-D2-YGTCYN-01 (21K0427-02) Stormwater Sampled: 11/12/21 09:50 Received: 11/12/21 11:40										
Fecal Coliforms	**400**	200	200	MPN/100 ml	100	AZ	1111235	11/12/21 13:40 11/15/21 10:40	SM 9221 E	
Total Coliforms	**8160**	100	100	"	"	AL	1111233	11/12/21 13:40 11/13/21 13:40	SM9223	
E. Coli	**200**	100	100	"	"	AL	"	11/12/21 13:40 11/13/21 13:40	"	
Enterococcus	**100**	100	100	"	"	AL	1111234	11/12/21 13:40 11/13/21 13:40	Idexx	
2021-D2-GOATCYN-01 (21K0427-03) Stormwater Sampled: 11/12/21 09:15 Received: 11/12/21 11:40										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AZ	1111235	11/12/21 13:40 11/15/21 10:40	SM 9221 E	
Total Coliforms	**2420000**	1000	1000	"	"	AL	1111233	11/12/21 13:40 11/13/21 13:40	SM9223	A-01
E. Coli	**2420000**	1000	1000	"	"	AL	"	11/12/21 13:40 11/13/21 13:40	"	
Enterococcus	**980000**	1000	1000	"	"	AL	1111234	11/12/21 13:40 11/13/21 13:40	Idexx	
2021-D2-SMGGLCH-01 (21K0427-04) Stormwater Sampled: 11/12/21 08:50 Received: 11/12/21 11:40										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AZ	1111235	11/12/21 13:40 11/15/21 10:40	SM 9221 E	A-07
Total Coliforms	**2420000**	1000	1000	"	"	AL	1111233	11/12/21 13:40 11/13/21 13:40	SM9223	A-01
E. Coli	**2420000**	1000	1000	"	"	AL	"	11/12/21 13:40 11/13/21 13:40	"	A-01
Enterococcus	**1300000**	1000	1000	"	"	AL	1111234	11/12/21 13:40 11/13/21 13:40	Idexx	
2021-D2-STEWDR-01 (21K0427-05) Stormwater Sampled: 11/12/21 07:35 Received: 11/12/21 11:40										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AZ	1111235	11/12/21 13:40 11/15/21 10:40	SM 9221 E	A-07

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name:	Wood Environment & Infrastructure Solutions, Inc.
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring

EMA Log #: 21K0427

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-D2-STEWDR-01 (21K0427-05) Stormwater Sampled: 11/12/21 07:35 Received: 11/12/21 11:40										
Total Coliforms	**2420000**	1000	1000	MPN/100 ml	1000	AL	1111233	11/12/21 13:40 11/13/21 13:40	SM9223	A-01
E. Coli	**2420000**	1000	1000	"	"	AL	"	11/12/21 13:40 11/13/21 13:40	"	A-01
Enterococcus	**1050000**	1000	1000	"	"	AL	1111234	11/12/21 13:40 11/13/21 13:40	Idexx	
2021-D2-SILVDR-01 (21K0427-06) Stormwater Sampled: 11/12/21 08:00 Received: 11/12/21 11:40										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AZ	1111235	11/12/21 13:40 11/15/21 10:40	SM 9221 E	A-07
Total Coliforms	**2420000**	1000	1000	"	"	AL	1111233	11/12/21 13:40 11/13/21 13:40	SM9223	A-01
E. Coli	**2420000**	1000	1000	"	"	AL	"	11/12/21 13:40 11/13/21 13:40	"	A-01
Enterococcus	**2420000**	1000	1000	"	"	AL	1111234	11/12/21 13:40 11/13/21 13:40	Idexx	A-01

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21K0427**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1111642												
Blank (1111642-BLK1)					Prepared: 11/16/21 Analyzed: 11/24/21							
Total Suspended Solids	ND	1.0	20.0	mg/l	NP							
Duplicate (1111642-DUP1)	**Source: 21K0411-01**				Prepared: 11/16/21 Analyzed: 11/24/21							
Total Suspended Solids	134	1.0	20.0	mg/l	NP		136			1	20	
Reference (1111642-SRM1)					Prepared: 11/16/21 Analyzed: 11/24/21							
Total Suspended Solids	104	1.0	20.0	mg/l	NP	100		104	77.1-110			
Batch 1111729												
Duplicate (1111729-DUP1)	**Source: 21K0427-13**				Prepared: 11/12/21 Analyzed: 11/17/21							
Carbonaceous BOD	ND	20.0	20.0	mg/l	CC		ND				20	B-01
Reference (1111729-SRM1)					Prepared: 11/12/21 Analyzed: 11/17/21							
Carbonaceous BOD	167	100	100	mg/l	CC	198		84	84-115			
Batch 1111831												
Blank (1111831-BLK1)					Prepared: 11/18/21 Analyzed: 11/24/21							
Total Suspended Solids	ND	1.0	20.0	mg/l	NP							
Duplicate (1111831-DUP1)	**Source: 21K0445-01**				Prepared: 11/18/21 Analyzed: 11/24/21							
Total Suspended Solids	152	1.0	20.0	mg/l	NP		150			1	20	
Reference (1111831-SRM1)					Prepared: 11/18/21 Analyzed: 11/24/21							
Total Suspended Solids	100	1.0	20.0	mg/l	NP	100		100	77.1-110			

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21K0427**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Microbiological Parameters by Standard Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1111233												
Blank (1111233-BLK1)					Prepared: 11/12/21 Analyzed: 11/13/21							
Total Coliforms	ND	1	1	MPN/100 ml	AL							
E. Coli	ND	1	1	"	AL							
Batch 1111234												
Blank (1111234-BLK1)					Prepared: 11/12/21 Analyzed: 11/13/21							
Enterococcus	ND	1	1	MPN/100 ml	AL							

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21K0427**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Notes and Definitions

B-02	The sample dilutions set up for the BOD analysis failed to met the criteria of a residual dissolved oxygen of at least 1 mg/l. Therefore the reported result is an estimated value only.
B-01	The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/l dissolved oxygen depletion. Therefore the reported result is an estimated value only.
A-12	The result is an average from diluted samples that meet the criteria for reporting.
A-07	>1600000
A-01	>2420000
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

EnviroMatrix Analytical, Inc.

29 December 2021

Wood Environment & Infrastructure Solutions, Inc. **EMA Log #: 21L0607**

Attn: Sarah Seifert

9177 Sky Park Court

San Diego, CA 92123

Project: Dudek TJ Sedi Mgmt Plan Monitoring/December 29, 2021

Enclosed are the results of analyses for samples received by the laboratory on 12/14/21 16:05. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Leland S. Pitt

Leland S. Pitt

Laboratory Director

CA ELAP Certification #: 2564

PLEASE NOTE OUR NEW LOCATION:

9590 Chesapeake Dr. - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763

Analytical Chemistry Laboratory

Client Name: Wood Environment & Infrastructure Solutions, Inc. **EMA Log #: 21L0607**
Project Name: Dudek TJ Sedi Mgmt Plan Monitoring

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2021-W2-TJMAIN-01	21L0607-01	Stormwater	12/14/21 15:00	12/14/21 16:05
2021-W2-YGTCYN-01	21L0607-02	Stormwater	12/14/21 14:00	12/14/21 16:05
2021-W2-GOATCYN-01	21L0607-03	Stormwater	12/14/21 14:25	12/14/21 16:05
2021-W2-SMGGLCH-01	21L0607-04	Stormwater	12/14/21 13:10	12/14/21 16:05
2021-W2-CYNSOL-01	21L0607-05	Stormwater	12/14/21 12:00	12/14/21 16:05
2021-W2-STEWDR-01	21L0607-06	Stormwater	12/14/21 11:10	12/14/21 16:05
2021-W2-SILVDR-01	21L0607-07	Stormwater	12/14/21 11:35	12/14/21 16:05
2021-W2-TJMAIN-01	21L0607-08	Stormwater	12/14/21 15:00	12/14/21 16:05
2021-W2-YGTCYN-01	21L0607-09	Stormwater	12/14/21 14:00	12/14/21 16:05
2021-W2-GOATCYN-01	21L0607-10	Stormwater	12/14/21 14:25	12/14/21 16:05
2021-W2-SMGGLCH-01	21L0607-11	Stormwater	12/14/21 13:10	12/14/21 16:05
2021-W2-CYNSOL-01	21L0607-12	Stormwater	12/14/21 12:00	12/14/21 16:05
2021-W2-STEWDR-01	21L0607-13	Stormwater	12/14/21 11:10	12/14/21 16:05
2021-W2-SILVDR-01	21L0607-14	Stormwater	12/14/21 11:35	12/14/21 16:05
2021-W2-TJMAIN-01	21L0607-15	Stormwater	12/14/21 15:00	12/14/21 16:05
2021-W2-YGTCYN-01	21L0607-16	Stormwater	12/14/21 14:00	12/14/21 16:05
2021-W2-GOATCYN-01	21L0607-17	Stormwater	12/14/21 14:25	12/14/21 16:05
2021-W2-SMGGLCH-01	21L0607-18	Stormwater	12/14/21 13:10	12/14/21 16:05
2021-W2-CYNSOL-01	21L0607-19	Stormwater	12/14/21 12:00	12/14/21 16:05
2021-W2-STEWDR-01	21L0607-20	Stormwater	12/14/21 11:10	12/14/21 16:05
2021-W2-SILVDR-01	21L0607-21	Stormwater	12/14/21 11:35	12/14/21 16:05

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21L0607**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-W2-TJMAIN-01 (21L0607-08) Stormwater Sampled: 12/14/21 15:00 Received: 12/14/21 16:05										
Total Suspended Solids	**3260**	1.0	20.0	mg/l	1	NP	1122070	12/20/21 13:05 12/27/21 13:10	SM2540 D	
2021-W2-YGTCYN-01 (21L0607-09) Stormwater Sampled: 12/14/21 14:00 Received: 12/14/21 16:05										
Total Suspended Solids	**1270**	1.0	20.0	mg/l	1	NP	1122070	12/20/21 13:05 12/27/21 13:10	SM2540 D	
2021-W2-GOATCYN-01 (21L0607-10) Stormwater Sampled: 12/14/21 14:25 Received: 12/14/21 16:05										
Total Suspended Solids	**29900**	1.0	20.0	mg/l	1	NP	1122070	12/20/21 13:05 12/27/21 13:10	SM2540 D	
2021-W2-SMGGLCH-01 (21L0607-11) Stormwater Sampled: 12/14/21 13:10 Received: 12/14/21 16:05										
Total Suspended Solids	**1150**	1.0	20.0	mg/l	1	NP	1122070	12/20/21 13:05 12/27/21 13:10	SM2540 D	
2021-W2-CYNSOL-01 (21L0607-12) Stormwater Sampled: 12/14/21 12:00 Received: 12/14/21 16:05										
Total Suspended Solids	**450**	1.0	20.0	mg/l	1	NP	1122070	12/20/21 13:05 12/27/21 13:10	SM2540 D	
2021-W2-STEWDR-01 (21L0607-13) Stormwater Sampled: 12/14/21 11:10 Received: 12/14/21 16:05										
Total Suspended Solids	**1050**	1.0	20.0	mg/l	1	NP	1122070	12/20/21 13:05 12/27/21 13:10	SM2540 D	
2021-W2-SILVDR-01 (21L0607-14) Stormwater Sampled: 12/14/21 11:35 Received: 12/14/21 16:05										
Total Suspended Solids	**5980**	1.0	20.0	mg/l	1	NP	1122070	12/20/21 13:05 12/27/21 13:10	SM2540 D	
2021-W2-TJMAIN-01 (21L0607-15) Stormwater Sampled: 12/14/21 15:00 Received: 12/14/21 16:05										
Carbonaceous BOD	**54.2**	2.00	2.00	mg/l	1	CC	1122855	12/15/21 10:38 12/20/21 12:10	SM5210 B	A-12
2021-W2-YGTCYN-01 (21L0607-16) Stormwater Sampled: 12/14/21 14:00 Received: 12/14/21 16:05										
Carbonaceous BOD	**26.7**	20.0	20.0	mg/l	10	CC	1122855	12/15/21 10:44 12/30/21 12:16	SM5210 B	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	EMA Log #:	**21L0607**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring		

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared / Sample Analyzed	Method	Notes
2021-W2-GOATCYN-01 (21L0607-17) Stormwater Sampled: 12/14/21 14:25 Received: 12/14/21 16:05										
Carbonaceous BOD	**158**	2.00	2.00	mg/l	1	CC	1122855	12/15/21 10:45 12/20/21 12:17	SM5210 B	A-12, B-01, B-02
2021-W2-SMGGLCH-01 (21L0607-18) Stormwater Sampled: 12/14/21 13:10 Received: 12/14/21 16:05										
Carbonaceous BOD	**212**	200	200	mg/l	100	CC	1122855	12/15/21 10:48 12/20/21 12:20	SM5210 B	
2021-W2-CYNSOL-01 (21L0607-19) Stormwater Sampled: 12/14/21 12:00 Received: 12/14/21 16:05										
Carbonaceous BOD	**167**	2.00	2.00	mg/l	1	CC	1122855	12/15/21 10:51 12/20/21 12:23	SM5210 B	A-12, B-01, B-02
2021-W2-STEWDR-01 (21L0607-20) Stormwater Sampled: 12/14/21 11:10 Received: 12/14/21 16:05										
Carbonaceous BOD	**268**	200	200	mg/l	100	CC	1122855	12/15/21 10:54 12/20/21 12:26	SM5210 B	
2021-W2-SILVDR-01 (21L0607-21) Stormwater Sampled: 12/14/21 11:35 Received: 12/14/21 16:05										
Carbonaceous BOD	**88.6**	40.0	40.0	mg/l	20	CC	1122855	12/15/21 10:58 12/20/21 12:30	SM5210 B	

Client Name:	Wood Environment & Infrastructure Solutions, Inc.
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring

EMA Log #: 21L0607

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared / Sample Analyzed	Method	Notes
2021-W2-TJMAIN-01 (21L0607-01) Stormwater Sampled: 12/14/21 15:00 Received: 12/14/21 16:05										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AL	1121546	12/14/21 17:08 12/17/21 14:08	SM 9221 E	A-07
Total Coliforms	**2420000**	1000	1000	"	"	AZ	1121542	12/14/21 17:08 12/15/21 17:08	SM9223	A-01a
E. Coli	**866000**	1000	1000	"	"	AZ	"	12/14/21 17:08 12/15/21 17:08	"	
Enterococcus	**1730000**	1000	1000	"	"	AZ	1121544	12/14/21 17:08 12/15/21 17:08	Idexx	
2021-W2-YGTCYN-01 (21L0607-02) Stormwater Sampled: 12/14/21 14:00 Received: 12/14/21 16:05										
Fecal Coliforms	**500000**	2000	2000	MPN/100 ml	1000	AL	1121546	12/14/21 17:08 12/17/21 14:08	SM 9221 E	
Total Coliforms	**242000**	100	100	"	100	AZ	1121542	12/14/21 17:08 12/15/21 17:08	SM9223	A-01
E. Coli	**173000**	100	100	"	"	AZ	"	12/14/21 17:08 12/15/21 17:08	"	
Enterococcus	**242000**	100	100	"	"	AZ	1121544	12/14/21 17:08 12/15/21 17:08	Idexx	
2021-W2-GOATCYN-01 (21L0607-03) Stormwater Sampled: 12/14/21 14:25 Received: 12/14/21 16:05										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AL	1121546	12/14/21 17:08 12/17/21 14:08	SM 9221 E	
Total Coliforms	**2420000**	1000	1000	"	"	AZ	1121542	12/14/21 17:08 12/15/21 17:08	SM9223	A-01a
E. Coli	**1990000**	1000	1000	"	"	AZ	"	12/14/21 17:08 12/15/21 17:08	"	
Enterococcus	**2420000**	1000	1000	"	"	AZ	1121544	12/14/21 17:08 12/15/21 17:08	Idexx	A-01a
2021-W2-SMGGLCH-01 (21L0607-04) Stormwater Sampled: 12/14/21 13:10 Received: 12/14/21 16:05										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AL	1121546	12/14/21 17:08 12/17/21 14:08	SM 9221 E	A-07
Total Coliforms	ND	100	100	"	100	AZ	1121542	12/14/21 17:08 12/15/21 17:08	SM9223	
E. Coli	ND	100	100	"	"	AZ	"	12/14/21 17:08 12/15/21 17:08	"	
Enterococcus	**1730000**	1000	1000	"	1000	AZ	1121544	12/14/21 17:08 12/15/21 17:08	Idexx	
2021-W2-CYNSOL-01 (21L0607-05) Stormwater Sampled: 12/14/21 12:00 Received: 12/14/21 16:05										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AL	1121546	12/14/21 17:08 12/17/21 14:08	SM 9221 E	A-07

Client Name:	Wood Environment & Infrastructure Solutions, Inc.
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring

EMA Log #: 21L0607

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Analyst	Batch	Sample Prepared Sample Analyzed	Method	Notes
2021-W2-CYNSOL-01 (21L0607-05) Stormwater Sampled: 12/14/21 12:00 Received: 12/14/21 16:05										
Total Coliforms	**2420000**	1000	1000	MPN/100 ml	1000	AZ	1121542	12/14/21 17:08 12/15/21 17:08	SM9223	A-01a
E. Coli	**2420000**	1000	1000	"	"	AZ	"	12/14/21 17:08 12/15/21 17:08	"	A-01a
Enterococcus	**2420000**	1000	1000	"	"	AZ	1121544	12/14/21 17:08 12/15/21 17:08	Idexx	A-01a
2021-W2-STEWDR-01 (21L0607-06) Stormwater Sampled: 12/14/21 11:10 Received: 12/14/21 16:05										
Fecal Coliforms	**1600000**	2000	2000	MPN/100 ml	1000	AL	1121546	12/14/21 17:08 12/17/21 14:08	SM 9221 E	A-07
Total Coliforms	**2420000**	1000	1000	"	"	AZ	1121542	12/14/21 17:08 12/15/21 17:08	SM9223	A-01a
E. Coli	**2420000**	1000	1000	"	"	AZ	"	12/14/21 17:08 12/15/21 17:08	"	A-01a
Enterococcus	**2420000**	1000	1000	"	"	AZ	1121544	12/14/21 17:08 12/15/21 17:08	Idexx	A-01a
2021-W2-SILVDR-01 (21L0607-07) Stormwater Sampled: 12/14/21 11:35 Received: 12/14/21 16:05										
Fecal Coliforms	**500000**	2000	2000	MPN/100 ml	1000	AL	1121546	12/14/21 17:08 12/17/21 14:08	SM 9221 E	
Total Coliforms	**2420000**	1000	1000	"	"	AZ	1121542	12/14/21 17:08 12/15/21 17:08	SM9223	A-01a
E. Coli	**1410000**	1000	1000	"	"	AZ	"	12/14/21 17:08 12/15/21 17:08	"	
Enterococcus	**345000**	1000	1000	"	"	AZ	1121544	12/14/21 17:08 12/15/21 17:08	Idexx	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name:	Wood Environment & Infrastructure Solutions, Inc.
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring

EMA Log #: 21L0607

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1122070												
Blank (1122070-BLK1)					Prepared: 12/20/21 Analyzed: 12/27/21							
Total Suspended Solids	ND	1.0	20.0	mg/l	NP							
Duplicate (1122070-DUP1)		**Source: 21L0608-01**			Prepared: 12/20/21 Analyzed: 12/27/21							
Total Suspended Solids	37.0	1.0	20.0	mg/l	NP		34.0			8	20	
Reference (1122070-SRM1)					Prepared: 12/20/21 Analyzed: 12/27/21							
Total Suspended Solids	104	1.0	20.0	mg/l	NP	100		104	77.1-110			
Batch 1122855												
Duplicate (1122855-DUP1)		**Source: 21L0607-15**			Prepared: 12/15/21 Analyzed: 12/20/21							
Carbonaceous BOD	56.2	2.00	2.00	mg/l	CC		54.2			4	20	A-12
Reference (1122855-SRM1)					Prepared: 12/15/21 Analyzed: 12/20/21							
Carbonaceous BOD	178	100	100	mg/l	CC	198		90	84-115			

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	EMA Log #: 21L0607
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

Microbiological Parameters by Standard Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Analyst	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1121542												
Blank (1121542-BLK1)						Prepared: 12/14/21 Analyzed: 12/15/21						
Total Coliforms	ND	1	1	MPN/100 ml	AZ							
E. Coli	ND	1	1	"	AZ							
Batch 1121544												
Blank (1121544-BLK1)						Prepared: 12/14/21 Analyzed: 12/15/21						
Enterococcus	ND	1	1	MPN/100 ml	AZ							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name:	Wood Environment & Infrastructure Solutions, Inc.	**EMA Log #: 21L0607**
Project Name:	Dudek TJ Sedi Mgmt Plan Monitoring	

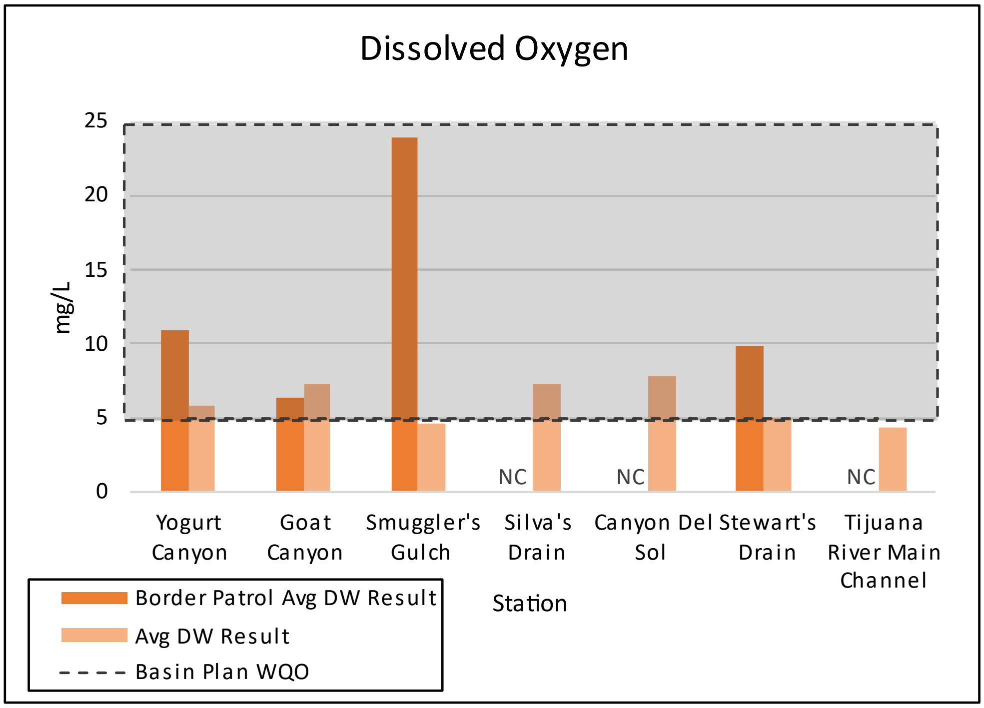
Notes and Definitions

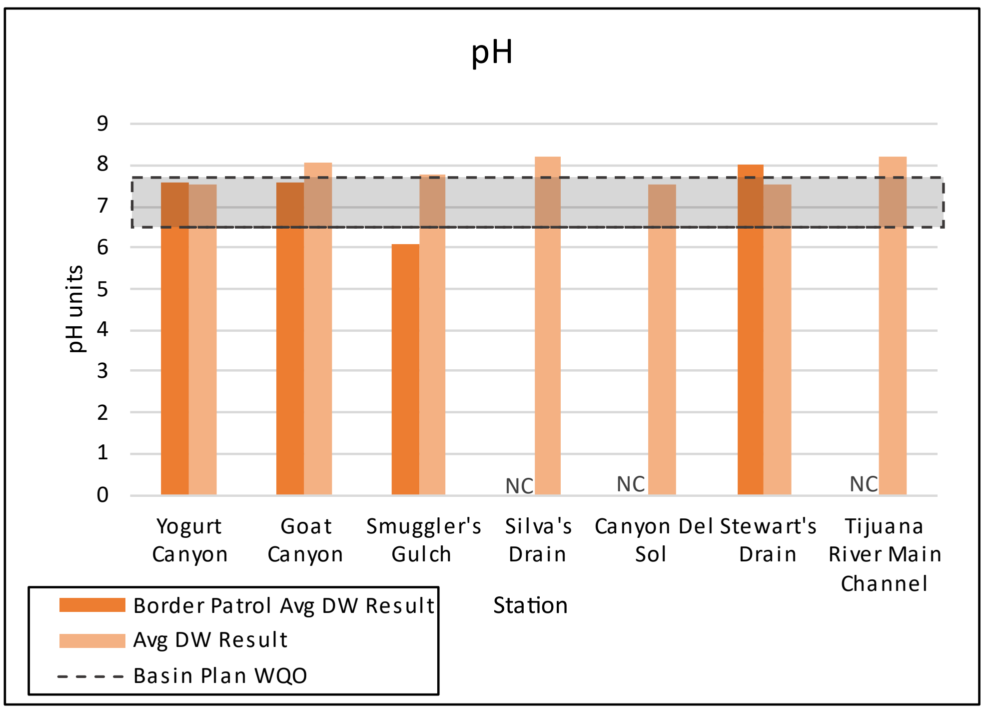
B-02	The sample dilutions set up for the BOD analysis failed to met the criteria of a residual dissolved oxygen of at least 1 mg/l. Therefore the reported result is an estimated value only.
B-01	The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/l dissolved oxygen depletion. Therefore the reported result is an estimated value only.
A-12	The result is an average from diluted samples that meet the criteria for reporting.
A-07	>1600000
A-01a	>2420000
A-01	>242000
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

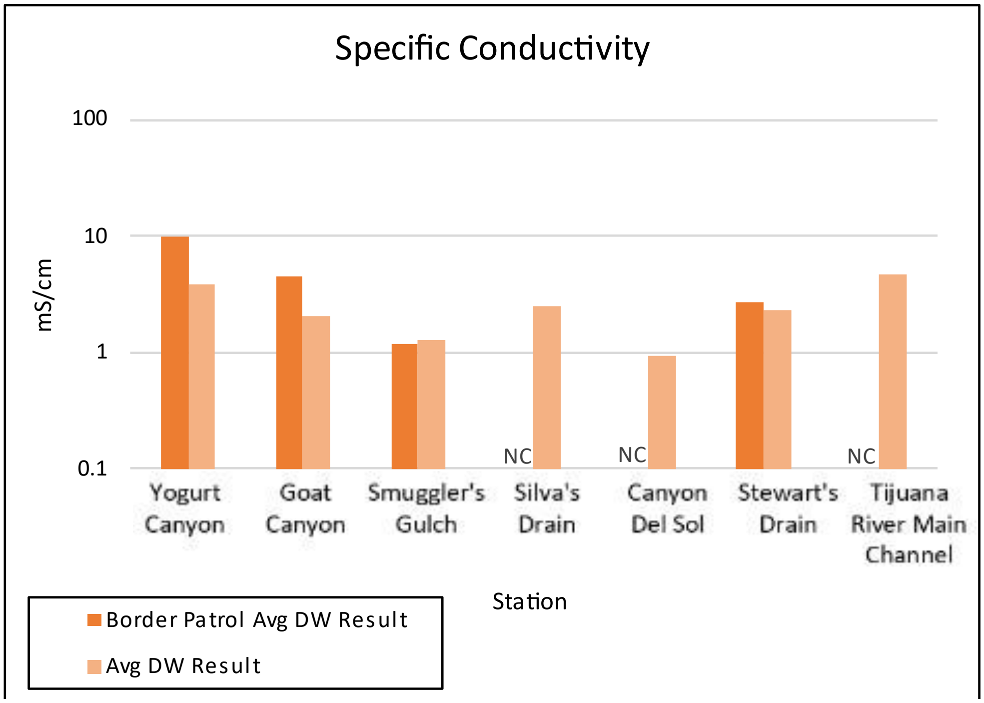
ATTACHMENT D

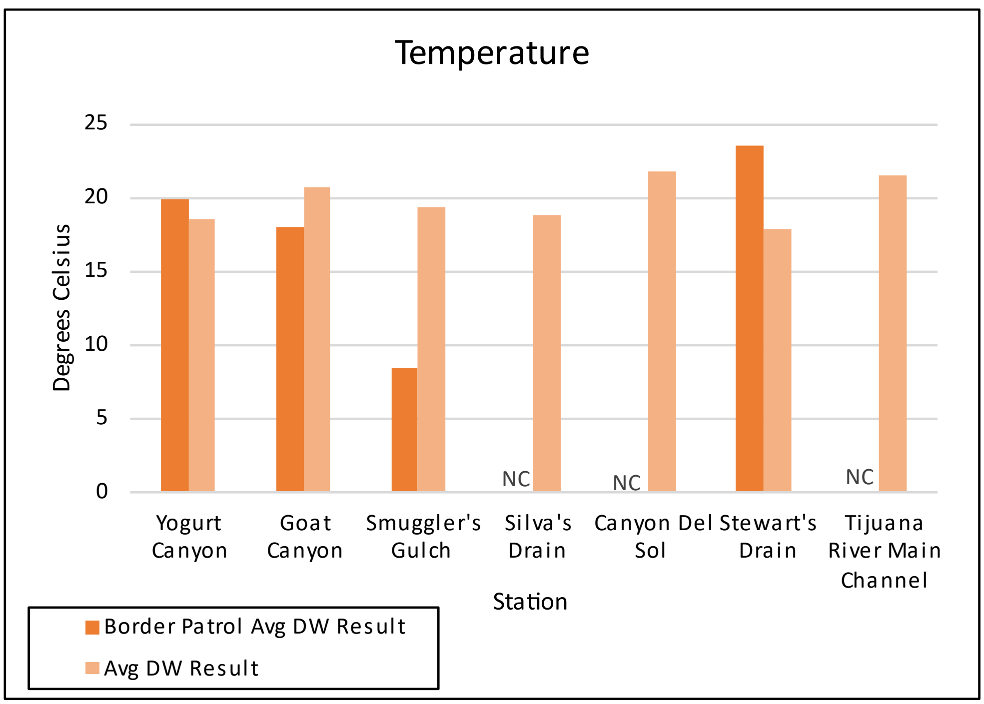
Water Quality Characterization Monitoring Result Graphs

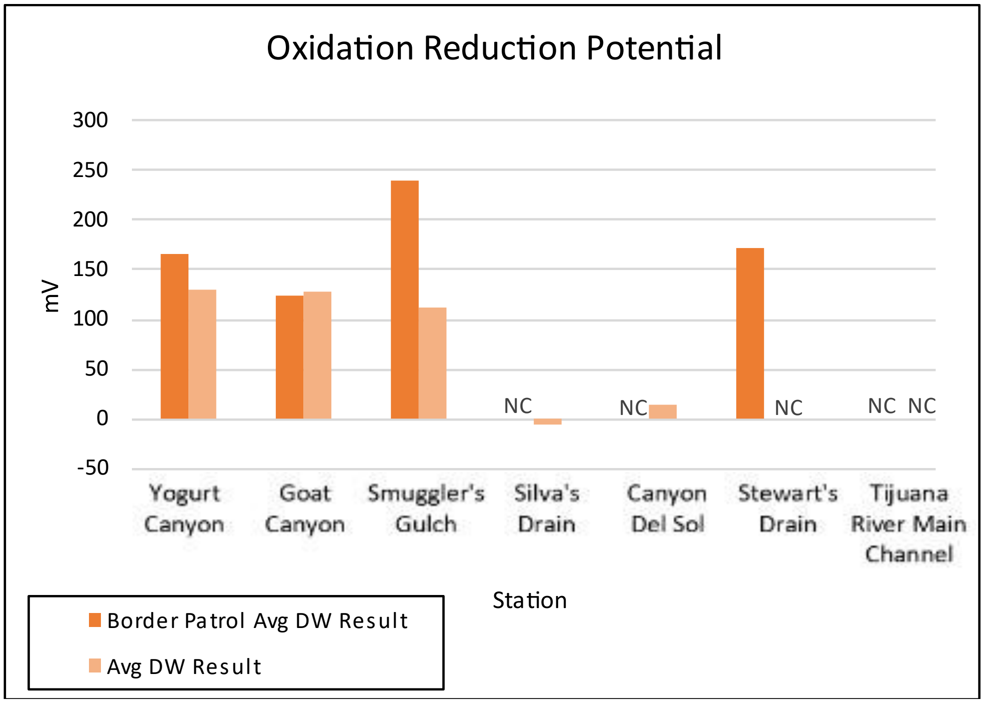
Water Quality Characterization Monitoring Result Graphs compare between the results of this study and historical Border Patrol Study Results and include Basin Plan WQOs (where applicable) for context. Results were presented separately for dry and wet weather monitoring events.

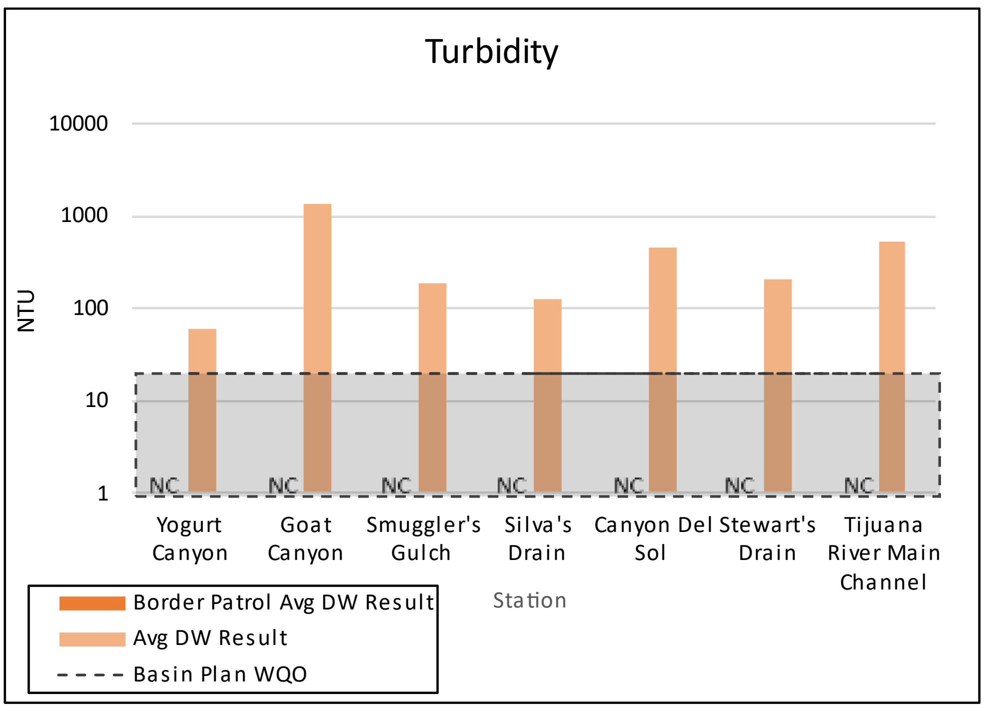

Dissolved Oxygen
mg/L
25
20
15
10
5
0
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result
Basin Plan WQO

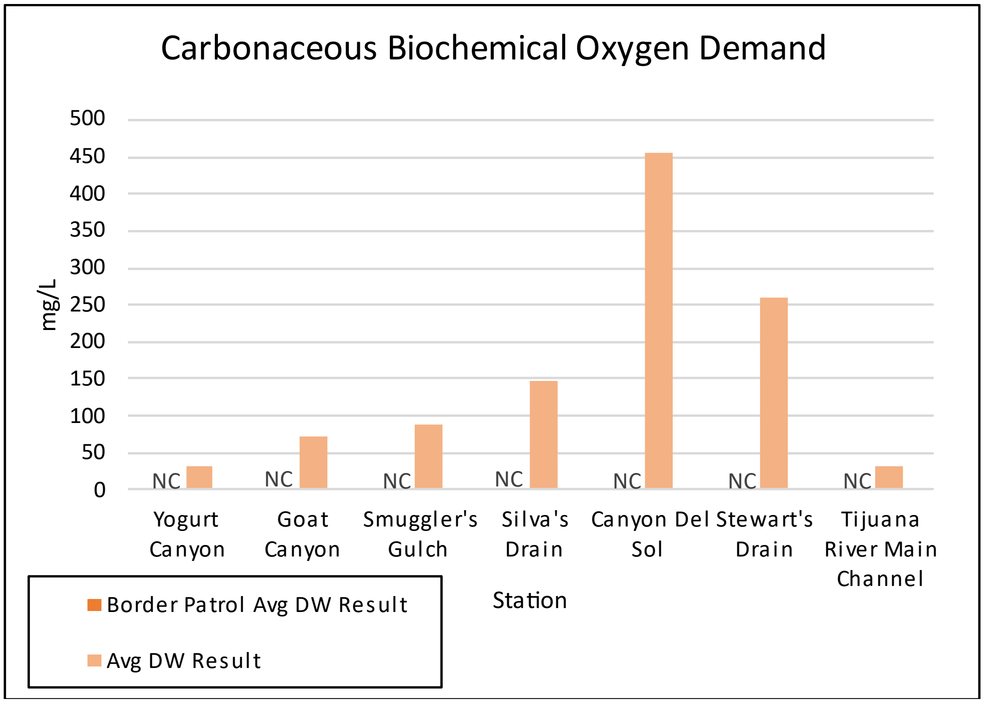

pH
pH units
9
8
7
6
5
4
3
2
1
0
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result
Basin Plan WQO

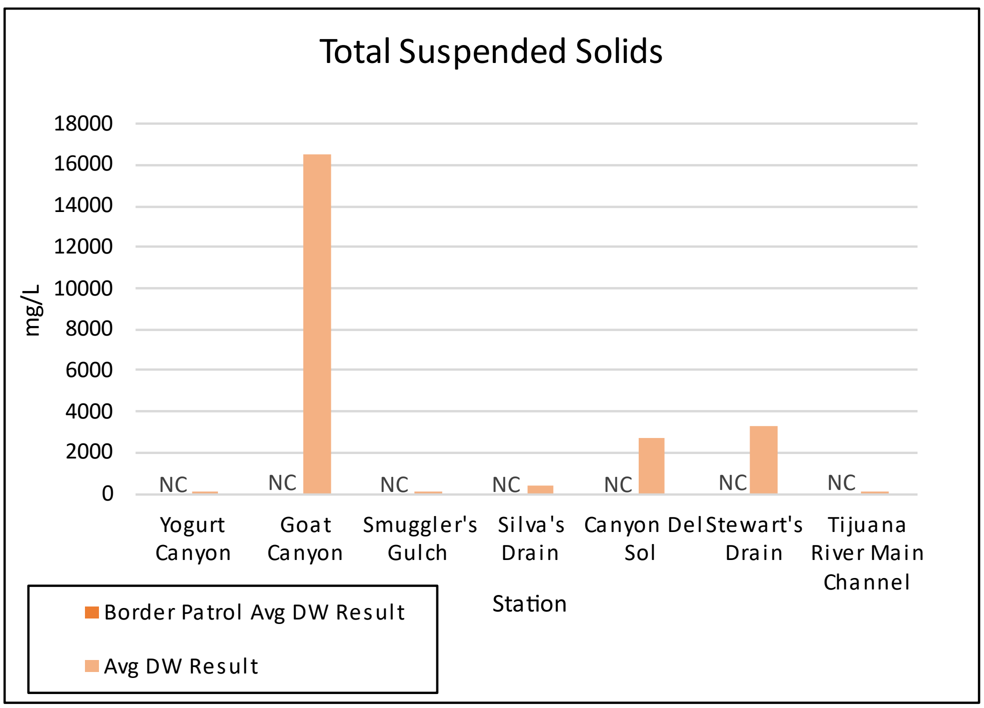

Specific Conductivity
100
10
1
0.1
mS/cm
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result

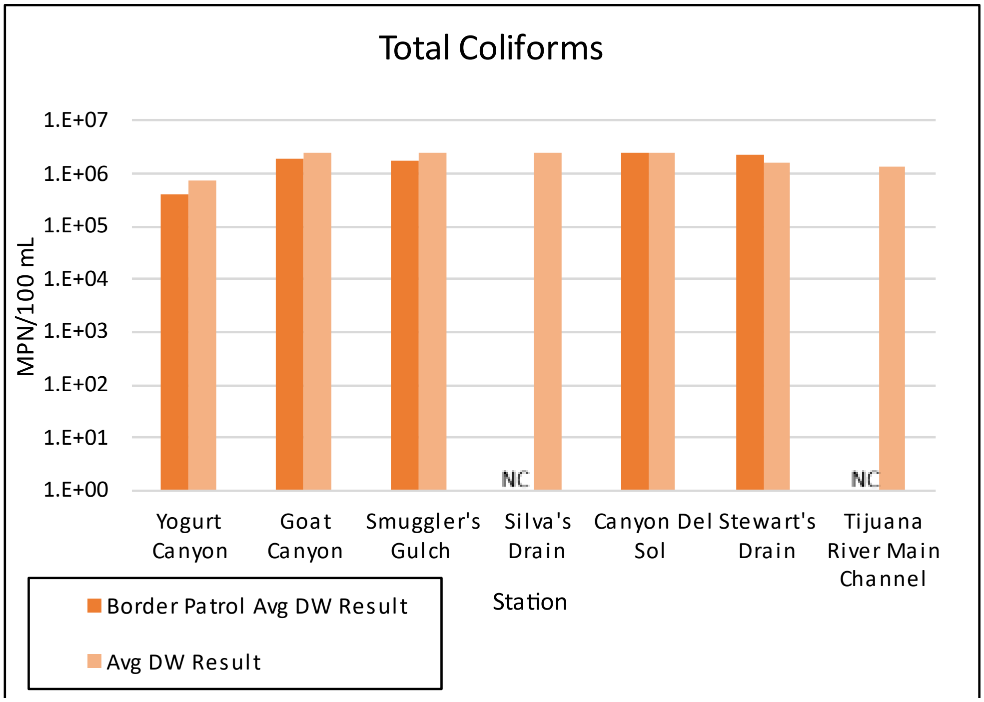

Temperature
25
20
15
10
5
0
Degrees Celsius
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result

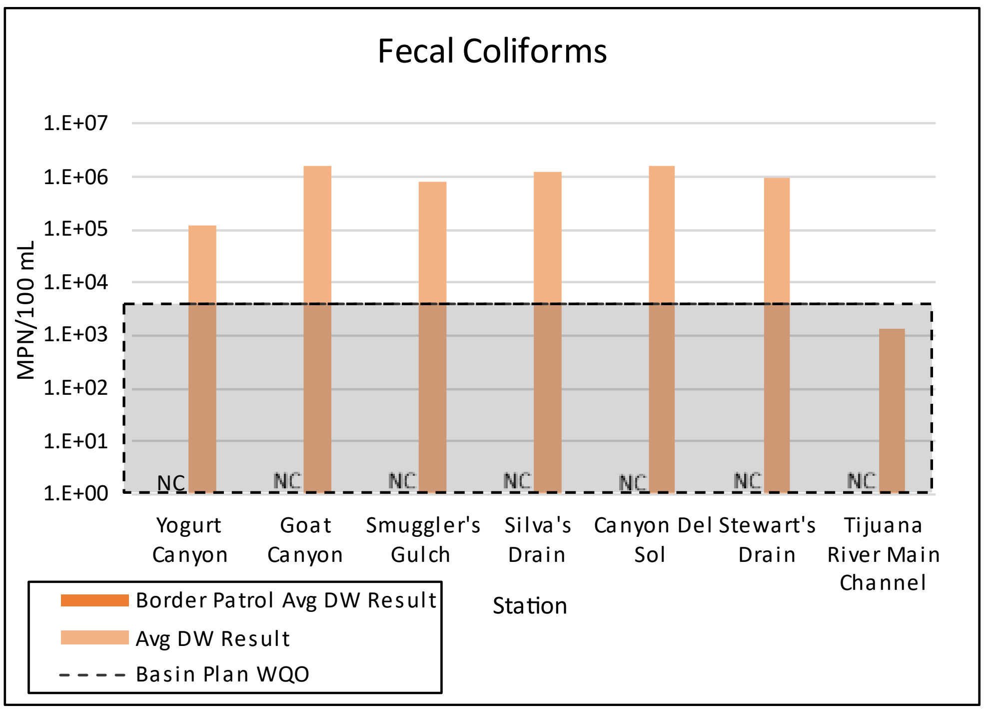

Oxidation Reduction Potential
mV
300
250
200
150
100
50
0
-50
NC
NC
NC
NC NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result

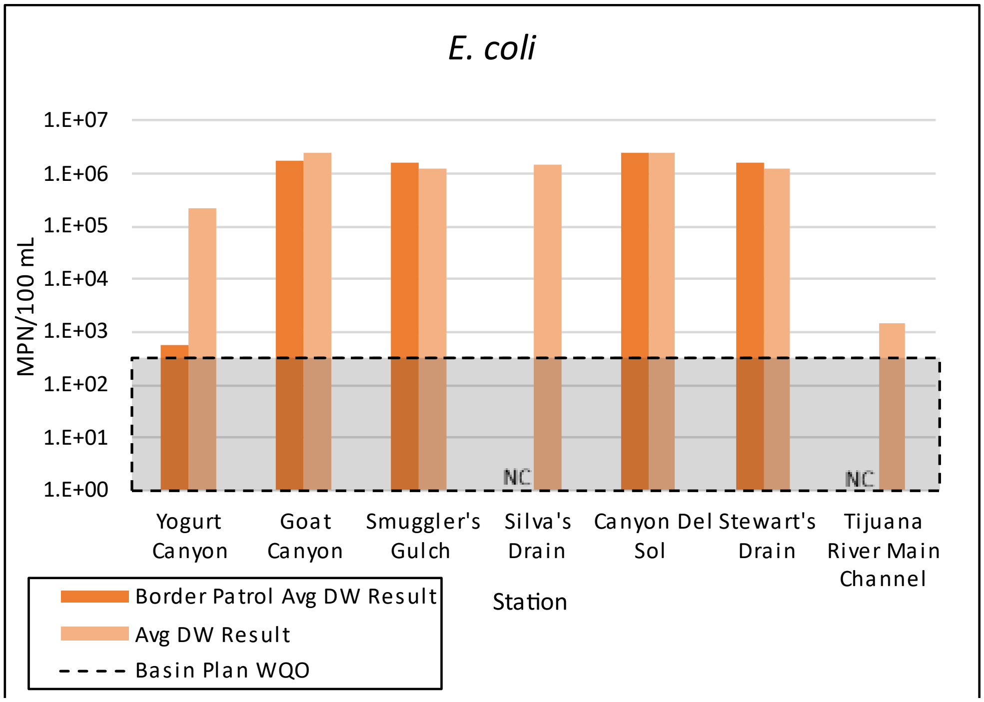

Turbidity
NTU
10000
1000
100
10
1
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result
Basin Plan WQO

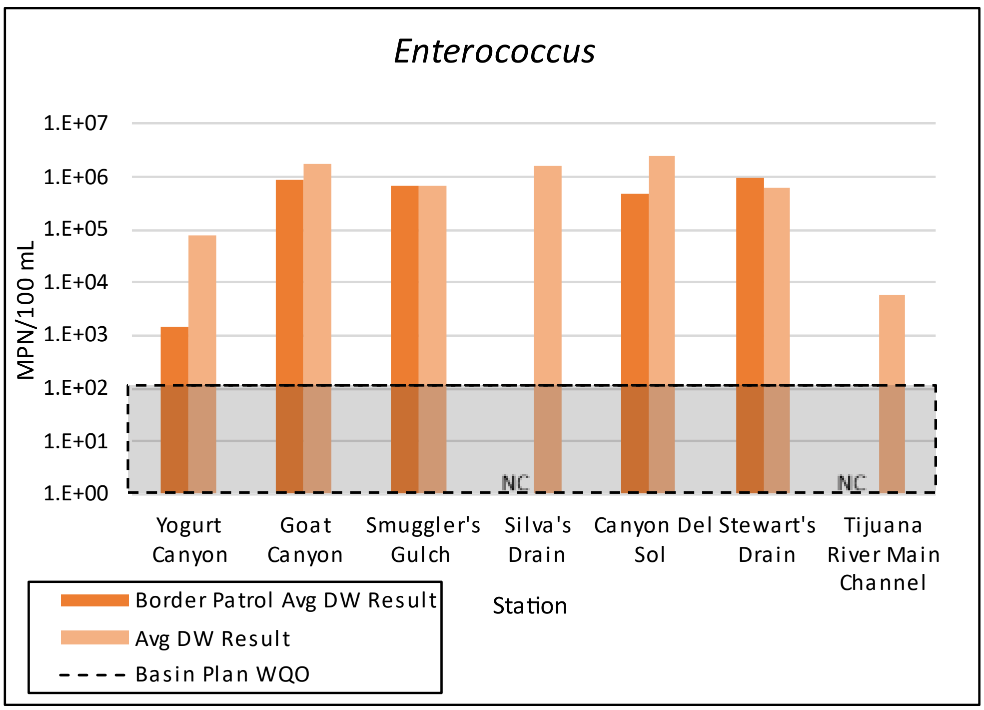

Carbonaceous Biochemical Oxygen Demand
mg/L
500
450
400
350
300
250
200
150
100
50
0
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result

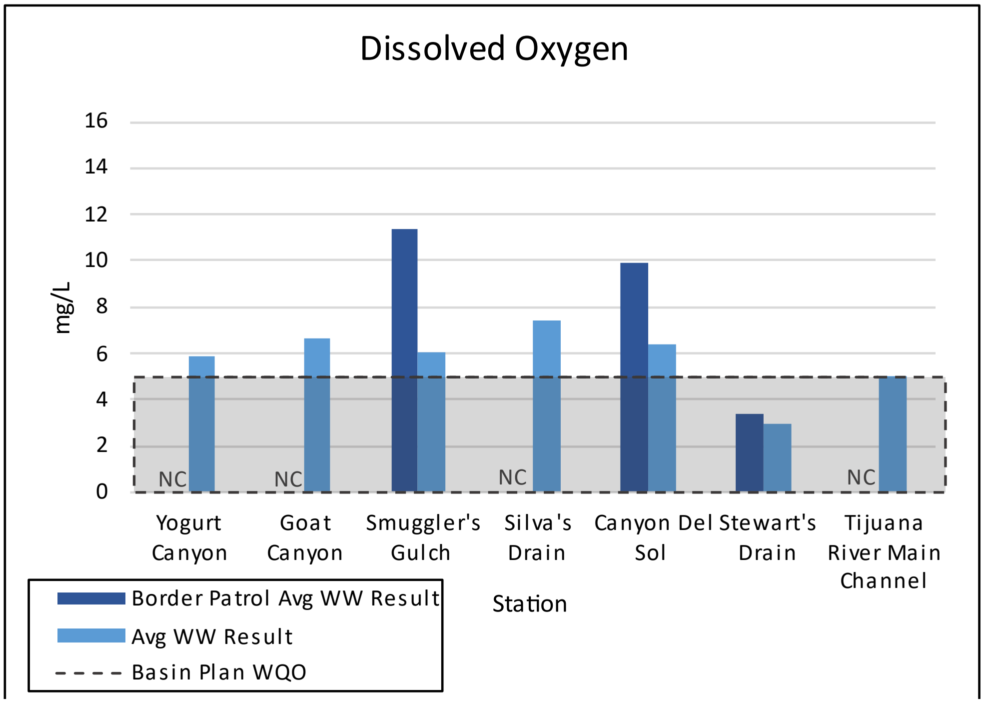

Total Suspended Solids
mg/L
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result

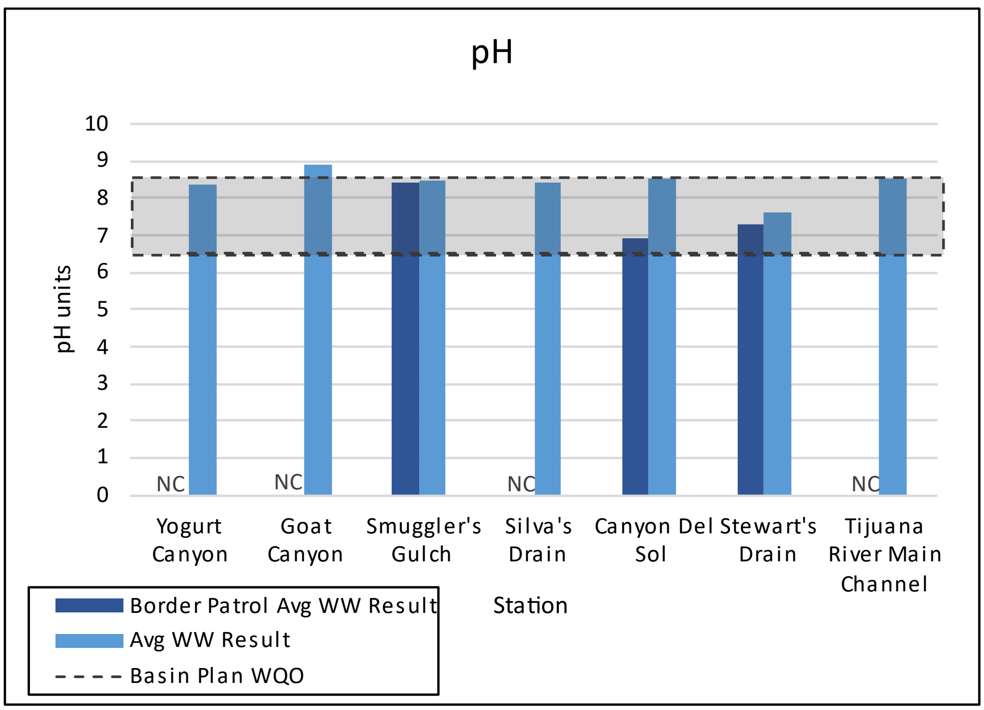

Total Coliforms
1.E+07
1.E+06
1.E+05
1.E+04
1.E+03
1.E+02
1.E+01
1.E+00
MPN/100 mL
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result

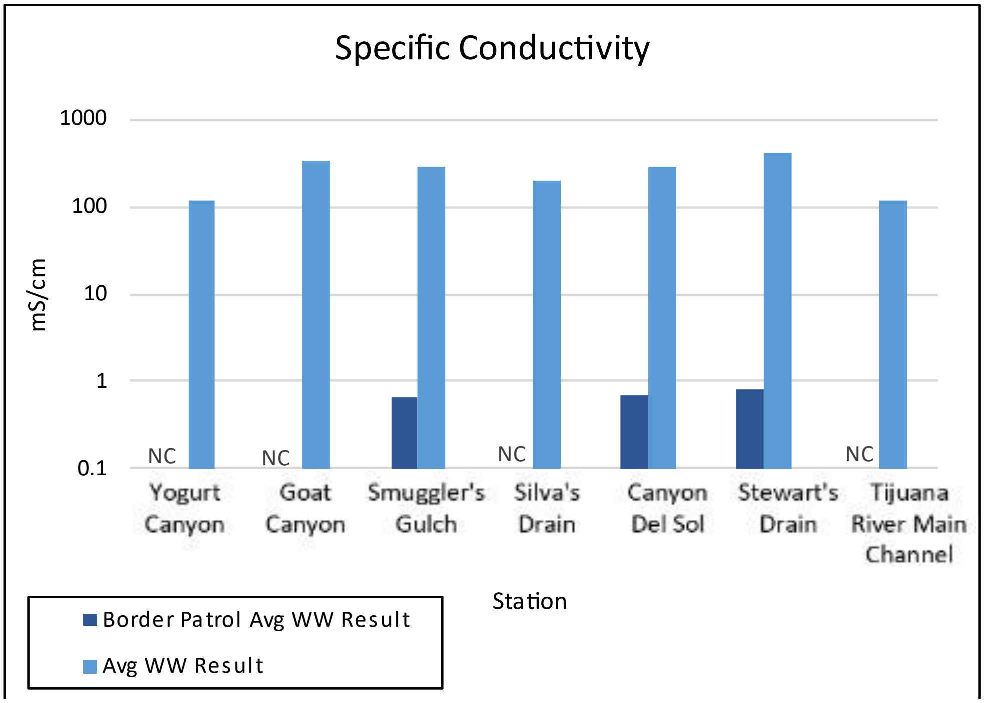

Fecal Coliforms
1.E+07
1.E+06
1.E+05
1.E+04
1.E+03
1.E+02
1.E+01
1.E+00
MPN/100 mL
NC
NC
NC
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result
Basin Plan WQO

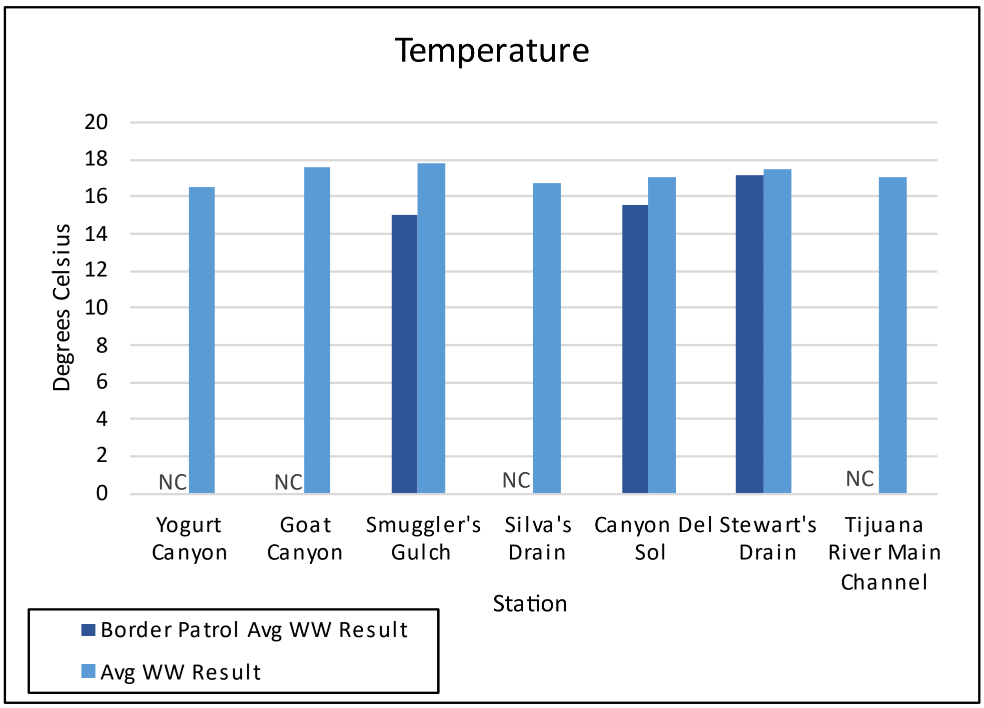

E. coli
1.E+07
1.E+06
1.E+05
1.E+04
1.E+03
1.E+02
1.E+01
1.E+00
MPN/100 mL
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result
Basin Plan WQO

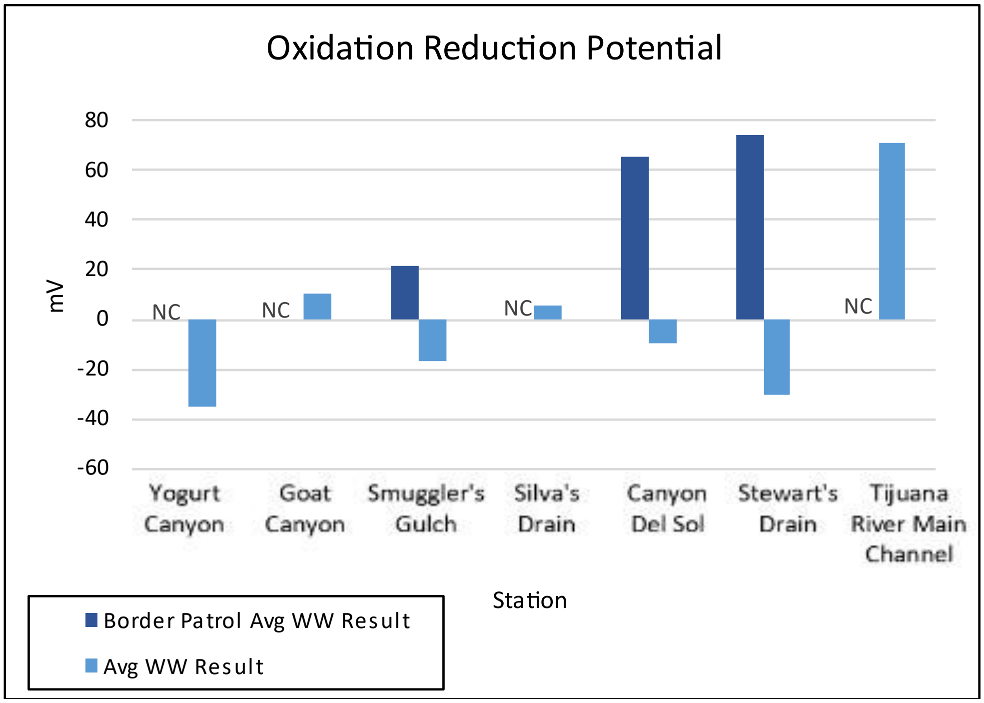

Enterococcus
1.E+07
1.E+06
1.E+05
1.E+04
1.E+03
1.E+02
1.E+01
1.E+00
MPN/100 mL
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg DW Result
Avg DW Result
Basin Plan WQO

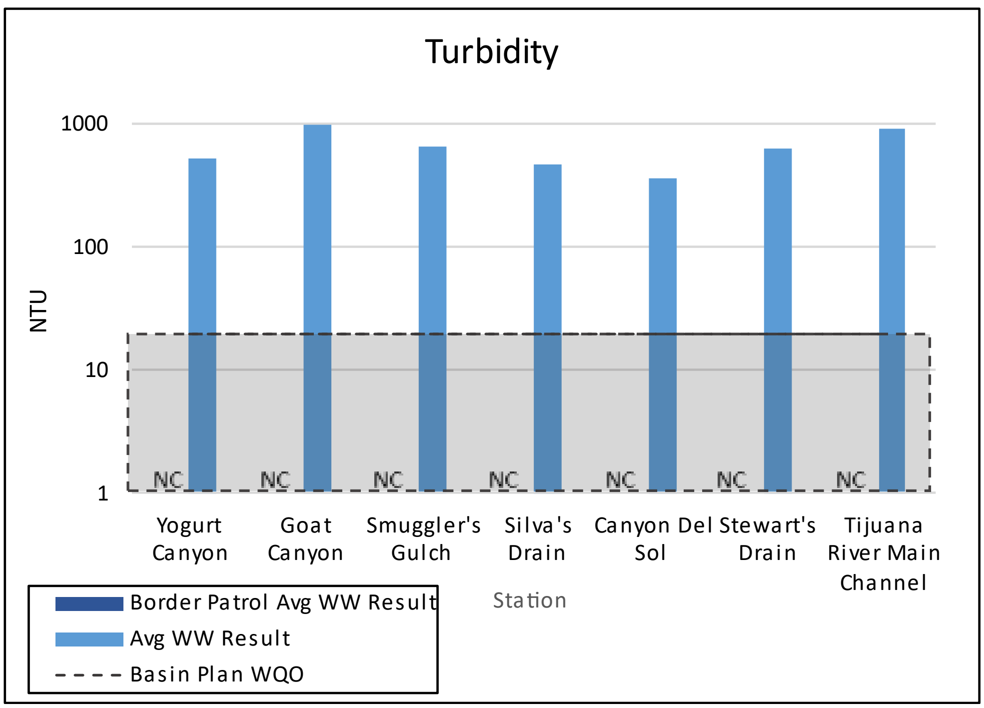

Dissolved Oxygen
mg/L
16
14
12
10
8
6
4
2
0
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result
Basin Plan WQO

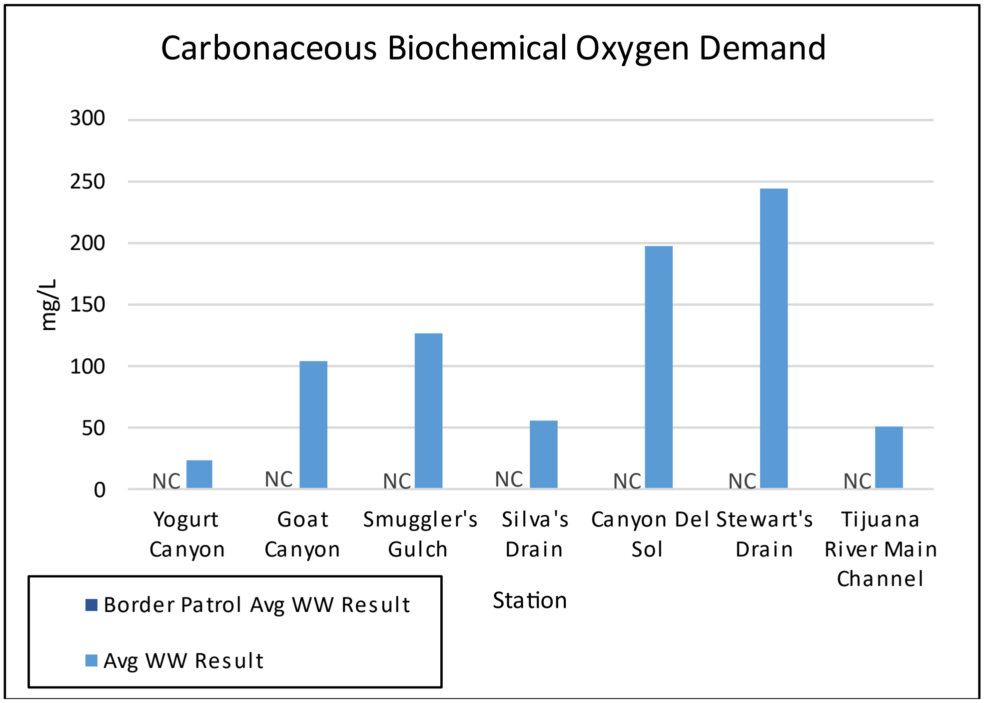

pH
pH units
10
9
8
7
6
5
4
3
2
1
0
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result
Basin Plan WQO

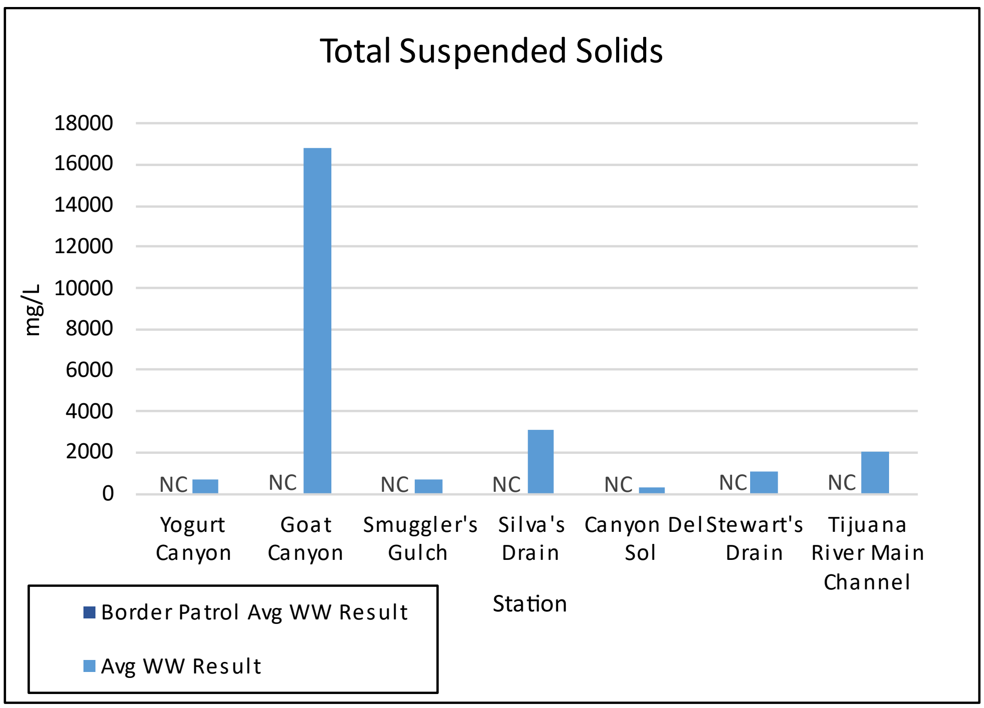

Specific Conductivity
1000
100
10
1
0.1
mS/cm
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result

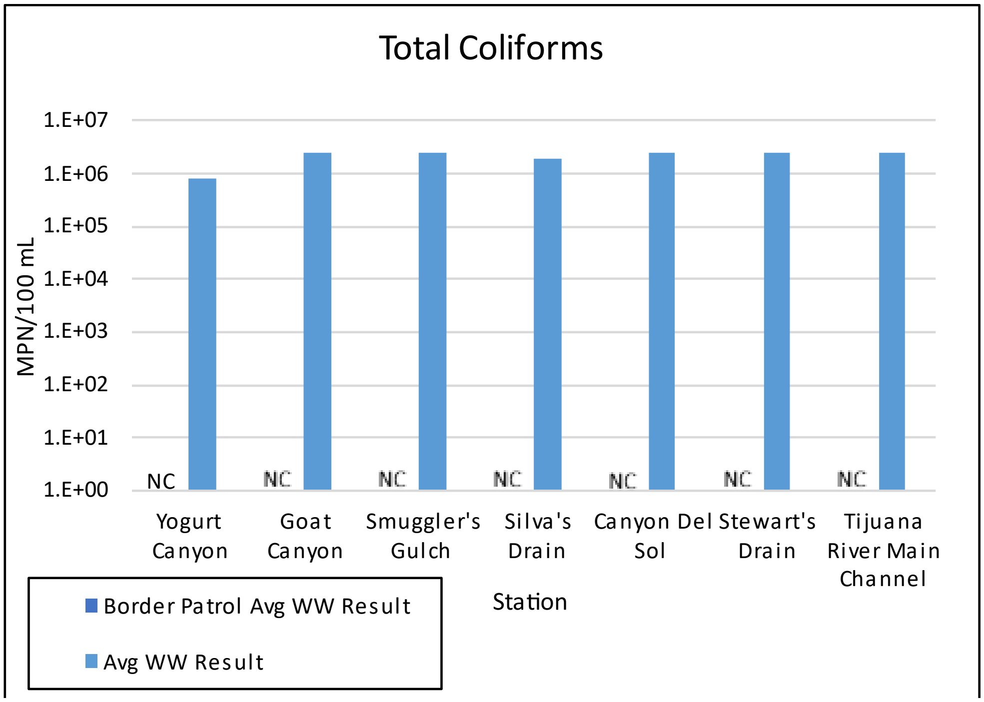

Temperature
20
18
16
14
12
10
8
6
4
2
0
Degrees Celsius
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result

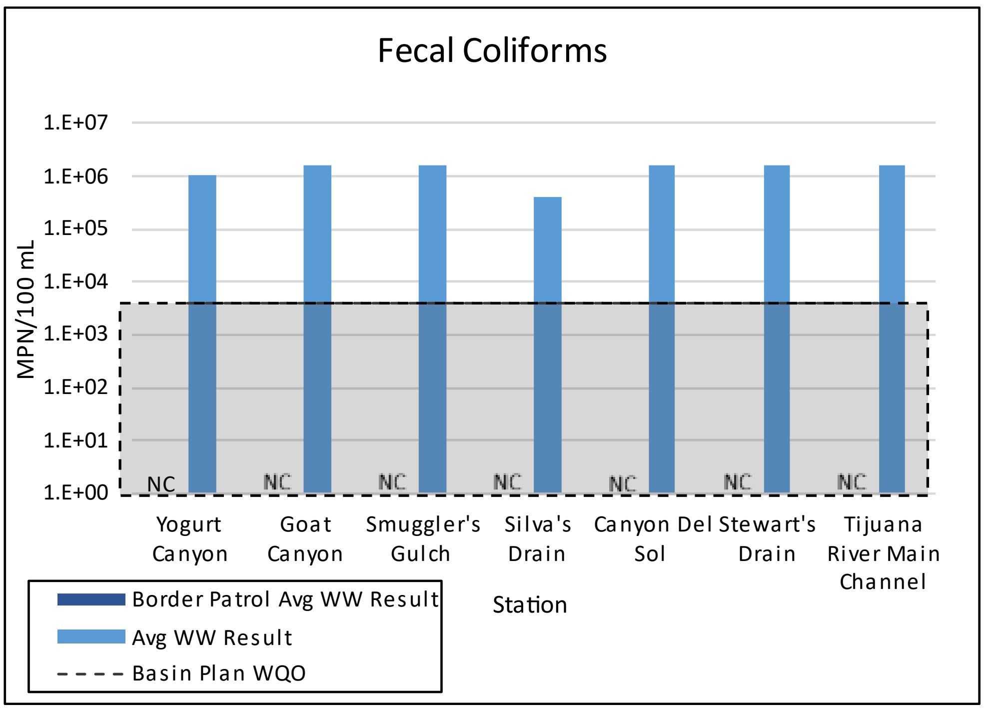

Oxidation Reduction Potential
mV
80
60
40
20
0
-20
-40
-60
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result

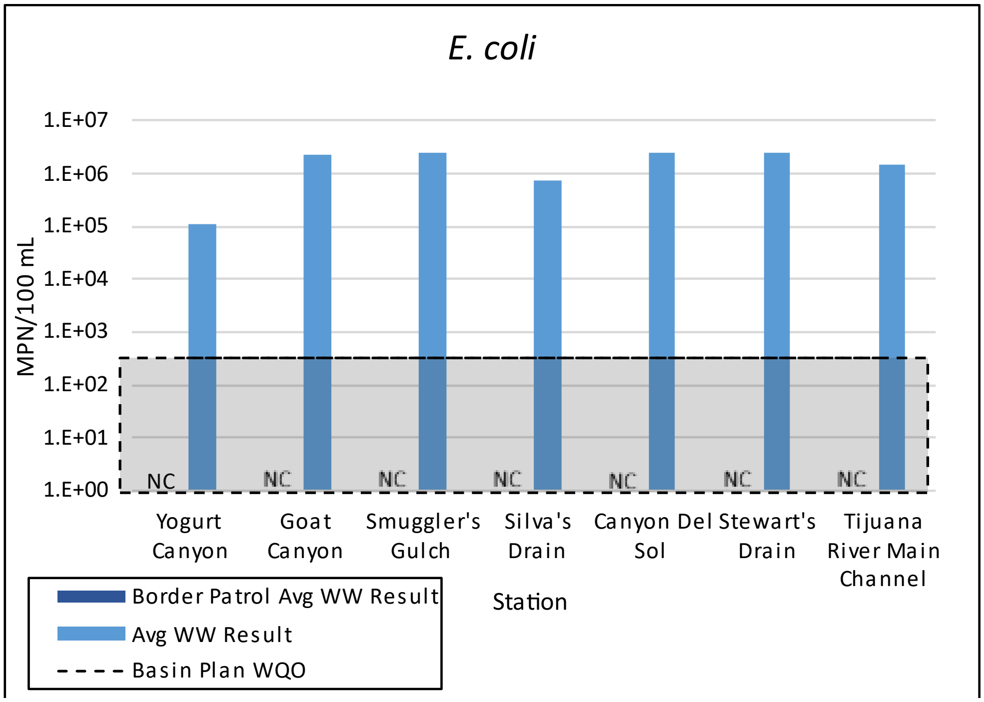

Turbidity
NTU
1000
100
10
1
NC
NC
NC
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result
Basin Plan WQO

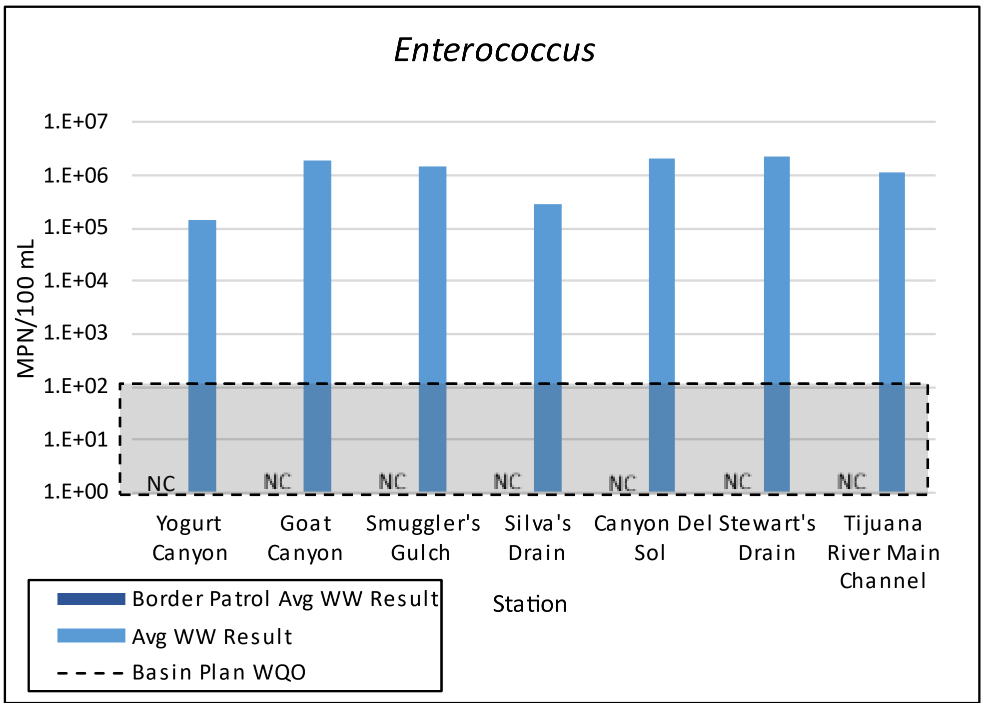

Carbonaceous Biochemical Oxygen Demand
300
250
200
150
100
50
0
mg/L
NC
NC
NC
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result


Total Suspended Solids
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
mg/L
NC
NC
NC
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result


Total Coliforms
MPN/100 mL
1.E+07
1.E+06
1.E+05
1.E+04
1.E+03
1.E+02
1.E+01
1.E+00
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result


Fecal Coliforms
MPN/100 mL
1.E+07
1.E+06
1.E+05
1.E+04
1.E+03
1.E+02
1.E+01
1.E+00
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result
Basin Plan WQO


E. coli
1.E+07
1.E+06
1.E+05
1.E+04
1.E+03
1.E+02
1.E+01
1.E+00
MPN/100 mL
NC
NC
NC
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result
Basin Plan WQO


Enterococcus
1.E+07
1.E+06
1.E+05
1.E+04
1.E+03
1.E+02
1.E+01
1.E+00
MPN/100 mL
NC
NC
NC
NC
NC
NC
NC
Yogurt Canyon
Goat Canyon
Smuggler's Gulch
Silva's Drain
Canyon Del Sol
Stewart's Drain
Tijuana River Main Channel
Station
Border Patrol Avg WW Result
Avg WW Result
Basin Plan WQO

ATTACHMENT E

Complete Results for Sediment Characterization Monitoring

Table E-1
Sediment Characterization Monitoring Results

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**
Metals											
Total Aluminum	µg/g	16,400	11,100	35,600	15,200	7,260	9,280	4,500	13,200	7,240	12,700
Total Antimony	µg/g	0.34	0.72	1.41	0.59	0.11	0.15	0.30	0.65	0.29	0.47
Total Arsenic	µg/g	2.69	2.38	6.30	3.33	1.39	1.82	1.98	3.52	2.76	3.29
Total Barium	µg/g	77.50	64.50	201.00	123.00	49.80	68.50	60.10	90.50	40.30	77.70
Total Beryllium	µg/g	0.26	0.20	0.69	0.30	0.10	0.15	0.12	0.26	0.16	0.25
Total Cadmium	µg/g	0.13	0.13	0.54	0.21	0.03	0.05	0.12	0.15	0.09	0.13
Total Calcium	µg/g	8,290	NC	21,100	NC	2,460	NC	2,600	NC	2,410	NC
Total Chromium	µg/g	15.70	14.00	30.40	16.90	7.48	9.28	5.83	14.40	7.28	12.40
Total Cobalt	µg/g	4.65	3.80	8.98	4.62	2.45	3.40	2.09	3.74	2.31	3.56
Total Copper	µg/g	14.30	13.00	44.80	15.90	3.23	5.05	6.15	12.10	6.51	8.85
Total Iron	µg/g	14,800	12,700	24,200	14,400	8,010	10,100	6,380	13,100	7,510	11,500
Total Lead	µg/g	6.10	16.30	25.50	9.64	1.05	1.92	7.44	9.77	9.02	8.05
Total Magnesium	µg/g	3,740	NC	9,390	NC	1,870	NC	988	NC	1,400	NC
Total Manganese	µg/g	213	189	324	215	101	191	152	190	101	163
Total Trace Mercury	µg/g	0.013	0.033	0.080	0.031	0.002	0.004	0.010	0.020	0.022	0.018
Total Molybdenum	µg/g	0.56	0.52	0.97	0.47	0.18	0.26	0.29	0.61	0.25	0.31

Table E-1
Sediment Characterization Monitoring Results (Continued)

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**
Total Nickel	µg/g	6.26	4.99	23.00	7.98	2.67	3.49	6.04	5.51	3.34	5.42
Total Potassium	µg/g	3,700	NC	3,680	NC	1,660	NC	801	NC	1,140	NC
Total Selenium	µg/g	0.11	0.13	0.31	0.22	0.07	0.11	0.11	0.27	0.11	0.19
Total Silver	µg/g	0.31	0.23	0.69	0.18	0.44	0.11	0.77	0.39	0.27	0.13
Total Sodium	µg/g	384	NC	323	NC	214	NC	< 1	NC	< 1	NC
Total Thallium	µg/g	0.12	0.16	0.25	0.16	0.07	0.12	0.12	0.19	0.08	0.13
Total Vanadium	µg/g	38.80	36.60	53.60	36.90	21.50	24.90	15.50	33.70	18.10	26.60
Total Zinc	µg/g	46.90	42.20	203.00	61.80	16.10	20.40	39.60	57.10	34.10	43.90
Conventionals, Nutrients, and Hydrocarbons											
Alkalinity	mg/kg	264.0	111.0	350.0	432.0	136.0	724.0	77.3	223.0	64.7	132.0
Chloride	mg/kg	51.1	45.6	50.8	13.2	112.0	51.2	16.2	13.7	18.7	8.5
Total Cyanide	mg/kg	< 0.038	< 0.036	0.2 **J**	< 0.040	< 0.036	< 0.037	< 0.036	< 0.042	< 0.037	< 0.039
Sulfate	mg/kg	479.0	831.0	195.0	33.0	82.8	44.2	57.4	123.0	30.4	20.2
Total Sulfides	mg/kg	< 0.2	< 0.2	0.313 **J**	< 0.2	< 0.2	< 0.2	0.221 **J**	< 0.2	< 0.2	< 0.2
Dissolved Sulfides	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Nitrate as N	mg/kg	14.8	7.9	33.4	7.3	5.3	6.3	12.9	11.0	11.2	10.5
Nitrite as N	mg/kg	0.8	< 0.01	0.9	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Table E-1
Sediment Characterization Monitoring Results (Continued)

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**
Biological Oxygen Demand (BOD)	mg/kg	< 770	< 800	2,200	< 880	< 790	< 800	< 1,200	1,400[1]	< 990	< 820
Total Organic Carbon (TOC)	% dry weight	0.80	0.18	1.41	0.33	0.07	0.11	0.26	0.31	0.30	0.27
Oil and Grease Hexane-extractable material (HEM)	mg/kg	1280	168 **J**	1350	182 **J**	< 100	< 100	147 **J**	413	188 **J**	646
Total Petroleum Hydrocarbons (TPH) - Carbon Chain (C6-C10)	mg/kg	< 55	< 210	< 13	< 230	< 10	< 210	< 10	< 220	< 11	< 220
Total Petroleum Hydrocarbons (TPH) - Carbon Chain (C10-C44)	mg/kg	270	< 210	86	< 230	14	< 210	170	< 220	76	< 220
Total Recoverable Petroleum Hydrocarbons (TRPH)	mg/kg	376	< 100	763	756	< 100	< 100	180 **J**	197 **J**	131 **J**	279
Particle Size Distribution											
Granule 2.0 <4.0 mm	%	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Sand 0.0625 to <2.0 mm	%	17.2	69.2	58.5	58.3	38.5	70.6	15.7	67.7	71.3	79.0
Silt 0.0039 to <0.0625 mm	%	60.7	22.1	31.2	31.0	50.8	23.1	66.7	26.5	22.2	17.0
Clay <0.0039 mm	%	22.2	8.3	10.5	10.6	10.5	6.4	18.1	5.7	6.6	4.4
Percent Solids	%	90.8	95.8	75.0	86.6	96.5	93.6	97.5	82.6	95.1	90.4
Organics											
2-4'-DDT	ng/g	8.84	< 0.194	< 0.194	1.26	< 0.194	< 0.194	< 0.194	7.18	< 0.194	1.45
2-4' DDD	ng/g	8.08	10.60	< 0.267	4.79	3.38	4.79	< 0.267	6.04	6.43	5.82
2-4'-DDE	ng/g	0.98	0.42 **J**	< 0.2	0.22 **J**	< 0.2	0.52	< 0.2	1.28	0.89	< 0.2
4-4'-DDT	ng/g	44.10	7.05	69.10	16.10	< 0.128	< 0.128	< 0.128	< 0.128	< 0.128	5.36

Table E-1
Sediment Characterization Monitoring Results (Continued)

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**
4-4' DDD	ng/g	32.20	40.00	< 0.198	3.31	0.42 **J**	5.22	2.32	11.60	14.90	13.50
4-4'-DDE	ng/g	65.30	34.30	1.29	15.10	2.71	19.40	0.40 **J**	4.04	0.93	11.30
Organochlorine Pesticides including Polychlorinated biphenyls (PCBs)											
Aldrin	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
BHC-alpha	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
BHC-beta	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
BHC-delta	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
BHC-gamma	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Chlordane-alpha	ng/g	3.20	3.05	3.32	2.73	< 0.187	2.48	2.42	3.88	4.12	2.80
Chlordane-gamma	ng/g	0.941	0.917	0.341 **J**	< 0.179	< 0.179	< 0.179	< 0.179	1.170	2.110	0.203 **J**
cis-Nonachlor	ng/g	3.89	3.75	4.55	< 0.192	< 0.192	< 0.192	< 0.192	4.90	< 0.192	< 0.192
Dieldrin	ng/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Endosulfan Sulfate	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Endosulfan-I	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Endosulfan-II	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Endrin	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Endrin Aldehyde	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25

Table E-1
Sediment Characterization Monitoring Results (Continued)

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**
Endrin Ketone	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Heptachlor	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Heptachlor Epoxide	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Kepone	ng/g	3.89	< 0.193	4.55	< 0.193	< 0.193	< 0.193	< 0.193	< 0.193	< 0.193	< 0.193
Lindane	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Methoxychlor	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Mirex	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Total PCBs	ng/g	6.974	19.076	7.458	2.849	< 0.25	0.904	< 0.25	3.575	3.038	3.132
Toxaphene	ng/g	263.0	28.8	51.6	117.0	< 10	41.1	19.1 **J**	61.6	22.8	< 10
Organophosphorus Pesticides											
Bolstar (Sulprofos)	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Chlorpyrifos	ng/g	< 1	< 1	< 1	< 1	< 1	< 1	1.25 **J**	< 1	< 1	< 1
Demeton	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diazinon	ng/g	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorvos	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dimethoate	ng/g	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Disulfoton	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Table E-1
Sediment Characterization Monitoring Results (Continued)

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**
Ethoprop (Ethoprofos)	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fenchlorphos (Ronnel)	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fensulfothion	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fenthion	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Malathion	ng/g	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methidathion	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Methyl Parathion	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mevinphos (Phosdrin)	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phorate	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachlorvinphos (Stirofos)	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Tokuthion (Prothiofos)	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Trichloronate	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Polycyclic Aromatic Hydrocarbons (PAH)											
1-Methylnaphthalene	ng/g	0.307 **J**	0.567	1.280	0.592	< 0.084	< 0.084	0.168 **J**	2.580	0.351 **J**	0.819
1-Methylphenanthrene	ng/g	1.280	3.560	2.470	0.787	< 0.076	< 0.076	0.276 **J**	8.450	1.240	0.873
2,3,5-Trimethylnaphthalene	ng/g	0.318 **J**	0.523	0.835	0.383 **J**	< 0.059	< 0.059	0.139 **J**	6.980	0.311 **J**	0.300 **J**
2,6-Dimethylnaphthalene	ng/g	0.367 **J**	0.705	1.660	0.654	< 0.065	< 0.065	0.197 **J**	5.500	0.336 **J**	0.580

Table E-1
Sediment Characterization Monitoring Results (Continued)

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**
2-Methylnaphthalene	ng/g	0.550	1.100	3.270	1.130	< 0.106	0.235 **J**	0.463 **J**	3.170	1.020	1.400
Acenaphthene	ng/g	0.456 **J**	1.88	0.346 **J**	< 0.078	< 0.078	< 0.078	< 0.078	0.549	< 0.078	< 0.078
Acenaphthylene	ng/g	0.482 **J**	0.798	1.330	0.278 **J**	< 0.058	< 0.058	0.0935 **J**	1.000	2.110	0.339 **J**
Anthracene	ng/g	1.200	3.550	2.270	0.506	< 0.046	< 0.046	0.217 **J**	2.850	1.100	0.729
Benz[a]anthracene	ng/g	10.30	25.50	9.76	3.70	< 0.107	< 0.107	1.12	16.30	7.04	2.81
Benzo[a]pyrene	ng/g	10.90	21.60	11.30	3.89	< 0.106	< 0.106	1.38	10.90	10.90	5.87
Benzo[b]fluoranthene	ng/g	13.30	23.00	22.90	5.40	< 0.063	< 0.063	2.21	14.50	13.20	5.57
Benzo[e]pyrene	ng/g	9.83	15.60	23.30	6.06	< 0.098	< 0.098	2.88	19.40	19.60	15.00
Benzo[g,h,i]perylene	ng/g	14.90	21.00	40.90	9.34	< 0.093	< 0.093	4.90	16.90	28.90	13.50
Benzo[k]fluoranthene	ng/g	18.10	29.90	17.40	5.98	< 0.111	< 0.111	2.03	11.60	11.10	4.31
Biphenyl	ng/g	0.180 **J**	0.337 **J**	2.080	0.738	< 0.092	< 0.092	0.741	3.800	0.674	3.290
Chrysene	ng/g	7.660	16.100	17.000	3.510	< 0.067	0.146 **J**	1.670	26.300	9.320	7.120
Dibenz[a,h]anthracene	ng/g	16.70	27.80	29.50	10.10	< 0.106	< 0.106	5.16	33.40	31.10	23.10
Dibenzothiophene	ng/g	< 0.2	1.45	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	3.57	< 0.2	< 0.2
Fluoranthene	ng/g	21.600	47.100	26.300	8.080	< 0.035	0.386 **J**	3.340	17.100	11.800	4.690
Fluorene	ng/g	0.474 **J**	1.45	0.557	0.213 **J**	< 0.068	< 0.068	< 0.068	1.91	0.265 **J**	0.248 **J**
Indeno[1,2,3-cd]pyrene	ng/g	35.0	51.3	49.9	15.0	< 0.087	< 0.087	4.1	23.0	30.6	14.7

Table E-1
Sediment Characterization Monitoring Results (Continued)

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**
Naphthalene	ng/g	0.674	1.07	3.68	0.695	< 0.187	< 0.187	< 0.187	2.33	1.58	1.71
Perylene	ng/g	8.06	6.95	4.22	1.53	< 0.114	< 0.114	1.73	5.16	45.10	4.82
Phenanthrene	ng/g	6.54	23.60	8.26	2.84	0.0994 **J**	0.199 **J**	1.30	8.44	3.89	2.91
Pyrene	ng/g	16.80	40.30	26.00	9.55	< 0.048	3.19	5.22	25.70	13.80	7.73
Other Semi-Volatile Organic Compounds											
o-Cresol	ng/g	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
m-Cresol and p-Cresol (combined)	ng/g	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Cresols (Total)	ng/g	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
2,4-Dinitrotoluene	ng/g	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Hexachlorobenzene	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	0.627	< 0.25	< 0.25
Hexachlorobutadiene	ng/g	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Hexachloroethane	ng/g	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Nitrobenzene	ng/g	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Pentachlorophenol	ng/g	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Pyridine	ng/g	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
2,4,5-Trichlorophenol	ng/g	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
2,4,6-Trichlorophenol	ng/g	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50

Table E-1
Sediment Characterization Monitoring Results (Continued)

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		10/21/21	1/7/22	10/21/21	1/7/22	10/21/21	1/7/22	10/21/21	1/7/22	10/21/21	1/7/22
2,4-dimethylphenol	ng/g	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
2-chlorophenol	ng/g	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
2,4-dichlorophenol	ng/g	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
2-nitrophenol	ng/g	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
4-nitrophenol	ng/g	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
4,6-dinitro-2- methylphenol	ng/g	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
2,4-dinitrophenol	ng/g	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Pyrethroids											
Allethrin	ng/g	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
Bifenthrin	ng/g	4.60	1.37	14.90	1.41	< 0.22	< 0.22	1.18	17.80	< 0.22	5.06
Cyfluthrin	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Cyhalothrin, Total Lambda	ng/g	2.17	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	8.29	< 0.23	1.36
Cypermethrin	ng/g	18.6	< 0.25	200.0	27.7	< 0.25	< 0.25	34.6	147.0	17.1	28.6
Danitol (Fenpropathrin)	ng/g	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21
Deltamethrin/Tralomethrin	ng/g	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Esfenvalerate	ng/g	5.39	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	12.30	< 0.25	3.25
Fenvalerate	ng/g	7.12	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	11.70	< 0.25	3.00

Table E-1
Sediment Characterization Monitoring Results (Continued)

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**
Permethrin, cis-	ng/g	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	21.4	< 0.17	< 0.17
Permethrin, trans-	ng/g	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	27	< 0.22	< 0.22
Prallethrin	ng/g	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
Volatile Organic Compounds											
Benzene	µg/kg	< 0.2	< 0.2	< 0.3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.3	< 0.2	< 0.2
Carbon tetrachloride	µg/kg	< 0.4	< 0.3	< 0.4	< 0.4	< 0.3	< 0.4	< 0.3	< 0.4	< 0.3	< 0.4
Chlorobenzene	µg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Chloroform	µg/kg	< 0.4	< 0.4	< 0.5	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
1,4-Dichlorobenzene	ng/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,2-Dichloroethylene	µg/kg	< 0.6	< 0.6	< 0.7	< 0.6	< 0.5	< 0.6	< 0.5	< 0.6	< 0.6	< 0.6
Ethylbenzene	µg/kg	< 0.5	< 0.5	< 0.6	< 0.5	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5
Methyl ethyl ketone	µg/kg	< 3.5	< 3.3	< 4.3	< 3.7	< 3.3	< 3.4	< 3.3	< 3.9	< 3.4	< 3.6
Tetrachloroethylene	µg/kg	< 0.6	< 0.6	< 0.8	< 0.7	< 0.6	< 0.6	< 0.6	< 0.7	< 0.6	< 0.6
Toluene	µg/kg	< 0.5	< 0.5	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	µg/kg	< 0.6	< 0.6	< 0.7	< 0.6	< 0.5	< 0.6	< 0.5	< 0.6	< 0.6	< 0.6
Vinyl chloride	µg/kg	< 0.5	< 0.4	< 0.6	< 0.5	< 0.4	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5

Table E-1
Sediment Characterization Monitoring Results (Continued)

Site ID		Brown Fill Removal/ Restoration Project BRWNFL		Flood Control Channel FLDCHNL		Potential Basin Complex – Main Tijuana River BASINTJRVR		Potential Basin Complex – Smugglers BASINSMGL		Smuggler's Gulch/Pilot Channel SMGLPILOT	
Event Date		**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**	**10/21/21**	**1/7/22**
Other											
Asbestos	Presence/ Absence	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Radioactivity (Gross Alpha)	pCi/g	2.70	1.42	33.00[2]	< 1.7[3]	0.75	2.10	3.90	1.37	2.16	2.10
Radioactivity (Gross Beta(	pCi/g	9.50	2.80	150.00[2]	< 2[3]	1.51	< 1.99	3.60	1.59	1.39	2.50

Notes:
Any results notated by "<" indicate that the result was not detected below the minimum detection limit provided.
% = percent; g = gram; HEM = oil and grease hexane-extractable material; ID = identification; J = sample result was above the MDL but below the reporting limit (RL); kg = kilogram; mg = milligrams; NC = Not Collected; ng = nanograms PAH = Polycyclic Aromatic Hydrocarbons; PCB = Polychlorinated biphenyls; pCi = picocurie radioactive unit; TPH = Total Petroleum Hydrocarbon; TRPH = Total Recoverable Petroleum Hydrocarbons

1. B qualifier, result detected in the unseeded control blank.
2. M3 qualifier. The requested reporting limit was not met, but the reported activity is greater than the given reporting limit.
3. No Minimum Detection Limit was provided, so the Reporting Limit was used instead to quantify the Not Detected result.

ATTACHMENT F

FDS for Sediment Characterization Monitoring

Sediment Management Monitoring – Tijuana River Watershed

Site ID: BRWNFL	Date (MM/DD/YYYY): 10/21/2021	Time: 10:45
Jurisdiction:	HU:	
Latitude:	Longitude:	
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No	
	Number of Photographs: 4	
Signature: [signature]	Total Number of Bottles: 6	

Sample ID: *Monitoring year (2021) - Event # (01) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – 01 - BRWNFL - 01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☐N/A
Flow Source is Stormwater? ☐ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☒ Fine Particulate ☐ Minerals ☐ Oil ☐Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☐ Grab ☐ Field Blank ☐ Field Dup
Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			˚C		
pH			pH		
Dissolved Oxygen			mg/L / ppm		
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Site 1: 32.5534475, -117.0844893 Sandy.
Site 2: 32.5525714, -117.0843907
Site 3: 32.5533087, -117.0856400

Sediment Management Monitoring – Tijuana River Watershed

Site ID: BASINTJRVR	Date (MM/DD/YYYY): 10/21/21	Time: 07:30
Jurisdiction:	HU:	
Latitude:	Longitude:	
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No	
	Number of Photographs: 4	
Signature: [signature]	Total Number of Bottles: 12	

Sample ID: *Monitoring year (2021) - Event # (~~W2~~ EL) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – ~~W2~~ EL - BASINTJRVR -01 and 02

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel
☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☒ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☐N/A
Flow Source is Stormwater? ☐ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☐ Grab ☐ Field Blank ☒ Field Dup
Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			°C		
pH			pH		
Dissolved Oxygen			mg/L / ppm		
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Site 1: 32.5511725, -117.0610046
Site 2: 32.5513788, -117.0571492
Site 3: 32.5482913, -117.0571204

Field dup taken at this site using same composite soil

Sediment Management Monitoring – Tijuana River Watershed

Site ID: FLDCHNL	Date (MM/DD/YYYY): 10/21/2021	Time: 09:~~[illegible]~~45

Jurisdiction:	HU:
Latitude: DC ~~[illegible]~~	Longitude:
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No
	Number of Photographs: 4
Signature: [signature]	Total Number of Bottles: 6

Sample ID: *Monitoring year (2021) - Event # (##) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – ~~[illegible]~~ FLDCHNL - 01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☐N/A
Flow Source is Stormwater? ☐ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☐ Grab ☐ Field Blank ☒ Field Dup

Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			°C		
pH			pH		
Dissolved Oxygen			mg/L / ppm		
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Site 1: 32.5422682, -117.0540788
Site 2: 32.5486386, -117.0637679
Site 3: 32.5426532, -117.0588873

High clay content. No photo of composite.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: SMGLPILOT	**Date (MM/DD/YYYY):** 10/21/21	**Time:** 11:45

Jurisdiction:	**HU:**
Latitude:	**Longitude:**
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No
	Number of Photographs: 4
Signature: [signature]	**Total Number of Bottles:** 6

Sample ID: *Monitoring year (2021) - Event # (~~WE~~) Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – ~~WE~~ - SMGLPILOT - 01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☐N/A
Flow Source is Stormwater? ☐ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No
Approx. Storm Start Time:

Odor	☐ None ☒ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☒ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☐ Grab ☐ Field Blank ☒ Field Dup

Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			°C		
pH			pH		
Dissolved Oxygen			mg/L / ppm		
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Site 1: 32.5520944, -117.0891289
Site 2: 32.5509747, -117.0884110
Site 3: 32.5506551, -117.0837085

Sediment Management Monitoring – Tijuana River Watershed

Site ID: BASIN SMGL	**Date (MM/DD/YYYY):** 10/21/2021	**Time:** 13:20

Jurisdiction:	**HU:**
Latitude:	**Longitude:**
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No
	Number of Photographs: 4
Signature: Dmm	**Total Number of Bottles:** 6

Sample ID: *Monitoring year (2021) - Event # (E1) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 - E1 - BASIN SMGL – - 01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☐N/A
Flow Source is Stormwater? ☐ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☐ **Grab** ☐ **Field Blank** ☐ **Field Dup** ***(check all that apply)***
Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			°C		
pH			pH		
Dissolved Oxygen			mg/L / ppm		
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Site 1: 32.5442697, -117.0884080 inside channel, all sand

Site 2: 32.5445317, -117.0879571 inside channel, large pebble track, sand.

Site 3: 32.5443594, -117.0881985 Above channel along bank.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: BRWNFL	**Date (MM/DD/YYYY):** 01/07/2022	**Time:** 14:45
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs: 4	
Signature: [signature]	**Total Number of Bottles:** 6	

Sample ID: *Monitoring year (2021) - Event # (E2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – E2 - BRWNFL -01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☐N/A
Flow Source is Stormwater? ☐ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☒ Excessive

Type of Sample: ☐ **Grab** ☐ **Field Blank** ☐ **Field Dup** *(check all that apply)*
Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			°C		
pH			pH		
Dissolved Oxygen			mg/L / ppm	—	
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

Visual Estimation of Flow (choose one method)	**Channel**	**Pipe**	**Bottle Fill**	**Leaf float**	**Estimated/Calculated Flow Rate**
	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Site 1: 32.553481, -117.084396
Site 2: 32.552809, -117.084853
Site 3: 32.552970, -117.085706
Trash eval done at site 2.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: SM6 PILOT	Date (MM/DD/YYYY): 01/07/2022	Time: 13:55
Jurisdiction:	HU:	
Latitude:	Longitude:	
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No	
	Number of Photographs: 4	
Signature:	Total Number of Bottles: 6	

Sample ID: *Monitoring year (2021) - Event # (E2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*

2021 – E2 - SM6 PILOT - 01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow

Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:

Flow Reaches Receiving Water? ☐ Yes ☐ No ☐ N/A

Flow Source is Stormwater? ☐ Yes ☐ No

Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No

Approx. Storm Start Time:

Odor	☒ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☒ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☒ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☒ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☒ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☐ **Grab** ☐ **Field Blank** ☐ **Field Dup** *(check all that apply)*

Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			°C		
pH			pH		
Dissolved Oxygen			mg/L / ppm		
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Site 1: 32.550963, -117.084692

Site 2: 32.551153, -117.088426

Site 3: 32.552115, -117.089247

Trash eval done at site 3.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: BASINSMGL	**Date (MM/DD/YYYY):** 01/07/2022	**Time:** 13:00
Jurisdiction:	**HU:**	
Latitude:	**Longitude:**	
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No	
	Number of Photographs: 4	
Signature: [signature]	**Total Number of Bottles:** 6	

Sample ID: *Monitoring year (2021) - Event # (E2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – E2 - BASINSMGL -01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☐N/A
Flow Source is Stormwater? ☐ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☐ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*
Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			˚C		
pH			pH		
Dissolved Oxygen			mg/L / ppm		
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Site 1: 32.541413, -117.087985

Site 2: 32.544289, -117.088317

Site 3: 32.548769, -117.088404

Trash eval done at site 2.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: FLDCHNL	**Date (MM/DD/YYYY):** 01/07/2022 — **Time:** 10:35
Jurisdiction:	**HU:**
Latitude:	**Longitude:**
Staff: DC JOB	**Photographs Taken:** ☒ Yes ☐ No **Number of Photographs:** 4
Signature: [signature]	**Total Number of Bottles:** 6

Sample ID: *Monitoring year (2021) - Event # (E2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*
2021 – E2 - FLDCHNL -01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow
Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:
Flow Reaches Receiving Water? ☐ Yes ☐ No ☐N/A
Flow Source is Stormwater? ☐ Yes ☐ No
Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No
Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☐ **Grab** ☐ **Field Blank** ☐ **Field Dup** ***(check all that apply)***
Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			˚C		
pH			pH		
Dissolved Oxygen			mg/L / ppm		
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
Visual Estimation of Flow (choose one method)	Width ____ ft Length ____ ft Depth ____ ft Velocity ____ ft/sec	Diameter ____ ft Depth ____ ft Velocity ____ ft/sec	Volume ____ ml Time to Fill ____ sec	Distance ____ ft Time ____ sec	____ ☐ cfs ☐ gpm ☐ gpd

Other observations/notes:

Site 1: 32.542152, -117.052760

Site 2: 32.5~~48~~773, -117.063843

Site 3: 32.544332, -117.061093

Trash eval done at site 3.

Sediment Management Monitoring – Tijuana River Watershed

Site ID: BASIN TJ RVR	Date (MM/DD/YYYY): 01/07/2022	Time: 09:10

Jurisdiction:	HU:
Latitude:	Longitude:
Staff: DC JOB	Photographs Taken: ☒ Yes ☐ No
	Number of Photographs: 4
Signature: Dylan Conn	Total Number of Bottles: 6

Sample ID: *Monitoring year (2021) - Event # (E2) - Site ID - Sample Type (Prim.=01, FDup=02, Fblank=03)*

2021 – E2 - BASINTJRVR - 01

Conveyance Type: ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Manhole ☐ Outfall ☐ Other:

Current Precipitation: ☐ None ☐ Drizzle/Sprinkle ☐ Rain ☐ Hail/Snow

Flow Status: ☐ Flowing ☐ Ponded ☐ Tidal Tidal Height:

Flow Reaches Receiving Water? ☐ Yes ☐ No ☐N/A

Flow Source is Stormwater? ☐ Yes ☐ No

Less than 72 Hours since previous (>0.1") rainfall event? ☐ Yes ☐ No

Approx. Storm Start Time:

Odor	☐ None ☐ Sulfides ☐ Sewage ☐ Smoke ☐ Petroleum ☐ Manure ☐ Other:
Color	☐ Colorless ☐ Yellow ☐ Brown (Silty) ☐ White (Milky) ☐ Gray ☐ Other:
Clarity	☐ Clear ☐ Cloudy (>4" visibility) ☐ Murky (<4" visibility)
Floatables	☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Algae ☐ Other:
Deposits	☐ None ☐ Coarse Particulate ☐ Fine Particulate ☐ Minerals ☐ Oil ☐ Other:
Vegetation	☐ None ☐ Limited ☐ Normal ☐ Excessive

Type of Sample: ☐ Grab ☐ Field Blank ☐ Field Dup *(check all that apply)*

Grab Sample Time:

	Result	Primary/Dup Result	Units	Calibration Date	Notes
Temperature			˚C		
pH			pH		
Dissolved Oxygen			mg/L / ppm		
Specific Conductivity			µS/cm		
Turbidity			NTU		
Oxidation-reduction potential (ORP)			mV		
Flow			cfs / gpm		

Visual Estimation of Flow (choose one method)	Channel	Pipe	Bottle Fill	Leaf float	Estimated/Calculated Flow Rate
	Width ____ ft	Diameter ____ ft	Volume ____ ml	Distance ____ ft	____ ☐ cfs ☐ gpm ☐ gpd
	Length ____ ft	Depth ____ ft			
	Depth ____ ft				
	Velocity ____ ft/sec	Velocity ____ ft/sec	Time to Fill ____ sec	Time ____ sec	

Other observations/notes:

Site 1: 32.550881, -117.061036

Site 2: 32.550847, -117.056997

Site 3: 32.547794, -117.060258

Trash eval done at site 3.

ATTACHMENT G

Laboratory Reports for Sediment Characterization Monitoring

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

March 01, 2022

Matt Rich
Wood Environment & Infrastructure Solutions, Inc.
9177 Sky Park Court
San Diego, CA 92123-

Project Name: Tijuana River Sediment Management Monitoring Project # 5025-21-0002
Physis Project ID: 2109001-001

Dear Matt,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 10/21/2021. A total of 7 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Sulfides by Plumb, 1981/TERL
Dissolved Sulfides by Plumb, 1981/TERL
Nitrate as N by EPA 300.0
Nitrite as N by EPA 300.0
Particle Size Distribution by SM 2560 D
Sulfate by EPA 300.0
Total Alkalinity by SM 2320 B
Chloride by EPA 300.0
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Trace Metals by EPA 200.8
Major Elements (Ca, K, Mg, Na) by EPA 6020
Total Mercury by EPA 245.7
Organics
Oil & Grease by SM 5520 E
Acid Extractable Compounds by EPA 8270E
Organochlorine Pesticides & PCB Congeners by EPA 8270E
Toxaphene w/ OCPs by EPA 8270E-NCI
Base/Neutral Extractable Compounds by EPA 8270E
TRPH by SM 5520 E
Total Organic Carbon by EPA 9060
Synthetic Pyrethroid Pesticides by EPA 8270E-MRM

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Polynuclear Aromatic Hydrocarbons by EPA 8270E
Phthalates by EPA 8270E
Percent Solids by SM 2540 B
Organophosphorus Pesticides by EPA 8270E
Subcontract
Volatile Organic Compounds by EPA 8260B
Biochemical Oxygen Demand (BOD) by SM 5210 B
Cyanide by EPA 9012A
Gross Alpha & Beta Radiochemistry by EPA 900.0
TPH - Carbon Chain (C10-C44) by EPA 8015B EPH
TPH - Carbon Chain (C6-C10) by EPA 8015B PPH
Asbestos TEM by PLM Qualitative (presence/absence)

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
714 602-5320
Extension 202
mistymercier@physislabs.com

PROJECT SAMPLE LIST

Wood Environment & Infrastructure Solutions, Inc. PHYSIS Project ID: 2109001-001

Tijuana River Sediment Management Monitoring Project # 5025-21-0002 Total Samples: 7

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
91466	2021-E1-BASINSMGL-01		10/21/2021	13:20	Sediment	Grab
91467	2021-E1-BASINTJRVR-01		10/21/2021	8:00	Sediment	Grab
91468	2021-E1-BRWNFL-01		10/21/2021	10:45	Sediment	Grab
91469	2021-E1-FLDCHNL-01		10/21/2021	9:45	Sediment	Grab
91470	2021-E1-SMGLPILOT-01		10/21/2021	11:45	Sediment	Grab
91471	2021-E1-BASINTJRVR-02		10/21/2021	8:00	Sediment	Grab
91472	2021-E1-EQUIPBLANK		10/21/2021	7:10	Samplewater	Grab

1904 E. Wright Circle Anaheim, CA 92806 (714) 602-5320 fax (714) 602-5321 www.physislabs.com CA ELAP #2769

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

1904 E. Wright Circle Anaheim, CA 92806 (714) 602-5320 fax (714) 602-5321 www.physislabs.com CA ELAP #2769

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

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the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

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PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

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ANALYTICAL REPORT

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Conventionals

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91472-R1	**2021-E1-EQUIPBLANK**		**Matrix: Samplewater**				**Sampled:**	**21-Oct-21**	**7:10**	**Received:**	**21-Oct-21**
Nitrate as N	EPA 300.0	mg/L	ND	1	0.01	0.05	NA		C-60060	22-Oct-21	23-Oct-21
Nitrite as N	EPA 300.0	mg/L	ND	1	0.01	0.03	NA		C-60060	22-Oct-21	23-Oct-21
Sulfate	EPA 300.0	mg/L	0.943	1	0.01	0.05	NA		C-60068	01-Nov-21	01-Nov-21

Elements

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91472-R1	**2021-E1-EQUIPBLANK**		**Matrix: Samplewater**				**Sampled:**	**21-Oct-21**	**7:10**	**Received:**	**21-Oct-21**
Aluminum (Al)	EPA 200.8	µg/L	3.72	1	1.65	8.25	Total	J	E-26018	01-Nov-21	04-Nov-21
Antimony (Sb)	EPA 200.8	µg/L	0.0774	1	0.03	0.15	Total	J	E-26018	01-Nov-21	04-Nov-21
Arsenic (As)	EPA 200.8	µg/L	ND	1	0.05	0.159	Total		E-26018	01-Nov-21	04-Nov-21
Barium (Ba)	EPA 200.8	µg/L	2.72	1	0.25	0.5	Total		E-26018	01-Nov-21	04-Nov-21
Beryllium (Be)	EPA 200.8	µg/L	ND	1	0.01	0.031	Total		E-26018	01-Nov-21	04-Nov-21
Cadmium (Cd)	EPA 200.8	µg/L	0.0689	1	0.007	0.023	Total		E-26018	01-Nov-21	04-Nov-21
Chromium (Cr)	EPA 200.8	µg/L	0.222	1	0.01	0.05	Total		E-26018	01-Nov-21	04-Nov-21
Cobalt (Co)	EPA 200.8	µg/L	ND	1	0.01	0.05	Total		E-26018	01-Nov-21	04-Nov-21
Copper (Cu)	EPA 200.8	µg/L	0.0761	1	0.007	0.022	Total		E-26018	01-Nov-21	04-Nov-21
Iron (Fe)	EPA 200.8	µg/L	5.06	1	1.13	5.65	Total	J	E-26018	01-Nov-21	04-Nov-21
Lead (Pb)	EPA 200.8	µg/L	0.121	1	0.007	0.021	Total		E-26018	01-Nov-21	04-Nov-21
Manganese (Mn)	EPA 200.8	µg/L	0.187	1	0.005	0.01	Total		E-26018	01-Nov-21	04-Nov-21
Mercury (Hg)	EPA 245.7	µg/L	ND	1	0.01	0.02	Total		E-24150	15-Jan-22	15-Jan-22
Molybdenum (Mo)	EPA 200.8	µg/L	ND	1	0.007	0.022	Total		E-26018	01-Nov-21	04-Nov-21
Nickel (Ni)	EPA 200.8	µg/L	0.0548	1	0.013	0.042	Total		E-26018	01-Nov-21	04-Nov-21
Selenium (Se)	EPA 200.8	µg/L	ND	1	0.021	0.068	Total		E-26018	01-Nov-21	04-Nov-21
Silver (Ag)	EPA 200.8	µg/L	ND	1	0.01	0.02	Total		E-26018	01-Nov-21	04-Nov-21
Strontium (Sr)	EPA 200.8	µg/L	0.757	1	0.03	0.15	Total		E-26018	01-Nov-21	04-Nov-21
Thallium (Tl)	EPA 200.8	µg/L	ND	1	0.01	0.05	Total		E-26018	01-Nov-21	04-Nov-21
Tin (Sn)	EPA 200.8	µg/L	4.08	1	0.06	0.3	Total		E-26018	01-Nov-21	04-Nov-21
Titanium (Ti)	EPA 200.8	µg/L	0.371	1	0.08	0.4	Total	J	E-26018	01-Nov-21	04-Nov-21
Vanadium (V)	EPA 200.8	µg/L	ND	1	0.03	0.15	Total		E-26018	01-Nov-21	04-Nov-21
Zinc (Zn)	EPA 200.8	µg/L	0.0941	1	0.022	0.069	Total		E-26018	01-Nov-21	04-Nov-21

Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91466-R1	**2021-E1-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 13:20**		**Received:**	**21-Oct-21**
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	43	1			NA		O-34030	07-Feb-22	14-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	21	1			NA		O-34030	07-Feb-22	14-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22

Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91467-R1	**2021-E1-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	36	1			NA		O-34030	07-Feb-22	14-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	38	1			NA		O-34030	07-Feb-22	14-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22

Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91468-R1	**2021-E1-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 10:45**		**Received:**	**21-Oct-21**
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	59	1			NA		O-34030	07-Feb-22	14-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	42	1			NA		O-34030	07-Feb-22	14-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22

Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91469-R1	**2021-E1-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21**	**9:45**	**Received:**	**21-Oct-21**
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	63	1			NA		O-34030	07-Feb-22	14-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	36	1			NA		O-34030	07-Feb-22	14-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22

Acid Extractable Compounds

Sample ID: 91470-R1 **2021-E1-SMGLPILOT-01** **Matrix: Sediment** **Sampled: 21-Oct-21 11:45** **Received: 21-Oct-21**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	62	1			NA		O-34030	07-Feb-22	15-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	28	1			NA		O-34030	07-Feb-22	15-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22

Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91471-R1	**2021-E1-BASINTJRVR-02**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21**	**8:00**	**Received:**	**21-Oct-21**
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	41	1			NA		O-34030	07-Feb-22	15-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	26	1			NA		O-34030	07-Feb-22	15-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22

Base/Neutral Extractable Compounds

Sample ID: 91466-R1 2021-E1-BASINSMGL-01 Matrix: Sediment Sampled: 21-Oct-21 13:20 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	46.2	1	10	20	NA	B	O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	273	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	10.4	1	10	20	NA	J	O-34030	07-Feb-22	14-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22

Base/Neutral Extractable Compounds

Sample ID: 91467-R1 **2021-E1-BASINTJRVR-01** **Matrix: Sediment** **Sampled: 21-Oct-21 8:00** **Received: 21-Oct-21**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	11.9	1	10	20	NA	J,B	O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22

Base/Neutral Extractable Compounds

Sample ID: 91468-R1 2021-E1-BRWNFL-01 Matrix: Sediment Sampled: 21-Oct-21 10:45 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	28.9	1	10	20	NA	B	O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	109	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91469-R1	**2021-E1-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21**	**9:45**	**Received:**	**21-Oct-21**
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	142	1	10	20	NA	B	O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	1170	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	33.3	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	19.8	1	10	20	NA	J	O-34030	07-Feb-22	14-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91470-R1	**2021-E1-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 11:45**		**Received:**	**21-Oct-21**
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	41.3	1	10	20	NA	B	O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	527	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	89.3	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91471-R1	**2021-E1-BASINTJRVR-02**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21**	**8:00**	**Received:**	**21-Oct-21**
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	20.1	1	10	20	NA	B	O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	18.2	1	10	20	NA	J	O-34030	07-Feb-22	15-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91466-R1	**2021-E1-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 13:20**		**Received:**	**21-Oct-21**
(PCB030)	EPA 8270E	% Recovery	94	1			NA		O-34030	07-Feb-22	14-Feb-22
(PCB112)	EPA 8270E	% Recovery	77	1			NA		O-34030	07-Feb-22	14-Feb-22
(PCB198)	EPA 8270E	% Recovery	97	1			NA		O-34030	07-Feb-22	14-Feb-22
(TCMX)	EPA 8270E	% Recovery	44	1			NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	ND	1	0.267	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.194	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	2.32	1	0.198	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	0.401	1	0.193	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.128	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	2.42	1	0.187	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	ND	1	0.179	0.5	NA		O-34030	07-Feb-22	14-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	ND	1	0.192	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Kepone	EPA 8270E	ng/dry g	ND	1	0.193	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	19.1	1	10	20	NA	J	O-34030	09-Feb-22	10-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	2.28	1	0.186	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Chlorinated Pesticides

Sample ID: 91467-R1 **2021-E1-BASINTJRVR-01** **Matrix: Sediment** **Sampled: 21-Oct-21 8:00** **Received: 21-Oct-21**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(PCB030)	EPA 8270E	% Recovery	81	1			NA		O-34030	07-Feb-22	14-Feb-22
(PCB112)	EPA 8270E	% Recovery	91	1			NA		O-34030	07-Feb-22	14-Feb-22
(PCB198)	EPA 8270E	% Recovery	104	1			NA		O-34030	07-Feb-22	14-Feb-22
(TCMX)	EPA 8270E	% Recovery	57	1			NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	3.38	1	0.267	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.194	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	0.422	1	0.198	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	2.71	1	0.193	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.128	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	ND	1	0.187	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	ND	1	0.179	0.5	NA		O-34030	07-Feb-22	14-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	ND	1	0.192	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Kepone	EPA 8270E	ng/dry g	ND	1	0.193	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	ND	1	10	20	NA		O-34030	09-Feb-22	10-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	ND	1	0.186	0.5	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91468-R1	**2021-E1-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 10:45**		**Received:**	**21-Oct-21**
(PCB030)	EPA 8270E	% Recovery	80	1			NA		O-34030	07-Feb-22	14-Feb-22
(PCB112)	EPA 8270E	% Recovery	93	1			NA		O-34030	07-Feb-22	14-Feb-22
(PCB198)	EPA 8270E	% Recovery	109	1			NA		O-34030	07-Feb-22	14-Feb-22
(TCMX)	EPA 8270E	% Recovery	54	1			NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	8.08	1	0.267	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	0.983	1	0.2	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	8.84	1	0.194	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	32.2	1	0.198	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	65.3	1	0.193	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	44.1	1	0.128	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	3.2	1	0.187	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	0.941	1	0.179	0.5	NA		O-34030	07-Feb-22	14-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	3.89	1	0.192	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Kepone	EPA 8270E	ng/dry g	3.89	1	0.193	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	263	1	10	20	NA		O-34030	09-Feb-22	10-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	3.07	1	0.186	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Chlorinated Pesticides

Sample ID: 91469-R1 **2021-E1-FLDCHNL-01** **Matrix: Sediment** **Sampled: 21-Oct-21 9:45** **Received: 21-Oct-21**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(PCB030)	EPA 8270E	% Recovery	90	1			NA		O-34030	07-Feb-22	14-Feb-22
(PCB112)	EPA 8270E	% Recovery	73	1			NA		O-34030	07-Feb-22	14-Feb-22
(PCB198)	EPA 8270E	% Recovery	95	1			NA		O-34030	07-Feb-22	14-Feb-22
(TCMX)	EPA 8270E	% Recovery	40	1			NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	ND	1	0.267	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.194	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	ND	1	0.198	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	1.29	1	0.193	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	69.1	1	0.128	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	3.32	1	0.187	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	0.341	1	0.179	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	4.55	1	0.192	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Kepone	EPA 8270E	ng/dry g	4.55	1	0.193	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	51.6	1	10	20	NA		O-34030	09-Feb-22	11-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	3.19	1	0.186	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91470-R1	**2021-E1-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 11:45**		**Received:**	**21-Oct-21**
(PCB030)	EPA 8270E	% Recovery	80	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB112)	EPA 8270E	% Recovery	85	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB198)	EPA 8270E	% Recovery	107	1			NA		O-34030	07-Feb-22	15-Feb-22
(TCMX)	EPA 8270E	% Recovery	58	1			NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	6.43	1	0.267	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	0.888	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.194	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	14.9	1	0.198	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	0.931	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.128	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	4.12	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	2.11	1	0.179	0.5	NA		O-34030	07-Feb-22	15-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	ND	1	0.192	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Kepone	EPA 8270E	ng/dry g	ND	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	22.8	1	10	20	NA		O-34030	09-Feb-22	11-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	3.44	1	0.186	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Chlorinated Pesticides

Sample ID: 91471-R1 2021-E1-BASINTJRVR-02 **Matrix:** Sediment **Sampled:** 21-Oct-21 8:00 **Received:** 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(PCB030)	EPA 8270E	% Recovery	76	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB112)	EPA 8270E	% Recovery	79	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB198)	EPA 8270E	% Recovery	97	1			NA		O-34030	07-Feb-22	15-Feb-22
(TCMX)	EPA 8270E	% Recovery	52	1			NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	3.48	1	0.267	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.194	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	ND	1	0.198	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	3.06	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.128	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	ND	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	ND	1	0.179	0.5	NA		O-34030	07-Feb-22	15-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	ND	1	0.192	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Kepone	EPA 8270E	ng/dry g	ND	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	ND	1	10	20	NA		O-34030	09-Feb-22	11-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	ND	1	0.186	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Conventionals

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91466-R1	**2021-E1-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 13:20**		**Received:**	**21-Oct-21**
Chloride	EPA 300.0	mg/dry kg	16.2	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	12.9	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	ND	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	97.5	1	0.1	0.1	NA		C-55140	17-Nov-21	18-Nov-21
Sulfate	EPA 300.0	mg/dry kg	57.4	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	77.3	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	0.26	1	0.01	0.01	NA		O-29148	22-Dec-21	23-Dec-21
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	0.221	1	0.2	0.4	NA	J	C-63082	25-Feb-22	25-Feb-22
Sample ID: 91467-R1	**2021-E1-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
Chloride	EPA 300.0	mg/dry kg	112	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	5.27	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	ND	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	96.5	1	0.1	0.1	NA		C-55140	17-Nov-21	18-Nov-21
Sulfate	EPA 300.0	mg/dry kg	82.8	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	136	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	0.07	1	0.01	0.01	NA		O-29148	22-Dec-21	23-Dec-21
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63082	25-Feb-22	25-Feb-22

Conventionals

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91468-R1	**2021-E1-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 10:45**		**Received:**	**21-Oct-21**
Chloride	EPA 300.0	mg/dry kg	51.1	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	14.8	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	0.814	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	90.8	1	0.1	0.1	NA		C-55140	17-Nov-21	18-Nov-21
Sulfate	EPA 300.0	mg/dry kg	479	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	264	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	0.8	1	0.01	0.01	NA		O-29148	22-Dec-21	23-Dec-21
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63082	25-Feb-22	25-Feb-22
Sample ID: 91469-R1	**2021-E1-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 9:45**		**Received:**	**21-Oct-21**
Chloride	EPA 300.0	mg/dry kg	50.8	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	33.4	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	0.926	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	75	1	0.1	0.1	NA		C-55140	17-Nov-21	18-Nov-21
Sulfate	EPA 300.0	mg/dry kg	195	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	350	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	1.41	1	0.01	0.01	NA		O-29148	22-Dec-21	23-Dec-21
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	0.313	1	0.2	0.4	NA	J	C-63082	25-Feb-22	25-Feb-22

Conventionals

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91470-R1	**2021-E1-SMGLPILOT-01**	**Matrix: Sediment**					**Sampled:**	**21-Oct-21 11:45**		**Received:**	**21-Oct-21**
Chloride	EPA 300.0	mg/dry kg	18.7	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	11.2	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	ND	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	95.1	1	0.1	0.1	NA		C-55140	17-Nov-21	18-Nov-21
Sulfate	EPA 300.0	mg/dry kg	30.4	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	64.7	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	0.3	1	0.01	0.01	NA		O-29148	22-Dec-21	23-Dec-21
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63082	25-Feb-22	25-Feb-22
Sample ID: 91471-R1	**2021-E1-BASINTJRVR-02**	**Matrix: Sediment**					**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
Chloride	EPA 300.0	mg/dry kg	115	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	5.27	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	ND	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	96.8	1	0.1	0.1	NA		C-55140	17-Nov-21	18-Nov-21
Sulfate	EPA 300.0	mg/dry kg	84.9	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	120	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	0.05	1	0.01	0.01	NA		O-29148	22-Dec-21	23-Dec-21
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63082	25-Feb-22	25-Feb-22

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Elements

Sample ID: 91466-R1 2021-E1-BASINSMGL-01 Matrix: Sediment Sampled: 21-Oct-21 13:20 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Aluminum (Al)	EPA 6020	µg/dry g	4500	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Antimony (Sb)	EPA 6020	µg/dry g	0.303	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Arsenic (As)	EPA 6020	µg/dry g	1.98	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Barium (Ba)	EPA 6020	µg/dry g	60.1	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Beryllium (Be)	EPA 6020	µg/dry g	0.124	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Cadmium (Cd)	EPA 6020	µg/dry g	0.121	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Calcium (Ca)	EPA 6020	µg/dry g	2600	1	1	10	NA		E-26030	16-Nov-21	18-Nov-21
Chromium (Cr)	EPA 6020	µg/dry g	5.83	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Cobalt (Co)	EPA 6020	µg/dry g	2.09	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Copper (Cu)	EPA 6020	µg/dry g	6.15	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Iron (Fe)	EPA 6020	µg/dry g	6380	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Lead (Pb)	EPA 6020	µg/dry g	7.44	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Magnesium (Mg)	EPA 6020	µg/dry g	988	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Manganese (Mn)	EPA 6020	µg/dry g	152	1	0.005	0.01	NA		E-25079	07-Dec-21	14-Dec-21
Mercury (Hg)	EPA 245.7	µg/dry g	0.00971	1	0.00001	0.00002	NA		E-24149	14-Jan-22	15-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.292	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Nickel (Ni)	EPA 6020	µg/dry g	6.04	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Potassium (K)	EPA 6020	µg/dry g	801	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Selenium (Se)	EPA 6020	µg/dry g	0.113	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Silver (Ag)	EPA 6020	µg/dry g	0.771	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Sodium (Na)	EPA 6020	µg/dry g	ND	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Thallium (Tl)	EPA 6020	µg/dry g	0.118	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Vanadium (V)	EPA 6020	µg/dry g	15.5	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Zinc (Zn)	EPA 6020	µg/dry g	39.6	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21

Elements

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91467-R1	**2021-E1-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
Aluminum (Al)	EPA 6020	µg/dry g	7260	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Antimony (Sb)	EPA 6020	µg/dry g	0.108	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Arsenic (As)	EPA 6020	µg/dry g	1.39	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Barium (Ba)	EPA 6020	µg/dry g	49.8	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Beryllium (Be)	EPA 6020	µg/dry g	0.104	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Cadmium (Cd)	EPA 6020	µg/dry g	0.0288	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Calcium (Ca)	EPA 6020	µg/dry g	2460	1	1	10	NA		E-26030	16-Nov-21	18-Nov-21
Chromium (Cr)	EPA 6020	µg/dry g	7.48	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Cobalt (Co)	EPA 6020	µg/dry g	2.45	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Copper (Cu)	EPA 6020	µg/dry g	3.23	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Iron (Fe)	EPA 6020	µg/dry g	8010	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Lead (Pb)	EPA 6020	µg/dry g	1.05	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Magnesium (Mg)	EPA 6020	µg/dry g	1870	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Manganese (Mn)	EPA 6020	µg/dry g	101	1	0.005	0.01	NA		E-25079	07-Dec-21	14-Dec-21
Mercury (Hg)	EPA 245.7	µg/dry g	0.00173	1	0.00001	0.00002	NA		E-24149	14-Jan-22	15-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.184	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Nickel (Ni)	EPA 6020	µg/dry g	2.67	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Potassium (K)	EPA 6020	µg/dry g	1660	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Selenium (Se)	EPA 6020	µg/dry g	0.0692	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Silver (Ag)	EPA 6020	µg/dry g	0.439	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Sodium (Na)	EPA 6020	µg/dry g	214	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Thallium (Tl)	EPA 6020	µg/dry g	0.0725	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Vanadium (V)	EPA 6020	µg/dry g	21.5	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Zinc (Zn)	EPA 6020	µg/dry g	16.1	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Elements

Sample ID: 91468-R1 — 2021-E1-BRWNFL-01 — Matrix: Sediment — Sampled: 21-Oct-21 10:45 — Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Aluminum (Al)	EPA 6020	µg/dry g	16400	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Antimony (Sb)	EPA 6020	µg/dry g	0.344	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Arsenic (As)	EPA 6020	µg/dry g	2.69	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Barium (Ba)	EPA 6020	µg/dry g	77.5	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Beryllium (Be)	EPA 6020	µg/dry g	0.256	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Cadmium (Cd)	EPA 6020	µg/dry g	0.134	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Calcium (Ca)	EPA 6020	µg/dry g	8290	1	1	10	NA		E-26030	16-Nov-21	18-Nov-21
Chromium (Cr)	EPA 6020	µg/dry g	15.7	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Cobalt (Co)	EPA 6020	µg/dry g	4.65	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Copper (Cu)	EPA 6020	µg/dry g	14.3	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Iron (Fe)	EPA 6020	µg/dry g	14800	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Lead (Pb)	EPA 6020	µg/dry g	6.1	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Magnesium (Mg)	EPA 6020	µg/dry g	3740	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Manganese (Mn)	EPA 6020	µg/dry g	213	1	0.005	0.01	NA		E-25079	07-Dec-21	14-Dec-21
Mercury (Hg)	EPA 245.7	µg/dry g	0.0126	1	0.00001	0.00002	NA		E-24149	14-Jan-22	15-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.558	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Nickel (Ni)	EPA 6020	µg/dry g	6.26	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Potassium (K)	EPA 6020	µg/dry g	3700	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Selenium (Se)	EPA 6020	µg/dry g	0.105	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Silver (Ag)	EPA 6020	µg/dry g	0.307	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Sodium (Na)	EPA 6020	µg/dry g	384	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Thallium (Tl)	EPA 6020	µg/dry g	0.124	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Vanadium (V)	EPA 6020	µg/dry g	38.8	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Zinc (Zn)	EPA 6020	µg/dry g	46.9	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21

Elements

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91469-R1	**2021-E1-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 9:45**		**Received:**	**21-Oct-21**
Aluminum (Al)	EPA 6020	µg/dry g	35600	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Antimony (Sb)	EPA 6020	µg/dry g	1.41	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Arsenic (As)	EPA 6020	µg/dry g	6.3	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Barium (Ba)	EPA 6020	µg/dry g	201	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Beryllium (Be)	EPA 6020	µg/dry g	0.694	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Cadmium (Cd)	EPA 6020	µg/dry g	0.535	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Calcium (Ca)	EPA 6020	µg/dry g	21100	1	1	10	NA		E-26030	16-Nov-21	18-Nov-21
Chromium (Cr)	EPA 6020	µg/dry g	30.4	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Cobalt (Co)	EPA 6020	µg/dry g	8.98	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Copper (Cu)	EPA 6020	µg/dry g	44.8	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Iron (Fe)	EPA 6020	µg/dry g	24200	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Lead (Pb)	EPA 6020	µg/dry g	25.5	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Magnesium (Mg)	EPA 6020	µg/dry g	9390	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Manganese (Mn)	EPA 6020	µg/dry g	324	1	0.005	0.01	NA		E-25079	07-Dec-21	14-Dec-21
Mercury (Hg)	EPA 245.7	µg/dry g	0.0799	1	0.00001	0.00002	NA		E-24149	14-Jan-22	15-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.966	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Nickel (Ni)	EPA 6020	µg/dry g	23	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Potassium (K)	EPA 6020	µg/dry g	3680	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Selenium (Se)	EPA 6020	µg/dry g	0.309	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Silver (Ag)	EPA 6020	µg/dry g	0.694	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Sodium (Na)	EPA 6020	µg/dry g	323	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Thallium (Tl)	EPA 6020	µg/dry g	0.253	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Vanadium (V)	EPA 6020	µg/dry g	53.6	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Zinc (Zn)	EPA 6020	µg/dry g	203	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21

Elements

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91470-R1	**2021-E1-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 11:45**		**Received:**	**21-Oct-21**
Aluminum (Al)	EPA 6020	µg/dry g	7240	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Antimony (Sb)	EPA 6020	µg/dry g	0.285	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Arsenic (As)	EPA 6020	µg/dry g	2.76	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Barium (Ba)	EPA 6020	µg/dry g	40.3	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Beryllium (Be)	EPA 6020	µg/dry g	0.157	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Cadmium (Cd)	EPA 6020	µg/dry g	0.0943	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Calcium (Ca)	EPA 6020	µg/dry g	2410	1	1	10	NA		E-26030	16-Nov-21	18-Nov-21
Chromium (Cr)	EPA 6020	µg/dry g	7.28	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Cobalt (Co)	EPA 6020	µg/dry g	2.31	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Copper (Cu)	EPA 6020	µg/dry g	6.51	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Iron (Fe)	EPA 6020	µg/dry g	7510	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Lead (Pb)	EPA 6020	µg/dry g	9.02	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Magnesium (Mg)	EPA 6020	µg/dry g	1400	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Manganese (Mn)	EPA 6020	µg/dry g	101	1	0.005	0.01	NA		E-25079	07-Dec-21	14-Dec-21
Mercury (Hg)	EPA 245.7	µg/dry g	0.0217	1	0.00001	0.00002	NA		E-24149	14-Jan-22	15-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.245	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Nickel (Ni)	EPA 6020	µg/dry g	3.34	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Potassium (K)	EPA 6020	µg/dry g	1140	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Selenium (Se)	EPA 6020	µg/dry g	0.112	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Silver (Ag)	EPA 6020	µg/dry g	0.271	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Sodium (Na)	EPA 6020	µg/dry g	ND	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Thallium (Tl)	EPA 6020	µg/dry g	0.0813	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Vanadium (V)	EPA 6020	µg/dry g	18.1	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Zinc (Zn)	EPA 6020	µg/dry g	34.1	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Elements

Sample ID: 91471-R1 **2021-E1-BASINTJRVR-02** **Matrix: Sediment** **Sampled: 21-Oct-21 8:00** **Received: 21-Oct-21**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Aluminum (Al)	EPA 6020	µg/dry g	6850	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Antimony (Sb)	EPA 6020	µg/dry g	0.0914	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Arsenic (As)	EPA 6020	µg/dry g	1.44	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Barium (Ba)	EPA 6020	µg/dry g	54	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Beryllium (Be)	EPA 6020	µg/dry g	0.0973	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Cadmium (Cd)	EPA 6020	µg/dry g	0.0364	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Calcium (Ca)	EPA 6020	µg/dry g	2170	1	1	10	NA		E-26030	16-Nov-21	18-Nov-21
Chromium (Cr)	EPA 6020	µg/dry g	7.47	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Cobalt (Co)	EPA 6020	µg/dry g	2.63	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Copper (Cu)	EPA 6020	µg/dry g	4.75	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Iron (Fe)	EPA 6020	µg/dry g	7930	1	1	5	NA		E-25079	07-Dec-21	14-Dec-21
Lead (Pb)	EPA 6020	µg/dry g	1.36	1	0.0025	0.005	NA		E-25079	07-Dec-21	14-Dec-21
Magnesium (Mg)	EPA 6020	µg/dry g	1930	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Manganese (Mn)	EPA 6020	µg/dry g	98.2	1	0.005	0.01	NA		E-25079	07-Dec-21	14-Dec-21
Mercury (Hg)	EPA 245.7	µg/dry g	0.00203	1	0.00001	0.00002	NA		E-24149	14-Jan-22	15-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.155	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Nickel (Ni)	EPA 6020	µg/dry g	2.69	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Potassium (K)	EPA 6020	µg/dry g	1710	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Selenium (Se)	EPA 6020	µg/dry g	0.0485	1	0.025	0.05	NA	J	E-25079	07-Dec-21	14-Dec-21
Silver (Ag)	EPA 6020	µg/dry g	0.227	1	0.01	0.02	NA		E-25079	07-Dec-21	14-Dec-21
Sodium (Na)	EPA 6020	µg/dry g	155	1	1	5	NA		E-26030	16-Nov-21	18-Nov-21
Thallium (Tl)	EPA 6020	µg/dry g	0.0694	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Vanadium (V)	EPA 6020	µg/dry g	22.1	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21
Zinc (Zn)	EPA 6020	µg/dry g	17.8	1	0.025	0.05	NA		E-25079	07-Dec-21	14-Dec-21

Organophosphorus Pesticides

Sample ID: 91466-R1 2021-E1-BASINSMGL-01 **Matrix:** Sediment **Sampled:** 21-Oct-21 13:20 **Received:** 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	1.25	1	1	2	NA	J	O-34030	07-Feb-22	14-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	14-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	14-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	14-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22

Organophosphorus Pesticides

Sample ID: 91467-R1 2021-E1-BASINTJRVR-01 **Matrix:** Sediment **Sampled:** 21-Oct-21 8:00 **Received:** 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	14-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	14-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	14-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	14-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91468-R1	**2021-E1-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 10:45**		**Received:**	**21-Oct-21**
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	14-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	14-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	14-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	14-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91469-R1	**2021-E1-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21**	**9:45**	**Received:**	**21-Oct-21**
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	14-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	14-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	14-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	14-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Organophosphorus Pesticides

Sample ID: 91470-R1 2021-E1-SMGLPILOT-01 Matrix: Sediment Sampled: 21-Oct-21 11:45 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91471-R1	**2021-E1-BASINTJRVR-02**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Particle Size Distribution

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91466-R1	**2021-E1-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 13:20**		**Received:**	**21-Oct-21**
Clay <0.0039 mm	SM 2560 D	%	18.1	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Sand 0.0625 to <2.0 mm	SM 2560 D	%	15.7	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	66.7	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Sample ID: 91467-R1	**2021-E1-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
Clay <0.0039 mm	SM 2560 D	%	10.5	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Sand 0.0625 to <2.0 mm	SM 2560 D	%	38.5	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	50.8	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Sample ID: 91468-R1	**2021-E1-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 10:45**		**Received:**	**21-Oct-21**
Clay <0.0039 mm	SM 2560 D	%	22.2	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Sand 0.0625 to <2.0 mm	SM 2560 D	%	17.2	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	60.7	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Sample ID: 91469-R1	**2021-E1-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 9:45**		**Received:**	**21-Oct-21**
Clay <0.0039 mm	SM 2560 D	%	10.5	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Sand 0.0625 to <2.0 mm	SM 2560 D	%	58.5	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	31.2	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Particle Size Distribution

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91470-R1	**2021-E1-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 11:45**		**Received:**	**21-Oct-21**
Clay <0.0039 mm	SM 2560 D	%	6.6	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Sand 0.0625 to <2.0 mm	SM 2560 D	%	71.3	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	22.2	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Sample ID: 91471-R1	**2021-E1-BASINTJRVR-02**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
Clay <0.0039 mm	SM 2560 D	%	0.8	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Sand 0.0625 to <2.0 mm	SM 2560 D	%	95.1	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	4.1	1	0.05	0.05	NA		P-1206	10-Nov-21	10-Nov-21

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91466-R1	**2021-E1-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 13:20**		**Received:**	**21-Oct-21**
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB095	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB110	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB138	EPA 8270E	ng/dry g	ND	1	0.057	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB141	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB149	EPA 8270E	ng/dry g	ND	1	0.092	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB151	EPA 8270E	ng/dry g	ND	1	0.073	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB153	EPA 8270E	ng/dry g	ND	1	0.065	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB158	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB170	EPA 8270E	ng/dry g	ND	1	0.118	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB174	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB177	EPA 8270E	ng/dry g	ND	1	0.085	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB180	EPA 8270E	ng/dry g	ND	1	0.154	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB187	EPA 8270E	ng/dry g	ND	1	0.168	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB194	EPA 8270E	ng/dry g	ND	1	0.164	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

PCB Congeners

Sample ID: 91467-R1 2021-E1-BASINTJRVR-01 Matrix: Sediment Sampled: 21-Oct-21 8:00 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB095	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB110	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB138	EPA 8270E	ng/dry g	ND	1	0.057	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB141	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB149	EPA 8270E	ng/dry g	ND	1	0.092	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB151	EPA 8270E	ng/dry g	ND	1	0.073	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB153	EPA 8270E	ng/dry g	ND	1	0.065	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB158	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB170	EPA 8270E	ng/dry g	ND	1	0.118	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB174	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB177	EPA 8270E	ng/dry g	ND	1	0.085	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB180	EPA 8270E	ng/dry g	ND	1	0.154	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB187	EPA 8270E	ng/dry g	ND	1	0.168	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB194	EPA 8270E	ng/dry g	ND	1	0.164	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

Sample ID: 91468-R1 2021-E1-BRWNFL-01 Matrix: Sediment Sampled: 21-Oct-21 10:45 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB095	EPA 8270E	ng/dry g	0.147	1	0.1	0.2	NA	J	O-34030	07-Feb-22	14-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB110	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB138	EPA 8270E	ng/dry g	1.06	1	0.057	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB141	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB149	EPA 8270E	ng/dry g	0.36	1	0.092	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB151	EPA 8270E	ng/dry g	0.149	1	0.073	0.2	NA	J	O-34030	07-Feb-22	14-Feb-22
PCB153	EPA 8270E	ng/dry g	1.18	1	0.065	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB158	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB170	EPA 8270E	ng/dry g	1.09	1	0.118	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB174	EPA 8270E	ng/dry g	0.542	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB177	EPA 8270E	ng/dry g	ND	1	0.085	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB180	EPA 8270E	ng/dry g	1.68	1	0.154	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB187	EPA 8270E	ng/dry g	0.766	1	0.168	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB194	EPA 8270E	ng/dry g	ND	1	0.164	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

PCB Congeners

Sample ID: 91469-R1 2021-E1-FLDCHNL-01 Matrix: Sediment Sampled: 21-Oct-21 9:45 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB095	EPA 8270E	ng/dry g	0.267	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB110	EPA 8270E	ng/dry g	0.41	1	0.074	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB138	EPA 8270E	ng/dry g	ND	1	0.057	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB141	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB149	EPA 8270E	ng/dry g	0.488	1	0.092	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB151	EPA 8270E	ng/dry g	ND	1	0.073	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB153	EPA 8270E	ng/dry g	1.36	1	0.065	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB158	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB170	EPA 8270E	ng/dry g	ND	1	0.118	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB174	EPA 8270E	ng/dry g	0.359	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB177	EPA 8270E	ng/dry g	ND	1	0.085	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB180	EPA 8270E	ng/dry g	1.88	1	0.154	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB187	EPA 8270E	ng/dry g	0.904	1	0.168	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB194	EPA 8270E	ng/dry g	1.79	1	0.164	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91470-R1	**2021-E1-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 11:45**		**Received:**	**21-Oct-21**
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB095	EPA 8270E	ng/dry g	0.29	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB110	EPA 8270E	ng/dry g	0.505	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB138	EPA 8270E	ng/dry g	0.717	1	0.057	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB141	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB149	EPA 8270E	ng/dry g	0.316	1	0.092	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB151	EPA 8270E	ng/dry g	ND	1	0.073	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB153	EPA 8270E	ng/dry g	ND	1	0.065	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB158	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB170	EPA 8270E	ng/dry g	ND	1	0.118	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB174	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB177	EPA 8270E	ng/dry g	ND	1	0.085	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB180	EPA 8270E	ng/dry g	1.21	1	0.154	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB187	EPA 8270E	ng/dry g	ND	1	0.168	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB194	EPA 8270E	ng/dry g	ND	1	0.164	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91471-R1	**2021-E1-BASINTJRVR-02**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB095	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB110	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB138	EPA 8270E	ng/dry g	ND	1	0.057	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB141	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB149	EPA 8270E	ng/dry g	ND	1	0.092	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB151	EPA 8270E	ng/dry g	ND	1	0.073	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB153	EPA 8270E	ng/dry g	ND	1	0.065	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB158	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB170	EPA 8270E	ng/dry g	ND	1	0.118	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB174	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB177	EPA 8270E	ng/dry g	ND	1	0.085	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB180	EPA 8270E	ng/dry g	ND	1	0.154	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB187	EPA 8270E	ng/dry g	ND	1	0.168	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB194	EPA 8270E	ng/dry g	ND	1	0.164	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22

Polynuclear Aromatic Hydrocarbons

Sample ID: 91466-R1 2021-E1-BASINSMGL-01 Matrix: Sediment Sampled: 21-Oct-21 13:20 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d10-Acenaphthene)	EPA 8270E	% Recovery	80	1			NA		O-34030	07-Feb-22	14-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	94	1			NA		O-34030	07-Feb-22	14-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	64	1			NA		O-34030	07-Feb-22	14-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	95	1			NA		O-34030	07-Feb-22	14-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	69	1			NA		O-34030	07-Feb-22	14-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	0.168	1	0.084	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	0.276	1	0.076	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	0.139	1	0.059	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	0.197	1	0.065	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	0.463	1	0.106	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	ND	1	0.078	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	0.0935	1	0.058	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Anthracene	EPA 8270E	ng/dry g	0.217	1	0.046	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	1.12	1	0.107	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	1.38	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	2.21	1	0.063	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	2.88	1	0.098	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	4.9	1	0.093	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	2.03	1	0.111	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Biphenyl	EPA 8270E	ng/dry g	0.741	1	0.092	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chrysene	EPA 8270E	ng/dry g	1.67	1	0.067	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	5.16	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	3.34	1	0.035	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	ND	1	0.068	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	4.1	1	0.087	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Naphthalene	EPA 8270E	ng/dry g	ND	1	0.187	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Perylene	EPA 8270E	ng/dry g	1.73	1	0.114	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	1.3	1	0.074	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Pyrene	EPA 8270E	ng/dry g	5.22	1	0.048	0.5	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Polynuclear Aromatic Hydrocarbons

Sample ID: 91467-R1 2021-E1-BASINTJRVR-01 Matrix: Sediment Sampled: 21-Oct-21 8:00 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d10-Acenaphthene)	EPA 8270E	% Recovery	93	1			NA		O-34030	07-Feb-22	14-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	94	1			NA		O-34030	07-Feb-22	14-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	71	1			NA		O-34030	07-Feb-22	14-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	71	1			NA		O-34030	07-Feb-22	14-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	87	1			NA		O-34030	07-Feb-22	14-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	ND	1	0.084	0.5	NA		O-34030	07-Feb-22	14-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	ND	1	0.076	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	ND	1	0.059	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	ND	1	0.065	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	ND	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	ND	1	0.078	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	ND	1	0.058	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Anthracene	EPA 8270E	ng/dry g	ND	1	0.046	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	ND	1	0.107	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	ND	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	ND	1	0.063	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	ND	1	0.098	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	ND	1	0.093	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	ND	1	0.111	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Biphenyl	EPA 8270E	ng/dry g	ND	1	0.092	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chrysene	EPA 8270E	ng/dry g	ND	1	0.067	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	ND	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	ND	1	0.035	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	ND	1	0.068	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	ND	1	0.087	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Naphthalene	EPA 8270E	ng/dry g	ND	1	0.187	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Perylene	EPA 8270E	ng/dry g	ND	1	0.114	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	0.0994	1	0.074	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Pyrene	EPA 8270E	ng/dry g	ND	1	0.048	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91468-R1	**2021-E1-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 10:45**		**Received:**	**21-Oct-21**
(d10-Acenaphthene)	EPA 8270E	% Recovery	90	1			NA		O-34030	07-Feb-22	14-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	92	1			NA		O-34030	07-Feb-22	14-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	65	1			NA		O-34030	07-Feb-22	14-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	89	1			NA		O-34030	07-Feb-22	14-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	80	1			NA		O-34030	07-Feb-22	14-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	0.307	1	0.084	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	1.28	1	0.076	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	0.318	1	0.059	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	0.367	1	0.065	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	0.55	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	0.456	1	0.078	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	0.482	1	0.058	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Anthracene	EPA 8270E	ng/dry g	1.2	1	0.046	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	10.3	1	0.107	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	10.9	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	13.3	1	0.063	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	9.83	1	0.098	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	14.9	1	0.093	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	18.1	1	0.111	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Biphenyl	EPA 8270E	ng/dry g	0.18	1	0.092	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Chrysene	EPA 8270E	ng/dry g	7.66	1	0.067	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	16.7	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	21.6	1	0.035	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	0.474	1	0.068	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	35	1	0.087	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Naphthalene	EPA 8270E	ng/dry g	0.674	1	0.187	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Perylene	EPA 8270E	ng/dry g	8.06	1	0.114	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	6.54	1	0.074	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Pyrene	EPA 8270E	ng/dry g	16.8	1	0.048	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91469-R1	**2021-E1-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21**	**9:45**	**Received:**	**21-Oct-21**
(d10-Acenaphthene)	EPA 8270E	% Recovery	73	1			NA		O-34030	07-Feb-22	14-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	86	1			NA		O-34030	07-Feb-22	14-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	59	1			NA		O-34030	07-Feb-22	14-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	89	1			NA		O-34030	07-Feb-22	14-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	63	1			NA		O-34030	07-Feb-22	14-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	1.28	1	0.084	0.5	NA		O-34030	07-Feb-22	14-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	2.47	1	0.076	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	0.835	1	0.059	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	1.66	1	0.065	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	3.27	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	0.346	1	0.078	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	1.33	1	0.058	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Anthracene	EPA 8270E	ng/dry g	2.27	1	0.046	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	9.76	1	0.107	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	11.3	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	22.9	1	0.063	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	23.3	1	0.098	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	40.9	1	0.093	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	17.4	1	0.111	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Biphenyl	EPA 8270E	ng/dry g	2.08	1	0.092	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chrysene	EPA 8270E	ng/dry g	17	1	0.067	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	29.5	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	26.3	1	0.035	0.5	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	0.557	1	0.068	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	49.9	1	0.087	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Naphthalene	EPA 8270E	ng/dry g	3.68	1	0.187	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Perylene	EPA 8270E	ng/dry g	4.22	1	0.114	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	8.26	1	0.074	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Pyrene	EPA 8270E	ng/dry g	26	1	0.048	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Polynuclear Aromatic Hydrocarbons

Sample ID: 91470-R1 2021-E1-SMGLPILOT-01 Matrix: Sediment Sampled: 21-Oct-21 11:45 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d10-Acenaphthene)	EPA 8270E	% Recovery	97	1			NA		O-34030	07-Feb-22	15-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	87	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	66	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	87	1			NA		O-34030	07-Feb-22	15-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	97	1			NA		O-34030	07-Feb-22	15-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	0.351	1	0.084	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	1.24	1	0.076	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	0.311	1	0.059	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	0.336	1	0.065	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	1.02	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	ND	1	0.078	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	2.11	1	0.058	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Anthracene	EPA 8270E	ng/dry g	1.1	1	0.046	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	7.04	1	0.107	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	10.9	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	13.2	1	0.063	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	19.6	1	0.098	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	28.9	1	0.093	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	11.1	1	0.111	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Biphenyl	EPA 8270E	ng/dry g	0.674	1	0.092	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chrysene	EPA 8270E	ng/dry g	9.32	1	0.067	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	31.1	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	11.8	1	0.035	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	0.265	1	0.068	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	30.6	1	0.087	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Naphthalene	EPA 8270E	ng/dry g	1.58	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Perylene	EPA 8270E	ng/dry g	45.1	1	0.114	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	3.89	1	0.074	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Pyrene	EPA 8270E	ng/dry g	13.8	1	0.048	0.5	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91471-R1	**2021-E1-BASINTJRVR-02**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21**	**8:00**	**Received:**	**21-Oct-21**
(d10-Acenaphthene)	EPA 8270E	% Recovery	91	1			NA		O-34030	07-Feb-22	15-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	91	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	65	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	85	1			NA		O-34030	07-Feb-22	15-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	88	1			NA		O-34030	07-Feb-22	15-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	ND	1	0.084	0.5	NA		O-34030	07-Feb-22	15-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	ND	1	0.076	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	ND	1	0.059	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	ND	1	0.065	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	0.159	1	0.106	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	ND	1	0.078	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	ND	1	0.058	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Anthracene	EPA 8270E	ng/dry g	ND	1	0.046	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	ND	1	0.107	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	ND	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	ND	1	0.063	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	ND	1	0.098	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	ND	1	0.093	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	ND	1	0.111	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Biphenyl	EPA 8270E	ng/dry g	ND	1	0.092	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chrysene	EPA 8270E	ng/dry g	ND	1	0.067	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	ND	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	ND	1	0.035	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	ND	1	0.068	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	ND	1	0.087	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Naphthalene	EPA 8270E	ng/dry g	ND	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Perylene	EPA 8270E	ng/dry g	ND	1	0.114	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	0.091	1	0.074	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
Pyrene	EPA 8270E	ng/dry g	ND	1	0.048	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Pyrethroids

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91466-R1	**2021-E1-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 13:20**		**Received:**	**21-Oct-21**
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	65	1			NA		O-34030	21-Feb-22	24-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	85	1			NA		O-34030	21-Feb-22	24-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	1.18	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	ND	1	0.23	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	34.634.6	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	ND	1	0.17	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Pyrethroids

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91467-R1	**2021-E1-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	63	1			NA		O-34030	21-Feb-22	24-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	79	1			NA		O-34030	21-Feb-22	24-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	ND	1	0.23	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	ND	1	0.17	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22

Pyrethroids

Sample ID: 91468-R1 2021-E1-BRWNFL-01 Matrix: Sediment Sampled: 21-Oct-21 10:45 Received: 21-Oct-21

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	58	1			NA		O-34030	21-Feb-22	24-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	77	1			NA		O-34030	21-Feb-22	24-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	4.6	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	2.17	1	0.23	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	18.6	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	5.39	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	7.12	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	ND	1	0.17	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22

Pyrethroids

Sample ID: 91469-R1 **2021-E1-FLDCHNL-01** **Matrix: Sediment** **Sampled: 21-Oct-21 9:45** **Received: 21-Oct-21**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	58	1			NA		O-34030	21-Feb-22	24-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	67	1			NA		O-34030	21-Feb-22	24-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	14.9	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	ND	1	0.23	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	200	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	ND	1	0.17	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22

Pyrethroids

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91470-R1	**2021-E1-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 11:45**		**Received:**	**21-Oct-21**
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	87	1			NA		O-34030	21-Feb-22	24-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	81	1			NA		O-34030	21-Feb-22	24-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	ND	1	0.23	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	17.1	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	ND	1	0.17	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22

Pyrethroids

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91471-R1	**2021-E1-BASINTJRVR-02**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	58	1			NA		O-34030	21-Feb-22	24-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	79	1			NA		O-34030	21-Feb-22	24-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	ND	1	0.23	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	ND	1	0.17	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Total Extractable Organics

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 91466-R1	**2021-E1-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 13:20**		**Received:**	**21-Oct-21**
Oil & Grease	SM 5520 E	mg/dry kg	147	1	100	200	NA	J	C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	180	1	100	200	NA	J	C-52036	07-Feb-22	08-Feb-22
Sample ID: 91467-R1	**2021-E1-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
Oil & Grease	SM 5520 E	mg/dry kg	ND	1	100	200	NA		C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	ND	1	100	200	NA		C-52036	07-Feb-22	08-Feb-22
Sample ID: 91468-R1	**2021-E1-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 10:45**		**Received:**	**21-Oct-21**
Oil & Grease	SM 5520 E	mg/dry kg	1280	1	100	200	NA		C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	376	1	100	200	NA		C-52036	07-Feb-22	08-Feb-22
Sample ID: 91469-R1	**2021-E1-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 9:45**		**Received:**	**21-Oct-21**
Oil & Grease	SM 5520 E	mg/dry kg	1350	1	100	200	NA		C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	763	1	100	200	NA		C-52036	07-Feb-22	08-Feb-22
Sample ID: 91470-R1	**2021-E1-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 11:45**		**Received:**	**21-Oct-21**
Oil & Grease	SM 5520 E	mg/dry kg	188	1	100	200	NA	J	C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	131	1	100	200	NA	J	C-52036	07-Feb-22	08-Feb-22
Sample ID: 91471-R1	**2021-E1-BASINTJRVR-02**		**Matrix: Sediment**				**Sampled:**	**21-Oct-21 8:00**		**Received:**	**21-Oct-21**
Oil & Grease	SM 5520 E	mg/dry kg	ND	1	100	200	NA		C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	118	1	100	200	NA	J	C-52036	07-Feb-22	08-Feb-22

QUALITY CONTROL REPORT

Conventionals

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Chloride		**Method: EPA 300.0**			**Fraction: NA**				**Prepared: 11-Feb-22**				**Analyzed: 11-Feb-22**			
91461-B1	QAQC Procedural Blank	C-60135	ND	1	0.01	0.05	mg/dry kg									
91461-BS1	QAQC Procedural Blank	C-60135	48.8	1	0.01	0.05	mg/dry kg	52.7	0	93	90 - 110%	PASS				
91461-BS2	QAQC Procedural Blank	C-60135	49.5	1	0.01	0.05	mg/dry kg	52.7	0	94	90 - 110%	PASS	1	30	PASS	
91466-MS1	2021-E1-BASINSMGL-01	C-60135	62.4	1	0.01	0.05	mg/dry kg	50.3	16.2	92	80 - 120%	PASS				
91466-MS2	2021-E1-BASINSMGL-01	C-60135	62.6	1	0.01	0.05	mg/dry kg	50.3	16.2	92	80 - 120%	PASS	0	30	PASS	
91466-R2	2021-E1-BASINSMGL-01	C-60135	15.7	1	0.01	0.05	mg/dry kg						3	30	PASS	
Dissolved Sulfides		**Method: Plumb, 1981 and TERL**			**Fraction: NA**				**Prepared: 25-Feb-22**				**Analyzed: 25-Feb-22**			
91461-B1	QAQC Procedural Blank	C-63081	ND	1	0.2	0.4	mg/dry kg									
91461-BS1	QAQC Procedural Blank	C-63081	0.976	1	0.2	0.4	mg/dry kg	1.06	0	92	44 - 132%	PASS				
91461-BS2	QAQC Procedural Blank	C-63081	1.07	1	0.2	0.4	mg/dry kg	1.06	0	101	44 - 132%	PASS	9	30	PASS	
91466-MS1	2021-E1-BASINSMGL-01	C-63081	0.465	1	0.2	0.4	mg/dry kg	1.01	0	46	44 - 132%	PASS				
91466-MS2	2021-E1-BASINSMGL-01	C-63081	0.423	1	0.2	0.4	mg/dry kg	1.01	0	42	44 - 132%	FAIL	9	30	PASS	M
91466-R2	2021-E1-BASINSMGL-01	C-63081	ND	1	0.2	0.4	mg/dry kg						0	30	PASS	
Nitrate as N		**Method: EPA 300.0**			**Fraction: NA**				**Prepared: 22-Oct-21**				**Analyzed: 23-Oct-21**			
91465-B1	QAQC Procedural Blank	C-60060	ND	1	0.01	0.05	mg/L									
91465-BS1	QAQC Procedural Blank	C-60060	4.95	1	0.01	0.05	mg/L	5	0	99	90 - 110%	PASS				
91465-BS2	QAQC Procedural Blank	C-60060	4.96	1	0.01	0.05	mg/L	5	0	99	90 - 110%	PASS	0	30	PASS	
91472-R2	2021-E1-EQUIPBLANK	C-60060	ND	1	0.01	0.05	mg/L						0	30	PASS	
91461-B1	QAQC Procedural Blank	C-60135	ND	1	0.01	0.05	mg/dry kg									
91461-BS1	QAQC Procedural Blank	C-60135	49.5	1	0.01	0.05	mg/dry kg	52.7	0	94	90 - 110%	PASS				
91461-BS2	QAQC Procedural Blank	C-60135	50.3	1	0.01	0.05	mg/dry kg	52.7	0	95	90 - 110%	PASS	1	30	PASS	

Conventionals

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
91466-MS1	2021-E1-BASINSMGL-04	C-60135	60.2	1	0.01	0.05	mg/dry kg	50.3	12.9	94	80 - 120%	PASS				
91466-MS2	2021-E1-BASINSMGL-04	C-60135	60.2	1	0.01	0.05	mg/dry kg	50.3	12.9	94	80 - 120%	PASS	0	30	PASS	
91466-R2	2021-E1-BASINSMGL-04	C-60135	12.6	1	0.01	0.05	mg/dry kg						2	30	PASS	
Nitrite as N		**Method: EPA 300.0**			**Fraction: NA**				**Prepared: 22-Oct-21**				**Analyzed: 23-Oct-21**			
91465-B1	QAQC Procedural Blank	C-60060	ND	1	0.01	0.03	mg/L									
91465-BS1	QAQC Procedural Blank	C-60060	3.45	1	0.01	0.03	mg/L	3.5	0	99	90 - 110%	PASS				
91465-BS2	QAQC Procedural Blank	C-60060	3.46	1	0.01	0.03	mg/L	3.5	0	99	90 - 110%	PASS	0	30	PASS	
91472-R2	2021-E1-EQUIPBLANK	C-60060	ND	1	0.01	0.03	mg/L						0	30	PASS	
91461-B1	QAQC Procedural Blank	C-60135	ND	1	0.01	0.05	mg/dry kg									
91461-BS1	QAQC Procedural Blank	C-60135	14.9	1	0.01	0.05	mg/dry kg	15.8	0	94	90 - 110%	PASS				
91461-BS2	QAQC Procedural Blank	C-60135	14.4	1	0.01	0.05	mg/dry kg	15.8	0	91	90 - 110%	PASS	3	30	PASS	
91466-MS1	2021-E1-BASINSMGL-04	C-60135	14.6	1	0.01	0.05	mg/dry kg	15.1	0	97	80 - 120%	PASS				
91466-MS2	2021-E1-BASINSMGL-04	C-60135	14.6	1	0.01	0.05	mg/dry kg	15.1	0	97	80 - 120%	PASS	0	30	PASS	
91466-R2	2021-E1-BASINSMGL-04	C-60135	ND	1	0.01	0.05	mg/dry kg						0	30	PASS	
Percent Solids		**Method: SM 2540 B**			**Fraction: NA**				**Prepared: 17-Nov-21**				**Analyzed: 18-Nov-21**			
91461-B1	QAQC Procedural Blank	C-55140	ND	1	0.1	0.1	%									
91466-R2	2021-E1-BASINSMGL-04	C-55140	97.1	1	0.1	0.1	%						0	30	PASS	
Sulfate		**Method: EPA 300.0**			**Fraction: NA**				**Prepared: 01-Nov-21**				**Analyzed: 01-Nov-21**			
91465-B1	QAQC Procedural Blank	C-60068	ND	1	0.01	0.05	mg/L									
91465-BS1	QAQC Procedural Blank	C-60068	2.58	1	0.01	0.05	mg/L	2.5	0	103	90 - 110%	PASS				
91465-BS2	QAQC Procedural Blank	C-60068	2.53	1	0.01	0.05	mg/L	2.5	0	101	90 - 110%	PASS	2	30	PASS	
91472-R2	2021-E1-EQUIPBLANK	C-60068	0.945	1	0.01	0.05	mg/L						0	30	PASS	

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Conventionals — QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
91461-B1	QAQC Procedural Blank	C-60135	ND	1	0.01	0.05	mg/dry kg									
91461-BS1	QAQC Procedural Blank	C-60135	48.1	1	0.01	0.05	mg/dry kg	52.7	0	91	90 - 110%	PASS				
91461-BS2	QAQC Procedural Blank	C-60135	48.9	1	0.01	0.05	mg/dry kg	52.7	0	93	90 - 110%	PASS	2	30	PASS	
91466-MS1	2021-E1-BASINSMGL-01	C-60135	104	1	0.01	0.05	mg/dry kg	50.3	57.4	93	80 - 120%	PASS				
91466-MS2	2021-E1-BASINSMGL-01	C-60135	104	1	0.01	0.05	mg/dry kg	50.3	57.4	93	80 - 120%	PASS	0	30	PASS	
91466-R2	2021-E1-BASINSMGL-01	C-60135	56.5	1	0.01	0.05	mg/dry kg						2	30	PASS	

Total Alkalinity — **Method:** SM 2320 B — **Fraction:** NA — **Prepared:** 28-Feb-22 — **Analyzed:** 28-Feb-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
91461-BS1	QAQC Procedural Blank	C-60140	506	1	1	5	mg/dry kg	550	0	92	70 - 130%	PASS				
91461-BS2	QAQC Procedural Blank	C-60140	501	1	1	5	mg/dry kg	550	0	91	70 - 130%	PASS	1	30	PASS	
91466-R2	2021-E1-BASINSMGL-01	C-60140	64.6	1	1	5	mg/dry kg						18	30	PASS	

Total Organic Carbon — **Method:** EPA 9060 — **Fraction:** NA — **Prepared:** 22-Dec-21 — **Analyzed:** 23-Dec-21

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
91461-B1	QAQC Procedural Blank	O-29148	ND	1	0.01	0.01	% dry weight									
91463-CRM1	QAQC CRM - SRM 1944	O-29148	4.74	1	0.01	0.01	% dry weight	4.4		108	80 - 120%	PASS				

Total Sulfides — **Method:** Plumb, 1981 and TERL — **Fraction:** NA — **Prepared:** 25-Feb-22 — **Analyzed:** 25-Feb-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
91461-B1	QAQC Procedural Blank	C-63082	ND	1	0.2	0.4	mg/dry kg									
91461-BS1	QAQC Procedural Blank	C-63082	2.36	1	0.2	0.4	mg/dry kg	2.36	0	100	66 - 116%	PASS				
91461-BS2	QAQC Procedural Blank	C-63082	2.29	1	0.2	0.4	mg/dry kg	2.36	0	97	66 - 116%	PASS	3	30	PASS	
91466-MS1	2021-E1-BASINSMGL-01	C-63082	1.57	1	0.2	0.4	mg/dry kg	2.27	0.221	59	66 - 116%	FAIL				M
91466-MS2	2021-E1-BASINSMGL-01	C-63082	1.68	1	0.2	0.4	mg/dry kg	2.27	0.221	64	66 - 116%	FAIL	8	30	PASS	M
91466-R2	2021-E1-BASINSMGL-01	C-63082	ND	1	0.2	0.4	mg/dry kg						10	30	PASS	

Acid Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 91461-B1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
(2,4,6-Tribromophenol)	NA	111	1			% Recovery	100		111	0 - 130% PASS			
(d5-Phenol)	NA	110	1			% Recovery	100		110	0 - 130% PASS			
2,3,4,6-Tetrachlorophenol	NA	ND	1	50	100	ng/dry g							
2,4,5-Trichlorophenol	NA	ND	1	50	100	ng/dry g							
2,4,6-Trichlorophenol	NA	ND	1	50	100	ng/dry g							
2,4-Dichlorophenol	NA	ND	1	50	100	ng/dry g							
2,4-Dimethylphenol	NA	ND	1	100	200	ng/dry g							
2,4-Dinitrophenol	NA	ND	1	100	200	ng/dry g							
2,6-Dichlorophenol	NA	ND	1	50	100	ng/dry g							
2-Chlorophenol	NA	ND	1	50	100	ng/dry g							
2-Methyl-4,6-dinitrophenol	NA	ND	1	100	200	ng/dry g							
2-Methylphenol	NA	ND	1	100	200	ng/dry g							
2-Nitrophenol	NA	ND	1	100	200	ng/dry g							
3+4-Methylphenol	NA	ND	1	100	200	ng/dry g							
4-Chloro-3-methylphenol	NA	ND	1	100	200	ng/dry g							
4-Nitrophenol	NA	ND	1	100	200	ng/dry g							
Pentachlorophenol	NA	ND	1	50	100	ng/dry g							
Phenol	NA	ND	1	100	200	ng/dry g							

PHYSIS
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Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Acid Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 91461-BS1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(2,4,6-Tribromophenol)	NA	114	1			% Recovery	100	0	114	0 - 130%	PASS			
(d5-Phenol)	NA	91	1			% Recovery	100	0	91	0 - 130%	PASS			
2,3,4,6-Tetrachlorophenol	NA	701	1	50	100	ng/dry g	1000	0	70	30 - 130%	PASS			
2,4,5-Trichlorophenol	NA	928	1	50	100	ng/dry g	1000	0	93	30 - 130%	PASS			
2,4,6-Trichlorophenol	NA	501	1	50	100	ng/dry g	1000	0	50	0 - 130%	PASS			
2,4-Dichlorophenol	NA	677	1	50	100	ng/dry g	1000	0	68	0 - 130%	PASS			
2,4-Dimethylphenol	NA	233	1	100	200	ng/dry g	1000	0	23	0 - 130%	PASS			
2,4-Dinitrophenol	NA	861	1	100	200	ng/dry g	1000	0	86	0 - 130%	PASS			
2,6-Dichlorophenol	NA	330	1	50	100	ng/dry g	1000	0	33	30 - 130%	PASS			
2-Chlorophenol	NA	543	1	50	100	ng/dry g	1000	0	54	30 - 130%	PASS			
2-Methyl-4,6-dinitrophenol	NA	532	1	100	200	ng/dry g	1000	0	53	0 - 130%	PASS			
2-Methylphenol	NA	473	1	100	200	ng/dry g	1000	0	47	0 - 130%	PASS			
2-Nitrophenol	NA	898	1	100	200	ng/dry g	1000	0	90	0 - 130%	PASS			
3+4-Methylphenol	NA	227	1	100	200	ng/dry g	1000	0	23	0 - 130%	PASS			
4-Chloro-3-methylphenol	NA	1060	1	100	200	ng/dry g	1000	0	106	0 - 130%	PASS			
4-Nitrophenol	NA	962	1	100	200	ng/dry g	1000	0	96	0 - 130%	PASS			
Pentachlorophenol	NA	746	1	50	100	ng/dry g	1000	0	75	0 - 130%	PASS			
Phenol	NA	364	1	100	200	ng/dry g	1000	0	36	0 - 130%	PASS			

Acid Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 91461-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(2,4,6-Tribromophenol)	NA	98	1			% Recovery	100	0	98	0 - 130%	PASS	15	30	PASS
(d5-Phenol)	NA	94	1			% Recovery	100	0	94	0 - 130%	PASS	3	30	PASS
2,3,4,6-Tetrachlorophenol	NA	641	1	50	100	ng/dry g	1000	0	64	30 - 130%	PASS	9	30	PASS
2,4,5-Trichlorophenol	NA	880	1	50	100	ng/dry g	1000	0	88	30 - 130%	PASS	6	30	PASS
2,4,6-Trichlorophenol	NA	417	1	50	100	ng/dry g	1000	0	42	0 - 130%	PASS	17	30	PASS
2,4-Dichlorophenol	NA	591	1	50	100	ng/dry g	1000	0	59	0 - 130%	PASS	14	30	PASS
2,4-Dimethylphenol	NA	259	1	100	200	ng/dry g	1000	0	26	0 - 130%	PASS	12	30	PASS
2,4-Dinitrophenol	NA	751	1	100	200	ng/dry g	1000	0	75	0 - 130%	PASS	14	30	PASS
2,6-Dichlorophenol	NA	392	1	50	100	ng/dry g	1000	0	39	30 - 130%	PASS	17	30	PASS
2-Chlorophenol	NA	577	1	50	100	ng/dry g	1000	0	58	30 - 130%	PASS	7	30	PASS
2-Methyl-4,6-dinitrophenol	NA	497	1	100	200	ng/dry g	1000	0	50	0 - 130%	PASS	6	30	PASS
2-Methylphenol	NA	472	1	100	200	ng/dry g	1000	0	47	0 - 130%	PASS	0	30	PASS
2-Nitrophenol	NA	955	1	100	200	ng/dry g	1000	0	95	0 - 130%	PASS	6	30	PASS
3+4-Methylphenol	NA	257	1	100	200	ng/dry g	1000	0	26	0 - 130%	PASS	12	30	PASS
4-Chloro-3-methylphenol	NA	1110	1	100	200	ng/dry g	1000	0	111	0 - 130%	PASS	5	30	PASS
4-Nitrophenol	NA	1170	1	100	200	ng/dry g	1000	0	117	0 - 130%	PASS	20	30	PASS
Pentachlorophenol	NA	738	1	50	100	ng/dry g	1000	0	74	0 - 130%	PASS	1	30	PASS
Phenol	NA	360	1	100	200	ng/dry g	1000	0	36	0 - 130%	PASS	0	30	PASS

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 91461-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**			**Received:**			
	Method: EPA 8270E					Batch ID: O-34030	Prepared: 07-Feb-22			Analyzed: 13-Feb-22			
1,2,4-Trichlorobenzene	NA	ND	1	10	50	ng/dry g							
1,2-Dichlorobenzene	NA	ND	1	10	50	ng/dry g							
1,3-Dichlorobenzene	NA	ND	1	10	50	ng/dry g							
1,4-Dichlorobenzene	NA	ND	1	10	50	ng/dry g							
2,4-Dinitrotoluene	NA	ND	1	50	100	ng/dry g							
2,6-Dinitrotoluene	NA	ND	1	50	100	ng/dry g							
2-Chloronaphthalene	NA	ND	1	50	100	ng/dry g							
2-Nitroaniline	NA	ND	1	50	100	ng/dry g							
3,3'-Dichlorobenzidine	NA	ND	1	50	100	ng/dry g							
3-Nitroaniline	NA	ND	1	50	100	ng/dry g							
4-Bromophenylphenyl ether	NA	ND	1	50	100	ng/dry g							
4-Chlorophenylphenyl ether	NA	ND	1	50	100	ng/dry g							
4-Nitroaniline	NA	ND	1	50	100	ng/dry g							
Azobenzene	NA	ND	1	50	100	ng/dry g							
Benzidine	NA	ND	1	50	100	ng/dry g							
Benzylbutyl Phthalate	NA	233	1	10	20	ng/dry g							
Bis(2-Chloroethoxy) methane	NA	ND	1	50	100	ng/dry g							
Bis(2-Chloroethyl) ether	NA	ND	1	50	100	ng/dry g							
Bis(2-Chloroisopropyl) ether	NA	ND	1	50	100	ng/dry g							
Bis(2-Ethylhexyl) Phthalate	NA	68.7	1	10	20	ng/dry g							
Dibutyl Phthalate	NA	79.2	1	10	20	ng/dry g							
Diethyl Phthalate	NA	46.3	1	10	20	ng/dry g							
Dimethyl Phthalate	NA	ND	1	10	20	ng/dry g							

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Di-n-octyl Phthalate	NA	ND	1	10	20	ng/dry g							
Hexachlorobutadiene	NA	ND	1	50	100	ng/dry g							
Hexachlorocyclopentadiene	NA	ND	1	50	100	ng/dry g							
Hexachloroethane	NA	ND	1	50	100	ng/dry g							
Isophorone	NA	ND	1	50	100	ng/dry g							
Nitrobenzene	NA	ND	1	50	100	ng/dry g							
N-Nitrosodimethylamine	NA	ND	1	50	100	ng/dry g							
N-Nitrosodi-n-propylamine	NA	ND	1	50	100	ng/dry g							
N-Nitrosodiphenylamine	NA	ND	1	50	100	ng/dry g							
Pyridine	NA	ND	1	50	100	ng/dry g							

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 91461-BS1 | **QAQC Procedural Blank** | **Matrix:** BlankMatrix | **Sampled:** | **Received:**

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
1,2,4-Trichlorobenzene	NA	665	1	10	50	ng/dry g	1000	0	67	50 - 150% PASS			
1,2-Dichlorobenzene	NA	597	1	10	50	ng/dry g	1000	0	60	50 - 150% PASS			
1,3-Dichlorobenzene	NA	566	1	10	50	ng/dry g	1000	0	57	50 - 150% PASS			
1,4-Dichlorobenzene	NA	570	1	10	50	ng/dry g	1000	0	57	50 - 150% PASS			
2,4-Dinitrotoluene	NA	1290	1	50	100	ng/dry g	1000	0	129	50 - 150% PASS			
2,6-Dinitrotoluene	NA	1170	1	50	100	ng/dry g	1000	0	117	50 - 150% PASS			
2-Chloronaphthalene	NA	737	1	50	100	ng/dry g	1000	0	74	50 - 150% PASS			
2-Nitroaniline	NA	1300	1	50	100	ng/dry g	2000	0	65	0 - 125% PASS			
3,3'-Dichlorobenzidine	NA	410	1	50	100	ng/dry g	1000	0	41	0 - 125% PASS			
3-Nitroaniline	NA	892	1	50	100	ng/dry g	1000	0	89	0 - 125% PASS			
4-Bromophenylphenyl ether	NA	937	1	50	100	ng/dry g	1000	0	94	50 - 150% PASS			
4-Chlorophenylphenyl ether	NA	840	1	50	100	ng/dry g	1000	0	84	50 - 150% PASS			
4-Nitroaniline	NA	953	1	50	100	ng/dry g	1000	0	95	0 - 125% PASS			
Azobenzene	NA	785	1	50	100	ng/dry g	1000	0	79	50 - 150% PASS			
Benzidine	NA	737	1	50	100	ng/dry g	1000	0	74	0 - 125% PASS			
Benzylbutyl Phthalate	NA	1470	1	10	20	ng/dry g	1000	233	124	50 - 150% PASS			
Bis(2-Chloroethoxy) methane	NA	723	1	50	100	ng/dry g	1000	0	72	50 - 150% PASS			
Bis(2-Chloroethyl) ether	NA	677	1	50	100	ng/dry g	1000	0	68	50 - 150% PASS			
Bis(2-Chloroisopropyl) ether	NA	678	1	50	100	ng/dry g	1000	0	68	50 - 150% PASS			
Bis(2-Ethylhexyl) Phthalate	NA	1140	1	10	20	ng/dry g	1000	68.7	107	50 - 150% PASS			
Dibutyl Phthalate	NA	837	1	10	20	ng/dry g	1000	79.2	76	50 - 150% PASS			
Diethyl Phthalate	NA	1030	1	10	20	ng/dry g	1000	46.3	98	50 - 150% PASS			
Dimethyl Phthalate	NA	896	1	10	20	ng/dry g	1000	0	90	50 - 150% PASS			

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Di-n-octyl Phthalate	NA	865	1	10	20	ng/dry g	1000	0	87	50 - 150%	PASS			
Hexachlorobutadiene	NA	743	1	50	100	ng/dry g	1000	0	74	50 - 150%	PASS			
Hexachlorocyclopentadiene	NA	651	1	50	100	ng/dry g	1000	0	65	50 - 150%	PASS			
Hexachloroethane	NA	649	1	50	100	ng/dry g	1000	0	65	50 - 150%	PASS			
Isophorone	NA	949	1	50	100	ng/dry g	1000	0	95	50 - 150%	PASS			
Nitrobenzene	NA	711	1	50	100	ng/dry g	1000	0	71	50 - 150%	PASS			
N-Nitrosodimethylamine	NA	1170	1	50	100	ng/dry g	1000	0	117	50 - 150%	PASS			
N-Nitrosodi-n-propylamine	NA	796	1	50	100	ng/dry g	1000	0	80	50 - 150%	PASS			
N-Nitrosodiphenylamine	NA	526	1	50	100	ng/dry g	1000	0	53	50 - 150%	PASS			
Pyridine	NA	1500	1	50	100	ng/dry g	1000	0	150	50 - 150%	PASS			

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

Sample ID: 91461-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
1,2,4-Trichlorobenzene	NA	711	1	10	50	ng/dry g	1000	0	71	50 - 150%	PASS	7	30	PASS	
1,2-Dichlorobenzene	NA	654	1	10	50	ng/dry g	1000	0	65	50 - 150%	PASS	8	30	PASS	
1,3-Dichlorobenzene	NA	637	1	10	50	ng/dry g	1000	0	64	50 - 150%	PASS	12	30	PASS	
1,4-Dichlorobenzene	NA	639	1	10	50	ng/dry g	1000	0	64	50 - 150%	PASS	12	30	PASS	
2,4-Dinitrotoluene	NA	1230	1	50	100	ng/dry g	1000	0	123	50 - 150%	PASS	5	30	PASS	
2,6-Dinitrotoluene	NA	1160	1	50	100	ng/dry g	1000	0	116	50 - 150%	PASS	1	30	PASS	
2-Chloronaphthalene	NA	759	1	50	100	ng/dry g	1000	0	76	50 - 150%	PASS	3	30	PASS	
2-Nitroaniline	NA	1260	1	50	100	ng/dry g	2000	0	63	0 - 125%	PASS	3	30	PASS	
3,3'-Dichlorobenzidine	NA	420	1	50	100	ng/dry g	1000	0	42	0 - 125%	PASS	2	30	PASS	
3-Nitroaniline	NA	777	1	50	100	ng/dry g	1000	0	78	0 - 125%	PASS	13	30	PASS	
4-Bromophenylphenyl ether	NA	933	1	50	100	ng/dry g	1000	0	93	50 - 150%	PASS	1	30	PASS	
4-Chlorophenylphenyl ether	NA	840	1	50	100	ng/dry g	1000	0	84	50 - 150%	PASS	0	30	PASS	
4-Nitroaniline	NA	807	1	50	100	ng/dry g	1000	0	81	0 - 125%	PASS	16	30	PASS	
Azobenzene	NA	710	1	50	100	ng/dry g	1000	0	71	50 - 150%	PASS	9	30	PASS	
Benzidine	NA	649	1	50	100	ng/dry g	1000	0	65	0 - 125%	PASS	13	30	PASS	
Benzylbutyl Phthalate	NA	1530	1	10	20	ng/dry g	1000	233	130	50 - 150%	PASS	5	30	PASS	
Bis(2-Chloroethoxy) methane	NA	761	1	50	100	ng/dry g	1000	0	76	50 - 150%	PASS	5	30	PASS	
Bis(2-Chloroethyl) ether	NA	678	1	50	100	ng/dry g	1000	0	68	50 - 150%	PASS	0	30	PASS	
Bis(2-Chloroisopropyl) ether	NA	735	1	50	100	ng/dry g	1000	0	74	50 - 150%	PASS	8	30	PASS	
Bis(2-Ethylhexyl) Phthalate	NA	1120	1	10	20	ng/dry g	1000	68.7	105	50 - 150%	PASS	2	30	PASS	
Dibutyl Phthalate	NA	960	1	10	20	ng/dry g	1000	79.2	88	50 - 150%	PASS	15	30	PASS	
Diethyl Phthalate	NA	1040	1	10	20	ng/dry g	1000	46.3	99	50 - 150%	PASS	1	30	PASS	
Dimethyl Phthalate	NA	916	1	10	20	ng/dry g	1000	0	92	50 - 150%	PASS	2	30	PASS	

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Di-n-octyl Phthalate	NA	883	1	10	20	ng/dry g	1000	0	88	50 - 150%	PASS	2	30	PASS	
Hexachlorobutadiene	NA	764	1	50	100	ng/dry g	1000	0	76	50 - 150%	PASS	3	30	PASS	
Hexachlorocyclopentadiene	NA	643	1	50	100	ng/dry g	1000	0	64	50 - 150%	PASS	2	30	PASS	
Hexachloroethane	NA	714	1	50	100	ng/dry g	1000	0	71	50 - 150%	PASS	9	30	PASS	
Isophorone	NA	993	1	50	100	ng/dry g	1000	0	99	50 - 150%	PASS	4	30	PASS	
Nitrobenzene	NA	767	1	50	100	ng/dry g	1000	0	77	50 - 150%	PASS	8	30	PASS	
N-Nitrosodimethylamine	NA	1100	1	50	100	ng/dry g	1000	0	110	50 - 150%	PASS	6	30	PASS	
N-Nitrosodi-n-propylamine	NA	835	1	50	100	ng/dry g	1000	0	83	50 - 150%	PASS	5	30	PASS	
N-Nitrosodiphenylamine	NA	603	1	50	100	ng/dry g	1000	0	60	50 - 150%	PASS	12	30	PASS	
Pyridine	NA	1480	1	50	100	ng/dry g	1000	0	148	50 - 150%	PASS	1	30	PASS	

Chlorinated Pesticides

QUALITY CONTROL REPORT

Sample ID: 91461-B1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
(PCB030)	NA	73	1			% Recovery	100		73	55 - 120% PASS			
(PCB112)	NA	73	1			% Recovery	100		73	62 - 128% PASS			
(PCB198)	NA	100	1			% Recovery	100		100	68 - 128% PASS			
(TCMX)	NA	70	1			% Recovery	100		70	44 - 118% PASS			
2,4'-DDD	NA	ND	1	0.267	0.5	ng/dry g							
2,4'-DDE	NA	ND	1	0.2	0.5	ng/dry g							
2,4'-DDT	NA	ND	1	0.194	0.5	ng/dry g							
4,4'-DDD	NA	ND	1	0.198	0.5	ng/dry g							
4,4'-DDE	NA	ND	1	0.193	0.5	ng/dry g							
4,4'-DDT	NA	ND	1	0.128	0.5	ng/dry g							
Aldrin	NA	ND	1	0.25	0.5	ng/dry g							
BHC-alpha	NA	ND	1	0.25	0.5	ng/dry g							
BHC-beta	NA	ND	1	0.25	0.5	ng/dry g							
BHC-delta	NA	ND	1	0.25	0.5	ng/dry g							
BHC-gamma	NA	ND	1	0.25	0.5	ng/dry g							
Chlordane-alpha	NA	ND	1	0.187	0.5	ng/dry g							
Chlordane-gamma	NA	ND	1	0.179	0.5	ng/dry g							
cis-Nonachlor	NA	ND	1	0.192	0.5	ng/dry g							
Dieldrin	NA	ND	1	0.1	0.2	ng/dry g							
Endosulfan Sulfate	NA	ND	1	0.25	0.5	ng/dry g							
Endosulfan-I	NA	ND	1	0.25	0.5	ng/dry g							
Endosulfan-II	NA	ND	1	0.25	0.5	ng/dry g							
Endrin	NA	ND	1	0.25	0.5	ng/dry g							

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Endrin Aldehyde	NA	ND	1	0.25	0.5	ng/dry g							
Endrin Ketone	NA	ND	1	0.25	0.5	ng/dry g							
Heptachlor	NA	ND	1	0.25	0.5	ng/dry g							
Heptachlor Epoxide	NA	ND	1	0.25	0.5	ng/dry g							
Hexachlorobenzene	NA	ND	1	0.25	0.5	ng/dry g							
Kepone	NA	ND	1	0.193	0.5	ng/dry g							
Methoxychlor	NA	ND	1	0.25	0.5	ng/dry g							
Mirex	NA	ND	1	0.25	0.5	ng/dry g							
Oxychlordane	NA	ND	1	0.25	0.5	ng/dry g							
trans-Nonachlor	NA	ND	1	0.186	0.5	ng/dry g							
Method: EPA 8270E-NCI						Batch ID: O-34030		Prepared: 09-Feb-22			Analyzed: 10-Feb-22		
Toxaphene	NA	ND	1	10	20	ng/dry g							

Chlorinated Pesticides

QUALITY CONTROL REPORT

Sample ID: 91461-BS1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(PCB030)	NA	75	1			% Recovery	100	0	75	55 - 120%	PASS			
(PCB112)	NA	77	1			% Recovery	100	0	77	62 - 128%	PASS			
(PCB198)	NA	105	1			% Recovery	100	0	105	68 - 128%	PASS			
(TCMX)	NA	48	1			% Recovery	100	0	48	44 - 118%	PASS			
2,4'-DDD	NA	488	1	0.267	0.5	ng/dry g	500	0	98	66 - 123%	PASS			
2,4'-DDE	NA	385	1	0.2	0.5	ng/dry g	500	0	77	66 - 116%	PASS			
2,4'-DDT	NA	575	1	0.194	0.5	ng/dry g	500	0	115	61 - 138%	PASS			
4,4'-DDD	NA	464	1	0.198	0.5	ng/dry g	500	0	93	59 - 140%	PASS			
4,4'-DDE	NA	410	1	0.193	0.5	ng/dry g	500	0	82	67 - 117%	PASS			
4,4'-DDT	NA	559	1	0.128	0.5	ng/dry g	500	0	112	56 - 173%	PASS			
Aldrin	NA	315	1	0.25	0.5	ng/dry g	500	0	63	66 - 120%	FAIL			R
BHC-alpha	NA	329	1	0.25	0.5	ng/dry g	500	0	66	55 - 113%	PASS			
BHC-beta	NA	356	1	0.25	0.5	ng/dry g	500	0	71	59 - 123%	PASS			
BHC-delta	NA	559	1	0.25	0.5	ng/dry g	500	0	112	59 - 116%	PASS			
BHC-gamma	NA	393	1	0.25	0.5	ng/dry g	500	0	79	61 - 112%	PASS			
Chlordane-alpha	NA	386	1	0.187	0.5	ng/dry g	500	0	77	63 - 111%	PASS			
Chlordane-gamma	NA	407	1	0.179	0.5	ng/dry g	500	0	81	68 - 117%	PASS			
cis-Nonachlor	NA	416	1	0.192	0.5	ng/dry g	500	0	83	63 - 110%	PASS			
Dieldrin	NA	351	1	0.1	0.2	ng/dry g	500	0	70	59 - 121%	PASS			
Endosulfan Sulfate	NA	356	1	0.25	0.5	ng/dry g	500	0	71	48 - 135%	PASS			
Endosulfan-I	NA	478	1	0.25	0.5	ng/dry g	500	0	96	0 - 127%	PASS			
Endosulfan-II	NA	438	1	0.25	0.5	ng/dry g	500	0	88	0 - 105%	PASS			
Endrin	NA	462	1	0.25	0.5	ng/dry g	500	0	92	43 - 155%	PASS			

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Endrin Aldehyde	NA	549	1	0.25	0.5	ng/dry g	500	0	110	0 - 135%	PASS			
Endrin Ketone	NA	606	1	0.25	0.5	ng/dry g	500	0	121	43 - 152%	PASS			
Heptachlor	NA	467	1	0.25	0.5	ng/dry g	500	0	93	41 - 146%	PASS			
Heptachlor Epoxide	NA	482	1	0.25	0.5	ng/dry g	500	0	96	58 - 126%	PASS			
Hexachlorobenzene	NA	538	1	0.25	0.5	ng/dry g	500	0	108	48 - 115%	PASS			
Methoxychlor	NA	424	1	0.25	0.5	ng/dry g	500	0	85	47 - 210%	PASS			
Mirex	NA	411	1	0.25	0.5	ng/dry g	500	0	82	65 - 114%	PASS			
Oxychlordane	NA	347	1	0.25	0.5	ng/dry g	500	0	69	60 - 118%	PASS			
trans-Nonachlor	NA	382	1	0.186	0.5	ng/dry g	500	0	76	64 - 111%	PASS			

Method: EPA 8270E-NCI Batch ID: O-34030 Prepared: 09-Feb-22 Analyzed: 10-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Toxaphene	NA	11000	1	10	20	ng/dry g	10000	0	110	70 - 128%	PASS			

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 91461-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: EPA 8270E					Batch ID: O-34030		Prepared: 07-Feb-22				Analyzed: 13-Feb-22		
(PCB030)	NA	78	1			% Recovery	100	0	78	55 - 120%	PASS	4	30	PASS
(PCB112)	NA	78	1			% Recovery	100	0	78	62 - 128%	PASS	1	30	PASS
(PCB198)	NA	100	1			% Recovery	100	0	100	68 - 128%	PASS	5	30	PASS
(TCMX)	NA	51	1			% Recovery	100	0	51	44 - 118%	PASS	6	30	PASS
2,4'-DDD	NA	465	1	0.267	0.5	ng/dry g	500	0	93	66 - 123%	PASS	5	30	PASS
2,4'-DDE	NA	376	1	0.2	0.5	ng/dry g	500	0	75	66 - 116%	PASS	3	30	PASS
2,4'-DDT	NA	559	1	0.194	0.5	ng/dry g	500	0	112	61 - 138%	PASS	3	30	PASS
4,4'-DDD	NA	425	1	0.198	0.5	ng/dry g	500	0	85	59 - 140%	PASS	9	30	PASS
4,4'-DDE	NA	396	1	0.193	0.5	ng/dry g	500	0	79	67 - 117%	PASS	4	30	PASS
4,4'-DDT	NA	518	1	0.128	0.5	ng/dry g	500	0	104	56 - 173%	PASS	7	30	PASS
Aldrin	NA	328	1	0.25	0.5	ng/dry g	500	0	66	66 - 120%	PASS	5	30	PASS
BHC-alpha	NA	345	1	0.25	0.5	ng/dry g	500	0	69	55 - 113%	PASS	4	30	PASS
BHC-beta	NA	362	1	0.25	0.5	ng/dry g	500	0	72	59 - 123%	PASS	1	30	PASS
BHC-delta	NA	575	1	0.25	0.5	ng/dry g	500	0	115	59 - 116%	PASS	3	30	PASS
BHC-gamma	NA	406	1	0.25	0.5	ng/dry g	500	0	81	61 - 112%	PASS	2	30	PASS
Chlordane-alpha	NA	375	1	0.187	0.5	ng/dry g	500	0	75	63 - 111%	PASS	3	30	PASS
Chlordane-gamma	NA	395	1	0.179	0.5	ng/dry g	500	0	79	68 - 117%	PASS	2	30	PASS
cis-Nonachlor	NA	389	1	0.192	0.5	ng/dry g	500	0	78	63 - 110%	PASS	6	30	PASS
Dieldrin	NA	356	1	0.1	0.2	ng/dry g	500	0	71	59 - 121%	PASS	1	30	PASS
Endosulfan Sulfate	NA	326	1	0.25	0.5	ng/dry g	500	0	65	48 - 135%	PASS	9	30	PASS
Endosulfan-I	NA	469	1	0.25	0.5	ng/dry g	500	0	94	0 - 127%	PASS	2	30	PASS
Endosulfan-II	NA	441	1	0.25	0.5	ng/dry g	500	0	88	0 - 105%	PASS	0	30	PASS
Endrin	NA	444	1	0.25	0.5	ng/dry g	500	0	89	43 - 155%	PASS	3	30	PASS

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Endrin Aldehyde	NA	571	1	0.25	0.5	ng/dry g	500	0	114	0 - 135%	PASS	4	30	PASS	
Endrin Ketone	NA	562	1	0.25	0.5	ng/dry g	500	0	112	43 - 152%	PASS	8	30	PASS	
Heptachlor	NA	479	1	0.25	0.5	ng/dry g	500	0	96	41 - 146%	PASS	3	30	PASS	
Heptachlor Epoxide	NA	484	1	0.25	0.5	ng/dry g	500	0	97	58 - 126%	PASS	1	30	PASS	
Hexachlorobenzene	NA	566	1	0.25	0.5	ng/dry g	500	0	113	48 - 115%	PASS	5	30	PASS	
Methoxychlor	NA	456	1	0.25	0.5	ng/dry g	500	0	91	47 - 210%	PASS	7	30	PASS	
Mirex	NA	408	1	0.25	0.5	ng/dry g	500	0	82	65 - 114%	PASS	0	30	PASS	
Oxychlordane	NA	325	1	0.25	0.5	ng/dry g	500	0	65	60 - 118%	PASS	6	30	PASS	
trans-Nonachlor	NA	381	1	0.186	0.5	ng/dry g	500	0	76	64 - 111%	PASS	0	30	PASS	
Method: EPA 8270E-NCI						Batch ID: O-34030			Prepared: 09-Feb-22				Analyzed: 10-Feb-22		
Toxaphene	NA	10900	1	10	20	ng/dry g	10000	0	109	70 - 128%	PASS	1	30	PASS	

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Chlorinated Pesticides

QUALITY CONTROL REPORT

Sample ID: 91463-CRM1 **QAQC CRM - SRM 1944** **Matrix: Sediment** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(PCB030)	NA	70	1			% Recovery	100		70	33 - 149%	PASS			
(PCB112)	NA	74	1			% Recovery	100		74	49 - 120%	PASS			
(PCB198)	NA	99	1			% Recovery	100		99	35 - 123%	PASS			
(TCMX)	NA	49	1			% Recovery	100		49	37 - 138%	PASS			
2,4'-DDD	NA	29.1	1	0.267	0.5	ng/dry g	38		77	44 - 157%	PASS			
2,4'-DDE	NA	17.9	1	0.2	0.5	ng/dry g	19		94	54 - 157%	PASS			
4,4'-DDD	NA	120	1	0.198	0.5	ng/dry g	108		111	41 - 153%	PASS			
4,4'-DDE	NA	85.8	1	0.193	0.5	ng/dry g	86		100	57 - 152%	PASS			
4,4'-DDT	NA	156	1	0.128	0.5	ng/dry g	170		92	23 - 144%	PASS			
Chlordane-alpha	NA	14.3	1	0.187	0.5	ng/dry g	16.5		87	61 - 161%	PASS			
Chlordane-gamma	NA	23.9	1	0.179	0.5	ng/dry g	19		126	69 - 163%	PASS			
cis-Nonachlor	NA	3.22	1	0.192	0.5	ng/dry g	3.7		87	59 - 175%	PASS			
Hexachlorobenzene	NA	4.77	1	0.25	0.5	ng/dry g	6		80	40 - 157%	PASS			
trans-Nonachlor	NA	8.79	1	0.186	0.5	ng/dry g	8.2		107	72 - 170%	PASS			

Elements

QUALITY CONTROL REPORT

Sample ID: 91461-B1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
		Method: EPA 245.7				Batch ID: E-24149		Prepared: 14-Jan-22			Analyzed: 15-Feb-22		
Mercury (Hg)	NA	ND	1	0.00001	0.00002	µg/dry g							
		Method: EPA 6020				Batch ID: E-25079		Prepared: 07-Dec-21			Analyzed: 14-Dec-21		
Aluminum (Al)	NA	ND	1	1	5	µg/dry g							
Antimony (Sb)	NA	ND	1	0.025	0.05	µg/dry g							
Arsenic (As)	NA	ND	1	0.025	0.05	µg/dry g							
Barium (Ba)	NA	ND	1	0.025	0.05	µg/dry g							
Beryllium (Be)	NA	ND	1	0.025	0.05	µg/dry g							
Cadmium (Cd)	NA	ND	1	0.0025	0.005	µg/dry g							
Chromium (Cr)	NA	ND	1	0.0025	0.005	µg/dry g							
Cobalt (Co)	NA	ND	1	0.025	0.05	µg/dry g							
Copper (Cu)	NA	ND	1	0.0025	0.005	µg/dry g							
Iron (Fe)	NA	ND	1	1	5	µg/dry g							
Lead (Pb)	NA	ND	1	0.0025	0.005	µg/dry g							
Manganese (Mn)	NA	ND	1	0.005	0.01	µg/dry g							
Molybdenum (Mo)	NA	ND	1	0.025	0.05	µg/dry g							
Nickel (Ni)	NA	ND	1	0.01	0.02	µg/dry g							
Selenium (Se)	NA	ND	1	0.025	0.05	µg/dry g							
Silver (Ag)	NA	ND	1	0.01	0.02	µg/dry g							
Thallium (Tl)	NA	ND	1	0.025	0.05	µg/dry g							
Vanadium (V)	NA	ND	1	0.025	0.05	µg/dry g							
Zinc (Zn)	NA	ND	1	0.025	0.05	µg/dry g							
		Method: EPA 6020				Batch ID: E-26030		Prepared: 16-Nov-21			Analyzed: 18-Nov-21		
Calcium (Ca)	NA	ND	1	1	10	µg/dry g							
Magnesium (Mg)	NA	ND	1	1	5	µg/dry g							

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Potassium (K)	NA	ND	1	1	5	µg/dry g							
Sodium (Na)	NA	ND	1	1	5	µg/dry g							

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 91461-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**		
	Method: EPA 245.7					Batch ID: E-24149		Prepared: 14-Jan-22				Analyzed: 15-Feb-22		
Mercury (Hg)	NA	0.000941	1	0.00001	0.00002	µg/dry g	0.001	0	94	82 - 118%	PASS			
	Method: EPA 6020					Batch ID: E-25079		Prepared: 07-Dec-21				Analyzed: 14-Dec-21		
Aluminum (Al)	NA	2.03	1	1	5	µg/dry g	2	0	101	85 - 121%	PASS			
Antimony (Sb)	NA	2.21	1	0.025	0.05	µg/dry g	2	0	111	84 - 120%	PASS			
Arsenic (As)	NA	2.07	1	0.025	0.05	µg/dry g	2	0	103	85 - 115%	PASS			
Barium (Ba)	NA	2.03	1	0.025	0.05	µg/dry g	2	0	101	80 - 120%	PASS			
Beryllium (Be)	NA	2.07	1	0.025	0.05	µg/dry g	2	0	103	80 - 120%	PASS			
Cadmium (Cd)	NA	2.15	1	0.0025	0.005	µg/dry g	2	0	108	86 - 122%	PASS			
Chromium (Cr)	NA	2.06	1	0.0025	0.005	µg/dry g	2	0	103	83 - 113%	PASS			
Cobalt (Co)	NA	2.1	1	0.025	0.05	µg/dry g	2	0	105	80 - 120%	PASS			
Copper (Cu)	NA	2.18	1	0.0025	0.005	µg/dry g	2	0	109	83 - 114%	PASS			
Iron (Fe)	NA	1.96	1	1	5	µg/dry g	2	0	98	85 - 115%	PASS			
Lead (Pb)	NA	1.99	1	0.0025	0.005	µg/dry g	2	0	100	85 - 118%	PASS			
Manganese (Mn)	NA	1.92	1	0.005	0.01	µg/dry g	2	0	96	87 - 117%	PASS			
Molybdenum (Mo)	NA	2.14	1	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS			
Nickel (Ni)	NA	2.15	1	0.01	0.02	µg/dry g	2	0	108	83 - 113%	PASS			
Selenium (Se)	NA	1.88	1	0.025	0.05	µg/dry g	2	0	94	72 - 118%	PASS			
Silver (Ag)	NA	0.185	1	0.01	0.02	µg/dry g	0.2	0	93	79 - 118%	PASS			
Thallium (Tl)	NA	2.01	1	0.025	0.05	µg/dry g	2	0	100	80 - 120%	PASS			
Vanadium (V)	NA	1.82	1	0.025	0.05	µg/dry g	2	0	91	83 - 113%	PASS			
Zinc (Zn)	NA	2.06	1	0.025	0.05	µg/dry g	2	0	103	86 - 116%	PASS			
	Method: EPA 6020					Batch ID: E-26030		Prepared: 16-Nov-21				Analyzed: 18-Nov-21		
Calcium (Ca)	NA	19.1	1	1	10	µg/dry g	20	0	96	80 - 120%	PASS			
Magnesium (Mg)	NA	19.2	1	1	5	µg/dry g	20	0	96	80 - 120%	PASS			

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Potassium (K)	NA	18.9	1	1	5	µg/dry g	20	0	94	80 - 120%	PASS			
Sodium (Na)	NA	18.3	1	1	5	µg/dry g	20	0	91	80 - 120%	PASS			

Elements

QUALITY CONTROL REPORT

Sample ID: 91461-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
	Method: EPA 245.7					Batch ID: E-24149			Prepared: 14-Jan-22				Analyzed: 15-Feb-22		
Mercury (Hg)	NA	0.000947	1	0.00001	0.00002	µg/dry g	0.001	0	95	82 - 118%	PASS	1	30	PASS	
	Method: EPA 6020					Batch ID: E-25079			Prepared: 07-Dec-21				Analyzed: 14-Dec-21		
Aluminum (Al)	NA	2.06	1	1	5	µg/dry g	2	0	103	85 - 121%	PASS	1	30	PASS	
Antimony (Sb)	NA	2.2	1	0.025	0.05	µg/dry g	2	0	110	84 - 120%	PASS	0	30	PASS	
Arsenic (As)	NA	2.05	1	0.025	0.05	µg/dry g	2	0	102	85 - 115%	PASS	2	30	PASS	
Barium (Ba)	NA	2.02	1	0.025	0.05	µg/dry g	2	0	101	80 - 120%	PASS	1	30	PASS	
Beryllium (Be)	NA	2.1	1	0.025	0.05	µg/dry g	2	0	105	80 - 120%	PASS	1	30	PASS	
Cadmium (Cd)	NA	2.16	1	0.0025	0.005	µg/dry g	2	0	108	86 - 122%	PASS	0	30	PASS	
Chromium (Cr)	NA	2.06	1	0.0025	0.005	µg/dry g	2	0	103	83 - 113%	PASS	0	30	PASS	
Cobalt (Co)	NA	2.14	1	0.025	0.05	µg/dry g	2	0	107	80 - 120%	PASS	2	30	PASS	
Copper (Cu)	NA	2.18	1	0.0025	0.005	µg/dry g	2	0	109	83 - 114%	PASS	0	30	PASS	
Iron (Fe)	NA	1.98	1	1	5	µg/dry g	2	0	99	85 - 115%	PASS	1	30	PASS	
Lead (Pb)	NA	2.01	1	0.0025	0.005	µg/dry g	2	0	100	85 - 118%	PASS	0	30	PASS	
Manganese (Mn)	NA	1.91	1	0.005	0.01	µg/dry g	2	0	95	87 - 117%	PASS	0	30	PASS	
Molybdenum (Mo)	NA	2.15	1	0.025	0.05	µg/dry g	2	0	108	80 - 120%	PASS	1	30	PASS	
Nickel (Ni)	NA	2.14	1	0.01	0.02	µg/dry g	2	0	107	83 - 113%	PASS	1	30	PASS	
Selenium (Se)	NA	1.88	1	0.025	0.05	µg/dry g	2	0	94	72 - 118%	PASS	0	30	PASS	
Silver (Ag)	NA	0.235	1	0.01	0.02	µg/dry g	0.2	0	117	79 - 118%	PASS	24	30	PASS	
Thallium (Tl)	NA	2.04	1	0.025	0.05	µg/dry g	2	0	102	80 - 120%	PASS	2	30	PASS	
Vanadium (V)	NA	1.81	1	0.025	0.05	µg/dry g	2	0	90	83 - 113%	PASS	1	30	PASS	
Zinc (Zn)	NA	2.06	1	0.025	0.05	µg/dry g	2	0	103	86 - 116%	PASS	0	30	PASS	
	Method: EPA 6020					Batch ID: E-26030			Prepared: 16-Nov-21				Analyzed: 18-Nov-21		
Calcium (Ca)	NA	18.7	1	1	10	µg/dry g	20	0	94	80 - 120%	PASS	2	30	PASS	
Magnesium (Mg)	NA	19.1	1	1	5	µg/dry g	20	0	96	80 - 120%	PASS	0	30	PASS	

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Potassium (K)	NA	19	1	1	5	µg/dry g	20	0	95	80 - 120%	PASS	1	30	PASS	
Sodium (Na)	NA	18.3	1	1	5	µg/dry g	20	0	91	80 - 120%	PASS	0	30	PASS	

Elements

QUALITY CONTROL REPORT

Sample ID: 91462-CRM1 QAQC CRM - ERA D099-540 **Matrix:** Sediment **Sampled:** **Received:**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Method: EPA 245.7						Batch ID: E-24149		Prepared: 14-Jan-22			Analyzed: 15-Feb-22		
Mercury (Hg)	NA	11.8	1	0.00001	0.00002	µg/dry g	12		98	80 - 120% PASS			
Method: EPA 6020						Batch ID: E-25079		Prepared: 07-Dec-21			Analyzed: 14-Dec-21		
Aluminum (Al)	NA	10500	1	1	5	µg/dry g	10100		104	80 - 120% PASS			
Antimony (Sb)	NA	117	1	0.025	0.05	µg/dry g	145		81	80 - 120% PASS			
Arsenic (As)	NA	159	1	0.025	0.05	µg/dry g	171		93	80 - 120% PASS			
Barium (Ba)	NA	217	1	0.025	0.05	µg/dry g	272		80	80 - 120% PASS			
Beryllium (Be)	NA	101	1	0.025	0.05	µg/dry g	102		99	80 - 120% PASS			
Cadmium (Cd)	NA	203	1	0.0025	0.005	µg/dry g	225		90	80 - 120% PASS			
Chromium (Cr)	NA	138	1	0.0025	0.005	µg/dry g	144		96	80 - 120% PASS			
Cobalt (Co)	NA	47.9	1	0.025	0.05	µg/dry g	48.8		98	80 - 120% PASS			
Copper (Cu)	NA	161	1	0.0025	0.005	µg/dry g	174		93	80 - 120% PASS			
Iron (Fe)	NA	17700	1	1	5	µg/dry g	15000		118	80 - 120% PASS			
Lead (Pb)	NA	92	1	0.0025	0.005	µg/dry g	111		83	80 - 120% PASS			
Manganese (Mn)	NA	244	1	0.005	0.01	µg/dry g	232		105	80 - 120% PASS			
Molybdenum (Mo)	NA	113	1	0.025	0.05	µg/dry g	123		92	80 - 120% PASS			
Nickel (Ni)	NA	91.4	1	0.01	0.02	µg/dry g	98.3		93	80 - 120% PASS			
Selenium (Se)	NA	172	1	0.025	0.05	µg/dry g	206		83	80 - 120% PASS			
Silver (Ag)	NA	48.1	1	0.01	0.02	µg/dry g	45.5		106	80 - 120% PASS			
Thallium (Tl)	NA	136	1	0.025	0.05	µg/dry g	167		81	80 - 120% PASS			
Vanadium (V)	NA	61.9	1	0.025	0.05	µg/dry g	61.8		100	80 - 120% PASS			
Zinc (Zn)	NA	193	1	0.025	0.05	µg/dry g	207		93	80 - 120% PASS			
Method: EPA 6020						Batch ID: E-26030		Prepared: 16-Nov-21			Analyzed: 18-Nov-21		
Calcium (Ca)	NA	5660	1	1	10	µg/dry g	5190		109	80 - 120% PASS			
Potassium (K)	NA	2700	1	1	5	µg/dry g	2420		112	80 - 120% PASS			

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 91465-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**				**Received:**		
	Method: EPA 245.7					Batch ID: E-24150	Prepared: 15-Jan-22				Analyzed: 15-Jan-22		
Mercury (Hg)	Total	ND	1	0.01	0.02	µg/L							
	Method: EPA 200.8					Batch ID: E-26018	Prepared: 01-Nov-21				Analyzed: 04-Nov-21		
Aluminum (Al)	Total	ND	1	1.65	8.25	µg/L							
Antimony (Sb)	Total	ND	1	0.03	0.15	µg/L							
Arsenic (As)	Total	ND	1	0.05	0.159	µg/L							
Barium (Ba)	Total	ND	1	0.25	0.5	µg/L							
Beryllium (Be)	Total	ND	1	0.01	0.031	µg/L							
Cadmium (Cd)	Total	ND	1	0.007	0.023	µg/L							
Chromium (Cr)	Total	ND	1	0.01	0.05	µg/L							
Cobalt (Co)	Total	ND	1	0.01	0.05	µg/L							
Copper (Cu)	Total	ND	1	0.007	0.022	µg/L							
Iron (Fe)	Total	ND	1	1.13	5.65	µg/L							
Lead (Pb)	Total	ND	1	0.007	0.021	µg/L							
Manganese (Mn)	Total	ND	1	0.005	0.01	µg/L							
Molybdenum (Mo)	Total	ND	1	0.007	0.022	µg/L							
Nickel (Ni)	Total	ND	1	0.013	0.042	µg/L							
Selenium (Se)	Total	ND	1	0.021	0.068	µg/L							
Silver (Ag)	Total	ND	1	0.01	0.02	µg/L							
Strontium (Sr)	Total	ND	1	0.03	0.15	µg/L							
Thallium (Tl)	Total	ND	1	0.01	0.05	µg/L							
Tin (Sn)	Total	ND	1	0.06	0.3	µg/L							
Titanium (Ti)	Total	ND	1	0.08	0.4	µg/L							
Vanadium (V)	Total	ND	1	0.03	0.15	µg/L							
Zinc (Zn)	Total	ND	1	0.022	0.069	µg/L							

Elements

QUALITY CONTROL REPORT

Sample ID: 91465-BS1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Method: EPA 245.7						Batch ID: E-24150			Prepared: 15-Jan-22			Analyzed: 15-Jan-22		
Mercury (Hg)	Total	1.03	1	0.01	0.02	µg/L	1	0	103	84 - 120%	PASS			
Method: EPA 200.8						Batch ID: E-26018			Prepared: 01-Nov-21			Analyzed: 04-Nov-21		
Aluminum (Al)	Total	1010	1	1.65	8.25	µg/L	1000	0	101	85 - 115%	PASS			
Antimony (Sb)	Total	1190	1	0.03	0.15	µg/L	1000	0	119	87 - 117%	FAIL			R
Arsenic (As)	Total	1130	1	0.05	0.159	µg/L	1000	0	113	81 - 116%	PASS			
Barium (Ba)	Total	1180	1	0.25	0.5	µg/L	1000	0	118	89 - 119%	PASS			
Beryllium (Be)	Total	935	1	0.01	0.031	µg/L	1000	0	94	79 - 114%	PASS			
Cadmium (Cd)	Total	1120	1	0.007	0.023	µg/L	1000	0	112	87 - 117%	PASS			
Chromium (Cr)	Total	1100	1	0.01	0.05	µg/L	1000	0	110	85 - 115%	PASS			
Cobalt (Co)	Total	1110	1	0.01	0.05	µg/L	1000	0	111	85 - 115%	PASS			
Copper (Cu)	Total	1110	1	0.007	0.022	µg/L	1000	0	111	86 - 116%	PASS			
Iron (Fe)	Total	1060	1	1.13	5.65	µg/L	1000	0	106	85 - 115%	PASS			
Lead (Pb)	Total	1150	1	0.007	0.021	µg/L	1000	0	115	87 - 117%	PASS			
Manganese (Mn)	Total	1090	1	0.005	0.01	µg/L	1000	0	109	83 - 113%	PASS			
Molybdenum (Mo)	Total	1140	1	0.007	0.022	µg/L	1000	0	114	87 - 117%	PASS			
Nickel (Ni)	Total	1100	1	0.013	0.042	µg/L	1000	0	110	85 - 115%	PASS			
Selenium (Se)	Total	1070	1	0.021	0.068	µg/L	1000	0	107	80 - 116%	PASS			
Silver (Ag)	Total	101	1	0.01	0.02	µg/L	100	0	101	63 - 128%	PASS			
Strontium (Sr)	Total	1130	1	0.03	0.15	µg/L	1000	0	113	87 - 117%	PASS			
Thallium (Tl)	Total	1100	1	0.01	0.05	µg/L	1000	0	110	90 - 120%	PASS			
Tin (Sn)	Total	1140	1	0.06	0.3	µg/L	1000	0	114	90 - 120%	PASS			
Titanium (Ti)	Total	1070	1	0.08	0.4	µg/L	1000	0	107	77 - 117%	PASS			
Vanadium (V)	Total	1090	1	0.03	0.15	µg/L	1000	0	109	82 - 112%	PASS			
Zinc (Zn)	Total	1100	1	0.022	0.069	µg/L	1000	0	110	85 - 115%	PASS			

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 91465-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: EPA 245.7					Batch ID: E-24150		Prepared: 15-Jan-22				Analyzed: 15-Jan-22		
Mercury (Hg)	Total	0.998	1	0.01	0.02	µg/L	1	0	100	84 - 120%	PASS	3	30	PASS
	Method: EPA 200.8					Batch ID: E-26018		Prepared: 01-Nov-21				Analyzed: 04-Nov-21		
Aluminum (Al)	Total	933	1	1.65	8.25	µg/L	1000	0	93	85 - 115%	PASS	8	30	PASS
Antimony (Sb)	Total	1100	1	0.03	0.15	µg/L	1000	0	110	87 - 117%	PASS	8	30	PASS
Arsenic (As)	Total	1070	1	0.05	0.159	µg/L	1000	0	107	81 - 116%	PASS	5	30	PASS
Barium (Ba)	Total	1100	1	0.25	0.5	µg/L	1000	0	110	89 - 119%	PASS	7	30	PASS
Beryllium (Be)	Total	869	1	0.01	0.031	µg/L	1000	0	87	79 - 114%	PASS	8	30	PASS
Cadmium (Cd)	Total	1040	1	0.007	0.023	µg/L	1000	0	104	87 - 117%	PASS	7	30	PASS
Chromium (Cr)	Total	1030	1	0.01	0.05	µg/L	1000	0	103	85 - 115%	PASS	7	30	PASS
Cobalt (Co)	Total	1040	1	0.01	0.05	µg/L	1000	0	104	85 - 115%	PASS	7	30	PASS
Copper (Cu)	Total	1040	1	0.007	0.022	µg/L	1000	0	104	86 - 116%	PASS	7	30	PASS
Iron (Fe)	Total	1030	1	1.13	5.65	µg/L	1000	0	103	85 - 115%	PASS	3	30	PASS
Lead (Pb)	Total	1080	1	0.007	0.021	µg/L	1000	0	108	87 - 117%	PASS	6	30	PASS
Manganese (Mn)	Total	1020	1	0.005	0.01	µg/L	1000	0	102	83 - 113%	PASS	7	30	PASS
Molybdenum (Mo)	Total	1080	1	0.007	0.022	µg/L	1000	0	108	87 - 117%	PASS	5	30	PASS
Nickel (Ni)	Total	1020	1	0.013	0.042	µg/L	1000	0	102	85 - 115%	PASS	8	30	PASS
Selenium (Se)	Total	982	1	0.021	0.068	µg/L	1000	0	98	80 - 116%	PASS	9	30	PASS
Silver (Ag)	Total	96.7	1	0.01	0.02	µg/L	100	0	97	63 - 128%	PASS	4	30	PASS
Strontium (Sr)	Total	1050	1	0.03	0.15	µg/L	1000	0	105	87 - 117%	PASS	7	30	PASS
Thallium (Tl)	Total	1040	1	0.01	0.05	µg/L	1000	0	104	90 - 120%	PASS	6	30	PASS
Tin (Sn)	Total	1050	1	0.06	0.3	µg/L	1000	0	105	90 - 120%	PASS	8	30	PASS
Titanium (Ti)	Total	1000	1	0.08	0.4	µg/L	1000	0	100	77 - 117%	PASS	7	30	PASS
Vanadium (V)	Total	1020	1	0.03	0.15	µg/L	1000	0	102	82 - 112%	PASS	7	30	PASS
Zinc (Zn)	Total	1030	1	0.022	0.069	µg/L	1000	0	103	85 - 115%	PASS	7	30	PASS

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Sample ID: 91466-MS1	**2021-E1-BASINSMGL-01**					**Matrix: Sediment**		**Sampled: 21-Oct-21 13:20**				**Received: 21-Oct-21**			
	Method: EPA 245.7					Batch ID: E-24149		Prepared: 14-Jan-22				Analyzed: 15-Feb-22			
Mercury (Hg)	NA	0.276	1	0.00001	0.00002	µg/dry g	0.266	0.00971	100	76 - 135%	PASS				
Sample ID: 91466-MS2	**2021-E1-BASINSMGL-01**					**Matrix: Sediment**		**Sampled: 21-Oct-21 13:20**				**Received: 21-Oct-21**			
	Method: EPA 245.7					Batch ID: E-24149		Prepared: 14-Jan-22				Analyzed: 15-Feb-22			
Mercury (Hg)	NA	0.274	1	0.00001	0.00002	µg/dry g	0.266	0.00971	99	76 - 135%	PASS	1	30	PASS	

Elements

QUALITY CONTROL REPORT

Sample ID: 91466-R2 2021-E1-BASINSMGL-01 Matrix: Sediment Sampled: 21-Oct-21 13:20 Received: 21-Oct-21

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Method: EPA 245.7						Batch ID: E-24149		Prepared: 14-Jan-22			Analyzed: 15-Feb-22		
Mercury (Hg)	NA	0.00935	1	0.00001	0.00002	µg/dry g					4	30	PASS
Method: EPA 6020						Batch ID: E-25079		Prepared: 07-Dec-21			Analyzed: 14-Dec-21		
Aluminum (Al)	NA	6020	1	1	5	µg/dry g					29	30	PASS
Antimony (Sb)	NA	0.228	1	0.025	0.05	µg/dry g					28	30	PASS
Arsenic (As)	NA	1.84	1	0.025	0.05	µg/dry g					7	30	PASS
Barium (Ba)	NA	34.9	1	0.025	0.05	µg/dry g					53	30	FAIL NH
Beryllium (Be)	NA	0.121	1	0.025	0.05	µg/dry g					2	30	PASS
Cadmium (Cd)	NA	0.103	1	0.0025	0.005	µg/dry g					16	30	PASS
Chromium (Cr)	NA	6.85	1	0.0025	0.005	µg/dry g					16	30	PASS
Cobalt (Co)	NA	2.25	1	0.025	0.05	µg/dry g					7	30	PASS
Copper (Cu)	NA	5.58	1	0.0025	0.005	µg/dry g					10	30	PASS
Iron (Fe)	NA	7090	1	1	5	µg/dry g					11	30	PASS
Lead (Pb)	NA	4.35	1	0.0025	0.005	µg/dry g					52	30	FAIL NH
Manganese (Mn)	NA	146	1	0.005	0.01	µg/dry g					4	30	PASS
Molybdenum (Mo)	NA	0.228	1	0.025	0.05	µg/dry g					25	30	PASS
Nickel (Ni)	NA	3.44	1	0.01	0.02	µg/dry g					55	30	FAIL NH
Selenium (Se)	NA	0.0617	1	0.025	0.05	µg/dry g					59	30	FAIL SL
Silver (Ag)	NA	0.524	1	0.01	0.02	µg/dry g					38	30	FAIL NH
Thallium (Tl)	NA	0.0663	1	0.025	0.05	µg/dry g					56	30	FAIL SL
Vanadium (V)	NA	18.1	1	0.025	0.05	µg/dry g					15	30	PASS
Zinc (Zn)	NA	41.6	1	0.025	0.05	µg/dry g					5	30	PASS
Method: EPA 6020						Batch ID: E-26030		Prepared: 16-Nov-21			Analyzed: 18-Nov-21		
Calcium (Ca)	NA	4190	1	1	10	µg/dry g					47	30	FAIL NH
Magnesium (Mg)	NA	1570	1	1	5	µg/dry g					46	30	FAIL NH

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
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Project: Tijuana River Sediment Management Monitoring Proje

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Potassium (K)	NA	743	1	1	5	µg/dry g					8	30	PASS
Sodium (Na)	NA	ND	1	1	5	µg/dry g					0	30	PASS

Elements

QUALITY CONTROL REPORT

Sample ID: 91472-MS1 2021-E1-EQUIPBLANK Matrix: Samplewater Sampled: 21-Oct-21 7:10 Received: 21-Oct-21

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Method: EPA 245.7						Batch ID: E-24150		Prepared: 15-Jan-22			Analyzed: 15-Jan-22		
Mercury (Hg)	Total	1.08	1	0.01	0.02	µg/L	1	0	108	76 - 127% PASS			
Method: EPA 200.8						Batch ID: E-26018		Prepared: 01-Nov-21			Analyzed: 04-Nov-21		
Aluminum (Al)	Total	95.5	1	1.65	8.25	µg/L	100	3.72	92	75 - 130% PASS			
Antimony (Sb)	Total	114	1	0.03	0.15	µg/L	100	0.0774	114	91 - 121% PASS			
Arsenic (As)	Total	111	1	0.05	0.159	µg/L	100	0	111	94 - 135% PASS			
Barium (Ba)	Total	115	1	0.25	0.5	µg/L	100	2.72	112	90 - 120% PASS			
Beryllium (Be)	Total	87.5	1	0.01	0.031	µg/L	100	0	88	86 - 118% PASS			
Cadmium (Cd)	Total	109	1	0.007	0.023	µg/L	100	0.0689	109	90 - 120% PASS			
Chromium (Cr)	Total	102	1	0.01	0.05	µg/L	100	0.222	102	89 - 119% PASS			
Cobalt (Co)	Total	103	1	0.01	0.05	µg/L	100	0	103	87 - 117% PASS			
Copper (Cu)	Total	105	1	0.007	0.022	µg/L	100	0.0761	105	85 - 115% PASS			
Iron (Fe)	Total	102	1	1.13	5.65	µg/L	100	5.06	97	65 - 134% PASS			
Lead (Pb)	Total	109	1	0.007	0.021	µg/L	100	0.121	109	78 - 117% PASS			
Manganese (Mn)	Total	102	1	0.005	0.01	µg/L	100	0.187	102	83 - 125% PASS			
Molybdenum (Mo)	Total	104	1	0.007	0.022	µg/L	100	0	104	79 - 133% PASS			
Nickel (Ni)	Total	102	1	0.013	0.042	µg/L	100	0.0548	102	85 - 115% PASS			
Selenium (Se)	Total	102	1	0.021	0.068	µg/L	100	0	102	77 - 144% PASS			
Silver (Ag)	Total	6.09	1	0.01	0.02	µg/L	10	0	61	52 - 115% PASS			
Strontium (Sr)	Total	109	1	0.03	0.15	µg/L	100	0.757	108	75 - 125% PASS			
Thallium (Tl)	Total	108	1	0.01	0.05	µg/L	100	0	108	84 - 118% PASS			
Tin (Sn)	Total	107	1	0.06	0.3	µg/L	100	4.08	103	82 - 132% PASS			
Titanium (Ti)	Total	101	1	0.08	0.4	µg/L	100	0.371	101	75 - 131% PASS			
Vanadium (V)	Total	102	1	0.03	0.15	µg/L	100	0	102	96 - 126% PASS			
Zinc (Zn)	Total	111	1	0.022	0.069	µg/L	100	0.0941	111	85 - 132% PASS			

Elements

QUALITY CONTROL REPORT

Sample ID: 91472-MS2 **2021-E1-EQUIPBLANK** **Matrix: Samplewater** **Sampled: 21-Oct-21 7:10** **Received: 21-Oct-21**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
	Method: EPA 245.7					Batch ID: E-24150			Prepared: 15-Jan-22			Analyzed: 15-Jan-22		
Mercury (Hg)	Total	1.03	1	0.01	0.02	µg/L	1	0	103	76 - 127%	PASS	5	30	PASS
	Method: EPA 200.8					Batch ID: E-26018			Prepared: 01-Nov-21			Analyzed: 04-Nov-21		
Aluminum (Al)	Total	94.2	1	1.65	8.25	µg/L	100	3.72	90	75 - 130%	PASS	2	30	PASS
Antimony (Sb)	Total	115	1	0.03	0.15	µg/L	100	0.0774	115	91 - 121%	PASS	1	30	PASS
Arsenic (As)	Total	111	1	0.05	0.159	µg/L	100	0	111	94 - 135%	PASS	0	30	PASS
Barium (Ba)	Total	116	1	0.25	0.5	µg/L	100	2.72	113	90 - 120%	PASS	1	30	PASS
Beryllium (Be)	Total	87.2	1	0.01	0.031	µg/L	100	0	87	86 - 118%	PASS	1	30	PASS
Cadmium (Cd)	Total	109	1	0.007	0.023	µg/L	100	0.0689	109	90 - 120%	PASS	0	30	PASS
Chromium (Cr)	Total	102	1	0.01	0.05	µg/L	100	0.222	102	89 - 119%	PASS	0	30	PASS
Cobalt (Co)	Total	104	1	0.01	0.05	µg/L	100	0	104	87 - 117%	PASS	1	30	PASS
Copper (Cu)	Total	105	1	0.007	0.022	µg/L	100	0.0761	105	85 - 115%	PASS	0	30	PASS
Iron (Fe)	Total	104	1	1.13	5.65	µg/L	100	5.06	99	65 - 134%	PASS	2	30	PASS
Lead (Pb)	Total	108	1	0.007	0.021	µg/L	100	0.121	108	78 - 117%	PASS	1	30	PASS
Manganese (Mn)	Total	103	1	0.005	0.01	µg/L	100	0.187	103	83 - 125%	PASS	1	30	PASS
Molybdenum (Mo)	Total	105	1	0.007	0.022	µg/L	100	0	105	79 - 133%	PASS	1	30	PASS
Nickel (Ni)	Total	103	1	0.013	0.042	µg/L	100	0.0548	103	85 - 115%	PASS	1	30	PASS
Selenium (Se)	Total	102	1	0.021	0.068	µg/L	100	0	102	77 - 144%	PASS	0	30	PASS
Silver (Ag)	Total	6.73	1	0.01	0.02	µg/L	10	0	67	52 - 115%	PASS	9	30	PASS
Strontium (Sr)	Total	111	1	0.03	0.15	µg/L	100	0.757	110	75 - 125%	PASS	2	30	PASS
Thallium (Tl)	Total	107	1	0.01	0.05	µg/L	100	0	107	84 - 118%	PASS	1	30	PASS
Tin (Sn)	Total	108	1	0.06	0.3	µg/L	100	4.08	104	82 - 132%	PASS	1	30	PASS
Titanium (Ti)	Total	102	1	0.08	0.4	µg/L	100	0.371	102	75 - 131%	PASS	1	30	PASS
Vanadium (V)	Total	103	1	0.03	0.15	µg/L	100	0	103	96 - 126%	PASS	1	30	PASS
Zinc (Zn)	Total	110	1	0.022	0.069	µg/L	100	0.0941	110	85 - 132%	PASS	1	30	PASS

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Elements

QUALITY CONTROL REPORT

Sample ID: 91472-R2 2021-E1-EQUIPBLANK Matrix: Samplewater Sampled: 21-Oct-21 7:10 Received: 21-Oct-21

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS		QA CODEc
Method: EPA 245.7						Batch ID: E-24150		Prepared: 15-Jan-22			Analyzed: 15-Jan-22			
Mercury (Hg)	Total	ND	1	0.01	0.02	µg/L					0	30	PASS	
Method: EPA 200.8						Batch ID: E-26018		Prepared: 01-Nov-21			Analyzed: 04-Nov-21			
Aluminum (Al)	Total	ND	1	1.65	8.25	µg/L					77	30	FAIL	SL
Antimony (Sb)	Total	0.0815	1	0.03	0.15	µg/L					5	30	PASS	J
Arsenic (As)	Total	ND	1	0.05	0.159	µg/L					0	30	PASS	
Barium (Ba)	Total	2.58	1	0.25	0.5	µg/L					5	30	PASS	
Beryllium (Be)	Total	ND	1	0.01	0.031	µg/L					0	30	PASS	
Cadmium (Cd)	Total	0.0663	1	0.007	0.023	µg/L					4	30	PASS	
Chromium (Cr)	Total	0.116	1	0.01	0.05	µg/L					63	30	FAIL	NH
Cobalt (Co)	Total	ND	1	0.01	0.05	µg/L					0	30	PASS	
Copper (Cu)	Total	0.0552	1	0.007	0.022	µg/L					32	30	FAIL	SL
Iron (Fe)	Total	3.57	1	1.13	5.65	µg/L					35	30	FAIL	J,SL
Lead (Pb)	Total	0.0918	1	0.007	0.021	µg/L					27	30	PASS	
Manganese (Mn)	Total	0.0764	1	0.005	0.01	µg/L					84	30	FAIL	NH
Molybdenum (Mo)	Total	0.0113	1	0.007	0.022	µg/L					47	30	FAIL	J,SL
Nickel (Ni)	Total	ND	1	0.013	0.042	µg/L					123	30	FAIL	SL
Selenium (Se)	Total	ND	1	0.021	0.068	µg/L					0	30	PASS	
Silver (Ag)	Total	ND	1	0.01	0.02	µg/L					0	30	PASS	
Strontium (Sr)	Total	0.797	1	0.03	0.15	µg/L					5	30	PASS	
Thallium (Tl)	Total	ND	1	0.01	0.05	µg/L					0	30	PASS	
Tin (Sn)	Total	3.59	1	0.06	0.3	µg/L					13	30	PASS	
Titanium (Ti)	Total	0.272	1	0.08	0.4	µg/L					31	30	FAIL	J,SL
Vanadium (V)	Total	0.0323	1	0.03	0.15	µg/L					7	30	PASS	J
Zinc (Zn)	Total	0.584	1	0.022	0.069	µg/L					144	30	FAIL	SL

Organophosphorus Pesticides

QUALITY CONTROL REPORT

Sample ID: 91461-B1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Bolstar (Sulprofos)	NA	ND	1	10	20	ng/dry g							
Chlorpyrifos	NA	ND	1	1	2	ng/dry g							
Demeton	NA	ND	1	10	20	ng/dry g							
Diazinon	NA	ND	1	1	2	ng/dry g							
Dichlorvos	NA	ND	1	10	20	ng/dry g							
Dimethoate	NA	ND	1	5	10	ng/dry g							
Disulfoton	NA	ND	1	10	20	ng/dry g							
Ethoprop (Ethoprofos)	NA	ND	1	10	20	ng/dry g							
Fenchlorphos (Ronnel)	NA	ND	1	10	20	ng/dry g							
Fensulfothion	NA	ND	1	10	20	ng/dry g							
Fenthion	NA	ND	1	10	20	ng/dry g							
Malathion	NA	ND	1	5	10	ng/dry g							
Methidathion	NA	ND	1	10	20	ng/dry g							
Methyl Parathion	NA	ND	1	10	20	ng/dry g							
Mevinphos (Phosdrin)	NA	ND	1	10	20	ng/dry g							
Phorate	NA	ND	1	10	20	ng/dry g							
Tetrachlorvinphos (Stirofos)	NA	ND	1	10	20	ng/dry g							
Tokuthion (Prothiofos)	NA	ND	1	10	20	ng/dry g							
Trichloronate	NA	ND	1	10	20	ng/dry g							

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
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Project: Tijuana River Sediment Management Monitoring Proje

Organophosphorus Pesticides — QUALITY CONTROL REPORT

Sample ID: 91461-BS1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Bolstar (Sulprofos)	NA	395	1	10	20	ng/dry g	500	0	79	50 - 150%	PASS			
Chlorpyrifos	NA	373	1	1	2	ng/dry g	500	0	75	50 - 150%	PASS			
Demeton	NA	352	1	10	20	ng/dry g	500	0	70	25 - 125%	PASS			
Diazinon	NA	429	1	1	2	ng/dry g	500	0	86	50 - 150%	PASS			
Dichlorvos	NA	210	1	10	20	ng/dry g	500	0	42	50 - 150%	FAIL			R
Dimethoate	NA	287	1	5	10	ng/dry g	500	0	57	50 - 150%	PASS			
Disulfoton	NA	308	1	10	20	ng/dry g	500	0	62	25 - 125%	PASS			
Ethoprop (Ethoprofos)	NA	380	1	10	20	ng/dry g	500	0	76	50 - 150%	PASS			
Fenchlorphos (Ronnel)	NA	476	1	10	20	ng/dry g	500	0	95	50 - 150%	PASS			
Fensulfothion	NA	435	1	10	20	ng/dry g	500	0	87	50 - 150%	PASS			
Fenthion	NA	439	1	10	20	ng/dry g	500	0	88	50 - 150%	PASS			
Malathion	NA	520	1	5	10	ng/dry g	500	0	104	50 - 150%	PASS			
Methidathion	NA	600	1	10	20	ng/dry g	500	0	120	50 - 150%	PASS			
Methyl Parathion	NA	526	1	10	20	ng/dry g	500	0	105	50 - 150%	PASS			
Mevinphos (Phosdrin)	NA	313	1	10	20	ng/dry g	500	0	63	50 - 150%	PASS			
Phorate	NA	258	1	10	20	ng/dry g	500	0	52	50 - 150%	PASS			
Tetrachlorvinphos (Stirofos)	NA	507	1	10	20	ng/dry g	500	0	101	50 - 150%	PASS			
Tokuthion (Prothiofos)	NA	448	1	10	20	ng/dry g	500	0	90	50 - 150%	PASS			
Trichloronate	NA	394	1	10	20	ng/dry g	500	0	79	50 - 150%	PASS			

Organophosphorus Pesticides

QUALITY CONTROL REPORT

Sample ID: 91461-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Bolstar (Sulprofos)	NA	427	1	10	20	ng/dry g	500	0	85	50 - 150%	PASS	7	30	PASS	
Chlorpyrifos	NA	382	1	1	2	ng/dry g	500	0	76	50 - 150%	PASS	1	30	PASS	
Demeton	NA	342	1	10	20	ng/dry g	500	0	68	25 - 125%	PASS	3	30	PASS	
Diazinon	NA	445	1	1	2	ng/dry g	500	0	89	50 - 150%	PASS	3	30	PASS	
Dichlorvos	NA	255	1	10	20	ng/dry g	500	0	51	50 - 150%	PASS	19	30	PASS	
Dimethoate	NA	285	1	5	10	ng/dry g	500	0	57	50 - 150%	PASS	0	30	PASS	
Disulfoton	NA	285	1	10	20	ng/dry g	500	0	57	25 - 125%	PASS	8	30	PASS	
Ethoprop (Ethoprofos)	NA	383	1	10	20	ng/dry g	500	0	77	50 - 150%	PASS	1	30	PASS	
Fenchlorphos (Ronnel)	NA	479	1	10	20	ng/dry g	500	0	96	50 - 150%	PASS	1	30	PASS	
Fensulfothion	NA	454	1	10	20	ng/dry g	500	0	91	50 - 150%	PASS	4	30	PASS	
Fenthion	NA	439	1	10	20	ng/dry g	500	0	88	50 - 150%	PASS	0	30	PASS	
Malathion	NA	535	1	5	10	ng/dry g	500	0	107	50 - 150%	PASS	3	30	PASS	
Methidathion	NA	598	1	10	20	ng/dry g	500	0	120	50 - 150%	PASS	0	30	PASS	
Methyl Parathion	NA	519	1	10	20	ng/dry g	500	0	104	50 - 150%	PASS	1	30	PASS	
Mevinphos (Phosdrin)	NA	356	1	10	20	ng/dry g	500	0	71	50 - 150%	PASS	12	30	PASS	
Phorate	NA	263	1	10	20	ng/dry g	500	0	53	50 - 150%	PASS	2	30	PASS	
Tetrachlorvinphos (Stirofos)	NA	510	1	10	20	ng/dry g	500	0	102	50 - 150%	PASS	1	30	PASS	
Tokuthion (Prothiofos)	NA	408	1	10	20	ng/dry g	500	0	82	50 - 150%	PASS	9	30	PASS	
Trichloronate	NA	389	1	10	20	ng/dry g	500	0	78	50 - 150%	PASS	1	30	PASS	

Particle Size Distribution

QUALITY CONTROL REPORT

Sample ID: 91461-B1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

Method: SM 2560 D | Batch ID: P-1206 | Prepared: 10-Nov-21 | Analyzed: 10-Nov-21

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Clay <0.0039 mm	NA	ND	1	0.05	0.05	%							
Granule 2.0 <4.0 mm	NA	ND	1	0.05	0.05	%							
Sand 0.0625 to <2.0 mm	NA	ND	1	0.05	0.05	%							
Silt 0.0039 to <0.0625 mm	NA	ND	1	0.05	0.05	%							

Sample ID: 91464-LCM1 | **QAQC LCM - Physis PSD** | **Matrix: Sediment** | **Sampled:** | **Received:**

Method: SM 2560 D | Batch ID: P-1206 | Prepared: 10-Nov-21 | Analyzed: 10-Nov-21

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Clay <0.0039 mm	NA	8.7	1	0.05	0.05	%	10		87	70 - 130% PASS			
Sand 0.0625 to <2.0 mm	NA	60	1	0.05	0.05	%	54		111	80 - 120% PASS			
Silt 0.0039 to <0.0625 mm	NA	31.2	1	0.05	0.05	%	36		87	69 - 131% PASS			

Sample ID: 91466-R2 | **2021-E1-BASINSMGL-01** | **Matrix: Sediment** | **Sampled: 21-Oct-21 13:20** | **Received: 21-Oct-21**

Method: SM 2560 D | Batch ID: P-1206 | Prepared: 10-Nov-21 | Analyzed: 10-Nov-21

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Clay <0.0039 mm	NA	18.2	1	0.05	0.05	%					1	30 PASS	
Granule 2.0 <4.0 mm	NA	ND	1	0.05	0.05	%					0	30 PASS	
Sand 0.0625 to <2.0 mm	NA	10.6	1	0.05	0.05	%					39	30 FAIL	NH
Silt 0.0039 to <0.0625 mm	NA	71.3	1	0.05	0.05	%					7	30 PASS	

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 91461-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**				**Received:**		
	Method: EPA 8270E					Batch ID: O-34030	Prepared: 07-Feb-22				Analyzed: 13-Feb-22		
PCB003	NA	ND	1	0.1	0.2	ng/dry g							
PCB008	NA	ND	1	0.017	0.2	ng/dry g							
PCB018	NA	ND	1	0.029	0.2	ng/dry g							
PCB028	NA	ND	1	0.023	0.2	ng/dry g							
PCB031	NA	ND	1	0.1	0.2	ng/dry g							
PCB033	NA	ND	1	0.1	0.2	ng/dry g							
PCB037	NA	ND	1	0.06	0.2	ng/dry g							
PCB044	NA	ND	1	0.028	0.2	ng/dry g							
PCB049	NA	ND	1	0.036	0.2	ng/dry g							
PCB052	NA	ND	1	0.012	0.2	ng/dry g							
PCB056(060)	NA	ND	1	0.1	0.2	ng/dry g							
PCB066	NA	ND	1	0.027	0.2	ng/dry g							
PCB070	NA	ND	1	0.023	0.2	ng/dry g							
PCB074	NA	ND	1	0.021	0.2	ng/dry g							
PCB077	NA	ND	1	0.018	0.2	ng/dry g							
PCB081	NA	ND	1	0.084	0.2	ng/dry g							
PCB087	NA	ND	1	0.081	0.2	ng/dry g							
PCB095	NA	ND	1	0.1	0.2	ng/dry g							
PCB097	NA	ND	1	0.1	0.2	ng/dry g							
PCB099	NA	ND	1	0.028	0.2	ng/dry g							
PCB101	NA	ND	1	0.027	0.2	ng/dry g							
PCB105	NA	ND	1	0.047	0.2	ng/dry g							
PCB110	NA	ND	1	0.074	0.2	ng/dry g							

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
PCB114	NA	ND	1	0.072	0.2	ng/dry g							
PCB118	NA	ND	1	0.069	0.2	ng/dry g							
PCB119	NA	ND	1	0.071	0.2	ng/dry g							
PCB123	NA	ND	1	0.018	0.2	ng/dry g							
PCB126	NA	ND	1	0.086	0.2	ng/dry g							
PCB128	NA	ND	1	0.081	0.2	ng/dry g							
PCB138	NA	ND	1	0.057	0.2	ng/dry g							
PCB141	NA	ND	1	0.1	0.2	ng/dry g							
PCB149	NA	ND	1	0.092	0.2	ng/dry g							
PCB151	NA	ND	1	0.073	0.2	ng/dry g							
PCB153	NA	ND	1	0.065	0.2	ng/dry g							
PCB156	NA	ND	1	0.089	0.2	ng/dry g							
PCB157	NA	ND	1	0.103	0.2	ng/dry g							
PCB158	NA	ND	1	0.074	0.2	ng/dry g							
PCB167	NA	ND	1	0.049	0.2	ng/dry g							
PCB168+132	NA	ND	1	0.094	0.2	ng/dry g							
PCB169	NA	ND	1	0.116	0.2	ng/dry g							
PCB170	NA	ND	1	0.118	0.25	ng/dry g							
PCB174	NA	ND	1	0.12	0.25	ng/dry g							
PCB177	NA	ND	1	0.085	0.25	ng/dry g							
PCB180	NA	ND	1	0.154	0.25	ng/dry g							
PCB183	NA	ND	1	0.056	0.25	ng/dry g							
PCB187	NA	ND	1	0.168	0.25	ng/dry g							
PCB189	NA	ND	1	0.109	0.25	ng/dry g							
PCB194	NA	ND	1	0.164	0.25	ng/dry g							
PCB195	NA	ND	1	0.093	0.25	ng/dry g							

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
PCB199(200)	NA	ND	1	0.12	0.25	ng/dry g							
PCB201	NA	ND	1	0.104	0.25	ng/dry g							
PCB206	NA	ND	1	0.155	0.25	ng/dry g							
PCB209	NA	ND	1	0.12	0.25	ng/dry g							

PCB Congeners

QUALITY CONTROL REPORT

Sample ID: 91461-BS1 | **QAQC Procedural Blank** | **Matrix:** BlankMatrix | **Sampled:** | **Received:**

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB003	NA	34.8	1	0.1	0.2	ng/dry g	50	0	70	56 - 116%	PASS			
PCB008	NA	32.5	1	0.017	0.2	ng/dry g	50	0	65	63 - 119%	PASS			
PCB018	NA	49.4	1	0.029	0.2	ng/dry g	50	0	99	68 - 119%	PASS			
PCB028	NA	39.8	1	0.023	0.2	ng/dry g	50	0	80	67 - 123%	PASS			
PCB031	NA	42.3	1	0.1	0.2	ng/dry g	50	0	85	70 - 127%	PASS			
PCB033	NA	43.7	1	0.1	0.2	ng/dry g	50	0	87	70 - 123%	PASS			R
PCB037	NA	51.9	1	0.06	0.2	ng/dry g	50	0	104	77 - 116%	PASS			
PCB044	NA	41.4	1	0.028	0.2	ng/dry g	50	0	83	76 - 114%	PASS			
PCB049	NA	47.8	1	0.036	0.2	ng/dry g	50	0	96	72 - 122%	PASS			
PCB052	NA	38.4	1	0.012	0.2	ng/dry g	50	0	77	74 - 119%	PASS			
PCB056(060)	NA	43.3	1	0.1	0.2	ng/dry g	50	0	87	73 - 120%	PASS			
PCB066	NA	43.3	1	0.027	0.2	ng/dry g	50	0	87	75 - 117%	PASS			
PCB070	NA	44.2	1	0.023	0.2	ng/dry g	50	0	88	76 - 117%	PASS			
PCB074	NA	44.8	1	0.021	0.2	ng/dry g	50	0	90	74 - 121%	PASS			
PCB077	NA	48.4	1	0.018	0.2	ng/dry g	50	0	97	73 - 121%	PASS			
PCB081	NA	46.9	1	0.084	0.2	ng/dry g	50	0	94	73 - 125%	PASS			
PCB087	NA	44.1	1	0.081	0.2	ng/dry g	50	0	88	76 - 119%	PASS			
PCB095	NA	36.9	1	0.1	0.2	ng/dry g	50	0	74	74 - 114%	PASS			
PCB097	NA	42.2	1	0.1	0.2	ng/dry g	50	0	84	75 - 126%	PASS			
PCB099	NA	40.9	1	0.028	0.2	ng/dry g	50	0	82	77 - 118%	PASS			
PCB101	NA	38.4	1	0.027	0.2	ng/dry g	50	0	77	76 - 119%	PASS			
PCB105	NA	55.1	1	0.047	0.2	ng/dry g	50	0	110	71 - 121%	PASS			
PCB110	NA	40.6	1	0.074	0.2	ng/dry g	50	0	81	71 - 120%	PASS			

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB114	NA	40.9	1	0.072	0.2	ng/dry g	50	0	82	71 - 120%	PASS			
PCB118	NA	45.2	1	0.069	0.2	ng/dry g	50	0	90	75 - 117%	PASS			
PCB119	NA	39.4	1	0.071	0.2	ng/dry g	50	0	79	74 - 121%	PASS			
PCB123	NA	39.7	1	0.018	0.2	ng/dry g	50	0	79	75 - 119%	PASS			
PCB126	NA	45.1	1	0.086	0.2	ng/dry g	50	0	90	67 - 139%	PASS			
PCB128	NA	58.9	1	0.081	0.2	ng/dry g	50	0	118	71 - 128%	PASS			
PCB138	NA	42.7	1	0.057	0.2	ng/dry g	50	0	85	74 - 123%	PASS			
PCB141	NA	42.2	1	0.1	0.2	ng/dry g	50	0	84	71 - 118%	PASS			
PCB149	NA	36.7	1	0.092	0.2	ng/dry g	50	0	73	70 - 117%	PASS			
PCB151	NA	42.5	1	0.073	0.2	ng/dry g	50	0	85	75 - 124%	PASS			
PCB153	NA	46	1	0.065	0.2	ng/dry g	50	0	92	76 - 122%	PASS			
PCB156	NA	41.6	1	0.089	0.2	ng/dry g	50	0	83	68 - 139%	PASS			
PCB157	NA	55.9	1	0.103	0.2	ng/dry g	50	0	112	73 - 124%	PASS			
PCB158	NA	54.6	1	0.074	0.2	ng/dry g	50	0	109	70 - 130%	PASS			
PCB167	NA	48.9	1	0.049	0.2	ng/dry g	50	0	98	67 - 136%	PASS			
PCB168+132	NA	88.4	1	0.094	0.2	ng/dry g	100	0	88	74 - 116%	PASS			
PCB169	NA	51.7	1	0.116	0.2	ng/dry g	50	0	103	60 - 153%	PASS			
PCB170	NA	55.2	1	0.118	0.25	ng/dry g	50	0	110	66 - 135%	PASS			
PCB174	NA	53.7	1	0.12	0.25	ng/dry g	50	0	107	73 - 120%	PASS			
PCB177	NA	53	1	0.085	0.25	ng/dry g	50	0	106	73 - 128%	PASS			
PCB180	NA	61	1	0.154	0.25	ng/dry g	50	0	122	72 - 132%	PASS			
PCB183	NA	45.7	1	0.056	0.25	ng/dry g	50	0	91	79 - 119%	PASS			
PCB187	NA	47.3	1	0.168	0.25	ng/dry g	50	0	95	77 - 121%	PASS			
PCB189	NA	43.9	1	0.109	0.25	ng/dry g	50	0	88	54 - 154%	PASS			
PCB194	NA	46.9	1	0.164	0.25	ng/dry g	50	0	94	57 - 147%	PASS			
PCB195	NA	61.4	1	0.093	0.25	ng/dry g	50	0	123	64 - 136%	PASS			

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QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB199(200)	NA	55	1	0.12	0.25	ng/dry g	50	0	110	76 - 116%	PASS			
PCB201	NA	45.9	1	0.104	0.25	ng/dry g	50	0	92	71 - 119%	PASS			
PCB206	NA	55.1	1	0.155	0.25	ng/dry g	50	0	110	56 - 145%	PASS			
PCB209	NA	51.9	1	0.12	0.25	ng/dry g	50	0	104	59 - 140%	PASS			

PCB Congeners

QUALITY CONTROL REPORT

Sample ID: 91461-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB003	NA	37	1	0.1	0.2	ng/dry g	50	0	74	56 - 116%	PASS	6	30	PASS
PCB008	NA	36.1	1	0.017	0.2	ng/dry g	50	0	72	63 - 119%	PASS	10	30	PASS
PCB018	NA	42	1	0.029	0.2	ng/dry g	50	0	84	68 - 119%	PASS	16	30	PASS
PCB028	NA	39.4	1	0.023	0.2	ng/dry g	50	0	79	67 - 123%	PASS	1	30	PASS
PCB031	NA	43.8	1	0.1	0.2	ng/dry g	50	0	88	70 - 127%	PASS	3	30	PASS
PCB033	NA	35.2	1	0.1	0.2	ng/dry g	50	0	70	70 - 123%	PASS	22	30	PASS
PCB037	NA	50.6	1	0.06	0.2	ng/dry g	50	0	101	77 - 116%	PASS	3	30	PASS
PCB044	NA	43.4	1	0.028	0.2	ng/dry g	50	0	87	76 - 114%	PASS	5	30	PASS
PCB049	NA	48.8	1	0.036	0.2	ng/dry g	50	0	98	72 - 122%	PASS	2	30	PASS
PCB052	NA	40.7	1	0.012	0.2	ng/dry g	50	0	81	74 - 119%	PASS	5	30	PASS
PCB056(060)	NA	45	1	0.1	0.2	ng/dry g	50	0	90	73 - 120%	PASS	3	30	PASS
PCB066	NA	45.5	1	0.027	0.2	ng/dry g	50	0	91	75 - 117%	PASS	4	30	PASS
PCB070	NA	45.9	1	0.023	0.2	ng/dry g	50	0	92	76 - 117%	PASS	4	30	PASS
PCB074	NA	46	1	0.021	0.2	ng/dry g	50	0	92	74 - 121%	PASS	2	30	PASS
PCB077	NA	45.9	1	0.018	0.2	ng/dry g	50	0	92	73 - 121%	PASS	5	30	PASS
PCB081	NA	43.9	1	0.084	0.2	ng/dry g	50	0	88	73 - 125%	PASS	7	30	PASS
PCB087	NA	44.7	1	0.081	0.2	ng/dry g	50	0	89	76 - 119%	PASS	1	30	PASS
PCB095	NA	37.8	1	0.1	0.2	ng/dry g	50	0	76	74 - 114%	PASS	3	30	PASS
PCB097	NA	43.3	1	0.1	0.2	ng/dry g	50	0	87	75 - 126%	PASS	4	30	PASS
PCB099	NA	41.7	1	0.028	0.2	ng/dry g	50	0	83	77 - 118%	PASS	1	30	PASS
PCB101	NA	39.5	1	0.027	0.2	ng/dry g	50	0	79	76 - 119%	PASS	3	30	PASS
PCB105	NA	53.1	1	0.047	0.2	ng/dry g	50	0	106	71 - 121%	PASS	4	30	PASS
PCB110	NA	42.1	1	0.074	0.2	ng/dry g	50	0	84	71 - 120%	PASS	4	30	PASS

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
PCB114	NA	41.2	1	0.072	0.2	ng/dry g	50	0	82	71 - 120%	PASS	0	30	PASS	
PCB118	NA	45.5	1	0.069	0.2	ng/dry g	50	0	91	75 - 117%	PASS	1	30	PASS	
PCB119	NA	40.6	1	0.071	0.2	ng/dry g	50	0	81	74 - 121%	PASS	2	30	PASS	
PCB123	NA	38.9	1	0.018	0.2	ng/dry g	50	0	78	75 - 119%	PASS	1	30	PASS	
PCB126	NA	51	1	0.086	0.2	ng/dry g	50	0	102	67 - 139%	PASS	12	30	PASS	
PCB128	NA	54.9	1	0.081	0.2	ng/dry g	50	0	110	71 - 128%	PASS	7	30	PASS	
PCB138	NA	42.1	1	0.057	0.2	ng/dry g	50	0	84	74 - 123%	PASS	1	30	PASS	
PCB141	NA	38.4	1	0.1	0.2	ng/dry g	50	0	77	71 - 118%	PASS	9	30	PASS	
PCB149	NA	37.1	1	0.092	0.2	ng/dry g	50	0	74	70 - 117%	PASS	1	30	PASS	
PCB151	NA	41	1	0.073	0.2	ng/dry g	50	0	82	75 - 124%	PASS	4	30	PASS	
PCB153	NA	46	1	0.065	0.2	ng/dry g	50	0	92	76 - 122%	PASS	0	30	PASS	
PCB156	NA	47.6	1	0.089	0.2	ng/dry g	50	0	95	68 - 139%	PASS	13	30	PASS	
PCB157	NA	51.4	1	0.103	0.2	ng/dry g	50	0	103	73 - 124%	PASS	8	30	PASS	
PCB158	NA	52	1	0.074	0.2	ng/dry g	50	0	104	70 - 130%	PASS	5	30	PASS	
PCB167	NA	50	1	0.049	0.2	ng/dry g	50	0	100	67 - 136%	PASS	2	30	PASS	
PCB168+132	NA	86.9	1	0.094	0.2	ng/dry g	100	0	87	74 - 116%	PASS	1	30	PASS	
PCB169	NA	50.4	1	0.116	0.2	ng/dry g	50	0	101	60 - 153%	PASS	2	30	PASS	
PCB170	NA	50.5	1	0.118	0.25	ng/dry g	50	0	101	66 - 135%	PASS	9	30	PASS	
PCB174	NA	47.5	1	0.12	0.25	ng/dry g	50	0	95	73 - 120%	PASS	12	30	PASS	
PCB177	NA	50.5	1	0.085	0.25	ng/dry g	50	0	101	73 - 128%	PASS	5	30	PASS	
PCB180	NA	55.2	1	0.154	0.25	ng/dry g	50	0	110	72 - 132%	PASS	10	30	PASS	
PCB183	NA	44.3	1	0.056	0.25	ng/dry g	50	0	89	79 - 119%	PASS	2	30	PASS	
PCB187	NA	48.8	1	0.168	0.25	ng/dry g	50	0	98	77 - 121%	PASS	3	30	PASS	
PCB189	NA	49.8	1	0.109	0.25	ng/dry g	50	0	100	54 - 154%	PASS	13	30	PASS	
PCB194	NA	45	1	0.164	0.25	ng/dry g	50	0	90	57 - 147%	PASS	4	30	PASS	
PCB195	NA	65.5	1	0.093	0.25	ng/dry g	50	0	131	64 - 136%	PASS	6	30	PASS	

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
PCB199(200)	NA	55.2	1	0.12	0.25	ng/dry g	50	0	110	76 - 116%	PASS	0	30	PASS	
PCB201	NA	39.5	1	0.104	0.25	ng/dry g	50	0	79	71 - 119%	PASS	15	30	PASS	
PCB206	NA	54.3	1	0.155	0.25	ng/dry g	50	0	109	56 - 145%	PASS	1	30	PASS	
PCB209	NA	55.8	1	0.12	0.25	ng/dry g	50	0	112	59 - 140%	PASS	7	30	PASS	

PCB Congeners

QUALITY CONTROL REPORT

Sample ID: 91463-CRM1 **QAQC CRM - SRM 1944** **Matrix: Sediment** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
PCB008	NA	14.9	1	0.017	0.2	ng/dry g	22.3		67	43 - 150% PASS			
PCB018	NA	37.9	1	0.029	0.2	ng/dry g	51		74	50 - 143% PASS			
PCB028	NA	68.7	1	0.023	0.2	ng/dry g	80.8		85	44 - 145% PASS			
PCB031	NA	70.1	1	0.1	0.2	ng/dry g	78.7		89	49 - 137% PASS			
PCB044	NA	49.5	1	0.028	0.2	ng/dry g	60.2		82	43 - 110% PASS			
PCB049	NA	43.6	1	0.036	0.2	ng/dry g	53		82	41 - 145% PASS			
PCB052	NA	61.6	1	0.012	0.2	ng/dry g	79.4		78	45 - 110% PASS			
PCB066	NA	59.9	1	0.027	0.2	ng/dry g	71.9		83	32 - 110% PASS			
PCB087	NA	24.4	1	0.081	0.2	ng/dry g	29.9		82	41 - 110% PASS			
PCB095	NA	61.2	1	0.1	0.2	ng/dry g	65		94	47 - 110% PASS			
PCB099	NA	32.4	1	0.028	0.2	ng/dry g	37.5		86	33 - 110% PASS			
PCB101	NA	58.4	1	0.027	0.2	ng/dry g	73.4		80	41 - 110% PASS			
PCB105	NA	20.2	1	0.047	0.2	ng/dry g	24.5		82	12 - 111% PASS			
PCB110	NA	59.7	1	0.074	0.2	ng/dry g	63.5		94	41 - 110% PASS			
PCB118	NA	49.3	1	0.069	0.2	ng/dry g	58		85	34 - 110% PASS			
PCB128	NA	7.12	1	0.081	0.2	ng/dry g	8.5		84	32 - 137% PASS			
PCB138	NA	55.8	1	0.057	0.2	ng/dry g	62.1		90	34 - 142% PASS			
PCB149	NA	42.1	1	0.092	0.2	ng/dry g	49.7		85	44 - 128% PASS			
PCB151	NA	17.7	1	0.073	0.2	ng/dry g	16.9		105	37 - 122% PASS			
PCB153	NA	57.5	1	0.065	0.2	ng/dry g	74		78	39 - 110% PASS			
PCB156	NA	5.78	1	0.089	0.2	ng/dry g	6.5		89	35 - 120% PASS			
PCB170	NA	19.9	1	0.118	0.25	ng/dry g	22.6		88	34 - 148% PASS			
PCB174	NA	17	1	0.12	0.25	ng/dry g	16		106	59 - 145% PASS			

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB180	NA	53.8	1	0.154	0.25	ng/dry g	44.3		121	44 - 132%	PASS			
PCB183	NA	13.4	1	0.056	0.25	ng/dry g	12.2		110	53 - 131%	PASS			
PCB187	NA	24.2	1	0.168	0.25	ng/dry g	25.1		96	56 - 131%	PASS			
PCB194	NA	10	1	0.164	0.25	ng/dry g	11.2		89	34 - 166%	PASS			
PCB195	NA	3.55	1	0.093	0.25	ng/dry g	3.8		93	40 - 173%	PASS			
PCB206	NA	10.7	1	0.155	0.25	ng/dry g	9.2		116	50 - 159%	PASS			
PCB209	NA	7.03	1	0.12	0.25	ng/dry g	6.8		103	35 - 165%	PASS			

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Polynuclear Aromatic Hydrocarbons — QUALITY CONTROL REPORT

Sample ID: 91461-B1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
(d10-Acenaphthene)	NA	92	1			% Recovery	100		92	50 - 112%	PASS		
(d10-Phenanthrene)	NA	97	1			% Recovery	100		97	59 - 121%	PASS		
(d12-Chrysene)	NA	77	1			% Recovery	100		77	52 - 144%	PASS		
(d12-Perylene)	NA	50	1			% Recovery	100		50	50 - 150%	PASS		
(d8-Naphthalene)	NA	80	1			% Recovery	100		80	31 - 106%	PASS		
1-Methylnaphthalene	NA	ND	1	0.084	0.5	ng/dry g							
1-Methylphenanthrene	NA	ND	1	0.076	0.5	ng/dry g							
2,3,5-Trimethylnaphthalene	NA	ND	1	0.059	0.5	ng/dry g							
2,6-Dimethylnaphthalene	NA	ND	1	0.065	0.5	ng/dry g							
2-Methylnaphthalene	NA	ND	1	0.106	0.5	ng/dry g							
Acenaphthene	NA	ND	1	0.078	0.5	ng/dry g							
Acenaphthylene	NA	ND	1	0.058	0.5	ng/dry g							
Anthracene	NA	ND	1	0.046	0.5	ng/dry g							
Benz[a]anthracene	NA	ND	1	0.107	0.5	ng/dry g							
Benzo[a]pyrene	NA	ND	1	0.106	0.5	ng/dry g							
Benzo[b]fluoranthene	NA	ND	1	0.063	0.5	ng/dry g							
Benzo[e]pyrene	NA	ND	1	0.098	0.5	ng/dry g							
Benzo[g,h,i]perylene	NA	ND	1	0.093	0.5	ng/dry g							
Benzo[k]fluoranthene	NA	ND	1	0.111	0.5	ng/dry g							
Biphenyl	NA	ND	1	0.092	0.5	ng/dry g							
Chrysene	NA	ND	1	0.067	0.5	ng/dry g							
Dibenz[a,h]anthracene	NA	ND	1	0.106	0.5	ng/dry g							
Dibenzothiophene	NA	ND	1	0.2	0.5	ng/dry g							

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Fluoranthene	NA	ND	1	0.035	0.5	ng/dry g							
Fluorene	NA	ND	1	0.068	0.5	ng/dry g							
Indeno[1,2,3-cd]pyrene	NA	ND	1	0.087	0.5	ng/dry g							
Naphthalene	NA	ND	1	0.187	0.5	ng/dry g							
Perylene	NA	ND	1	0.114	0.5	ng/dry g							
Phenanthrene	NA	ND	1	0.074	0.5	ng/dry g							
Pyrene	NA	ND	1	0.048	0.5	ng/dry g							

Polynuclear Aromatic Hydrocarbons — QUALITY CONTROL REPORT

Sample ID: 91461-BS1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(d10-Acenaphthene)	NA	77	1			% Recovery	100	0	77	50 - 112%	PASS			
(d10-Phenanthrene)	NA	92	1			% Recovery	100	0	92	59 - 121%	PASS			
(d12-Chrysene)	NA	69	1			% Recovery	100	0	69	52 - 144%	PASS			
(d12-Perylene)	NA	86	1			% Recovery	100	0	86	50 - 150%	PASS			
(d8-Naphthalene)	NA	64	1			% Recovery	100	0	64	31 - 106%	PASS			
1-Methylnaphthalene	NA	377	1	0.084	0.5	ng/dry g	500	0	75	40 - 117%	PASS			
1-Methylphenanthrene	NA	415	1	0.076	0.5	ng/dry g	500	0	83	78 - 129%	PASS			
2,3,5-Trimethylnaphthalene	NA	451	1	0.059	0.5	ng/dry g	500	0	90	58 - 124%	PASS			
2,6-Dimethylnaphthalene	NA	418	1	0.065	0.5	ng/dry g	500	0	84	48 - 120%	PASS			
2-Methylnaphthalene	NA	296	1	0.106	0.5	ng/dry g	500	0	59	42 - 116%	PASS			
Acenaphthene	NA	313	1	0.078	0.5	ng/dry g	500	0	63	50 - 120%	PASS			
Acenaphthylene	NA	407	1	0.058	0.5	ng/dry g	500	0	81	51 - 114%	PASS			
Anthracene	NA	414	1	0.046	0.5	ng/dry g	500	0	83	70 - 113%	PASS			
Benz[a]anthracene	NA	505	1	0.107	0.5	ng/dry g	500	0	101	54 - 152%	PASS			
Benzo[a]pyrene	NA	376	1	0.106	0.5	ng/dry g	500	0	75	36 - 149%	PASS			
Benzo[b]fluoranthene	NA	510	1	0.063	0.5	ng/dry g	500	0	102	38 - 161%	PASS			
Benzo[e]pyrene	NA	432	1	0.098	0.5	ng/dry g	500	0	86	44 - 148%	PASS			
Benzo[g,h,i]perylene	NA	490	1	0.093	0.5	ng/dry g	500	0	98	55 - 143%	PASS			
Benzo[k]fluoranthene	NA	474	1	0.111	0.5	ng/dry g	500	0	95	44 - 148%	PASS			
Biphenyl	NA	399	1	0.092	0.5	ng/dry g	500	0	80	45 - 119%	PASS			
Chrysene	NA	512	1	0.067	0.5	ng/dry g	500	0	102	57 - 137%	PASS			
Dibenz[a,h]anthracene	NA	481	1	0.106	0.5	ng/dry g	500	0	96	56 - 148%	PASS			
Dibenzothiophene	NA	485	1	0.2	0.5	ng/dry g	500	0	97	69 - 118%	PASS			

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Fluoranthene	NA	507	1	0.035	0.5	ng/dry g	500	0	101	77 - 131%	PASS			
Fluorene	NA	508	1	0.068	0.5	ng/dry g	500	0	102	57 - 127%	PASS			
Indeno[1,2,3-cd]pyrene	NA	551	1	0.087	0.5	ng/dry g	500	0	110	52 - 150%	PASS			
Naphthalene	NA	285	1	0.187	0.5	ng/dry g	500	0	57	33 - 112%	PASS			
Perylene	NA	499	1	0.114	0.5	ng/dry g	500	0	100	40 - 141%	PASS			
Phenanthrene	NA	499	1	0.074	0.5	ng/dry g	500	0	100	71 - 121%	PASS			
Pyrene	NA	487	1	0.048	0.5	ng/dry g	500	0	97	77 - 132%	PASS			

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

Sample ID: 91461-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
(d10-Acenaphthene)	NA	79	1			% Recovery	100	0	79	50 - 112%	PASS	3	30	PASS	
(d10-Phenanthrene)	NA	90	1			% Recovery	100	0	90	59 - 121%	PASS	2	30	PASS	
(d12-Chrysene)	NA	74	1			% Recovery	100	0	74	52 - 144%	PASS	7	30	PASS	
(d12-Perylene)	NA	85	1			% Recovery	100	0	85	50 - 150%	PASS	1	30	PASS	
(d8-Naphthalene)	NA	67	1			% Recovery	100	0	67	31 - 106%	PASS	5	30	PASS	
1-Methylnaphthalene	NA	394	1	0.084	0.5	ng/dry g	500	0	79	40 - 117%	PASS	5	30	PASS	
1-Methylphenanthrene	NA	493	1	0.076	0.5	ng/dry g	500	0	99	78 - 129%	PASS	18	30	PASS	
2,3,5-Trimethylnaphthalene	NA	467	1	0.059	0.5	ng/dry g	500	0	93	58 - 124%	PASS	3	30	PASS	
2,6-Dimethylnaphthalene	NA	434	1	0.065	0.5	ng/dry g	500	0	87	48 - 120%	PASS	4	30	PASS	
2-Methylnaphthalene	NA	342	1	0.106	0.5	ng/dry g	500	0	68	42 - 116%	PASS	14	30	PASS	
Acenaphthene	NA	337	1	0.078	0.5	ng/dry g	500	0	67	50 - 120%	PASS	6	30	PASS	
Acenaphthylene	NA	441	1	0.058	0.5	ng/dry g	500	0	88	51 - 114%	PASS	8	30	PASS	
Anthracene	NA	439	1	0.046	0.5	ng/dry g	500	0	88	70 - 113%	PASS	6	30	PASS	
Benz[a]anthracene	NA	469	1	0.107	0.5	ng/dry g	500	0	94	54 - 152%	PASS	7	30	PASS	
Benzo[a]pyrene	NA	353	1	0.106	0.5	ng/dry g	500	0	71	36 - 149%	PASS	5	30	PASS	
Benzo[b]fluoranthene	NA	464	1	0.063	0.5	ng/dry g	500	0	93	38 - 161%	PASS	9	30	PASS	
Benzo[e]pyrene	NA	459	1	0.098	0.5	ng/dry g	500	0	92	44 - 148%	PASS	7	30	PASS	
Benzo[g,h,i]perylene	NA	406	1	0.093	0.5	ng/dry g	500	0	81	55 - 143%	PASS	19	30	PASS	
Benzo[k]fluoranthene	NA	469	1	0.111	0.5	ng/dry g	500	0	94	44 - 148%	PASS	1	30	PASS	
Biphenyl	NA	409	1	0.092	0.5	ng/dry g	500	0	82	45 - 119%	PASS	2	30	PASS	
Chrysene	NA	488	1	0.067	0.5	ng/dry g	500	0	98	57 - 137%	PASS	4	30	PASS	
Dibenz[a,h]anthracene	NA	421	1	0.106	0.5	ng/dry g	500	0	84	56 - 148%	PASS	13	30	PASS	
Dibenzothiophene	NA	480	1	0.2	0.5	ng/dry g	500	0	96	69 - 118%	PASS	1	30	PASS	

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Fluoranthene	NA	453	1	0.035	0.5	ng/dry g	500	0	91	77 - 131%	PASS	10	30	PASS	
Fluorene	NA	513	1	0.068	0.5	ng/dry g	500	0	103	57 - 127%	PASS	1	30	PASS	
Indeno[1,2,3-cd]pyrene	NA	557	1	0.087	0.5	ng/dry g	500	0	111	52 - 150%	PASS	1	30	PASS	
Naphthalene	NA	284	1	0.187	0.5	ng/dry g	500	0	57	33 - 112%	PASS	0	30	PASS	
Perylene	NA	496	1	0.114	0.5	ng/dry g	500	0	99	40 - 141%	PASS	1	30	PASS	
Phenanthrene	NA	470	1	0.074	0.5	ng/dry g	500	0	94	71 - 121%	PASS	6	30	PASS	
Pyrene	NA	508	1	0.048	0.5	ng/dry g	500	0	102	77 - 132%	PASS	5	30	PASS	

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

Sample ID: 91463-CRM1 QAQC CRM - SRM 1944 Matrix: Sediment Sampled: Received:

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(d10-Acenaphthene)	NA	80	1			% Recovery	100		80	44 - 144%	PASS			
(d10-Phenanthrene)	NA	89	1			% Recovery	100		89	60 - 134%	PASS			
(d12-Chrysene)	NA	57	1			% Recovery	100		57	27 - 158%	PASS			
(d12-Perylene)	NA	76	1			% Recovery	100		76	17 - 160%	PASS			
(d8-Naphthalene)	NA	60	1			% Recovery	100		60	19 - 130%	PASS			
1-Methylnaphthalene	NA	334	1	0.084	0.5	ng/dry g	470		71	25 - 128%	PASS			
1-Methylphenanthrene	NA	1620	1	0.076	0.5	ng/dry g	1700		95	37 - 110%	PASS			
2-Methylnaphthalene	NA	569	1	0.106	0.5	ng/dry g	740		77	28 - 123%	PASS			
Acenaphthene	NA	286	1	0.078	0.5	ng/dry g	390		73	22 - 110%	PASS			
Anthracene	NA	827	1	0.046	0.5	ng/dry g	1130		73	47 - 133%	PASS			
Benz[a]anthracene	NA	4770	1	0.107	0.5	ng/dry g	4720		101	31 - 145%	PASS			
Benzo[a]pyrene	NA	3460	1	0.106	0.5	ng/dry g	4300		80	22 - 127%	PASS			
Benzo[b]fluoranthene	NA	3980	1	0.063	0.5	ng/dry g	3870		103	36 - 160%	PASS			
Benzo[e]pyrene	NA	2340	1	0.098	0.5	ng/dry g	3280		71	38 - 147%	PASS			
Benzo[g,h,i]perylene	NA	2860	1	0.093	0.5	ng/dry g	2840		101	41 - 144%	PASS			
Benzo[k]fluoranthene	NA	3880	1	0.111	0.5	ng/dry g	4390		88	32 - 159%	PASS			
Biphenyl	NA	178	1	0.092	0.5	ng/dry g	250		71	27 - 112%	PASS			
Chrysene	NA	5120	1	0.067	0.5	ng/dry g	5900		87	44 - 162%	PASS			
Dibenz[a,h]anthracene	NA	1010	1	0.106	0.5	ng/dry g	924		109	22 - 135%	PASS			
Dibenzothiophene	NA	522	1	0.2	0.5	ng/dry g	500		104	78 - 170%	PASS			
Fluoranthene	NA	7750	1	0.035	0.5	ng/dry g	8920		87	31 - 141%	PASS			
Fluorene	NA	434	1	0.068	0.5	ng/dry g	480		90	24 - 110%	PASS			
Indeno[1,2,3-cd]pyrene	NA	2580	1	0.087	0.5	ng/dry g	2780		93	60 - 164%	PASS			

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Naphthalene	NA	789	1	0.187	0.5	ng/dry g	1280		62	19 - 126%	PASS			
Perylene	NA	930	1	0.114	0.5	ng/dry g	1170		79	26 - 114%	PASS			
Phenanthrene	NA	3980	1	0.074	0.5	ng/dry g	5270		76	51 - 121%	PASS			
Pyrene	NA	7700	1	0.048	0.5	ng/dry g	9700		79	31 - 126%	PASS			

Pyrethroids

QUALITY CONTROL REPORT

Sample ID: 91461-B1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

Method: EPA 8270E-MRM | Batch ID: O-34030 | Prepared: 21-Feb-22 | Analyzed: 24-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
(d5-Bifenthrin)	NA	69	1			% Recovery	100		69	65 - 115%	PASS		
(d5-Fenvalerate)	NA	87	1			% Recovery	100		87	40 - 115%	PASS		
Allethrin	NA	ND	1	0.28	0.5	ng/dry g							
Bifenthrin	NA	ND	1	0.22	0.5	ng/dry g							
Cyfluthrin	NA	ND	1	0.25	0.5	ng/dry g							
Cyhalothrin, Total Lambda	NA	ND	1	0.23	0.5	ng/dry g							
Cypermethrin	NA	ND	1	0.25	0.5	ng/dry g							
Danitol (Fenpropathrin)	NA	ND	1	0.21	0.5	ng/dry g							
Deltamethrin/Tralomethrin	NA	ND	1	0.25	0.5	ng/dry g							
Esfenvalerate	NA	ND	1	0.25	0.5	ng/dry g							
Fenvalerate	NA	ND	1	0.25	0.5	ng/dry g							
Permethrin, cis-	NA	ND	1	0.17	0.5	ng/dry g							
Permethrin, trans-	NA	ND	1	0.22	0.5	ng/dry g							
Prallethrin	NA	ND	1	0.28	0.5	ng/dry g							

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-001
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Proje

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 91461-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: EPA 8270E-MRM					Batch ID: O-34030		Prepared: 21-Feb-22				Analyzed: 24-Feb-22		
(d5-Bifenthrin)	NA	68	1			% Recovery	100	0	68	65 - 115%	PASS			
(d5-Fenvalerate)	NA	82	1			% Recovery	100	0	82	40 - 115%	PASS			
Allethrin	NA	466	1	0.28	0.5	ng/dry g	500	0	93	46 - 136%	PASS			
Bifenthrin	NA	505	1	0.22	0.5	ng/dry g	500	0	101	59 - 133%	PASS			
Cyfluthrin	NA	436	1	0.25	0.5	ng/dry g	500	0	87	43 - 130%	PASS			
Cyhalothrin, Total Lambda	NA	585	1	0.23	0.5	ng/dry g	500	0	117	36 - 136%	PASS			
Cypermethrin	NA	417	1	0.25	0.5	ng/dry g	500	0	83	41 - 126%	PASS			
Danitol (Fenpropathrin)	NA	537	1	0.21	0.5	ng/dry g	500	0	107	50 - 150%	PASS			
Deltamethrin/Tralomethrin	NA	478	1	0.25	0.5	ng/dry g	500	0	96	42 - 111%	PASS			
Esfenvalerate	NA	580	1	0.25	0.5	ng/dry g	500	0	116	56 - 112%	FAIL			R
Fenvalerate	NA	547	1	0.25	0.5	ng/dry g	500	0	109	48 - 120%	PASS			
Permethrin, cis-	NA	193	1	0.17	0.5	ng/dry g	199	0	97	30 - 151%	PASS			
Permethrin, trans-	NA	322	1	0.22	0.5	ng/dry g	296	0	109	42 - 136%	PASS			
Prallethrin	NA	571	1	0.28	0.5	ng/dry g	500	0	114	52 - 115%	PASS			

Pyrethroids

QUALITY CONTROL REPORT

Sample ID: 91461-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E-MRM Batch ID: O-34030 Prepared: 21-Feb-22 Analyzed: 24-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
(d5-Bifenthrin)	NA	70	1			% Recovery	100	0	70	65 - 115%	PASS	3	30	PASS	
(d5-Fenvalerate)	NA	77	1			% Recovery	100	0	77	40 - 115%	PASS	6	30	PASS	
Allethrin	NA	441	1	0.28	0.5	ng/dry g	500	0	88	46 - 136%	PASS	6	30	PASS	
Bifenthrin	NA	531	1	0.22	0.5	ng/dry g	500	0	106	59 - 133%	PASS	5	30	PASS	
Cyfluthrin	NA	443	1	0.25	0.5	ng/dry g	500	0	89	43 - 130%	PASS	2	30	PASS	
Cyhalothrin, Total Lambda	NA	538	1	0.23	0.5	ng/dry g	500	0	108	36 - 136%	PASS	8	30	PASS	
Cypermethrin	NA	434	1	0.25	0.5	ng/dry g	500	0	87	41 - 126%	PASS	5	30	PASS	
Danitol (Fenpropathrin)	NA	574	1	0.21	0.5	ng/dry g	500	0	115	50 - 150%	PASS	7	30	PASS	
Deltamethrin/Tralomethrin	NA	425	1	0.25	0.5	ng/dry g	500	0	85	42 - 111%	PASS	12	30	PASS	
Esfenvalerate	NA	538	1	0.25	0.5	ng/dry g	500	0	108	56 - 112%	PASS	7	30	PASS	
Fenvalerate	NA	506	1	0.25	0.5	ng/dry g	500	0	101	48 - 120%	PASS	8	30	PASS	
Permethrin, cis-	NA	182	1	0.17	0.5	ng/dry g	199	0	91	30 - 151%	PASS	6	30	PASS	
Permethrin, trans-	NA	297	1	0.22	0.5	ng/dry g	296	0	100	42 - 136%	PASS	9	30	PASS	
Prallethrin	NA	545	1	0.28	0.5	ng/dry g	500	0	109	52 - 115%	PASS	4	30	PASS	

Total Extractable Organics

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 91461-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**		
	Method: SM 5520 E					Batch ID: C-52033	Prepared: 24-Jan-22					Analyzed: 26-Jan-22		
Oil & Grease	NA	ND	1	100	200	mg/dry kg								
	Method: SM 5520 E					Batch ID: C-52036	Prepared: 07-Feb-22					Analyzed: 08-Feb-22		
TRPH	NA	ND	1	100	200	mg/dry kg								
Sample ID: 91461-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**		
	Method: SM 5520 E					Batch ID: C-52033	Prepared: 24-Jan-22					Analyzed: 26-Jan-22		
Oil & Grease	NA	2650	1	100	200	mg/dry kg	2550	0	104	70 - 130%	PASS			
	Method: SM 5520 E					Batch ID: C-52036	Prepared: 07-Feb-22					Analyzed: 08-Feb-22		
TRPH	NA	1670	1	100	200	mg/dry kg	1720	0	97	70 - 130%	PASS			
Sample ID: 91461-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**		
	Method: SM 5520 E					Batch ID: C-52033	Prepared: 24-Jan-22					Analyzed: 26-Jan-22		
Oil & Grease	NA	2490	1	100	200	mg/dry kg	2550	0	98	70 - 130%	PASS	6	30	PASS
	Method: SM 5520 E					Batch ID: C-52036	Prepared: 07-Feb-22					Analyzed: 08-Feb-22		
TRPH	NA	1420	1	100	200	mg/dry kg	1720	0	83	70 - 130%	PASS	16	30	PASS

SUBCONTRACT REPORT

Monday, November 29, 2021

Misty Mercier
Physis Environmental Laboratories, Inc.
1904 E Wright Cir
Anaheim, CA 92806

Re: ALS Workorder: 2110635
Project Name:
Project Number: 2109001

Dear Ms. Mercier:

Six sediment samples were received from Physis Environmental Laboratories, Inc., on 10/27/2021. The samples were scheduled for the following analysis:

Gross Alpha/Beta

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

For

ALS Environmental
Julie Ellingson
Project Manager

Accreditations: ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
California (CA)	2926
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO010992018-1
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	TN02976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

40 CFR Part 136: All analyses for Clean Water Act samples are analyzed using the 40 CFR Part 136 specified method and include all the QC requirements.

2110635

Gross Alpha/Beta:

The samples were analyzed for gross alpha and beta activity by gas flow proportional counting according to the current revision of SOP 724. Gross alpha results are referenced to ^{241}Am. Gross beta results are referenced to $^{90}Sr/Y$.

The radiometric recovery for the matrix spike of sample 2110635-6 is below the lower control limit of 70% at 63.1% for gross alpha AND 66.4% for gross beta. All other quality control criteria have been met. ALS does not control on matrix spike recovery. The result for this sample is considered an estimated value and is included in this data package.

All remaining acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 2110635
Client Name: Physis Environmental Laboratories, Inc.
Client Project Name:
Client Project Number: 2109001
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
2021-E1-BASINSMGL-01	2110635-1		SEDIMEN	21-Oct-21	13:20
2021-E1-BASINTJRVR-01	2110635-2		SEDIMEN	21-Oct-21	8:00
2021-E1-BRWNFL-01	2110635-3		SEDIMEN	21-Oct-21	10:45
2021-E1-FLDCHNL-01	2110635-4		SEDIMEN	21-Oct-21	9:45
2021-E1-SMGLPILOT-01	2110635-5		SEDIMEN	21-Oct-21	11:45
2021-E1-BASINTJRVR-02	2110635-6		SEDIMEN	21-Oct-21	8:00

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Chain of Custody

Physis Project ID: 2109001-001

2110635

From: Physis Environmental Laboratories, Inc.
Misty Mercier
1904 E. Wrigth Cir.
Anaheim, CA 92806
714-605-5320 (office), 714-335-5918 (cell)
sc@physislabs.com

To: ALS Global
Julie Ellingson
225 Commerce Drive
Fort Collins, CO 80524
julie.ellingson@alsglobal.com

2 1 1 0 6 3 5

Physis SOS Number:	2109001	PO Number:	Sampled by:
Turnaround Time	☑ Standard ☐ RUSH: ______ Business Days	Type of ice used:	☐ BLUE ☑ WET ☐ DRY
Report Format	☑ PDF/EDD ☐ SWAMP EDD ☐ CEDEN EDD ☐ Other EDD: ______	Shipped via:	☑ FEDEX ☐ UPS ☐ USPS ☐ Client ☐ Physis ☐ Other: ______

	Sample ID	Sample Description	Requested Analyses/Method	Sample Date	Sample Time	Matrix	# of Bottles
1	2021-E1-BASINSMGL-01		Gross Alpha & Beta Radiochemistry (EPA 900.0)	10/21/2021	1:20:00 PM	Sediment	1
2	2021-E1-BASINTJRVR-01		Gross Alpha & Beta Radiochemistry (EPA 900.0)	10/21/2021	8:00:00 AM	Sediment	1
3	2021-E1-BRWNFL-01		Gross Alpha & Beta Radiochemistry (EPA 900.0)	10/21/2021	10:45:00 AM	Sediment	1
4	2021-E1-FLDCHNL-01		Gross Alpha & Beta Radiochemistry (EPA 900.0)	10/21/2021	9:45:00 AM	Sediment	1
5	2021-E1-SMGLPILOT-01		Gross Alpha & Beta Radiochemistry (EPA 900.0)	10/21/2021	11:45:00 AM	Sediment	1
6	2021-E1-BASINTJRVR-02		Gross Alpha & Beta Radiochemistry (EPA 900.0)	10/21/2021	8:00:00 AM	Sediment	1

Notes/Comments:

Report Down to the MDL

Report in Dry Weight

We can give you the % solids results.

Relinquished:	Print: Ben Spiegel	Date: 10-26-21	Received By:	Print: Amy Kephart	Date: 10/27/21
Org: Physis	Sign: [signature]	Time: 1645	Org: ALS	Sign: [signature]	Time: 1030
Relinquished:	Print:	Date:	Received By:	Print:	Date:
Org:	Sign:	Time:	Org:	Sign:	Time:

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: PHYSIS   Workorder No: 2110635

Project Manager: JME   Initials: AXK   Date: 10/27/2021

		N/A	YES	NO
1.	Are airbills / shipping documents present and/or removable? Tracking number:		X	
2.	Are custody seals on **shipping** containers intact?	X		
3.	Are custody seals on **sample** containers intact?	X		
4.	Is there a COC (chain-of-custody) present?		X	
5.	Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		X	
6.	Are short-hold samples present?			X
7.	Are all samples within holding times for the requested analyses?		X	
8.	Were all sample containers received intact? (not broken or leaking)		X	
9.	Is there sufficient sample for the requested analyses?		X	
10.	Are samples in proper containers for requested analyses? (form 250, *Sample Handling Guidelines*)		X	
11.	Are all aqueous samples preserved correctly, if required? (excluding volatiles)	X		
12.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	X		
13.	Were the samples shipped on ice?		X	
14.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #5	RAD ONLY		X

Cooler #:	1
Temperature (°C):	-1.1
# of custody seals on cooler:	0
External µR/hr reading:	10
Background µR/hr reading:	9

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES** (If no, see Form 008.)

*** Please provide details here for NO responses to boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.**

Temp below 0.1

Were unpreserved bottles pH checked? NA   All client bottle ID's vs ALS lab ID's double-checked by: AK

If applicable, was the client contacted? **NA** Contact: ________ Date/Time: ________

Project Manager Signature / Date: Julie Ellingson

Form 201r29.xls
(10/15/2019)

*IR Gun #3, VWR SN 170647571
*IR Gun #5, VWR SN 192272629

ORIGIN ID:FULA (714) 602-5320
PHYSIS
PHYSIS LABS
1904 E. WRIGHT CIRCLE

ANAHEIM, CA 92806
UNITED STATES US

SHIP DATE: 26OCT21
ACTWGT: 15.00 LB
CAD: 101955606/INET4400

BILL SENDER

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511 REF: PROJECT #2109001-001
INV
PO DEPT:

56DJ3/14BA/FE4A

10-0
1-1-1

FedEx Express

E

J212221101801uv

WED - 27 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7750 3520 5878

XH FTCA

80524
CO-US DEN

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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2110635

2110635-A

Client:	Physis Environmental Laboratories, Inc.	**Date:**	*29-Nov-21*
Project:	2109001	**Work Order:**	2110635
Sample ID:	2021-E1-BASINSMGL-01	**Lab ID:**	2110635-1
Legal Location:		**Matrix:**	SEDIMENT
Collection Date:	10/21/2021 13:20	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**			Prep Date: **11/15/2021**	PrepBy: **BMH**
GROSS ALPHA	**3.9 (+/- 1.8)**		**2.1**	**pCi/g**	NA	11/17/2021 12:26
GROSS BETA	**3.6 (+/- 1.8)**		**3**	**pCi/g**	NA	11/17/2021 12:26

SAMPLE SUMMARY REPORT

Client: Physis Environmental Laboratories, Inc.
Date: *29-Nov-21*
Project: 2109001
Work Order: 2110635
Sample ID: 2021-E1-BASINTJRVR-01
Lab ID: 2110635-2
Legal Location:
Matrix: SEDIMENT
Collection Date: 10/21/2021 08:00
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**			Prep Date: **11/15/2021**	PrepBy: **BMH**
GROSS ALPHA	**0.75 (+/- 0.43)**		**0.6**	**pCi/g**	NA	11/17/2021 12:26
GROSS BETA	**1.51 (+/- 0.52)**		**0.74**	**pCi/g**	NA	11/17/2021 12:26

Client:	Physis Environmental Laboratories, Inc.	**Date:**	*29-Nov-21*
Project:	2109001	**Work Order:**	2110635
Sample ID:	2021-E1-BRWNFL-01	**Lab ID:**	2110635-3
Legal Location:		**Matrix:**	SEDIMENT
Collection Date:	10/21/2021 10:45	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**			Prep Date: **11/15/2021**	PrepBy: **BMH**
GROSS ALPHA	**2.7 (+/- 1.6)**		**2.2**	**pCi/g**	NA	11/17/2021 13:22
GROSS BETA	**9.5 (+/- 2.6)**		**2.9**	**pCi/g**	NA	11/17/2021 13:22

Client:	Physis Environmental Laboratories, Inc.	**Date:**	*29-Nov-21*
Project:	2109001	**Work Order:**	2110635
Sample ID:	2021-E1-FLDCHNL-01	**Lab ID:**	2110635-4
Legal Location:		**Matrix:**	SEDIMENT
Collection Date:	10/21/2021 09:45	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**			Prep Date: **11/15/2021**	PrepBy: **BMH**
GROSS ALPHA	**33 (+/- 7.1)**	M3	**3.7**	**pCi/g**	NA	11/17/2021 13:22
GROSS BETA	**150 (+/- 25)**	M3	**4**	**pCi/g**	NA	11/17/2021 13:22

Client:	Physis Environmental Laboratories, Inc.	**Date:**	*29-Nov-21*
Project:	2109001	**Work Order:**	2110635
Sample ID:	2021-E1-SMGLPILOT-01	**Lab ID:**	2110635-5
Legal Location:		**Matrix:**	SEDIMENT
Collection Date:	10/21/2021 11:45	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**		Prep Date: **11/15/2021**		PrepBy: **BMH**
GROSS ALPHA	**2.16 (+/- 0.65)**		**0.43**	**pCi/g**	NA	11/17/2021 13:22
GROSS BETA	**1.39 (+/- 0.46)**		**0.62**	**pCi/g**	NA	11/17/2021 13:22

Client:	Physis Environmental Laboratories, Inc.	**Date:**	*29-Nov-21*
Project:	2109001	**Work Order:**	2110635
Sample ID:	2021-E1-BASINTJRVR-02	**Lab ID:**	2110635-6
Legal Location:		**Matrix:**	SEDIMENT
Collection Date:	10/21/2021 08:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**			Prep Date: **11/15/2021**	PrepBy: **BMH**
GROSS ALPHA	**1.2 (+/- 0.53)**		**0.57**	**pCi/g**	NA	11/17/2021 13:22
GROSS BETA	**1.86 (+/- 0.58)**		**0.76**	**pCi/g**	NA	11/17/2021 13:22

Client:	Physis Environmental Laboratories, Inc.	**Date:**	*29-Nov-21*
Project:	2109001	**Work Order:**	2110635
Sample ID:	2021-E1-BASINTJRVR-02	**Lab ID:**	2110635-6
Legal Location:		**Matrix:**	SEDIMENT
Collection Date:	10/21/2021 08:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC
U or ND - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
G - Sample density differs by more than 15% of LCS density.
D - DER is greater than Control Limit
M - Requested MDC not met.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
U or ND - Indicates that the compound was analyzed for but not detected.
E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
M - Duplicate injection precision was not met.
N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
* - Duplicate analysis (relative percent difference) not within control limits.
S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.
B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
E - Analyte concentration exceeds the upper level of the calibration range.
J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
A - A tentatively identified compound is a suspected aldol-condensation product.
X - The analyte was diluted below an accurate quantitation level.
* - The spike recovery is equal to or outside the control criteria used.
+ - The relative percent difference (RPD) equals or exceeds the control criteria.
G - A pattern resembling gasoline was detected in this sample.
D - A pattern resembling diesel was detected in this sample.
M - A pattern resembling motor oil was detected in this sample.
C - A pattern resembling crude oil was detected in this sample.
4 - A pattern resembling JP-4 was detected in this sample.
5 - A pattern resembling JP-5 was detected in this sample.
H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

Date: *11/29/2021 2:47:*

Client: Physis Environmental Laboratories, Inc.
Work Order: 2110635
Project: 2109001

QC BATCH REPORT

Batch ID: **ab211115-1-1** Instrument ID: **LB4100-C** Method: **Gross Alpha/Beta by GFPC**

DUP Sample ID: **2110635-6** Units: **pCi/g** Analysis Date: **11/17/2021 14:07**
Client ID: **2021-E1-BASINTJRVR-02** Run ID: **AB211115-1A** Prep Date: **11/15/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
GROSS ALPHA	0.67 (+/- 0.32)	0.38						1.2	0.29	2.13	
GROSS BETA	1.08 (+/- 0.36)	0.5						1.86	0.30	2.13	

LCS Sample ID: **ab211115-1** Units: **pCi/g** Analysis Date: **11/17/2021 14:07**
Client ID: Run ID: **AB211115-1A** Prep Date: **11/15/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
GROSS ALPHA	12.1 (+/- 2.4)	0.7	14.74		82.2	70-130					P
GROSS BETA	13.3 (+/- 2.4)	1.1	13.98		95.4	70-130					P

MB Sample ID: **ab211115-1** Units: **pCi/g** Analysis Date: **11/17/2021 13:35**
Client ID: Run ID: **AB211115-1A** Prep Date: **11/15/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
GROSS ALPHA	ND	0.191									U
GROSS BETA	ND	0.28									U

MS Sample ID: **2110635-6** Units: **pCi/g** Analysis Date: **11/17/2021 14:07**
Client ID: **2021-E1-BASINTJRVR-02** Run ID: **AB211115-1A** Prep Date: **11/15/2021** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
GROSS ALPHA	9.9 (+/- 1.9)	0.5	14.35	1.2	63.1	70-130					N
GROSS BETA	10.3 (+/- 1.8)	0.8	13.61	1.86	66.4	70-130					N

The following samples were analyzed in this batch:

2110635-1	2110635-2	2110635-3
2110635-4	2110635-5	2110635-6

SUBCONTRACT REPORT

PHYSIS
TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 452537
Report Level: II
Report Date: 11/23/2021

Analytical Report *prepared for:*

Misty Mercier
PHYSIS Environmental Laboratories
1904 E. Wright Circle
Anaheim, CA 92806

Location: 2109001-001

Authorized for release by:

Diane Galvan

Diane Galvan, Project Manager
714-771-9928
diane.galvan@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, CDC ELITE Member

ENTHALPY ANALYTICAL

Sample Summary

Misty Mercier		Lab Job #:	452537
PHYSIS Environmental Laboratories		Location:	2109001-001
1904 E. Wright Circle		Date Received:	10/25/21
Anaheim, CA 92806			

Sample ID	Lab ID	Collected	Matrix
2021-E1-BASINMGL-01	452537-001	10/21/21 13:20	Soil
2021-E1-BASINTJRVR-01	452537-002	10/21/21 08:00	Soil
2021-E1-BRWNFL-01	452537-003	10/21/21 10:45	Soil
2021-E1-FLDCHNL-01	452537-004	10/21/21 09:45	Soil
2021-E1-SMGLPILOT-01	452537-005	10/21/21 11:45	Soil
2021-E1-BASINTJRVR-02	452537-006	10/21/21 08:00	Soil

ENTHALPY ANALYTICAL

Case Narrative

PHYSIS Environmental Laboratories		Lab Job Number:	452537
1904 E. Wright Circle		Location:	2109001-001
Anaheim, CA 92806		Date Received:	10/25/21
Misty Mercier			

This data package contains sample and QC results for six soil samples, requested for the above referenced project on 10/25/21. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015M):
Low recoveries were observed for diesel C10-C28 in the MS/MSD of 2021-E1-BASINMGL-01 (lab # 452537-001); the LCS was within limits, the associated RPD was within limits, and these low recoveries were not associated with any reported results. 2021-E1-BRWNFL-01 (lab # 452537-003) was diluted due to the dark color of the sample extract. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
Methylene chloride was detected between the MDL and the RL in the method blank for batch 276649; this analyte was not detected in samples at or above the RL. No other analytical problems were encountered.

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Chain of Custody

Physis Project ID: 2109001-001

452537

From: Physis Environmental Laboratories, Inc.
Misty Mercier
1904 E. Wrigth Cir.
Anaheim, CA 92806
714-605-5320 (office), 714-335-5918 (cell)
sc@physislabs.com

To: Enthalpy Analytical
Diane Galvan
931 W. Barkley Ave.
Orange, CA 92868
Diane.Galvan@enthalpy.com

Physis SOS Number:	2109001	PO Number:	Sampled by:
Turnaround Time	☑ Standard ☐ RUSH: ____ Business Days	Type of ice used:	☐ BLUE ☑ WET ☐ DRY
Report Format	☑ PDF/EDD ☐ SWAMP EDD ☐ CEDEN EDD ☐ Other EDD:	Shipped via:	☐ FEDEX ☐ UPS ☐ USPS ☐ Client ☑ Physis ☐ Other:

Sample ID	Sample Description	Requested Analyses/Method	Sample Date	Sample Time	Matrix	# of Bottles
2021-E1-BASINSMGL-01		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	10/21/2021	1:20:00 PM	Sediment	1
2021-E1-BASINTJRVR-01		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	10/21/2021	8:00:00 AM	Sediment	1
2021-E1-BRWNFL-01		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	10/21/2021	10:45:00 AM	Sediment	1
2021-E1-FLDCHNL-01		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	10/21/2021	9:45:00 AM	Sediment	1

Relinquished:	Print: M. Mercier	Date: 10/25/21	Received By:	Print: ZAID PADILLA	Date: 10/25/21
Org: Physis	Sign:	Time: 602 pm	Org: EA	Sign:	Time: 1802
Relinquished:	Print:	Date:	Received By:	Print:	Date:
Org:	Sign:	Time:	Org:	Sign:	Time:

0.8/4.1°C

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Chain of Custody

Physis Project ID: 2109001-001

452537

From: Physis Environmental Laboratories, Inc.
Misty Mercier
1904 E. Wrigth Cir.
Anaheim, CA 92806
714-605-5320 (office), 714-335-5918 (cell)
sc@physislabs.com

To: Enthalpy Analytical
Diane Galvan
931 W. Barkley Ave.
Orange, CA 92868
Diane.Galvan@enthalpy.com

Sample ID	Sample Description	Requested Analyses/Method	Sample Date	Sample Time	Matrix	# of Bottles
2021-E1-SMGLPILOT-01		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	10/21/2021	11:45:00 AM	Sediment	1
2021-E1-BASINTJRVR-02		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	10/21/2021	8:00:00 AM	Sediment	1

Notes/Comments:

Report Down to the MDL

Report in Dry Weight

We can give you the % solids results.

Relinquished:	Print: M. Mercier	Date: 10/25/21	Received By:	Print: CAIO PADILLA	Date: 10/25/21
Org: Physis	Sign:	Time: 602 pm	Org: EA	Sign:	Time: 1802.
Relinquished:	Print:	Date:	Received By:	Print:	Date:
Org:	Sign:	Time:	Org:	Sign:	Time:

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Physis   Project: 2109001-001

Date Received: 10/25/21   Sampler's Name Present: ☐ Yes ☑ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)   Sample Temp (°C) (No Cooler): ______

Sample Temp (°C), One from each cooler: #1: 4.1 #2: ______ #3: ______ #4: ______

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: ______

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other ______

Cooler Temp (°C): #1: 0.8 #2: ______ #3: ______ #4: ______

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)		✓	
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?			✓
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: ______ Date/Time ______

☐ Email (email sent to/on): ______ / ______

Project Manager's response:

Completed By: Yeena Sylvestini   Date: 10/25/21

ENTHALPY ANALYTICAL

Analysis Results for 452537

Misty Mercier
PHYSIS Environmental Laboratories
1904 E. Wright Circle
Anaheim, CA 92806

Lab Job #: 452537
Location: 2109001-001
Date Received: 10/25/21

Sample ID:	2021-E1-BASINMGL-01	Lab ID:	452537-001	Collected:	10/21/21 13:20
		Matrix:	Soil	Basis:	Dry

452537-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	10		1	276788	10/28/21	10/30/21	MES
TPH (C10-C44)	**170**		mg/Kg	10		1	276788	10/28/21	10/30/21	MES
Surrogates				**Limits**						
n-Triacontane	104%		%REC	70-130		1	276788	10/28/21	10/30/21	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	5.1	0.3	1	276649	10/27/21	10/27/21	RAO
Freon 12	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
Chloromethane	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
Vinyl Chloride	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
Bromomethane	ND		ug/Kg	5.1	0.3	1	276649	10/27/21	10/27/21	RAO
Chloroethane	ND		ug/Kg	5.1	0.3	1	276649	10/27/21	10/27/21	RAO
Trichlorofluoromethane	ND		ug/Kg	5.1	0.3	1	276649	10/27/21	10/27/21	RAO
Acetone	ND		ug/Kg	100	26	1	276649	10/27/21	10/27/21	RAO
Freon 113	ND		ug/Kg	5.1	0.8	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethene	ND		ug/Kg	5.1	0.2	1	276649	10/27/21	10/27/21	RAO
Methylene Chloride	**6.6**	B,J	ug/Kg	10	0.7	1	276649	10/27/21	10/27/21	RAO
MTBE	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethane	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
2-Butanone	ND		ug/Kg	100	3.3	1	276649	10/27/21	10/27/21	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
2,2-Dichloropropane	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
Chloroform	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
Bromochloromethane	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,1-Trichloroethane	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloropropene	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
Carbon Tetrachloride	ND		ug/Kg	5.1	0.3	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
Benzene	ND		ug/Kg	5.1	0.2	1	276649	10/27/21	10/27/21	RAO
Trichloroethene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloropropane	ND		ug/Kg	5.1	0.6	1	276649	10/27/21	10/27/21	RAO
Bromodichloromethane	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
Dibromomethane	ND		ug/Kg	5.1	0.6	1	276649	10/27/21	10/27/21	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	5.1	1.9	1	276649	10/27/21	10/27/21	RAO

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 452537

452537-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
cis-1,3-Dichloropropene	ND		ug/Kg	5.1	0.3	1	276649	10/27/21	10/27/21	RAO
Toluene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,2-Trichloroethane	ND		ug/Kg	5.1	0.6	1	276649	10/27/21	10/27/21	RAO
1,3-Dichloropropane	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
Tetrachloroethene	ND		ug/Kg	5.1	0.6	1	276649	10/27/21	10/27/21	RAO
Dibromochloromethane	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromoethane	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
Chlorobenzene	ND		ug/Kg	5.1	0.3	1	276649	10/27/21	10/27/21	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
Ethylbenzene	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
m,p-Xylenes	ND		ug/Kg	10	0.8	1	276649	10/27/21	10/27/21	RAO
o-Xylene	ND		ug/Kg	5.1	0.3	1	276649	10/27/21	10/27/21	RAO
Styrene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
Bromoform	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
Isopropylbenzene	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichloropropane	ND		ug/Kg	5.1	0.7	1	276649	10/27/21	10/27/21	RAO
Propylbenzene	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
Bromobenzene	ND		ug/Kg	5.1	0.3	1	276649	10/27/21	10/27/21	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	5.1	0.4	1	276649	10/27/21	10/27/21	RAO
2-Chlorotoluene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
4-Chlorotoluene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
tert-Butylbenzene	ND		ug/Kg	5.1	0.3	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
sec-Butylbenzene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
para-Isopropyl Toluene	ND		ug/Kg	5.1	0.6	1	276649	10/27/21	10/27/21	RAO
1,3-Dichlorobenzene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
1,4-Dichlorobenzene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
n-Butylbenzene	ND		ug/Kg	5.1	0.7	1	276649	10/27/21	10/27/21	RAO
1,2-Dichlorobenzene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.1	0.7	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	5.1	0.9	1	276649	10/27/21	10/27/21	RAO
Hexachlorobutadiene	ND		ug/Kg	5.1	0.6	1	276649	10/27/21	10/27/21	RAO
Naphthalene	ND		ug/Kg	5.1	0.9	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	5.1	0.6	1	276649	10/27/21	10/27/21	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.1	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.1	0.9	1	276649	10/27/21	10/27/21	RAO
Xylene (total)	ND		ug/Kg	5.1		1	276649	10/27/21	10/27/21	RAO
Surrogates				**Limits**						
Dibromofluoromethane	97%		%REC	70-145	1.3	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane-d4	99%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Toluene-d8	100%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Bromofluorobenzene	101%		%REC	70-145	1.5	1	276649	10/27/21	10/27/21	RAO
Method: EPA 9012A										
Cyanide	ND		mg/Kg	0.51	0.036	1	276899	10/29/21	10/29/21	ATP

Results for any subcontracted analyses are not included in this section.

Analysis Results for 452537

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 452537

Sample ID:	Lab ID: 452537-002	Collected: 10/21/21 08:00
2021-E1-BASINTJRVR-01	Matrix: Soil	Basis: Dry

452537-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	10		1	276788	10/28/21	10/30/21	MES
TPH (C10-C44)	**14**		mg/Kg	10		1	276788	10/28/21	10/30/21	MES
Surrogates				**Limits**						
n-Triacontane	104%		%REC	70-130		1	276788	10/28/21	10/30/21	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Freon 12	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Chloromethane	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Vinyl Chloride	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Bromomethane	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Chloroethane	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Trichlorofluoromethane	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Acetone	ND		ug/Kg	100	26	1	276649	10/27/21	10/27/21	RAO
Freon 113	ND		ug/Kg	5.2	0.8	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethene	ND		ug/Kg	5.2	0.2	1	276649	10/27/21	10/27/21	RAO
Methylene Chloride	**8.9**	J	ug/Kg	10	0.7	1	276649	10/27/21	10/27/21	RAO
MTBE	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethane	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
2-Butanone	ND		ug/Kg	100	3.3	1	276649	10/27/21	10/27/21	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
2,2-Dichloropropane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Chloroform	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Bromochloromethane	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,1-Trichloroethane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloropropene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Carbon Tetrachloride	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Benzene	ND		ug/Kg	5.2	0.2	1	276649	10/27/21	10/27/21	RAO
Trichloroethene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloropropane	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
Bromodichloromethane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Dibromomethane	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	5.2	2.0	1	276649	10/27/21	10/27/21	RAO
cis-1,3-Dichloropropene	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Toluene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,2-Trichloroethane	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
1,3-Dichloropropane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO

Results for any subcontracted analyses are not included in this section.

Analysis Results for 452537

452537-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Tetrachloroethene	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
Dibromochloromethane	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromoethane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Chlorobenzene	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Ethylbenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
m,p-Xylenes	ND		ug/Kg	10	0.9	1	276649	10/27/21	10/27/21	RAO
o-Xylene	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Styrene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Bromoform	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Isopropylbenzene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichloropropane	ND		ug/Kg	5.2	0.8	1	276649	10/27/21	10/27/21	RAO
Propylbenzene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Bromobenzene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
2-Chlorotoluene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
4-Chlorotoluene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
tert-Butylbenzene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
sec-Butylbenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
para-Isopropyl Toluene	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
1,3-Dichlorobenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
1,4-Dichlorobenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
n-Butylbenzene	ND		ug/Kg	5.2	0.7	1	276649	10/27/21	10/27/21	RAO
1,2-Dichlorobenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.2	0.7	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	5.2	0.9	1	276649	10/27/21	10/27/21	RAO
Hexachlorobutadiene	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
Naphthalene	ND		ug/Kg	5.2	0.9	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.2	0.9	1	276649	10/27/21	10/27/21	RAO
Xylene (total)	ND		ug/Kg	5.2		1	276649	10/27/21	10/27/21	RAO
Surrogates				**Limits**						
Dibromofluoromethane	97%		%REC	70-145	1.3	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane-d4	101%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Toluene-d8	101%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Bromofluorobenzene	98%		%REC	70-145	1.5	1	276649	10/27/21	10/27/21	RAO
Method: EPA 9012A										
Cyanide	ND		mg/Kg	0.52	0.036	1	276899	10/29/21	10/29/21	ATP

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 452537

Sample ID:	2021-E1-BRWNFL-01	Lab ID:	452537-003	Collected:	10/21/21 10:45
		Matrix:	Soil	Basis:	Dry

452537-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	55		5	276788	10/28/21	10/30/21	MES
TPH (C10-C44)	**270**		mg/Kg	55		5	276788	10/28/21	10/30/21	MES
Surrogates				**Limits**						
n-Triacontane	110%		%REC	70-130		5	276788	10/28/21	10/30/21	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	5.5	0.3	1	276649	10/27/21	10/27/21	RAO
Freon 12	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
Chloromethane	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
Vinyl Chloride	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
Bromomethane	ND		ug/Kg	5.5	0.3	1	276649	10/27/21	10/27/21	RAO
Chloroethane	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
Trichlorofluoromethane	ND		ug/Kg	5.5	0.3	1	276649	10/27/21	10/27/21	RAO
Acetone	ND		ug/Kg	110	27	1	276649	10/27/21	10/27/21	RAO
Freon 113	ND		ug/Kg	5.5	0.8	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethene	ND		ug/Kg	5.5	0.2	1	276649	10/27/21	10/27/21	RAO
Methylene Chloride	**11**	J	ug/Kg	11	0.7	1	276649	10/27/21	10/27/21	RAO
MTBE	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethane	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
2-Butanone	ND		ug/Kg	110	3.5	1	276649	10/27/21	10/27/21	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
2,2-Dichloropropane	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
Chloroform	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
Bromochloromethane	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,1-Trichloroethane	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloropropene	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
Carbon Tetrachloride	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
Benzene	ND		ug/Kg	5.5	0.2	1	276649	10/27/21	10/27/21	RAO
Trichloroethene	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloropropane	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
Bromodichloromethane	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
Dibromomethane	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	5.5	2.1	1	276649	10/27/21	10/27/21	RAO
cis-1,3-Dichloropropene	ND		ug/Kg	5.5	0.3	1	276649	10/27/21	10/27/21	RAO
Toluene	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,2-Trichloroethane	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
1,3-Dichloropropane	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 452537

452537-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Tetrachloroethene	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
Dibromochloromethane	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromoethane	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
Chlorobenzene	ND		ug/Kg	5.5	0.3	1	276649	10/27/21	10/27/21	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
Ethylbenzene	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
m,p-Xylenes	ND		ug/Kg	11	0.9	1	276649	10/27/21	10/27/21	RAO
o-Xylene	ND		ug/Kg	5.5	0.3	1	276649	10/27/21	10/27/21	RAO
Styrene	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
Bromoform	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
Isopropylbenzene	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichloropropane	ND		ug/Kg	5.5	0.8	1	276649	10/27/21	10/27/21	RAO
Propylbenzene	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
Bromobenzene	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
2-Chlorotoluene	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
4-Chlorotoluene	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
tert-Butylbenzene	ND		ug/Kg	5.5	0.4	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
sec-Butylbenzene	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
para-Isopropyl Toluene	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
1,3-Dichlorobenzene	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
1,4-Dichlorobenzene	ND		ug/Kg	5.5	0.5	1	276649	10/27/21	10/27/21	RAO
n-Butylbenzene	ND		ug/Kg	5.5	0.7	1	276649	10/27/21	10/27/21	RAO
1,2-Dichlorobenzene	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.5	0.7	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	5.5	1.0	1	276649	10/27/21	10/27/21	RAO
Hexachlorobutadiene	ND		ug/Kg	5.5	0.7	1	276649	10/27/21	10/27/21	RAO
Naphthalene	ND		ug/Kg	5.5	0.9	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.5	0.6	1	276649	10/27/21	10/27/21	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.5	0.9	1	276649	10/27/21	10/27/21	RAO
Xylene (total)	ND		ug/Kg	5.5		1	276649	10/27/21	10/27/21	RAO
Surrogates				**Limits**						
Dibromofluoromethane	99%		%REC	70-145	1.4	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane-d4	102%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Toluene-d8	100%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Bromofluorobenzene	101%		%REC	70-145	1.6	1	276649	10/27/21	10/27/21	RAO
Method: EPA 9012A										
Cyanide	ND		mg/Kg	0.55	0.038	1	276899	10/29/21	10/29/21	ATP

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 452537

Sample ID: 2021-E1-FLDCHNL-01	Lab ID: 452537-004	Collected: 10/21/21 09:45
	Matrix: Soil	Basis: Dry

452537-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	13		1	276788	10/28/21	10/30/21	MES
TPH (C10-C44)	**86**		mg/Kg	13		1	276788	10/28/21	10/30/21	MES
Surrogates				**Limits**						
n-Triacontane	102%		%REC	70-130		1	276788	10/28/21	10/30/21	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	6.7	0.4	1	276649	10/27/21	10/27/21	RAO
Freon 12	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
Chloromethane	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
Vinyl Chloride	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
Bromomethane	ND		ug/Kg	6.7	0.4	1	276649	10/27/21	10/27/21	RAO
Chloroethane	ND		ug/Kg	6.7	0.4	1	276649	10/27/21	10/27/21	RAO
Trichlorofluoromethane	ND		ug/Kg	6.7	0.4	1	276649	10/27/21	10/27/21	RAO
Acetone	ND		ug/Kg	130	33	1	276649	10/27/21	10/27/21	RAO
Freon 113	ND		ug/Kg	6.7	1.0	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethene	ND		ug/Kg	6.7	0.2	1	276649	10/27/21	10/27/21	RAO
Methylene Chloride	**6.2**	B,J	ug/Kg	13	0.9	1	276649	10/27/21	10/27/21	RAO
MTBE	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethane	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
2-Butanone	ND		ug/Kg	130	4.3	1	276649	10/27/21	10/27/21	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
2,2-Dichloropropane	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
Chloroform	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
Bromochloromethane	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
1,1,1-Trichloroethane	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloropropene	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
Carbon Tetrachloride	ND		ug/Kg	6.7	0.4	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
Benzene	ND		ug/Kg	6.7	0.3	1	276649	10/27/21	10/27/21	RAO
Trichloroethene	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloropropane	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
Bromodichloromethane	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
Dibromomethane	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	6.7	2.5	1	276649	10/27/21	10/27/21	RAO
cis-1,3-Dichloropropene	ND		ug/Kg	6.7	0.4	1	276649	10/27/21	10/27/21	RAO
Toluene	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
1,1,2-Trichloroethane	ND		ug/Kg	6.7	0.8	1	276649	10/27/21	10/27/21	RAO
1,3-Dichloropropane	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO

Results for any subcontracted analyses are not included in this section.

Analysis Results for 452537

452537-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Tetrachloroethene	ND		ug/Kg	6.7	0.8	1	276649	10/27/21	10/27/21	RAO
Dibromochloromethane	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromoethane	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
Chlorobenzene	ND		ug/Kg	6.7	0.3	1	276649	10/27/21	10/27/21	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
Ethylbenzene	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
m,p-Xylenes	ND		ug/Kg	13	1.1	1	276649	10/27/21	10/27/21	RAO
o-Xylene	ND		ug/Kg	6.7	0.4	1	276649	10/27/21	10/27/21	RAO
Styrene	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
Bromoform	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
Isopropylbenzene	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichloropropane	ND		ug/Kg	6.7	1.0	1	276649	10/27/21	10/27/21	RAO
Propylbenzene	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
Bromobenzene	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
2-Chlorotoluene	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
4-Chlorotoluene	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
tert-Butylbenzene	ND		ug/Kg	6.7	0.5	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
sec-Butylbenzene	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
para-Isopropyl Toluene	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
1,3-Dichlorobenzene	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
1,4-Dichlorobenzene	ND		ug/Kg	6.7	0.6	1	276649	10/27/21	10/27/21	RAO
n-Butylbenzene	ND		ug/Kg	6.7	0.9	1	276649	10/27/21	10/27/21	RAO
1,2-Dichlorobenzene	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	6.7	0.9	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	6.7	1.2	1	276649	10/27/21	10/27/21	RAO
Hexachlorobutadiene	ND		ug/Kg	6.7	0.8	1	276649	10/27/21	10/27/21	RAO
Naphthalene	ND		ug/Kg	6.7	1.1	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	6.7	0.7	1	276649	10/27/21	10/27/21	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	6.7	1.1	1	276649	10/27/21	10/27/21	RAO
Xylene (total)	ND		ug/Kg	6.7		1	276649	10/27/21	10/27/21	RAO
Surrogates				**Limits**						
Dibromofluoromethane	96%		%REC	70-145	1.7	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane-d4	99%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Toluene-d8	101%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Bromofluorobenzene	98%		%REC	70-145	2.0	1	276649	10/27/21	10/27/21	RAO
Method: EPA 9012A										
Cyanide	**0.20**	J	mg/Kg	0.67	0.047	1	276899	10/29/21	10/29/21	ATP

Results for any subcontracted analyses are not included in this section.

Analysis Results for 452537

Sample ID: 2021-E1-SMGLPILOT-01	Lab ID: 452537-005	Collected: 10/21/21 11:45
	Matrix: Soil	Basis: Dry

452537-005 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	11		1	276788	10/28/21	10/30/21	MES
TPH (C10-C44)	**76**		mg/Kg	11		1	276788	10/28/21	10/30/21	MES
Surrogates				**Limits**						
n-Triacontane	106%		%REC	70-130		1	276788	10/28/21	10/30/21	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	5.3	0.3	1	276649	10/27/21	10/27/21	RAO
Freon 12	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
Chloromethane	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
Vinyl Chloride	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
Bromomethane	ND		ug/Kg	5.3	0.3	1	276649	10/27/21	10/27/21	RAO
Chloroethane	ND		ug/Kg	5.3	0.3	1	276649	10/27/21	10/27/21	RAO
Trichlorofluoromethane	ND		ug/Kg	5.3	0.3	1	276649	10/27/21	10/27/21	RAO
Acetone	ND		ug/Kg	110	26	1	276649	10/27/21	10/27/21	RAO
Freon 113	ND		ug/Kg	5.3	0.8	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethene	ND		ug/Kg	5.3	0.2	1	276649	10/27/21	10/27/21	RAO
Methylene Chloride	**7.7**	J	ug/Kg	11	0.7	1	276649	10/27/21	10/27/21	RAO
MTBE	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethane	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
2-Butanone	ND		ug/Kg	110	3.4	1	276649	10/27/21	10/27/21	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
2,2-Dichloropropane	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
Chloroform	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
Bromochloromethane	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,1-Trichloroethane	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloropropene	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
Carbon Tetrachloride	ND		ug/Kg	5.3	0.3	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
Benzene	ND		ug/Kg	5.3	0.2	1	276649	10/27/21	10/27/21	RAO
Trichloroethene	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloropropane	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
Bromodichloromethane	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
Dibromomethane	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	5.3	2.0	1	276649	10/27/21	10/27/21	RAO
cis-1,3-Dichloropropene	ND		ug/Kg	5.3	0.3	1	276649	10/27/21	10/27/21	RAO
Toluene	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,2-Trichloroethane	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
1,3-Dichloropropane	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 452537

452537-005 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Tetrachloroethene	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
Dibromochloromethane	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromoethane	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
Chlorobenzene	ND		ug/Kg	5.3	0.3	1	276649	10/27/21	10/27/21	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
Ethylbenzene	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
m,p-Xylenes	ND		ug/Kg	11	0.9	1	276649	10/27/21	10/27/21	RAO
o-Xylene	ND		ug/Kg	5.3	0.3	1	276649	10/27/21	10/27/21	RAO
Styrene	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
Bromoform	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
Isopropylbenzene	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichloropropane	ND		ug/Kg	5.3	0.8	1	276649	10/27/21	10/27/21	RAO
Propylbenzene	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
Bromobenzene	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
2-Chlorotoluene	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
4-Chlorotoluene	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
tert-Butylbenzene	ND		ug/Kg	5.3	0.4	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
sec-Butylbenzene	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
para-Isopropyl Toluene	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
1,3-Dichlorobenzene	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
1,4-Dichlorobenzene	ND		ug/Kg	5.3	0.5	1	276649	10/27/21	10/27/21	RAO
n-Butylbenzene	ND		ug/Kg	5.3	0.7	1	276649	10/27/21	10/27/21	RAO
1,2-Dichlorobenzene	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.3	0.7	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	5.3	0.9	1	276649	10/27/21	10/27/21	RAO
Hexachlorobutadiene	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
Naphthalene	ND		ug/Kg	5.3	0.9	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.3	0.6	1	276649	10/27/21	10/27/21	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.3	0.9	1	276649	10/27/21	10/27/21	RAO
Xylene (total)	ND		ug/Kg	5.3		1	276649	10/27/21	10/27/21	RAO
Surrogates				**Limits**						
Dibromofluoromethane	97%		%REC	70-145	1.4	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane-d4	98%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Toluene-d8	99%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Bromofluorobenzene	101%		%REC	70-145	1.6	1	276649	10/27/21	10/27/21	RAO
Method: EPA 9012A										
Cyanide	ND		mg/Kg	0.53	0.037	1	276899	10/29/21	10/29/21	ATP

Results for any subcontracted analyses are not included in this section.

Analysis Results for 452537

Sample ID:		Lab ID:	452537-006	Collected:	10/21/21 08:00
2021-E1-BASINTJRVR-02		Matrix:	Soil	Basis:	Dry

452537-006 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	10		0.99	276788	10/28/21	10/30/21	MES
TPH (C10-C44)	ND		mg/Kg	10		0.99	276788	10/28/21	10/30/21	MES
Surrogates				**Limits**						
n-Triacontane	103%		%REC	70-130		0.99	276788	10/28/21	10/30/21	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Freon 12	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Chloromethane	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Vinyl Chloride	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Bromomethane	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Chloroethane	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Trichlorofluoromethane	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Acetone	ND		ug/Kg	100	26	1	276649	10/27/21	10/27/21	RAO
Freon 113	ND		ug/Kg	5.2	0.8	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethene	ND		ug/Kg	5.2	0.2	1	276649	10/27/21	10/27/21	RAO
Methylene Chloride	**6.6**	B,J	ug/Kg	10	0.7	1	276649	10/27/21	10/27/21	RAO
MTBE	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloroethane	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
2-Butanone	ND		ug/Kg	100	3.3	1	276649	10/27/21	10/27/21	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
2,2-Dichloropropane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Chloroform	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Bromochloromethane	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,1-Trichloroethane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
1,1-Dichloropropene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Carbon Tetrachloride	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Benzene	ND		ug/Kg	5.2	0.2	1	276649	10/27/21	10/27/21	RAO
Trichloroethene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloropropane	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
Bromodichloromethane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Dibromomethane	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	5.2	2.0	1	276649	10/27/21	10/27/21	RAO
cis-1,3-Dichloropropene	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Toluene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,2-Trichloroethane	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
1,3-Dichloropropane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 452537

452537-006 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Tetrachloroethene	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
Dibromochloromethane	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromoethane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Chlorobenzene	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Ethylbenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
m,p-Xylenes	ND		ug/Kg	10	0.9	1	276649	10/27/21	10/27/21	RAO
o-Xylene	ND		ug/Kg	5.2	0.3	1	276649	10/27/21	10/27/21	RAO
Styrene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Bromoform	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
Isopropylbenzene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichloropropane	ND		ug/Kg	5.2	0.8	1	276649	10/27/21	10/27/21	RAO
Propylbenzene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
Bromobenzene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
2-Chlorotoluene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
4-Chlorotoluene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
tert-Butylbenzene	ND		ug/Kg	5.2	0.4	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
sec-Butylbenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
para-Isopropyl Toluene	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
1,3-Dichlorobenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
1,4-Dichlorobenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
n-Butylbenzene	ND		ug/Kg	5.2	0.7	1	276649	10/27/21	10/27/21	RAO
1,2-Dichlorobenzene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.2	0.7	1	276649	10/27/21	10/27/21	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	5.2	0.9	1	276649	10/27/21	10/27/21	RAO
Hexachlorobutadiene	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
Naphthalene	ND		ug/Kg	5.2	0.9	1	276649	10/27/21	10/27/21	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	5.2	0.6	1	276649	10/27/21	10/27/21	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.2	0.5	1	276649	10/27/21	10/27/21	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.2	0.9	1	276649	10/27/21	10/27/21	RAO
Xylene (total)	ND		ug/Kg	5.2		1	276649	10/27/21	10/27/21	RAO
Surrogates				**Limits**						
Dibromofluoromethane	96%		%REC	70-145	1.3	1	276649	10/27/21	10/27/21	RAO
1,2-Dichloroethane-d4	100%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Toluene-d8	98%		%REC	70-145		1	276649	10/27/21	10/27/21	RAO
Bromofluorobenzene	99%		%REC	70-145	1.5	1	276649	10/27/21	10/27/21	RAO
Method: EPA 9012A										
Cyanide	ND		mg/Kg	0.52	0.036	1	276899	10/29/21	10/29/21	ATP

B Contamination found in associated Method Blank
J Estimated value
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample**	**Lab ID:**	**QC951649**	**Batch:**	**276649**
Matrix:	**Soil**	**Method:**	**EPA 8260B**	**Prep Method:**	**EPA 5030B**

QC951649 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
1,1-Dichloroethene	50.80	50.00	ug/Kg	102%		70-131
MTBE	46.54	50.00	ug/Kg	93%		69-130
Benzene	49.42	50.00	ug/Kg	99%		70-130
Trichloroethene	47.87	50.00	ug/Kg	96%		70-130
Toluene	49.77	50.00	ug/Kg	100%		70-130
Chlorobenzene	48.63	50.00	ug/Kg	97%		70-130
Surrogates						
Dibromofluoromethane	49.52	50.00	ug/Kg	99%		70-130
1,2-Dichloroethane-d4	48.92	50.00	ug/Kg	98%		70-145
Toluene-d8	50.44	50.00	ug/Kg	101%		70-145
Bromofluorobenzene	48.12	50.00	ug/Kg	96%		70-145

Type:	**Lab Control Sample Duplicate**	**Lab ID:**	**QC951650**	**Batch:**	**276649**
Matrix:	**Soil**	**Method:**	**EPA 8260B**	**Prep Method:**	**EPA 5030B**

QC951650 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
1,1-Dichloroethene	51.61	50.00	ug/Kg	103%		70-131	2	33
MTBE	46.68	50.00	ug/Kg	93%		69-130	0	30
Benzene	50.17	50.00	ug/Kg	100%		70-130	1	30
Trichloroethene	49.04	50.00	ug/Kg	98%		70-130	2	30
Toluene	50.39	50.00	ug/Kg	101%		70-130	1	30
Chlorobenzene	49.30	50.00	ug/Kg	99%		70-130	1	30
Surrogates								
Dibromofluoromethane	49.82	50.00	ug/Kg	100%		70-130		
1,2-Dichloroethane-d4	48.70	50.00	ug/Kg	97%		70-145		
Toluene-d8	50.83	50.00	ug/Kg	102%		70-145		
Bromofluorobenzene	48.55	50.00	ug/Kg	97%		70-145		

ENTHALPY ANALYTICAL

Batch QC

Type:	Blank	Lab ID:	QC951651	Batch:	276649
Matrix:	Soil	Method:	EPA 8260B	Prep Method:	EPA 5030B

QC951651 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
3-Chloropropene	ND		ug/Kg	5.0	0.3	10/26/21	10/26/21
Freon 12	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
Chloromethane	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
Vinyl Chloride	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
Bromomethane	ND		ug/Kg	5.0	0.3	10/26/21	10/26/21
Chloroethane	ND		ug/Kg	5.0	0.3	10/26/21	10/26/21
Trichlorofluoromethane	ND		ug/Kg	5.0	0.3	10/26/21	10/26/21
Acetone	ND		ug/Kg	100	25	10/26/21	10/26/21
Freon 113	ND		ug/Kg	5.0	0.7	10/26/21	10/26/21
1,1-Dichloroethene	ND		ug/Kg	5.0	0.2	10/26/21	10/26/21
Methylene Chloride	0.7	J	ug/Kg	10	0.7	10/26/21	10/26/21
MTBE	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
trans-1,2-Dichloroethene	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
1,1-Dichloroethane	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
2-Butanone	ND		ug/Kg	100	3.2	10/26/21	10/26/21
cis-1,2-Dichloroethene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
2,2-Dichloropropane	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
Chloroform	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
Bromochloromethane	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
1,1,1-Trichloroethane	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
1,1-Dichloropropene	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
Carbon Tetrachloride	ND		ug/Kg	5.0	0.3	10/26/21	10/26/21
1,2-Dichloroethane	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
Benzene	ND		ug/Kg	5.0	0.2	10/26/21	10/26/21
Trichloroethene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
1,2-Dichloropropane	ND		ug/Kg	5.0	0.6	10/26/21	10/26/21
Bromodichloromethane	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
Dibromomethane	ND		ug/Kg	5.0	0.6	10/26/21	10/26/21
4-Methyl-2-Pentanone	ND		ug/Kg	5.0	1.9	10/26/21	10/26/21
cis-1,3-Dichloropropene	ND		ug/Kg	5.0	0.3	10/26/21	10/26/21
Toluene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
trans-1,3-Dichloropropene	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
1,1,2-Trichloroethane	ND		ug/Kg	5.0	0.6	10/26/21	10/26/21
1,3-Dichloropropane	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
Tetrachloroethene	ND		ug/Kg	5.0	0.6	10/26/21	10/26/21
Dibromochloromethane	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
1,2-Dibromoethane	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
Chlorobenzene	ND		ug/Kg	5.0	0.3	10/26/21	10/26/21
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
Ethylbenzene	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
m,p-Xylenes	ND		ug/Kg	10	0.8	10/26/21	10/26/21
o-Xylene	ND		ug/Kg	5.0	0.3	10/26/21	10/26/21

ENTHALPY ANALYTICAL

Batch QC

QC951651 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Styrene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
Bromoform	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
Isopropylbenzene	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
1,2,3-Trichloropropane	ND		ug/Kg	5.0	0.7	10/26/21	10/26/21
Propylbenzene	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
Bromobenzene	ND		ug/Kg	5.0	0.3	10/26/21	10/26/21
1,3,5-Trimethylbenzene	ND		ug/Kg	5.0	0.4	10/26/21	10/26/21
2-Chlorotoluene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
4-Chlorotoluene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
tert-Butylbenzene	ND		ug/Kg	5.0	0.3	10/26/21	10/26/21
1,2,4-Trimethylbenzene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
sec-Butylbenzene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
para-Isopropyl Toluene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
1,3-Dichlorobenzene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
1,4-Dichlorobenzene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
n-Butylbenzene	ND		ug/Kg	5.0	0.7	10/26/21	10/26/21
1,2-Dichlorobenzene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.0	0.6	10/26/21	10/26/21
1,2,4-Trichlorobenzene	ND		ug/Kg	5.0	0.9	10/26/21	10/26/21
Hexachlorobutadiene	ND		ug/Kg	5.0	0.6	10/26/21	10/26/21
Naphthalene	ND		ug/Kg	5.0	0.9	10/26/21	10/26/21
1,2,3-Trichlorobenzene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.0	0.5	10/26/21	10/26/21
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.0	0.9	10/26/21	10/26/21
Xylene (total)	ND		ug/Kg	5.0		10/26/21	10/26/21
Surrogates				**Limits**			
Dibromofluoromethane	95%		%REC	70-130	1.3	10/26/21	10/26/21
1,2-Dichloroethane-d4	97%		%REC	70-145		10/26/21	10/26/21
Toluene-d8	102%		%REC	70-145		10/26/21	10/26/21
Bromofluorobenzene	98%		%REC	70-145	1.5	10/26/21	10/26/21

Type:	**Blank**	**Lab ID:**	**QC952051**	**Batch:**	**276788**
Matrix:	**Soil**	**Method:**	**EPA 8015M**	**Prep Method:**	**EPA 3580**

QC952051 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
TPH (C6-C10)	ND		mg/Kg	10		10/28/21	10/30/21
TPH (C10-C44)	ND		mg/Kg	10		10/28/21	10/30/21
Surrogates				**Limits**			
n-Triacontane	108%		%REC	70-130		10/28/21	10/30/21

Batch QC

Type: Lab Control Sample	Lab ID: QC952052	Batch: 276788
Matrix: Soil	Method: EPA 8015M	Prep Method: EPA 3580

QC952052 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Diesel C10-C28	258.4	250.0	mg/Kg	103%		76-122
Surrogates						
n-Triacontane	10.35	10.00	mg/Kg	104%		70-130

Type: Matrix Spike	Lab ID: QC952053	Batch: 276788
Matrix (Source ID): Soil (452537-001)	Method: EPA 8015M	Prep Method: EPA 3580
		Basis: Dry

QC952053 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Diesel C10-C28	250.5	139.2	255.1	mg/Kg	44%	*	62-126	2
Surrogates								
n-Triacontane	10.77		10.20	mg/Kg	106%		70-130	2

Type: Matrix Spike Duplicate	Lab ID: QC952054	Batch: 276788
Matrix (Source ID): Soil (452537-001)	Method: EPA 8015M	Prep Method: EPA 3580
		Basis: Dry

QC952054 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Diesel C10-C28	273.3	139.2	255.1	mg/Kg	53%	*	62-126	9	35	2
Surrogates										
n-Triacontane	11.13		10.20	mg/Kg	109%		70-130			2

Type: Blank	Lab ID: QC952361	Batch: 276899
Matrix: Soil	Method: EPA 9012A	

QC952361 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cyanide	ND		mg/Kg	0.50	0.035	10/29/21	10/29/21

Type: Lab Control Sample	Lab ID: QC952362	Batch: 276899
Matrix: Soil	Method: EPA 9012A	

QC952362 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cyanide	4.979	5.000	mg/Kg	100%		85-115

ENTHALPY ANALYTICAL

Batch QC

Type: Matrix Spike	**Lab ID:** QC952363	**Batch:** 276899	
Matrix (Source ID): Soil (452537-001)	**Method:** EPA 9012A		
		Basis: Dry	

QC952363 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cyanide	4.901	ND	5.102	mg/Kg	96%		80-120	1

Type: Matrix Spike Duplicate	**Lab ID:** QC952364	**Batch:** 276899	
Matrix (Source ID): Soil (452537-001)	**Method:** EPA 9012A		
		Basis: Dry	

QC952364 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cyanide	4.929	ND	5.102	mg/Kg	97%		80-120	1	20	1

* Value is outside QC limits
J Estimated value
ND Not Detected

SUBCONTRACT REPORT

PHYSIS

TERRA AQUA AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-128882-1
Client Project/Site: 2109001-001

For:
Physis Environmental Laboratories
1904 Wright Circle
Anaheim, California 92806

Attn: Mark Baker

Authorized for release by:
11/11/2021 10:24:15 AM

Carrie Gamber, Senior Project Manager
(412)963-2428
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LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

PA Lab ID: 02-00416

1
2
3
4
5
6
7
8
9
10
11
12
13

Table of Contents

Job ID: 180-128882-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

CASE NARRATIVE

Client: Physis Environmental Laboratories

Project: 2109001-001

Report Number: 180-128882-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 10/22/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.4 C. The Field Sampler was not listed on the Chain of Custody.

GENERAL CHEMISTRY
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client: Physis Environmental Laboratories
Project/Site: 2109001-001

Job ID: 180-128882-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Physis Environmental Laboratories
Project/Site: 2109001-001

Job ID: 180-128882-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2891	04-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
2540G		Sediment	Percent Moisture
2540G		Sediment	Percent Solids
SM 5210B		Sediment	Biochemical Oxygen Demand

Sample Summary

Client: Physis Environmental Laboratories | Job ID: 180-128882-1
Project/Site: 2109001-001

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-128882-1	2021-E1-BASINSMGL-01	Sediment	10/21/21 13:20	10/22/21 09:15
180-128882-2	2021-E1-BASINTJRVR-01	Sediment	10/21/21 08:00	10/22/21 09:15
180-128882-3	2021-E1-BRWNFL-01	Sediment	10/21/21 10:45	10/22/21 09:15
180-128882-4	2021-E1-FLDCHNL-01	Sediment	10/21/21 09:45	10/22/21 09:15
180-128882-5	2021-E1-SMGLPILOT-01	Sediment	10/21/21 11:45	10/22/21 09:15
180-128882-6	2021-E1-BASINTJRVR-02	Sediment	10/21/21 08:00	10/22/21 09:15

Method	Method Description	Protocol	Laboratory
2540G	SM 2540G	SM22	TAL PIT
SM 5210B	5 Day BOD test	SM	TAL PIT

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Client Sample ID: 2021-E1-BASINSMGL-01
Lab Sample ID: 180-128882-1
Date Collected: 10/21/21 13:20
Matrix: Sediment
Date Received: 10/22/21 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			377345	11/02/21 11:38	HEK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E1-BASINSMGL-01
Lab Sample ID: 180-128882-1
Date Collected: 10/21/21 13:20
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.6 g	300 mL	376764	10/22/21 15:19	ELS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E1-BASINTJRVR-01
Lab Sample ID: 180-128882-2
Date Collected: 10/21/21 08:00
Matrix: Sediment
Date Received: 10/22/21 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			377345	11/02/21 11:38	HEK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E1-BASINTJRVR-01
Lab Sample ID: 180-128882-2
Date Collected: 10/21/21 08:00
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 95.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.8 g	300 mL	376764	10/22/21 15:19	ELS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E1-BRWNFL-01
Lab Sample ID: 180-128882-3
Date Collected: 10/21/21 10:45
Matrix: Sediment
Date Received: 10/22/21 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			377345	11/02/21 11:38	HEK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E1-BRWNFL-01
Lab Sample ID: 180-128882-3
Date Collected: 10/21/21 10:45
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.8 g	300 mL	376764	10/22/21 15:19	ELS	TAL PIT
	Instrument ID: NOEQUIP									

1 2 3 4 5 6 7 8 9 10 11 12 13

Client Sample ID: 2021-E1-FLDCHNL-01
Lab Sample ID: 180-128882-4
Date Collected: 10/21/21 09:45
Matrix: Sediment
Date Received: 10/22/21 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			377345	11/02/21 11:38	HEK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E1-FLDCHNL-01
Lab Sample ID: 180-128882-4
Date Collected: 10/21/21 09:45
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 68.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.8 g	300 mL	376764	10/22/21 15:19	ELS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E1-SMGLPILOT-01
Lab Sample ID: 180-128882-5
Date Collected: 10/21/21 11:45
Matrix: Sediment
Date Received: 10/22/21 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			377345	11/02/21 11:38	HEK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E1-SMGLPILOT-01
Lab Sample ID: 180-128882-5
Date Collected: 10/21/21 11:45
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 75.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.8 g	300 mL	376764	10/22/21 15:19	ELS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E1-BASINTJRVR-02
Lab Sample ID: 180-128882-6
Date Collected: 10/21/21 08:00
Matrix: Sediment
Date Received: 10/22/21 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			377345	11/02/21 11:38	HEK	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E1-BASINTJRVR-02
Lab Sample ID: 180-128882-6
Date Collected: 10/21/21 08:00
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.8 g	300 mL	376764	10/22/21 15:19	ELS	TAL PIT
	Instrument ID: NOEQUIP									

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Physis Environmental Laboratories
Project/Site: 2109001-001

Job ID: 180-128882-1

Analyst References:

Lab: TAL PIT

Batch Type: Analysis

ELS = Edwin Shireman

HEK = Hope Kiesling

Client Sample ID: 2021-E1-BASINSMGL-01
Lab Sample ID: 180-128882-1
Date Collected: 10/21/21 13:20
Matrix: Sediment
Date Received: 10/22/21 09:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16.3		0.1	0.1	%			11/02/21 11:38	1
Percent Solids	83.7		0.1	0.1	%			11/02/21 11:38	1

Client Sample ID: 2021-E1-BASINSMGL-01
Lab Sample ID: 180-128882-1
Date Collected: 10/21/21 13:20
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 83.7

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		1200	1200	mg/Kg	☼		10/22/21 15:19	1

Client Sample ID: 2021-E1-BASINTJRVR-01
Lab Sample ID: 180-128882-2
Date Collected: 10/21/21 08:00
Matrix: Sediment
Date Received: 10/22/21 09:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.6		0.1	0.1	%			11/02/21 11:38	1
Percent Solids	95.4		0.1	0.1	%			11/02/21 11:38	1

Client Sample ID: 2021-E1-BASINTJRVR-01
Lab Sample ID: 180-128882-2
Date Collected: 10/21/21 08:00
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 95.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		790	790	mg/Kg	☼		10/22/21 15:19	1

Client Sample ID: 2021-E1-BRWNFL-01
Lab Sample ID: 180-128882-3
Date Collected: 10/21/21 10:45
Matrix: Sediment
Date Received: 10/22/21 09:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.1		0.1	0.1	%			11/02/21 11:38	1
Percent Solids	96.9		0.1	0.1	%			11/02/21 11:38	1

Client Sample ID: 2021-E1-BRWNFL-01
Lab Sample ID: 180-128882-3
Date Collected: 10/21/21 10:45
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 96.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		770	770	mg/Kg	☼		10/22/21 15:19	1

Client Sample ID: 2021-E1-FLDCHNL-01
Lab Sample ID: 180-128882-4
Date Collected: 10/21/21 09:45
Matrix: Sediment
Date Received: 10/22/21 09:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	31.5		0.1	0.1	%			11/02/21 11:38	1

Client Sample ID: 2021-E1-FLDCHNL-01
Lab Sample ID: 180-128882-4
Date Collected: 10/21/21 09:45
Matrix: Sediment
Date Received: 10/22/21 09:15

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	68.5		0.1	0.1	%			11/02/21 11:38	1

Client Sample ID: 2021-E1-FLDCHNL-01
Lab Sample ID: 180-128882-4
Date Collected: 10/21/21 09:45
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 68.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	2200		1100	1100	mg/Kg	☼		10/22/21 15:19	1

Client Sample ID: 2021-E1-SMGLPILOT-01
Lab Sample ID: 180-128882-5
Date Collected: 10/21/21 11:45
Matrix: Sediment
Date Received: 10/22/21 09:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.3		0.1	0.1	%			11/02/21 11:38	1
Percent Solids	75.7		0.1	0.1	%			11/02/21 11:38	1

Client Sample ID: 2021-E1-SMGLPILOT-01
Lab Sample ID: 180-128882-5
Date Collected: 10/21/21 11:45
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 75.7

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		990	990	mg/Kg	☼		10/22/21 15:19	1

Client Sample ID: 2021-E1-BASINTJRVR-02
Lab Sample ID: 180-128882-6
Date Collected: 10/21/21 08:00
Matrix: Sediment
Date Received: 10/22/21 09:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.6		0.1	0.1	%			11/02/21 11:38	1
Percent Solids	96.4		0.1	0.1	%			11/02/21 11:38	1

Client Sample ID: 2021-E1-BASINTJRVR-02
Lab Sample ID: 180-128882-6
Date Collected: 10/21/21 08:00
Matrix: Sediment
Date Received: 10/22/21 09:15
Percent Solids: 96.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		780	780	mg/Kg	☼		10/22/21 15:19	1

Method: 2540G - SM 2540G

Lab Sample ID: 180-128882-2 DU
Client Sample ID: 2021-E1-BASINTJRVR-01
Matrix: Sediment
Prep Type: Total/NA
Analysis Batch: 377345

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	4.6		4.8		%		4	10
Percent Solids	95.4		95.2		%		0.2	10

Method: SM 5210B - 5 Day BOD test

Lab Sample ID: USB 180-376764/1
Client Sample ID: Method Blank
Matrix: Sediment
Prep Type: Total/NA
Analysis Batch: 376764

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/Kg			10/22/21 14:26	1

Lab Sample ID: LCS 180-376764/2
Client Sample ID: Lab Control Sample
Matrix: Sediment
Prep Type: Total/NA
Analysis Batch: 376764

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	3.96	4.42		mg/Kg		112	85 - 115

Client: Physis Environmental Laboratories
Project/Site: 2109001-001

Job ID: 180-128882-1

General Chemistry

Analysis Batch: 376764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-128882-1	2021-E1-BASINSMGL-01	Total/NA	Sediment	SM 5210B	
180-128882-2	2021-E1-BASINTJRVR-01	Total/NA	Sediment	SM 5210B	
180-128882-3	2021-E1-BRWNFL-01	Total/NA	Sediment	SM 5210B	
180-128882-4	2021-E1-FLDCHNL-01	Total/NA	Sediment	SM 5210B	
180-128882-5	2021-E1-SMGLPILOT-01	Total/NA	Sediment	SM 5210B	
180-128882-6	2021-E1-BASINTJRVR-02	Total/NA	Sediment	SM 5210B	
USB 180-376764/1	Method Blank	Total/NA	Sediment	SM 5210B	
LCS 180-376764/2	Lab Control Sample	Total/NA	Sediment	SM 5210B	

Analysis Batch: 377345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-128882-1	2021-E1-BASINSMGL-01	Total/NA	Sediment	2540G	
180-128882-2	2021-E1-BASINTJRVR-01	Total/NA	Sediment	2540G	
180-128882-3	2021-E1-BRWNFL-01	Total/NA	Sediment	2540G	
180-128882-4	2021-E1-FLDCHNL-01	Total/NA	Sediment	2540G	
180-128882-5	2021-E1-SMGLPILOT-01	Total/NA	Sediment	2540G	
180-128882-6	2021-E1-BASINTJRVR-02	Total/NA	Sediment	2540G	
180-128882-2 DU	2021-E1-BASINTJRVR-01	Total/NA	Sediment	2540G	

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Chain of Custody

Physis Project ID: 2109001-001

180-128882 Chain of Custody

From: Physis Environmental Laboratories, Inc.
Misty Mercier
1904 E. Wrigth Cir.
Anaheim, CA 92806
714-605-5320 (office), 714-335-5918 (cell)
sc@physislabs.com

To: Eurofins TestAmerica
Carrie Gamber
301 Alpha Drive
Pittsburgh, PA 15238
Carrie.Gamber@testamericainc.com

Physis SOS Number:	2109001		PO Number:			Sampled by:
Turnaround Time	☑ Standard	☐ RUSH: ____ Business Days	Type of ice used:	☐ BLUE	☑ WET	☐ DRY
Report Format	☑ PDF/EDD	☐ SWAMP EDD ☐ CEDEN EDD	Shipped via:	☑ FEDEX	☐ UPS	☐ USPS
	☐ Other EDD:			☐ Client	☐ Physis	☐ Other:

Sample ID	Sample Description	Requested Analyses/Method	Sample Date	Sample Time	Matrix	# of Bottles
2021-E1-BASINSMGL-01		Biochemical Oxygen Demand (BOD) (SM 5210 B)	10/21/21	1320	Sediment	1
2021-E1-BASINTJRVR-01		Biochemical Oxygen Demand (BOD) (SM 5210 B)	10/21/21	0800	Sediment	1
2021-E1-BRWNFL-01		Biochemical Oxygen Demand (BOD) (SM 5210 B)	10/21/21	~~1014~~ 1045	Sediment	1
2021-E1-FLDCHNL-01		Biochemical Oxygen Demand (BOD) (SM 5210 B)	10/21/21	0945	Sediment	1
2021-E1-SMGLPILOT-01		Biochemical Oxygen Demand (BOD) (SM 5210 B)	10/21/21	1145	Sediment	1
2021-E1-BasinTJRVR-02		Biochemical Oxygen Demand (BOD) (SM 5210 B)	10/21/21	0800	Sediment	1

Notes/Comments:

Report Down to the MDL

Report in Dry Weight

We can give you the % solids results.

Relinquished:	Print: M. Mercier	Date: 10/21/21	Received By:	Print: Debra Watson ETA	Date: 10-22-21
Org: Physis	Sign: [signature]	Time: 340pm	Org:	Sign: Debra Watson	Time: 9:15
Relinquished:	Print:	Date:	Received By:	Print:	Date:
Org:	Sign:	Time:	Org:	Sign:	Time:

ORIGIN ID:FULA (714) 602-5320
PHYSIS
PHYSIS LABS
1904 E. WRIGHT CIRCLE

ANAHEIM, CA 92806
UNITED STATES US

SHIP DATE: 21OCT21
ACTWGT: 12.00 LB
CAD: 101955606/INET4400

BILL SENDER

TO CARRIE GAMBER
EUROFINS TESTAMERICA
301 ALPHA DRIVE

PITTSBURGH PA 15238
(412) 963-2428 REF: SOS # 2109001-001
INV:
PO: DEPT:

56DJ3/14BA/FE4A

FedEx Express

E

J212021070901uv

FRI - 22 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7749 8141 9145

XH AGCA

15238
PA-US PIT

Uncorrected temp 1.4 °C
Thermometer ID 8
CF 0 Initials MG
PT-WI-SR-001 effective 11/8/18

After printing this label:
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180-128882 Waybill

Login Sample Receipt Checklist

Client: Physis Environmental Laboratories — Job Number: 180-128882-1

Login Number: 128882 — **List Source: Eurofins TestAmerica, Pittsburgh**
List Number: 1
Creator: Watson, Debbie

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Samples are subcontract
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

SUBCONTRACT REPORT

LA Testing
5431 Industrial Drive, Huntington Beach, CA 92649
Phone/Fax: (714) 828-4999 / (714) 828-4944
http://www.LATesting.com gardengrovelab@latesting.com

LA Testing Order:	332124676
CustomerID:	PHEL29
CustomerPO:	
ProjectID:	

Attn: **Misty Mercier**
Physis Environmental Laboratories, Inc.
1904 E. Wright Circle
Anaheim, CA 92806

Phone:	(714) 602-5320
Fax:	(714) 602-5321
Received:	10/22/2021 12:40 PM
Analysis Date:	10/29/2021
Collected:	10/21/2021

Project: **2109001**

Test Report: Asbestos Analysis via Polarized Light Microscopy, Qualitative

Sample	Description	Appearance	Result	Notes
2021-E1-BASINSMGL-01 *332124676-0001*		Brown Fibrous Heterogeneous	**None Detected**	Sediment is a problematic matrix other analytical methods recommended
2021-E1-BASINTJRVR-01 *332124676-0002*		Brown/Tan/Black Non-Fibrous Heterogeneous	**None Detected**	Sediment is a problematic matrix other analytical methods recommended
2021-E1-BRWNFL-01 *332124676-0003*		Brown Fibrous Heterogeneous	**None Detected**	Sediment is a problematic matrix other analytical methods recommended
2021-E1-FLDCHNL-01 *332124676-0004*		Brown Fibrous Heterogeneous	**None Detected**	Sediment is a problematic matrix other analytical methods recommended
2021-E1-SMGLPILOT-01 *332124676-0005*		Brown/Tan/Black Non-Fibrous Heterogeneous	**None Detected**	Sediment is a problematic matrix other analytical methods recommended
2021-E1-BASINTJRVR-02 *332124676-0006*		Brown/Tan/Black Non-Fibrous Heterogeneous	**None Detected**	Sediment is a problematic matrix other analytical methods recommended

Analyst(s)

Brittany Quiring (6)

Michael Chapman

Michael Chapman, Laboratory Manager
or other approved signatory

Samples analyzed by LA Testing Huntington Beach, CA

Initial report from 10/29/2021 11:59:33

CHAIN OF CUSTODY

wood.

Chain of Custody

From:	To:	Lab Notes:
Wood (formerly Amec FW) 9177 Sky Park Court San Diego, CA 92123 (858) 514-7729 (858) 278-5300 Fax Contact: Sarah Seifert 760-484-0482	Physis Environmental Laboratories 1904 East Wright Circle Anaheim, CA 92806 714-602-5320 ext 204 Contact: Mark Baker	Submit data in CEDEN format to Sarah Seifert at sarah.seifert@woodplc.com Dylan Cawthorne at dylan.cawthorne@woodplc.com and Matt Rich at matt.rich@woodplc.com

PO#: C015101891	Project Number:	Project Name:	Sample Matrix:
	5025210002	Tijuana River Sediment Management Monitoring	Sediment

SampleID	Sample Date	Sample Time	Sample Type	Analysis	Container	Pres	No. of Bottles
2021-E1-EQUIPBLANK	10/21/21	07:10	Grab	Metals (~~EPA 6020/6010B~~ 200.8), Sulfate (EPA 9056A), Nitrate (EPA 300), Nitrite (EPA 300), Oil & Grease (SM 5520E/EPA 1664), Hg (EPA 245.7)	Matrix: water 8 oz jar	—	1
2021-E1-BASINTJRVR -02 (Field duplicate)	10/21/21	08:00	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids See reverse	8 oz jar	—	1
2021-E1-BASINTJRVR -02 (Field duplicate)	10/21/21	08:00	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH) and PPN See reverse	8 oz jar	—	1
2021-E1-BASINTJRVR-02 (Field duplicate)	10/21/21	08:00	Grab	BOD (SM 5210B) See reverse	4 oz jar	—	1
2021-E1-BASINTJRVR -02 (Field duplicate)	10/21/21	08:00	Grab	Asbestos (PLM Qualitative) See reverse	4 oz jar	—	1
2021-E1-BASINTJRVR-02 (Field duplicate)	10/21/21	08:00	Grab	Gross Alpha, Gross Beta (EPA 900.0)	500 mL HDPE	—	1
2021-E1-BASINTJRVR-02 (Field duplicate)	10/21/21	08:00	Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	—	1
			Grab				
			Grab				
			Grab				
			Grab				

Special Instructions/Comments:

Sampled and Relinquished By:		Received By:	
Print: Dylan Cawthorne Sign: Dylan Cawthorne	Date/Time: 10/21/21 15:30	Print: M. Mercier Sign: MM	Date/Time: 10/21/21 340pm
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:

ELEMENTS	Matrix	Lab	Samples per Site	Number of Sites	No. of QA Samples	Total Sediment Samples	Unit Cost ($/sample)	Total Cost
Metals - Full Suite - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	$ 185.00	$ 1,295.00
Aluminum - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Antimony - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Arsenic - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Barium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Beryllium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Cadmium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Calcium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Chromium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Cobalt - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Copper - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Iron - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Lead - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Magnesium - EPA 6020B/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Manganese - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Molybdenum - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Nickel - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Potassium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Selenium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Silver - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Sodium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Thallium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Vanadium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Zinc - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Trace Mercury - EPA 245.7/EPA 7471A	Sediment	Physis	1	5	1	6	$ 50.00	$ 300.00
Percent Solids - SM2540 B/SM 2320B	Sediment	Physis	1	5	1	6	$ 25.00	$ 150.00
Total Organic Carbon - EPA 9060/Lloyd Kahn	Sediment	Physis	1	5	1	6	$ 90.00	$ 540.00
Biological Oxygen Demand (BOD) - SM 5210B	Sediment	Physis	1	5	1	6	$ 175.00	$ 1,050.00
Alkalinity - SM 2320B	Sediment	Physis	1	5	1	6	$ 35.00	$ 210.00
Chloride - EPA 9056A	Sediment	Physis	1	5	1	6	$ 35.00	$ 210.00
Sulfate - EPA 9056A	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Total Sulfides - Plumb, 1981 and TERL	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Dissolved Sulfides - Plumb, 1981 and TERL	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Nitrate as N - EPA 300	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Nitrite as N – EPA 300	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Cyanide - EPA 9010B/9014	Sediment	Physis	1	5	1	6	$ 80.00	$ 480.00
Flouride - EPA 300.0/EPA 340.2	Sediment	Physis	1	5	1	6	$ 30.00	$ 180.00
Oil & Grease - SM 5520 E/ EPA 1664	Sediment	Physis	1	5	2	7	$ 55.00	$ 385.00
Total Petroleum Hydrocarbons (TPH) - Carbon Chain (C10-C44) - EPA 8015B EPH	Sediment	Physis	1	5	1	6	$ 75.00	$ 450.00
Total Petroleum Hydrocarbons (TPH) - Carbon Chain (C6-C10) - EPA 8015B PPH	Sediment	Physis	1	5	1			
Total Recoverable Petroleum Hydrocarbons (RPH) - SM 5520 E/ USEPA 418.1	Sediment	Physis	1	5	1			
Volatile Organic Compounds - EPA 8260/ EPA 8260B	Sediment	Physis	1	5	1			
Semi Volatile Organic Compounds - EPA 8270/ EPA 8081A	Sediment	Physis	1	5	1			
OC Pesticides + PCBs - EPA 8270D/ USEPA 8081, USEPA 8082 for PCBs	Sediment	Physis	1	5	1			
OP Pesticides - EPA 8270/ EPA 8141	Sediment	Physis	1	5	1			
Toxaphene - EPA 8270D-NCI	Sediment	Physis	1	5	1			
Polycyclic Aromatic Hydrocarbons (PAH) - EPA 8270C	Sediment	Physis	1	5	1			
Asbestos - PLM Qualitative	Sediment	Physis	1	5	1			
Radioactivity (Gross Alpha/Beta) - EPA 900.0	Sediment	Physis	1	5	1			
DDTs - EPA 8270D/USEPA 8081	Sediment	Physis	1	5	1			
Pyrethroids - EPA 8270D-MRM	Sediment	Physis	1	5	1			
Particle Size Distribution - SM 2560 D	Sediment	Physis	1	5	1			
Miscellaneous								
Courier Fee for pick-up ($60 per pick-up)	-	Physis	-	-	-			
EDD - CEDEN-compatible ($60per EDD)	-	Physis	1	-	-			
Contingency Fee ($500 for unexpected deliveries, cooler charges, etc.)	-	Physis	-	-	-			

PHYSIS

Project Iteration ID: 210901-001
Client Name: Wood Environment & Infrastructure Solutions, Inc.
Project Name: Tijuana River Sediment Management Monitoring Project # 5025-21-0002
COC Page Number: 3 of 5
Bottle Label Color: NA

wood.

Chain of Custody

From:	To:	Lab Notes:
Wood (formerly Amec FW) 9177 Sky Park Court San Diego, CA 92123 (858) 514-7729 (858) 278-5300 Fax Contact: Sarah Seifert 760-484-0482	Physis Environmental Laboratories 1904 East Wright Circle Anaheim, CA 92806 714-602-5320 ext 204 Contact: Mark Baker	Submit data in CEDEN format to Sarah Seifert at sarah.seifert@woodplc.com Dylan Cawthorne at dylan.cawthorne@woodplc.com and Matt Rich at matt.rich@woodplc.com

PO#: C0151018911	Project Number:	Project Name:	Sample Matrix:
	5025210002	Tijuana River Sediment Management Monitoring	Sediment

SampleID	Sample Date	Sample Time	Sample Type	Analysis	Container	Pres	No. of Bottles
2021-E1-BASINSMGL-01	10/21/21	13:20	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids	See reverse 8 oz jar	—	1
2021-E1-BASINTJRVR-01	10/21/21	08:00	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids	8 oz jar	—	1
2021-E1-BRWNFL-01	10/21/21	10:45	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids	8 oz jar	—	1
2021-E1-FLDCHNL-01	10/21/21	09:45	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids	8 oz jar	—	1
2021-E1-SMGLPILOT-01	10/21/21	11:45	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids	8 oz jar	—	1
2021-E1-BASINSMGL-01	10/21/21	13:20	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH) and PPH	8 oz jar	—	1
2021-E1-BASINTJRVR-01	10/21/21	08:00	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH) and PPH	8 oz jar	—	1
2021-E1-BRWNFL-01	10/21/21	10:45	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH) and PPH	8 oz jar	—	1
2021-E1-FLDCHNL-01	10/21/21	09:45	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH) and PPH	8 oz jar	—	1
2021-E1-SMGLPILOT-01	10/21/21	11:45	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH) and PPH	8 oz jar	—	1

Special Instructions/Comments:

Sampled and Relinquished By:		Received By:	
Print: Dylan Cawthorne Sign: [signature]	Date/Time: 10/21/21 15:30	Print: M. Mercier Sign: [signature]	Date/Time: 10/21/21 3:40 pm
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:

PHYSIS ENVIRONMENTAL LABORATORIES, INC

Project Iteration ID: 2109001-001
Client Name: Wood Environment & Infrastructure Solutions, Inc.
Project Name: Tijuana River Sediment Management Monitoring Project # 5025-21-0002
COC Page Number: 1 of 5
Bottle Label Color: NA

ELEMENTS	Matrix	Lab	Samples per Site	Number of Sites	No. of QA Samples	S S		
Metals - Full Suite - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Aluminum - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Antimony - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Arsenic - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Barium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Beryllium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Cadmium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Calcium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Chromium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Cobalt - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Copper - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Iron - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Lead - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Magnesium - EPA 6020B/EPA6010B*	Sediment	Physis	1	5	2			
· Manganese - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Molybdenum - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Nickel - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Potassium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Selenium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Silver - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
· Sodium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
· Thallium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
· Vanadium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
· Zinc - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Trace Mercury - EPA 245.7/EPA 7471A	Sediment	Physis	1	5	1	6	$ 50.00	$ 300.00
Percent Solids - SM2540 B/SM 2320B	Sediment	Physis	1	5	1	6	$ 25.00	$ 150.00
Total Organic Carbon - EPA 9060/Lloyd Kahn	Sediment	Physis	1	5	1	6	$ 90.00	$ 540.00
Biological Oxygen Demand (BOD) - SM 5210B	Sediment	Physis	1	5	1	6	$ 175.00	$ 1,050.00
Alkalinity - SM 2320B	Sediment	Physis	1	5	1	6	$ 35.00	$ 210.00
Chloride - EPA 9056A	Sediment	Physis	1	5	1	6	$ 35.00	$ 210.00
Sulfate - EPA 9056A	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Total Sulfides - Plumb, 1981 and TERL	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Dissolved Sulfides - Plumb, 1981 and TERL	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Nitrate as N - EPA 300	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Nitrite as N – EPA 300	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Cyanide - EPA 9010B/9014	Sediment	Physis	1	5	1	6	$ 80.00	$ 480.00
Flouride - EPA 300.0/EPA 340.2	Sediment	Physis	1	5	1	6	$ 30.00	$ 180.00
Oil & Grease - SM 5520 E/ EPA 1664	Sediment	Physis	1	5	2	7	$ 55.00	$ 385.00
Total Petroleum Hydrocarbons (TPH) - Carbon Chain (C10-C44) - EPA 8015B EPH	Sediment	Physis	1	5	1	6	$ 75.00	$ 450.00
Total Petroleum Hydrocarbons (TPH) - Carbon Chain (C6-C10) - EPA 8015B PPH	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Total Recoverable Petroleum Hydrocarbons (RPH) - SM 5520 E/ USEPA 418.1	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Volatile Organic Compounds - EPA 8260/ EPA 8260B	Sediment	Physis	1	5	1	6	$ 105.00	$ 630.00
Semi Volatile Organic Compounds - EPA 8270/ EPA 8081A	Sediment	Physis	1	5	1	6	$ 575.00	$ 3,450.00
OC Pesticides + PCBs - EPA 8270D/ USEPA 8081, USEPA 8082 for PCBs	Sediment	Physis	1	5	1	6	$ 225.00	$ 1,350.00
OP Pesticides - EPA 8270/ EPA 8141	Sediment	Physis	1	5	1	6	$ 195.00	$ 1,170.00
Toxaphene - EPA 8270D-NCI	Sediment	Physis	1	5	1	6	$ 50.00	$ 300.00
Polycyclic Aromatic Hydrocarbons (PAH) - EPA 8270C	Sediment	Physis	1	5	1	6	$ 225.00	$ 1,350.00
Asbestos - PLM Qualitative	Sediment	Physis	1	5	1	6	$ 68.00	$ 408.00
Radioactivity (Gross Alpha/Beta) - EPA 900.0	Sediment	Physis	1	5	1	6	$ 150.00	$ 900.00
DDTs - EPA 8270D/USEPA 8081	Sediment	Physis	1	5	1	6	$ 185.00	$ 1,110.00
Pyrethroids - EPA 8270D-MRM	Sediment	Physis	1	5	1	6	$ 225.00	$ 1,350.00
Particle Size Distribution - SM 2560 D	Sediment	Physis	1	5	1	6	$ 90.00	$ 540.00
							Analytical Subtotal	$ 19,863.00
Miscellaneous								
Courier Fee for pick-up ($60 per pick-up)	-	Physis	-	-	-	1	$ 60.00	$ 60.00
EDD - CEDEN-compatible ($60per EDD)	-	Physis	1	-	-	1	$ 60.00	$ 60.00
Contingency Fee ($500 for unexpected deliveries, cooler charges, etc.)	-	Physis	-	-	-	-	$ 500.00	$ 500.00
							Total	$ 20,483.00

wood.

Chain of Custody

From:	To:	Lab Notes:
Wood (formerly Amec FW) 9177 Sky Park Court San Diego, CA 92123 (858) 514-7729 (858) 278-5300 Fax Contact: Sarah Seifert 760-484-0482	Physis Environmental Laboratories 1904 East Wright Circle Anaheim, CA 92806 714-602-5320 ext 204 Contact: Mark Baker	Submit data in CEDEN format to Sarah Seifert at sarah.seifert@woodplc.com Dylan Cawthorne at dylan.cawthorne@woodplc.com and Matt Rich at matt.rich@woodplc.com

PO#: C015101891	Project Number:	Project Name:	Sample Matrix:
	5025210002	Tijuana River Sediment Management Monitoring	Sediment

SampleID	Sample Date	Sample Time	Sample Type	Analysis	Container	Pres	No. of Bottles
2021-E1-BASINSMGL-01	10/21/21	13:20 ✓	Grab	Gross Alpha, Gross Beta (EPA 900.0) See reverse	500 mL HDPE	—	1
2021-E1-BASINTJRVR-01	10/21/21	08:00 ✓	Grab	Gross Alpha, Gross Beta (EPA 900.0)	500 mL HDPE	—	1
2021-E1-BRWNFL-01	10/21/21	10:45 ✓	Grab	Gross Alpha, Gross Beta (EPA 900.0)	500 mL HDPE	—	1
2021-E1-FLDCHNL-01	10/21/21	09:45 ✓	Grab	Gross Alpha, Gross Beta (EPA 900.0)	500 mL HDPE	—	1
2021-E1-SMGLPILOT-01	10/21/21	11:45 ✓	Grab	Gross Alpha, Gross Beta (EPA 900.0)	500 mL HDPE	—	1
2021-E1-BASINSMGL-01	10/21/21	13:20	✓ Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	—	1
2021-E1-BASINTJRVR-01	10/21/21	08:00	✓ Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	—	1
2021-E1-BRWNFL-01	10/21/21	~~[illegible]~~ 10:45	✓ Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	—	1
2021-E1-FLDCHNL-01	10/21/21	09:45	✓ Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	—	1
2021-E1-SMGLPILOT-01	10/21/21	11:45	✓ Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	—	1

Special Instructions/Comments:

Sampled and Relinquished By:		Received By:	
Print: [illegible] Sign: Dylan Cawthorne	Date/Time: 10/21/21 15:30	Print: W. Mercer Sign: [illegible]	Date/Time: 10/21/21 340 pm
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.

Project Iteration ID: 2109001-001
Client Name: Wood Environment & Infrastructure Solutions, Inc.
Project Name: Tijuana River Sediment Management Monitoring Project # 5025-21-0002
COC Page Number: 5 of 5
Bottle Label Color: NA

ELEMENTS	Matrix	Lab	Samples per Site	Number of Sites	No. of QA Samples	S		
Metals - Full Suite - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Aluminum - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Antimony - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Arsenic - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Barium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Beryllium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Cadmium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Calcium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Chromium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Cobalt - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Copper - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Iron - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Lead - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Magnesium - EPA 6020B/EPA6010B*	Sediment	Physis	1	5	2			
Manganese - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Molybdenum - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Nickel - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Potassium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Selenium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Silver - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Sodium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Thallium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Vanadium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Zinc - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Trace Mercury - EPA 245.7/EPA 7471A	Sediment	Physis	1	5	1	6	$ 50.00	$ 300.00
Percent Solids - SM2540 B/SM 2320B	Sediment	Physis	1	5	1	6	$ 25.00	$ 150.00
Total Organic Carbon - EPA 9060/Lloyd Kahn	Sediment	Physis	1	5	1	6	$ 90.00	$ 540.00
Biological Oxygen Demand (BOD) - SM 5210B	Sediment	Physis	1	5	1	6	$ 175.00	$ 1,050.00
Alkalinity - SM 2320B	Sediment	Physis	1	5	1	6	$ 35.00	$ 210.00
Chloride - EPA 9056A	Sediment	Physis	1	5	1	6	$ 35.00	$ 210.00
Sulfate - EPA 9056A	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Total Sulfides - Plumb, 1981 and TERL	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Dissolved Sulfides - Plumb, 1981 and TERL	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Nitrate as N - EPA 300	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Nitrite as N – EPA 300	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Cyanide - EPA 9010B/9014	Sediment	Physis	1	5	1	6	$ 80.00	$ 480.00
Flouride - EPA 300.0/EPA 340.2	Sediment	Physis	1	5	1	6	$ 30.00	$ 180.00
Oil & Grease - SM 5520 E/ EPA 1664	Sediment	Physis	1	5	2	7	$ 55.00	$ 385.00
Total Petroleum Hydrocarbons (TPH) - Carbon Chain (C10-C44) - EPA 8015B EPH	Sediment	Physis	1	5	1	6	$ 75.00	$ 450.00
Total Petroleum Hydrocarbons (TPH) - Carbon Chain (C6-C10) - EPA 8015B PPH	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Total Recoverable Petroleum Hydrocarbons (RPH) - SM 5520 E/ USEPA 418.1	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Volatile Organic Compounds - EPA 8260/ EPA 8260B	Sediment	Physis	1	5	1	6	$ 105.00	$ 630.00
Semi Volatile Organic Compounds - EPA 8270/ EPA 8081A	Sediment	Physis	1	5	1	6	$ 575.00	$ 3,450.00
OC Pesticides + PCBs - EPA 8270D/ USEPA 8081, USEPA 8082 for PCBs	Sediment	Physis	1	5	1	6	$ 225.00	$ 1,350.00
OP Pesticides - EPA 8270/ EPA 8141	Sediment	Physis	1	5	1	6	$ 195.00	$ 1,170.00
Toxaphene - EPA 8270D-NCI	Sediment	Physis	1	5	1	6	$ 50.00	$ 300.00
Polycyclic Aromatic Hydrocarbons (PAH) - EPA 8270C	Sediment	Physis	1	5	1	6	$ 225.00	$ 1,350.00
Asbestos - PLM Qualitative	Sediment	Physis	1	5	1	6	$ 68.00	$ 408.00
Radioactivity (Gross Alpha/Beta) - EPA 900.0	Sediment	Physis	1	5	1	6	$ 150.00	$ 900.00
DDTs - EPA 8270D/USEPA 8081	Sediment	Physis	1	5	1	6	$ 185.00	$ 1,110.00
Pyrethroids - EPA 8270D-MRM	Sediment	Physis	1	5	1	6	$ 225.00	$ 1,350.00
Particle Size Distribution - SM 2560 D	Sediment	Physis	1	5	1	6	$ 90.00	$ 540.00
							Analytical Subtotal	$ 19,863.00
Miscellaneous								
Courier Fee for pick-up ($60 per pick-up)	-	Physis	-	-	-	1	$ 60.00	$ 60.00
EDD - CEDEN-compatible ($60per EDD)	-	Physis	1	-	-	1	$ 60.00	$ 60.00
Contingency Fee ($500 for unexpected deliveries, cooler charges, etc.)	-	Physis	-	-	-	-	$ 500.00	$ 500.00
							Total	**$ 20,483.00**

wood.

Chain of Custody

From:	To:	Lab Notes:
Wood (formerly Amec FW) 9177 Sky Park Court San Diego, CA 92123 (858) 514-7729 (858) 278-5300 Fax Contact: Sarah Seifert 760-484-0482	Physis Environmental Laboratories 1904 East Wright Circle Anaheim, CA 92806 714-602-5320 ext 204 Contact: Mark Baker	Submit data in CEDEN format to Sarah Seifert at sarah.seifert@woodplc.com Dylan Cawthorne at dylan.cawthorne@woodplc.com and Matt Rich at matt.rich@woodplc.com

PO#: C015101891	Project Number:	Project Name:	Sample Matrix:
	5025210002	Tijuana River Sediment Management Monitoring	Sediment

SampleID	Sample Date	Sample Time	Sample Type	Analysis	Container	Pres	No. of Bottles
2021-E1-BASINSMGL-01	10/21/21	13:20 ✓	Grab	BOD (SM 5210B) See reverse	4 oz jar	—	1
2021-E1-BASINTJRVR-01	10/21/21	08:00 ✓	Grab	BOD (SM 5210B)	4 oz jar	—	1
2021-E1-BRWNFL-01	10/21/21	10:45 ✓	Grab	BOD (SM 5210B)	4 oz jar	—	1
2021-E1-FLDCHNL-01	10/21/21	09:45 ✓	Grab	BOD (SM 5210B)	4 oz jar	—	1
2021-E1-SMGLPILOT-01	10/21/21	11:45 ✓	Grab	BOD (SM 5210B)	4 oz jar	—	1
2021-E1-BASINSMGL-01	10/21/21	13:20 ✓	Grab	Asbestos (PLM Qualitative)	4 oz jar	—	1
2021-E1-BASINTJRVR-01	10/21/21	08:00 ✓	Grab	Asbestos (PLM Qualitative)	4 oz jar	—	1
2021-E1-BRWNFL-01	10/21/21	10:45 ✓	Grab	Asbestos (PLM Qualitative)	4 oz jar	—	1
2021-E1-FLDCHNL-01	10/21/21	09:45 ✓	Grab	Asbestos (PLM Qualitative)	4 oz jar	—	1
2021-E1-SMGLPILOT-01	10/21/21	11:45 ✓	Grab	Asbestos (PLM Qualitative)	4 oz jar	—	1

Special Instructions/Comments:

Sampled and Relinquished By:		Received By:	
Print: Dylan Cawthorne Sign: [signature]	Date/Time: 10/21/21 15:40	Print: M. Mercker Sign: [signature]	Date/Time: 10/21/21 340 pm
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:

PHYSIS ENVIRONMENTAL LABORATORIES, INC.

Project Iteration ID: 2109001-001
Client Name: Wood Environment & Infrastructure Solutions, Inc.
Project Name: Tijuana River Sediment Management Monitoring Project # 5025-21-0002
COC Page Number: 7 of 5
Bottle Label Color: NA

ELEMENTS	Matrix	Lab	Samples per Site	Number of Sites	No. of QA Samples	To[tal] Sed[iment] San[mples]		
Metals - Full Suite - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Aluminum - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Antimony - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Arsenic - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Barium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Beryllium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Cadmium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Calcium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Chromium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Cobalt - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Copper - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Iron - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Lead - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Magnesium - EPA 6020B/EPA6010B*	Sediment	Physis	1	5	2			
Manganese - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Molybdenum - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Nickel - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Potassium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Selenium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Silver - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2			
Sodium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Thallium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Vanadium - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Zinc - EPA 6020/EPA6010B*	Sediment	Physis	1	5	2	7	inc.	inc.
Trace Mercury - EPA 245.7/EPA 7471A	Sediment	Physis	1	5	1	6	$ 50.00	$ 300.00
Percent Solids - SM2540 B/SM 2320B	Sediment	Physis	1	5	1	6	$ 25.00	$ 150.00
Total Organic Carbon - EPA 9060/Lloyd Kahn	Sediment	Physis	1	5	1	6	$ 90.00	$ 540.00
Biological Oxygen Demand (BOD) - SM 5210B	Sediment	Physis	1	5	1	6	$ 175.00	$ 1,050.00
Alkalinity - SM 2320B	Sediment	Physis	1	5	1	6	$ 35.00	$ 210.00
Chloride - EPA 9056A	Sediment	Physis	1	5	1	6	$ 35.00	$ 210.00
Sulfate - EPA 9056A	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Total Sulfides - Plumb, 1981 and TERL	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Dissolved Sulfides - Plumb, 1981 and TERL	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Nitrate as N - EPA 300	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Nitrite as N – EPA 300	Sediment	Physis	1	5	2	7	$ 35.00	$ 245.00
Cyanide - EPA 9010B/9014	Sediment	Physis	1	5	1	6	$ 80.00	$ 480.00
Flouride - EPA 300.0/EPA 340.2	Sediment	Physis	1	5	1	6	$ 30.00	$ 180.00
Oil & Grease - SM 5520 E/ EPA 1664	Sediment	Physis	1	5	2	7	$ 55.00	$ 385.00
Total Petroleum Hydrocarbons (TPH) - Carbon Chain (C10-C44) - EPA 8015B EPH	Sediment	Physis	1	5	1	6	$ 75.00	$ 450.00
Total Petroleum Hydrocarbons (TPH) - Carbon Chain (C6-C10) - EPA 8015B PPH	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Total Recoverable Petroleum Hydrocarbons (RPH) - SM 5520 E/ USEPA 418.1	Sediment	Physis	1	5	1	6	$ 55.00	$ 330.00
Volatile Organic Compounds - EPA 8260/ EPA 8260B	Sediment	Physis	1	5	1	6	$ 105.00	$ 630.00
Semi Volatile Organic Compounds - EPA 8270/ EPA 8081A	Sediment	Physis	1	5	1	6	$ 575.00	$ 3,450.00
OC Pesticides + PCBs - EPA 8270D/ USEPA 8081, USEPA 8082 for PCBs	Sediment	Physis	1	5	1	6	$ 225.00	$ 1,350.00
OP Pesticides - EPA 8270/ EPA 8141	Sediment	Physis	1	5	1	6	$ 195.00	$ 1,170.00
Toxaphene - EPA 8270D-NCI	Sediment	Physis	1	5	1	6	$ 50.00	$ 300.00
Polycyclic Aromatic Hydrocarbons (PAH) - EPA 8270C	Sediment	Physis	1	5	1	6	$ 225.00	$ 1,350.00
Asbestos - PLM Qualitative	Sediment	Physis	1	5	1	6	$ 68.00	$ 408.00
Radioactivity (Gross Alpha/Beta) - EPA 900.0	Sediment	Physis	1	5	1	6	$ 150.00	$ 900.00
DDTs - EPA 8270D/USEPA 8081	Sediment	Physis	1	5	1	6	$ 185.00	$ 1,110.00
Pyrethroids - EPA 8270D-MRM	Sediment	Physis	1	5	1	6	$ 225.00	$ 1,350.00
Particle Size Distribution - SM 2560 D	Sediment	Physis	1	5	1	6	$ 90.00	$ 540.00
							Analytical Subtotal	$ 19,863.00
Miscellaneous								
Courier Fee for pick-up ($60 per pick-up)	-	Physis	-	-	-	1	$ 60.00	$ 60.00
EDD - CEDEN-compatible ($60per EDD)	-	Physis	1	-	-	1	$ 60.00	$ 60.00
Contingency Fee ($500 for unexpected deliveries, cooler charges, etc.)	-	Physis	-	-	-	-	$ 500.00	$ 500.00
							Total	**$ 20,483.00**

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample Receipt Summary

Project Iteration ID: 2109001-001
Client Name: Wood Environment & Infrastructure Solutions, Inc.
Project Name: Tijuana River Sediment Management Monitoring Project # 5025-21-0002
COC Page Number: 9 of 5
Bottle Label Color: NA

Receiving Info

1. Initials Received By: MBM
2. Date Received: 10/21/21
3. Time Received: 1540
4. Client Name: Wood
5. Courier Information: (Please circle)
   - Client
   - UPS
   - Area Fast
   - DRS
   - FedEx
   - GSO/GLS
   - Ontrac
   - PAMS
   - PHYSIS Driver:
     - i. Start Time: ______
     - ii. End Time: ______
     - iii. Total Mileage: ______
     - iv. Number of Pickups: ______
6. Container Information: (Please put the # of containers or circle none)
   - 2 Cooler
   - __ Styrofoam Cooler
   - __ Boxes
   - None
   - __ Carboy(s)
   - __ Carboy Trash Can(s)
   - __ Carboy Cap(s)
   - Other ______
7. What type of ice was used: (Please circle any that apply)
   - Wet Ice
   - Blue Ice
   - Dry Ice
   - Water
   - None
8. Randomly Selected Samples Temperature (°C): 1.3 Used I/R Thermometer # 1-1

Inspection Info

1. Initials Inspected By: RH

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out........ Yes / No
2. All sample containers arrived intact........ Yes / No
3. All samples listed on COC(s) are present........ Yes / No
4. Information on containers consistent with information on COC(s)........ Yes / No
5. Correct containers and volume for all analyses indicated........ Yes / No
6. All samples received within method holding time........ Yes / No
7. Correct preservation used for all analyses indicated........ Yes / No
8. Name of sampler included on COC(s)........ Yes / No

Notes:

March 01, 2022

Matt Rich
Wood Environment & Infrastructure Solutions, Inc.
9177 Sky Park Court
San Diego, CA 92123-

Project Name: Tijuana River Sediment Management Monitoring Program Project # 5025-21-0002
Physis Project ID: 2109001-002

Dear Matt,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 1/7/2022. A total of 9 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Sulfides by Plumb, 1981/TERL
Dissolved Sulfides by Plumb, 1981/TERL
Nitrate as N by EPA 300.0
Nitrite as N by EPA 300.0
Particle Size Distribution by SM 2560 D
Sulfate by EPA 300.0
Total Alkalinity by SM 2320 B
Chloride by EPA 300.0
Elements
Trace Metals by EPA 6020
Trace Mercury by EPA 245.7
Total Mercury by EPA 245.7
Total Trace Metals by EPA 200.8
Organics
Oil & Grease by SM 5520 E
Acid Extractable Compounds by EPA 8270E
Base/Neutral Extractable Compounds by EPA 8270E
Organochlorine Pesticides & PCB Congeners by EPA 8270E
Toxaphene w/ OCPs by EPA 8270E-NCI
Oil & Grease by EPA 1664B
TRPH by SM 5520 E
Total Organic Carbon by EPA 9060

Synthetic Pyrethroid Pesticides by EPA 8270E-MRM
Polynuclear Aromatic Hydrocarbons by EPA 8270E
Phthalates by EPA 8270E
Percent Solids by SM 2540 B
Organophosphorus Pesticides by EPA 8270E
Subcontract
Volatile Organic Compounds by EPA 8260B
Biochemical Oxygen Demand (BOD) by SM 5210 B
Cyanide by EPA 9012A
Gross Alpha & Beta Radiochemistry by EPA 900.0
TPH - Carbon Chain (C10-C44) by EPA 8015B EPH
TPH - Carbon Chain (C6-C10) by EPA 8015B PPH
Asbestos TEM by PLM Qualitative (presence/absence)

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
714 602-5320
Extension 202
mistymercier@physislabs.com

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PROJECT SAMPLE LIST

Wood Environment & Infrastructure Solutions, Inc. PHYSIS Project ID: 2109001-002

Tijuana River Sediment Management Monitoring Program Project # 5025-21-0 Total Samples: 9

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
94871	2021-E2-BASINSMGL-01		1/7/2022	13:00	Sediment	Grab
94872	2021-E2-BASINTJRVR-01		1/7/2022	9:10	Sediment	Grab
94873	2021-E2-BRWNFL-01		1/7/2022	14:45	Sediment	Grab
94874	2021-E2-FLDCHNL-01		1/7/2022	10:35	Sediment	Grab
94875	2021-E2-SMGLPILOT-01		1/7/2022	13:55	Sediment	Grab
94876	2021-E2-EQUIPBLANK_NUTRIENTS		1/7/2022	11:00	Samplewater	Grab
94877	2021-E2-EQUIPBLANK_METALS		1/7/2022	11:00	Samplewater	Grab
94878	2021-E2-EQUIPBLANK_MERCURY		1/7/2022	11:00	Samplewater	Grab
94879	2021-E2-EQUIPBLANK_O&G		1/7/2022	11:00	Samplewater	Grab

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ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

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the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS
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Innovative Solutions for Nature

PHYSIS QUALIFIER CODES

CODE	*DEFINITION*
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

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CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ELEMENTS

1 One element, Iron (Fe) was above the specified acceptance limits for the CRM. This occurred as a result of a more rigorous digestion employed by Physis, which causes a higher yield for some lithogenous elements. These values are in agreement with past internal results for CRM - ERA D099-540.

ANALYTICAL REPORT

PHYSIS ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Conventionals

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94876-R1 2021-E2-EQUIPBLANK_NUTRIENTS Matrix: Samplewater							**Sampled: 07-Jan-22 11:00**			**Received: 07-Jan-22**	
Nitrate as N	EPA 300.0	mg/L	ND	1	0.01	0.05	NA		C-60123	07-Jan-22	07-Jan-22
Nitrite as N	EPA 300.0	mg/L	ND	1	0.01	0.03	NA		C-60123	07-Jan-22	07-Jan-22
Sulfate	EPA 300.0	mg/L	ND	1	0.01	0.05	NA		C-60123	07-Jan-22	07-Jan-22

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Elements

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94877-R1	**2021-E2-EQUIPBLANK_METALS**	**Matrix: Samplewater**					**Sampled:**	**07-Jan-22 11:00**		**Received:**	**07-Jan-22**
Aluminum (Al)	EPA 200.8	µg/L	ND	1	1.65	8.25	Total		E-26078	01-Feb-22	03-Feb-22
Antimony (Sb)	EPA 200.8	µg/L	ND	1	0.03	0.15	Total		E-26078	01-Feb-22	03-Feb-22
Arsenic (As)	EPA 200.8	µg/L	ND	1	0.05	0.159	Total		E-26078	01-Feb-22	03-Feb-22
Barium (Ba)	EPA 200.8	µg/L	3.09	1	0.25	0.5	Total		E-26078	01-Feb-22	03-Feb-22
Beryllium (Be)	EPA 200.8	µg/L	ND	1	0.01	0.031	Total		E-26078	01-Feb-22	03-Feb-22
Cadmium (Cd)	EPA 200.8	µg/L	ND	1	0.007	0.023	Total		E-26078	01-Feb-22	03-Feb-22
Chromium (Cr)	EPA 200.8	µg/L	ND	1	0.01	0.05	Total		E-26078	01-Feb-22	03-Feb-22
Cobalt (Co)	EPA 200.8	µg/L	ND	1	0.01	0.05	Total		E-26078	01-Feb-22	03-Feb-22
Copper (Cu)	EPA 200.8	µg/L	ND	1	0.007	0.022	Total		E-26078	01-Feb-22	03-Feb-22
Iron (Fe)	EPA 200.8	µg/L	ND	1	1.13	5.65	Total		E-26078	01-Feb-22	03-Feb-22
Lead (Pb)	EPA 200.8	µg/L	ND	1	0.007	0.021	Total		E-26078	01-Feb-22	03-Feb-22
Manganese (Mn)	EPA 200.8	µg/L	ND	1	0.005	0.01	Total		E-26078	01-Feb-22	03-Feb-22
Molybdenum (Mo)	EPA 200.8	µg/L	ND	1	0.007	0.022	Total		E-26078	01-Feb-22	03-Feb-22
Nickel (Ni)	EPA 200.8	µg/L	ND	1	0.013	0.042	Total		E-26078	01-Feb-22	03-Feb-22
Selenium (Se)	EPA 200.8	µg/L	0.0316	1	0.021	0.068	Total	J	E-26078	01-Feb-22	03-Feb-22
Silver (Ag)	EPA 200.8	µg/L	ND	1	0.01	0.02	Total		E-26078	01-Feb-22	03-Feb-22
Strontium (Sr)	EPA 200.8	µg/L	0.244	1	0.03	0.15	Total		E-26078	01-Feb-22	03-Feb-22
Thallium (Tl)	EPA 200.8	µg/L	ND	1	0.01	0.05	Total		E-26078	01-Feb-22	03-Feb-22
Tin (Sn)	EPA 200.8	µg/L	ND	1	0.06	0.3	Total		E-26078	01-Feb-22	03-Feb-22
Titanium (Ti)	EPA 200.8	µg/L	0.0889	1	0.08	0.4	Total	J	E-26078	01-Feb-22	03-Feb-22
Vanadium (V)	EPA 200.8	µg/L	ND	1	0.03	0.15	Total		E-26078	01-Feb-22	03-Feb-22
Zinc (Zn)	EPA 200.8	µg/L	0.389	1	0.022	0.069	Total		E-26078	01-Feb-22	03-Feb-22
Sample ID: 94878-R1	**2021-E2-EQUIPBLANK_MERCURY**	**Matrix: Samplewater**					**Sampled:**	**07-Jan-22 11:00**		**Received:**	**07-Jan-22**
Mercury (Hg)	EPA 245.7	µg/L	ND	1	0.01	0.02	Total		E-24150	15-Jan-22	15-Jan-22

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Total Extractable Organics

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94879-R1 2021-E2-EQUIPBLANK_O&G Matrix: Samplewater Sampled: 07-Jan-22 11:00 Received: 07-Jan-22											
Oil & Grease	EPA 1664B	mg/L	ND	1	1	1	NA		C-52035	01-Feb-22	04-Feb-22

Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94871-R1	**2021-E2-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:00**		**Received:**	**07-Jan-22**
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	89	1			NA		O-34030	07-Feb-22	15-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	59	1			NA		O-34030	07-Feb-22	15-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Acid Extractable Compounds

Sample ID: 94872-R1 2021-E2-BASINTJRVR-01 **Matrix:** Sediment **Sampled:** 07-Jan-22 9:10 **Received:** 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	80	1			NA		O-34030	07-Feb-22	15-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	24	1			NA		O-34030	07-Feb-22	15-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22

Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94873-R1	**2021-E2-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 14:45**		**Received:**	**07-Jan-22**
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	78	1			NA		O-34030	07-Feb-22	15-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	58	1			NA		O-34030	07-Feb-22	15-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22

Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94874-R1	**2021-E2-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 10:35**		**Received:**	**07-Jan-22**
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	51	1			NA		O-34030	07-Feb-22	14-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	26	1			NA		O-34030	07-Feb-22	14-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	14-Feb-22

Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94875-R1	**2021-E2-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:55**		**Received:**	**07-Jan-22**
(2,4,6-Tribromophenol)	EPA 8270E	% Recovery	79	1			NA		O-34030	07-Feb-22	15-Feb-22
(d5-Phenol)	EPA 8270E	% Recovery	61	1			NA		O-34030	07-Feb-22	15-Feb-22
2,3,4,6-Tetrachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,5-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4,6-Trichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dimethylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dichlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
3+4-Methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Chloro-3-methylphenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitrophenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22
Pentachlorophenol	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Phenol	EPA 8270E	ng/dry g	ND	1	100	200	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94871-R1	**2021-E2-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:00**		**Received:**	**07-Jan-22**
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	90.2	1	10	20	NA	B	O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	887	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	35.3	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Base/Neutral Extractable Compounds

Sample ID: 94872-R1 **2021-E2-BASINTJRVR-01** **Matrix:** Sediment **Sampled:** 07-Jan-22 9:10 **Received:** 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	28.8	1	10	20	NA	B	O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	44.1	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22

Base/Neutral Extractable Compounds

Sample ID: 94873-R1 2021-E2-BRWNFL-01 **Matrix:** Sediment **Sampled:** 07-Jan-22 14:45 **Received:** 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	42.2	1	10	20	NA	B	O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	46.9	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22

Base/Neutral Extractable Compounds

Sample ID: 94874-R1 **2021-E2-FLDCHNL-01** **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	14-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	76.2	1	10	20	NA	B	O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	437	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	35	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Base/Neutral Extractable Compounds

Sample ID: 94875-R1 2021-E2-SMGLPILOT-01 Matrix: Sediment Sampled: 07-Jan-22 13:55 Received: 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
1,2,4-Trichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,2-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,3-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
1,4-Dichlorobenzene	EPA 8270E	ng/dry g	ND	1	10	50	NA		O-34030	07-Feb-22	15-Feb-22
2,4-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dinitrotoluene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Chloronaphthalene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
2-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3,3'-Dichlorobenzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
3-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Bromophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Chlorophenylphenyl ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
4-Nitroaniline	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Azobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzidine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Benzylbutyl Phthalate	EPA 8270E	ng/dry g	43.4	1	10	20	NA	B	O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethoxy) methane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroethyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Bis(2-Ethylhexyl) Phthalate	EPA 8270E	ng/dry g	420	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dibutyl Phthalate	EPA 8270E	ng/dry g	154	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Di-n-octyl Phthalate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Hexachlorobutadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorocyclopentadiene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Hexachloroethane	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Isophorone	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Nitrobenzene	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodimethylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodi-n-propylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
N-Nitrosodiphenylamine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22
Pyridine	EPA 8270E	ng/dry g	ND	1	50	100	NA		O-34030	07-Feb-22	15-Feb-22

Chlorinated Pesticides

Sample ID: 94871-R1 2021-E2-BASINSMGL-01 Matrix: Sediment Sampled: 07-Jan-22 13:00 Received: 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(PCB030)	EPA 8270E	% Recovery	91	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB112)	EPA 8270E	% Recovery	76	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB198)	EPA 8270E	% Recovery	102	1			NA		O-34030	07-Feb-22	15-Feb-22
(TCMX)	EPA 8270E	% Recovery	41	1			NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	6.04	1	0.267	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	1.28	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	7.18	1	0.194	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	11.6	1	0.198	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	4.04	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.128	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	3.88	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	1.17	1	0.179	0.5	NA		O-34030	07-Feb-22	15-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	4.9	1	0.192	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	0.627	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Kepone	EPA 8270E	ng/dry g	ND	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	61.6	1	10	20	NA		O-34030	09-Feb-22	11-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	3.7	1	0.186	0.5	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Chlorinated Pesticides

Sample ID: 94872-R1 2021-E2-BASINTJRVR-01 **Matrix:** Sediment **Sampled:** 07-Jan-22 9:10 **Received:** 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(PCB030)	EPA 8270E	% Recovery	73	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB112)	EPA 8270E	% Recovery	78	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB198)	EPA 8270E	% Recovery	103	1			NA		O-34030	07-Feb-22	15-Feb-22
(TCMX)	EPA 8270E	% Recovery	48	1			NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	4.79	1	0.267	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	0.517	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.194	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	5.22	1	0.198	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	19.4	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.128	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	2.48	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	ND	1	0.179	0.5	NA		O-34030	07-Feb-22	15-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	ND	1	0.192	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Kepone	EPA 8270E	ng/dry g	ND	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	41.1	1	10	20	NA		O-34030	09-Feb-22	11-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	2.39	1	0.186	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94873-R1	**2021-E2-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 14:45**		**Received:**	**07-Jan-22**
(PCB030)	EPA 8270E	% Recovery	100	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB112)	EPA 8270E	% Recovery	88	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB198)	EPA 8270E	% Recovery	117	1			NA		O-34030	07-Feb-22	15-Feb-22
(TCMX)	EPA 8270E	% Recovery	53	1			NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	10.6	1	0.267	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	0.419	1	0.2	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	ND	1	0.194	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	40	1	0.198	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	34.3	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	7.05	1	0.128	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	3.05	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	0.917	1	0.179	0.5	NA		O-34030	07-Feb-22	15-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	3.75	1	0.192	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Kepone	EPA 8270E	ng/dry g	ND	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	28.8	1	10	20	NA		O-34030	09-Feb-22	11-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	3.11	1	0.186	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Chlorinated Pesticides

Sample ID: 94874-R1 **2021-E2-FLDCHNL-01** **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(PCB030)	EPA 8270E	% Recovery	70	1			NA		O-34030	07-Feb-22	14-Feb-22
(PCB112)	EPA 8270E	% Recovery	78	1			NA		O-34030	07-Feb-22	14-Feb-22
(PCB198)	EPA 8270E	% Recovery	103	1			NA		O-34030	07-Feb-22	14-Feb-22
(TCMX)	EPA 8270E	% Recovery	46	1			NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	4.79	1	0.267	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	0.22	1	0.2	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	1.26	1	0.194	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	3.31	1	0.198	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	15.1	1	0.193	0.5	NA		O-34030	07-Feb-22	14-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	16.1	1	0.128	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	2.73	1	0.187	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	ND	1	0.179	0.5	NA		O-34030	07-Feb-22	14-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	ND	1	0.192	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Kepone	EPA 8270E	ng/dry g	ND	1	0.193	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	117	1	10	20	NA		O-34030	09-Feb-22	10-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	2.62	1	0.186	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94875-R1	**2021-E2-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:55**		**Received:**	**07-Jan-22**
(PCB030)	EPA 8270E	% Recovery	75	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB112)	EPA 8270E	% Recovery	85	1			NA		O-34030	07-Feb-22	15-Feb-22
(PCB198)	EPA 8270E	% Recovery	116	1			NA		O-34030	07-Feb-22	15-Feb-22
(TCMX)	EPA 8270E	% Recovery	51	1			NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDD	EPA 8270E	ng/dry g	5.82	1	0.267	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDE	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,4'-DDT	EPA 8270E	ng/dry g	1.45	1	0.194	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDD	EPA 8270E	ng/dry g	13.5	1	0.198	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDE	EPA 8270E	ng/dry g	11.3	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
4,4'-DDT	EPA 8270E	ng/dry g	5.36	1	0.128	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Aldrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-alpha	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-beta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-delta	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
BHC-gamma	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-alpha	EPA 8270E	ng/dry g	2.8	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chlordane-gamma	EPA 8270E	ng/dry g	0.203	1	0.179	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
cis-Nonachlor	EPA 8270E	ng/dry g	ND	1	0.192	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dieldrin	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan Sulfate	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-I	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endosulfan-II	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Endrin Aldehyde	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Chlorinated Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Endrin Ketone	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Heptachlor Epoxide	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Hexachlorobenzene	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Kepone	EPA 8270E	ng/dry g	ND	1	0.193	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Methoxychlor	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Mirex	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Oxychlordane	EPA 8270E	ng/dry g	ND	1	0.25	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Toxaphene	EPA 8270E-NCI	ng/dry g	ND	1	10	20	NA		O-34030	09-Feb-22	11-Feb-22
trans-Nonachlor	EPA 8270E	ng/dry g	2.65	1	0.186	0.5	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Conventionals

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94871-R1	**2021-E2-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:00**		**Received:**	**07-Jan-22**
Chloride	EPA 300.0	mg/dry kg	13.7	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	11	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	ND	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	82.6	1	0.1	0.1	NA		C-64004	24-Jan-22	26-Jan-22
Sulfate	EPA 300.0	mg/dry kg	123	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	223	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	0.31	1	0.01	0.01	NA		C-36012	26-Jan-22	31-Jan-22
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63082	25-Feb-22	25-Feb-22
Sample ID: 94872-R1	**2021-E2-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 9:10**		**Received:**	**07-Jan-22**
Chloride	EPA 300.0	mg/dry kg	51.2	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	6.26	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	ND	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	93.6	1	0.1	0.1	NA		C-64004	24-Jan-22	26-Jan-22
Sulfate	EPA 300.0	mg/dry kg	44.2	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	724	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	0.11	1	0.01	0.01	NA		C-36012	26-Jan-22	31-Jan-22
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63082	25-Feb-22	25-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Conventionals

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94873-R1	**2021-E2-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 14:45**		**Received:**	**07-Jan-22**
Chloride	EPA 300.0	mg/dry kg	45.6	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	7.94	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	ND	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	95.8	1	0.1	0.1	NA		C-64004	24-Jan-22	26-Jan-22
Sulfate	EPA 300.0	mg/dry kg	831	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	111	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	0.18	1	0.01	0.01	NA		C-36012	26-Jan-22	31-Jan-22
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63082	25-Feb-22	25-Feb-22
Sample ID: 94874-R1	**2021-E2-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 10:35**		**Received:**	**07-Jan-22**
Chloride	EPA 300.0	mg/dry kg	13.2	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	7.34	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	ND	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	86.6	1	0.1	0.1	NA		C-64004	24-Jan-22	26-Jan-22
Sulfate	EPA 300.0	mg/dry kg	33	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	432	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	0.33	1	0.01	0.01	NA		C-36012	26-Jan-22	31-Jan-22
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63082	25-Feb-22	25-Feb-22

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Conventionals

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94875-R1	**2021-E2-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:55**		**Received:**	**07-Jan-22**
Chloride	EPA 300.0	mg/dry kg	8.46	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Dissolved Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63081	25-Feb-22	25-Feb-22
Nitrate as N	EPA 300.0	mg/dry kg	10.5	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Nitrite as N	EPA 300.0	mg/dry kg	ND	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Percent Solids	SM 2540 B	%	90.4	1	0.1	0.1	NA		C-64004	24-Jan-22	26-Jan-22
Sulfate	EPA 300.0	mg/dry kg	20.2	1	0.01	0.05	NA		C-60135	11-Feb-22	11-Feb-22
Total Alkalinity	SM 2320 B	mg/dry kg	132	1	1	5	NA		C-60140	28-Feb-22	28-Feb-22
Total Organic Carbon	EPA 9060	% dry weight	0.27	1	0.01	0.01	NA		C-36012	26-Jan-22	31-Jan-22
Total Sulfides	Plumb, 1981 and TERL	mg/dry kg	ND	1	0.2	0.4	NA		C-63082	25-Feb-22	25-Feb-22

Elements

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94871-R1	**2021-E2-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:00**		**Received:**	**07-Jan-22**
Aluminum (Al)	EPA 6020	µg/dry g	13200	1	1	5	NA		E-25085	10-Feb-22	14-Feb-22
Antimony (Sb)	EPA 6020	µg/dry g	0.647	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Arsenic (As)	EPA 6020	µg/dry g	3.52	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Barium (Ba)	EPA 6020	µg/dry g	90.5	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Beryllium (Be)	EPA 6020	µg/dry g	0.262	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Cadmium (Cd)	EPA 6020	µg/dry g	0.15	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Chromium (Cr)	EPA 6020	µg/dry g	14.4	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Cobalt (Co)	EPA 6020	µg/dry g	3.74	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Copper (Cu)	EPA 6020	µg/dry g	12.1	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Iron (Fe)	EPA 6020	µg/dry g	13100	1	1	5	NA		E-25085	10-Feb-22	14-Feb-22
Lead (Pb)	EPA 6020	µg/dry g	9.77	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Manganese (Mn)	EPA 6020	µg/dry g	190	1	0.005	0.01	NA		E-25085	10-Feb-22	14-Feb-22
Mercury (Hg)	EPA 245.7	µg/dry g	0.0195	1	0.00001	0.00002	NA		E-24154	10-Feb-22	25-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.611	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Nickel (Ni)	EPA 6020	µg/dry g	5.51	1	0.01	0.02	NA		E-25085	10-Feb-22	14-Feb-22
Selenium (Se)	EPA 6020	µg/dry g	0.265	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Silver (Ag)	EPA 6020	µg/dry g	0.385	1	0.01	0.02	NA		E-25085	10-Feb-22	14-Feb-22
Thallium (Tl)	EPA 6020	µg/dry g	0.189	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Vanadium (V)	EPA 6020	µg/dry g	33.7	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Zinc (Zn)	EPA 6020	µg/dry g	57.1	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22

PHYSIS
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ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Elements

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94872-R1	**2021-E2-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22**	**9:10**	**Received:**	**07-Jan-22**
Aluminum (Al)	EPA 6020	µg/dry g	9280	1	1	5	NA		E-25085	10-Feb-22	14-Feb-22
Antimony (Sb)	EPA 6020	µg/dry g	0.145	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Arsenic (As)	EPA 6020	µg/dry g	1.82	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Barium (Ba)	EPA 6020	µg/dry g	68.5	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Beryllium (Be)	EPA 6020	µg/dry g	0.148	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Cadmium (Cd)	EPA 6020	µg/dry g	0.054	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Chromium (Cr)	EPA 6020	µg/dry g	9.28	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Cobalt (Co)	EPA 6020	µg/dry g	3.4	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Copper (Cu)	EPA 6020	µg/dry g	5.05	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Iron (Fe)	EPA 6020	µg/dry g	10100	1	1	5	NA		E-25085	10-Feb-22	14-Feb-22
Lead (Pb)	EPA 6020	µg/dry g	1.92	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Manganese (Mn)	EPA 6020	µg/dry g	191	1	0.005	0.01	NA		E-25085	10-Feb-22	14-Feb-22
Mercury (Hg)	EPA 245.7	µg/dry g	0.00407	1	0.00001	0.00002	NA		E-24154	10-Feb-22	25-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.256	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Nickel (Ni)	EPA 6020	µg/dry g	3.49	1	0.01	0.02	NA		E-25085	10-Feb-22	14-Feb-22
Selenium (Se)	EPA 6020	µg/dry g	0.109	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Silver (Ag)	EPA 6020	µg/dry g	0.111	1	0.01	0.02	NA		E-25085	10-Feb-22	14-Feb-22
Thallium (Tl)	EPA 6020	µg/dry g	0.117	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Vanadium (V)	EPA 6020	µg/dry g	24.9	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Zinc (Zn)	EPA 6020	µg/dry g	20.4	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
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Elements

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94873-R1	2021-E2-BRWNFL-01		Matrix: Sediment				Sampled:	07-Jan-22 14:45		Received:	07-Jan-22
Aluminum (Al)	EPA 6020	µg/dry g	11100	1	1	5	NA		E-25085	10-Feb-22	14-Feb-22
Antimony (Sb)	EPA 6020	µg/dry g	0.721	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Arsenic (As)	EPA 6020	µg/dry g	2.38	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Barium (Ba)	EPA 6020	µg/dry g	64.5	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Beryllium (Be)	EPA 6020	µg/dry g	0.198	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Cadmium (Cd)	EPA 6020	µg/dry g	0.125	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Chromium (Cr)	EPA 6020	µg/dry g	14	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Cobalt (Co)	EPA 6020	µg/dry g	3.8	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Copper (Cu)	EPA 6020	µg/dry g	13	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Iron (Fe)	EPA 6020	µg/dry g	12700	1	1	5	NA		E-25085	10-Feb-22	14-Feb-22
Lead (Pb)	EPA 6020	µg/dry g	16.3	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Manganese (Mn)	EPA 6020	µg/dry g	189	1	0.005	0.01	NA		E-25085	10-Feb-22	14-Feb-22
Mercury (Hg)	EPA 245.7	µg/dry g	0.0326	1	0.00001	0.00002	NA		E-24154	10-Feb-22	25-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.52	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Nickel (Ni)	EPA 6020	µg/dry g	4.99	1	0.01	0.02	NA		E-25085	10-Feb-22	14-Feb-22
Selenium (Se)	EPA 6020	µg/dry g	0.13	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Silver (Ag)	EPA 6020	µg/dry g	0.227	1	0.01	0.02	NA		E-25085	10-Feb-22	14-Feb-22
Thallium (Tl)	EPA 6020	µg/dry g	0.163	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Vanadium (V)	EPA 6020	µg/dry g	36.6	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Zinc (Zn)	EPA 6020	µg/dry g	42.2	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22

PHYSIS
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PHYSIS Project ID: 2109001-002
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Elements

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94874-R1	**2021-E2-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 10:35**		**Received:**	**07-Jan-22**
Aluminum (Al)	EPA 6020	µg/dry g	15200	1	1	5	NA		E-25085	10-Feb-22	14-Feb-22
Antimony (Sb)	EPA 6020	µg/dry g	0.594	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Arsenic (As)	EPA 6020	µg/dry g	3.33	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Barium (Ba)	EPA 6020	µg/dry g	123	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Beryllium (Be)	EPA 6020	µg/dry g	0.303	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Cadmium (Cd)	EPA 6020	µg/dry g	0.209	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Chromium (Cr)	EPA 6020	µg/dry g	16.9	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Cobalt (Co)	EPA 6020	µg/dry g	4.62	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Copper (Cu)	EPA 6020	µg/dry g	15.9	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Iron (Fe)	EPA 6020	µg/dry g	14400	1	1	5	NA		E-25085	10-Feb-22	14-Feb-22
Lead (Pb)	EPA 6020	µg/dry g	9.64	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Manganese (Mn)	EPA 6020	µg/dry g	215	1	0.005	0.01	NA		E-25085	10-Feb-22	14-Feb-22
Mercury (Hg)	EPA 245.7	µg/dry g	0.0309	1	0.00001	0.00002	NA		E-24154	10-Feb-22	25-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.472	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Nickel (Ni)	EPA 6020	µg/dry g	7.98	1	0.01	0.02	NA		E-25085	10-Feb-22	14-Feb-22
Selenium (Se)	EPA 6020	µg/dry g	0.215	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Silver (Ag)	EPA 6020	µg/dry g	0.175	1	0.01	0.02	NA		E-25085	10-Feb-22	14-Feb-22
Thallium (Tl)	EPA 6020	µg/dry g	0.16	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Vanadium (V)	EPA 6020	µg/dry g	36.9	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Zinc (Zn)	EPA 6020	µg/dry g	61.8	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22

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Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
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Project: Tijuana River Sediment Management Monitoring Prog

Elements

Sample ID: 94875-R1 2021-E2-SMGLPILOT-01 **Matrix:** Sediment **Sampled:** 07-Jan-22 13:55 **Received:** 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Aluminum (Al)	EPA 6020	µg/dry g	12700	1	1	5	NA		E-25085	10-Feb-22	14-Feb-22
Antimony (Sb)	EPA 6020	µg/dry g	0.466	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Arsenic (As)	EPA 6020	µg/dry g	3.29	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Barium (Ba)	EPA 6020	µg/dry g	77.7	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Beryllium (Be)	EPA 6020	µg/dry g	0.247	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Cadmium (Cd)	EPA 6020	µg/dry g	0.128	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Chromium (Cr)	EPA 6020	µg/dry g	12.4	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Cobalt (Co)	EPA 6020	µg/dry g	3.56	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Copper (Cu)	EPA 6020	µg/dry g	8.85	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Iron (Fe)	EPA 6020	µg/dry g	11500	1	1	5	NA		E-25085	10-Feb-22	14-Feb-22
Lead (Pb)	EPA 6020	µg/dry g	8.05	1	0.0025	0.005	NA		E-25085	10-Feb-22	14-Feb-22
Manganese (Mn)	EPA 6020	µg/dry g	163	1	0.005	0.01	NA		E-25085	10-Feb-22	14-Feb-22
Mercury (Hg)	EPA 245.7	µg/dry g	0.0179	1	0.00001	0.00002	NA		E-24154	10-Feb-22	25-Feb-22
Molybdenum (Mo)	EPA 6020	µg/dry g	0.311	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Nickel (Ni)	EPA 6020	µg/dry g	5.42	1	0.01	0.02	NA		E-25085	10-Feb-22	14-Feb-22
Selenium (Se)	EPA 6020	µg/dry g	0.185	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Silver (Ag)	EPA 6020	µg/dry g	0.125	1	0.01	0.02	NA		E-25085	10-Feb-22	14-Feb-22
Thallium (Tl)	EPA 6020	µg/dry g	0.129	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Vanadium (V)	EPA 6020	µg/dry g	26.6	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22
Zinc (Zn)	EPA 6020	µg/dry g	43.9	1	0.025	0.05	NA		E-25085	10-Feb-22	14-Feb-22

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94871-R1	**2021-E2-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:00**		**Received:**	**07-Jan-22**
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94872-R1	**2021-E2-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22**	**9:10**	**Received:**	**07-Jan-22**
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

Organophosphorus Pesticides

Sample ID: 94873-R1 2021-E2-BRWNFL-01 Matrix: Sediment Sampled: 07-Jan-22 14:45 Received: 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94874-R1	**2021-E2-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 10:35**		**Received:**	**07-Jan-22**
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	14-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	14-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	14-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	14-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	14-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Organophosphorus Pesticides

Sample ID: 94875-R1 2021-E2-SMGLPILOT-01 Matrix: Sediment Sampled: 07-Jan-22 13:55 Received: 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Bolstar (Sulprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Chlorpyrifos	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Demeton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Diazinon	EPA 8270E	ng/dry g	ND	1	1	2	NA		O-34030	07-Feb-22	15-Feb-22
Dichlorvos	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Dimethoate	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Disulfoton	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Ethoprop (Ethoprofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenchlorphos (Ronnel)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fensulfothion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Fenthion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Malathion	EPA 8270E	ng/dry g	ND	1	5	10	NA		O-34030	07-Feb-22	15-Feb-22
Methidathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Methyl Parathion	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Mevinphos (Phosdrin)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Phorate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tetrachlorvinphos (Stirofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Tokuthion (Prothiofos)	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22
Trichloronate	EPA 8270E	ng/dry g	ND	1	10	20	NA		O-34030	07-Feb-22	15-Feb-22

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TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Particle Size Distribution

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94871-R1	**2021-E2-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:00**		**Received:**	**07-Jan-22**
Clay <0.0039 mm	SM 2560 D	%	5.7	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Sand 0.0625 to <2.0 mm	SM 2560 D	%	67.7	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	26.5	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Sample ID: 94872-R1	**2021-E2-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 9:10**		**Received:**	**07-Jan-22**
Clay <0.0039 mm	SM 2560 D	%	6.4	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Sand 0.0625 to <2.0 mm	SM 2560 D	%	70.6	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	23.1	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Sample ID: 94873-R1	**2021-E2-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 14:45**		**Received:**	**07-Jan-22**
Clay <0.0039 mm	SM 2560 D	%	8.3	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Sand 0.0625 to <2.0 mm	SM 2560 D	%	69.2	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	22.1	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Sample ID: 94874-R1	**2021-E2-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 10:35**		**Received:**	**07-Jan-22**
Clay <0.0039 mm	SM 2560 D	%	10.6	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Sand 0.0625 to <2.0 mm	SM 2560 D	%	58.3	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	31	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Particle Size Distribution

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94875-R1	**2021-E2-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:55**		**Received:**	**07-Jan-22**
Clay <0.0039 mm	SM 2560 D	%	4.4	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Granule 2.0 <4.0 mm	SM 2560 D	%	ND	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Sand 0.0625 to <2.0 mm	SM 2560 D	%	79	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22
Silt 0.0039 to <0.0625 mm	SM 2560 D	%	17	1	0.05	0.05	NA		P-1213	28-Feb-22	28-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94871-R1	**2021-E2-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:00**		**Received:**	**07-Jan-22**
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB095	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB110	EPA 8270E	ng/dry g	0.293	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB138	EPA 8270E	ng/dry g	0.65	1	0.057	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB141	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB149	EPA 8270E	ng/dry g	0.222	1	0.092	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB151	EPA 8270E	ng/dry g	ND	1	0.073	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB153	EPA 8270E	ng/dry g	1.11	1	0.065	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB158	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB170	EPA 8270E	ng/dry g	ND	1	0.118	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB174	EPA 8270E	ng/dry g	0.2	1	0.12	0.25	NA	J	O-34030	07-Feb-22	15-Feb-22
PCB177	EPA 8270E	ng/dry g	ND	1	0.085	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB180	EPA 8270E	ng/dry g	1.1	1	0.154	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB187	EPA 8270E	ng/dry g	ND	1	0.168	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB194	EPA 8270E	ng/dry g	ND	1	0.164	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

PCB Congeners

Sample ID: 94872-R1 2021-E2-BASINTJRVR-01 **Matrix: Sediment** **Sampled:** 07-Jan-22 9:10 **Received:** 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB095	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB110	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB138	EPA 8270E	ng/dry g	ND	1	0.057	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB141	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB149	EPA 8270E	ng/dry g	ND	1	0.092	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB151	EPA 8270E	ng/dry g	ND	1	0.073	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB153	EPA 8270E	ng/dry g	ND	1	0.065	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB158	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB170	EPA 8270E	ng/dry g	ND	1	0.118	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB174	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB177	EPA 8270E	ng/dry g	ND	1	0.085	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB180	EPA 8270E	ng/dry g	0.904	1	0.154	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB187	EPA 8270E	ng/dry g	ND	1	0.168	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB194	EPA 8270E	ng/dry g	ND	1	0.164	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

Sample ID: 94873-R1 **2021-E2-BRWNFL-01** **Matrix: Sediment** **Sampled: 07-Jan-22 14:45** **Received: 07-Jan-22**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB095	EPA 8270E	ng/dry g	0.339	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB110	EPA 8270E	ng/dry g	0.539	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB138	EPA 8270E	ng/dry g	3.02	1	0.057	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB141	EPA 8270E	ng/dry g	0.823	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB149	EPA 8270E	ng/dry g	1.03	1	0.092	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB151	EPA 8270E	ng/dry g	0.363	1	0.073	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB153	EPA 8270E	ng/dry g	2.64	1	0.065	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB158	EPA 8270E	ng/dry g	0.448	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB170	EPA 8270E	ng/dry g	1.67	1	0.118	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB174	EPA 8270E	ng/dry g	1.41	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB177	EPA 8270E	ng/dry g	0.694	1	0.085	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB180	EPA 8270E	ng/dry g	4.69	1	0.154	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB187	EPA 8270E	ng/dry g	1.41	1	0.168	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB194	EPA 8270E	ng/dry g	ND	1	0.164	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94874-R1	**2021-E2-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 10:35**		**Received:**	**07-Jan-22**
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB095	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB110	EPA 8270E	ng/dry g	0.135	1	0.074	0.2	NA	J	O-34030	07-Feb-22	14-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB138	EPA 8270E	ng/dry g	0.46	1	0.057	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB141	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB149	EPA 8270E	ng/dry g	0.17	1	0.092	0.2	NA	J	O-34030	07-Feb-22	14-Feb-22
PCB151	EPA 8270E	ng/dry g	ND	1	0.073	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB153	EPA 8270E	ng/dry g	0.677	1	0.065	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB158	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	14-Feb-22
PCB170	EPA 8270E	ng/dry g	ND	1	0.118	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB174	EPA 8270E	ng/dry g	0.223	1	0.12	0.25	NA	J	O-34030	07-Feb-22	14-Feb-22
PCB177	EPA 8270E	ng/dry g	ND	1	0.085	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB180	EPA 8270E	ng/dry g	0.676	1	0.154	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB187	EPA 8270E	ng/dry g	0.508	1	0.168	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB194	EPA 8270E	ng/dry g	ND	1	0.164	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	14-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	14-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94875-R1	**2021-E2-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:55**		**Received:**	**07-Jan-22**
PCB003	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB008	EPA 8270E	ng/dry g	ND	1	0.017	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB018	EPA 8270E	ng/dry g	ND	1	0.029	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB028	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB031	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB033	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB037	EPA 8270E	ng/dry g	ND	1	0.06	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB044	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB049	EPA 8270E	ng/dry g	ND	1	0.036	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB052	EPA 8270E	ng/dry g	ND	1	0.012	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB056(060)	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB066	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB070	EPA 8270E	ng/dry g	ND	1	0.023	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB074	EPA 8270E	ng/dry g	ND	1	0.021	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB077	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB081	EPA 8270E	ng/dry g	ND	1	0.084	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB087	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB095	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB097	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB099	EPA 8270E	ng/dry g	ND	1	0.028	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB101	EPA 8270E	ng/dry g	ND	1	0.027	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB105	EPA 8270E	ng/dry g	ND	1	0.047	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB110	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB114	EPA 8270E	ng/dry g	ND	1	0.072	0.2	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB118	EPA 8270E	ng/dry g	ND	1	0.069	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB119	EPA 8270E	ng/dry g	ND	1	0.071	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB123	EPA 8270E	ng/dry g	ND	1	0.018	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB126	EPA 8270E	ng/dry g	ND	1	0.086	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB128	EPA 8270E	ng/dry g	ND	1	0.081	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB138	EPA 8270E	ng/dry g	ND	1	0.057	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB141	EPA 8270E	ng/dry g	ND	1	0.1	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB149	EPA 8270E	ng/dry g	0.132	1	0.092	0.2	NA	J	O-34030	07-Feb-22	15-Feb-22
PCB151	EPA 8270E	ng/dry g	ND	1	0.073	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB153	EPA 8270E	ng/dry g	ND	1	0.065	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB156	EPA 8270E	ng/dry g	ND	1	0.089	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB157	EPA 8270E	ng/dry g	ND	1	0.103	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB158	EPA 8270E	ng/dry g	ND	1	0.074	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB167	EPA 8270E	ng/dry g	ND	1	0.049	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB168+132	EPA 8270E	ng/dry g	ND	1	0.094	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB169	EPA 8270E	ng/dry g	ND	1	0.116	0.2	NA		O-34030	07-Feb-22	15-Feb-22
PCB170	EPA 8270E	ng/dry g	1.67	1	0.118	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB174	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB177	EPA 8270E	ng/dry g	ND	1	0.085	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB180	EPA 8270E	ng/dry g	1.33	1	0.154	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB183	EPA 8270E	ng/dry g	ND	1	0.056	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB187	EPA 8270E	ng/dry g	ND	1	0.168	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB189	EPA 8270E	ng/dry g	ND	1	0.109	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB194	EPA 8270E	ng/dry g	ND	1	0.164	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB195	EPA 8270E	ng/dry g	ND	1	0.093	0.25	NA		O-34030	07-Feb-22	15-Feb-22

PCB Congeners

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
PCB199(200)	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB201	EPA 8270E	ng/dry g	ND	1	0.104	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB206	EPA 8270E	ng/dry g	ND	1	0.155	0.25	NA		O-34030	07-Feb-22	15-Feb-22
PCB209	EPA 8270E	ng/dry g	ND	1	0.12	0.25	NA		O-34030	07-Feb-22	15-Feb-22

Polynuclear Aromatic Hydrocarbons

Sample ID: 94871-R1 2021-E2-BASINSMGL-01 Matrix: Sediment Sampled: 07-Jan-22 13:00 Received: 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d10-Acenaphthene)	EPA 8270E	% Recovery	73	1			NA		O-34030	07-Feb-22	15-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	86	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	61	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	88	1			NA		O-34030	07-Feb-22	15-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	62	1			NA		O-34030	07-Feb-22	15-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	2.58	1	0.084	0.5	NA		O-34030	07-Feb-22	15-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	8.45	1	0.076	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	6.98	1	0.059	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	5.5	1	0.065	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	3.17	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	0.549	1	0.078	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	1	1	0.058	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Anthracene	EPA 8270E	ng/dry g	2.85	1	0.046	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	16.3	1	0.107	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	10.9	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	14.5	1	0.063	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	19.4	1	0.098	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	16.9	1	0.093	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	11.6	1	0.111	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Biphenyl	EPA 8270E	ng/dry g	3.8	1	0.092	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chrysene	EPA 8270E	ng/dry g	26.3	1	0.067	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	33.4	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	3.57	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	17.1	1	0.035	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	1.91	1	0.068	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	23	1	0.087	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Naphthalene	EPA 8270E	ng/dry g	2.33	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Perylene	EPA 8270E	ng/dry g	5.16	1	0.114	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	8.44	1	0.074	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Pyrene	EPA 8270E	ng/dry g	25.7	1	0.048	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Polynuclear Aromatic Hydrocarbons

Sample ID: 94872-R1 **2021-E2-BASINTJRVR-01** **Matrix: Sediment** **Sampled: 07-Jan-22 9:10** **Received: 07-Jan-22**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d10-Acenaphthene)	EPA 8270E	% Recovery	85	1			NA		O-34030	07-Feb-22	15-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	86	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	64	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	74	1			NA		O-34030	07-Feb-22	15-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	86	1			NA		O-34030	07-Feb-22	15-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	ND	1	0.084	0.5	NA		O-34030	07-Feb-22	15-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	ND	1	0.076	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	ND	1	0.059	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	ND	1	0.065	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	0.235	1	0.106	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	ND	1	0.078	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	ND	1	0.058	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Anthracene	EPA 8270E	ng/dry g	ND	1	0.046	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	ND	1	0.107	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	ND	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	ND	1	0.063	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	ND	1	0.098	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	ND	1	0.093	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	ND	1	0.111	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Biphenyl	EPA 8270E	ng/dry g	ND	1	0.092	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chrysene	EPA 8270E	ng/dry g	0.146	1	0.067	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	ND	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	0.386	1	0.035	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	ND	1	0.068	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	ND	1	0.087	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Naphthalene	EPA 8270E	ng/dry g	ND	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Perylene	EPA 8270E	ng/dry g	ND	1	0.114	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	0.199	1	0.074	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
Pyrene	EPA 8270E	ng/dry g	3.19	1	0.048	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Polynuclear Aromatic Hydrocarbons

Sample ID: 94873-R1 2021-E2-BRWNFL-01 **Matrix:** Sediment **Sampled:** 07-Jan-22 14:45 **Received:** 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d10-Acenaphthene)	EPA 8270E	% Recovery	88	1			NA		O-34030	07-Feb-22	15-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	91	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	61	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	88	1			NA		O-34030	07-Feb-22	15-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	83	1			NA		O-34030	07-Feb-22	15-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	0.567	1	0.084	0.5	NA		O-34030	07-Feb-22	15-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	3.56	1	0.076	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	0.523	1	0.059	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	0.705	1	0.065	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	1.1	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	1.88	1	0.078	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	0.798	1	0.058	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Anthracene	EPA 8270E	ng/dry g	3.55	1	0.046	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	25.5	1	0.107	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	21.6	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	23	1	0.063	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	15.6	1	0.098	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	21	1	0.093	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	29.9	1	0.111	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Biphenyl	EPA 8270E	ng/dry g	0.337	1	0.092	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
Chrysene	EPA 8270E	ng/dry g	16.1	1	0.067	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	27.8	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	1.45	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	47.1	1	0.035	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	1.45	1	0.068	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	51.3	1	0.087	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Naphthalene	EPA 8270E	ng/dry g	1.07	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Perylene	EPA 8270E	ng/dry g	6.95	1	0.114	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	23.6	1	0.074	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Pyrene	EPA 8270E	ng/dry g	40.3	1	0.048	0.5	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Polynuclear Aromatic Hydrocarbons

Sample ID: 94874-R1   2021-E2-FLDCHNL-01   Matrix: Sediment   Sampled: 07-Jan-22 10:35   Received: 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d10-Acenaphthene)	EPA 8270E	% Recovery	79	1			NA		O-34030	07-Feb-22	14-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	92	1			NA		O-34030	07-Feb-22	14-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	62	1			NA		O-34030	07-Feb-22	14-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	95	1			NA		O-34030	07-Feb-22	14-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	60	1			NA		O-34030	07-Feb-22	14-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	0.592	1	0.084	0.5	NA		O-34030	07-Feb-22	14-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	0.787	1	0.076	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	0.383	1	0.059	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	0.654	1	0.065	0.5	NA		O-34030	07-Feb-22	14-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	1.13	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	ND	1	0.078	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	0.278	1	0.058	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Anthracene	EPA 8270E	ng/dry g	0.506	1	0.046	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	3.7	1	0.107	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	3.89	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	5.4	1	0.063	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	6.06	1	0.098	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	9.34	1	0.093	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	5.98	1	0.111	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Biphenyl	EPA 8270E	ng/dry g	0.738	1	0.092	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Chrysene	EPA 8270E	ng/dry g	3.51	1	0.067	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	10.1	1	0.106	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	8.08	1	0.035	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	0.213	1	0.068	0.5	NA	J	O-34030	07-Feb-22	14-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	15	1	0.087	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Naphthalene	EPA 8270E	ng/dry g	0.695	1	0.187	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Perylene	EPA 8270E	ng/dry g	1.53	1	0.114	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	2.84	1	0.074	0.5	NA		O-34030	07-Feb-22	14-Feb-22
Pyrene	EPA 8270E	ng/dry g	9.55	1	0.048	0.5	NA		O-34030	07-Feb-22	14-Feb-22

Polynuclear Aromatic Hydrocarbons

Sample ID: 94875-R1 **2021-E2-SMGLPILOT-01** **Matrix: Sediment** **Sampled: 07-Jan-22 13:55** **Received: 07-Jan-22**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d10-Acenaphthene)	EPA 8270E	% Recovery	89	1			NA		O-34030	07-Feb-22	15-Feb-22
(d10-Phenanthrene)	EPA 8270E	% Recovery	93	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Chrysene)	EPA 8270E	% Recovery	65	1			NA		O-34030	07-Feb-22	15-Feb-22
(d12-Perylene)	EPA 8270E	% Recovery	92	1			NA		O-34030	07-Feb-22	15-Feb-22
(d8-Naphthalene)	EPA 8270E	% Recovery	80	1			NA		O-34030	07-Feb-22	15-Feb-22
1-Methylnaphthalene	EPA 8270E	ng/dry g	0.819	1	0.084	0.5	NA		O-34030	07-Feb-22	15-Feb-22
1-Methylphenanthrene	EPA 8270E	ng/dry g	0.873	1	0.076	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2,3,5-Trimethylnaphthalene	EPA 8270E	ng/dry g	0.3	1	0.059	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
2,6-Dimethylnaphthalene	EPA 8270E	ng/dry g	0.58	1	0.065	0.5	NA		O-34030	07-Feb-22	15-Feb-22
2-Methylnaphthalene	EPA 8270E	ng/dry g	1.4	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Acenaphthene	EPA 8270E	ng/dry g	ND	1	0.078	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Acenaphthylene	EPA 8270E	ng/dry g	0.339	1	0.058	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
Anthracene	EPA 8270E	ng/dry g	0.729	1	0.046	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benz[a]anthracene	EPA 8270E	ng/dry g	2.81	1	0.107	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[a]pyrene	EPA 8270E	ng/dry g	5.87	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[b]fluoranthene	EPA 8270E	ng/dry g	5.57	1	0.063	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[e]pyrene	EPA 8270E	ng/dry g	15	1	0.098	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[g,h,i]perylene	EPA 8270E	ng/dry g	13.5	1	0.093	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Benzo[k]fluoranthene	EPA 8270E	ng/dry g	4.31	1	0.111	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Biphenyl	EPA 8270E	ng/dry g	3.29	1	0.092	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Chrysene	EPA 8270E	ng/dry g	7.12	1	0.067	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenz[a,h]anthracene	EPA 8270E	ng/dry g	23.1	1	0.106	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Dibenzothiophene	EPA 8270E	ng/dry g	ND	1	0.2	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Fluoranthene	EPA 8270E	ng/dry g	4.69	1	0.035	0.5	NA		O-34030	07-Feb-22	15-Feb-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 8270E	ng/dry g	0.248	1	0.068	0.5	NA	J	O-34030	07-Feb-22	15-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 8270E	ng/dry g	14.7	1	0.087	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Naphthalene	EPA 8270E	ng/dry g	1.71	1	0.187	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Perylene	EPA 8270E	ng/dry g	4.82	1	0.114	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Phenanthrene	EPA 8270E	ng/dry g	2.91	1	0.074	0.5	NA		O-34030	07-Feb-22	15-Feb-22
Pyrene	EPA 8270E	ng/dry g	7.73	1	0.048	0.5	NA		O-34030	07-Feb-22	15-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Pyrethroids

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94871-R1	**2021-E2-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:00**		**Received:**	**07-Jan-22**
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	61	1			NA		O-34030	21-Feb-22	24-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	83	1			NA		O-34030	21-Feb-22	24-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	17.8	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	8.29	1	0.23	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	147	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	12.3	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	11.7	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	21.4	1	0.17	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	27	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Pyrethroids

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94872-R1	**2021-E2-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22**	**9:10**	**Received:**	**07-Jan-22**
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	74	1			NA		O-34030	21-Feb-22	24-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	73	1			NA		O-34030	21-Feb-22	24-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	ND	1	0.23	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	ND	1	0.17	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
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Pyrethroids

Sample ID: 94873-R1 2021-E2-BRWNFL-01 **Matrix: Sediment** **Sampled: 07-Jan-22 14:45** **Received: 07-Jan-22**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	61	1			NA		O-34030	21-Feb-22	24-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	94	1			NA		O-34030	21-Feb-22	24-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	1.37	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	ND	1	0.23	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	ND	1	0.17	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Pyrethroids

Sample ID: 94874-R1 2021-E2-FLDCHNL-01 **Matrix: Sediment** **Sampled:** 07-Jan-22 10:35 **Received:** 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	58	1			NA		O-34030	21-Feb-22	24-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	76	1			NA		O-34030	21-Feb-22	24-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	1.41	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	ND	1	0.23	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	27.7	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	ND	1	0.17	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	24-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	24-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
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PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Pyrethroids

Sample ID: 94875-R1 2021-E2-SMGLPILOT-01 **Matrix: Sediment** **Sampled:** 07-Jan-22 13:55 **Received:** 07-Jan-22

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
(d5-Bifenthrin)	EPA 8270E-MRM	% Recovery	58	1			NA		O-34030	21-Feb-22	25-Feb-22
(d5-Fenvalerate)	EPA 8270E-MRM	% Recovery	87	1			NA		O-34030	21-Feb-22	25-Feb-22
Allethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Bifenthrin	EPA 8270E-MRM	ng/dry g	5.06	1	0.22	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Cyfluthrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Cyhalothrin, Total Lambda	EPA 8270E-MRM	ng/dry g	1.36	1	0.23	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Cypermethrin	EPA 8270E-MRM	ng/dry g	28.6	1	0.25	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Danitol (Fenpropathrin)	EPA 8270E-MRM	ng/dry g	ND	1	0.21	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Deltamethrin/Tralomethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.25	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Esfenvalerate	EPA 8270E-MRM	ng/dry g	3.25	1	0.25	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Fenvalerate	EPA 8270E-MRM	ng/dry g	3	1	0.25	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Permethrin, cis-	EPA 8270E-MRM	ng/dry g	ND	1	0.17	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Permethrin, trans-	EPA 8270E-MRM	ng/dry g	ND	1	0.22	0.5	NA		O-34030	21-Feb-22	25-Feb-22
Prallethrin	EPA 8270E-MRM	ng/dry g	ND	1	0.28	0.5	NA		O-34030	21-Feb-22	25-Feb-22

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Total Extractable Organics

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 94871-R1	**2021-E2-BASINSMGL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:00**		**Received:**	**07-Jan-22**
Oil & Grease	SM 5520 E	mg/dry kg	413	1	100	200	NA		C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	197	1	100	200	NA	J	C-52036	07-Feb-22	08-Feb-22
Sample ID: 94872-R1	**2021-E2-BASINTJRVR-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 9:10**		**Received:**	**07-Jan-22**
Oil & Grease	SM 5520 E	mg/dry kg	ND	1	100	200	NA		C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	ND	1	100	200	NA		C-52036	07-Feb-22	08-Feb-22
Sample ID: 94873-R1	**2021-E2-BRWNFL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 14:45**		**Received:**	**07-Jan-22**
Oil & Grease	SM 5520 E	mg/dry kg	168	1	100	200	NA	J	C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	ND	1	100	200	NA		C-52036	07-Feb-22	08-Feb-22
Sample ID: 94874-R1	**2021-E2-FLDCHNL-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 10:35**		**Received:**	**07-Jan-22**
Oil & Grease	SM 5520 E	mg/dry kg	182	1	100	200	NA	J	C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	756	1	100	200	NA		C-52036	07-Feb-22	08-Feb-22
Sample ID: 94875-R1	**2021-E2-SMGLPILOT-01**		**Matrix: Sediment**				**Sampled:**	**07-Jan-22 13:55**		**Received:**	**07-Jan-22**
Oil & Grease	SM 5520 E	mg/dry kg	646	1	100	200	NA		C-52033	24-Jan-22	26-Jan-22
TRPH	SM 5520 E	mg/dry kg	279	1	100	200	NA		C-52036	07-Feb-22	08-Feb-22

QUALITY CONTROL REPORT

Conventionals

QUALITY CONTROL REPORT

Chloride — **Method:** EPA 300.0 — **Fraction:** NA — **Prepared:** 11-Feb-22 — **Analyzed:** 11-Feb-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94866-B1	QAQC Procedural Blank	C-60135	ND	1	0.01	0.05	mg/dry kg									
94866-BS1	QAQC Procedural Blank	C-60135	48.8	1	0.01	0.05	mg/dry kg	52.7	0	93	90 - 110%	PASS				
94866-BS2	QAQC Procedural Blank	C-60135	49.5	1	0.01	0.05	mg/dry kg	52.7	0	94	90 - 110%	PASS	1	30	PASS	
94871-MS1	2021-E2-BASINSMGL-01	C-60135	67.6	1	0.01	0.05	mg/dry kg	60.1	13.7	90	80 - 120%	PASS				
94871-MS2	2021-E2-BASINSMGL-01	C-60135	67.8	1	0.01	0.05	mg/dry kg	60.1	13.7	90	80 - 120%	PASS	0	30	PASS	
94871-R2	2021-E2-BASINSMGL-01	C-60135	13.7	1	0.01	0.05	mg/dry kg						0	30	PASS	

Dissolved Sulfides — **Method:** Plumb, 1981 and TERL — **Fraction:** NA — **Prepared:** 25-Feb-22 — **Analyzed:** 25-Feb-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94866-B1	QAQC Procedural Blank	C-63081	ND	1	0.2	0.4	mg/dry kg									
94866-BS1	QAQC Procedural Blank	C-63081	0.976	1	0.2	0.4	mg/dry kg	1.06	0	92	44 - 132%	PASS				
94866-BS2	QAQC Procedural Blank	C-63081	1.07	1	0.2	0.4	mg/dry kg	1.06	0	101	44 - 132%	PASS	9	30	PASS	

Nitrate as N — **Method:** EPA 300.0 — **Fraction:** NA — **Prepared:** 07-Jan-22 — **Analyzed:** 07-Jan-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94870-B1	QAQC Procedural Blank	C-60123	ND	1	0.01	0.05	mg/L									
94870-BS1	QAQC Procedural Blank	C-60123	49.5	1	0.01	0.05	mg/L	52.7	0	94	90 - 110%	PASS				
94870-BS2	QAQC Procedural Blank	C-60123	50.3	1	0.01	0.05	mg/L	52.7	0	95	90 - 110%	PASS	1	30	PASS	
94876-MS1	2021-E2-EQUIPBLANK_NUTRIENTS	C-60123	4.76	1	0.01	0.05	mg/L	5	0	95	80 - 120%	PASS				
94876-MS2	2021-E2-EQUIPBLANK_NUTRIENTS	C-60123	4.67	1	0.01	0.05	mg/L	5	0	93	80 - 120%	PASS	2	30	PASS	
94876-R2	2021-E2-EQUIPBLANK_NUTRIENTS	C-60123	ND	1	0.01	0.05	mg/L						0	30	PASS	
94866-B1	QAQC Procedural Blank	C-60135	ND	1	0.01	0.05	mg/dry kg									
94866-BS1	QAQC Procedural Blank	C-60135	49.5	1	0.01	0.05	mg/dry kg	52.7	0	94	90 - 110%	PASS				
94866-BS2	QAQC Procedural Blank	C-60135	50.3	1	0.01	0.05	mg/dry kg	52.7	0	95	90 - 110%	PASS	1	30	PASS	

Conventionals

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94871-MS1	2021-E2-BASINSMGL-01	C-60135	55.7	1	0.01	0.05	mg/dry kg	50.3	11	89	80 - 120%	PASS				
94871-MS2	2021-E2-BASINSMGL-01	C-60135	55.8	1	0.01	0.05	mg/dry kg	50.3	11	89	80 - 120%	PASS	0	30	PASS	
94871-R2	2021-E2-BASINSMGL-01	C-60135	11	1	0.01	0.05	mg/dry kg						0	30	PASS	

Nitrite as N Method: EPA 300.0 Fraction: NA Prepared: 07-Jan-22 Analyzed: 07-Jan-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94870-B1	QAQC Procedural Blank	C-60123	ND	1	0.01	0.03	mg/L									
94870-BS1	QAQC Procedural Blank	C-60123	14.9	1	0.01	0.03	mg/L	15.8	0	94	90 - 110%	PASS				
94870-BS2	QAQC Procedural Blank	C-60123	14.4	1	0.01	0.03	mg/L	15.8	0	91	90 - 110%	PASS	3	30	PASS	
94876-MS1	2021-E2-EQUIPBLANK_NUTRIENTS	C-60123	1.56	1	0.01	0.03	mg/L	1.5	0	104	80 - 120%	PASS				
94876-MS2	2021-E2-EQUIPBLANK_NUTRIENTS	C-60123	1.56	1	0.01	0.03	mg/L	1.5	0	104	80 - 120%	PASS	0	30	PASS	
94876-R2	2021-E2-EQUIPBLANK_NUTRIENTS	C-60123	ND	1	0.01	0.03	mg/L						0	30	PASS	
94866-B1	QAQC Procedural Blank	C-60135	ND	1	0.01	0.05	mg/dry kg									
94866-BS1	QAQC Procedural Blank	C-60135	14.9	1	0.01	0.05	mg/dry kg	15.8	0	94	90 - 110%	PASS				
94866-BS2	QAQC Procedural Blank	C-60135	14.4	1	0.01	0.05	mg/dry kg	15.8	0	91	90 - 110%	PASS	3	30	PASS	
94871-MS1	2021-E2-BASINSMGL-01	C-60135	17.4	1	0.01	0.05	mg/dry kg	18	0	97	80 - 120%	PASS				
94871-MS2	2021-E2-BASINSMGL-01	C-60135	17.5	1	0.01	0.05	mg/dry kg	18	0	97	80 - 120%	PASS	0	30	PASS	
94871-R2	2021-E2-BASINSMGL-01	C-60135	ND	1	0.01	0.05	mg/dry kg						0	30	PASS	

Percent Solids Method: SM 2540 B Fraction: NA Prepared: 24-Jan-22 Analyzed: 26-Jan-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94866-B1	QAQC Procedural Blank	C-64004	ND	1	0.1	0.1	%									
94872-R2	2021-E2-BASINTJRVR-01	C-64004	94.9	1	0.1	0.1	%						1	30	PASS	

Sulfate Method: EPA 300.0 Fraction: NA Prepared: 07-Jan-22 Analyzed: 07-Jan-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94870-B1	QAQC Procedural Blank	C-60123	ND	1	0.01	0.05	mg/L									
94870-BS1	QAQC Procedural Blank	C-60123	48.1	1	0.01	0.05	mg/L	52.7	0	91	90 - 110%	PASS				
94870-BS2	QAQC Procedural Blank	C-60123	48.9	1	0.01	0.05	mg/L	52.7	0	93	90 - 110%	PASS	2	30	PASS	

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
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PHYSIS Project ID: 2109001-002
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Project: Tijuana River Sediment Management Monitoring Prog

Conventionals

QUALITY CONTROL REPORT

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94876-MS1	2021-E2-EQUIPBLANK_NUTRIENTS	C-60123	4.69	1	0.01	0.05	mg/L	5	0	94	80 - 120%	PASS				
94876-MS2	2021-E2-EQUIPBLANK_NUTRIENTS	C-60123	4.61	1	0.01	0.05	mg/L	5	0	92	80 - 120%	PASS	2	30	PASS	
94876-R2	2021-E2-EQUIPBLANK_NUTRIENTS	C-60123	ND	1	0.01	0.05	mg/L						0	30	PASS	
94866-B1	QAQC Procedural Blank	C-60135	ND	1	0.01	0.05	mg/dry kg									
94866-BS1	QAQC Procedural Blank	C-60135	48.1	1	0.01	0.05	mg/dry kg	52.7	0	91	90 - 110%	PASS				
94866-BS2	QAQC Procedural Blank	C-60135	48.9	1	0.01	0.05	mg/dry kg	52.7	0	93	90 - 110%	PASS	2	30	PASS	
94871-MS1	2021-E2-BASINSMGL-01	C-60135	179	1	0.01	0.05	mg/dry kg	60.1	123	93	80 - 120%	PASS				
94871-MS2	2021-E2-BASINSMGL-01	C-60135	179	1	0.01	0.05	mg/dry kg	60.1	123	93	80 - 120%	PASS	0	30	PASS	
94871-R2	2021-E2-BASINSMGL-01	C-60135	123	1	0.01	0.05	mg/dry kg						0	30	PASS	

Total Alkalinity **Method:** SM 2320 B **Fraction:** NA **Prepared:** 28-Feb-22 **Analyzed:** 28-Feb-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94866-BS1	QAQC Procedural Blank	C-60140	506	1	1	5	mg/dry kg	550	0	92	70 - 130%	PASS				
94866-BS2	QAQC Procedural Blank	C-60140	501	1	1	5	mg/dry kg	550	0	91	70 - 130%	PASS	1	30	PASS	

Total Organic Carbon **Method:** EPA 9060 **Fraction:** NA **Prepared:** 26-Jan-22 **Analyzed:** 31-Jan-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94866-B1	QAQC Procedural Blank	C-36012	ND	1	0.01	0.01	% dry weight									
94868-CRM1	QAQC CRM - SRM 1944	C-36012	3.95	1	0.01	0.01	% dry weight	4.4		90	80 - 120%	PASS				

Total Sulfides **Method:** Plumb, 1981 and TERL **Fraction:** NA **Prepared:** 25-Feb-22 **Analyzed:** 25-Feb-22

SAMPLE ID		BATCH ID	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
94866-B1	QAQC Procedural Blank	C-63082	ND	1	0.2	0.4	mg/dry kg									
94866-BS1	QAQC Procedural Blank	C-63082	2.36	1	0.2	0.4	mg/dry kg	2.36	0	100	66 - 116%	PASS				
94866-BS2	QAQC Procedural Blank	C-63082	2.29	1	0.2	0.4	mg/dry kg	2.36	0	97	66 - 116%	PASS	3	30	PASS	

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Acid Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 94866-B1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
(2,4,6-Tribromophenol)	NA	111	1			% Recovery	100		111	0 - 130%	PASS		
(d5-Phenol)	NA	110	1			% Recovery	100		110	0 - 130%	PASS		
2,3,4,6-Tetrachlorophenol	NA	ND	1	50	100	ng/dry g							
2,4,5-Trichlorophenol	NA	ND	1	50	100	ng/dry g							
2,4,6-Trichlorophenol	NA	ND	1	50	100	ng/dry g							
2,4-Dichlorophenol	NA	ND	1	50	100	ng/dry g							
2,4-Dimethylphenol	NA	ND	1	100	200	ng/dry g							
2,4-Dinitrophenol	NA	ND	1	100	200	ng/dry g							
2,6-Dichlorophenol	NA	ND	1	50	100	ng/dry g							
2-Chlorophenol	NA	ND	1	50	100	ng/dry g							
2-Methyl-4,6-dinitrophenol	NA	ND	1	100	200	ng/dry g							
2-Methylphenol	NA	ND	1	100	200	ng/dry g							
2-Nitrophenol	NA	ND	1	100	200	ng/dry g							
3+4-Methylphenol	NA	ND	1	100	200	ng/dry g							
4-Chloro-3-methylphenol	NA	ND	1	100	200	ng/dry g							
4-Nitrophenol	NA	ND	1	100	200	ng/dry g							
Pentachlorophenol	NA	ND	1	50	100	ng/dry g							
Phenol	NA	ND	1	100	200	ng/dry g							

Acid Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 94866-BS1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(2,4,6-Tribromophenol)	NA	114	1			% Recovery	100	0	114	0 - 130%	PASS			
(d5-Phenol)	NA	91	1			% Recovery	100	0	91	0 - 130%	PASS			
2,3,4,6-Tetrachlorophenol	NA	701	1	50	100	ng/dry g	1000	0	70	30 - 130%	PASS			
2,4,5-Trichlorophenol	NA	928	1	50	100	ng/dry g	1000	0	93	30 - 130%	PASS			
2,4,6-Trichlorophenol	NA	501	1	50	100	ng/dry g	1000	0	50	0 - 130%	PASS			
2,4-Dichlorophenol	NA	677	1	50	100	ng/dry g	1000	0	68	0 - 130%	PASS			
2,4-Dimethylphenol	NA	233	1	100	200	ng/dry g	1000	0	23	0 - 130%	PASS			
2,4-Dinitrophenol	NA	861	1	100	200	ng/dry g	1000	0	86	0 - 130%	PASS			
2,6-Dichlorophenol	NA	330	1	50	100	ng/dry g	1000	0	33	30 - 130%	PASS			
2-Chlorophenol	NA	543	1	50	100	ng/dry g	1000	0	54	30 - 130%	PASS			
2-Methyl-4,6-dinitrophenol	NA	532	1	100	200	ng/dry g	1000	0	53	0 - 130%	PASS			
2-Methylphenol	NA	473	1	100	200	ng/dry g	1000	0	47	0 - 130%	PASS			
2-Nitrophenol	NA	898	1	100	200	ng/dry g	1000	0	90	0 - 130%	PASS			
3+4-Methylphenol	NA	227	1	100	200	ng/dry g	1000	0	23	0 - 130%	PASS			
4-Chloro-3-methylphenol	NA	1060	1	100	200	ng/dry g	1000	0	106	0 - 130%	PASS			
4-Nitrophenol	NA	962	1	100	200	ng/dry g	1000	0	96	0 - 130%	PASS			
Pentachlorophenol	NA	746	1	50	100	ng/dry g	1000	0	75	0 - 130%	PASS			
Phenol	NA	364	1	100	200	ng/dry g	1000	0	36	0 - 130%	PASS			

Acid Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 94866-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(2,4,6-Tribromophenol)	NA	98	1			% Recovery	100	0	98	0 - 130%	PASS	15	30	PASS
(d5-Phenol)	NA	94	1			% Recovery	100	0	94	0 - 130%	PASS	3	30	PASS
2,3,4,6-Tetrachlorophenol	NA	641	1	50	100	ng/dry g	1000	0	64	30 - 130%	PASS	9	30	PASS
2,4,5-Trichlorophenol	NA	880	1	50	100	ng/dry g	1000	0	88	30 - 130%	PASS	6	30	PASS
2,4,6-Trichlorophenol	NA	417	1	50	100	ng/dry g	1000	0	42	0 - 130%	PASS	17	30	PASS
2,4-Dichlorophenol	NA	591	1	50	100	ng/dry g	1000	0	59	0 - 130%	PASS	14	30	PASS
2,4-Dimethylphenol	NA	259	1	100	200	ng/dry g	1000	0	26	0 - 130%	PASS	12	30	PASS
2,4-Dinitrophenol	NA	751	1	100	200	ng/dry g	1000	0	75	0 - 130%	PASS	14	30	PASS
2,6-Dichlorophenol	NA	392	1	50	100	ng/dry g	1000	0	39	30 - 130%	PASS	17	30	PASS
2-Chlorophenol	NA	577	1	50	100	ng/dry g	1000	0	58	30 - 130%	PASS	7	30	PASS
2-Methyl-4,6-dinitrophenol	NA	497	1	100	200	ng/dry g	1000	0	50	0 - 130%	PASS	6	30	PASS
2-Methylphenol	NA	472	1	100	200	ng/dry g	1000	0	47	0 - 130%	PASS	0	30	PASS
2-Nitrophenol	NA	955	1	100	200	ng/dry g	1000	0	95	0 - 130%	PASS	6	30	PASS
3+4-Methylphenol	NA	257	1	100	200	ng/dry g	1000	0	26	0 - 130%	PASS	12	30	PASS
4-Chloro-3-methylphenol	NA	1110	1	100	200	ng/dry g	1000	0	111	0 - 130%	PASS	5	30	PASS
4-Nitrophenol	NA	1170	1	100	200	ng/dry g	1000	0	117	0 - 130%	PASS	20	30	PASS
Pentachlorophenol	NA	738	1	50	100	ng/dry g	1000	0	74	0 - 130%	PASS	1	30	PASS
Phenol	NA	360	1	100	200	ng/dry g	1000	0	36	0 - 130%	PASS	0	30	PASS

Acid Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 94874-MS1 **2021-E2-FLDCHNL-01** **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(2,4,6-Tribromophenol)	NA	71	1			% Recovery	100	0	71	0 - 98%	PASS			
(d5-Phenol)	NA	48	1			% Recovery	100	0	48	0 - 66%	PASS			
2,3,4,6-Tetrachlorophenol	NA	622	1	50	100	ng/dry g	1000	0	62	30 - 130%	PASS			
2,4,5-Trichlorophenol	NA	667	1	50	100	ng/dry g	1000	0	67	30 - 130%	PASS			
2,4,6-Trichlorophenol	NA	510	1	50	100	ng/dry g	1000	0	51	0 - 130%	PASS			
2,4-Dichlorophenol	NA	279	1	50	100	ng/dry g	1000	0	28	0 - 130%	PASS			
2,4-Dimethylphenol	NA	103	1	100	200	ng/dry g	1000	0	10	0 - 130%	PASS			
2,4-Dinitrophenol	NA	455	1	100	200	ng/dry g	1000	0	46	0 - 130%	PASS			
2,6-Dichlorophenol	NA	328	1	50	100	ng/dry g	1000	0	33	30 - 130%	PASS			
2-Chlorophenol	NA	370	1	50	100	ng/dry g	1000	0	37	30 - 130%	PASS			
2-Methyl-4,6-dinitrophenol	NA	864	1	100	200	ng/dry g	1000	0	86	0 - 130%	PASS			
2-Methylphenol	NA	421	1	100	200	ng/dry g	1000	0	42	0 - 130%	PASS			
2-Nitrophenol	NA	679	1	100	200	ng/dry g	1000	0	68	0 - 130%	PASS			
3+4-Methylphenol	NA	116	1	100	200	ng/dry g	1000	0	12	0 - 130%	PASS			
4-Chloro-3-methylphenol	NA	896	1	100	200	ng/dry g	1000	0	90	0 - 130%	PASS			
4-Nitrophenol	NA	682	1	100	200	ng/dry g	1000	0	68	0 - 130%	PASS			
Pentachlorophenol	NA	753	1	50	100	ng/dry g	1000	0	75	0 - 130%	PASS			
Phenol	NA	237	1	100	200	ng/dry g	1000	0	24	0 - 130%	PASS			

Acid Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 94874-MS2 2021-E2-FLDCHNL-01 Matrix: Sediment Sampled: 07-Jan-22 10:35 Received: 07-Jan-22

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
(2,4,6-Tribromophenol)	NA	58	1			% Recovery	100	0	58	0 - 98%	PASS	20	30	PASS	
(d5-Phenol)	NA	49	1			% Recovery	100	0	49	0 - 66%	PASS	2	30	PASS	
2,3,4,6-Tetrachlorophenol	NA	589	1	50	100	ng/dry g	1000	0	59	30 - 130%	PASS	5	30	PASS	
2,4,5-Trichlorophenol	NA	769	1	50	100	ng/dry g	1000	0	77	30 - 130%	PASS	14	30	PASS	
2,4,6-Trichlorophenol	NA	537	1	50	100	ng/dry g	1000	0	54	0 - 130%	PASS	6	30	PASS	
2,4-Dichlorophenol	NA	260	1	50	100	ng/dry g	1000	0	26	0 - 130%	PASS	7	30	PASS	
2,4-Dimethylphenol	NA	101	1	100	200	ng/dry g	1000	0	10	0 - 130%	PASS	0	30	PASS	
2,4-Dinitrophenol	NA	497	1	100	200	ng/dry g	1000	0	50	0 - 130%	PASS	8	30	PASS	
2,6-Dichlorophenol	NA	401	1	50	100	ng/dry g	1000	0	40	30 - 130%	PASS	19	30	PASS	
2-Chlorophenol	NA	329	1	50	100	ng/dry g	1000	0	33	30 - 130%	PASS	11	30	PASS	
2-Methyl-4,6-dinitrophenol	NA	894	1	100	200	ng/dry g	1000	0	89	0 - 130%	PASS	3	30	PASS	
2-Methylphenol	NA	423	1	100	200	ng/dry g	1000	0	42	0 - 130%	PASS	0	30	PASS	
2-Nitrophenol	NA	780	1	100	200	ng/dry g	1000	0	78	0 - 130%	PASS	14	30	PASS	
3+4-Methylphenol	NA	120	1	100	200	ng/dry g	1000	0	12	0 - 130%	PASS	0	30	PASS	
4-Chloro-3-methylphenol	NA	1060	1	100	200	ng/dry g	1000	0	106	0 - 130%	PASS	16	30	PASS	
4-Nitrophenol	NA	677	1	100	200	ng/dry g	1000	0	68	0 - 130%	PASS	0	30	PASS	
Pentachlorophenol	NA	718	1	50	100	ng/dry g	1000	0	72	0 - 130%	PASS	4	30	PASS	
Phenol	NA	213	1	100	200	ng/dry g	1000	0	21	0 - 130%	PASS	13	30	PASS	

Acid Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 94874-R2 2021-E2-FLDCHNL-01 Matrix: Sediment Sampled: 07-Jan-22 10:35 Received: 07-Jan-22

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(2,4,6-Tribromophenol)	NA	52	1			% Recovery	100		52	0 - 98%	PASS	2	30	PASS
(d5-Phenol)	NA	23	1			% Recovery	100		23	0 - 66%	PASS	12	30	PASS
2,3,4,6-Tetrachlorophenol	NA	ND	1	50	100	ng/dry g						0	30	PASS
2,4,5-Trichlorophenol	NA	ND	1	50	100	ng/dry g						0	30	PASS
2,4,6-Trichlorophenol	NA	ND	1	50	100	ng/dry g						0	30	PASS
2,4-Dichlorophenol	NA	ND	1	50	100	ng/dry g						0	30	PASS
2,4-Dimethylphenol	NA	ND	1	100	200	ng/dry g						0	30	PASS
2,4-Dinitrophenol	NA	ND	1	100	200	ng/dry g						0	30	PASS
2,6-Dichlorophenol	NA	ND	1	50	100	ng/dry g						0	30	PASS
2-Chlorophenol	NA	ND	1	50	100	ng/dry g						0	30	PASS
2-Methyl-4,6-dinitrophenol	NA	ND	1	100	200	ng/dry g						0	30	PASS
2-Methylphenol	NA	ND	1	100	200	ng/dry g						0	30	PASS
2-Nitrophenol	NA	ND	1	100	200	ng/dry g						0	30	PASS
3+4-Methylphenol	NA	ND	1	100	200	ng/dry g						0	30	PASS
4-Chloro-3-methylphenol	NA	ND	1	100	200	ng/dry g						0	30	PASS
4-Nitrophenol	NA	ND	1	100	200	ng/dry g						0	30	PASS
Pentachlorophenol	NA	ND	1	50	100	ng/dry g						0	30	PASS
Phenol	NA	ND	1	100	200	ng/dry g						0	30	PASS

Base/Neutral Extractable Compounds — QUALITY CONTROL REPORT

Sample ID: 94866-B1 — **QAQC Procedural Blank** — **Matrix: BlankMatrix** — **Sampled:** — **Received:**

Method: EPA 8270E — Batch ID: O-34030 — Prepared: 07-Feb-22 — Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
1,2,4-Trichlorobenzene	NA	ND	1	10	50	ng/dry g							
1,2-Dichlorobenzene	NA	ND	1	10	50	ng/dry g							
1,3-Dichlorobenzene	NA	ND	1	10	50	ng/dry g							
1,4-Dichlorobenzene	NA	ND	1	10	50	ng/dry g							
2,4-Dinitrotoluene	NA	ND	1	50	100	ng/dry g							
2,6-Dinitrotoluene	NA	ND	1	50	100	ng/dry g							
2-Chloronaphthalene	NA	ND	1	50	100	ng/dry g							
2-Nitroaniline	NA	ND	1	50	100	ng/dry g							
3,3'-Dichlorobenzidine	NA	ND	1	50	100	ng/dry g							
3-Nitroaniline	NA	ND	1	50	100	ng/dry g							
4-Bromophenylphenyl ether	NA	ND	1	50	100	ng/dry g							
4-Chlorophenylphenyl ether	NA	ND	1	50	100	ng/dry g							
4-Nitroaniline	NA	ND	1	50	100	ng/dry g							
Azobenzene	NA	ND	1	50	100	ng/dry g							
Benzidine	NA	ND	1	50	100	ng/dry g							
Benzylbutyl Phthalate	NA	233	1	10	20	ng/dry g							
Bis(2-Chloroethoxy) methane	NA	ND	1	50	100	ng/dry g							
Bis(2-Chloroethyl) ether	NA	ND	1	50	100	ng/dry g							
Bis(2-Chloroisopropyl) ether	NA	ND	1	50	100	ng/dry g							
Bis(2-Ethylhexyl) Phthalate	NA	68.7	1	10	20	ng/dry g							
Dibutyl Phthalate	NA	79.2	1	10	20	ng/dry g							
Diethyl Phthalate	NA	46.3	1	10	20	ng/dry g							
Dimethyl Phthalate	NA	ND	1	10	20	ng/dry g							

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Di-n-octyl Phthalate	NA	ND	1	10	20	ng/dry g							
Hexachlorobutadiene	NA	ND	1	50	100	ng/dry g							
Hexachlorocyclopentadiene	NA	ND	1	50	100	ng/dry g							
Hexachloroethane	NA	ND	1	50	100	ng/dry g							
Isophorone	NA	ND	1	50	100	ng/dry g							
Nitrobenzene	NA	ND	1	50	100	ng/dry g							
N-Nitrosodimethylamine	NA	ND	1	50	100	ng/dry g							
N-Nitrosodi-n-propylamine	NA	ND	1	50	100	ng/dry g							
N-Nitrosodiphenylamine	NA	ND	1	50	100	ng/dry g							
Pyridine	NA	ND	1	50	100	ng/dry g							

Base/Neutral Extractable Compounds — QUALITY CONTROL REPORT

Sample ID: 94866-BS1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
1,2,4-Trichlorobenzene	NA	665	1	10	50	ng/dry g	1000	0	67	50 - 150% PASS			
1,2-Dichlorobenzene	NA	597	1	10	50	ng/dry g	1000	0	60	50 - 150% PASS			
1,3-Dichlorobenzene	NA	566	1	10	50	ng/dry g	1000	0	57	50 - 150% PASS			
1,4-Dichlorobenzene	NA	570	1	10	50	ng/dry g	1000	0	57	50 - 150% PASS			
2,4-Dinitrotoluene	NA	1290	1	50	100	ng/dry g	1000	0	129	50 - 150% PASS			
2,6-Dinitrotoluene	NA	1170	1	50	100	ng/dry g	1000	0	117	50 - 150% PASS			
2-Chloronaphthalene	NA	737	1	50	100	ng/dry g	1000	0	74	50 - 150% PASS			
2-Nitroaniline	NA	1300	1	50	100	ng/dry g	2000	0	65	0 - 125% PASS			
3,3'-Dichlorobenzidine	NA	410	1	50	100	ng/dry g	1000	0	41	0 - 125% PASS			
3-Nitroaniline	NA	892	1	50	100	ng/dry g	1000	0	89	0 - 125% PASS			
4-Bromophenylphenyl ether	NA	937	1	50	100	ng/dry g	1000	0	94	50 - 150% PASS			
4-Chlorophenylphenyl ether	NA	840	1	50	100	ng/dry g	1000	0	84	50 - 150% PASS			
4-Nitroaniline	NA	953	1	50	100	ng/dry g	1000	0	95	0 - 125% PASS			
Azobenzene	NA	785	1	50	100	ng/dry g	1000	0	79	50 - 150% PASS			
Benzidine	NA	737	1	50	100	ng/dry g	1000	0	74	0 - 125% PASS			
Benzylbutyl Phthalate	NA	1470	1	10	20	ng/dry g	1000	233	124	50 - 150% PASS			
Bis(2-Chloroethoxy) methane	NA	723	1	50	100	ng/dry g	1000	0	72	50 - 150% PASS			
Bis(2-Chloroethyl) ether	NA	677	1	50	100	ng/dry g	1000	0	68	50 - 150% PASS			
Bis(2-Chloroisopropyl) ether	NA	678	1	50	100	ng/dry g	1000	0	68	50 - 150% PASS			
Bis(2-Ethylhexyl) Phthalate	NA	1140	1	10	20	ng/dry g	1000	68.7	107	50 - 150% PASS			
Dibutyl Phthalate	NA	837	1	10	20	ng/dry g	1000	79.2	76	50 - 150% PASS			
Diethyl Phthalate	NA	1030	1	10	20	ng/dry g	1000	46.3	98	50 - 150% PASS			
Dimethyl Phthalate	NA	896	1	10	20	ng/dry g	1000	0	90	50 - 150% PASS			

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Di-n-octyl Phthalate	NA	865	1	10	20	ng/dry g	1000	0	87	50 - 150%	PASS			
Hexachlorobutadiene	NA	743	1	50	100	ng/dry g	1000	0	74	50 - 150%	PASS			
Hexachlorocyclopentadiene	NA	651	1	50	100	ng/dry g	1000	0	65	50 - 150%	PASS			
Hexachloroethane	NA	649	1	50	100	ng/dry g	1000	0	65	50 - 150%	PASS			
Isophorone	NA	949	1	50	100	ng/dry g	1000	0	95	50 - 150%	PASS			
Nitrobenzene	NA	711	1	50	100	ng/dry g	1000	0	71	50 - 150%	PASS			
N-Nitrosodimethylamine	NA	1170	1	50	100	ng/dry g	1000	0	117	50 - 150%	PASS			
N-Nitrosodi-n-propylamine	NA	796	1	50	100	ng/dry g	1000	0	80	50 - 150%	PASS			
N-Nitrosodiphenylamine	NA	526	1	50	100	ng/dry g	1000	0	53	50 - 150%	PASS			
Pyridine	NA	1480	1	50	100	ng/dry g	1000	0	148	50 - 150%	PASS			

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Base/Neutral Extractable Compounds — QUALITY CONTROL REPORT

Sample ID: 94866-BS2 — **QAQC Procedural Blank** — **Matrix: BlankMatrix** — **Sampled:** — **Received:**

Method: EPA 8270E — Batch ID: O-34030 — Prepared: 07-Feb-22 — Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
1,2,4-Trichlorobenzene	NA	711	1	10	50	ng/dry g	1000	0	71	50 - 150%	PASS	7	30	PASS
1,2-Dichlorobenzene	NA	654	1	10	50	ng/dry g	1000	0	65	50 - 150%	PASS	8	30	PASS
1,3-Dichlorobenzene	NA	637	1	10	50	ng/dry g	1000	0	64	50 - 150%	PASS	12	30	PASS
1,4-Dichlorobenzene	NA	639	1	10	50	ng/dry g	1000	0	64	50 - 150%	PASS	12	30	PASS
2,4-Dinitrotoluene	NA	1230	1	50	100	ng/dry g	1000	0	123	50 - 150%	PASS	5	30	PASS
2,6-Dinitrotoluene	NA	1160	1	50	100	ng/dry g	1000	0	116	50 - 150%	PASS	1	30	PASS
2-Chloronaphthalene	NA	759	1	50	100	ng/dry g	1000	0	76	50 - 150%	PASS	3	30	PASS
2-Nitroaniline	NA	1260	1	50	100	ng/dry g	2000	0	63	0 - 125%	PASS	3	30	PASS
3,3'-Dichlorobenzidine	NA	420	1	50	100	ng/dry g	1000	0	42	0 - 125%	PASS	2	30	PASS
3-Nitroaniline	NA	777	1	50	100	ng/dry g	1000	0	78	0 - 125%	PASS	13	30	PASS
4-Bromophenylphenyl ether	NA	933	1	50	100	ng/dry g	1000	0	93	50 - 150%	PASS	1	30	PASS
4-Chlorophenylphenyl ether	NA	840	1	50	100	ng/dry g	1000	0	84	50 - 150%	PASS	0	30	PASS
4-Nitroaniline	NA	807	1	50	100	ng/dry g	1000	0	81	0 - 125%	PASS	16	30	PASS
Azobenzene	NA	710	1	50	100	ng/dry g	1000	0	71	50 - 150%	PASS	9	30	PASS
Benzidine	NA	649	1	50	100	ng/dry g	1000	0	65	0 - 125%	PASS	13	30	PASS
Benzylbutyl Phthalate	NA	1530	1	10	20	ng/dry g	1000	233	130	50 - 150%	PASS	5	30	PASS
Bis(2-Chloroethoxy) methane	NA	761	1	50	100	ng/dry g	1000	0	76	50 - 150%	PASS	5	30	PASS
Bis(2-Chloroethyl) ether	NA	678	1	50	100	ng/dry g	1000	0	68	50 - 150%	PASS	0	30	PASS
Bis(2-Chloroisopropyl) ether	NA	735	1	50	100	ng/dry g	1000	0	74	50 - 150%	PASS	8	30	PASS
Bis(2-Ethylhexyl) Phthalate	NA	1120	1	10	20	ng/dry g	1000	68.7	105	50 - 150%	PASS	2	30	PASS
Dibutyl Phthalate	NA	960	1	10	20	ng/dry g	1000	79.2	88	50 - 150%	PASS	15	30	PASS
Diethyl Phthalate	NA	1040	1	10	20	ng/dry g	1000	46.3	99	50 - 150%	PASS	1	30	PASS
Dimethyl Phthalate	NA	916	1	10	20	ng/dry g	1000	0	92	50 - 150%	PASS	2	30	PASS

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Di-n-octyl Phthalate	NA	883	1	10	20	ng/dry g	1000	0	88	50 - 150%	PASS	2	30	PASS	
Hexachlorobutadiene	NA	764	1	50	100	ng/dry g	1000	0	76	50 - 150%	PASS	3	30	PASS	
Hexachlorocyclopentadiene	NA	643	1	50	100	ng/dry g	1000	0	64	50 - 150%	PASS	2	30	PASS	
Hexachloroethane	NA	714	1	50	100	ng/dry g	1000	0	71	50 - 150%	PASS	9	30	PASS	
Isophorone	NA	993	1	50	100	ng/dry g	1000	0	99	50 - 150%	PASS	4	30	PASS	
Nitrobenzene	NA	767	1	50	100	ng/dry g	1000	0	77	50 - 150%	PASS	8	30	PASS	
N-Nitrosodimethylamine	NA	1100	1	50	100	ng/dry g	1000	0	110	50 - 150%	PASS	6	30	PASS	
N-Nitrosodi-n-propylamine	NA	835	1	50	100	ng/dry g	1000	0	83	50 - 150%	PASS	5	30	PASS	
N-Nitrosodiphenylamine	NA	603	1	50	100	ng/dry g	1000	0	60	50 - 150%	PASS	12	30	PASS	
Pyridine	NA	1500	1	50	100	ng/dry g	1000	0	150	50 - 150%	PASS	1	30	PASS	

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 94874-MS1 **2021-E2-FLDCHNL-01** **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
1,2,4-Trichlorobenzene	NA	496	1	10	50	ng/dry g	1000	0	50	50 - 150%	PASS			
1,2-Dichlorobenzene	NA	592	1	10	50	ng/dry g	1000	0	59	50 - 150%	PASS			
1,3-Dichlorobenzene	NA	675	1	10	50	ng/dry g	1000	0	68	50 - 150%	PASS			
1,4-Dichlorobenzene	NA	690	1	10	50	ng/dry g	1000	0	69	50 - 150%	PASS			
2,4-Dinitrotoluene	NA	1190	1	50	100	ng/dry g	1000	0	119	50 - 150%	PASS			
2,6-Dinitrotoluene	NA	1210	1	50	100	ng/dry g	1000	0	121	50 - 150%	PASS			
2-Chloronaphthalene	NA	651	1	50	100	ng/dry g	1000	0	65	50 - 150%	PASS			
2-Nitroaniline	NA	917	1	50	100	ng/dry g	1000	0	92	0 - 125%	PASS			
3,3'-Dichlorobenzidine	NA	317	1	50	100	ng/dry g	1000	0	32	0 - 125%	PASS			
3-Nitroaniline	NA	271	1	50	100	ng/dry g	1000	0	27	0 - 125%	PASS			
4-Bromophenylphenyl ether	NA	915	1	50	100	ng/dry g	1000	0	92	50 - 150%	PASS			
4-Chlorophenylphenyl ether	NA	776	1	50	100	ng/dry g	1000	0	78	50 - 150%	PASS			
4-Nitroaniline	NA	239	1	50	100	ng/dry g	1000	0	24	0 - 125%	PASS			
Azobenzene	NA	807	1	50	100	ng/dry g	1000	0	81	50 - 150%	PASS			
Benzidine	NA	706	1	50	100	ng/dry g	1000	0	71	0 - 125%	PASS			
Benzylbutyl Phthalate	NA	1060	1	10	20	ng/dry g	1000	76.2	98	50 - 150%	PASS			
Bis(2-Chloroethoxy) methane	NA	571	1	50	100	ng/dry g	1000	0	57	50 - 150%	PASS			
Bis(2-Chloroethyl) ether	NA	522	1	50	100	ng/dry g	1000	0	52	50 - 150%	PASS			
Bis(2-Chloroisopropyl) ether	NA	565	1	50	100	ng/dry g	1000	0	56	50 - 150%	PASS			
Bis(2-Ethylhexyl) Phthalate	NA	1470	1	10	20	ng/dry g	1000	437	103	50 - 150%	PASS			
Dibutyl Phthalate	NA	1170	1	10	20	ng/dry g	1000	35	113	50 - 150%	PASS			
Diethyl Phthalate	NA	987	1	10	20	ng/dry g	1000	0	99	50 - 150%	PASS			
Dimethyl Phthalate	NA	835	1	10	20	ng/dry g	1000	0	83	50 - 150%	PASS			

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Di-n-octyl Phthalate	NA	879	1	10	20	ng/dry g	1000	0	88	50 - 150%	PASS			
Hexachlorobutadiene	NA	698	1	50	100	ng/dry g	1000	0	70	50 - 150%	PASS			
Hexachlorocyclopentadiene	NA	210	1	50	100	ng/dry g	1000	0	21	50 - 150%	FAIL			M
Hexachloroethane	NA	518	1	50	100	ng/dry g	1000	0	52	50 - 150%	PASS			
Isophorone	NA	736	1	50	100	ng/dry g	1000	0	74	50 - 150%	PASS			
Nitrobenzene	NA	555	1	50	100	ng/dry g	1000	0	56	50 - 150%	PASS			
N-Nitrosodimethylamine	NA	904	1	50	100	ng/dry g	1000	0	90	50 - 150%	PASS			
N-Nitrosodi-n-propylamine	NA	616	1	50	100	ng/dry g	1000	0	62	50 - 150%	PASS			
N-Nitrosodiphenylamine	NA	106	1	50	100	ng/dry g	1000	0	11	50 - 150%	FAIL			M
Pyridine	NA	1240	1	50	100	ng/dry g	1000	0	124	50 - 150%	PASS			

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

Sample ID: 94874-MS2 2021-E2-FLDCHNL-01 Matrix: Sediment Sampled: 07-Jan-22 10:35 Received: 07-Jan-22

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
1,2,4-Trichlorobenzene	NA	607	1	10	50	ng/dry g	1000	0	61	50 - 150%	PASS	20	30	PASS	
1,2-Dichlorobenzene	NA	590	1	10	50	ng/dry g	1000	0	59	50 - 150%	PASS	0	30	PASS	
1,3-Dichlorobenzene	NA	673	1	10	50	ng/dry g	1000	0	67	50 - 150%	PASS	1	30	PASS	
1,4-Dichlorobenzene	NA	686	1	10	50	ng/dry g	1000	0	69	50 - 150%	PASS	0	30	PASS	
2,4-Dinitrotoluene	NA	1120	1	50	100	ng/dry g	1000	0	112	50 - 150%	PASS	6	30	PASS	
2,6-Dinitrotoluene	NA	1310	1	50	100	ng/dry g	1000	0	131	50 - 150%	PASS	8	30	PASS	
2-Chloronaphthalene	NA	766	1	50	100	ng/dry g	1000	0	77	50 - 150%	PASS	17	30	PASS	
2-Nitroaniline	NA	876	1	50	100	ng/dry g	1000	0	88	0 - 125%	PASS	4	30	PASS	
3,3'-Dichlorobenzidine	NA	330	1	50	100	ng/dry g	1000	0	33	0 - 125%	PASS	3	30	PASS	
3-Nitroaniline	NA	290	1	50	100	ng/dry g	1000	0	29	0 - 125%	PASS	7	30	PASS	
4-Bromophenylphenyl ether	NA	996	1	50	100	ng/dry g	1000	0	100	50 - 150%	PASS	8	30	PASS	
4-Chlorophenylphenyl ether	NA	874	1	50	100	ng/dry g	1000	0	87	50 - 150%	PASS	11	30	PASS	
4-Nitroaniline	NA	268	1	50	100	ng/dry g	1000	0	27	0 - 125%	PASS	12	30	PASS	
Azobenzene	NA	926	1	50	100	ng/dry g	1000	0	93	50 - 150%	PASS	14	30	PASS	
Benzidine	NA	751	1	50	100	ng/dry g	1000	0	75	0 - 125%	PASS	5	30	PASS	
Benzylbutyl Phthalate	NA	1020	1	10	20	ng/dry g	1000	76.2	94	50 - 150%	PASS	4	30	PASS	
Bis(2-Chloroethoxy) methane	NA	698	1	50	100	ng/dry g	1000	0	70	50 - 150%	PASS	20	30	PASS	
Bis(2-Chloroethyl) ether	NA	514	1	50	100	ng/dry g	1000	0	51	50 - 150%	PASS	2	30	PASS	
Bis(2-Chloroisopropyl) ether	NA	571	1	50	100	ng/dry g	1000	0	57	50 - 150%	PASS	2	30	PASS	
Bis(2-Ethylhexyl) Phthalate	NA	1520	1	10	20	ng/dry g	1000	437	108	50 - 150%	PASS	5	30	PASS	
Dibutyl Phthalate	NA	1010	1	10	20	ng/dry g	1000	35	98	50 - 150%	PASS	15	30	PASS	
Diethyl Phthalate	NA	1070	1	10	20	ng/dry g	1000	0	107	50 - 150%	PASS	8	30	PASS	
Dimethyl Phthalate	NA	908	1	10	20	ng/dry g	1000	0	91	50 - 150%	PASS	8	30	PASS	

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Di-n-octyl Phthalate	NA	856	1	10	20	ng/dry g	1000	0	86	50 - 150%	PASS	2	30	PASS	
Hexachlorobutadiene	NA	711	1	50	100	ng/dry g	1000	0	71	50 - 150%	PASS	1	30	PASS	
Hexachlorocyclopentadiene	NA	214	1	50	100	ng/dry g	1000	0	21	50 - 150%	FAIL	0	30	PASS	M
Hexachloroethane	NA	513	1	50	100	ng/dry g	1000	0	51	50 - 150%	PASS	2	30	PASS	
Isophorone	NA	850	1	50	100	ng/dry g	1000	0	85	50 - 150%	PASS	14	30	PASS	
Nitrobenzene	NA	687	1	50	100	ng/dry g	1000	0	69	50 - 150%	PASS	21	30	PASS	
N-Nitrosodimethylamine	NA	1160	1	50	100	ng/dry g	1000	0	116	50 - 150%	PASS	25	30	PASS	
N-Nitrosodi-n-propylamine	NA	749	1	50	100	ng/dry g	1000	0	75	50 - 150%	PASS	19	30	PASS	
N-Nitrosodiphenylamine	NA	152	1	50	100	ng/dry g	1000	0	15	50 - 150%	FAIL	31	30	FAIL	M
Pyridine	NA	1400	1	50	100	ng/dry g	1000	0	140	50 - 150%	PASS	12	30	PASS	

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

Sample ID: 94874-R2 2021-E2-FLDCHNL-01 Matrix: Sediment Sampled: 07-Jan-22 10:35 Received: 07-Jan-22

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
1,2,4-Trichlorobenzene	NA	ND	1	10	50	ng/dry g					0	30	PASS
1,2-Dichlorobenzene	NA	ND	1	10	50	ng/dry g					0	30	PASS
1,3-Dichlorobenzene	NA	ND	1	10	50	ng/dry g					0	30	PASS
1,4-Dichlorobenzene	NA	ND	1	10	50	ng/dry g					0	30	PASS
2,4-Dinitrotoluene	NA	ND	1	50	100	ng/dry g					0	30	PASS
2,6-Dinitrotoluene	NA	ND	1	50	100	ng/dry g					0	30	PASS
2-Chloronaphthalene	NA	ND	1	50	100	ng/dry g					0	30	PASS
2-Nitroaniline	NA	ND	1	50	100	ng/dry g					0	30	PASS
3,3'-Dichlorobenzidine	NA	ND	1	50	100	ng/dry g					0	30	PASS
3-Nitroaniline	NA	ND	1	50	100	ng/dry g					0	30	PASS
4-Bromophenylphenyl ether	NA	ND	1	50	100	ng/dry g					0	30	PASS
4-Chlorophenylphenyl ether	NA	ND	1	50	100	ng/dry g					0	30	PASS
4-Nitroaniline	NA	ND	1	50	100	ng/dry g					0	30	PASS
Azobenzene	NA	ND	1	50	100	ng/dry g					0	30	PASS
Benzidine	NA	ND	1	50	100	ng/dry g					0	30	PASS
Benzylbutyl Phthalate	NA	54.3	1	10	20	ng/dry g					34	30	FAIL SL,B
Bis(2-Chloroethoxy) methane	NA	ND	1	50	100	ng/dry g					0	30	PASS
Bis(2-Chloroethyl) ether	NA	ND	1	50	100	ng/dry g					0	30	PASS
Bis(2-Chloroisopropyl) ether	NA	ND	1	50	100	ng/dry g					0	30	PASS
Bis(2-Ethylhexyl) Phthalate	NA	404	1	10	20	ng/dry g					8	30	PASS
Dibutyl Phthalate	NA	37.8	1	10	20	ng/dry g					8	30	PASS
Diethyl Phthalate	NA	ND	1	10	20	ng/dry g					0	30	PASS
Dimethyl Phthalate	NA	ND	1	10	20	ng/dry g					0	30	PASS

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Di-n-octyl Phthalate	NA	ND	1	10	20	ng/dry g					0	30	PASS
Hexachlorobutadiene	NA	ND	1	50	100	ng/dry g					0	30	PASS
Hexachlorocyclopentadiene	NA	ND	1	50	100	ng/dry g					0	30	PASS
Hexachloroethane	NA	ND	1	50	100	ng/dry g					0	30	PASS
Isophorone	NA	ND	1	50	100	ng/dry g					0	30	PASS
Nitrobenzene	NA	ND	1	50	100	ng/dry g					0	30	PASS
N-Nitrosodimethylamine	NA	ND	1	50	100	ng/dry g					0	30	PASS
N-Nitrosodi-n-propylamine	NA	ND	1	50	100	ng/dry g					0	30	PASS
N-Nitrosodiphenylamine	NA	ND	1	50	100	ng/dry g					0	30	PASS
Pyridine	NA	ND	1	50	100	ng/dry g					0	30	PASS

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Chlorinated Pesticides

QUALITY CONTROL REPORT

Sample ID: 94866-B1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(PCB030)	NA	73	1			% Recovery	100		73	55 - 120%	PASS			
(PCB112)	NA	73	1			% Recovery	100		73	62 - 128%	PASS			
(PCB198)	NA	100	1			% Recovery	100		100	68 - 128%	PASS			
(TCMX)	NA	70	1			% Recovery	100		70	44 - 118%	PASS			
2,4'-DDD	NA	ND	1	0.267	0.5	ng/dry g								
2,4'-DDE	NA	ND	1	0.2	0.5	ng/dry g								
2,4'-DDT	NA	ND	1	0.194	0.5	ng/dry g								
4,4'-DDD	NA	ND	1	0.198	0.5	ng/dry g								
4,4'-DDE	NA	ND	1	0.193	0.5	ng/dry g								
4,4'-DDT	NA	ND	1	0.128	0.5	ng/dry g								
Aldrin	NA	ND	1	0.25	0.5	ng/dry g								
BHC-alpha	NA	ND	1	0.25	0.5	ng/dry g								
BHC-beta	NA	ND	1	0.25	0.5	ng/dry g								
BHC-delta	NA	ND	1	0.25	0.5	ng/dry g								
BHC-gamma	NA	ND	1	0.25	0.5	ng/dry g								
Chlordane-alpha	NA	ND	1	0.187	0.5	ng/dry g								
Chlordane-gamma	NA	ND	1	0.179	0.5	ng/dry g								
cis-Nonachlor	NA	ND	1	0.192	0.5	ng/dry g								
Dieldrin	NA	ND	1	0.1	0.2	ng/dry g								
Endosulfan Sulfate	NA	ND	1	0.25	0.5	ng/dry g								
Endosulfan-I	NA	ND	1	0.25	0.5	ng/dry g								
Endosulfan-II	NA	ND	1	0.25	0.5	ng/dry g								
Endrin	NA	ND	1	0.25	0.5	ng/dry g								

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Endrin Aldehyde	NA	ND	1	0.25	0.5	ng/dry g							
Endrin Ketone	NA	ND	1	0.25	0.5	ng/dry g							
Heptachlor	NA	ND	1	0.25	0.5	ng/dry g							
Heptachlor Epoxide	NA	ND	1	0.25	0.5	ng/dry g							
Hexachlorobenzene	NA	ND	1	0.25	0.5	ng/dry g							
Kepone	NA	ND	1	0.193	0.5	ng/dry g							
Methoxychlor	NA	ND	1	0.25	0.5	ng/dry g							
Mirex	NA	ND	1	0.25	0.5	ng/dry g							
Oxychlordane	NA	ND	1	0.25	0.5	ng/dry g							
trans-Nonachlor	NA	ND	1	0.186	0.5	ng/dry g							
Method: EPA 8270E-NCI						Batch ID: O-34030		Prepared: 09-Feb-22			Analyzed: 10-Feb-22		
Toxaphene	NA	ND	1	10	20	ng/dry g							

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Chlorinated Pesticides

QUALITY CONTROL REPORT

Sample ID: 94866-BS1 **QAQC Procedural Blank** **Matrix:** BlankMatrix **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(PCB030)	NA	75	1			% Recovery	100	0	75	55 - 120%	PASS			
(PCB112)	NA	77	1			% Recovery	100	0	77	62 - 128%	PASS			
(PCB198)	NA	105	1			% Recovery	100	0	105	68 - 128%	PASS			
(TCMX)	NA	48	1			% Recovery	100	0	48	44 - 118%	PASS			
2,4'-DDD	NA	488	1	0.267	0.5	ng/dry g	500	0	98	66 - 123%	PASS			
2,4'-DDE	NA	385	1	0.2	0.5	ng/dry g	500	0	77	66 - 116%	PASS			
2,4'-DDT	NA	575	1	0.194	0.5	ng/dry g	500	0	115	61 - 138%	PASS			
4,4'-DDD	NA	464	1	0.198	0.5	ng/dry g	500	0	93	59 - 140%	PASS			
4,4'-DDE	NA	410	1	0.193	0.5	ng/dry g	500	0	82	67 - 117%	PASS			
4,4'-DDT	NA	559	1	0.128	0.5	ng/dry g	500	0	112	56 - 173%	PASS			
Aldrin	NA	315	1	0.25	0.5	ng/dry g	500	0	63	66 - 120%	FAIL			R
BHC-alpha	NA	329	1	0.25	0.5	ng/dry g	500	0	66	55 - 113%	PASS			
BHC-beta	NA	356	1	0.25	0.5	ng/dry g	500	0	71	59 - 123%	PASS			
BHC-delta	NA	559	1	0.25	0.5	ng/dry g	500	0	112	59 - 116%	PASS			
BHC-gamma	NA	393	1	0.25	0.5	ng/dry g	500	0	79	61 - 112%	PASS			
Chlordane-alpha	NA	386	1	0.187	0.5	ng/dry g	500	0	77	63 - 111%	PASS			
Chlordane-gamma	NA	407	1	0.179	0.5	ng/dry g	500	0	81	68 - 117%	PASS			
cis-Nonachlor	NA	416	1	0.192	0.5	ng/dry g	500	0	83	63 - 110%	PASS			
Dieldrin	NA	351	1	0.1	0.2	ng/dry g	500	0	70	59 - 121%	PASS			
Endosulfan Sulfate	NA	356	1	0.25	0.5	ng/dry g	500	0	71	48 - 135%	PASS			
Endosulfan-I	NA	478	1	0.25	0.5	ng/dry g	500	0	96	0 - 127%	PASS			
Endosulfan-II	NA	438	1	0.25	0.5	ng/dry g	500	0	88	0 - 105%	PASS			
Endrin	NA	462	1	0.25	0.5	ng/dry g	500	0	92	43 - 155%	PASS			

PHYSIS ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002

Client: Wood Environment & Infrastructure Solutions, Inc.

Project: Tijuana River Sediment Management Monitoring Prog

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Endrin Aldehyde	NA	549	1	0.25	0.5	ng/dry g	500	0	110	0 - 135%	PASS			
Endrin Ketone	NA	606	1	0.25	0.5	ng/dry g	500	0	121	43 - 152%	PASS			
Heptachlor	NA	467	1	0.25	0.5	ng/dry g	500	0	93	41 - 146%	PASS			
Heptachlor Epoxide	NA	482	1	0.25	0.5	ng/dry g	500	0	96	58 - 126%	PASS			
Hexachlorobenzene	NA	538	1	0.25	0.5	ng/dry g	500	0	108	48 - 115%	PASS			
Methoxychlor	NA	424	1	0.25	0.5	ng/dry g	500	0	85	47 - 210%	PASS			
Mirex	NA	411	1	0.25	0.5	ng/dry g	500	0	82	65 - 114%	PASS			
Oxychlordane	NA	347	1	0.25	0.5	ng/dry g	500	0	69	60 - 118%	PASS			
trans-Nonachlor	NA	382	1	0.186	0.5	ng/dry g	500	0	76	64 - 111%	PASS			
	Method: EPA 8270E-NCI					Batch ID: O-34030			Prepared: 09-Feb-22				Analyzed: 10-Feb-22	
Toxaphene	NA	11000	1	10	20	ng/dry g	10000	0	110	70 - 128%	PASS			

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Chlorinated Pesticides

QUALITY CONTROL REPORT

Sample ID: 94866-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(PCB030)	NA	78	1			% Recovery	100	0	78	55 - 120%	PASS	4	30	PASS
(PCB112)	NA	78	1			% Recovery	100	0	78	62 - 128%	PASS	1	30	PASS
(PCB198)	NA	100	1			% Recovery	100	0	100	68 - 128%	PASS	5	30	PASS
(TCMX)	NA	51	1			% Recovery	100	0	51	44 - 118%	PASS	6	30	PASS
2,4'-DDD	NA	465	1	0.267	0.5	ng/dry g	500	0	93	66 - 123%	PASS	5	30	PASS
2,4'-DDE	NA	376	1	0.2	0.5	ng/dry g	500	0	75	66 - 116%	PASS	3	30	PASS
2,4'-DDT	NA	559	1	0.194	0.5	ng/dry g	500	0	112	61 - 138%	PASS	3	30	PASS
4,4'-DDD	NA	425	1	0.198	0.5	ng/dry g	500	0	85	59 - 140%	PASS	9	30	PASS
4,4'-DDE	NA	396	1	0.193	0.5	ng/dry g	500	0	79	67 - 117%	PASS	4	30	PASS
4,4'-DDT	NA	518	1	0.128	0.5	ng/dry g	500	0	104	56 - 173%	PASS	7	30	PASS
Aldrin	NA	328	1	0.25	0.5	ng/dry g	500	0	66	66 - 120%	PASS	5	30	PASS
BHC-alpha	NA	345	1	0.25	0.5	ng/dry g	500	0	69	55 - 113%	PASS	4	30	PASS
BHC-beta	NA	362	1	0.25	0.5	ng/dry g	500	0	72	59 - 123%	PASS	1	30	PASS
BHC-delta	NA	575	1	0.25	0.5	ng/dry g	500	0	115	59 - 116%	PASS	3	30	PASS
BHC-gamma	NA	406	1	0.25	0.5	ng/dry g	500	0	81	61 - 112%	PASS	2	30	PASS
Chlordane-alpha	NA	375	1	0.187	0.5	ng/dry g	500	0	75	63 - 111%	PASS	3	30	PASS
Chlordane-gamma	NA	395	1	0.179	0.5	ng/dry g	500	0	79	68 - 117%	PASS	2	30	PASS
cis-Nonachlor	NA	389	1	0.192	0.5	ng/dry g	500	0	78	63 - 110%	PASS	6	30	PASS
Dieldrin	NA	356	1	0.1	0.2	ng/dry g	500	0	71	59 - 121%	PASS	1	30	PASS
Endosulfan Sulfate	NA	326	1	0.25	0.5	ng/dry g	500	0	65	48 - 135%	PASS	9	30	PASS
Endosulfan-I	NA	469	1	0.25	0.5	ng/dry g	500	0	94	0 - 127%	PASS	2	30	PASS
Endosulfan-II	NA	441	1	0.25	0.5	ng/dry g	500	0	88	0 - 105%	PASS	0	30	PASS
Endrin	NA	444	1	0.25	0.5	ng/dry g	500	0	89	43 - 155%	PASS	3	30	PASS

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Endrin Aldehyde	NA	571	1	0.25	0.5	ng/dry g	500	0	114	0 - 135%	PASS	4	30	PASS	
Endrin Ketone	NA	562	1	0.25	0.5	ng/dry g	500	0	112	43 - 152%	PASS	8	30	PASS	
Heptachlor	NA	479	1	0.25	0.5	ng/dry g	500	0	96	41 - 146%	PASS	3	30	PASS	
Heptachlor Epoxide	NA	484	1	0.25	0.5	ng/dry g	500	0	97	58 - 126%	PASS	1	30	PASS	
Hexachlorobenzene	NA	566	1	0.25	0.5	ng/dry g	500	0	113	48 - 115%	PASS	5	30	PASS	
Methoxychlor	NA	456	1	0.25	0.5	ng/dry g	500	0	91	47 - 210%	PASS	7	30	PASS	
Mirex	NA	408	1	0.25	0.5	ng/dry g	500	0	82	65 - 114%	PASS	0	30	PASS	
Oxychlordane	NA	325	1	0.25	0.5	ng/dry g	500	0	65	60 - 118%	PASS	6	30	PASS	
trans-Nonachlor	NA	381	1	0.186	0.5	ng/dry g	500	0	76	64 - 111%	PASS	0	30	PASS	
Method: EPA 8270E-NCI						Batch ID: O-34030			Prepared: 09-Feb-22				Analyzed: 10-Feb-22		
Toxaphene	NA	10900	1	10	20	ng/dry g	10000	0	109	70 - 128%	PASS	1	30	PASS	

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Chlorinated Pesticides

QUALITY CONTROL REPORT

Sample ID: 94868-CRM1 QAQC CRM - SRM 1944 Matrix: Sediment Sampled: Received:

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(PCB030)	NA	70	1			% Recovery	100		70	33 - 149%	PASS			
(PCB112)	NA	74	1			% Recovery	100		74	49 - 120%	PASS			
(PCB198)	NA	99	1			% Recovery	100		99	35 - 123%	PASS			
(TCMX)	NA	49	1			% Recovery	100		49	37 - 138%	PASS			
2,4'-DDD	NA	29.1	1	0.267	0.5	ng/dry g	38		77	44 - 157%	PASS			
2,4'-DDE	NA	17.9	1	0.2	0.5	ng/dry g	19		94	54 - 157%	PASS			
4,4'-DDD	NA	120	1	0.198	0.5	ng/dry g	108		111	41 - 153%	PASS			
4,4'-DDE	NA	85.8	1	0.193	0.5	ng/dry g	86		100	57 - 152%	PASS			
4,4'-DDT	NA	156	1	0.128	0.5	ng/dry g	170		92	23 - 144%	PASS			
Chlordane-alpha	NA	14.3	1	0.187	0.5	ng/dry g	16.5		87	61 - 161%	PASS			
Chlordane-gamma	NA	23.9	1	0.179	0.5	ng/dry g	19		126	69 - 163%	PASS			
cis-Nonachlor	NA	3.22	1	0.192	0.5	ng/dry g	3.7		87	59 - 175%	PASS			
Hexachlorobenzene	NA	4.77	1	0.25	0.5	ng/dry g	6		80	40 - 157%	PASS			
trans-Nonachlor	NA	8.79	1	0.186	0.5	ng/dry g	8.2		107	72 - 170%	PASS			

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TERRA FAUNA FLORA AQUA AURA
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Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Chlorinated Pesticides

QUALITY CONTROL REPORT

Sample ID: 94874-MS1 2021-E2-FLDCHNL-01 Matrix: Sediment Sampled: 07-Jan-22 10:35 Received: 07-Jan-22

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(PCB030)	NA	68	1			% Recovery	100	0	68	24 - 118%	PASS			
(PCB112)	NA	79	1			% Recovery	100	0	79	34 - 121%	PASS			
(PCB198)	NA	98	1			% Recovery	100	0	98	37 - 125%	PASS			
(TCMX)	NA	40	1			% Recovery	100	0	40	22 - 117%	PASS			
2,4'-DDD	NA	520	1	0.267	0.5	ng/dry g	500	4.79	103	69 - 125%	PASS			
2,4'-DDE	NA	369	1	0.2	0.5	ng/dry g	500	0.22	74	67 - 117%	PASS			
2,4'-DDT	NA	504	1	0.194	0.5	ng/dry g	500	1.26	101	34 - 145%	PASS			
4,4'-DDD	NA	468	1	0.198	0.5	ng/dry g	500	3.31	93	67 - 141%	PASS			
4,4'-DDE	NA	553	1	0.193	0.5	ng/dry g	500	15.1	108	38 - 152%	PASS			
4,4'-DDT	NA	531	1	0.128	0.5	ng/dry g	500	16.1	103	29 - 167%	PASS			
Aldrin	NA	326	1	0.25	0.5	ng/dry g	500	0	65	40 - 135%	PASS			
BHC-alpha	NA	365	1	0.25	0.5	ng/dry g	500	0	73	59 - 117%	PASS			
BHC-beta	NA	408	1	0.25	0.5	ng/dry g	500	0	82	37 - 141%	PASS			
BHC-delta	NA	573	1	0.25	0.5	ng/dry g	500	0	115	65 - 112%	FAIL			M
BHC-gamma	NA	424	1	0.25	0.5	ng/dry g	500	0	85	48 - 136%	PASS			
Chlordane-alpha	NA	375	1	0.187	0.5	ng/dry g	500	2.73	74	68 - 114%	PASS			
Chlordane-gamma	NA	397	1	0.179	0.5	ng/dry g	500	0	79	73 - 116%	PASS			
cis-Nonachlor	NA	380	1	0.192	0.5	ng/dry g	500	0	76	70 - 113%	PASS			
Dieldrin	NA	424	1	0.1	0.2	ng/dry g	500	0	85	48 - 120%	PASS			
Endosulfan Sulfate	NA	394	1	0.25	0.5	ng/dry g	500	0	79	34 - 141%	PASS			
Endosulfan-I	NA	457	1	0.25	0.5	ng/dry g	500	0	91	21 - 114%	PASS			
Endosulfan-II	NA	350	1	0.25	0.5	ng/dry g	500	0	70	47 - 117%	PASS			
Endrin	NA	393	1	0.25	0.5	ng/dry g	500	0	79	31 - 154%	PASS			

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Endrin Aldehyde	NA	571	1	0.25	0.5	ng/dry g	500	0	114	0 - 115%	PASS			
Endrin Ketone	NA	483	1	0.25	0.5	ng/dry g	500	0	97	15 - 152%	PASS			
Heptachlor	NA	289	1	0.25	0.5	ng/dry g	500	0	58	37 - 154%	PASS			
Heptachlor Epoxide	NA	442	1	0.25	0.5	ng/dry g	500	0	88	60 - 136%	PASS			
Hexachlorobenzene	NA	514	1	0.25	0.5	ng/dry g	500	0	103	60 - 117%	PASS			
Methoxychlor	NA	386	1	0.25	0.5	ng/dry g	500	0	77	42 - 128%	PASS			
Mirex	NA	326	1	0.25	0.5	ng/dry g	500	0	65	58 - 117%	PASS			
Oxychlordane	NA	345	1	0.25	0.5	ng/dry g	500	0	69	64 - 119%	PASS			
trans-Nonachlor	NA	371	1	0.186	0.5	ng/dry g	500	2.62	74	67 - 119%	PASS			
Method: EPA 8270E-NCI						Batch ID: O-34030		Prepared: 09-Feb-22				Analyzed: 10-Feb-22		
Toxaphene	NA	599	1	10	20	ng/dry g	764	117	63	50 - 150%	PASS			

Chlorinated Pesticides

QUALITY CONTROL REPORT

Sample ID: 94874-MS2 2021-E2-FLDCHNL-01 **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
(PCB030)	NA	92	1			% Recovery	100	0	92	24 - 118%	PASS	30	30	PASS	
(PCB112)	NA	77	1			% Recovery	100	0	77	34 - 121%	PASS	3	30	PASS	
(PCB198)	NA	101	1			% Recovery	100	0	101	37 - 125%	PASS	3	30	PASS	
(TCMX)	NA	43	1			% Recovery	100	0	43	22 - 117%	PASS	7	30	PASS	
2,4'-DDD	NA	545	1	0.267	0.5	ng/dry g	500	4.79	108	69 - 125%	PASS	5	30	PASS	
2,4'-DDE	NA	357	1	0.2	0.5	ng/dry g	500	0.22	71	67 - 117%	PASS	4	30	PASS	
2,4'-DDT	NA	438	1	0.194	0.5	ng/dry g	500	1.26	87	34 - 145%	PASS	15	30	PASS	
4,4'-DDD	NA	506	1	0.198	0.5	ng/dry g	500	3.31	101	67 - 141%	PASS	8	30	PASS	
4,4'-DDE	NA	531	1	0.193	0.5	ng/dry g	500	15.1	103	38 - 152%	PASS	5	30	PASS	
4,4'-DDT	NA	531	1	0.128	0.5	ng/dry g	500	16.1	103	29 - 167%	PASS	0	30	PASS	
Aldrin	NA	334	1	0.25	0.5	ng/dry g	500	0	67	40 - 135%	PASS	3	30	PASS	
BHC-alpha	NA	375	1	0.25	0.5	ng/dry g	500	0	75	59 - 117%	PASS	3	30	PASS	
BHC-beta	NA	385	1	0.25	0.5	ng/dry g	500	0	77	37 - 141%	PASS	6	30	PASS	
BHC-delta	NA	574	1	0.25	0.5	ng/dry g	500	0	115	65 - 112%	FAIL	0	30	PASS	M
BHC-gamma	NA	427	1	0.25	0.5	ng/dry g	500	0	85	48 - 136%	PASS	0	30	PASS	
Chlordane-alpha	NA	355	1	0.187	0.5	ng/dry g	500	2.73	70	68 - 114%	PASS	6	30	PASS	
Chlordane-gamma	NA	386	1	0.179	0.5	ng/dry g	500	0	77	73 - 116%	PASS	3	30	PASS	
cis-Nonachlor	NA	377	1	0.192	0.5	ng/dry g	500	0	75	70 - 113%	PASS	1	30	PASS	
Dieldrin	NA	433	1	0.1	0.2	ng/dry g	500	0	87	48 - 120%	PASS	2	30	PASS	
Endosulfan Sulfate	NA	394	1	0.25	0.5	ng/dry g	500	0	79	34 - 141%	PASS	0	30	PASS	
Endosulfan-I	NA	452	1	0.25	0.5	ng/dry g	500	0	90	21 - 114%	PASS	1	30	PASS	
Endosulfan-II	NA	375	1	0.25	0.5	ng/dry g	500	0	75	47 - 117%	PASS	7	30	PASS	
Endrin	NA	367	1	0.25	0.5	ng/dry g	500	0	73	31 - 154%	PASS	8	30	PASS	

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Endrin Aldehyde	NA	574	1	0.25	0.5	ng/dry g	500	0	115	0 - 115%	PASS	1	30	PASS	
Endrin Ketone	NA	428	1	0.25	0.5	ng/dry g	500	0	86	15 - 152%	PASS	12	30	PASS	
Heptachlor	NA	307	1	0.25	0.5	ng/dry g	500	0	61	37 - 154%	PASS	5	30	PASS	
Heptachlor Epoxide	NA	430	1	0.25	0.5	ng/dry g	500	0	86	60 - 136%	PASS	2	30	PASS	
Hexachlorobenzene	NA	528	1	0.25	0.5	ng/dry g	500	0	106	60 - 117%	PASS	3	30	PASS	
Methoxychlor	NA	401	1	0.25	0.5	ng/dry g	500	0	80	42 - 128%	PASS	4	30	PASS	
Mirex	NA	315	1	0.25	0.5	ng/dry g	500	0	63	58 - 117%	PASS	3	30	PASS	
Oxychlordane	NA	342	1	0.25	0.5	ng/dry g	500	0	68	64 - 119%	PASS	1	30	PASS	
trans-Nonachlor	NA	363	1	0.186	0.5	ng/dry g	500	2.62	72	67 - 119%	PASS	3	30	PASS	
Method: EPA 8270E-NCI						Batch ID: O-34030			Prepared: 09-Feb-22				Analyzed: 10-Feb-22		
Toxaphene	NA	588	1	10	20	ng/dry g	759	117	62	50 - 150%	PASS	2	30	PASS	

Chlorinated Pesticides

QUALITY CONTROL REPORT

Sample ID: 94874-R2 **2021-E2-FLDCHNL-01** **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
(PCB030)	NA	92	1			% Recovery	100		92	24 - 118%	PASS	27	30	PASS	
(PCB112)	NA	74	1			% Recovery	100		74	34 - 121%	PASS	5	30	PASS	
(PCB198)	NA	104	1			% Recovery	100		104	37 - 125%	PASS	1	30	PASS	
(TCMX)	NA	41	1			% Recovery	100		41	22 - 117%	PASS	11	30	PASS	
2,4'-DDD	NA	6.78	1	0.267	0.5	ng/dry g						34	30	FAIL	NH
2,4'-DDE	NA	0.527	1	0.2	0.5	ng/dry g						82	30	FAIL	SL
2,4'-DDT	NA	2.25	1	0.194	0.5	ng/dry g						56	30	FAIL	SL
4,4'-DDD	NA	9.46	1	0.198	0.5	ng/dry g						96	30	FAIL	NH
4,4'-DDE	NA	45.4	1	0.193	0.5	ng/dry g						100	30	FAIL	NH
4,4'-DDT	NA	18.6	1	0.128	0.5	ng/dry g						14	30	PASS	
Aldrin	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
BHC-alpha	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
BHC-beta	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
BHC-delta	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
BHC-gamma	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
Chlordane-alpha	NA	2.8	1	0.187	0.5	ng/dry g						3	30	PASS	
Chlordane-gamma	NA	0.224	1	0.179	0.5	ng/dry g						22	30	PASS	J
cis-Nonachlor	NA	ND	1	0.192	0.5	ng/dry g						0	30	PASS	
Dieldrin	NA	ND	1	0.1	0.2	ng/dry g						0	30	PASS	
Endosulfan Sulfate	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
Endosulfan-I	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
Endosulfan-II	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
Endrin	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	

Chlorinated Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS		QA CODEc
Endrin Aldehyde	NA	ND	1	0.25	0.5	ng/dry g					0	30	PASS	
Endrin Ketone	NA	ND	1	0.25	0.5	ng/dry g					0	30	PASS	
Heptachlor	NA	ND	1	0.25	0.5	ng/dry g					0	30	PASS	
Heptachlor Epoxide	NA	ND	1	0.25	0.5	ng/dry g					0	30	PASS	
Hexachlorobenzene	NA	ND	1	0.25	0.5	ng/dry g					0	30	PASS	
Kepone	NA	ND	1	0.193	0.5	ng/dry g					0	30	PASS	
Methoxychlor	NA	ND	1	0.25	0.5	ng/dry g					0	30	PASS	
Mirex	NA	ND	1	0.25	0.5	ng/dry g					0	30	PASS	
Oxychlordane	NA	ND	1	0.25	0.5	ng/dry g					0	30	PASS	
trans-Nonachlor	NA	2.73	1	0.186	0.5	ng/dry g					4	30	PASS	
		Method: EPA 8270E-NCI				Batch ID: O-34030		Prepared: 09-Feb-22				Analyzed: 10-Feb-22		
Toxaphene	NA	202	1	10	20	ng/dry g					53	30	FAIL	NH

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 94866-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**			**Received:**			
	Method: EPA 245.7					Batch ID: E-24154	Prepared: 10-Feb-22			Analyzed: 25-Feb-22			
Mercury (Hg)	NA	ND	1	0.00001	0.00002	µg/dry g							
	Method: EPA 6020					Batch ID: E-25085	Prepared: 10-Feb-22			Analyzed: 14-Feb-22			
Aluminum (Al)	NA	ND	1	1	5	µg/dry g							
Antimony (Sb)	NA	ND	1	0.025	0.05	µg/dry g							
Arsenic (As)	NA	ND	1	0.025	0.05	µg/dry g							
Barium (Ba)	NA	ND	1	0.025	0.05	µg/dry g							
Beryllium (Be)	NA	ND	1	0.025	0.05	µg/dry g							
Cadmium (Cd)	NA	ND	1	0.0025	0.005	µg/dry g							
Chromium (Cr)	NA	ND	1	0.0025	0.005	µg/dry g							
Cobalt (Co)	NA	ND	1	0.025	0.05	µg/dry g							
Copper (Cu)	NA	ND	1	0.0025	0.005	µg/dry g							
Iron (Fe)	NA	ND	1	1	5	µg/dry g							
Lead (Pb)	NA	ND	1	0.0025	0.005	µg/dry g							
Manganese (Mn)	NA	ND	1	0.005	0.01	µg/dry g							
Molybdenum (Mo)	NA	ND	1	0.025	0.05	µg/dry g							
Nickel (Ni)	NA	ND	1	0.01	0.02	µg/dry g							
Selenium (Se)	NA	ND	1	0.025	0.05	µg/dry g							
Silver (Ag)	NA	ND	1	0.01	0.02	µg/dry g							
Thallium (Tl)	NA	ND	1	0.025	0.05	µg/dry g							
Vanadium (V)	NA	ND	1	0.025	0.05	µg/dry g							
Zinc (Zn)	NA	ND	1	0.025	0.05	µg/dry g							

Elements

QUALITY CONTROL REPORT

Sample ID: 94866-BS1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Method: EPA 245.7						Batch ID: E-24154			Prepared: 10-Feb-22		Analyzed: 25-Feb-22		
Mercury (Hg)	NA	0.00107	1	0.00001	0.00002	µg/dry g	0.001	0	107	82 - 118% PASS			
Method: EPA 6020						Batch ID: E-25085			Prepared: 10-Feb-22		Analyzed: 14-Feb-22		
Aluminum (Al)	NA	2.04	1	1	5	µg/dry g	2	0	102	85 - 121% PASS			
Antimony (Sb)	NA	2.03	1	0.025	0.05	µg/dry g	2	0	101	84 - 120% PASS			
Arsenic (As)	NA	2.05	1	0.025	0.05	µg/dry g	2	0	102	85 - 115% PASS			
Barium (Ba)	NA	2.07	1	0.025	0.05	µg/dry g	2	0	103	80 - 120% PASS			
Beryllium (Be)	NA	1.97	1	0.025	0.05	µg/dry g	2	0	99	80 - 120% PASS			
Cadmium (Cd)	NA	1.97	1	0.0025	0.005	µg/dry g	2	0	99	86 - 122% PASS			
Chromium (Cr)	NA	2.03	1	0.0025	0.005	µg/dry g	2	0	101	83 - 113% PASS			
Cobalt (Co)	NA	2.04	1	0.025	0.05	µg/dry g	2	0	102	80 - 120% PASS			
Copper (Cu)	NA	2.01	1	0.0025	0.005	µg/dry g	2	0	100	83 - 114% PASS			
Iron (Fe)	NA	2.04	1	1	5	µg/dry g	2	0	102	85 - 115% PASS			
Lead (Pb)	NA	2.05	1	0.0025	0.005	µg/dry g	2	0	102	85 - 118% PASS			
Manganese (Mn)	NA	2	1	0.005	0.01	µg/dry g	2	0	100	87 - 117% PASS			
Molybdenum (Mo)	NA	2.01	1	0.025	0.05	µg/dry g	2	0	100	80 - 120% PASS			
Nickel (Ni)	NA	2.05	1	0.01	0.02	µg/dry g	2	0	102	83 - 113% PASS			
Selenium (Se)	NA	2.04	1	0.025	0.05	µg/dry g	2	0	102	72 - 118% PASS			
Silver (Ag)	NA	0.189	1	0.01	0.02	µg/dry g	0.2	0	94	79 - 118% PASS			
Thallium (Tl)	NA	2.07	1	0.025	0.05	µg/dry g	2	0	103	80 - 120% PASS			
Vanadium (V)	NA	1.81	1	0.025	0.05	µg/dry g	2	0	90	83 - 113% PASS			
Zinc (Zn)	NA	2.04	1	0.025	0.05	µg/dry g	2	0	102	86 - 116% PASS			

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 94866-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: EPA 245.7					Batch ID: E-24154		Prepared: 10-Feb-22				Analyzed: 25-Feb-22		
Mercury (Hg)	NA	0.00106	1	0.00001	0.00002	µg/dry g	0.001	0	106	82 - 118%	PASS	1	30	PASS
	Method: EPA 6020					Batch ID: E-25085		Prepared: 10-Feb-22				Analyzed: 14-Feb-22		
Aluminum (Al)	NA	2.09	1	1	5	µg/dry g	2	0	104	85 - 121%	PASS	2	30	PASS
Antimony (Sb)	NA	2.02	1	0.025	0.05	µg/dry g	2	0	101	84 - 120%	PASS	1	30	PASS
Arsenic (As)	NA	2.05	1	0.025	0.05	µg/dry g	2	0	102	85 - 115%	PASS	0	30	PASS
Barium (Ba)	NA	2.05	1	0.025	0.05	µg/dry g	2	0	102	80 - 120%	PASS	2	30	PASS
Beryllium (Be)	NA	1.95	1	0.025	0.05	µg/dry g	2	0	98	80 - 120%	PASS	0	30	PASS
Cadmium (Cd)	NA	1.98	1	0.0025	0.005	µg/dry g	2	0	99	86 - 122%	PASS	1	30	PASS
Chromium (Cr)	NA	2.03	1	0.0025	0.005	µg/dry g	2	0	101	83 - 113%	PASS	0	30	PASS
Cobalt (Co)	NA	2.04	1	0.025	0.05	µg/dry g	2	0	102	80 - 120%	PASS	0	30	PASS
Copper (Cu)	NA	2.01	1	0.0025	0.005	µg/dry g	2	0	100	83 - 114%	PASS	0	30	PASS
Iron (Fe)	NA	1.98	1	1	5	µg/dry g	2	0	99	85 - 115%	PASS	3	30	PASS
Lead (Pb)	NA	2.06	1	0.0025	0.005	µg/dry g	2	0	103	85 - 118%	PASS	1	30	PASS
Manganese (Mn)	NA	2	1	0.005	0.01	µg/dry g	2	0	100	87 - 117%	PASS	0	30	PASS
Molybdenum (Mo)	NA	2.02	1	0.025	0.05	µg/dry g	2	0	101	80 - 120%	PASS	1	30	PASS
Nickel (Ni)	NA	2.05	1	0.01	0.02	µg/dry g	2	0	102	83 - 113%	PASS	0	30	PASS
Selenium (Se)	NA	2.05	1	0.025	0.05	µg/dry g	2	0	102	72 - 118%	PASS	0	30	PASS
Silver (Ag)	NA	0.198	1	0.01	0.02	µg/dry g	0.2	0	99	79 - 118%	PASS	5	30	PASS
Thallium (Tl)	NA	2.07	1	0.025	0.05	µg/dry g	2	0	103	80 - 120%	PASS	0	30	PASS
Vanadium (V)	NA	1.81	1	0.025	0.05	µg/dry g	2	0	90	83 - 113%	PASS	0	30	PASS
Zinc (Zn)	NA	2.02	1	0.025	0.05	µg/dry g	2	0	101	86 - 116%	PASS	1	30	PASS

Elements

QUALITY CONTROL REPORT

Sample ID: 94867-CRM1 QAQC CRM - ERA D099-540 Matrix: Sediment Sampled: Received:

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
		Method: EPA 245.7				Batch ID: E-24154			Prepared: 10-Feb-22			Analyzed: 25-Feb-22		
Mercury (Hg)	NA	13.7	1	0.00001	0.00002	µg/dry g	12		114	80 - 120%	PASS			
		Method: EPA 6020				Batch ID: E-25085			Prepared: 10-Feb-22			Analyzed: 14-Feb-22		
Aluminum (Al)	NA	11700	1	1	5	µg/dry g	10100		116	80 - 120%	PASS			
Antimony (Sb)	NA	139	1	0.025	0.05	µg/dry g	145		96	80 - 120%	PASS			
Arsenic (As)	NA	181	1	0.025	0.05	µg/dry g	171		106	80 - 120%	PASS			
Barium (Ba)	NA	262	1	0.025	0.05	µg/dry g	272		96	80 - 120%	PASS			
Beryllium (Be)	NA	100	1	0.025	0.05	µg/dry g	102		98	80 - 120%	PASS			
Cadmium (Cd)	NA	214	1	0.0025	0.005	µg/dry g	225		95	80 - 120%	PASS			
Chromium (Cr)	NA	157	1	0.0025	0.005	µg/dry g	144		109	80 - 120%	PASS			
Cobalt (Co)	NA	50.6	1	0.025	0.05	µg/dry g	48.8		104	80 - 120%	PASS			
Copper (Cu)	NA	174	1	0.0025	0.005	µg/dry g	174		100	80 - 120%	PASS			
Iron (Fe)	NA	20700	1	1	5	µg/dry g	15000		138	80 - 120%	FAIL			1
Lead (Pb)	NA	114	1	0.0025	0.005	µg/dry g	111		103	80 - 120%	PASS			
Manganese (Mn)	NA	246	1	0.005	0.01	µg/dry g	232		106	80 - 120%	PASS			
Molybdenum (Mo)	NA	123	1	0.025	0.05	µg/dry g	123		100	80 - 120%	PASS			
Nickel (Ni)	NA	98.8	1	0.01	0.02	µg/dry g	98.3		101	80 - 120%	PASS			
Selenium (Se)	NA	215	1	0.025	0.05	µg/dry g	206		104	80 - 120%	PASS			
Silver (Ag)	NA	41.4	1	0.01	0.02	µg/dry g	45.5		91	80 - 120%	PASS			
Thallium (Tl)	NA	158	1	0.025	0.05	µg/dry g	167		95	80 - 120%	PASS			
Vanadium (V)	NA	71.2	1	0.025	0.05	µg/dry g	61.8		115	80 - 120%	PASS			
Zinc (Zn)	NA	215	1	0.025	0.05	µg/dry g	207		104	80 - 120%	PASS			

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 94870-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**			**Received:**			
	Method: EPA 245.7					Batch ID: E-24150	Prepared: 15-Jan-22			Analyzed: 15-Jan-22			
Mercury (Hg)	Total	ND	1	0.01	0.02	µg/L							
	Method: EPA 200.8					Batch ID: E-26078	Prepared: 01-Feb-22			Analyzed: 03-Feb-22			
Aluminum (Al)	Total	ND	1	1.65	8.25	µg/L							
Antimony (Sb)	Total	ND	1	0.03	0.15	µg/L							
Arsenic (As)	Total	ND	1	0.05	0.159	µg/L							
Barium (Ba)	Total	ND	1	0.25	0.5	µg/L							
Beryllium (Be)	Total	ND	1	0.01	0.031	µg/L							
Cadmium (Cd)	Total	ND	1	0.007	0.023	µg/L							
Chromium (Cr)	Total	ND	1	0.01	0.05	µg/L							
Cobalt (Co)	Total	ND	1	0.01	0.05	µg/L							
Copper (Cu)	Total	ND	1	0.007	0.022	µg/L							
Iron (Fe)	Total	ND	1	1.13	5.65	µg/L							
Lead (Pb)	Total	ND	1	0.007	0.021	µg/L							
Manganese (Mn)	Total	ND	1	0.005	0.01	µg/L							
Molybdenum (Mo)	Total	ND	1	0.007	0.022	µg/L							
Nickel (Ni)	Total	ND	1	0.013	0.042	µg/L							
Selenium (Se)	Total	ND	1	0.021	0.068	µg/L							
Silver (Ag)	Total	ND	1	0.01	0.02	µg/L							
Strontium (Sr)	Total	ND	1	0.03	0.15	µg/L							
Thallium (Tl)	Total	ND	1	0.01	0.05	µg/L							
Tin (Sn)	Total	ND	1	0.06	0.3	µg/L							
Titanium (Ti)	Total	ND	1	0.08	0.4	µg/L							
Vanadium (V)	Total	ND	1	0.03	0.15	µg/L							
Zinc (Zn)	Total	ND	1	0.022	0.069	µg/L							

Elements

QUALITY CONTROL REPORT

Sample ID: 94870-BS1 QAQC Procedural Blank **Matrix:** BlankMatrix **Sampled:** **Received:**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Method: EPA 245.7						Batch ID: E-24150			Prepared: 15-Jan-22			Analyzed: 15-Jan-22	
Mercury (Hg)	Total	1.03	1	0.01	0.02	µg/L	1	0	103	84 - 120% PASS			
Method: EPA 200.8						Batch ID: E-26078			Prepared: 01-Feb-22			Analyzed: 03-Feb-22	
Aluminum (Al)	Total	1070	1	1.65	8.25	µg/L	1000	0	107	85 - 115% PASS			
Antimony (Sb)	Total	1060	1	0.03	0.15	µg/L	1000	0	106	87 - 117% PASS			
Arsenic (As)	Total	1070	1	0.05	0.159	µg/L	1000	0	107	81 - 116% PASS			
Barium (Ba)	Total	1050	1	0.25	0.5	µg/L	1000	0	105	89 - 119% PASS			
Beryllium (Be)	Total	1060	1	0.01	0.031	µg/L	1000	0	106	79 - 114% PASS			
Cadmium (Cd)	Total	1000	1	0.007	0.023	µg/L	1000	0	100	87 - 117% PASS			
Chromium (Cr)	Total	1070	1	0.01	0.05	µg/L	1000	0	107	85 - 115% PASS			
Cobalt (Co)	Total	1080	1	0.01	0.05	µg/L	1000	0	108	85 - 115% PASS			
Copper (Cu)	Total	1060	1	0.007	0.022	µg/L	1000	0	106	86 - 116% PASS			
Iron (Fe)	Total	1080	1	1.13	5.65	µg/L	1000	0	108	85 - 115% PASS			
Lead (Pb)	Total	1040	1	0.007	0.021	µg/L	1000	0	104	87 - 117% PASS			
Manganese (Mn)	Total	1060	1	0.005	0.01	µg/L	1000	0	106	83 - 113% PASS			
Molybdenum (Mo)	Total	1010	1	0.007	0.022	µg/L	1000	0	101	87 - 117% PASS			
Nickel (Ni)	Total	1060	1	0.013	0.042	µg/L	1000	0	106	85 - 115% PASS			
Selenium (Se)	Total	1060	1	0.021	0.068	µg/L	1000	0	106	80 - 116% PASS			
Silver (Ag)	Total	83.3	1	0.01	0.02	µg/L	100	0	83	63 - 128% PASS			
Strontium (Sr)	Total	1020	1	0.03	0.15	µg/L	1000	0	102	87 - 117% PASS			
Thallium (Tl)	Total	990	1	0.01	0.05	µg/L	1000	0	99	90 - 120% PASS			
Tin (Sn)	Total	991	1	0.06	0.3	µg/L	1000	0	99	90 - 120% PASS			
Titanium (Ti)	Total	1060	1	0.08	0.4	µg/L	1000	0	106	77 - 117% PASS			
Vanadium (V)	Total	1070	1	0.03	0.15	µg/L	1000	0	107	82 - 112% PASS			
Zinc (Zn)	Total	1030	1	0.022	0.069	µg/L	1000	0	103	85 - 115% PASS			

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 94870-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**		
	Method: EPA 245.7					Batch ID: E-24150		Prepared: 15-Jan-22				Analyzed: 15-Jan-22		
Mercury (Hg)	Total	0.998	1	0.01	0.02	µg/L	1	0	100	84 - 120%	PASS	3	30	PASS
	Method: EPA 200.8					Batch ID: E-26078		Prepared: 01-Feb-22				Analyzed: 03-Feb-22		
Aluminum (Al)	Total	1050	1	1.65	8.25	µg/L	1000	0	105	85 - 115%	PASS	2	30	PASS
Antimony (Sb)	Total	1100	1	0.03	0.15	µg/L	1000	0	110	87 - 117%	PASS	4	30	PASS
Arsenic (As)	Total	1100	1	0.05	0.159	µg/L	1000	0	110	81 - 116%	PASS	3	30	PASS
Barium (Ba)	Total	1110	1	0.25	0.5	µg/L	1000	0	111	89 - 119%	PASS	6	30	PASS
Beryllium (Be)	Total	1080	1	0.01	0.031	µg/L	1000	0	108	79 - 114%	PASS	2	30	PASS
Cadmium (Cd)	Total	1030	1	0.007	0.023	µg/L	1000	0	103	87 - 117%	PASS	3	30	PASS
Chromium (Cr)	Total	1090	1	0.01	0.05	µg/L	1000	0	109	85 - 115%	PASS	2	30	PASS
Cobalt (Co)	Total	1100	1	0.01	0.05	µg/L	1000	0	110	85 - 115%	PASS	2	30	PASS
Copper (Cu)	Total	1080	1	0.007	0.022	µg/L	1000	0	108	86 - 116%	PASS	2	30	PASS
Iron (Fe)	Total	1090	1	1.13	5.65	µg/L	1000	0	109	85 - 115%	PASS	1	30	PASS
Lead (Pb)	Total	1080	1	0.007	0.021	µg/L	1000	0	108	87 - 117%	PASS	4	30	PASS
Manganese (Mn)	Total	1070	1	0.005	0.01	µg/L	1000	0	107	83 - 113%	PASS	1	30	PASS
Molybdenum (Mo)	Total	1050	1	0.007	0.022	µg/L	1000	0	105	87 - 117%	PASS	4	30	PASS
Nickel (Ni)	Total	1090	1	0.013	0.042	µg/L	1000	0	109	85 - 115%	PASS	3	30	PASS
Selenium (Se)	Total	1080	1	0.021	0.068	µg/L	1000	0	108	80 - 116%	PASS	2	30	PASS
Silver (Ag)	Total	96.7	1	0.01	0.02	µg/L	100	0	97	63 - 128%	PASS	16	30	PASS
Strontium (Sr)	Total	1060	1	0.03	0.15	µg/L	1000	0	106	87 - 117%	PASS	4	30	PASS
Thallium (Tl)	Total	1020	1	0.01	0.05	µg/L	1000	0	102	90 - 120%	PASS	3	30	PASS
Tin (Sn)	Total	1030	1	0.06	0.3	µg/L	1000	0	103	90 - 120%	PASS	4	30	PASS
Titanium (Ti)	Total	1070	1	0.08	0.4	µg/L	1000	0	107	77 - 117%	PASS	1	30	PASS
Vanadium (V)	Total	1090	1	0.03	0.15	µg/L	1000	0	109	82 - 112%	PASS	2	30	PASS
Zinc (Zn)	Total	1050	1	0.022	0.069	µg/L	1000	0	105	85 - 115%	PASS	2	30	PASS

Elements

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 94871-MS1	**2021-E2-BASINSMGL-01**					**Matrix: Sediment**		**Sampled: 07-Jan-22 13:00**				**Received: 07-Jan-22**		
	Method: EPA 245.7					Batch ID: E-24154		Prepared: 10-Feb-22				Analyzed: 25-Feb-22		
Mercury (Hg)	NA	0.311	1	0.00001	0.00002	µg/dry g	0.275	0.0195	106	76 - 135%	PASS			
Sample ID: 94871-MS2	**2021-E2-BASINSMGL-01**					**Matrix: Sediment**		**Sampled: 07-Jan-22 13:00**				**Received: 07-Jan-22**		
	Method: EPA 245.7					Batch ID: E-24154		Prepared: 10-Feb-22				Analyzed: 25-Feb-22		
Mercury (Hg)	NA	0.309	1	0.00001	0.00002	µg/dry g	0.275	0.0195	105	76 - 135%	PASS	1	30	PASS

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Elements

QUALITY CONTROL REPORT

Sample ID: 94871-R2 2021-E2-BASINSMGL-01 **Matrix:** Sediment **Sampled:** 07-Jan-22 13:00 **Received:** 07-Jan-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Method: EPA 245.7						Batch ID: E-24154		Prepared: 10-Feb-22			Analyzed: 25-Feb-22		
Mercury (Hg)	NA	0.0179	1	0.00001	0.00002	µg/dry g					9	30 PASS	
Method: EPA 6020						Batch ID: E-25085		Prepared: 10-Feb-22			Analyzed: 14-Feb-22		
Aluminum (Al)	NA	11600	1	1	5	µg/dry g					13	30 PASS	
Antimony (Sb)	NA	0.652	1	0.025	0.05	µg/dry g					1	30 PASS	
Arsenic (As)	NA	3.76	1	0.025	0.05	µg/dry g					7	30 PASS	
Barium (Ba)	NA	101	1	0.025	0.05	µg/dry g					11	30 PASS	
Beryllium (Be)	NA	0.242	1	0.025	0.05	µg/dry g					8	30 PASS	
Cadmium (Cd)	NA	0.277	1	0.0025	0.005	µg/dry g					59	30 FAIL	NH
Chromium (Cr)	NA	13.5	1	0.0025	0.005	µg/dry g					6	30 PASS	
Cobalt (Co)	NA	3.75	1	0.025	0.05	µg/dry g					0	30 PASS	
Copper (Cu)	NA	11.2	1	0.0025	0.005	µg/dry g					8	30 PASS	
Iron (Fe)	NA	12700	1	1	5	µg/dry g					3	30 PASS	
Lead (Pb)	NA	10.1	1	0.0025	0.005	µg/dry g					3	30 PASS	
Manganese (Mn)	NA	168	1	0.005	0.01	µg/dry g					12	30 PASS	
Molybdenum (Mo)	NA	0.558	1	0.025	0.05	µg/dry g					9	30 PASS	
Nickel (Ni)	NA	5.3	1	0.01	0.02	µg/dry g					4	30 PASS	
Selenium (Se)	NA	0.172	1	0.025	0.05	µg/dry g					43	30 FAIL	SL
Silver (Ag)	NA	0.284	1	0.01	0.02	µg/dry g					30	30 PASS	
Thallium (Tl)	NA	0.181	1	0.025	0.05	µg/dry g					4	30 PASS	
Vanadium (V)	NA	32	1	0.025	0.05	µg/dry g					5	30 PASS	
Zinc (Zn)	NA	55.2	1	0.025	0.05	µg/dry g					3	30 PASS	

Elements

QUALITY CONTROL REPORT

Sample ID: 94877-MS1 | **2021-E2-EQUIPBLANK_METALS** | **Matrix: Samplewater** | **Sampled: 07-Jan-22 11:00** | **Received: 07-Jan-22**

Method: EPA 200.8 | Batch ID: E-26078 | Prepared: 01-Feb-22 | Analyzed: 03-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Aluminum (Al)	Total	105	1	1.65	8.25	µg/L	100	0	105	75 - 130% PASS			
Antimony (Sb)	Total	111	1	0.03	0.15	µg/L	100	0	111	91 - 121% PASS			
Arsenic (As)	Total	108	1	0.05	0.159	µg/L	100	0	108	94 - 135% PASS			
Barium (Ba)	Total	114	1	0.25	0.5	µg/L	100	3.09	111	90 - 120% PASS			
Beryllium (Be)	Total	108	1	0.01	0.031	µg/L	100	0	108	86 - 118% PASS			
Cadmium (Cd)	Total	105	1	0.007	0.023	µg/L	100	0	105	90 - 120% PASS			
Chromium (Cr)	Total	105	1	0.01	0.05	µg/L	100	0	105	89 - 119% PASS			
Cobalt (Co)	Total	107	1	0.01	0.05	µg/L	100	0	107	87 - 117% PASS			
Copper (Cu)	Total	107	1	0.007	0.022	µg/L	100	0	107	85 - 115% PASS			
Iron (Fe)	Total	103	1	1.13	5.65	µg/L	100	0	103	65 - 134% PASS			
Lead (Pb)	Total	105	1	0.007	0.021	µg/L	100	0	105	78 - 117% PASS			
Manganese (Mn)	Total	105	1	0.005	0.01	µg/L	100	0	105	83 - 125% PASS			
Molybdenum (Mo)	Total	99.8	1	0.007	0.022	µg/L	100	0	100	79 - 133% PASS			
Nickel (Ni)	Total	105	1	0.013	0.042	µg/L	100	0	105	85 - 115% PASS			
Selenium (Se)	Total	108	1	0.021	0.068	µg/L	100	0.0316	108	77 - 144% PASS			
Silver (Ag)	Total	6.2	1	0.01	0.02	µg/L	10	0	62	52 - 115% PASS			
Strontium (Sr)	Total	105	1	0.03	0.15	µg/L	100	0.244	105	75 - 125% PASS			
Thallium (Tl)	Total	99.7	1	0.01	0.05	µg/L	100	0	100	84 - 118% PASS			
Tin (Sn)	Total	100	1	0.06	0.3	µg/L	100	0	100	82 - 132% PASS			
Titanium (Ti)	Total	104	1	0.08	0.4	µg/L	100	0.0889	104	75 - 131% PASS			
Vanadium (V)	Total	105	1	0.03	0.15	µg/L	100	0	105	96 - 126% PASS			
Zinc (Zn)	Total	111	1	0.022	0.069	µg/L	100	0.389	111	85 - 132% PASS			

Elements

QUALITY CONTROL REPORT

Sample ID: 94877-MS2 2021-E2-EQUIPBLANK_METALS **Matrix: Samplewater** **Sampled: 07-Jan-22 11:00** **Received: 07-Jan-22**

Method: EPA 200.8 Batch ID: E-26078 Prepared: 01-Feb-22 Analyzed: 03-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Aluminum (Al)	Total	107	1	1.65	8.25	µg/L	100	0	107	75 - 130%	PASS	2	30	PASS	
Antimony (Sb)	Total	116	1	0.03	0.15	µg/L	100	0	116	91 - 121%	PASS	4	30	PASS	
Arsenic (As)	Total	115	1	0.05	0.159	µg/L	100	0	115	94 - 135%	PASS	6	30	PASS	
Barium (Ba)	Total	117	1	0.25	0.5	µg/L	100	3.09	114	90 - 120%	PASS	3	30	PASS	
Beryllium (Be)	Total	113	1	0.01	0.031	µg/L	100	0	113	86 - 118%	PASS	5	30	PASS	
Cadmium (Cd)	Total	109	1	0.007	0.023	µg/L	100	0	109	90 - 120%	PASS	4	30	PASS	
Chromium (Cr)	Total	109	1	0.01	0.05	µg/L	100	0	109	89 - 119%	PASS	4	30	PASS	
Cobalt (Co)	Total	112	1	0.01	0.05	µg/L	100	0	112	87 - 117%	PASS	5	30	PASS	
Copper (Cu)	Total	110	1	0.007	0.022	µg/L	100	0	110	85 - 115%	PASS	3	30	PASS	
Iron (Fe)	Total	106	1	1.13	5.65	µg/L	100	0	106	65 - 134%	PASS	3	30	PASS	
Lead (Pb)	Total	109	1	0.007	0.021	µg/L	100	0	109	78 - 117%	PASS	4	30	PASS	
Manganese (Mn)	Total	109	1	0.005	0.01	µg/L	100	0	109	83 - 125%	PASS	4	30	PASS	
Molybdenum (Mo)	Total	104	1	0.007	0.022	µg/L	100	0	104	79 - 133%	PASS	4	30	PASS	
Nickel (Ni)	Total	110	1	0.013	0.042	µg/L	100	0	110	85 - 115%	PASS	5	30	PASS	
Selenium (Se)	Total	113	1	0.021	0.068	µg/L	100	0.0316	113	77 - 144%	PASS	5	30	PASS	
Silver (Ag)	Total	7.08	1	0.01	0.02	µg/L	10	0	71	52 - 115%	PASS	14	30	PASS	
Strontium (Sr)	Total	110	1	0.03	0.15	µg/L	100	0.244	110	75 - 125%	PASS	5	30	PASS	
Thallium (Tl)	Total	104	1	0.01	0.05	µg/L	100	0	104	84 - 118%	PASS	4	30	PASS	
Tin (Sn)	Total	106	1	0.06	0.3	µg/L	100	0	106	82 - 132%	PASS	6	30	PASS	
Titanium (Ti)	Total	110	1	0.08	0.4	µg/L	100	0.0889	110	75 - 131%	PASS	6	30	PASS	
Vanadium (V)	Total	110	1	0.03	0.15	µg/L	100	0	110	96 - 126%	PASS	5	30	PASS	
Zinc (Zn)	Total	117	1	0.022	0.069	µg/L	100	0.389	117	85 - 132%	PASS	5	30	PASS	

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
TERRA FAUNA FLORA AQUA AURA
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Elements

QUALITY CONTROL REPORT

Sample ID: 94877-R2 — 2021-E2-EQUIPBLANK_METALS — **Matrix:** Samplewater — **Sampled:** 07-Jan-22 11:00 — **Received:** 07-Jan-22

Method: EPA 200.8 — Batch ID: E-26078 — Prepared: 01-Feb-22 — Analyzed: 03-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Aluminum (Al)	Total	ND	1	1.65	8.25	µg/L					0	30	PASS
Antimony (Sb)	Total	ND	1	0.03	0.15	µg/L					0	30	PASS
Arsenic (As)	Total	ND	1	0.05	0.159	µg/L					0	30	PASS
Barium (Ba)	Total	2.82	1	0.25	0.5	µg/L					9	30	PASS
Beryllium (Be)	Total	ND	1	0.01	0.031	µg/L					0	30	PASS
Cadmium (Cd)	Total	ND	1	0.007	0.023	µg/L					0	30	PASS
Chromium (Cr)	Total	ND	1	0.01	0.05	µg/L					0	30	PASS
Cobalt (Co)	Total	ND	1	0.01	0.05	µg/L					0	30	PASS
Copper (Cu)	Total	ND	1	0.007	0.022	µg/L					0	30	PASS
Iron (Fe)	Total	ND	1	1.13	5.65	µg/L					0	30	PASS
Lead (Pb)	Total	ND	1	0.007	0.021	µg/L					0	30	PASS
Manganese (Mn)	Total	ND	1	0.005	0.01	µg/L					0	30	PASS
Molybdenum (Mo)	Total	ND	1	0.007	0.022	µg/L					0	30	PASS
Nickel (Ni)	Total	ND	1	0.013	0.042	µg/L					0	30	PASS
Selenium (Se)	Total	ND	1	0.021	0.068	µg/L					40	30	FAIL SL
Silver (Ag)	Total	ND	1	0.01	0.02	µg/L					0	30	PASS SL
Strontium (Sr)	Total	0.221	1	0.03	0.15	µg/L					10	30	PASS
Thallium (Tl)	Total	ND	1	0.01	0.05	µg/L					0	30	PASS
Tin (Sn)	Total	ND	1	0.06	0.3	µg/L					0	30	PASS
Titanium (Ti)	Total	ND	1	0.08	0.4	µg/L					11	30	PASS
Vanadium (V)	Total	ND	1	0.03	0.15	µg/L					0	30	PASS
Zinc (Zn)	Total	ND	1	0.022	0.069	µg/L					179	30	FAIL SL

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Organophosphorus Pesticides — QUALITY CONTROL REPORT

Sample ID: 94866-B1 **QAQC Procedural Blank** **Matrix:** BlankMatrix **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Bolstar (Sulprofos)	NA	ND	1	10	20	ng/dry g							
Chlorpyrifos	NA	ND	1	1	2	ng/dry g							
Demeton	NA	ND	1	10	20	ng/dry g							
Diazinon	NA	ND	1	1	2	ng/dry g							
Dichlorvos	NA	ND	1	10	20	ng/dry g							
Dimethoate	NA	ND	1	5	10	ng/dry g							
Disulfoton	NA	ND	1	10	20	ng/dry g							
Ethoprop (Ethoprofos)	NA	ND	1	10	20	ng/dry g							
Fenchlorphos (Ronnel)	NA	ND	1	10	20	ng/dry g							
Fensulfothion	NA	ND	1	10	20	ng/dry g							
Fenthion	NA	ND	1	10	20	ng/dry g							
Malathion	NA	ND	1	5	10	ng/dry g							
Methidathion	NA	ND	1	10	20	ng/dry g							
Methyl Parathion	NA	ND	1	10	20	ng/dry g							
Mevinphos (Phosdrin)	NA	ND	1	10	20	ng/dry g							
Phorate	NA	ND	1	10	20	ng/dry g							
Tetrachlorvinphos (Stirofos)	NA	ND	1	10	20	ng/dry g							
Tokuthion (Prothiofos)	NA	ND	1	10	20	ng/dry g							
Trichloronate	NA	ND	1	10	20	ng/dry g							

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PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Organophosphorus Pesticides

QUALITY CONTROL REPORT

Sample ID: 94866-BS1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Bolstar (Sulprofos)	NA	395	1	10	20	ng/dry g	500	0	79	50 - 150%	PASS			
Chlorpyrifos	NA	373	1	1	2	ng/dry g	500	0	75	50 - 150%	PASS			
Demeton	NA	352	1	10	20	ng/dry g	500	0	70	25 - 125%	PASS			
Diazinon	NA	429	1	1	2	ng/dry g	500	0	86	50 - 150%	PASS			
Dichlorvos	NA	210	1	10	20	ng/dry g	500	0	42	50 - 150%	FAIL			R
Dimethoate	NA	287	1	5	10	ng/dry g	500	0	57	50 - 150%	PASS			
Disulfoton	NA	308	1	10	20	ng/dry g	500	0	62	25 - 125%	PASS			
Ethoprop (Ethoprofos)	NA	380	1	10	20	ng/dry g	500	0	76	50 - 150%	PASS			
Fenchlorphos (Ronnel)	NA	476	1	10	20	ng/dry g	500	0	95	50 - 150%	PASS			
Fensulfothion	NA	435	1	10	20	ng/dry g	500	0	87	50 - 150%	PASS			
Fenthion	NA	439	1	10	20	ng/dry g	500	0	88	50 - 150%	PASS			
Malathion	NA	520	1	5	10	ng/dry g	500	0	104	50 - 150%	PASS			
Methidathion	NA	600	1	10	20	ng/dry g	500	0	120	50 - 150%	PASS			
Methyl Parathion	NA	526	1	10	20	ng/dry g	500	0	105	50 - 150%	PASS			
Mevinphos (Phosdrin)	NA	313	1	10	20	ng/dry g	500	0	63	50 - 150%	PASS			
Phorate	NA	258	1	10	20	ng/dry g	500	0	52	50 - 150%	PASS			
Tetrachlorvinphos (Stirofos)	NA	507	1	10	20	ng/dry g	500	0	101	50 - 150%	PASS			
Tokuthion (Prothiofos)	NA	448	1	10	20	ng/dry g	500	0	90	50 - 150%	PASS			
Trichloronate	NA	394	1	10	20	ng/dry g	500	0	79	50 - 150%	PASS			

Organophosphorus Pesticides

QUALITY CONTROL REPORT

Sample ID: 94866-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Bolstar (Sulprofos)	NA	427	1	10	20	ng/dry g	500	0	85	50 - 150%	PASS	7	30	PASS	
Chlorpyrifos	NA	382	1	1	2	ng/dry g	500	0	76	50 - 150%	PASS	1	30	PASS	
Demeton	NA	342	1	10	20	ng/dry g	500	0	68	25 - 125%	PASS	3	30	PASS	
Diazinon	NA	445	1	1	2	ng/dry g	500	0	89	50 - 150%	PASS	3	30	PASS	
Dichlorvos	NA	255	1	10	20	ng/dry g	500	0	51	50 - 150%	PASS	19	30	PASS	
Dimethoate	NA	285	1	5	10	ng/dry g	500	0	57	50 - 150%	PASS	0	30	PASS	
Disulfoton	NA	285	1	10	20	ng/dry g	500	0	57	25 - 125%	PASS	8	30	PASS	
Ethoprop (Ethoprofos)	NA	383	1	10	20	ng/dry g	500	0	77	50 - 150%	PASS	1	30	PASS	
Fenchlorphos (Ronnel)	NA	479	1	10	20	ng/dry g	500	0	96	50 - 150%	PASS	1	30	PASS	
Fensulfothion	NA	454	1	10	20	ng/dry g	500	0	91	50 - 150%	PASS	4	30	PASS	
Fenthion	NA	439	1	10	20	ng/dry g	500	0	88	50 - 150%	PASS	0	30	PASS	
Malathion	NA	535	1	5	10	ng/dry g	500	0	107	50 - 150%	PASS	3	30	PASS	
Methidathion	NA	598	1	10	20	ng/dry g	500	0	120	50 - 150%	PASS	0	30	PASS	
Methyl Parathion	NA	519	1	10	20	ng/dry g	500	0	104	50 - 150%	PASS	1	30	PASS	
Mevinphos (Phosdrin)	NA	356	1	10	20	ng/dry g	500	0	71	50 - 150%	PASS	12	30	PASS	
Phorate	NA	263	1	10	20	ng/dry g	500	0	53	50 - 150%	PASS	2	30	PASS	
Tetrachlorvinphos (Stirofos)	NA	510	1	10	20	ng/dry g	500	0	102	50 - 150%	PASS	1	30	PASS	
Tokuthion (Prothiofos)	NA	408	1	10	20	ng/dry g	500	0	82	50 - 150%	PASS	9	30	PASS	
Trichloronate	NA	389	1	10	20	ng/dry g	500	0	78	50 - 150%	PASS	1	30	PASS	

Organophosphorus Pesticides

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 94874-MS1	**2021-E2-FLDCHNL-01**					**Matrix: Sediment**		**Sampled: 07-Jan-22 10:35**			**Received: 07-Jan-22**		
	Method: EPA 8270E					Batch ID: O-34030		Prepared: 07-Feb-22			Analyzed: 14-Feb-22		
Bolstar (Sulprofos)	NA	404	1	10	20	ng/dry g	500	0	81	50 - 150%	PASS		
Chlorpyrifos	NA	393	1	1	2	ng/dry g	500	0	79	50 - 150%	PASS		
Demeton	NA	359	1	10	20	ng/dry g	500	0	72	25 - 125%	PASS		
Diazinon	NA	495	1	1	2	ng/dry g	500	0	99	50 - 150%	PASS		
Dichlorvos	NA	298	1	10	20	ng/dry g	500	0	60	50 - 150%	PASS		
Dimethoate	NA	434	1	5	10	ng/dry g	500	0	87	50 - 150%	PASS		
Disulfoton	NA	326	1	10	20	ng/dry g	500	0	65	25 - 125%	PASS		
Ethoprop (Ethoprofos)	NA	391	1	10	20	ng/dry g	500	0	78	50 - 150%	PASS		
Fenchlorphos (Ronnel)	NA	517	1	10	20	ng/dry g	500	0	103	50 - 150%	PASS		
Fensulfothion	NA	376	1	10	20	ng/dry g	500	0	75	50 - 150%	PASS		
Fenthion	NA	510	1	10	20	ng/dry g	500	0	102	50 - 150%	PASS		
Malathion	NA	576	1	5	10	ng/dry g	500	0	115	50 - 150%	PASS		
Methidathion	NA	573	1	10	20	ng/dry g	500	0	115	50 - 150%	PASS		
Methyl Parathion	NA	431	1	10	20	ng/dry g	500	0	86	50 - 150%	PASS		
Mevinphos (Phosdrin)	NA	488	1	10	20	ng/dry g	500	0	98	50 - 150%	PASS		
Phorate	NA	403	1	10	20	ng/dry g	500	0	81	50 - 150%	PASS		
Tetrachlorvinphos (Stirofos)	NA	458	1	10	20	ng/dry g	500	0	92	50 - 150%	PASS		
Tokuthion (Prothiofos)	NA	396	1	10	20	ng/dry g	500	0	79	50 - 150%	PASS		
Trichloronate	NA	428	1	10	20	ng/dry g	500	0	86	50 - 150%	PASS		

Organophosphorus Pesticides

QUALITY CONTROL REPORT

Sample ID: 94874-MS2 **2021-E2-FLDCHNL-01** **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Bolstar (Sulprofos)	NA	396	1	10	20	ng/dry g	500	0	79	50 - 150%	PASS	2	30	PASS
Chlorpyrifos	NA	404	1	1	2	ng/dry g	500	0	81	50 - 150%	PASS	2	30	PASS
Demeton	NA	414	1	10	20	ng/dry g	500	0	83	25 - 125%	PASS	14	30	PASS
Diazinon	NA	518	1	1	2	ng/dry g	500	0	104	50 - 150%	PASS	5	30	PASS
Dichlorvos	NA	328	1	10	20	ng/dry g	500	0	66	50 - 150%	PASS	10	30	PASS
Dimethoate	NA	467	1	5	10	ng/dry g	500	0	93	50 - 150%	PASS	7	30	PASS
Disulfoton	NA	360	1	10	20	ng/dry g	500	0	72	25 - 125%	PASS	10	30	PASS
Ethoprop (Ethoprofos)	NA	412	1	10	20	ng/dry g	500	0	82	50 - 150%	PASS	5	30	PASS
Fenchlorphos (Ronnel)	NA	531	1	10	20	ng/dry g	500	0	106	50 - 150%	PASS	3	30	PASS
Fensulfothion	NA	366	1	10	20	ng/dry g	500	0	73	50 - 150%	PASS	3	30	PASS
Fenthion	NA	530	1	10	20	ng/dry g	500	0	106	50 - 150%	PASS	4	30	PASS
Malathion	NA	603	1	5	10	ng/dry g	500	0	121	50 - 150%	PASS	5	30	PASS
Methidathion	NA	621	1	10	20	ng/dry g	500	0	124	50 - 150%	PASS	8	30	PASS
Methyl Parathion	NA	482	1	10	20	ng/dry g	500	0	96	50 - 150%	PASS	11	30	PASS
Mevinphos (Phosdrin)	NA	537	1	10	20	ng/dry g	500	0	107	50 - 150%	PASS	9	30	PASS
Phorate	NA	428	1	10	20	ng/dry g	500	0	86	50 - 150%	PASS	6	30	PASS
Tetrachlorvinphos (Stirofos)	NA	487	1	10	20	ng/dry g	500	0	97	50 - 150%	PASS	5	30	PASS
Tokuthion (Prothiofos)	NA	413	1	10	20	ng/dry g	500	0	83	50 - 150%	PASS	5	30	PASS
Trichloronate	NA	433	1	10	20	ng/dry g	500	0	87	50 - 150%	PASS	1	30	PASS

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
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PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Organophosphorus Pesticides

QUALITY CONTROL REPORT

Sample ID: 94874-R2 2021-E2-FLDCHNL-01 **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Bolstar (Sulprofos)	NA	ND	1	10	20	ng/dry g					0	30	PASS
Chlorpyrifos	NA	ND	1	1	2	ng/dry g					0	30	PASS
Demeton	NA	ND	1	10	20	ng/dry g					0	30	PASS
Diazinon	NA	ND	1	1	2	ng/dry g					0	30	PASS
Dichlorvos	NA	ND	1	10	20	ng/dry g					0	30	PASS
Dimethoate	NA	ND	1	5	10	ng/dry g					0	30	PASS
Disulfoton	NA	ND	1	10	20	ng/dry g					0	30	PASS
Ethoprop (Ethoprofos)	NA	ND	1	10	20	ng/dry g					0	30	PASS
Fenchlorphos (Ronnel)	NA	ND	1	10	20	ng/dry g					0	30	PASS
Fensulfothion	NA	ND	1	10	20	ng/dry g					0	30	PASS
Fenthion	NA	ND	1	10	20	ng/dry g					0	30	PASS
Malathion	NA	ND	1	5	10	ng/dry g					0	30	PASS
Methidathion	NA	ND	1	10	20	ng/dry g					0	30	PASS
Methyl Parathion	NA	ND	1	10	20	ng/dry g					0	30	PASS
Mevinphos (Phosdrin)	NA	ND	1	10	20	ng/dry g					0	30	PASS
Phorate	NA	ND	1	10	20	ng/dry g					0	30	PASS
Tetrachlorvinphos (Stirofos)	NA	ND	1	10	20	ng/dry g					0	30	PASS
Tokuthion (Prothiofos)	NA	ND	1	10	20	ng/dry g					0	30	PASS
Trichloronate	NA	ND	1	10	20	ng/dry g					0	30	PASS

Particle Size Distribution

QUALITY CONTROL REPORT

Sample ID: 94866-B1 QAQC Procedural Blank | **Matrix:** BlankMatrix | **Sampled:** | **Received:**

Method: SM 2560 D | Batch ID: P-1213 | Prepared: 28-Feb-22 | Analyzed: 28-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Clay <0.0039 mm	NA	ND	1	0.05	0.05	%							
Granule 2.0 <4.0 mm	NA	ND	1	0.05	0.05	%							
Sand 0.0625 to <2.0 mm	NA	ND	1	0.05	0.05	%							
Silt 0.0039 to <0.0625 mm	NA	ND	1	0.05	0.05	%							

Sample ID: 94869-LCM1 QAQC LCM - Physis PSD | **Matrix:** Sediment | **Sampled:** | **Received:**

Method: SM 2560 D | Batch ID: P-1213 | Prepared: 28-Feb-22 | Analyzed: 28-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Clay <0.0039 mm	NA	9.2	1	0.05	0.05	%	10		92	70 - 130% PASS			
Sand 0.0625 to <2.0 mm	NA	57.1	1	0.05	0.05	%	54		106	80 - 120% PASS			
Silt 0.0039 to <0.0625 mm	NA	33.6	1	0.05	0.05	%	36		93	69 - 131% PASS			

Sample ID: 94871-R2 2021-E2-BASINSMGL-01 | **Matrix:** Sediment | **Sampled:** 07-Jan-22 13:00 | **Received:** 07-Jan-22

Method: SM 2560 D | Batch ID: P-1213 | Prepared: 28-Feb-22 | Analyzed: 28-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Clay <0.0039 mm	NA	4.5	1	0.05	0.05	%					24	30 PASS	
Granule 2.0 <4.0 mm	NA	ND	1	0.05	0.05	%					0	30 PASS	
Sand 0.0625 to <2.0 mm	NA	72.9	1	0.05	0.05	%					7	30 PASS	
Silt 0.0039 to <0.0625 mm	NA	22.7	1	0.05	0.05	%					15	30 PASS	

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 94866-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**				**Received:**		
	Method: EPA 8270E					Batch ID: O-34030	Prepared: 07-Feb-22				Analyzed: 13-Feb-22		
PCB003	NA	ND	1	0.1	0.2	ng/dry g							
PCB008	NA	ND	1	0.017	0.2	ng/dry g							
PCB018	NA	ND	1	0.029	0.2	ng/dry g							
PCB028	NA	ND	1	0.023	0.2	ng/dry g							
PCB031	NA	ND	1	0.1	0.2	ng/dry g							
PCB033	NA	ND	1	0.1	0.2	ng/dry g							
PCB037	NA	ND	1	0.06	0.2	ng/dry g							
PCB044	NA	ND	1	0.028	0.2	ng/dry g							
PCB049	NA	ND	1	0.036	0.2	ng/dry g							
PCB052	NA	ND	1	0.012	0.2	ng/dry g							
PCB056(060)	NA	ND	1	0.1	0.2	ng/dry g							
PCB066	NA	ND	1	0.027	0.2	ng/dry g							
PCB070	NA	ND	1	0.023	0.2	ng/dry g							
PCB074	NA	ND	1	0.021	0.2	ng/dry g							
PCB077	NA	ND	1	0.018	0.2	ng/dry g							
PCB081	NA	ND	1	0.084	0.2	ng/dry g							
PCB087	NA	ND	1	0.081	0.2	ng/dry g							
PCB095	NA	ND	1	0.1	0.2	ng/dry g							
PCB097	NA	ND	1	0.1	0.2	ng/dry g							
PCB099	NA	ND	1	0.028	0.2	ng/dry g							
PCB101	NA	ND	1	0.027	0.2	ng/dry g							
PCB105	NA	ND	1	0.047	0.2	ng/dry g							
PCB110	NA	ND	1	0.074	0.2	ng/dry g							

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
PCB114	NA	ND	1	0.072	0.2	ng/dry g							
PCB118	NA	ND	1	0.069	0.2	ng/dry g							
PCB119	NA	ND	1	0.071	0.2	ng/dry g							
PCB123	NA	ND	1	0.018	0.2	ng/dry g							
PCB126	NA	ND	1	0.086	0.2	ng/dry g							
PCB128	NA	ND	1	0.081	0.2	ng/dry g							
PCB138	NA	ND	1	0.057	0.2	ng/dry g							
PCB141	NA	ND	1	0.1	0.2	ng/dry g							
PCB149	NA	ND	1	0.092	0.2	ng/dry g							
PCB151	NA	ND	1	0.073	0.2	ng/dry g							
PCB153	NA	ND	1	0.065	0.2	ng/dry g							
PCB156	NA	ND	1	0.089	0.2	ng/dry g							
PCB157	NA	ND	1	0.103	0.2	ng/dry g							
PCB158	NA	ND	1	0.074	0.2	ng/dry g							
PCB167	NA	ND	1	0.049	0.2	ng/dry g							
PCB168+132	NA	ND	1	0.094	0.2	ng/dry g							
PCB169	NA	ND	1	0.116	0.2	ng/dry g							
PCB170	NA	ND	1	0.118	0.25	ng/dry g							
PCB174	NA	ND	1	0.12	0.25	ng/dry g							
PCB177	NA	ND	1	0.085	0.25	ng/dry g							
PCB180	NA	ND	1	0.154	0.25	ng/dry g							
PCB183	NA	ND	1	0.056	0.25	ng/dry g							
PCB187	NA	ND	1	0.168	0.25	ng/dry g							
PCB189	NA	ND	1	0.109	0.25	ng/dry g							
PCB194	NA	ND	1	0.164	0.25	ng/dry g							
PCB195	NA	ND	1	0.093	0.25	ng/dry g							

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
PCB199(200)	NA	ND	1	0.12	0.25	ng/dry g							
PCB201	NA	ND	1	0.104	0.25	ng/dry g							
PCB206	NA	ND	1	0.155	0.25	ng/dry g							
PCB209	NA	ND	1	0.12	0.25	ng/dry g							

PCB Congeners

QUALITY CONTROL REPORT

Sample ID: 94866-BS1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
PCB003	NA	34.8	1	0.1	0.2	ng/dry g	50	0	70	56 - 116% PASS			
PCB008	NA	32.5	1	0.017	0.2	ng/dry g	50	0	65	63 - 119% PASS			
PCB018	NA	49.4	1	0.029	0.2	ng/dry g	50	0	99	68 - 119% PASS			
PCB028	NA	39.8	1	0.023	0.2	ng/dry g	50	0	80	67 - 123% PASS			
PCB031	NA	42.3	1	0.1	0.2	ng/dry g	50	0	85	70 - 127% PASS			
PCB033	NA	43.7	1	0.1	0.2	ng/dry g	50	0	87	70 - 123% PASS			
PCB037	NA	51.9	1	0.06	0.2	ng/dry g	50	0	104	77 - 116% PASS			
PCB044	NA	41.4	1	0.028	0.2	ng/dry g	50	0	83	76 - 114% PASS			
PCB049	NA	47.8	1	0.036	0.2	ng/dry g	50	0	96	72 - 122% PASS			
PCB052	NA	38.4	1	0.012	0.2	ng/dry g	50	0	77	74 - 119% PASS			
PCB056(060)	NA	43.3	1	0.1	0.2	ng/dry g	50	0	87	73 - 120% PASS			
PCB066	NA	43.3	1	0.027	0.2	ng/dry g	50	0	87	75 - 117% PASS			
PCB070	NA	44.2	1	0.023	0.2	ng/dry g	50	0	88	76 - 117% PASS			
PCB074	NA	44.8	1	0.021	0.2	ng/dry g	50	0	90	74 - 121% PASS			
PCB077	NA	48.4	1	0.018	0.2	ng/dry g	50	0	97	73 - 121% PASS			
PCB081	NA	46.9	1	0.084	0.2	ng/dry g	50	0	94	73 - 125% PASS			
PCB087	NA	44.1	1	0.081	0.2	ng/dry g	50	0	88	76 - 119% PASS			
PCB095	NA	36.9	1	0.1	0.2	ng/dry g	50	0	74	74 - 114% PASS			
PCB097	NA	42.2	1	0.1	0.2	ng/dry g	50	0	84	75 - 126% PASS			
PCB099	NA	40.9	1	0.028	0.2	ng/dry g	50	0	82	77 - 118% PASS			
PCB101	NA	38.4	1	0.027	0.2	ng/dry g	50	0	77	76 - 119% PASS			
PCB105	NA	55.1	1	0.047	0.2	ng/dry g	50	0	110	71 - 121% PASS			
PCB110	NA	40.6	1	0.074	0.2	ng/dry g	50	0	81	71 - 120% PASS			

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB114	NA	40.9	1	0.072	0.2	ng/dry g	50	0	82	71 - 120%	PASS			
PCB118	NA	45.2	1	0.069	0.2	ng/dry g	50	0	90	75 - 117%	PASS			
PCB119	NA	39.4	1	0.071	0.2	ng/dry g	50	0	79	74 - 121%	PASS			
PCB123	NA	39.7	1	0.018	0.2	ng/dry g	50	0	79	75 - 119%	PASS			
PCB126	NA	45.1	1	0.086	0.2	ng/dry g	50	0	90	67 - 139%	PASS			
PCB128	NA	58.9	1	0.081	0.2	ng/dry g	50	0	118	71 - 128%	PASS			
PCB138	NA	42.7	1	0.057	0.2	ng/dry g	50	0	85	74 - 123%	PASS			
PCB141	NA	42.2	1	0.1	0.2	ng/dry g	50	0	84	71 - 118%	PASS			
PCB149	NA	36.7	1	0.092	0.2	ng/dry g	50	0	73	70 - 117%	PASS			
PCB151	NA	42.5	1	0.073	0.2	ng/dry g	50	0	85	75 - 124%	PASS			
PCB153	NA	46	1	0.065	0.2	ng/dry g	50	0	92	76 - 122%	PASS			
PCB156	NA	41.6	1	0.089	0.2	ng/dry g	50	0	83	68 - 139%	PASS			
PCB157	NA	55.9	1	0.103	0.2	ng/dry g	50	0	112	73 - 124%	PASS			
PCB158	NA	54.6	1	0.074	0.2	ng/dry g	50	0	109	70 - 130%	PASS			
PCB167	NA	48.9	1	0.049	0.2	ng/dry g	50	0	98	67 - 136%	PASS			
PCB168+132	NA	88.4	1	0.094	0.2	ng/dry g	100	0	88	74 - 116%	PASS			
PCB169	NA	51.7	1	0.116	0.2	ng/dry g	50	0	103	60 - 153%	PASS			
PCB170	NA	55.2	1	0.118	0.25	ng/dry g	50	0	110	66 - 135%	PASS			
PCB174	NA	53.7	1	0.12	0.25	ng/dry g	50	0	107	73 - 120%	PASS			
PCB177	NA	53	1	0.085	0.25	ng/dry g	50	0	106	73 - 128%	PASS			
PCB180	NA	61	1	0.154	0.25	ng/dry g	50	0	122	72 - 132%	PASS			
PCB183	NA	45.7	1	0.056	0.25	ng/dry g	50	0	91	79 - 119%	PASS			
PCB187	NA	47.3	1	0.168	0.25	ng/dry g	50	0	95	77 - 121%	PASS			
PCB189	NA	43.9	1	0.109	0.25	ng/dry g	50	0	88	54 - 154%	PASS			
PCB194	NA	46.9	1	0.164	0.25	ng/dry g	50	0	94	57 - 147%	PASS			
PCB195	NA	61.4	1	0.093	0.25	ng/dry g	50	0	123	64 - 136%	PASS			

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY			PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS		%	LIMITS	
PCB199(200)	NA	55	1	0.12	0.25	ng/dry g	50	0	110	76 - 116%	PASS			
PCB201	NA	45.9	1	0.104	0.25	ng/dry g	50	0	92	71 - 119%	PASS			
PCB206	NA	55.1	1	0.155	0.25	ng/dry g	50	0	110	56 - 145%	PASS			
PCB209	NA	51.9	1	0.12	0.25	ng/dry g	50	0	104	59 - 140%	PASS			

PCB Congeners

QUALITY CONTROL REPORT

Sample ID: 94866-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
PCB003	NA	37	1	0.1	0.2	ng/dry g	50	0	74	56 - 116%	PASS	6	30	PASS	
PCB008	NA	36.1	1	0.017	0.2	ng/dry g	50	0	72	63 - 119%	PASS	10	30	PASS	
PCB018	NA	42	1	0.029	0.2	ng/dry g	50	0	84	68 - 119%	PASS	16	30	PASS	
PCB028	NA	39.4	1	0.023	0.2	ng/dry g	50	0	79	67 - 123%	PASS	1	30	PASS	
PCB031	NA	43.8	1	0.1	0.2	ng/dry g	50	0	88	70 - 127%	PASS	3	30	PASS	
PCB033	NA	35.2	1	0.1	0.2	ng/dry g	50	0	70	70 - 123%	PASS	22	30	PASS	
PCB037	NA	50.6	1	0.06	0.2	ng/dry g	50	0	101	77 - 116%	PASS	3	30	PASS	
PCB044	NA	43.4	1	0.028	0.2	ng/dry g	50	0	87	76 - 114%	PASS	5	30	PASS	
PCB049	NA	48.8	1	0.036	0.2	ng/dry g	50	0	98	72 - 122%	PASS	2	30	PASS	
PCB052	NA	40.7	1	0.012	0.2	ng/dry g	50	0	81	74 - 119%	PASS	5	30	PASS	
PCB056(060)	NA	45	1	0.1	0.2	ng/dry g	50	0	90	73 - 120%	PASS	3	30	PASS	
PCB066	NA	45.5	1	0.027	0.2	ng/dry g	50	0	91	75 - 117%	PASS	4	30	PASS	
PCB070	NA	45.9	1	0.023	0.2	ng/dry g	50	0	92	76 - 117%	PASS	4	30	PASS	
PCB074	NA	46	1	0.021	0.2	ng/dry g	50	0	92	74 - 121%	PASS	2	30	PASS	
PCB077	NA	45.9	1	0.018	0.2	ng/dry g	50	0	92	73 - 121%	PASS	5	30	PASS	
PCB081	NA	43.9	1	0.084	0.2	ng/dry g	50	0	88	73 - 125%	PASS	7	30	PASS	
PCB087	NA	44.7	1	0.081	0.2	ng/dry g	50	0	89	76 - 119%	PASS	1	30	PASS	
PCB095	NA	37.8	1	0.1	0.2	ng/dry g	50	0	76	74 - 114%	PASS	3	30	PASS	
PCB097	NA	43.3	1	0.1	0.2	ng/dry g	50	0	87	75 - 126%	PASS	4	30	PASS	
PCB099	NA	41.7	1	0.028	0.2	ng/dry g	50	0	83	77 - 118%	PASS	1	30	PASS	
PCB101	NA	39.5	1	0.027	0.2	ng/dry g	50	0	79	76 - 119%	PASS	3	30	PASS	
PCB105	NA	53.1	1	0.047	0.2	ng/dry g	50	0	106	71 - 121%	PASS	4	30	PASS	
PCB110	NA	42.1	1	0.074	0.2	ng/dry g	50	0	84	71 - 120%	PASS	4	30	PASS	

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
PCB114	NA	41.2	1	0.072	0.2	ng/dry g	50	0	82	71 - 120%	PASS	0	30	PASS	
PCB118	NA	45.5	1	0.069	0.2	ng/dry g	50	0	91	75 - 117%	PASS	1	30	PASS	
PCB119	NA	40.6	1	0.071	0.2	ng/dry g	50	0	81	74 - 121%	PASS	2	30	PASS	
PCB123	NA	38.9	1	0.018	0.2	ng/dry g	50	0	78	75 - 119%	PASS	1	30	PASS	
PCB126	NA	51	1	0.086	0.2	ng/dry g	50	0	102	67 - 139%	PASS	12	30	PASS	
PCB128	NA	54.9	1	0.081	0.2	ng/dry g	50	0	110	71 - 128%	PASS	7	30	PASS	
PCB138	NA	42.1	1	0.057	0.2	ng/dry g	50	0	84	74 - 123%	PASS	1	30	PASS	
PCB141	NA	38.4	1	0.1	0.2	ng/dry g	50	0	77	71 - 118%	PASS	9	30	PASS	
PCB149	NA	37.1	1	0.092	0.2	ng/dry g	50	0	74	70 - 117%	PASS	1	30	PASS	
PCB151	NA	41	1	0.073	0.2	ng/dry g	50	0	82	75 - 124%	PASS	4	30	PASS	
PCB153	NA	46	1	0.065	0.2	ng/dry g	50	0	92	76 - 122%	PASS	0	30	PASS	
PCB156	NA	47.6	1	0.089	0.2	ng/dry g	50	0	95	68 - 139%	PASS	13	30	PASS	
PCB157	NA	51.4	1	0.103	0.2	ng/dry g	50	0	103	73 - 124%	PASS	8	30	PASS	
PCB158	NA	52	1	0.074	0.2	ng/dry g	50	0	104	70 - 130%	PASS	5	30	PASS	
PCB167	NA	50	1	0.049	0.2	ng/dry g	50	0	100	67 - 136%	PASS	2	30	PASS	
PCB168+132	NA	86.9	1	0.094	0.2	ng/dry g	100	0	87	74 - 116%	PASS	1	30	PASS	
PCB169	NA	50.4	1	0.116	0.2	ng/dry g	50	0	101	60 - 153%	PASS	2	30	PASS	
PCB170	NA	50.5	1	0.118	0.25	ng/dry g	50	0	101	66 - 135%	PASS	9	30	PASS	
PCB174	NA	47.5	1	0.12	0.25	ng/dry g	50	0	95	73 - 120%	PASS	12	30	PASS	
PCB177	NA	50.5	1	0.085	0.25	ng/dry g	50	0	101	73 - 128%	PASS	5	30	PASS	
PCB180	NA	55.2	1	0.154	0.25	ng/dry g	50	0	110	72 - 132%	PASS	10	30	PASS	
PCB183	NA	44.3	1	0.056	0.25	ng/dry g	50	0	89	79 - 119%	PASS	2	30	PASS	
PCB187	NA	48.8	1	0.168	0.25	ng/dry g	50	0	98	77 - 121%	PASS	3	30	PASS	
PCB189	NA	49.8	1	0.109	0.25	ng/dry g	50	0	100	54 - 154%	PASS	13	30	PASS	
PCB194	NA	45	1	0.164	0.25	ng/dry g	50	0	90	57 - 147%	PASS	4	30	PASS	
PCB195	NA	65.5	1	0.093	0.25	ng/dry g	50	0	131	64 - 136%	PASS	6	30	PASS	

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
PCB199(200)	NA	55.2	1	0.12	0.25	ng/dry g	50	0	110	76 - 116%	PASS	0	30	PASS	
PCB201	NA	39.5	1	0.104	0.25	ng/dry g	50	0	79	71 - 119%	PASS	15	30	PASS	
PCB206	NA	54.3	1	0.155	0.25	ng/dry g	50	0	109	56 - 145%	PASS	1	30	PASS	
PCB209	NA	55.8	1	0.12	0.25	ng/dry g	50	0	112	59 - 140%	PASS	7	30	PASS	

PCB Congeners

QUALITY CONTROL REPORT

Sample ID: 94868-CRM1 QAQC CRM - SRM 1944 | Matrix: Sediment | Sampled: | Received:

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB008	NA	14.9	1	0.017	0.2	ng/dry g	22.3		67	43 - 150%	PASS			
PCB018	NA	37.9	1	0.029	0.2	ng/dry g	51		74	50 - 143%	PASS			
PCB028	NA	68.7	1	0.023	0.2	ng/dry g	80.8		85	44 - 145%	PASS			
PCB031	NA	70.1	1	0.1	0.2	ng/dry g	78.7		89	49 - 137%	PASS			
PCB044	NA	49.5	1	0.028	0.2	ng/dry g	60.2		82	43 - 110%	PASS			
PCB049	NA	43.6	1	0.036	0.2	ng/dry g	53		82	41 - 145%	PASS			
PCB052	NA	61.6	1	0.012	0.2	ng/dry g	79.4		78	45 - 110%	PASS			
PCB066	NA	59.9	1	0.027	0.2	ng/dry g	71.9		83	32 - 110%	PASS			
PCB087	NA	24.4	1	0.081	0.2	ng/dry g	29.9		82	41 - 110%	PASS			
PCB095	NA	61.2	1	0.1	0.2	ng/dry g	65		94	47 - 110%	PASS			
PCB099	NA	32.4	1	0.028	0.2	ng/dry g	37.5		86	33 - 110%	PASS			
PCB101	NA	58.4	1	0.027	0.2	ng/dry g	73.4		80	41 - 110%	PASS			
PCB105	NA	20.2	1	0.047	0.2	ng/dry g	24.5		82	12 - 111%	PASS			
PCB110	NA	59.7	1	0.074	0.2	ng/dry g	63.5		94	41 - 110%	PASS			
PCB118	NA	49.3	1	0.069	0.2	ng/dry g	58		85	34 - 110%	PASS			
PCB128	NA	7.12	1	0.081	0.2	ng/dry g	8.5		84	32 - 137%	PASS			
PCB138	NA	55.8	1	0.057	0.2	ng/dry g	62.1		90	34 - 142%	PASS			
PCB149	NA	42.1	1	0.092	0.2	ng/dry g	49.7		85	44 - 128%	PASS			
PCB151	NA	17.7	1	0.073	0.2	ng/dry g	16.9		105	37 - 122%	PASS			
PCB153	NA	57.5	1	0.065	0.2	ng/dry g	74		78	39 - 110%	PASS			
PCB156	NA	5.78	1	0.089	0.2	ng/dry g	6.5		89	35 - 120%	PASS			
PCB170	NA	19.9	1	0.118	0.25	ng/dry g	22.6		88	34 - 148%	PASS			
PCB174	NA	17	1	0.12	0.25	ng/dry g	16		106	59 - 145%	PASS			

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB180	NA	53.8	1	0.154	0.25	ng/dry g	44.3		121	44 - 132%	PASS			
PCB183	NA	13.4	1	0.056	0.25	ng/dry g	12.2		110	53 - 131%	PASS			
PCB187	NA	24.2	1	0.168	0.25	ng/dry g	25.1		96	56 - 131%	PASS			
PCB194	NA	10	1	0.164	0.25	ng/dry g	11.2		89	34 - 166%	PASS			
PCB195	NA	3.55	1	0.093	0.25	ng/dry g	3.8		93	40 - 173%	PASS			
PCB206	NA	10.7	1	0.155	0.25	ng/dry g	9.2		116	50 - 159%	PASS			
PCB209	NA	7.03	1	0.12	0.25	ng/dry g	6.8		103	35 - 165%	PASS			

PCB Congeners

QUALITY CONTROL REPORT

Sample ID: 94874-MS1 **2021-E2-FLDCHNL-01** **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB003	NA	34.3	1	0.1	0.2	ng/dry g	50	0	69	51 - 134%	PASS			
PCB008	NA	31.1	1	0.017	0.2	ng/dry g	50	0	62	55 - 127%	PASS			
PCB018	NA	34.7	1	0.029	0.2	ng/dry g	50	0	69	69 - 115%	PASS			
PCB028	NA	38.6	1	0.023	0.2	ng/dry g	50	0	77	58 - 127%	PASS			
PCB031	NA	32.2	1	0.1	0.2	ng/dry g	50	0	64	52 - 135%	PASS			
PCB033	NA	32.5	1	0.1	0.2	ng/dry g	50	0	65	64 - 127%	PASS			
PCB037	NA	47.4	1	0.06	0.2	ng/dry g	50	0	95	70 - 120%	PASS			
PCB044	NA	37.7	1	0.028	0.2	ng/dry g	50	0	75	72 - 112%	PASS			
PCB049	NA	37.3	1	0.036	0.2	ng/dry g	50	0	75	68 - 119%	PASS			
PCB052	NA	36.6	1	0.012	0.2	ng/dry g	50	0	73	75 - 113%	FAIL			M
PCB056(060)	NA	30	1	0.1	0.2	ng/dry g	50	0	60	68 - 120%	FAIL			M
PCB066	NA	32.9	1	0.027	0.2	ng/dry g	50	0	66	72 - 115%	FAIL			M
PCB070	NA	34.7	1	0.023	0.2	ng/dry g	50	0	69	67 - 125%	PASS			
PCB074	NA	31.7	1	0.021	0.2	ng/dry g	50	0	63	69 - 118%	FAIL			M
PCB077	NA	55.4	1	0.018	0.2	ng/dry g	50	0	111	63 - 127%	PASS			
PCB081	NA	46.1	1	0.084	0.2	ng/dry g	50	0	92	67 - 125%	PASS			
PCB087	NA	30.9	1	0.081	0.2	ng/dry g	50	0	62	71 - 116%	FAIL			M
PCB095	NA	42.6	1	0.1	0.2	ng/dry g	50	0	85	74 - 113%	PASS			
PCB097	NA	30.4	1	0.1	0.2	ng/dry g	50	0	61	68 - 129%	FAIL			M
PCB099	NA	36.4	1	0.028	0.2	ng/dry g	50	0	73	75 - 117%	FAIL			M
PCB101	NA	37.3	1	0.027	0.2	ng/dry g	50	0	75	74 - 120%	PASS			
PCB105	NA	61.8	1	0.047	0.2	ng/dry g	50	0	124	64 - 126%	PASS			
PCB110	NA	40.2	1	0.074	0.2	ng/dry g	50	0.135	80	66 - 123%	PASS			

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB114	NA	38.3	1	0.072	0.2	ng/dry g	50	0	77	63 - 124%	PASS			
PCB118	NA	35.1	1	0.069	0.2	ng/dry g	50	0	70	68 - 123%	PASS			
PCB119	NA	27	1	0.071	0.2	ng/dry g	50	0	54	66 - 125%	FAIL			M
PCB123	NA	35.8	1	0.018	0.2	ng/dry g	50	0	72	73 - 117%	FAIL			M
PCB126	NA	48.9	1	0.086	0.2	ng/dry g	50	0	98	55 - 150%	PASS			
PCB128	NA	59	1	0.081	0.2	ng/dry g	50	0	118	67 - 135%	PASS			
PCB138	NA	52.6	1	0.057	0.2	ng/dry g	50	0.46	104	61 - 135%	PASS			
PCB141	NA	44	1	0.1	0.2	ng/dry g	50	0	88	67 - 126%	PASS			
PCB149	NA	41.2	1	0.092	0.2	ng/dry g	50	0.17	82	64 - 123%	PASS			
PCB151	NA	39.9	1	0.073	0.2	ng/dry g	50	0	80	69 - 125%	PASS			
PCB153	NA	53.4	1	0.065	0.2	ng/dry g	50	0.677	105	74 - 126%	PASS			
PCB156	NA	55	1	0.089	0.2	ng/dry g	50	0	110	61 - 143%	PASS			
PCB157	NA	57.2	1	0.103	0.2	ng/dry g	50	0	114	61 - 130%	PASS			
PCB158	NA	60	1	0.074	0.2	ng/dry g	50	0	120	68 - 128%	PASS			
PCB167	NA	40.8	1	0.049	0.2	ng/dry g	50	0	82	68 - 129%	PASS			
PCB168+132	NA	87.4	1	0.094	0.2	ng/dry g	100	0	87	68 - 118%	PASS			
PCB169	NA	42.2	1	0.116	0.2	ng/dry g	50	0	84	50 - 163%	PASS			
PCB170	NA	42.1	1	0.118	0.25	ng/dry g	50	0	84	69 - 132%	PASS			
PCB174	NA	49.4	1	0.12	0.25	ng/dry g	50	0.223	98	74 - 122%	PASS			
PCB177	NA	54.4	1	0.085	0.25	ng/dry g	50	0	109	74 - 128%	PASS			
PCB180	NA	51.3	1	0.154	0.25	ng/dry g	50	0.676	101	75 - 128%	PASS			
PCB183	NA	51.6	1	0.056	0.25	ng/dry g	50	0	103	69 - 130%	PASS			
PCB187	NA	54.3	1	0.168	0.25	ng/dry g	50	0.508	108	77 - 122%	PASS			
PCB189	NA	49.9	1	0.109	0.25	ng/dry g	50	0	100	61 - 157%	PASS			
PCB194	NA	48.1	1	0.164	0.25	ng/dry g	50	0	96	58 - 154%	PASS			
PCB195	NA	53.8	1	0.093	0.25	ng/dry g	50	0	108	61 - 140%	PASS			

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
PCB199(200)	NA	58.6	1	0.12	0.25	ng/dry g	50	0	117	71 - 119%	PASS			
PCB201	NA	37.5	1	0.104	0.25	ng/dry g	50	0	75	58 - 136%	PASS			
PCB206	NA	42.3	1	0.155	0.25	ng/dry g	50	0	85	62 - 143%	PASS			
PCB209	NA	44.1	1	0.12	0.25	ng/dry g	50	0	88	63 - 133%	PASS			

PCB Congeners

QUALITY CONTROL REPORT

Sample ID: 94874-MS2 2021-E2-FLDCHNL-01 | **Matrix: Sediment** | **Sampled: 07-Jan-22 10:35** | **Received: 07-Jan-22**

Method: EPA 8270E | Batch ID: O-34030 | Prepared: 07-Feb-22 | Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
PCB003	NA	36.2	1	0.1	0.2	ng/dry g	50	0	72	51 - 134%	PASS	4	30	PASS	
PCB008	NA	31	1	0.017	0.2	ng/dry g	50	0	62	55 - 127%	PASS	0	30	PASS	
PCB018	NA	35.6	1	0.029	0.2	ng/dry g	50	0	71	69 - 115%	PASS	3	30	PASS	
PCB028	NA	39	1	0.023	0.2	ng/dry g	50	0	78	58 - 127%	PASS	1	30	PASS	
PCB031	NA	32.1	1	0.1	0.2	ng/dry g	50	0	64	52 - 135%	PASS	0	30	PASS	
PCB033	NA	32.1	1	0.1	0.2	ng/dry g	50	0	64	64 - 127%	PASS	2	30	PASS	
PCB037	NA	47.7	1	0.06	0.2	ng/dry g	50	0	95	70 - 120%	PASS	0	30	PASS	
PCB044	NA	37	1	0.028	0.2	ng/dry g	50	0	74	72 - 112%	PASS	1	30	PASS	
PCB049	NA	37.6	1	0.036	0.2	ng/dry g	50	0	75	68 - 119%	PASS	0	30	PASS	
PCB052	NA	35.6	1	0.012	0.2	ng/dry g	50	0	71	75 - 113%	FAIL	3	30	PASS	M
PCB056(060)	NA	30	1	0.1	0.2	ng/dry g	50	0	60	68 - 120%	FAIL	0	30	PASS	M
PCB066	NA	31.9	1	0.027	0.2	ng/dry g	50	0	64	72 - 115%	FAIL	3	30	PASS	M
PCB070	NA	31.8	1	0.023	0.2	ng/dry g	50	0	64	67 - 125%	FAIL	8	30	PASS	M
PCB074	NA	31.9	1	0.021	0.2	ng/dry g	50	0	64	69 - 118%	FAIL	2	30	PASS	M
PCB077	NA	56	1	0.018	0.2	ng/dry g	50	0	112	63 - 127%	PASS	1	30	PASS	
PCB081	NA	44.7	1	0.084	0.2	ng/dry g	50	0	89	67 - 125%	PASS	3	30	PASS	
PCB087	NA	29.3	1	0.081	0.2	ng/dry g	50	0	59	71 - 116%	FAIL	5	30	PASS	M
PCB095	NA	43.3	1	0.1	0.2	ng/dry g	50	0	87	74 - 113%	PASS	2	30	PASS	
PCB097	NA	32	1	0.1	0.2	ng/dry g	50	0	64	68 - 129%	FAIL	5	30	PASS	M
PCB099	NA	37.5	1	0.028	0.2	ng/dry g	50	0	75	75 - 117%	PASS	3	30	PASS	
PCB101	NA	34.6	1	0.027	0.2	ng/dry g	50	0	69	74 - 120%	FAIL	8	30	PASS	M
PCB105	NA	57.8	1	0.047	0.2	ng/dry g	50	0	116	64 - 126%	PASS	7	30	PASS	
PCB110	NA	40.5	1	0.074	0.2	ng/dry g	50	0.135	81	66 - 123%	PASS	1	30	PASS	

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
PCB114	NA	40.6	1	0.072	0.2	ng/dry g	50	0	81	63 - 124%	PASS	5	30	PASS	
PCB118	NA	36.4	1	0.069	0.2	ng/dry g	50	0	73	68 - 123%	PASS	4	30	PASS	
PCB119	NA	25.7	1	0.071	0.2	ng/dry g	50	0	51	66 - 125%	FAIL	6	30	PASS	M
PCB123	NA	35.8	1	0.018	0.2	ng/dry g	50	0	72	73 - 117%	FAIL	0	30	PASS	M
PCB126	NA	46.5	1	0.086	0.2	ng/dry g	50	0	93	55 - 150%	PASS	5	30	PASS	
PCB128	NA	62	1	0.081	0.2	ng/dry g	50	0	124	67 - 135%	PASS	5	30	PASS	
PCB138	NA	48.8	1	0.057	0.2	ng/dry g	50	0.46	97	61 - 135%	PASS	7	30	PASS	
PCB141	NA	42.7	1	0.1	0.2	ng/dry g	50	0	85	67 - 126%	PASS	3	30	PASS	
PCB149	NA	41.5	1	0.092	0.2	ng/dry g	50	0.17	83	64 - 123%	PASS	1	30	PASS	
PCB151	NA	40.1	1	0.073	0.2	ng/dry g	50	0	80	69 - 125%	PASS	0	30	PASS	
PCB153	NA	52	1	0.065	0.2	ng/dry g	50	0.677	103	74 - 126%	PASS	2	30	PASS	
PCB156	NA	49.6	1	0.089	0.2	ng/dry g	50	0	99	61 - 143%	PASS	11	30	PASS	
PCB157	NA	56.5	1	0.103	0.2	ng/dry g	50	0	113	61 - 130%	PASS	1	30	PASS	
PCB158	NA	57.7	1	0.074	0.2	ng/dry g	50	0	115	68 - 128%	PASS	4	30	PASS	
PCB167	NA	46.8	1	0.049	0.2	ng/dry g	50	0	94	68 - 129%	PASS	14	30	PASS	
PCB168+132	NA	84.3	1	0.094	0.2	ng/dry g	100	0	84	68 - 118%	PASS	4	30	PASS	
PCB169	NA	42.7	1	0.116	0.2	ng/dry g	50	0	85	50 - 163%	PASS	1	30	PASS	
PCB170	NA	45.4	1	0.118	0.25	ng/dry g	50	0	91	69 - 132%	PASS	8	30	PASS	
PCB174	NA	50.6	1	0.12	0.25	ng/dry g	50	0.223	101	74 - 122%	PASS	3	30	PASS	
PCB177	NA	54.7	1	0.085	0.25	ng/dry g	50	0	109	74 - 128%	PASS	0	30	PASS	
PCB180	NA	52.6	1	0.154	0.25	ng/dry g	50	0.676	104	75 - 128%	PASS	3	30	PASS	
PCB183	NA	48.9	1	0.056	0.25	ng/dry g	50	0	98	69 - 130%	PASS	5	30	PASS	
PCB187	NA	50.5	1	0.168	0.25	ng/dry g	50	0.508	100	77 - 122%	PASS	8	30	PASS	
PCB189	NA	45.6	1	0.109	0.25	ng/dry g	50	0	91	61 - 157%	PASS	9	30	PASS	
PCB194	NA	48.5	1	0.164	0.25	ng/dry g	50	0	97	58 - 154%	PASS	1	30	PASS	
PCB195	NA	50.5	1	0.093	0.25	ng/dry g	50	0	101	61 - 140%	PASS	7	30	PASS	

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
PCB199(200)	NA	49.6	1	0.12	0.25	ng/dry g	50	0	99	71 - 119%	PASS	17	30	PASS	
PCB201	NA	45.9	1	0.104	0.25	ng/dry g	50	0	92	58 - 136%	PASS	20	30	PASS	
PCB206	NA	46.3	1	0.155	0.25	ng/dry g	50	0	93	62 - 143%	PASS	9	30	PASS	
PCB209	NA	43.3	1	0.12	0.25	ng/dry g	50	0	87	63 - 133%	PASS	1	30	PASS	

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

PCB Congeners

QUALITY CONTROL REPORT

Sample ID: 94874-R2 **2021-E2-FLDCHNL-01** **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
PCB003	NA	ND	1	0.1	0.2	ng/dry g					0	30 PASS	
PCB008	NA	ND	1	0.017	0.2	ng/dry g					0	30 PASS	
PCB018	NA	ND	1	0.029	0.2	ng/dry g					0	30 PASS	
PCB028	NA	ND	1	0.023	0.2	ng/dry g					0	30 PASS	
PCB031	NA	ND	1	0.1	0.2	ng/dry g					0	30 PASS	
PCB033	NA	ND	1	0.1	0.2	ng/dry g					0	30 PASS	
PCB037	NA	ND	1	0.06	0.2	ng/dry g					0	30 PASS	
PCB044	NA	ND	1	0.028	0.2	ng/dry g					0	30 PASS	
PCB049	NA	ND	1	0.036	0.2	ng/dry g					0	30 PASS	
PCB052	NA	ND	1	0.012	0.2	ng/dry g					0	30 PASS	
PCB056(060)	NA	ND	1	0.1	0.2	ng/dry g					0	30 PASS	
PCB066	NA	ND	1	0.027	0.2	ng/dry g					0	30 PASS	
PCB070	NA	ND	1	0.023	0.2	ng/dry g					0	30 PASS	
PCB074	NA	ND	1	0.021	0.2	ng/dry g					0	30 PASS	
PCB077	NA	ND	1	0.018	0.2	ng/dry g					0	30 PASS	
PCB081	NA	ND	1	0.084	0.2	ng/dry g					0	30 PASS	
PCB087	NA	ND	1	0.081	0.2	ng/dry g					0	30 PASS	
PCB095	NA	ND	1	0.1	0.2	ng/dry g					0	30 PASS	
PCB097	NA	ND	1	0.1	0.2	ng/dry g					0	30 PASS	
PCB099	NA	ND	1	0.028	0.2	ng/dry g					0	30 PASS	
PCB101	NA	ND	1	0.027	0.2	ng/dry g					0	30 PASS	
PCB105	NA	ND	1	0.047	0.2	ng/dry g					0	30 PASS	
PCB110	NA	0.12	1	0.074	0.2	ng/dry g					12	30 PASS	J

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS		QA CODEc
PCB114	NA	ND	1	0.072	0.2	ng/dry g					0	30	PASS	
PCB118	NA	ND	1	0.069	0.2	ng/dry g					0	30	PASS	
PCB119	NA	ND	1	0.071	0.2	ng/dry g					0	30	PASS	
PCB123	NA	ND	1	0.018	0.2	ng/dry g					0	30	PASS	
PCB126	NA	ND	1	0.086	0.2	ng/dry g					0	30	PASS	
PCB128	NA	ND	1	0.081	0.2	ng/dry g					0	30	PASS	
PCB138	NA	0.275	1	0.057	0.2	ng/dry g					50	30	FAIL	SL
PCB141	NA	ND	1	0.1	0.2	ng/dry g					0	30	PASS	
PCB149	NA	0.115	1	0.092	0.2	ng/dry g					39	30	FAIL	J,SL
PCB151	NA	ND	1	0.073	0.2	ng/dry g					0	30	PASS	
PCB153	NA	ND	1	0.065	0.2	ng/dry g					165	30	FAIL	SL
PCB156	NA	ND	1	0.089	0.2	ng/dry g					0	30	PASS	
PCB157	NA	ND	1	0.103	0.2	ng/dry g					0	30	PASS	
PCB158	NA	ND	1	0.074	0.2	ng/dry g					0	30	PASS	
PCB167	NA	ND	1	0.049	0.2	ng/dry g					0	30	PASS	
PCB168+132	NA	ND	1	0.094	0.2	ng/dry g					0	30	PASS	
PCB169	NA	ND	1	0.116	0.2	ng/dry g					0	30	PASS	
PCB170	NA	ND	1	0.118	0.25	ng/dry g					0	30	PASS	
PCB174	NA	0.171	1	0.12	0.25	ng/dry g					26	30	PASS	J
PCB177	NA	ND	1	0.085	0.25	ng/dry g					0	30	PASS	
PCB180	NA	1.13	1	0.154	0.25	ng/dry g					50	30	FAIL	SL
PCB183	NA	ND	1	0.056	0.25	ng/dry g					0	30	PASS	
PCB187	NA	0.563	1	0.168	0.25	ng/dry g					10	30	PASS	
PCB189	NA	ND	1	0.109	0.25	ng/dry g					0	30	PASS	
PCB194	NA	ND	1	0.164	0.25	ng/dry g					0	30	PASS	
PCB195	NA	ND	1	0.093	0.25	ng/dry g					0	30	PASS	

PCB Congeners

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
PCB199(200)	NA	ND	1	0.12	0.25	ng/dry g					0	30	PASS
PCB201	NA	ND	1	0.104	0.25	ng/dry g					0	30	PASS
PCB206	NA	ND	1	0.155	0.25	ng/dry g					0	30	PASS
PCB209	NA	ND	1	0.12	0.25	ng/dry g					0	30	PASS

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

Sample ID: 94866-B1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
(d10-Acenaphthene)	NA	92	1			% Recovery	100		92	50 - 112% PASS			
(d10-Phenanthrene)	NA	97	1			% Recovery	100		97	59 - 121% PASS			
(d12-Chrysene)	NA	77	1			% Recovery	100		77	52 - 144% PASS			
(d12-Perylene)	NA	50	1			% Recovery	100		50	50 - 150% PASS			
(d8-Naphthalene)	NA	80	1			% Recovery	100		80	31 - 106% PASS			
1-Methylnaphthalene	NA	ND	1	0.084	0.5	ng/dry g							
1-Methylphenanthrene	NA	ND	1	0.076	0.5	ng/dry g							
2,3,5-Trimethylnaphthalene	NA	ND	1	0.059	0.5	ng/dry g							
2,6-Dimethylnaphthalene	NA	ND	1	0.065	0.5	ng/dry g							
2-Methylnaphthalene	NA	ND	1	0.106	0.5	ng/dry g							
Acenaphthene	NA	ND	1	0.078	0.5	ng/dry g							
Acenaphthylene	NA	ND	1	0.058	0.5	ng/dry g							
Anthracene	NA	ND	1	0.046	0.5	ng/dry g							
Benz[a]anthracene	NA	ND	1	0.107	0.5	ng/dry g							
Benzo[a]pyrene	NA	ND	1	0.106	0.5	ng/dry g							
Benzo[b]fluoranthene	NA	ND	1	0.063	0.5	ng/dry g							
Benzo[e]pyrene	NA	ND	1	0.098	0.5	ng/dry g							
Benzo[g,h,i]perylene	NA	ND	1	0.093	0.5	ng/dry g							
Benzo[k]fluoranthene	NA	ND	1	0.111	0.5	ng/dry g							
Biphenyl	NA	ND	1	0.092	0.5	ng/dry g							
Chrysene	NA	ND	1	0.067	0.5	ng/dry g							
Dibenz[a,h]anthracene	NA	ND	1	0.106	0.5	ng/dry g							
Dibenzothiophene	NA	ND	1	0.2	0.5	ng/dry g							

Polynuclear Aromatic Hydrocarbons — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Fluoranthene	NA	ND	1	0.035	0.5	ng/dry g							
Fluorene	NA	ND	1	0.068	0.5	ng/dry g							
Indeno[1,2,3-cd]pyrene	NA	ND	1	0.087	0.5	ng/dry g							
Naphthalene	NA	ND	1	0.187	0.5	ng/dry g							
Perylene	NA	ND	1	0.114	0.5	ng/dry g							
Phenanthrene	NA	ND	1	0.074	0.5	ng/dry g							
Pyrene	NA	ND	1	0.048	0.5	ng/dry g							

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

Sample ID: 94866-BS1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(d10-Acenaphthene)	NA	77	1			% Recovery	100	0	77	50 - 112%	PASS			
(d10-Phenanthrene)	NA	92	1			% Recovery	100	0	92	59 - 121%	PASS			
(d12-Chrysene)	NA	69	1			% Recovery	100	0	69	52 - 144%	PASS			
(d12-Perylene)	NA	86	1			% Recovery	100	0	86	50 - 150%	PASS			
(d8-Naphthalene)	NA	64	1			% Recovery	100	0	64	31 - 106%	PASS			
1-Methylnaphthalene	NA	377	1	0.084	0.5	ng/dry g	500	0	75	40 - 117%	PASS			
1-Methylphenanthrene	NA	415	1	0.076	0.5	ng/dry g	500	0	83	78 - 129%	PASS			
2,3,5-Trimethylnaphthalene	NA	451	1	0.059	0.5	ng/dry g	500	0	90	58 - 124%	PASS			
2,6-Dimethylnaphthalene	NA	418	1	0.065	0.5	ng/dry g	500	0	84	48 - 120%	PASS			
2-Methylnaphthalene	NA	296	1	0.106	0.5	ng/dry g	500	0	59	42 - 116%	PASS			
Acenaphthene	NA	313	1	0.078	0.5	ng/dry g	500	0	63	50 - 120%	PASS			
Acenaphthylene	NA	407	1	0.058	0.5	ng/dry g	500	0	81	51 - 114%	PASS			
Anthracene	NA	414	1	0.046	0.5	ng/dry g	500	0	83	70 - 113%	PASS			
Benz[a]anthracene	NA	505	1	0.107	0.5	ng/dry g	500	0	101	54 - 152%	PASS			
Benzo[a]pyrene	NA	376	1	0.106	0.5	ng/dry g	500	0	75	36 - 149%	PASS			
Benzo[b]fluoranthene	NA	510	1	0.063	0.5	ng/dry g	500	0	102	38 - 161%	PASS			
Benzo[e]pyrene	NA	432	1	0.098	0.5	ng/dry g	500	0	86	44 - 148%	PASS			
Benzo[g,h,i]perylene	NA	490	1	0.093	0.5	ng/dry g	500	0	98	55 - 143%	PASS			
Benzo[k]fluoranthene	NA	474	1	0.111	0.5	ng/dry g	500	0	95	44 - 148%	PASS			
Biphenyl	NA	399	1	0.092	0.5	ng/dry g	500	0	80	45 - 119%	PASS			
Chrysene	NA	512	1	0.067	0.5	ng/dry g	500	0	102	57 - 137%	PASS			
Dibenz[a,h]anthracene	NA	481	1	0.106	0.5	ng/dry g	500	0	96	56 - 148%	PASS			
Dibenzothiophene	NA	485	1	0.2	0.5	ng/dry g	500	0	97	69 - 118%	PASS			

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Fluoranthene	NA	507	1	0.035	0.5	ng/dry g	500	0	101	77 - 131%	PASS			
Fluorene	NA	508	1	0.068	0.5	ng/dry g	500	0	102	57 - 127%	PASS			
Indeno[1,2,3-cd]pyrene	NA	551	1	0.087	0.5	ng/dry g	500	0	110	52 - 150%	PASS			
Naphthalene	NA	285	1	0.187	0.5	ng/dry g	500	0	57	33 - 112%	PASS			
Perylene	NA	499	1	0.114	0.5	ng/dry g	500	0	100	40 - 141%	PASS			
Phenanthrene	NA	499	1	0.074	0.5	ng/dry g	500	0	100	71 - 121%	PASS			
Pyrene	NA	487	1	0.048	0.5	ng/dry g	500	0	97	77 - 132%	PASS			

ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

Sample ID: 94866-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
(d10-Acenaphthene)	NA	79	1			% Recovery	100	0	79	50 - 112%	PASS	3	30	PASS	
(d10-Phenanthrene)	NA	90	1			% Recovery	100	0	90	59 - 121%	PASS	2	30	PASS	
(d12-Chrysene)	NA	74	1			% Recovery	100	0	74	52 - 144%	PASS	7	30	PASS	
(d12-Perylene)	NA	85	1			% Recovery	100	0	85	50 - 150%	PASS	1	30	PASS	
(d8-Naphthalene)	NA	67	1			% Recovery	100	0	67	31 - 106%	PASS	5	30	PASS	
1-Methylnaphthalene	NA	394	1	0.084	0.5	ng/dry g	500	0	79	40 - 117%	PASS	5	30	PASS	
1-Methylphenanthrene	NA	493	1	0.076	0.5	ng/dry g	500	0	99	78 - 129%	PASS	18	30	PASS	
2,3,5-Trimethylnaphthalene	NA	467	1	0.059	0.5	ng/dry g	500	0	93	58 - 124%	PASS	3	30	PASS	
2,6-Dimethylnaphthalene	NA	434	1	0.065	0.5	ng/dry g	500	0	87	48 - 120%	PASS	4	30	PASS	
2-Methylnaphthalene	NA	342	1	0.106	0.5	ng/dry g	500	0	68	42 - 116%	PASS	14	30	PASS	
Acenaphthene	NA	337	1	0.078	0.5	ng/dry g	500	0	67	50 - 120%	PASS	6	30	PASS	
Acenaphthylene	NA	441	1	0.058	0.5	ng/dry g	500	0	88	51 - 114%	PASS	8	30	PASS	
Anthracene	NA	439	1	0.046	0.5	ng/dry g	500	0	88	70 - 113%	PASS	6	30	PASS	
Benz[a]anthracene	NA	469	1	0.107	0.5	ng/dry g	500	0	94	54 - 152%	PASS	7	30	PASS	
Benzo[a]pyrene	NA	353	1	0.106	0.5	ng/dry g	500	0	71	36 - 149%	PASS	5	30	PASS	
Benzo[b]fluoranthene	NA	464	1	0.063	0.5	ng/dry g	500	0	93	38 - 161%	PASS	9	30	PASS	
Benzo[e]pyrene	NA	459	1	0.098	0.5	ng/dry g	500	0	92	44 - 148%	PASS	7	30	PASS	
Benzo[g,h,i]perylene	NA	406	1	0.093	0.5	ng/dry g	500	0	81	55 - 143%	PASS	19	30	PASS	
Benzo[k]fluoranthene	NA	469	1	0.111	0.5	ng/dry g	500	0	94	44 - 148%	PASS	1	30	PASS	
Biphenyl	NA	409	1	0.092	0.5	ng/dry g	500	0	82	45 - 119%	PASS	2	30	PASS	
Chrysene	NA	488	1	0.067	0.5	ng/dry g	500	0	98	57 - 137%	PASS	4	30	PASS	
Dibenz[a,h]anthracene	NA	421	1	0.106	0.5	ng/dry g	500	0	84	56 - 148%	PASS	13	30	PASS	
Dibenzothiophene	NA	480	1	0.2	0.5	ng/dry g	500	0	96	69 - 118%	PASS	1	30	PASS	

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
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PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Polynuclear Aromatic Hydrocarbons — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Fluoranthene	NA	453	1	0.035	0.5	ng/dry g	500	0	91	77 - 131%	PASS	10	30	PASS	
Fluorene	NA	513	1	0.068	0.5	ng/dry g	500	0	103	57 - 127%	PASS	1	30	PASS	
Indeno[1,2,3-cd]pyrene	NA	557	1	0.087	0.5	ng/dry g	500	0	111	52 - 150%	PASS	1	30	PASS	
Naphthalene	NA	284	1	0.187	0.5	ng/dry g	500	0	57	33 - 112%	PASS	0	30	PASS	
Perylene	NA	496	1	0.114	0.5	ng/dry g	500	0	99	40 - 141%	PASS	1	30	PASS	
Phenanthrene	NA	470	1	0.074	0.5	ng/dry g	500	0	94	71 - 121%	PASS	6	30	PASS	
Pyrene	NA	508	1	0.048	0.5	ng/dry g	500	0	102	77 - 132%	PASS	5	30	PASS	

Polynuclear Aromatic Hydrocarbons — QUALITY CONTROL REPORT

Sample ID: 94868-CRM1 QAQC CRM - SRM 1944 **Matrix:** Sediment **Sampled:** **Received:**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 13-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(d10-Acenaphthene)	NA	80	1			% Recovery	100		80	44 - 144%	PASS			
(d10-Phenanthrene)	NA	89	1			% Recovery	100		89	60 - 134%	PASS			
(d12-Chrysene)	NA	57	1			% Recovery	100		57	27 - 158%	PASS			
(d12-Perylene)	NA	76	1			% Recovery	100		76	17 - 160%	PASS			
(d8-Naphthalene)	NA	60	1			% Recovery	100		60	19 - 130%	PASS			
1-Methylnaphthalene	NA	334	1	0.084	0.5	ng/dry g	470		71	25 - 128%	PASS			
1-Methylphenanthrene	NA	1620	1	0.076	0.5	ng/dry g	1700		95	37 - 110%	PASS			
2-Methylnaphthalene	NA	569	1	0.106	0.5	ng/dry g	740		77	28 - 123%	PASS			
Acenaphthene	NA	286	1	0.078	0.5	ng/dry g	390		73	22 - 110%	PASS			
Anthracene	NA	827	1	0.046	0.5	ng/dry g	1130		73	47 - 133%	PASS			
Benz[a]anthracene	NA	4770	1	0.107	0.5	ng/dry g	4720		101	31 - 145%	PASS			
Benzo[a]pyrene	NA	3460	1	0.106	0.5	ng/dry g	4300		80	22 - 127%	PASS			
Benzo[b]fluoranthene	NA	3980	1	0.063	0.5	ng/dry g	3870		103	36 - 160%	PASS			
Benzo[e]pyrene	NA	2340	1	0.098	0.5	ng/dry g	3280		71	38 - 147%	PASS			
Benzo[g,h,i]perylene	NA	2860	1	0.093	0.5	ng/dry g	2840		101	41 - 144%	PASS			
Benzo[k]fluoranthene	NA	3880	1	0.111	0.5	ng/dry g	4390		88	32 - 159%	PASS			
Biphenyl	NA	178	1	0.092	0.5	ng/dry g	250		71	27 - 112%	PASS			
Chrysene	NA	5120	1	0.067	0.5	ng/dry g	5900		87	44 - 162%	PASS			
Dibenz[a,h]anthracene	NA	1010	1	0.106	0.5	ng/dry g	924		109	22 - 135%	PASS			
Dibenzothiophene	NA	522	1	0.2	0.5	ng/dry g	500		104	78 - 170%	PASS			
Fluoranthene	NA	7750	1	0.035	0.5	ng/dry g	8920		87	31 - 141%	PASS			
Fluorene	NA	434	1	0.068	0.5	ng/dry g	480		90	24 - 110%	PASS			
Indeno[1,2,3-cd]pyrene	NA	2580	1	0.087	0.5	ng/dry g	2780		93	60 - 164%	PASS			

Polynuclear Aromatic Hydrocarbons — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Naphthalene	NA	789	1	0.187	0.5	ng/dry g	1280		62	19 - 126%	PASS			
Perylene	NA	930	1	0.114	0.5	ng/dry g	1170		79	26 - 114%	PASS			
Phenanthrene	NA	3980	1	0.074	0.5	ng/dry g	5270		76	51 - 121%	PASS			
Pyrene	NA	7700	1	0.048	0.5	ng/dry g	9700		79	31 - 126%	PASS			

Polynuclear Aromatic Hydrocarbons — QUALITY CONTROL REPORT

Sample ID: 94874-MS1 2021-E2-FLDCHNL-01 **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(d10-Acenaphthene)	NA	66	1			% Recovery	100	0	66	23 - 117%	PASS			
(d10-Phenanthrene)	NA	89	1			% Recovery	100	0	89	24 - 127%	PASS			
(d12-Chrysene)	NA	65	1			% Recovery	100	0	65	22 - 148%	PASS			
(d12-Perylene)	NA	91	1			% Recovery	100	0	91	50 - 150%	PASS			
(d8-Naphthalene)	NA	49	1			% Recovery	100	0	49	8 - 105%	PASS			
1-Methylnaphthalene	NA	318	1	0.084	0.5	ng/dry g	500	0.592	63	32 - 119%	PASS			
1-Methylphenanthrene	NA	604	1	0.076	0.5	ng/dry g	500	0.787	121	63 - 132%	PASS			
2,3,5-Trimethylnaphthalene	NA	418	1	0.059	0.5	ng/dry g	500	0.383	84	80 - 120%	PASS			
2,6-Dimethylnaphthalene	NA	374	1	0.065	0.5	ng/dry g	500	0.654	75	38 - 123%	PASS			
2-Methylnaphthalene	NA	401	1	0.106	0.5	ng/dry g	500	1.13	80	33 - 118%	PASS			
Acenaphthene	NA	347	1	0.078	0.5	ng/dry g	500	0	69	35 - 128%	PASS			
Acenaphthylene	NA	426	1	0.058	0.5	ng/dry g	500	0.278	85	39 - 126%	PASS			
Anthracene	NA	396	1	0.046	0.5	ng/dry g	500	0.506	79	55 - 121%	PASS			
Benz[a]anthracene	NA	575	1	0.107	0.5	ng/dry g	500	3.7	114	57 - 149%	PASS			
Benzo[a]pyrene	NA	376	1	0.106	0.5	ng/dry g	500	3.89	74	46 - 149%	PASS			
Benzo[b]fluoranthene	NA	439	1	0.063	0.5	ng/dry g	500	5.4	87	52 - 140%	PASS			
Benzo[e]pyrene	NA	440	1	0.098	0.5	ng/dry g	500	6.06	87	47 - 146%	PASS			
Benzo[g,h,i]perylene	NA	466	1	0.093	0.5	ng/dry g	500	9.34	91	61 - 130%	PASS			
Benzo[k]fluoranthene	NA	401	1	0.111	0.5	ng/dry g	500	5.98	79	54 - 142%	PASS			
Biphenyl	NA	347	1	0.092	0.5	ng/dry g	500	0.738	69	31 - 126%	PASS			
Chrysene	NA	499	1	0.067	0.5	ng/dry g	500	3.51	99	53 - 143%	PASS			
Dibenz[a,h]anthracene	NA	445	1	0.106	0.5	ng/dry g	500	10.1	87	61 - 154%	PASS			
Dibenzothiophene	NA	471	1	0.2	0.5	ng/dry g	500	0	94	46 - 126%	PASS			

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Polynuclear Aromatic Hydrocarbons — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Fluoranthene	NA	436	1	0.035	0.5	ng/dry g	500	8.08	86	48 - 164%	PASS			
Fluorene	NA	514	1	0.068	0.5	ng/dry g	500	0.213	103	46 - 132%	PASS			
Indeno[1,2,3-cd]pyrene	NA	452	1	0.087	0.5	ng/dry g	500	15	87	44 - 180%	PASS			
Naphthalene	NA	303	1	0.187	0.5	ng/dry g	500	0.695	60	16 - 120%	PASS			
Perylene	NA	452	1	0.114	0.5	ng/dry g	500	1.53	90	49 - 136%	PASS			
Phenanthrene	NA	435	1	0.074	0.5	ng/dry g	500	2.84	86	71 - 123%	PASS			
Pyrene	NA	513	1	0.048	0.5	ng/dry g	500	9.55	101	63 - 146%	PASS			

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

Sample ID: 94874-MS2 2021-E2-FLDCHNL-01 Matrix: Sediment Sampled: 07-Jan-22 10:35 Received: 07-Jan-22

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
(d10-Acenaphthene)	NA	76	1			% Recovery	100	0	76	23 - 117%	PASS	14	30	PASS	
(d10-Phenanthrene)	NA	94	1			% Recovery	100	0	94	24 - 127%	PASS	5	30	PASS	
(d12-Chrysene)	NA	65	1			% Recovery	100	0	65	22 - 148%	PASS	0	30	PASS	
(d12-Perylene)	NA	95	1			% Recovery	100	0	95	50 - 150%	PASS	4	30	PASS	
(d8-Naphthalene)	NA	59	1			% Recovery	100	0	59	8 - 105%	PASS	19	30	PASS	
1-Methylnaphthalene	NA	374	1	0.084	0.5	ng/dry g	500	0.592	75	32 - 119%	PASS	17	30	PASS	
1-Methylphenanthrene	NA	630	1	0.076	0.5	ng/dry g	500	0.787	126	63 - 132%	PASS	4	30	PASS	
2,3,5-Trimethylnaphthalene	NA	471	1	0.059	0.5	ng/dry g	500	0.383	94	80 - 120%	PASS	11	30	PASS	
2,6-Dimethylnaphthalene	NA	435	1	0.065	0.5	ng/dry g	500	0.654	87	38 - 123%	PASS	15	30	PASS	
2-Methylnaphthalene	NA	385	1	0.106	0.5	ng/dry g	500	1.13	77	33 - 118%	PASS	4	30	PASS	
Acenaphthene	NA	303	1	0.078	0.5	ng/dry g	500	0	61	35 - 128%	PASS	12	30	PASS	
Acenaphthylene	NA	419	1	0.058	0.5	ng/dry g	500	0.278	84	39 - 126%	PASS	1	30	PASS	
Anthracene	NA	428	1	0.046	0.5	ng/dry g	500	0.506	85	55 - 121%	PASS	7	30	PASS	
Benz[a]anthracene	NA	502	1	0.107	0.5	ng/dry g	500	3.7	100	57 - 149%	PASS	13	30	PASS	
Benzo[a]pyrene	NA	447	1	0.106	0.5	ng/dry g	500	3.89	89	46 - 149%	PASS	18	30	PASS	
Benzo[b]fluoranthene	NA	383	1	0.063	0.5	ng/dry g	500	5.4	76	52 - 140%	PASS	13	30	PASS	
Benzo[e]pyrene	NA	458	1	0.098	0.5	ng/dry g	500	6.06	90	47 - 146%	PASS	3	30	PASS	
Benzo[g,h,i]perylene	NA	455	1	0.093	0.5	ng/dry g	500	9.34	89	61 - 130%	PASS	2	30	PASS	
Benzo[k]fluoranthene	NA	424	1	0.111	0.5	ng/dry g	500	5.98	84	54 - 142%	PASS	6	30	PASS	
Biphenyl	NA	418	1	0.092	0.5	ng/dry g	500	0.738	83	31 - 126%	PASS	18	30	PASS	
Chrysene	NA	492	1	0.067	0.5	ng/dry g	500	3.51	98	53 - 143%	PASS	1	30	PASS	
Dibenz[a,h]anthracene	NA	487	1	0.106	0.5	ng/dry g	500	10.1	95	61 - 154%	PASS	9	30	PASS	
Dibenzothiophene	NA	510	1	0.2	0.5	ng/dry g	500	0	102	46 - 126%	PASS	8	30	PASS	

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Polynuclear Aromatic Hydrocarbons   QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Fluoranthene	NA	485	1	0.035	0.5	ng/dry g	500	8.08	95	48 - 164%	PASS	10	30	PASS	
Fluorene	NA	579	1	0.068	0.5	ng/dry g	500	0.213	116	46 - 132%	PASS	12	30	PASS	
Indeno[1,2,3-cd]pyrene	NA	465	1	0.087	0.5	ng/dry g	500	15	90	44 - 180%	PASS	3	30	PASS	
Naphthalene	NA	225	1	0.187	0.5	ng/dry g	500	0.695	45	16 - 120%	PASS	29	30	PASS	
Perylene	NA	471	1	0.114	0.5	ng/dry g	500	1.53	94	49 - 136%	PASS	4	30	PASS	
Phenanthrene	NA	420	1	0.074	0.5	ng/dry g	500	2.84	83	71 - 123%	PASS	4	30	PASS	
Pyrene	NA	484	1	0.048	0.5	ng/dry g	500	9.55	95	63 - 146%	PASS	6	30	PASS	

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
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Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

Sample ID: 94874-R2 **2021-E2-FLDCHNL-01** **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E Batch ID: O-34030 Prepared: 07-Feb-22 Analyzed: 14-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
(d10-Acenaphthene)	NA	76	1			% Recovery	100		76	23 - 117%	PASS	4	30	PASS	
(d10-Phenanthrene)	NA	94	1			% Recovery	100		94	24 - 127%	PASS	2	30	PASS	
(d12-Chrysene)	NA	59	1			% Recovery	100		59	22 - 148%	PASS	5	30	PASS	
(d12-Perylene)	NA	98	1			% Recovery	100		98	50 - 150%	PASS	3	30	PASS	
(d8-Naphthalene)	NA	56	1			% Recovery	100		56	8 - 105%	PASS	7	30	PASS	
1-Methylnaphthalene	NA	0.255	1	0.084	0.5	ng/dry g						80	30	FAIL	J,SL
1-Methylphenanthrene	NA	0.434	1	0.076	0.5	ng/dry g						58	30	FAIL	J,SL
2,3,5-Trimethylnaphthalene	NA	0.129	1	0.059	0.5	ng/dry g						99	30	FAIL	J,SL
2,6-Dimethylnaphthalene	NA	0.195	1	0.065	0.5	ng/dry g						108	30	FAIL	J,SL
2-Methylnaphthalene	NA	0.641	1	0.106	0.5	ng/dry g						55	30	FAIL	SL
Acenaphthene	NA	ND	1	0.078	0.5	ng/dry g						0	30	PASS	
Acenaphthylene	NA	0.247	1	0.058	0.5	ng/dry g						12	30	PASS	J
Anthracene	NA	0.417	1	0.046	0.5	ng/dry g						19	30	PASS	J
Benz[a]anthracene	NA	3.25	1	0.107	0.5	ng/dry g						13	30	PASS	
Benzo[a]pyrene	NA	3.83	1	0.106	0.5	ng/dry g						2	30	PASS	
Benzo[b]fluoranthene	NA	5.1	1	0.063	0.5	ng/dry g						6	30	PASS	
Benzo[e]pyrene	NA	4.95	1	0.098	0.5	ng/dry g						20	30	PASS	
Benzo[g,h,i]perylene	NA	8.71	1	0.093	0.5	ng/dry g						7	30	PASS	
Benzo[k]fluoranthene	NA	5.48	1	0.111	0.5	ng/dry g						9	30	PASS	
Biphenyl	NA	0.52	1	0.092	0.5	ng/dry g						35	30	FAIL	SL
Chrysene	NA	2.72	1	0.067	0.5	ng/dry g						25	30	PASS	
Dibenz[a,h]anthracene	NA	9.74	1	0.106	0.5	ng/dry g						4	30	PASS	
Dibenzothiophene	NA	ND	1	0.2	0.5	ng/dry g						0	30	PASS	

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS		QA CODEc
Fluoranthene	NA	7.7	1	0.035	0.5	ng/dry g					5	30	PASS	
Fluorene	NA	0.133	1	0.068	0.5	ng/dry g					46	30	FAIL	J,SL
Indeno[1,2,3-cd]pyrene	NA	14.7	1	0.087	0.5	ng/dry g					2	30	PASS	
Naphthalene	NA	0.742	1	0.187	0.5	ng/dry g					7	30	PASS	
Perylene	NA	1.3	1	0.114	0.5	ng/dry g					16	30	PASS	
Phenanthrene	NA	1.82	1	0.074	0.5	ng/dry g					44	30	FAIL	NH
Pyrene	NA	9.14	1	0.048	0.5	ng/dry g					4	30	PASS	

Pyrethroids

QUALITY CONTROL REPORT

Sample ID: 94866-B1 | **QAQC Procedural Blank** | **Matrix: BlankMatrix** | **Sampled:** | **Received:**

Method: EPA 8270E-MRM | Batch ID: O-34030 | Prepared: 21-Feb-22 | Analyzed: 24-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
(d5-Bifenthrin)	NA	69	1			% Recovery	100		69	65 - 115%	PASS		
(d5-Fenvalerate)	NA	87	1			% Recovery	100		87	40 - 115%	PASS		
Allethrin	NA	ND	1	0.28	0.5	ng/dry g							
Bifenthrin	NA	ND	1	0.22	0.5	ng/dry g							
Cyfluthrin	NA	ND	1	0.25	0.5	ng/dry g							
Cyhalothrin, Total Lambda	NA	ND	1	0.23	0.5	ng/dry g							
Cypermethrin	NA	ND	1	0.25	0.5	ng/dry g							
Danitol (Fenpropathrin)	NA	ND	1	0.21	0.5	ng/dry g							
Deltamethrin/Tralomethrin	NA	ND	1	0.25	0.5	ng/dry g							
Esfenvalerate	NA	ND	1	0.25	0.5	ng/dry g							
Fenvalerate	NA	ND	1	0.25	0.5	ng/dry g							
Permethrin, cis-	NA	ND	1	0.17	0.5	ng/dry g							
Permethrin, trans-	NA	ND	1	0.22	0.5	ng/dry g							
Prallethrin	NA	ND	1	0.28	0.5	ng/dry g							

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
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PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Pyrethroids

QUALITY CONTROL REPORT

Sample ID: 94866-BS1 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E-MRM | Batch ID: O-34030 | Prepared: 21-Feb-22 | Analyzed: 24-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(d5-Bifenthrin)	NA	68	1			% Recovery	100	0	68	65 - 115%	PASS			
(d5-Fenvalerate)	NA	82	1			% Recovery	100	0	82	40 - 115%	PASS			
Allethrin	NA	466	1	0.28	0.5	ng/dry g	500	0	93	46 - 136%	PASS			
Bifenthrin	NA	505	1	0.22	0.5	ng/dry g	500	0	101	59 - 133%	PASS			
Cyfluthrin	NA	436	1	0.25	0.5	ng/dry g	500	0	87	43 - 130%	PASS			
Cyhalothrin, Total Lambda	NA	585	1	0.23	0.5	ng/dry g	500	0	117	36 - 136%	PASS			
Cypermethrin	NA	417	1	0.25	0.5	ng/dry g	500	0	83	41 - 126%	PASS			
Danitol (Fenpropathrin)	NA	537	1	0.21	0.5	ng/dry g	500	0	107	50 - 150%	PASS			
Deltamethrin/Tralomethrin	NA	478	1	0.25	0.5	ng/dry g	500	0	96	42 - 111%	PASS			
Esfenvalerate	NA	580	1	0.25	0.5	ng/dry g	500	0	116	56 - 112%	FAIL			R
Fenvalerate	NA	547	1	0.25	0.5	ng/dry g	500	0	109	48 - 120%	PASS			
Permethrin, cis-	NA	193	1	0.17	0.5	ng/dry g	199	0	97	30 - 151%	PASS			
Permethrin, trans-	NA	322	1	0.22	0.5	ng/dry g	296	0	109	42 - 136%	PASS			
Prallethrin	NA	571	1	0.28	0.5	ng/dry g	500	0	114	52 - 115%	PASS			

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PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Pyrethroids

QUALITY CONTROL REPORT

Sample ID: 94866-BS2 **QAQC Procedural Blank** **Matrix: BlankMatrix** **Sampled:** **Received:**

Method: EPA 8270E-MRM Batch ID: O-34030 Prepared: 21-Feb-22 Analyzed: 24-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
(d5-Bifenthrin)	NA	70	1			% Recovery	100	0	70	65 - 115%	PASS	3	30	PASS	
(d5-Fenvalerate)	NA	77	1			% Recovery	100	0	77	40 - 115%	PASS	6	30	PASS	
Allethrin	NA	441	1	0.28	0.5	ng/dry g	500	0	88	46 - 136%	PASS	6	30	PASS	
Bifenthrin	NA	531	1	0.22	0.5	ng/dry g	500	0	106	59 - 133%	PASS	5	30	PASS	
Cyfluthrin	NA	443	1	0.25	0.5	ng/dry g	500	0	89	43 - 130%	PASS	2	30	PASS	
Cyhalothrin, Total Lambda	NA	538	1	0.23	0.5	ng/dry g	500	0	108	36 - 136%	PASS	8	30	PASS	
Cypermethrin	NA	434	1	0.25	0.5	ng/dry g	500	0	87	41 - 126%	PASS	5	30	PASS	
Danitol (Fenpropathrin)	NA	574	1	0.21	0.5	ng/dry g	500	0	115	50 - 150%	PASS	7	30	PASS	
Deltamethrin/Tralomethrin	NA	425	1	0.25	0.5	ng/dry g	500	0	85	42 - 111%	PASS	12	30	PASS	
Esfenvalerate	NA	538	1	0.25	0.5	ng/dry g	500	0	108	56 - 112%	PASS	7	30	PASS	
Fenvalerate	NA	506	1	0.25	0.5	ng/dry g	500	0	101	48 - 120%	PASS	8	30	PASS	
Permethrin, cis-	NA	182	1	0.17	0.5	ng/dry g	199	0	91	30 - 151%	PASS	6	30	PASS	
Permethrin, trans-	NA	297	1	0.22	0.5	ng/dry g	296	0	100	42 - 136%	PASS	9	30	PASS	
Prallethrin	NA	545	1	0.28	0.5	ng/dry g	500	0	109	52 - 115%	PASS	4	30	PASS	

Pyrethroids

QUALITY CONTROL REPORT

Sample ID: 94874-MS1 2021-E2-FLDCHNL-01 **Matrix: Sediment** **Sampled: 07-Jan-22 10:35** **Received: 07-Jan-22**

Method: EPA 8270E-MRM Batch ID: O-34030 Prepared: 21-Feb-22 Analyzed: 24-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
(d5-Bifenthrin)	NA	70	1			% Recovery	100	0	70	50 - 150%	PASS			
(d5-Fenvalerate)	NA	107	1			% Recovery	100	0	107	50 - 150%	PASS			
Allethrin	NA	0	1	0.28	0.5	ng/dry g	500	0	0	50 - 150%	FAIL			M
Bifenthrin	NA	465	1	0.22	0.5	ng/dry g	500	1.41	93	50 - 150%	PASS			
Cyfluthrin	NA	451	1	0.25	0.5	ng/dry g	500	0	90	50 - 150%	PASS			
Cyhalothrin, Total Lambda	NA	465	1	0.23	0.5	ng/dry g	500	0	93	50 - 150%	PASS			
Cypermethrin	NA	472	1	0.25	0.5	ng/dry g	500	27.7	89	50 - 150%	PASS			
Danitol (Fenpropathrin)	NA	476	1	0.21	0.5	ng/dry g	500	0	95	50 - 150%	PASS			
Deltamethrin/Tralomethrin	NA	475	1	0.25	0.5	ng/dry g	500	0	95	50 - 150%	PASS			
Esfenvalerate	NA	489	1	0.25	0.5	ng/dry g	500	0	98	50 - 150%	PASS			
Fenvalerate	NA	456	1	0.25	0.5	ng/dry g	500	0	91	50 - 150%	PASS			
Permethrin, cis-	NA	133	1	0.17	0.5	ng/dry g	199	0	67	50 - 150%	PASS			
Permethrin, trans-	NA	305	1	0.22	0.5	ng/dry g	296	0	103	50 - 150%	PASS			
Prallethrin	NA	443	1	0.28	0.5	ng/dry g	500	0	89	50 - 150%	PASS			

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
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PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Pyrethroids

QUALITY CONTROL REPORT

Sample ID: 94874-MS2 2021-E2-FLDCHNL-01 **Matrix:** Sediment **Sampled:** 07-Jan-22 10:35 **Received:** 07-Jan-22

Method: EPA 8270E-MRM Batch ID: O-34030 Prepared: 21-Feb-22 Analyzed: 24-Feb-22

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
(d5-Bifenthrin)	NA	97	1			% Recovery	100	0	97	50 - 150%	PASS	32	30	FAIL	M
(d5-Fenvalerate)	NA	72	1			% Recovery	100	0	72	50 - 150%	PASS	39	30	FAIL	M
Allethrin	NA	0	1	0.28	0.5	ng/dry g	500	0	0	50 - 150%	FAIL	0	30	PASS	M
Bifenthrin	NA	489	1	0.22	0.5	ng/dry g	500	1.41	98	50 - 150%	PASS	5	30	PASS	
Cyfluthrin	NA	364	1	0.25	0.5	ng/dry g	500	0	73	50 - 150%	PASS	21	30	PASS	
Cyhalothrin, Total Lambda	NA	478	1	0.23	0.5	ng/dry g	500	0	96	50 - 150%	PASS	3	30	PASS	
Cypermethrin	NA	356	1	0.25	0.5	ng/dry g	500	27.7	66	50 - 150%	PASS	30	30	PASS	
Danitol (Fenpropathrin)	NA	480	1	0.21	0.5	ng/dry g	500	0	96	50 - 150%	PASS	1	30	PASS	
Deltamethrin/Tralomethrin	NA	536	1	0.25	0.5	ng/dry g	500	0	107	50 - 150%	PASS	12	30	PASS	
Esfenvalerate	NA	502	1	0.25	0.5	ng/dry g	500	0	100	50 - 150%	PASS	2	30	PASS	
Fenvalerate	NA	418	1	0.25	0.5	ng/dry g	500	0	84	50 - 150%	PASS	8	30	PASS	
Permethrin, cis-	NA	143	1	0.17	0.5	ng/dry g	199	0	72	50 - 150%	PASS	7	30	PASS	
Permethrin, trans-	NA	335	1	0.22	0.5	ng/dry g	296	0	113	50 - 150%	PASS	9	30	PASS	
Prallethrin	NA	476	1	0.28	0.5	ng/dry g	500	0	95	50 - 150%	PASS	7	30	PASS	

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ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Pyrethroids

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Sample ID: 94874-R2	**2021-E2-FLDCHNL-01**					**Matrix: Sediment**		**Sampled: 07-Jan-22 10:35**				**Received: 07-Jan-22**			
	Method: EPA 8270E-MRM					Batch ID: O-34030		Prepared: 21-Feb-22				Analyzed: 24-Feb-22			
(d5-Bifenthrin)	NA	74	1			% Recovery	100		74	50 - 150%	PASS	24	30	PASS	
(d5-Fenvalerate)	NA	113	1			% Recovery	100		113	50 - 150%	PASS	39	30	FAIL	M
Allethrin	NA	ND	1	0.28	0.5	ng/dry g						0	30	PASS	
Bifenthrin	NA	1.01	1	0.22	0.5	ng/dry g						33	30	FAIL	SL
Cyfluthrin	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
Cyhalothrin, Total Lambda	NA	ND	1	0.23	0.5	ng/dry g						0	30	PASS	
Cypermethrin	NA	28.1	1	0.25	0.5	ng/dry g						1	30	PASS	
Danitol (Fenpropathrin)	NA	ND	1	0.21	0.5	ng/dry g						0	30	PASS	
Deltamethrin/Tralomethrin	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
Esfenvalerate	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
Fenvalerate	NA	ND	1	0.25	0.5	ng/dry g						0	30	PASS	
Permethrin, cis-	NA	ND	1	0.17	0.5	ng/dry g						0	30	PASS	
Permethrin, trans-	NA	ND	1	0.22	0.5	ng/dry g						0	30	PASS	
Prallethrin	NA	ND	1	0.28	0.5	ng/dry g						0	30	PASS	

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 2109001-002
Client: Wood Environment & Infrastructure Solutions, Inc.
Project: Tijuana River Sediment Management Monitoring Prog

Total Extractable Organics — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 94866-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: SM 5520 E					Batch ID: C-52033		Prepared: 24-Jan-22				Analyzed: 26-Jan-22		
Oil & Grease	NA	ND	1	100	200	mg/dry kg								
	Method: SM 5520 E					Batch ID: C-52036		Prepared: 07-Feb-22				Analyzed: 08-Feb-22		
TRPH	NA	ND	1	100	200	mg/dry kg								
Sample ID: 94866-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: SM 5520 E					Batch ID: C-52033		Prepared: 24-Jan-22				Analyzed: 26-Jan-22		
Oil & Grease	NA	2650	1	100	200	mg/dry kg	2550	0	104	70 - 130%	PASS			
	Method: SM 5520 E					Batch ID: C-52036		Prepared: 07-Feb-22				Analyzed: 08-Feb-22		
TRPH	NA	1670	1	100	200	mg/dry kg	1720	0	97	70 - 130%	PASS			
Sample ID: 94866-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: SM 5520 E					Batch ID: C-52033		Prepared: 24-Jan-22				Analyzed: 26-Jan-22		
Oil & Grease	NA	2490	1	100	200	mg/dry kg	2550	0	98	70 - 130%	PASS	6	30	PASS
	Method: SM 5520 E					Batch ID: C-52036		Prepared: 07-Feb-22				Analyzed: 08-Feb-22		
TRPH	NA	1420	1	100	200	mg/dry kg	1720	0	83	70 - 130%	PASS	16	30	PASS
Sample ID: 94870-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: EPA 1664B					Batch ID: C-52035		Prepared: 01-Feb-22				Analyzed: 04-Feb-22		
Oil & Grease	NA	ND	1	1	1	mg/L								
Sample ID: 94870-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: EPA 1664B					Batch ID: C-52035		Prepared: 01-Feb-22				Analyzed: 04-Feb-22		
Oil & Grease	NA	1140	1	1	1	mg/L	1600	0	71	70 - 110%	PASS			
Sample ID: 94870-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
	Method: EPA 1664B					Batch ID: C-52035		Prepared: 01-Feb-22				Analyzed: 04-Feb-22		
Oil & Grease	NA	33.8	1	1	1	mg/L	40	0	84	70 - 110%	PASS	17	30	PASS

SUBCONTRACT REPORT

PHYSIS
TERRA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Tuesday, February 22, 2022

Misty Mercier
Physis Environmental Laboratories, Inc.
1904 E Wright Cir
Anaheim, CA 92806

Re: ALS Workorder: 2201113
Project Name:
Project Number: 2109001

Dear Ms. Mercier:

Five sediment samples were received from Physis Environmental Laboratories, Inc., on 1/12/2022. The samples were scheduled for the following analysis:

Gross Alpha/Beta

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

Emily Jarmolo For

ALS Environmental
Julie Ellingson
Project Manager

Accreditations: ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
Arizona	AZ0828
California (CA)	2926
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
Oklahoma	1301
PJLA (DoD ELAP/ISO 170250)	95377
PJLA (DOE-AP/ISO 17025)	95377
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO010992018-1
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	TN02976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280
Virginia	460305

40 CFR Part 136: All analyses for Clean Water Act samples are analyzed using the 40 CFR Part 136 specified method and include all the QC requirements.

2201113

Gross Alpha/Beta:

The samples were analyzed for gross alpha and beta activity by gas flow proportional counting according to the current revision of SOP 724. Gross alpha results are referenced to ^{241}Am. Gross beta results are referenced to $^{90}Sr/Y$.

The radiometric recovery for the matrix spike of sample 2201113-4 is below the lower control limit of 70% at 48.5% for gross alpha and 64.7% for gross beta. All other quality control criteria have been met. ALS does not control on matrix spike recovery. The result for this sample is considered an estimated value and is included in this data package.

All remaining acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 2201113
Client Name: Physis Environmental Laboratories, Inc.
Client Project Name:
Client Project Number: 2109001
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
2021-E2-BASINSMGL-01	2201113-1		SEDIMEN	07-Jan-22	13:00
2021-E2-BASINTJRVR-01	2201113-2		SEDIMEN	07-Jan-22	9:10
2021-E2-BRWNFL-01	2201113-3		SEDIMEN	07-Jan-22	14:45
2021-E2-FLDCHNL-01	2201113-4		SEDIMEN	07-Jan-22	10:35
2021-E2-SMGLPILOT-01	2201113-5		SEDIMEN	07-Jan-22	13:55

2201113
Ome

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Chain of Custody

Physis Project ID: 2109001-002

From: Physis Environmental Laboratories, Inc.
Misty Mercier
1904 E. Wrigth Cir.
Anaheim, CA 92806
714-605-5320 (office), 714-335-5918 (cell)
sc@physislabs.com

To: ALS Global
Julie Ellingson
225 Commerce Drive
Fort Collins, CO 80524
julie.ellingson@alsglobal.com

Physis SOS Number:	2109001	PO Number:	Sampled by:
Turnaround Time	☑ Standard ☐ RUSH: ______ Business Days	Type of ice used:	☐ BLUE ☑ WET ☐ DRY
Report Format	☑ PDF/EDD ☐ SWAMP EDD ☐ CEDEN EDD ☐ Other EDD: ______	Shipped via:	☑ FEDEX ☐ UPS ☐ USPS ☐ Client ☐ Physis ☐ Other: ______

	Sample ID	Sample Description	Requested Analyses/Method	Sample Date	Sample Time	Matrix	# of Bottles
1	2021-E2-BASINSMGL-01		Gross Alpha & Beta Radiochemistry (EPA 900.0)	1/7/2022	1:00:00 PM	Sediment	1
2	2021-E2-BASINTJRVR-01		Gross Alpha & Beta Radiochemistry (EPA 900.0)	1/7/2022	9:10:00 AM	Sediment	1
3	2021-E2-BRWNFL-01		Gross Alpha & Beta Radiochemistry (EPA 900.0)	1/7/2022	2:45:00 PM	Sediment	1
4	2021-E2-FLDCHNL-01		Gross Alpha & Beta Radiochemistry (EPA 900.0)	1/7/2022	10:35:00 AM	Sediment	1
5	2021-E2-SMGLPILOT-01		Gross Alpha & Beta Radiochemistry (EPA 900.0)	1/7/2022	1:55:00 PM	Sediment	1

Notes/Comments:

Report Down to the MDL

Report in Dry Weight

We can give you the % solids results.

Relinquished:	Print: Richard Hentz	Date: 1/11/22		Received By:	Print: Karen Craven	Date: 1-12-22	
Org: Physis	Sign: [signature]	Time: 1500		Org: ALS	Sign: Karen Craven	Time: 1005	
Relinquished:	Print:	Date:		Received By:	Print:	Date:	
Org:	Sign:	Time:		Org:	Sign:	Time:	

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: PHYSIS ENVIRONMENTAL LAB Workorder No: 2201113

Project Manager: JME Initials: KC Date: 1/12/22

		N/A	YES	NO
1.	Are airbills / shipping documents present and/or removable? Tracking number:		X	
2.	Are custody seals on **shipping** containers intact?	X		
3.	Are custody seals on **sample** containers intact?	X		
4.	Is there a COC (chain-of-custody) present?		X	
5.	Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		X	
6.	Are short-hold samples present?			X
7.	Are all samples within holding times for the requested analyses?		X	
8.	Were all sample containers received intact? (not broken or leaking)		X	
9.	Is there sufficient sample for the requested analyses?		X	
10.	Are samples in proper containers for requested analyses? (form 250, *Sample Handling Guidelines*)			X
11.	Are all aqueous samples preserved correctly, if required? (excluding volatiles)	X		
12.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	X		
13.	Were the samples shipped on ice?		X	
14.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #5	RAD ONLY	X	

Cooler #:	1						
Temperature (°C):	0.3						
# of custody seals on cooler:	0						
External µR/hr reading:	11						
Background µR/hr reading:	11						

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES**

*** Please provide details here for NO responses to boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.**

Sediment was in 500ml poly instead of 4oz glass

Were unpreserved bottles pH checked? NA All client bottle ID's vs ALS lab ID's double-checked by: KC

If applicable, was the client contacted? **NA** Contact: ______ Date/Time: ______

Project Manager Signature / Date: Julie Ellingson

Form 201r29.xls
(10/15/2019)

*IR Gun #3, VWR SN 170647571
*IR Gun #5, VWR SN 192272629

2201113

ORIGIN ID:FULA (714) 602-5320
PHYSIS
PHYSIS LABS
1904 E. WRIGHT CIRCLE

ANAHEIM, CA 92806
UNITED STATES US

SHIP DATE: 11JAN22
ACTWGT: 20.00 LB
CAD: 101955606/INET4400

BILL SENDER

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511 REF: 2109001-002
INV:
PO: DEPT:

11.0 0.3

56DJ2/01EF/FE4A

FedEx Express

E

J212221121601uv

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7757 2489 5635

XA FTCA

80524
CO-US DEN

After printing this label:
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2. Fold the printed page along the horizontal line.
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Client:	Physis Environmental Laboratories, Inc.	**Date:**	*22-Feb-22*
Project:	2109001	**Work Order:**	2201113
Sample ID:	2021-E2-BASINSMGL-01	**Lab ID:**	2201113-1
Legal Location:		**Matrix:**	SEDIMENT
Collection Date:	1/7/2022 13:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**			Prep Date: **2/15/2022**	PrepBy: **BMH**
GROSS ALPHA	**1.37 (+/- 0.64)**		**0.74**	**pCi/g**	NA	2/19/2022 11:46
GROSS BETA	**1.59 (+/- 0.63)**		**0.98**	**pCi/g**	NA	2/19/2022 11:46

Client:	Physis Environmental Laboratories, Inc.	**Date:**	*22-Feb-22*
Project:	2109001	**Work Order:**	2201113
Sample ID:	2021-E2-BASINTJRVR-01	**Lab ID:**	2201113-2
Legal Location:		**Matrix:**	SEDIMENT
Collection Date:	1/7/2022 09:10	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**			Prep Date: **2/15/2022**	PrepBy: **BMH**
GROSS ALPHA	**2.1 (+/- 1.1)**		**1.4**	**pCi/g**	NA	2/19/2022 11:46
GROSS BETA	ND (+/- 0.96)	U	1.99	pCi/g	NA	2/19/2022 11:46

SAMPLE SUMMARY REPORT

Client:	Physis Environmental Laboratories, Inc.	**Date:**	*22-Feb-22*
Project:	2109001	**Work Order:**	2201113
Sample ID:	2021-E2-BRWNFL-01	**Lab ID:**	2201113-3
Legal Location:		**Matrix:**	SEDIMENT
Collection Date:	1/7/2022 14:45	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**			Prep Date: **2/15/2022**	PrepBy: **BMH**
GROSS ALPHA	**1.42 (+/- 0.92)**		**1.35**	**pCi/g**	NA	2/19/2022 11:46
GROSS BETA	**2.8 (+/- 1.2)**		**1.9**	**pCi/g**	NA	2/19/2022 11:46

Client: Physis Environmental Laboratories, Inc. **Date:** *22-Feb-22*
Project: 2109001 **Work Order:** 2201113
Sample ID: 2021-E2-FLDCHNL-01 **Lab ID:** 2201113-4
Legal Location: **Matrix:** SEDIMENT
Collection Date: 1/7/2022 10:35 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**		Prep Date: **2/15/2022**		PrepBy: **BMH**
GROSS ALPHA	ND (+/- 1)	U	1.7	pCi/g	NA	2/19/2022 11:46
GROSS BETA	ND (+/- 1.1)	U	2	pCi/g	NA	2/19/2022 11:46

Client:	Physis Environmental Laboratories, Inc.	**Date:**	*22-Feb-22*
Project:	2109001	**Work Order:**	2201113
Sample ID:	2021-E2-SMGLPILOT-01	**Lab ID:**	2201113-5
Legal Location:		**Matrix:**	SEDIMENT
Collection Date:	1/7/2022 13:55	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gross Alpha/Beta by GFPC		**SOP 724**			Prep Date: **2/15/2022**	PrepBy: **BMH**
GROSS ALPHA	**2.1 (+/- 1.1)**		**1.4**	**pCi/g**	NA	2/21/2022 10:45
GROSS BETA	**2.5 (+/- 1.2)**		**2**	**pCi/g**	NA	2/21/2022 10:45

Client: Physis Environmental Laboratories, Inc. **Date:** *22-Feb-22*
Project: 2109001 **Work Order:** 2201113
Sample ID: 2021-E2-SMGLPILOT-01 **Lab ID:** 2201113-5
Legal Location: **Matrix:** SEDIMENT
Collection Date: 1/7/2022 13:55 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC
U or ND - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
G - Sample density differs by more than 15% of LCS density.
D - DER is greater than Control Limit
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
U or ND - Indicates that the compound was analyzed for but not detected.
E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
M - Duplicate injection precision was not met.
N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
* - Duplicate analysis (relative percent difference) not within control limits.
S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.
B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
E - Analyte concentration exceeds the upper level of the calibration range.
J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
A - A tentatively identified compound is a suspected aldol-condensation product.
X - The analyte was diluted below an accurate quantitation level.
* - The spike recovery is equal to or outside the control criteria used.
+ - The relative percent difference (RPD) equals or exceeds the control criteria.
G - A pattern resembling gasoline was detected in this sample.
D - A pattern resembling diesel was detected in this sample.
M - A pattern resembling motor oil was detected in this sample.
C - A pattern resembling crude oil was detected in this sample.
4 - A pattern resembling JP-4 was detected in this sample.
5 - A pattern resembling JP-5 was detected in this sample.
H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

ALS -- Fort Collins

Date: *2/22/2022 1:02:2*

QC BATCH REPORT

Client: Physis Environmental Laboratories, Inc.
Work Order: 2201113
Project: 2109001

Batch ID: **AB220215-1-5** Instrument ID: **LB4100-C** Method: **Gross Alpha/Beta by GFPC**

DUP Sample ID: **2201113-4** Units: **pCi/g** Analysis Date: **2/19/2022 11:46**
Client ID: **2021-E2-FLDCHNL-01** Run ID: **AB220215-1A** Prep Date: **2/15/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
GROSS ALPHA	ND	1.48						1.3	0.17	2.13	U
GROSS BETA	2.1 (+/- 1.1)	2						1.7	0.30	2.13	

LCS Sample ID: **AB220215-1** Units: **pCi/g** Analysis Date: **2/21/2022 10:45**
Client ID: Run ID: **AB220215-1A** Prep Date: **2/15/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
GROSS ALPHA	13.6 (+/- 2.7)	0.8	14.73		92.5	70-130					P
GROSS BETA	15.6 (+/- 2.8)	1.1	13.9		112	70-130					P

MB Sample ID: **AB220215-1** Units: **pCi/g** Analysis Date: **2/19/2022 12:52**
Client ID: Run ID: **AB220215-1A** Prep Date: **2/15/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
GROSS ALPHA	ND	0.135									U
GROSS BETA	ND	0.194									U

MS Sample ID: **2201113-4** Units: **pCi/g** Analysis Date: **2/19/2022 11:46**
Client ID: **2021-E2-FLDCHNL-01** Run ID: **AB220215-1A** Prep Date: **2/15/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref Value	DER	DER Limit	Qual
GROSS ALPHA	8.4 (+/- 2.4)	1.7	14.67	1.3	48.5	70-130					N
GROSS BETA	10.6 (+/- 2.5)	2.3	13.84	1.7	64.7	70-130					N

The following samples were analyzed in this batch:

2201113-1	2201113-2	2201113-3
2201113-4	2201113-5	

SUBCONTRACT REPORT

PHYSIS

TERRA AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 456664
Report Level: II
Report Date: 02/01/2022

Analytical Report *prepared for:*

Misty Mercier
PHYSIS Environmental Laboratories
1904 E. Wright Circle
Anaheim, CA 92806

Location: 2109001-002

Authorized for release by:

Diane Galvan

Diane Galvan, Project Manager
714-771-9928
diane.galvan@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Misty Mercier
PHYSIS Environmental Laboratories
1904 E. Wright Circle
Anaheim, CA 92806

Lab Job #: 456664
Location: 2109001-002
Date Received: 01/11/22

Sample ID	Lab ID	Collected	Matrix
2021-E2-BASINSMGL-01	456664-001	01/07/22 13:00	Miscell. (Sediment)
2021-E2-BASINTJRVR-01	456664-002	01/07/22 09:10	Miscell. (Sediment)
2021-E2-BRWNFL-01	456664-003	01/07/22 14:45	Miscell. (Sediment)
2021-E2-FLDCHNL-01	456664-004	01/07/22 10:35	Miscell. (Sediment)
2021-E2-SMGLPILOT-01	456664-005	01/07/22 13:55	Miscell. (Sediment)

Case Narrative

PHYSIS Environmental Laboratories	Lab Job Number: 456664
1904 E. Wright Circle	Location: 2109001-002
Anaheim, CA 92806	Date Received: 01/11/22
Misty Mercier	

This data package contains sample and QC results for five sediment samples, requested for the above referenced project on 01/11/22. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):

Methylene chloride was detected above the RL in the method blank for batch 281621; this analyte was not detected in samples at or above the RL. Methylene chloride was detected between the MDL and the RL in the method blank for batch 281699. No other analytical problems were encountered.

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Chain of Custody

Physis Project ID: 2109001-002

45664

From: Physis Environmental Laboratories, Inc.
Misty Mercier
1904 E. Wrigth Cir.
Anaheim, CA 92806
714-605-5320 (office), 714-335-5918 (cell)
sc@physislabs.com

To: Enthalpy Analytical
Diane Galvan
931 W. Barkley Ave.
Orange, CA 92868
Diane.Galvan@enthalpy.com

Physis SOS Number:	2109001	PO Number:	Sampled by:
Turnaround Time	☑ Standard ☐ RUSH: ______ Business Days	Type of ice used:	☐ BLUE ☑ WET ☐ DRY
Report Format	☑ PDF/EDD ☐ SWAMP EDD ☐ CEDEN EDD ☐ Other EDD: ______	Shipped via:	☐ FEDEX ☐ UPS ☐ USPS ☐ Client ☑ Physis ☐ Other: ______

Sample ID	Sample Description	Requested Analyses/Method	Sample Date	Sample Time	Matrix	# of Bottles
2021-E2-BASINSMGL-01		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	1/7/2022	1:00:00 PM	Sediment	1
2021-E2-BASINTJRVR-01		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	1/7/2022	9:10:00 AM	Sediment	1
2021-E2-BRWNFL-01		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	1/7/2022	2:45:00 PM	Sediment	1
2021-E2-FLDCHNL-01		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	1/7/2022	10:35:00 AM	Sediment	1

Relinquished:	Print: Brendan Haskins	Date: 1/11/2022	Received By:	Print: Geena Sylvestri	Date: 1/11/20
Org: Physis	Sign: [signature]	Time: 16:20	Org: EA	Sign: [signature]	Time: 16:30
Relinquished:	Print:	Date:	Received By:	Print:	Date:
Org:	Sign:	Time:	Org:	Sign:	Time:

7.2/4.3

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Chain of Custody

Physis Project ID: 2109001-002

US6664

From: Physis Environmental Laboratories, Inc.
Misty Mercier
1904 E. Wrigth Cir.
Anaheim, CA 92806
714-605-5320 (office), 714-335-5918 (cell)
sc@physislabs.com

To: Enthalpy Analytical
Diane Galvan
931 W. Barkley Ave.
Orange, CA 92868
Diane.Galvan@enthalpy.com

Sample ID	Sample Description	Requested Analyses/Method	Sample Date	Sample Time	Matrix	# of Bottles
2021-E2-SMGLPILOT-01		Cyanide (EPA 9012A) TPH - Carbon Chain (C10-C44) (EPA 8015B EPH) TPH - Carbon Chain (C6-C10) (EPA 8015B PPH) Volatile Organic Compounds (EPA 8260B)	1/7/2022	1:55:00 PM	Sediment	1

Notes/Comments:

Report Down to the MDL

Report in Dry Weight

We can give you the % solids results.

Relinquished:	Print: Brendan Huskin	Date: 1/11/2022	Received By:	Print: Geena Sylvester	Date: 1/11/22
Org: Physis	Sign:	Time: 16:30	Org: EA.	Sign:	Time: 16:30
Relinquished:	Print:	Date:	Received By:	Print:	Date:
Org:	Sign:	Time:	Org:	Sign:	Time:

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SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Physis   Project: 2109001-002

Date Received: 2/11/22   Sampler's Name Present: ☐ Yes ☑ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2)   Sample Temp (°C) (No Cooler): ______

Sample Temp (°C), One from each cooler: #1: 7.2 #2: ______ #3: ______ #4: ______

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: ______

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☑ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other ______

Cooler Temp (°C): #1: 4.3 #2: ______ #3: ______ #4: ______

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✓
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?			✓
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: ______ Date/Time ______

☐ Email (email sent to/on): ______ / ______

Project Manager's response:

Completed By: [signature]   Date: 2/11/22

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Analysis Results for 456664

Misty Mercier
PHYSIS Environmental Laboratories
1904 E. Wright Circle
Anaheim, CA 92806

Lab Job #: 456664
Location: 2109001-002
Date Received: 01/11/22

Sample ID:	**2021-E2-BASINSMGL-01**	**Lab ID:**	**456664-001**
Collected:	**01/07/22 13:00**	**Matrix:**	**Miscell.**
Basis:	**Dry**		

456664-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	220		18	281905	01/16/22	01/17/22	MES
TPH (C10-C44)	ND		mg/Kg	220		18	281905	01/16/22	01/17/22	MES
Surrogates				**Limits**						
n-Triacontane	102%		%REC	70-130		18	281905	01/16/22	01/17/22	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	6.0	0.3	1	281621	01/12/22	01/12/22	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	6.0	1.0	1	281621	01/12/22	01/12/22	RAO
Freon 12	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
Chloromethane	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
Vinyl Chloride	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
Bromomethane	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
Chloroethane	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
Trichlorofluoromethane	ND		ug/Kg	6.0	0.3	1	281621	01/12/22	01/12/22	RAO
Acetone	ND		ug/Kg	120	30	1	281621	01/12/22	01/12/22	RAO
Freon 113	ND		ug/Kg	6.0	0.9	1	281621	01/12/22	01/12/22	RAO
1,1-Dichloroethene	ND		ug/Kg	6.0	0.2	1	281621	01/12/22	01/12/22	RAO
Methylene Chloride	**3.8**	B,J	ug/Kg	6.0	0.8	1	281621	01/12/22	01/12/22	RAO
MTBE	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
1,1-Dichloroethane	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
2-Butanone	ND		ug/Kg	120	3.9	1	281621	01/12/22	01/12/22	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
2,2-Dichloropropane	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
Chloroform	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
Bromochloromethane	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
1,1,1-Trichloroethane	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
1,1-Dichloropropene	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
Carbon Tetrachloride	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
1,2-Dichloroethane	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
Benzene	ND		ug/Kg	6.0	0.3	1	281621	01/12/22	01/12/22	RAO
Trichloroethene	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
1,2-Dichloropropane	ND		ug/Kg	6.0	0.7	1	281621	01/12/22	01/12/22	RAO
Bromodichloromethane	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 456664

456664-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Dibromomethane	ND		ug/Kg	6.0	0.7	1	281621	01/12/22	01/12/22	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	6.0	2.3	1	281621	01/12/22	01/12/22	RAO
cis-1,3-Dichloropropene	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
Toluene	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
1,1,2-Trichloroethane	ND		ug/Kg	6.0	0.7	1	281621	01/12/22	01/12/22	RAO
1,3-Dichloropropane	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
Tetrachloroethene	ND		ug/Kg	6.0	0.7	1	281621	01/12/22	01/12/22	RAO
Dibromochloromethane	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
1,2-Dibromoethane	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
Chlorobenzene	ND		ug/Kg	6.0	0.3	1	281621	01/12/22	01/12/22	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
Ethylbenzene	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
m,p-Xylenes	ND		ug/Kg	12	1.0	1	281621	01/12/22	01/12/22	RAO
o-Xylene	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
Styrene	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
Bromoform	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
Isopropylbenzene	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
1,2,3-Trichloropropane	ND		ug/Kg	6.0	0.9	1	281621	01/12/22	01/12/22	RAO
Propylbenzene	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
Bromobenzene	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
2-Chlorotoluene	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
4-Chlorotoluene	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
tert-Butylbenzene	ND		ug/Kg	6.0	0.4	1	281621	01/12/22	01/12/22	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
sec-Butylbenzene	ND		ug/Kg	6.0	0.5	1	281621	01/12/22	01/12/22	RAO
para-Isopropyl Toluene	ND		ug/Kg	6.0	0.7	1	281621	01/12/22	01/12/22	RAO
1,3-Dichlorobenzene	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
1,4-Dichlorobenzene	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
n-Butylbenzene	ND		ug/Kg	6.0	0.8	1	281621	01/12/22	01/12/22	RAO
1,2-Dichlorobenzene	ND		ug/Kg	6.0	0.6	1	281621	01/12/22	01/12/22	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	6.0	0.8	1	281621	01/12/22	01/12/22	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	6.0	1.1	1	281621	01/12/22	01/12/22	RAO
Hexachlorobutadiene	ND		ug/Kg	6.0	0.7	1	281621	01/12/22	01/12/22	RAO
Naphthalene	ND		ug/Kg	6.0	1.0	1	281621	01/12/22	01/12/22	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	6.0	0.7	1	281621	01/12/22	01/12/22	RAO
Xylene (total)	ND		ug/Kg	6.0		1	281621	01/12/22	01/12/22	RAO
Surrogates				**Limits**						
Dibromofluoromethane	111%		%REC	70-145	1.6	1	281621	01/12/22	01/12/22	RAO
1,2-Dichloroethane-d4	116%		%REC	70-145		1	281621	01/12/22	01/12/22	RAO
Toluene-d8	96%		%REC	70-145		1	281621	01/12/22	01/12/22	RAO
Bromofluorobenzene	103%		%REC	70-145	1.8	1	281621	01/12/22	01/12/22	RAO
Method: EPA 9012A										
Cyanide	ND		mg/Kg	0.60	0.042	1	282063	01/19/22	01/19/22	ATP

Results for any subcontracted analyses are not included in this section.

Analysis Results for 456664

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 456664

Sample ID:	Lab ID: 456664-002	Collected: 01/07/22 09:10
2021-E2-BASINTJRVR-01	Matrix: Miscell.	Basis: Dry

456664-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	210		20	281905	01/16/22	01/18/22	MES
TPH (C10-C44)	ND		mg/Kg	210		20	281905	01/16/22	01/18/22	MES
Surrogates				**Limits**						
n-Triacontane	96%		%REC	70-130		20	281905	01/16/22	01/18/22	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	5.3	0.3	1	281699	01/13/22	01/13/22	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.3	0.9	1	281699	01/13/22	01/13/22	RAO
Freon 12	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
Chloromethane	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
Vinyl Chloride	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
Bromomethane	ND		ug/Kg	5.3	0.3	1	281699	01/13/22	01/13/22	RAO
Chloroethane	ND		ug/Kg	5.3	0.3	1	281699	01/13/22	01/13/22	RAO
Trichlorofluoromethane	ND		ug/Kg	5.3	0.3	1	281699	01/13/22	01/13/22	RAO
Acetone	ND		ug/Kg	110	27	1	281699	01/13/22	01/13/22	RAO
Freon 113	ND		ug/Kg	5.3	0.8	1	281699	01/13/22	01/13/22	RAO
1,1-Dichloroethene	ND		ug/Kg	5.3	0.2	1	281699	01/13/22	01/13/22	RAO
Methylene Chloride	**5.2**	B,J	ug/Kg	5.3	0.7	1	281699	01/13/22	01/13/22	RAO
MTBE	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
1,1-Dichloroethane	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
2-Butanone	ND		ug/Kg	110	3.4	1	281699	01/13/22	01/13/22	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
2,2-Dichloropropane	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
Chloroform	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
Bromochloromethane	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
1,1,1-Trichloroethane	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
1,1-Dichloropropene	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
Carbon Tetrachloride	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
1,2-Dichloroethane	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
Benzene	ND		ug/Kg	5.3	0.2	1	281699	01/13/22	01/13/22	RAO
Trichloroethene	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
1,2-Dichloropropane	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
Bromodichloromethane	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
Dibromomethane	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	5.3	2.0	1	281699	01/13/22	01/13/22	RAO
cis-1,3-Dichloropropene	ND		ug/Kg	5.3	0.3	1	281699	01/13/22	01/13/22	RAO
Toluene	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 456664

456664-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
1,1,2-Trichloroethane	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
1,3-Dichloropropane	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
Tetrachloroethene	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
Dibromochloromethane	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
1,2-Dibromoethane	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
Chlorobenzene	ND		ug/Kg	5.3	0.3	1	281699	01/13/22	01/13/22	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
Ethylbenzene	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
m,p-Xylenes	ND		ug/Kg	11	0.9	1	281699	01/13/22	01/13/22	RAO
o-Xylene	ND		ug/Kg	5.3	0.3	1	281699	01/13/22	01/13/22	RAO
Styrene	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
Bromoform	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
Isopropylbenzene	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
1,2,3-Trichloropropane	ND		ug/Kg	5.3	0.8	1	281699	01/13/22	01/13/22	RAO
Propylbenzene	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
Bromobenzene	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
2-Chlorotoluene	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
4-Chlorotoluene	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
tert-Butylbenzene	ND		ug/Kg	5.3	0.4	1	281699	01/13/22	01/13/22	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
sec-Butylbenzene	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
para-Isopropyl Toluene	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
1,3-Dichlorobenzene	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
1,4-Dichlorobenzene	ND		ug/Kg	5.3	0.5	1	281699	01/13/22	01/13/22	RAO
n-Butylbenzene	ND		ug/Kg	5.3	0.7	1	281699	01/13/22	01/13/22	RAO
1,2-Dichlorobenzene	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.3	0.7	1	281699	01/13/22	01/13/22	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	5.3	0.9	1	281699	01/13/22	01/13/22	RAO
Hexachlorobutadiene	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
Naphthalene	ND		ug/Kg	5.3	0.9	1	281699	01/13/22	01/13/22	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	5.3	0.6	1	281699	01/13/22	01/13/22	RAO
Xylene (total)	ND		ug/Kg	5.3		1	281699	01/13/22	01/13/22	RAO
Surrogates				**Limits**						
Dibromofluoromethane	106%		%REC	70-145	1.4	1	281699	01/13/22	01/13/22	RAO
1,2-Dichloroethane-d4	115%		%REC	70-145		1	281699	01/13/22	01/13/22	RAO
Toluene-d8	99%		%REC	70-145		1	281699	01/13/22	01/13/22	RAO
Bromofluorobenzene	104%		%REC	70-145	1.6	1	281699	01/13/22	01/13/22	RAO

Method: EPA 9012A

Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Cyanide	ND		mg/Kg	0.53	0.037	1	282063	01/19/22	01/19/22	ATP

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 456664

Sample ID:	2021-E2-BRWNFL-01	Lab ID:	456664-003	Collected:	01/07/22 14:45
		Matrix:	Miscell.	Basis:	Dry

456664-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	210		20	281905	01/16/22	01/18/22	MES
TPH (C10-C44)	ND		mg/Kg	210		20	281905	01/16/22	01/18/22	MES
Surrogates				**Limits**						
n-Triacontane	98%		%REC	70-130		20	281905	01/16/22	01/18/22	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	5.2	0.3	1	281621	01/12/22	01/12/22	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.2	0.9	1	281621	01/12/22	01/12/22	RAO
Freon 12	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
Chloromethane	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
Vinyl Chloride	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
Bromomethane	ND		ug/Kg	5.2	0.3	1	281621	01/12/22	01/12/22	RAO
Chloroethane	ND		ug/Kg	5.2	0.3	1	281621	01/12/22	01/12/22	RAO
Trichlorofluoromethane	ND		ug/Kg	5.2	0.3	1	281621	01/12/22	01/12/22	RAO
Acetone	ND		ug/Kg	100	26	1	281621	01/12/22	01/12/22	RAO
Freon 113	ND		ug/Kg	5.2	0.8	1	281621	01/12/22	01/12/22	RAO
1,1-Dichloroethene	ND		ug/Kg	5.2	0.2	1	281621	01/12/22	01/12/22	RAO
Methylene Chloride	**5.0**	B,J	ug/Kg	5.2	0.7	1	281621	01/12/22	01/12/22	RAO
MTBE	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
1,1-Dichloroethane	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
2-Butanone	ND		ug/Kg	100	3.3	1	281621	01/12/22	01/12/22	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
2,2-Dichloropropane	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
Chloroform	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
Bromochloromethane	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
1,1,1-Trichloroethane	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
1,1-Dichloropropene	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
Carbon Tetrachloride	ND		ug/Kg	5.2	0.3	1	281621	01/12/22	01/12/22	RAO
1,2-Dichloroethane	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
Benzene	ND		ug/Kg	5.2	0.2	1	281621	01/12/22	01/12/22	RAO
Trichloroethene	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
1,2-Dichloropropane	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
Bromodichloromethane	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
Dibromomethane	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	5.2	2.0	1	281621	01/12/22	01/12/22	RAO
cis-1,3-Dichloropropene	ND		ug/Kg	5.2	0.3	1	281621	01/12/22	01/12/22	RAO
Toluene	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 456664

456664-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
1,1,2-Trichloroethane	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
1,3-Dichloropropane	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
Tetrachloroethene	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
Dibromochloromethane	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
1,2-Dibromoethane	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
Chlorobenzene	ND		ug/Kg	5.2	0.3	1	281621	01/12/22	01/12/22	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
Ethylbenzene	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
m,p-Xylenes	ND		ug/Kg	10	0.9	1	281621	01/12/22	01/12/22	RAO
o-Xylene	ND		ug/Kg	5.2	0.3	1	281621	01/12/22	01/12/22	RAO
Styrene	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
Bromoform	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
Isopropylbenzene	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
1,2,3-Trichloropropane	ND		ug/Kg	5.2	0.8	1	281621	01/12/22	01/12/22	RAO
Propylbenzene	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
Bromobenzene	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
2-Chlorotoluene	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
4-Chlorotoluene	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
tert-Butylbenzene	ND		ug/Kg	5.2	0.4	1	281621	01/12/22	01/12/22	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
sec-Butylbenzene	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
para-Isopropyl Toluene	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
1,3-Dichlorobenzene	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
1,4-Dichlorobenzene	ND		ug/Kg	5.2	0.5	1	281621	01/12/22	01/12/22	RAO
n-Butylbenzene	ND		ug/Kg	5.2	0.7	1	281621	01/12/22	01/12/22	RAO
1,2-Dichlorobenzene	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.2	0.7	1	281621	01/12/22	01/12/22	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	5.2	0.9	1	281621	01/12/22	01/12/22	RAO
Hexachlorobutadiene	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
Naphthalene	ND		ug/Kg	5.2	0.9	1	281621	01/12/22	01/12/22	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	5.2	0.6	1	281621	01/12/22	01/12/22	RAO
Xylene (total)	ND		ug/Kg	5.2		1	281621	01/12/22	01/12/22	RAO
Surrogates				**Limits**						
Dibromofluoromethane	112%		%REC	70-145	1.4	1	281621	01/12/22	01/12/22	RAO
1,2-Dichloroethane-d4	116%		%REC	70-145		1	281621	01/12/22	01/12/22	RAO
Toluene-d8	98%		%REC	70-145		1	281621	01/12/22	01/12/22	RAO
Bromofluorobenzene	103%		%REC	70-145	1.6	1	281621	01/12/22	01/12/22	RAO
Method: EPA 9012A										
Cyanide	ND		mg/Kg	0.52	0.036	1	282063	01/19/22	01/19/22	ATP

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 456664

Sample ID: 2021-E2-FLDCHNL-01	Lab ID: 456664-004	Collected: 01/07/22 10:35
	Matrix: Miscell.	Basis: Dry

456664-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	230		20	281907	01/16/22	01/18/22	MES
TPH (C10-C44)	ND		mg/Kg	230		20	281907	01/16/22	01/18/22	MES
Surrogates				**Limits**						
n-Triacontane	107%		%REC	70-130		20	281907	01/16/22	01/18/22	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	5.7	0.3	1	281699	01/13/22	01/13/22	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.7	1.0	1	281699	01/13/22	01/13/22	RAO
Freon 12	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
Chloromethane	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
Vinyl Chloride	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
Bromomethane	ND		ug/Kg	5.7	0.3	1	281699	01/13/22	01/13/22	RAO
Chloroethane	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
Trichlorofluoromethane	ND		ug/Kg	5.7	0.3	1	281699	01/13/22	01/13/22	RAO
Acetone	ND		ug/Kg	110	29	1	281699	01/13/22	01/13/22	RAO
Freon 113	ND		ug/Kg	5.7	0.9	1	281699	01/13/22	01/13/22	RAO
1,1-Dichloroethene	ND		ug/Kg	5.7	0.2	1	281699	01/13/22	01/13/22	RAO
Methylene Chloride	**6.8**	B	ug/Kg	5.7	0.8	1	281699	01/13/22	01/13/22	RAO
MTBE	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
1,1-Dichloroethane	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
2-Butanone	ND		ug/Kg	110	3.7	1	281699	01/13/22	01/13/22	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
2,2-Dichloropropane	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
Chloroform	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
Bromochloromethane	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
1,1,1-Trichloroethane	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
1,1-Dichloropropene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
Carbon Tetrachloride	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
1,2-Dichloroethane	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
Benzene	ND		ug/Kg	5.7	0.2	1	281699	01/13/22	01/13/22	RAO
Trichloroethene	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
1,2-Dichloropropane	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
Bromodichloromethane	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
Dibromomethane	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	5.7	2.2	1	281699	01/13/22	01/13/22	RAO
cis-1,3-Dichloropropene	ND		ug/Kg	5.7	0.3	1	281699	01/13/22	01/13/22	RAO
Toluene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 456664

456664-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
1,1,2-Trichloroethane	ND		ug/Kg	5.7	0.7	1	281699	01/13/22	01/13/22	RAO
1,3-Dichloropropane	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
Tetrachloroethene	ND		ug/Kg	5.7	0.7	1	281699	01/13/22	01/13/22	RAO
Dibromochloromethane	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
1,2-Dibromoethane	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
Chlorobenzene	ND		ug/Kg	5.7	0.3	1	281699	01/13/22	01/13/22	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
Ethylbenzene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
m,p-Xylenes	ND		ug/Kg	11	1.0	1	281699	01/13/22	01/13/22	RAO
o-Xylene	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
Styrene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
Bromoform	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
Isopropylbenzene	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
1,2,3-Trichloropropane	ND		ug/Kg	5.7	0.8	1	281699	01/13/22	01/13/22	RAO
Propylbenzene	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
Bromobenzene	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
2-Chlorotoluene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
4-Chlorotoluene	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
tert-Butylbenzene	ND		ug/Kg	5.7	0.4	1	281699	01/13/22	01/13/22	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
sec-Butylbenzene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
para-Isopropyl Toluene	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
1,3-Dichlorobenzene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
1,4-Dichlorobenzene	ND		ug/Kg	5.7	0.5	1	281699	01/13/22	01/13/22	RAO
n-Butylbenzene	ND		ug/Kg	5.7	0.8	1	281699	01/13/22	01/13/22	RAO
1,2-Dichlorobenzene	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.7	0.7	1	281699	01/13/22	01/13/22	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	5.7	1.0	1	281699	01/13/22	01/13/22	RAO
Hexachlorobutadiene	ND		ug/Kg	5.7	0.7	1	281699	01/13/22	01/13/22	RAO
Naphthalene	ND		ug/Kg	5.7	1.0	1	281699	01/13/22	01/13/22	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	5.7	0.6	1	281699	01/13/22	01/13/22	RAO
Xylene (total)	ND		ug/Kg	5.7		1	281699	01/13/22	01/13/22	RAO
Surrogates				**Limits**						
Dibromofluoromethane	105%		%REC	70-145	1.5	1	281699	01/13/22	01/13/22	RAO
1,2-Dichloroethane-d4	117%		%REC	70-145		1	281699	01/13/22	01/13/22	RAO
Toluene-d8	96%		%REC	70-145		1	281699	01/13/22	01/13/22	RAO
Bromofluorobenzene	115%		%REC	70-145	1.7	1	281699	01/13/22	01/13/22	RAO
Method: EPA 9012A										
Cyanide	ND		mg/Kg	0.57	0.040	1	282063	01/19/22	01/19/22	ATP

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 456664

Sample ID:	2021-E2-SMGLPILOT-01	Lab ID:	456664-005	Collected:	01/07/22 13:55
		Matrix:	Miscell.	Basis:	Dry

456664-005 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8015M Prep Method: EPA 3580										
TPH (C6-C10)	ND		mg/Kg	220		20	281907	01/16/22	01/18/22	MES
TPH (C10-C44)	ND		mg/Kg	220		20	281907	01/16/22	01/18/22	MES
Surrogates				**Limits**						
n-Triacontane	109%		%REC	70-130		20	281907	01/16/22	01/18/22	MES
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/Kg	5.6	0.3	1	281621	01/12/22	01/12/22	RAO
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.6	1.0	1	281621	01/12/22	01/12/22	RAO
Freon 12	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
Chloromethane	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
Vinyl Chloride	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
Bromomethane	ND		ug/Kg	5.6	0.3	1	281621	01/12/22	01/12/22	RAO
Chloroethane	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
Trichlorofluoromethane	ND		ug/Kg	5.6	0.3	1	281621	01/12/22	01/12/22	RAO
Acetone	ND		ug/Kg	110	28	1	281621	01/12/22	01/12/22	RAO
Freon 113	ND		ug/Kg	5.6	0.8	1	281621	01/12/22	01/12/22	RAO
1,1-Dichloroethene	ND		ug/Kg	5.6	0.2	1	281621	01/12/22	01/12/22	RAO
Methylene Chloride	**4.3**	B,J	ug/Kg	5.6	0.7	1	281621	01/12/22	01/12/22	RAO
MTBE	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
trans-1,2-Dichloroethene	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
1,1-Dichloroethane	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
2-Butanone	ND		ug/Kg	110	3.6	1	281621	01/12/22	01/12/22	RAO
cis-1,2-Dichloroethene	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
2,2-Dichloropropane	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
Chloroform	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
Bromochloromethane	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
1,1,1-Trichloroethane	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
1,1-Dichloropropene	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
Carbon Tetrachloride	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
1,2-Dichloroethane	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
Benzene	ND		ug/Kg	5.6	0.2	1	281621	01/12/22	01/12/22	RAO
Trichloroethene	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
1,2-Dichloropropane	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
Bromodichloromethane	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
Dibromomethane	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
4-Methyl-2-Pentanone	ND		ug/Kg	5.6	2.1	1	281621	01/12/22	01/12/22	RAO
cis-1,3-Dichloropropene	ND		ug/Kg	5.6	0.3	1	281621	01/12/22	01/12/22	RAO
Toluene	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
trans-1,3-Dichloropropene	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO

Results for any subcontracted analyses are not included in this section.

Analysis Results for 456664

456664-005 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
1,1,2-Trichloroethane	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
1,3-Dichloropropane	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
Tetrachloroethene	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
Dibromochloromethane	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
1,2-Dibromoethane	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
Chlorobenzene	ND		ug/Kg	5.6	0.3	1	281621	01/12/22	01/12/22	RAO
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
Ethylbenzene	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
m,p-Xylenes	ND		ug/Kg	11	0.9	1	281621	01/12/22	01/12/22	RAO
o-Xylene	ND		ug/Kg	5.6	0.3	1	281621	01/12/22	01/12/22	RAO
Styrene	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
Bromoform	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
Isopropylbenzene	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
1,2,3-Trichloropropane	ND		ug/Kg	5.6	0.8	1	281621	01/12/22	01/12/22	RAO
Propylbenzene	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
Bromobenzene	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
1,3,5-Trimethylbenzene	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
2-Chlorotoluene	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
4-Chlorotoluene	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
tert-Butylbenzene	ND		ug/Kg	5.6	0.4	1	281621	01/12/22	01/12/22	RAO
1,2,4-Trimethylbenzene	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
sec-Butylbenzene	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
para-Isopropyl Toluene	**9.2**		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
1,3-Dichlorobenzene	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
1,4-Dichlorobenzene	ND		ug/Kg	5.6	0.5	1	281621	01/12/22	01/12/22	RAO
n-Butylbenzene	ND		ug/Kg	5.6	0.7	1	281621	01/12/22	01/12/22	RAO
1,2-Dichlorobenzene	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.6	0.7	1	281621	01/12/22	01/12/22	RAO
1,2,4-Trichlorobenzene	ND		ug/Kg	5.6	1.0	1	281621	01/12/22	01/12/22	RAO
Hexachlorobutadiene	ND		ug/Kg	5.6	0.7	1	281621	01/12/22	01/12/22	RAO
Naphthalene	ND		ug/Kg	5.6	1.0	1	281621	01/12/22	01/12/22	RAO
1,2,3-Trichlorobenzene	ND		ug/Kg	5.6	0.6	1	281621	01/12/22	01/12/22	RAO
Xylene (total)	ND		ug/Kg	5.6		1	281621	01/12/22	01/12/22	RAO
Surrogates				**Limits**						
Dibromofluoromethane	111%		%REC	70-145	1.4	1	281621	01/12/22	01/12/22	RAO
1,2-Dichloroethane-d4	120%		%REC	70-145		1	281621	01/12/22	01/12/22	RAO
Toluene-d8	97%		%REC	70-145		1	281621	01/12/22	01/12/22	RAO
Bromofluorobenzene	98%		%REC	70-145	1.7	1	281621	01/12/22	01/12/22	RAO
Method: EPA 9012A										
Cyanide	ND		mg/Kg	0.56	0.039	1	282063	01/19/22	01/19/22	ATP

B Contamination found in associated Method Blank

J Estimated value

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	Blank	Lab ID:	QC965890	Batch:	281621
Matrix:	Soil	Method:	EPA 8260B	Prep Method:	EPA 5030B

QC965890 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
3-Chloropropene	ND		ug/Kg	5.0	0.3	01/12/22	01/12/22
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.0	0.9	01/12/22	01/12/22
Freon 12	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
Chloromethane	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
Vinyl Chloride	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
Bromomethane	ND		ug/Kg	5.0	0.3	01/12/22	01/12/22
Chloroethane	ND		ug/Kg	5.0	0.3	01/12/22	01/12/22
Trichlorofluoromethane	ND		ug/Kg	5.0	0.3	01/12/22	01/12/22
Acetone	ND		ug/Kg	100	25	01/12/22	01/12/22
Freon 113	ND		ug/Kg	5.0	0.7	01/12/22	01/12/22
1,1-Dichloroethene	ND		ug/Kg	5.0	0.2	01/12/22	01/12/22
Methylene Chloride	5.2		ug/Kg	5.0	0.7	01/12/22	01/12/22
MTBE	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
trans-1,2-Dichloroethene	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
1,1-Dichloroethane	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
2-Butanone	ND		ug/Kg	100	3.2	01/12/22	01/12/22
cis-1,2-Dichloroethene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
2,2-Dichloropropane	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
Chloroform	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
Bromochloromethane	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
1,1,1-Trichloroethane	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
1,1-Dichloropropene	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
Carbon Tetrachloride	ND		ug/Kg	5.0	0.3	01/12/22	01/12/22
1,2-Dichloroethane	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
Benzene	ND		ug/Kg	5.0	0.2	01/12/22	01/12/22
Trichloroethene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
1,2-Dichloropropane	ND		ug/Kg	5.0	0.6	01/12/22	01/12/22
Bromodichloromethane	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
Dibromomethane	ND		ug/Kg	5.0	0.6	01/12/22	01/12/22
4-Methyl-2-Pentanone	ND		ug/Kg	5.0	1.9	01/12/22	01/12/22
cis-1,3-Dichloropropene	ND		ug/Kg	5.0	0.3	01/12/22	01/12/22
Toluene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
trans-1,3-Dichloropropene	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
1,1,2-Trichloroethane	ND		ug/Kg	5.0	0.6	01/12/22	01/12/22
1,3-Dichloropropane	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
Tetrachloroethene	ND		ug/Kg	5.0	0.6	01/12/22	01/12/22
Dibromochloromethane	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
1,2-Dibromoethane	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
Chlorobenzene	ND		ug/Kg	5.0	0.3	01/12/22	01/12/22
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
Ethylbenzene	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22

ENTHALPY ANALYTICAL

Batch QC

QC965890 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
m,p-Xylenes	ND		ug/Kg	10	0.8	01/12/22	01/12/22
o-Xylene	ND		ug/Kg	5.0	0.3	01/12/22	01/12/22
Styrene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
Bromoform	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
Isopropylbenzene	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
1,2,3-Trichloropropane	ND		ug/Kg	5.0	0.7	01/12/22	01/12/22
Propylbenzene	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
Bromobenzene	ND		ug/Kg	5.0	0.3	01/12/22	01/12/22
1,3,5-Trimethylbenzene	ND		ug/Kg	5.0	0.4	01/12/22	01/12/22
2-Chlorotoluene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
4-Chlorotoluene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
tert-Butylbenzene	ND		ug/Kg	5.0	0.3	01/12/22	01/12/22
1,2,4-Trimethylbenzene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
sec-Butylbenzene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
para-Isopropyl Toluene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
1,3-Dichlorobenzene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
1,4-Dichlorobenzene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
n-Butylbenzene	ND		ug/Kg	5.0	0.7	01/12/22	01/12/22
1,2-Dichlorobenzene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.0	0.6	01/12/22	01/12/22
1,2,4-Trichlorobenzene	ND		ug/Kg	5.0	0.9	01/12/22	01/12/22
Hexachlorobutadiene	ND		ug/Kg	5.0	0.6	01/12/22	01/12/22
Naphthalene	ND		ug/Kg	5.0	0.9	01/12/22	01/12/22
1,2,3-Trichlorobenzene	ND		ug/Kg	5.0	0.5	01/12/22	01/12/22
Xylene (total)	ND		ug/Kg	5.0		01/12/22	01/12/22
Surrogates				**Limits**			
Dibromofluoromethane	109%		%REC	70-130	1.3	01/12/22	01/12/22
1,2-Dichloroethane-d4	116%		%REC	70-145		01/12/22	01/12/22
Toluene-d8	99%		%REC	70-145		01/12/22	01/12/22
Bromofluorobenzene	103%		%REC	70-145	1.5	01/12/22	01/12/22

ENTHALPY ANALYTICAL

Batch QC

Type:	Lab Control Sample	Lab ID:	QC965891	Batch:	281621
Matrix:	Soil	Method:	EPA 8260B	Prep Method:	EPA 5030B

QC965891 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
1,1-Dichloroethene	53.15	50.00	ug/Kg	106%		70-131
MTBE	46.20	50.00	ug/Kg	92%		69-130
Benzene	48.65	50.00	ug/Kg	97%		70-130
Trichloroethene	49.42	50.00	ug/Kg	99%		70-130
Toluene	47.00	50.00	ug/Kg	94%		70-130
Chlorobenzene	49.57	50.00	ug/Kg	99%		70-130
Surrogates						
Dibromofluoromethane	55.07	50.00	ug/Kg	110%		70-130
1,2-Dichloroethane-d4	55.70	50.00	ug/Kg	111%		70-145
Toluene-d8	49.60	50.00	ug/Kg	99%		70-145
Bromofluorobenzene	48.79	50.00	ug/Kg	98%		70-145

Type:	Lab Control Sample Duplicate	Lab ID:	QC965892	Batch:	281621
Matrix:	Soil	Method:	EPA 8260B	Prep Method:	EPA 5030B

QC965892 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
1,1-Dichloroethene	57.15	50.00	ug/Kg	114%		70-131	7	33
MTBE	50.44	50.00	ug/Kg	101%		69-130	9	30
Benzene	53.19	50.00	ug/Kg	106%		70-130	9	30
Trichloroethene	52.52	50.00	ug/Kg	105%		70-130	6	30
Toluene	49.78	50.00	ug/Kg	100%		70-130	6	30
Chlorobenzene	52.35	50.00	ug/Kg	105%		70-130	5	30
Surrogates								
Dibromofluoromethane	55.73	50.00	ug/Kg	111%		70-130		
1,2-Dichloroethane-d4	58.53	50.00	ug/Kg	117%		70-145		
Toluene-d8	49.38	50.00	ug/Kg	99%		70-145		
Bromofluorobenzene	48.25	50.00	ug/Kg	96%		70-145		

ENTHALPY ANALYTICAL

Batch QC

Type:	Blank	Lab ID:	QC966112	Batch:	281699
Matrix:	Soil	Method:	EPA 8260B	Prep Method:	EPA 5030B

QC966112 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
3-Chloropropene	ND		ug/Kg	5.0	0.3	01/13/22	01/13/22
cis-1,4-Dichloro-2-butene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
trans-1,4-Dichloro-2-butene	ND		ug/Kg	5.0	0.9	01/13/22	01/13/22
Freon 12	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
Chloromethane	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
Vinyl Chloride	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
Bromomethane	ND		ug/Kg	5.0	0.3	01/13/22	01/13/22
Chloroethane	ND		ug/Kg	5.0	0.3	01/13/22	01/13/22
Trichlorofluoromethane	ND		ug/Kg	5.0	0.3	01/13/22	01/13/22
Acetone	ND		ug/Kg	100	25	01/13/22	01/13/22
Freon 113	ND		ug/Kg	5.0	0.7	01/13/22	01/13/22
1,1-Dichloroethene	ND		ug/Kg	5.0	0.2	01/13/22	01/13/22
Methylene Chloride	1.0	J	ug/Kg	5.0	0.7	01/13/22	01/13/22
MTBE	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
trans-1,2-Dichloroethene	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
1,1-Dichloroethane	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
2-Butanone	ND		ug/Kg	100	3.2	01/13/22	01/13/22
cis-1,2-Dichloroethene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
2,2-Dichloropropane	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
Chloroform	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
Bromochloromethane	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
1,1,1-Trichloroethane	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
1,1-Dichloropropene	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
Carbon Tetrachloride	ND		ug/Kg	5.0	0.3	01/13/22	01/13/22
1,2-Dichloroethane	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
Benzene	ND		ug/Kg	5.0	0.2	01/13/22	01/13/22
Trichloroethene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
1,2-Dichloropropane	ND		ug/Kg	5.0	0.6	01/13/22	01/13/22
Bromodichloromethane	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
Dibromomethane	ND		ug/Kg	5.0	0.6	01/13/22	01/13/22
4-Methyl-2-Pentanone	ND		ug/Kg	5.0	1.9	01/13/22	01/13/22
cis-1,3-Dichloropropene	ND		ug/Kg	5.0	0.3	01/13/22	01/13/22
Toluene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
trans-1,3-Dichloropropene	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
1,1,2-Trichloroethane	ND		ug/Kg	5.0	0.6	01/13/22	01/13/22
1,3-Dichloropropane	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
Tetrachloroethene	ND		ug/Kg	5.0	0.6	01/13/22	01/13/22
Dibromochloromethane	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
1,2-Dibromoethane	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
Chlorobenzene	ND		ug/Kg	5.0	0.3	01/13/22	01/13/22
1,1,1,2-Tetrachloroethane	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
Ethylbenzene	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22

ENTHALPY ANALYTICAL

Batch QC

QC966112 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
m,p-Xylenes	ND		ug/Kg	10	0.8	01/13/22	01/13/22
o-Xylene	ND		ug/Kg	5.0	0.3	01/13/22	01/13/22
Styrene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
Bromoform	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
Isopropylbenzene	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
1,1,2,2-Tetrachloroethane	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
1,2,3-Trichloropropane	ND		ug/Kg	5.0	0.7	01/13/22	01/13/22
Propylbenzene	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
Bromobenzene	ND		ug/Kg	5.0	0.3	01/13/22	01/13/22
1,3,5-Trimethylbenzene	ND		ug/Kg	5.0	0.4	01/13/22	01/13/22
2-Chlorotoluene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
4-Chlorotoluene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
tert-Butylbenzene	ND		ug/Kg	5.0	0.3	01/13/22	01/13/22
1,2,4-Trimethylbenzene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
sec-Butylbenzene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
para-Isopropyl Toluene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
1,3-Dichlorobenzene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
1,4-Dichlorobenzene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
n-Butylbenzene	ND		ug/Kg	5.0	0.7	01/13/22	01/13/22
1,2-Dichlorobenzene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
1,2-Dibromo-3-Chloropropane	ND		ug/Kg	5.0	0.6	01/13/22	01/13/22
1,2,4-Trichlorobenzene	ND		ug/Kg	5.0	0.9	01/13/22	01/13/22
Hexachlorobutadiene	ND		ug/Kg	5.0	0.6	01/13/22	01/13/22
Naphthalene	ND		ug/Kg	5.0	0.9	01/13/22	01/13/22
1,2,3-Trichlorobenzene	ND		ug/Kg	5.0	0.5	01/13/22	01/13/22
Xylene (total)	ND		ug/Kg	5.0		01/13/22	01/13/22
Surrogates				**Limits**			
Dibromofluoromethane	107%		%REC	70-130	1.3	01/13/22	01/13/22
1,2-Dichloroethane-d4	118%		%REC	70-145		01/13/22	01/13/22
Toluene-d8	100%		%REC	70-145		01/13/22	01/13/22
Bromofluorobenzene	101%		%REC	70-145	1.5	01/13/22	01/13/22

ENTHALPY ANALYTICAL

Batch QC

Type:	Lab Control Sample	Lab ID:	QC966113	Batch:	281699
Matrix:	Soil	Method:	EPA 8260B	Prep Method:	EPA 5030B

QC966113 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
1,1-Dichloroethene	56.82	50.00	ug/Kg	114%		70-131
MTBE	49.65	50.00	ug/Kg	99%		69-130
Benzene	49.71	50.00	ug/Kg	99%		70-130
Trichloroethene	52.37	50.00	ug/Kg	105%		70-130
Toluene	49.39	50.00	ug/Kg	99%		70-130
Chlorobenzene	51.30	50.00	ug/Kg	103%		70-130
Surrogates						
Dibromofluoromethane	56.18	50.00	ug/Kg	112%		70-130
1,2-Dichloroethane-d4	61.99	50.00	ug/Kg	124%		70-145
Toluene-d8	48.97	50.00	ug/Kg	98%		70-145
Bromofluorobenzene	48.97	50.00	ug/Kg	98%		70-145

Type:	Lab Control Sample Duplicate	Lab ID:	QC966114	Batch:	281699
Matrix:	Soil	Method:	EPA 8260B	Prep Method:	EPA 5030B

QC966114 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
1,1-Dichloroethene	57.89	50.00	ug/Kg	116%		70-131	2	33
MTBE	51.61	50.00	ug/Kg	103%		69-130	4	30
Benzene	50.99	50.00	ug/Kg	102%		70-130	3	30
Trichloroethene	53.74	50.00	ug/Kg	107%		70-130	3	30
Toluene	51.04	50.00	ug/Kg	102%		70-130	3	30
Chlorobenzene	52.32	50.00	ug/Kg	105%		70-130	2	30
Surrogates								
Dibromofluoromethane	55.90	50.00	ug/Kg	112%		70-130		
1,2-Dichloroethane-d4	58.33	50.00	ug/Kg	117%		70-145		
Toluene-d8	49.61	50.00	ug/Kg	99%		70-145		
Bromofluorobenzene	48.96	50.00	ug/Kg	98%		70-145		

Type:	Blank	Lab ID:	QC966734	Batch:	281905
Matrix:	Soil	Method:	EPA 8015M	Prep Method:	EPA 3580

QC966734 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
TPH (C6-C10)	ND		mg/Kg	9.9		01/16/22	01/17/22
TPH (C10-C44)	ND		mg/Kg	9.9		01/16/22	01/17/22
Surrogates				**Limits**			
n-Triacontane	94%		%REC	70-130		01/16/22	01/17/22

Batch QC

Type: Lab Control Sample	Lab ID: QC966735	Batch: 281905
Matrix: Soil	Method: EPA 8015M	Prep Method: EPA 3580

QC966735 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Diesel C10-C28	299.2	247.5	mg/Kg	121%		76-122
Surrogates						
n-Triacontane	9.488	9.901	mg/Kg	96%		70-130

Type: Matrix Spike	Lab ID: QC966736	Batch: 281905
Matrix (Source ID): Soil (456813-021)	Method: EPA 8015M	Prep Method: EPA 3580

QC966736 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Diesel C10-C28	304.1	3.083	247.5	mg/Kg	122%		62-126	0.99
Surrogates								
n-Triacontane	9.264		9.901	mg/Kg	94%		70-130	0.99

Type: Matrix Spike Duplicate	Lab ID: QC966737	Batch: 281905
Matrix (Source ID): Soil (456813-021)	Method: EPA 8015M	Prep Method: EPA 3580

QC966737 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Diesel C10-C28	297.9	3.083	250.0	mg/Kg	118%		62-126	3	35	1
Surrogates										
n-Triacontane	9.625		10.00	mg/Kg	96%		70-130			1

Type: Blank	Lab ID: QC966746	Batch: 281907
Matrix: Soil	Method: EPA 8015M	Prep Method: EPA 3580

QC966746 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
TPH (C6-C10)	ND		mg/Kg	10		01/16/22	01/18/22
TPH (C10-C44)	ND		mg/Kg	10		01/16/22	01/18/22
Surrogates				**Limits**			
n-Triacontane	120%		%REC	70-130		01/16/22	01/18/22

Type: Lab Control Sample	Lab ID: QC966747	Batch: 281907
Matrix: Soil	Method: EPA 8015M	Prep Method: EPA 3580

QC966747 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Diesel C10-C28	213.9	247.5	mg/Kg	86%		76-122
Surrogates						
n-Triacontane	11.17	9.901	mg/Kg	113%		70-130

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike	Lab ID:	QC966748	Batch:	281907
Matrix (Source ID):	Soil (456839-001)	Method:	EPA 8015M	Prep Method:	EPA 3580

QC966748 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Diesel C10-C28	198.1	ND	250.0	mg/Kg	79%		62-126	1
Surrogates								
n-Triacontane	10.65		10.00	mg/Kg	106%		70-130	1

Type:	Matrix Spike Duplicate	Lab ID:	QC966749	Batch:	281907
Matrix (Source ID):	Soil (456839-001)	Method:	EPA 8015M	Prep Method:	EPA 3580

QC966749 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Diesel C10-C28	200.5	ND	251.3	mg/Kg	80%		62-126	1	35	1
Surrogates										
n-Triacontane	10.79		10.05	mg/Kg	107%		70-130			1

Type:	Blank	Lab ID:	QC967222	Batch:	282063
Matrix:	Soil	Method:	EPA 9012A		

QC967222 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cyanide	ND		mg/Kg	0.50	0.035	01/19/22	01/19/22

Type:	Lab Control Sample	Lab ID:	QC967223	Batch:	282063
Matrix:	Soil	Method:	EPA 9012A		

QC967223 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cyanide	5.134	5.000	mg/Kg	103%		85-115

Type:	Matrix Spike	Lab ID:	QC967224	Batch:	282063
Matrix (Source ID):	Miscell. (456664-001)	Method:	EPA 9012A		

QC967224 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cyanide	4.373	ND	5.000	mg/Kg	87%		80-120	1

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike Duplicate	Lab ID:	QC967225	Batch:	282063
Matrix (Source ID):	Miscell. (456664-001)	Method:	EPA 9012A		

QC967225 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cyanide	4.241	ND	5.000	mg/Kg	85%		80-120	3	20	1

J Estimated value
ND Not Detected

SUBCONTRACT REPORT

PHYSIS

TERRA AQUA AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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ANALYTICAL REPORT

Eurofins Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-132122-1
Client Project/Site: BOD on sediment

For:
Physis Environmental Laboratories
1904 Wright Circle
Anaheim, California 92806

Attn: Mark Baker

Authorized for release by:
2/1/2022 10:06:36 AM
Carrie Gamber, Senior Project Manager
(412)963-2428
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Designee for

Samantha Bayura, Project Manager I
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-132122-1

Laboratory: Eurofins Pittsburgh

Narrative

CASE NARRATIVE

Client: Physis Environmental Laboratories

Project: BOD on sediment

Report Number: 180-132122-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 1/8/2022 11:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.6º C.

The Field Sampler was not listed on the Chain of Custody.

GENERAL CHEMISTRY

The method blank result associated with batch 180-385118 for BOD analysis was higher than the method-required limit of 0.2 mg/L.

Test replicates showed >30% RPD between the highest and lowest replicate for the following sample: 2021-E2-BASINSMGL-01 (180-132122-1) and (180-132122-A-1 DU).

Client: Physis Environmental Laboratories
Project/Site: BOD on sediment

Job ID: 180-132122-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
b	Result Detected in the Unseeded Control blank (USB).
cn	Refer to Case Narrative for further detail

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

1 2 3 4 5 6 7 8 9 10 11 12 13

Accreditation/Certification Summary

Client: Physis Environmental Laboratories
Job ID: 180-132122-1
Project/Site: BOD on sediment

Laboratory: Eurofins Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	2891	04-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
2540G		Sediment	Percent Moisture
2540G		Sediment	Percent Solids
SM 5210B		Sediment	Biochemical Oxygen Demand

Sample Summary

Client: Physis Environmental Laboratories
Job ID: 180-132122-1
Project/Site: BOD on sediment

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-132122-1	2021-E2-BASINSMGL-01	Sediment	01/07/22 13:00	01/08/22 11:15
180-132122-2	2021-E2-BASINTJRVR-01	Sediment	01/07/22 09:10	01/08/22 11:15
180-132122-3	2021-E2-BRWNFL-01	Sediment	01/07/22 14:45	01/08/22 11:15
180-132122-4	2021-E2-FLDCHNL-01	Sediment	01/07/22 10:35	01/08/22 11:15
180-132122-5	2021-E2-SMGLPILOT-01	Sediment	01/07/22 13:55	01/08/22 11:15

Method	Method Description	Protocol	Laboratory
2540G	SM 2540G	SM22	TAL PIT
SM 5210B	5 Day BOD test	SM	TAL PIT

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

Laboratory References:

TAL PIT = Eurofins Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Client: Physis Environmental Laboratories
Project/Site: BOD on sediment

Job ID: 180-132122-1

Client Sample ID: 2021-E2-BASINSMGL-01

Lab Sample ID: 180-132122-1
Date Collected: 01/07/22 13:00
Matrix: Sediment
Date Received: 01/08/22 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			384717	01/10/22 17:09	CMR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E2-BASINSMGL-01

Lab Sample ID: 180-132122-1
Date Collected: 01/07/22 13:00
Matrix: Sediment
Date Received: 01/08/22 11:15
Percent Solids: 80.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.80 g	300 mL	385118	01/08/22 14:46	ELS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E2-BASINTJRVR-01

Lab Sample ID: 180-132122-2
Date Collected: 01/07/22 09:10
Matrix: Sediment
Date Received: 01/08/22 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			384717	01/10/22 17:09	CMR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E2-BASINTJRVR-01

Lab Sample ID: 180-132122-2
Date Collected: 01/07/22 09:10
Matrix: Sediment
Date Received: 01/08/22 11:15
Percent Solids: 94.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.80 g	300 mL	385118	01/08/22 14:46	ELS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E2-BRWNFL-01

Lab Sample ID: 180-132122-3
Date Collected: 01/07/22 14:45
Matrix: Sediment
Date Received: 01/08/22 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			384717	01/10/22 17:09	CMR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E2-BRWNFL-01

Lab Sample ID: 180-132122-3
Date Collected: 01/07/22 14:45
Matrix: Sediment
Date Received: 01/08/22 11:15
Percent Solids: 93.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.80 g	300 mL	385118	01/08/22 15:17	ELS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E2-FLDCHNL-01 **Lab Sample ID: 180-132122-4**
Date Collected: 01/07/22 10:35 **Matrix: Sediment**
Date Received: 01/08/22 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			384717	01/10/22 17:09	CMR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E2-FLDCHNL-01 **Lab Sample ID: 180-132122-4**
Date Collected: 01/07/22 10:35 **Matrix: Sediment**
Date Received: 01/08/22 11:15 **Percent Solids: 85.1**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.80 g	300 mL	385118	01/08/22 15:17	ELS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E2-SMGLPILOT-01 **Lab Sample ID: 180-132122-5**
Date Collected: 01/07/22 13:55 **Matrix: Sediment**
Date Received: 01/08/22 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			384717	01/10/22 17:09	CMR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 2021-E2-SMGLPILOT-01 **Lab Sample ID: 180-132122-5**
Date Collected: 01/07/22 13:55 **Matrix: Sediment**
Date Received: 01/08/22 11:15 **Percent Solids: 91.9**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5210B		1	0.80 g	300 mL	385118	01/08/22 15:17	ELS	TAL PIT
	Instrument ID: NOEQUIP									

Laboratory References:

TAL PIT = Eurofins Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT
- Batch Type: Analysis
  - CMR = Carl Reagle
  - ELS = Edwin Shireman

Client Sample ID: 2021-E2-BASINSMGL-01
Lab Sample ID: 180-132122-1
Date Collected: 01/07/22 13:00
Matrix: Sediment
Date Received: 01/08/22 11:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.1		0.1	0.1	%			01/10/22 17:09	1
Percent Solids	80.9		0.1	0.1	%			01/10/22 17:09	1

Client Sample ID: 2021-E2-BASINSMGL-01
Lab Sample ID: 180-132122-1
Date Collected: 01/07/22 13:00
Matrix: Sediment
Date Received: 01/08/22 11:15
Percent Solids: 80.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	1400	b cn	930	930	mg/Kg	☼		01/08/22 14:46	1

Client Sample ID: 2021-E2-BASINTJRVR-01
Lab Sample ID: 180-132122-2
Date Collected: 01/07/22 09:10
Matrix: Sediment
Date Received: 01/08/22 11:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.7		0.1	0.1	%			01/10/22 17:09	1
Percent Solids	94.3		0.1	0.1	%			01/10/22 17:09	1

Client Sample ID: 2021-E2-BASINTJRVR-01
Lab Sample ID: 180-132122-2
Date Collected: 01/07/22 09:10
Matrix: Sediment
Date Received: 01/08/22 11:15
Percent Solids: 94.3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		800	800	mg/Kg	☼		01/08/22 14:46	1

Client Sample ID: 2021-E2-BRWNFL-01
Lab Sample ID: 180-132122-3
Date Collected: 01/07/22 14:45
Matrix: Sediment
Date Received: 01/08/22 11:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.1		0.1	0.1	%			01/10/22 17:09	1
Percent Solids	93.9		0.1	0.1	%			01/10/22 17:09	1

Client Sample ID: 2021-E2-BRWNFL-01
Lab Sample ID: 180-132122-3
Date Collected: 01/07/22 14:45
Matrix: Sediment
Date Received: 01/08/22 11:15
Percent Solids: 93.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		800	800	mg/Kg	☼		01/08/22 15:17	1

Client Sample ID: 2021-E2-FLDCHNL-01
Lab Sample ID: 180-132122-4
Date Collected: 01/07/22 10:35
Matrix: Sediment
Date Received: 01/08/22 11:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.9		0.1	0.1	%			01/10/22 17:09	1

Client Sample Results

Client: Physis Environmental Laboratories
Project/Site: BOD on sediment

Job ID: 180-132122-1

Client Sample ID: 2021-E2-FLDCHNL-01

Lab Sample ID: 180-132122-4
Date Collected: 01/07/22 10:35
Matrix: Sediment
Date Received: 01/08/22 11:15

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**85.1**		0.1	0.1	%			01/10/22 17:09	1

Client Sample ID: 2021-E2-FLDCHNL-01

Lab Sample ID: 180-132122-4
Date Collected: 01/07/22 10:35
Matrix: Sediment
Date Received: 01/08/22 11:15
Percent Solids: 85.1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		880	880	mg/Kg	☼		01/08/22 15:17	1

Client Sample ID: 2021-E2-SMGLPILOT-01

Lab Sample ID: 180-132122-5
Date Collected: 01/07/22 13:55
Matrix: Sediment
Date Received: 01/08/22 11:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**8.1**		0.1	0.1	%			01/10/22 17:09	1
Percent Solids	**91.9**		0.1	0.1	%			01/10/22 17:09	1

Client Sample ID: 2021-E2-SMGLPILOT-01

Lab Sample ID: 180-132122-5
Date Collected: 01/07/22 13:55
Matrix: Sediment
Date Received: 01/08/22 11:15
Percent Solids: 91.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		820	820	mg/Kg	☼		01/08/22 15:17	1

QC Sample Results

Client: Physis Environmental Laboratories
Project/Site: BOD on sediment

Job ID: 180-132122-1

Method: SM 5210B - 5 Day BOD test

Lab Sample ID: USB 180-385118/1
Matrix: Sediment
Analysis Batch: 385118

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/Kg			01/08/22 14:46	1

Lab Sample ID: LCS 180-385118/2
Matrix: Sediment
Analysis Batch: 385118

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	204		mg/Kg		103	85 - 115

Lab Sample ID: 180-132122-1 DU
Matrix: Sediment
Analysis Batch: 385118

Client Sample ID: 2021-E2-BASINSMGL-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	1400	b cn	ND	cn	mg/Kg	☼	NC	20

Client: Physis Environmental Laboratories
Job ID: 180-132122-1
Project/Site: BOD on sediment

General Chemistry

Analysis Batch: 384717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-132122-1	2021-E2-BASINSMGL-01	Total/NA	Sediment	2540G	
180-132122-2	2021-E2-BASINTJRVR-01	Total/NA	Sediment	2540G	
180-132122-3	2021-E2-BRWNFL-01	Total/NA	Sediment	2540G	
180-132122-4	2021-E2-FLDCHNL-01	Total/NA	Sediment	2540G	
180-132122-5	2021-E2-SMGLPILOT-01	Total/NA	Sediment	2540G	

Analysis Batch: 385118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-132122-1	2021-E2-BASINSMGL-01	Total/NA	Sediment	SM 5210B	
180-132122-2	2021-E2-BASINTJRVR-01	Total/NA	Sediment	SM 5210B	
180-132122-3	2021-E2-BRWNFL-01	Total/NA	Sediment	SM 5210B	
180-132122-4	2021-E2-FLDCHNL-01	Total/NA	Sediment	SM 5210B	
180-132122-5	2021-E2-SMGLPILOT-01	Total/NA	Sediment	SM 5210B	
USB 180-385118/1	Method Blank	Total/NA	Sediment	SM 5210B	
LCS 180-385118/2	Lab Control Sample	Total/NA	Sediment	SM 5210B	
180-132122-1 DU	2021-E2-BASINSMGL-01	Total/NA	Sediment	SM 5210B	

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Chain of Custody

Physis Project ID: 2109001-002

From: Physis Environmental Laboratories, Inc.
Misty Mercier
1904 E. Wrigth Cir.
Anaheim, CA 92806
714-605-5320 (office), 714-335-5918 (cell)
sc@physislabs.com

To: Eurofins TestAmerica
Samantha Bayura
301 Alpha Drive
Pittsburgh, PA 15238
Samantha.Bayura@eurofinset.com

Physis SOS Number:	2109001	PO Number:	Sampled by:
Turnaround Time	☑ Standard ☐ RUSH: ____ Business Days	Type of ice used:	☐ BLUE ☑ WET ☐ DRY
Report Format	☑ PDF/EDD ☐ SWAMP EDD ☐ CEDEN EDD ☐ Other EDD: ______	Shipped via:	☑ FEDEX ☐ UPS ☐ USPS ☐ Client ☐ Physis ☐ Other: ______

Sample ID	Sample Description	Requested Analyses/Method	Sample Date	Sample Time	Matrix	# of Bottles
2021-E2-BASINSMGL-01		Biochemical Oxygen Demand (BOD) (SM 5210 B)	1/7/2022	13:00	Sediment	1
2021-E2-BASINTJRVR-01		Biochemical Oxygen Demand (BOD) (SM 5210 B)	1/7/2022	09:10	Sediment	1
2021-E2-BRWNFL-01		Biochemical Oxygen Demand (BOD) (SM 5210 B)	1/7/2022	14:45	Sediment	1
2021-E2-FLDCHNL-01		Biochemical Oxygen Demand (BOD) (SM 5210 B)	1/7/2022	10:35	Sediment	1
2021-E2-SMGLPILOT-01		Biochemical Oxygen Demand (BOD) (SM 5210 B)	1/7/2022	13:55	Sediment	1

Notes/Comments:

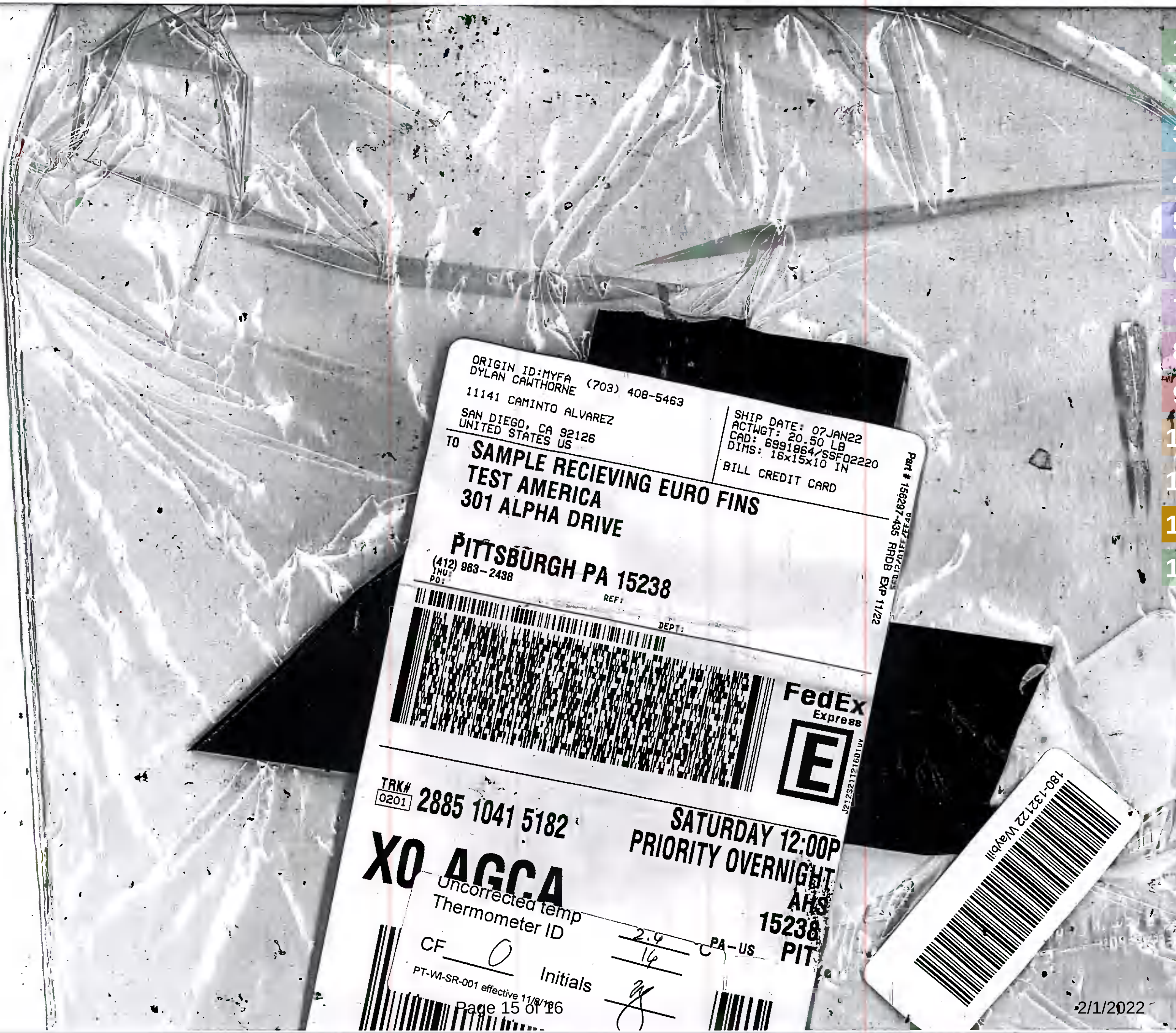
Report Down to the MDL

Report in Dry Weight

We can give you the % solids results.

180-132122 Chain of Custody

Relinquished:	Print: Adam [illegible]	Date: 1/7/22	Received By:	Print: Debbie Watson	Date: 1-8-22
Org: Physis	Sign: [signature]	Time: 1615	Org: ETAPHH	Sign: [signature]	Time: 1115
Relinquished:	Print:	Date:	Received By:	Print:	Date:
Org:	Sign:	Time:	Org:	Sign:	Time:


ORIGIN ID:MYFA (703) 408-5463
DYLAN CAWTHORNE
11141 CAMINTO ALVAREZ
SAN DIEGO, CA 92126
UNITED STATES US
SHIP DATE: 07JAN22
ACTWGT: 20.50 LB
CAD: 6991864/SSFO2220
DIMS: 16x15x10 IN
BILL CREDIT CARD
TO SAMPLE RECIEVING EURO FINS
TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH PA 15238
(412) 963-2438
INV:
PO:
REF:
DEPT:
Part # 156297-435 RRDB EXP 11/22
FedEx
Express
E
TRK# 0201 2885 1041 5182
SATURDAY 12:00P
PRIORITY OVERNIGHT
XO AGCA
AHS
15238
PA-US
PIT
Uncorrected temp 2.4
Thermometer ID 14 C
CF 0
Initials
PT-WI-SR-001 effective 11/8/18
180-132122 Waybill

Login Sample Receipt Checklist

Client: Physis Environmental Laboratories | Job Number: 180-132122-1

Login Number: 132122 | **List Source: Eurofins Pittsburgh**
List Number: 1
Creator: Watson, Debbie

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

SUBCONTRACT REPORT

LA Testing
5431 Industrial Drive, Huntington Beach, CA 92649
Phone/Fax: (714) 828-4999 / (714) 828-4944
http://www.LATesting.com gardengrovelab@latesting.com

LA Testing Order:	332200783
CustomerID:	PHEL29
CustomerPO:	
ProjectID:	

Attn: **Misty Mercier**
Physis Environmental Laboratories, Inc.
1904 E. Wright Circle
Anaheim, CA 92806

Phone:	(714) 602-5320
Fax:	(714) 602-5321
Received:	1/10/2022 12:40 PM
Analysis Date:	1/17/2022
Collected:	1/7/2022

Test Report: Asbestos Analysis via Polarized Light Microscopy, Qualitative

Sample	Description	Appearance	Result	Notes
2021-E2-BASINSMGL-01 *332200783-0001*		Brown/Gray/White Fibrous Heterogeneous	**None Detected**	
2021-E2-BASINTJRVR-01 *332200783-0002*		Brown/Gray/White Fibrous Heterogeneous	**None Detected**	
2021-E2-BRWNFL-01 *332200783-0003*		Brown/Gray Non-Fibrous Heterogeneous	**None Detected**	
2021-E2-FLDCHNL-01 *332200783-0004*		Brown/Gray Non-Fibrous Heterogeneous	**None Detected**	
2021-E2-SMGLPILOT-01 *332200783-0005*		Brown/Gray/White Fibrous Heterogeneous	**None Detected**	

Analyst(s)
Alexis Rodriguez (5)

Michael Chapman
Michael Chapman, Laboratory Manager
or other approved signatory

Samples analyzed by LA Testing Huntington Beach, CA

Initial report from 01/17/2022 09:42:45

CHAIN OF CUSTODY

wood.

Chain of Custody

From:	To:	Lab Notes:
Wood (formerly Amec FW) 9177 Sky Park Court San Diego, CA 92123 (858) 514-7729 (858) 278-5300 Fax Contact: Sarah Seifert 760-484-0482	Physis Environmental Laboratorie 1904 East Wright Circle Anaheim, CA 92806 714-602-5320 ext 204 Contact: Mark Baker	Submit data in CEDEN format to Sarah Seifert at sarah.seifert@woodplc.com Dylan Cawthorne at dylan.cawthorne@woodplc.com and Matt Rich at matt.rich@woodplc.com

PO#:	Project Number:	Project Name:	Sample Matrix:
C015101891	5025210002	Tijuana River Sediment Management Monitoring	Sediment

SampleID	Sample Date	Sample Time	Sample Type	Analysis	Container	Pres	No. of Containers
2021-E2-BASINSMGL-01	1/7/2022	13:00	Grab	Gross Alpha, Gross Beta (EPA 900.0)	500 mL HDPE	-	1
2021-E2-BASINTJRVR-01	1/7/2022	09:10	Grab	Gross Alpha, Gross Beta (EPA 900.0)	500 mL HDPE	-	1
2021-E2-BRWNFL-01	1/7/2022	14:45	Grab	Gross Alpha, Gross Beta (EPA 900.0)	500 mL HDPE	-	1
2021-E2-FLDCHNL-01	1/7/2022	10:35	Grab	Gross Alpha, Gross Beta (EPA 900.0)	500 mL HDPE	-	1
2021-E2-SMGLPILOT-01	1/7/2022	13:55	Grab	Gross Alpha, Gross Beta (EPA 900.0)	500 mL HDPE	-	1
2021-E2-BASINSMGL-01	1/7/2022	13:00	Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	-	1
2021-E2-BASINTJRVR-01	1/7/2022	09:10	Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	-	1
2021-E2-BRWNFL-01	1/7/2022	14:45	Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	-	1
2021-E2-FLDCHNL-01	1/7/2022	10:35	Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	-	1
2021-E2-SMGLPILOT-01	1/7/2022	13:55	Grab	Particle Size Distribution (SM 2560 D)	5" x 8" Plastic Bag	-	1

Special Instructions/Comments:

Sampled and Relinquished By:		Received By:	
Print: Dylan Cawthorne Sign: [signature]	Date/Time: 01/7/2022 15:15	Print: Adam Tobi Sign: [signature]	Date/Time: 01/07/22 15:15
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:

wood.

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PO#:	Project Number:	Project Name:	Sample Matrix:
C015101891	5025210002	Tijuana River Sediment Management Monitoring	Water

SampleID	Sample Date	Sample Time	Sample Type	Analysis	Container	Pres	No. of Containers
2021-E2-EQUIPBLANK_NUTRIENTS	1/7/2022	11:00	Grab	Sulfate, Nitrate, Nitrite (EPA 300)	250 mL HPDE	-	1
2021-E2-EQUIPBLANK_METALS	1/7/2022	11:00	Grab	Metals (EPA 200.8)	250 mL HPDE	-	1
2021-E2-EQUIPBLANK_MERCURY	1/7/2022	11:00	Grab	Mercury (EPA 245.7)	250 mL jar	-	1
2021-E2-EQUIPBLANK_O&G	1/7/2022	11:00	Grab	Oil & Grease (SM 5520E/EPA 1664)	1 L jar	H2SO4	1

Special Instructions/Comments:

Sampled and Relinquished By:		Received By:	
Print: Dylan Cawthorne Sign: [signature]	Date/Time: 1/7/2022 16:15	Print: Adam Fodd Sign: [signature]	Date/Time: 01/07/22 1615
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:

wood.

Chain of Custody

From:	To:	Lab Notes:
Wood (formerly Amec FW) 9177 Sky Park Court San Diego, CA 92123 (858) 514-7729 (858) 278-5300 Fax Contact: Sarah Seifert 760-484-0482	Physis Environmental Laboratories 1904 East Wright Circle Anaheim, CA 92806 714-602-5320 ext 204 Contact: Mark Baker	Submit data in CEDEN format to Sarah Seifert at sarah.seifert@woodplc.com Dylan Cawthorne at dylan.cawthorne@woodplc.com and Matt Rich at matt.rich@woodplc.com

PO#:	Project Number:	Project Name:	Sample Matrix:
C015101891	5025210002	Tijuana River Sediment Management Monitoring	Sediment

SampleID	Sample Date	Sample Time	Sample Type	Analysis	Container	Pres	No. of Containers
2021-E2-BASINSMGL-01	1/7/2022	13:00	Grab	Asbestos (PLM Qualitative)	4 oz jar	-	1
2021-E2-BASINTJRVR-01	1/7/2022	09:10	Grab	Asbestos (PLM Qualitative)	4 oz jar	-	1
2021-E2-BRWNFL-01	1/7/2022	14:45	Grab	Asbestos (PLM Qualitative)	4 oz jar	-	1
2021-E2-FLDCHNL-01	1/7/2022	10:35	Grab	Asbestos (PLM Qualitative)	4 oz jar	-	1
2021-E2-SMGLPILOT-01	1/7/2022	13:55	Grab	Asbestos (PLM Qualitative)	4 oz jar	-	1

Special Instructions/Comments:

Sampled and Relinquished By:		Received By:	
Print: Dylan Cawthorne Sign: [signature]	Date/Time: 1/7/2022 16:15	Print: Adam Jacci Sign: [signature]	Date/Time: 01/07/22 1615
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:

wood.

Chain of Custody

From:	To:	Lab Notes:
Wood (formerly Amec FW) 9177 Sky Park Court San Diego, CA 92123 (858) 514-7729 (858) 278-5300 Fax Contact: Sarah Seifert 760-484-0482	Physis Environmental Laboratories 1904 East Wright Circle Anaheim, CA 92806 714-602-5320 ext 204 Contact: Mark Baker	Submit data in CEDEN format to Sarah Seifert at sarah.seifert@woodplc.com Dylan Cawthorne at dylan.cawthorne@woodplc.com and Matt Rich at matt.rich@woodplc.com

PO#:	Project Number:	Project Name:	Sample Matrix:
C015101891	5025210002	Tijuana River Sediment Management Monitoring	Sediment

SampleID	Sample Date	Sample Time	Sample Type	Analysis	Container	Pres	No. of Containers
2021-E2-BASINSMGL-01	1/7/2022	13:00	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids	8 oz jar	-	1
2021-E2-BASINTJRVR-01	1/7/2022	09:10	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids	8 oz jar	-	1
2021-E2-BRWNFL-01	1/7/2022	14:45	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids	8 oz jar	-	1
2021-E2-FLDCHNL-01	1/7/2022	10:35	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids	8 oz jar	-	1
2021-E2-SMGLPILOT-01	1/7/2022	13:55	Grab	Metals, Trace Mercury, % Solids, TOC, Alkalinity, Chloride, Sulfate, Total Sulfides, Dissolved Sulfides, Nitrate, Nitrite, Oil & Grease, TPH, RPH, SVOC's, OCPs, PCBs, OPPs, Toxaphene, PAHs, Pyrethroids	8 oz jar	-	1
2021-E2-BASINSMGL-01	1/7/2022	13:00	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH and PPH)	8 oz jar	-	1
2021-E2-BASINTJRVR-01	1/7/2022	09:10	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH and PPH)	8 oz jar	-	1
2021-E2-BRWNFL-01	1/7/2022	14:45	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH and PPH)	8 oz jar	-	1
2021-E2-FLDCHNL-01	1/7/2022	10:35	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH and PPH)	8 oz jar	-	1
2021-E2-SMGLPILOT-01	1/7/2022	13:55	Grab	Cyanide (EPA 9010B/9014), VOCs (EPA 8260/8260B), TPH-CC (EPA 8015B EPH and PPH)	8 oz jar	-	1

Special Instructions/Comments:

Sampled and Relinquished By:		Received By:	
Print: Dylan Cawthorne Sign: [signature]	Date/Time: 1/7/2022 15:15	Print: Adam Iden Sign: [signature]	Date/Time: 01/07/22 1615
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:

wood.

Chain of Custody

From:	To:	Lab Notes:
Wood (formerly Amec FW) 9177 Sky Park Court San Diego, CA 92123 (858) 514-7729 (858) 278-5300 Fax Contact: Sarah Seifert 760-484-0482	Physis Environmental Laboratorie 1904 East Wright Circle Anaheim, CA 92806 714-602-5320 ext 204 Contact: Mark Baker	Submit data in CEDEN format to Sarah Seifert at sarah.seifert@woodplc.com Dylan Cawthorne at dylan.cawthorne@woodplc.com and Matt Rich at matt.rich@woodplc.com

PO#:	Project Number:	Project Name:	Sample Matrix:
C015101891	5025210002	Tijuana River Sediment Management Monitoring	Sediment

SampleID	Sample Date	Sample Time	Sample Type	Analysis	Container	Pres	No. of Containers
2021-E2-BASINSMGL-01	1/7/2022	13:00	Grab	BOD (SM 5210B)	4 oz jar	-	1
2021-E2-BASINTJRVR-01	1/7/2022	09:10	Grab	BOD (SM 5210B)	4 oz jar	-	1
2021-E2-BRWNFL-01	1/7/2022	14:45	Grab	BOD (SM 5210B)	4 oz jar	-	1
2021-E2-FLDCHNL-01	1/7/2022	10:35	Grab	BOD (SM 5210B)	4 oz jar	-	1
2021-E2-SMGLPILOT-01	1/7/2022	13:55	Grab	BOD (SM 5210B)	4 oz jar	-	1

Special Instructions/Comments:

Sampled and Relinquished By:		Received By:	
Print: Dylan Cawthorne Sign: [signature]	Date/Time: 1/7/2022 15:15	Print: Adam Idell Sign: [signature]	Date/Time: 01/07/22 1615
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:
Print: Sign:	Date/Time:	Print: Sign:	Date/Time:

PHYSIS ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample Receipt Summary

Project Iteration ID:	2109001-002
Client Name:	Wood Environment & Infrastructure Solutions, Inc.
Project Name:	Tijuana River Sediment Management Monitoring Program Project # 5025-21-0002
COC Page Number:	6 of 6
Bottle Label Color:	NA

Receiving Info

1. Initials Received By: ______
2. Date Received: 01/07/22
3. Time Received: 1615
4. Client Name: Wood Dropped off coolers as well @ Kinnetic
5. Courier Information: (Please circle)
   - Client
   - UPS
   - Area Fast
   - DRS
   - ~~FedEx~~
   - GSO/GLS
   - Ontrac
   - PAMS
   - PHYSIS Driver:
     - i. Start Time: 12:30
     - ii. End Time: 18:30
     - iii. Total Mileage: ______
     - iv. Number of Pickups: ______
6. Container Information: (Please put the # of containers or circle none)
   - 2 Cooler
   - __ Styrofoam Cooler
   - ____ Boxes
   - None
   - ___ Carboy(s)
   - __Carboy Trash Can(s)
   - ____ Carboy Cap(s)
   - Other ______
7. What type of ice was used: (Please circle any that apply)
   - Wet Ice
   - Blue Ice
   - Dry Ice
   - Water
   - None
8. Randomly Selected Samples Temperature (°C): 2.1 Used I/R Thermometer # 2

Inspection Info

1. Initials Inspected By: ______

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out........ Yes / No
2. All sample containers arrived intact........ Yes / No
3. All samples listed on COC(s) are present........ Yes / No
4. Information on containers consistent with information on COC(s)........ Yes / No
5. Correct containers and volume for all analyses indicated........ Yes / No
6. All samples received within method holding time........ Yes / No
7. Correct preservation used for all analyses indicated........ Yes / No
8. Name of sampler included on COC(s)........ Yes / No

Notes:

ATTACHMENT H

FDS for Trash Evaluations

Tijuana River Valley Trash Dry Weather Monitoring
TRASH EVALUATIONS FIELD DATA SHEET

Site ID: FLD CHNL **Date:** 10/21/21 **Time:** 09:00

Field Crew: DC JOB **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 5 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather [] Partly Cloudy [X] Sunny [] Overcast [] Fog [] Rain [] Drizzle

Last Rain [X] > 72 hours [] < 72 hours

Is trash readily visible to the public? *(Circle one)* Yes No

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	1 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other: Trash assessment performed at site 1, 32.5422682, -117.0540788

Tijuana River Valley Trash Dry Weather Monitoring
TRASH EVALUATIONS FIELD DATA SHEET

Site ID: GT Basin   Date: 10/21/21   Time: 13:45

Field Crew: DC, JOB   Photos Collected? [X] Yes [ ] No   Photo Count#: 4 (Minimum 4 per area)

ATMOSPHERIC CONDITIONS

Weather	[X] Partly Cloudy	[] Sunny	[] Overcast	[] Fog	[] Rain	[] Drizzle
Last Rain	[X] > 72 hours	[] < 72 hours				

Is trash readily visible to the public? *(Circle one)* Yes No

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	1 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other: Trash basin was recently excavated 2 weeks ago. Only some trash along perimeter.

Tijuana River Valley Trash Dry Weather Monitoring

TRASH EVALUATIONS FIELD DATA SHEET

Site ID: BASINTJRVR **Date:** 10/21/21 **Time:** 07:30

Field Crew: DC JOB **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 4 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather [] Partly Cloudy [X] Sunny [] Overcast [] Fog [] Rain [] Drizzle

Last Rain [X] > 72 hours [] < 72 hours

Is trash readily visible to the public? *(Circle one)* Yes **No**

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	1 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other: No trash, sod field. Trash assessment performed at Site 2 32.5513788, -117.0571492

Tijuana River Valley Trash Dry Weather Monitoring
TRASH EVALUATIONS FIELD DATA SHEET

Site ID: BASINSMGL **Date:** 10/21/21 **Time:** 13:00
Field Crew: DC JOB **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 4 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather [] Partly Cloudy [X] Sunny [] Overcast [] Fog [] Rain [] Drizzle
Last Rain [X] > 72 hours [] < 72 hours

Is trash readily visible to the public? *(Circle one)* **Yes** No

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	1 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other: Trash assessment performed at Site 2: 32.54115317, -117.0879571

Tijuana River Valley Trash Dry Weather Monitoring

TRASH EVALUATIONS FIELD DATA SHEET

Site ID: SMG PILOT **Date:** 10/21/21 **Time:** 11:15

Field Crew: DC JOB **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 4 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather [] Partly Cloudy [X] Sunny [] Overcast [] Fog [] Rain [] Drizzle

Last Rain [X] > 72 hours [] < 72 hours

Is trash readily visible to the public? *(Circle one)* Yes No

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	1 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other: Trash assessment performed at site 1: 32.5520944, -117.0891289

Tijuana River Valley Trash Dry Weather Monitoring
TRASH EVALUATIONS FIELD DATA SHEET

Site ID: BRWNFL **Date:** 10/21/21 **Time:** 10:15
Field Crew: DC JOB **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 4 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather [] Partly Cloudy [X] Sunny [] Overcast [] Fog [] Rain [] Drizzle
Last Rain [X] > 72 hours [] < 72 hours

Is trash readily visible to the public? *(Circle one)* Yes **No**

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	1 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other: No trash visible. Trash assessment performed at site 1: 32.5534475, -117.0844893

Tijuana River Valley Trash Dry Weather Monitoring
TRASH EVALUATIONS FIELD DATA SHEET

Site ID: BRWNFL **Date:** 1/7/2022 **Time:** 14:40
Field Crew: DC JOB **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 7 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather	[] Partly Cloudy	[] Sunny	[X] Overcast	[] Fog	[] Rain	[] Drizzle
Last Rain	[X] > 72 hours	[] < 72 hours				

Is trash readily visible to the public? *(Circle one)* Yes **No**

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	1 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other:

Tijuana River Valley Trash Dry Weather Monitoring
TRASH EVALUATIONS FIELD DATA SHEET

Site ID: SMG PILOT **Date:** 1/7/2022 **Time:** 13:50
Field Crew: DC JOB **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 9 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather [] Partly Cloudy [] Sunny [X] Overcast [] Fog [] Rain [] Drizzle
Last Rain [X] > 72 hours [] < 72 hours

Is trash readily visible to the public? *(Circle one)* **Yes** **No**

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	1 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other:

Tijuana River Valley Trash Dry Weather Monitoring
TRASH EVALUATIONS FIELD DATA SHEET

Site ID: BASINSMGL **Date:** 1/7/2022 **Time:** 12:30
Field Crew: DC JOB **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 8 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather [X] Partly Cloudy [] Sunny [] Overcast [] Fog [] Rain [] Drizzle
Last Rain [X] > 72 hours [] < 72 hours

Is trash readily visible to the public? *(Circle one)* Yes No

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
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Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other:

Tijuana River Valley Trash Dry Weather Monitoring

TRASH EVALUATIONS FIELD DATA SHEET

Site ID: GT BASIN **Date:** 1/7/22 **Time:** 11:30

Field Crew: JOB, DC **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 9 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather [X] Partly Cloudy [] Sunny [] Overcast [] Fog [] Rain [] Drizzle

Last Rain [X] > 72 hours [] < 72 hours

Is trash readily visible to the public? *(Circle one)* **Yes** No

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	1 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other: DC

Notes: Majority of trash is behind trash booms.

Tijuana River Valley Trash Dry Weather Monitoring
TRASH EVALUATIONS FIELD DATA SHEET

Site ID: FLDCHNL **Date:** 01/07/2022 **Time:** 10:30
Field Crew: DC JOB **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 7 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather [] Partly Cloudy [] Sunny [X] Overcast [] Fog [] Rain [] Drizzle
Last Rain [X] > 72 hours [] < 72 hours

Is trash readily visible to the public? *(Circle one)* Yes No

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	1 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other:

Tijuana River Valley Trash Dry Weather Monitoring
TRASH EVALUATIONS FIELD DATA SHEET

Site ID: BASINTJRVR **Date:** 01/07/2022 **Time:** 09:15

Field Crew: DC JOB **Photos Collected?** [X] Yes [ ] No **Photo Count#:** 4 **(Minimum 4 per area)**

ATMOSPHERIC CONDITIONS

Weather [] Partly Cloudy [] Sunny [] Overcast [X] Fog [] Rain [] Drizzle

Last Rain [X] > 72 hours [] < 72 hours

Is trash readily visible to the public? *(Circle one)* Yes **No**

TRASH ASSESSMENT CONDITIONS

	Low	Medium	High	Very High
Trash Assessment Details	On first glance, little or no trash is visible	Predominantly free of trash except for a few littered areas	Predominantly littered except for a few clean areas, Evidence of site being used by people: scattered cans, bottles, food wrappers, plastic bags, etc.	Trash is continuously seen throughout the assessment area, Evidence of site being used frequently by people (e.g., many cans, bottles, food wrappers, plastic bags, clothing; piles of garbage and debris)
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SCORE (CIRCLE ONE)	~~1~~ 2 3	4 5 6	7 8 9	10 11 12

Circle the 5 most prevalent trash items observed at the site

Plastic	Glass/Metal/Fabric	Construction/Auto Debris	Large Household Items	Toxic Substances
Single use plastic carryout bags	Aluminum cans	Metal material	Mattresses	Cigarette butts
Convenience/fast food items	Fabric and cloth	Wood material/debris	Furniture	Spray paint cans
Beverage bottles	Paper and cardboard	Tires	Appliances	Biohazards (needles, diapers, human waste)
Polystyrene (styrofoam)	Broken glass	Asphalt/concrete	Bicycles	Used oil
Other plastic	Shopping carts	Car parts	Other Electrical components	Ashes/Fire remnants

Other: Green plastic mesh from previous crops

Appendix C

Guidelines and Required Forms for the Republic Services Landfills in San Diego

Funding provided by State Coastal Conservancy through Proposition 68 California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 resources

Special Waste Profile

REPUBLIC SERVICES

Disposal Facility: --Select Facility--

Waste Profile #:

Sales Rep #:

I. Generator Information

Generator Name:

Generator Site Address:

City: County: State: --Select State-- Zip:

State ID/Reg No: State Approval/Waste Code: NAICS #:

Generator Mailing Address ☐ (if different)

City: County: State: --Select State-- Zip:

Generator Contact Name: Email:

Phone Number: Ext: Fax Number:

II. Billing Information

Bill To: Contact Name:

Billing Address: Email:

City: State: --Select State-- Zip: Phone:

III. Waste Stream Information

Name of Waste:

Process Generating Waste:

Type of Waste: --Select Waste Type-- Physical State: --Select Physical Stat Method of Shipment: --Select Shipment Methc

Estimated Volume: Volume Type: --Select Volume Type--

Frequency: --Select Frequency-- Disposal Consideration: --Select Disposal Consideration--

IV. Representative Sample Certification

☐ **No Sample Taken**

☐ **Sample Taken** **Type of Sample** --Select Sample Type--

Is the representative sample collected to prepare this profile and laboratory analysis, collected in accordance with U.S. EPA 40 CFR 261.20(c) guidelines or equivalent? ☐ **Yes** ☐ **No**

Sample Date:

Sample ID Numbers or SDS:

Remember to attach Laboratory Analytical Report (and/or Material Safety Data Sheet) including Chain of Custody and required parameters provided for this profile.

Special Waste Profile

V. Physical Characteristics of Waste

Characteristic Components (must equal 100%:)	% By Weight (out of 100% - ranges acceptable):
1.	
2.	
3.	
4.	
5.	

Color:	Odor (describe):	Does Waste Contain Free Liquids?	% Solids:	pH:	Flash Point:
		☐ Yes ☐ No			°F

Attach Laboratory Analytical Report (and/or Material Safety Data Sheet) including Chain of Custody and required parameters provided for this profile.

RCRA Regulatory Questions

1. Does this waste or generating process contain regulated concentrations of the following Pesticides and/ or Herbicides: Chlordane, Endrin, Heptachlor (and its epoxides), Lindane, Methoxychlor, Toxaphene, 2,4-D, or 2,4,5-TP Silvex as defined in 40 CFR 261.33? ☐ Yes ☐ No
2. Does this waste contain reactive sulfides (greater than 500 ppm) or reactive cyanide (greater than 250 ppm) [reference 40 CFR 261.23(a)(5)]? ☐ Yes ☐ No
3. Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCBs) as defined in 40 CFR Part 761? ☐ Yes ☐ No
4. Does this waste contain concentrations of listed hazardous wastes defined in 40 CFR 261.31, 261.32, 261.33, including RCRA F-Listed Solvents? ☐ Yes ☐ No
5. Has this waste been delisted under 40 CFR 260.20 and 260.22? If yes, attach the final decision to delist the waste as published in the Federal Register. ☐ Yes ☐ No
6. Does this waste exhibit a Hazardous Characteristic as defined by Federal and/or State regulations? If Yes, identify the applicable waste code and specify if the waste is hazardous as defined by Federal, State or both? ☐ Yes ☐ No
7. Does this waste contain regulated concentrations of 2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCCD), or any other dioxin as defined in 40 CFR 261.31? ☐ Yes ☐ No
8. Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations? ☐ Yes ☐ No
9. Is this a regulated Radioactive Waste as defined by Federal and/or State regulations? ☐ Yes ☐ No
10. Is this a solid waste that is not a hazardous waste in accordance with 40 CFR 261.4(b)? If yes, please provide the corresponding regulatory citation. ☐ Yes ☐ No

Republic Services Waste Handling Questions

1. Does this waste generate heat or react when contacted with water/moisture? ☐ Yes ☐ No
2. Does the waste contain sulfur or sulfur by-products? ☐ Yes ☐ No
3. Is this waste generated at a State or Federal Superfund cleanup site subject to regulation under CERCLA? ☐ Yes ☐ No

4a. Is this waste from a TSD facility, TSD-like facility or consolidator (i.e. multiple wastes/multiple generators)? ☐ Yes ☐ No

4b. If yes to the above question, please provide clarification.

VI. Certification

I hereby certify that I have knowledge about the waste material being offered for disposal ("Waste") and have the requisite authority to bind the Generator to the information contained in this Special Waste Profile ("Profile"). I further certify that to the best of my knowledge and belief, the information contained herein is a true, complete and accurate description of the Waste and all known or suspected hazards have been disclosed. All Analytical Results/Safety Data Sheets submitted are truthful and complete and are representative of the Waste.

I further certify that by utilizing this Profile, neither myself nor any other employee or representative of the company identified below ("Company") will deliver for disposal or attempt to deliver for disposal any Waste that: (i) is classified as toxic waste, hazardous waste or infectious waste; (ii) that does not conform to this Profile; or (iii) that this Disposal Facility is prohibiting from accepting by law. I shall immediately give written notice of any change or condition pertaining to the Waste not provided herein. Our Company hereby agrees to fully indemnify this Disposal Facility against any damages resulting from this Profile or Certification being inaccurate or untrue.

I understand that by attaching an electronic signature, I am signing this document and Company consents to complete this transaction and receive all related communications electronically, and agrees this document will be binding as though it had been physically signed. A printout of this Profile may be accepted with the same authority as the original.

Authorized Representative Name (Printed)	Title (Printed)	Company Name

Representative Signature	Date

Third Party Signature Authorization For Special Waste Disposal

REPUBLIC SERVICES

Date:

Profile Number:

For office use only.

This Authorization is only valid for 3 years from the above date.

To Whom It May Concern:

Please be advised that the following company/individual has been appointed to work as our agent for purposes of managing waste materials that we may generate.

Name of Waste

Name of Authorized Agent

Title

Name of Company

Telephone Number

The above broker/individual is authorized to act as our authorized agent for the following purposes:

- ☐ Complete and sign Special Waste Profile
- ☐ Complete and sign Special Waste Profile-Recertification
- ☐ Authorize amendments to Special Waste Profile
- ☐ Sign contracts to dispose and/or transport material
- ☐ Sign certifications necessary to comply with landfill requirements
- ☐ Sign manifests to initiate shipment to disposal facilities

I hereby certify that I have the requisite authority to grant agency authority on the behalf of Company to the Authorized Agent identified on this Third Party Signature Authorization form ("Authorization"). Our Authorized Agent will notify Company prior to taking any of the actions authorized above and will provide Company with copies of any documents bearing Company's name.

I understand that by attaching an electronic signature, I am signing this document and Company consents to complete this transaction and receive all related communications electronically, and agrees this document will be binding as though it had been physically signed. A printout of this Authorization may be accepted with the same authority as the original.

Name of Company

Mailing Address

Generator Contact (Print Name)

Title

Signature

Telephone Number

Special Waste Acceptance Guidelines

Republic Services of San Diego Post Collections has outlined the following procedures to guide generators when profiling non-hazardous special wastes for disposal.

San Diego Area Landfills

Otay Landfill
1700 Maxwell Road
Chula Vista, CA 91910
Appt. Scheduling: 619-421-3773

Sycamore Landfill
8514 Mast Boulevard
Santee, CA 92071
Appt. Scheduling: 619-562-0530

Special Waste Sales Group

Shela Tussy
Special Waste Sales Executive
760-508-5119
STussy@RepublicServices.com

Leanne Smith
Special Waste Sales Coordinator
928-505-7414
Lsmith4@RepublicServices.com

Acceptance Procedures

The San Diego Landfills will only accept non-hazardous special waste material for disposal. Acceptable wastes can include, but are not limited to, contaminated soil, non-friable asbestos, grit and screenings from wastewater treatment plants, drinking water sludge, industrial sludge, fly ash, food wastes, auto shredder fluff, foundry sand, filter cake, refractory brick, treated medical waste, construction/demolition debris and off-specification or outdated products.

Before accepting any special wastes for disposal, Republic Services requires the generator to submit an appropriate waste profile form (special waste or express) and waste specific analytical reports and/or Safety Data Sheet (SDS).

Special Waste Profile Form or Express Waste Profile Form: Generators are to complete the Profile Sheet. The profile must be wet signed or electronically signed by this generator or by a duly authorized 3rd party representative of the generator. All spaces on the profile sheet must be completed. If information is unavailable or does not apply, you may enter "N/A". Once signed, only the generator or their duly authorized representative may make changes to the profile by initialing and dating the adjustment (mm/dd/yyyy). Incomplete, half typed and half handwritten or unsigned profiles will delay the approval process. To download current version of either form, go to www.RepublicServices.com/Businesses/Special-Waste.

Third Party Authorization Form: This form must be completed, by the generator, when they would like to designate a specific authorized agent/representative or company to sign necessary documentation to comply with landfill requirements for a specific waste stream. Please see form for additional authorizations. To download current version form, go to www.RepublicServices.com/Businesses/Special-Waste.

Submittal for Review and Approval: Email the completed profile form with supporting information to the Special Waste Sales Coordinator for review. If the submitted data and information demonstrates the waste meets the non-hazardous waste requirements of the requested landfill, the waste will be submitted for Corporate review and approval for acceptance. The approval process may take up to 48 hours from the time the completed information is received. Final approval packets will be emailed back to submitter.

Special Waste Service Agreement: Special Waste Service Agreement will be issued to the company that is listed as the billing party on the profile. This form will outline the disposal pricing for the material. Pricing is dependent on estimated disposal volumes and type of waste stream. Upon receipt of the signed service agreement from the billing party, will the final step in the execution of the approval process into the site happen.

Scheduling Shipments & Non-Hazardous Waste Manifests: Upon receiving the approval email and packet, please notify the landfill at least 24 hours prior to shipping to the landfill. For large quantities, we will need to know the actual days of shipment, the quantity and the exact number of loads that will be brought for disposal. Each load must be accompanied by a completed and signed Republic Services non-hazardous waste manifest. Any loads brought in without a signed manifest will cause delays in the disposal process. Our office can supply blank or preprinted manifests.

Laboratory Analysis

Test data submitted by generators must meet the following criteria:

- The analytical data must be less than 12 months old to use for waste characterization, unless the generator can certify that site use has not changed the waste characteristics since the time the historical analytical data was complied.
- The analytical report must be the final laboratory report with all lab signatures. No draft, preliminary or incomplete reports will be accepted for submission and review.
- Chain of Custody and the QA/QC report must be included with analytical.
- For results reported as 'non detect', the detection or reporting levels must be indicated. Laboratory detection limits must be less than regulatory thresholds.
- The waste must be characterized by a state certified laboratory for the state the landfill is in.
- Only submit analytical data that pertains to the material to be profiled. If you must submit reports that include unnecessary data, please reference only those sample IDs on which we are to base our decision on the profile form.

Required Testing

Republic Services uses many factors to determine the necessary and appropriate analytical needed for each waste stream. The most important factors include generator knowledge, a description of the process generating the waste, the suspected contamination and volume of requested disposal of such waste. On the next page is *minimum* required analysis for some common waste streams and contaminations.

During Republic Services review process, there may be additional certifications requested, such as site history or additional analytical, to those listed below. The generator of the waste is responsible for determining what the possible contamination is present in their waste.

Contaminated Soils, Debris, and Dredging Sediments

Sampling Frequency Ratios for Soils

Volume of Soil (cubic yards)	Number of Samples
100	4
125	5
150	6
175	7
200	8
225	9
250	10
275	11
300	12
325	13
350	14
375	15
400	16

Volume of Soil (cubic yards)	Number of Samples
425	17
450	18
475	19
500	20
1,000	21
1,500	22
2,000	23
2,500	24
3,000	25
3,500	26
4,000	27
4,500	28
5,000*	29

- 4 samples per 100 cubic yards up to 500 cubic yards. (1 sample = 25 cubic yards)
- 1 sample per 500 cubic yards up to 5,000 cubic yards. (1 sample = 500 cubic yards)
- Beyond a volume of 5,000 cubic yards, it is up to the discretion of the landfill to determine whether additional samples are required per San Diego Regional Water Quality Control Board (SDRWQCB)*.
- Soil conversion ratio is 1.5 for cubic yards to tons: 100 cubic yards is roughly 150 tons.

Testing Requirements for Contaminated Soils

Waste/Contamination	Minimum Testing Requirements
Burn Ash	pH, TPH extended range (C4-C40), CAM 17 Metals, Volatiles, Semi-Volatiles, PCB's
Gasoline (Un/Leaded)	TPH (GRO), BTEX, TTLC Lead
Kerosene/Jet Fuel/Diesel	TPH (DRO), BTEX
Hydraulic Oils	TPH for diesel and hydraulic oil (DRO & ORO), BTEX, Metals: Cd, Cr, Pb, Ni, Zn, Pesticides, PCBs, SDS if in virgin state spill
Cutting and Grinding Oils	TPH for diesel and cutting/grinding oils (DRO & ORO), BTEX, CAM 17 Metals, Pesticides, PCBs, SDS for virgin oil used
Motor Oil-Virgin	TPH diesel and motor oil (DRO & ORO), BTEX, Semi-Volatiles
Waste Oil	TPH diesel and waste oil (DRO & ORO), CAM 17 Metals, Volatiles, Semi-Volatiles, PCBs
Pesticide/Herbicide	Pest/Herb, CAM 17 Metals

Testing Requirements for Industrial Wastes

Type of Special Waste	Minimum Testing Requirements
Asbestos Containing Materials (ACM), Non-Friable only	Certificate of Non-Friability from certified Asbestos abatement consultant (Sycamore Only)
Customs/FDA/Border Rejections/ Destructions for Food Wastes (excluding liquid based wastes)	FDA Rejection Notices, Recalls or Alerts
Ceramic Wastes	CAM 17 Metals
Construction and Demolition (C&D) Debris contaminated with Lead Based Paint	TTLC Lead (STLC/TCLP for Lead, as appliable)
Dredge Sediment (Please follow sampling frequency for soils)	Paint Filter, CAM 17 Metals, Volatiles, Semi-Volatiles, Pesticides/Herbicides, PCB's and TPH Extended Range (C_4-C_{40}), Percent Moisture
Fire Debris (Dependent on structure age)	CAM 17 Metals and Certificate of Non-Friability
Grease Trap Solids (Residuals from processing and Not LARD)	pH, CAM 17 Metals, Volatiles, Paint Filter
Maquiladora Waste	SDS for material, Fish Bioassay and CAM 17 Metals (for powdered wastes)
Off Specification or Outdated Products (excluding liquid based wastes)	SDS for material, Fish Bioassay and CAM 17 Metals (for powdered wastes)
PCBs Waste	PCBs, CAM 17 Metals
Sand Blasting Residual	SDS for Sand Blast Media, CAM 17 Metals
Sanitary Sewer Grit and Screenings	pH, Paint Filter, TPH extended range (C4-C40), CAM 17 Metals, Volatiles, Semi-Volatiles
Spent Carbon	pH, Paint Filter, CAM 17 Metals, TPH Extended Range (C_4-C_{40}), Volatiles, Semi-Volatiles and SDS for Carbon Media
Storm Drain Sediment (Please follow sampling frequency for soils)	Paint Filter, Percent Moisture, CAM 17 Metals, TPH Extended Range (C_4-C_{40}) and Volatiles
Street Sweeping	pH, TPH extended range (C4-C40), CAM 17 Metals, Volatiles
Sulfur Containing Materials	Total Sulfur
Wastewater Treatment Sludge from an Industrial process	pH, Paint Filter, Percent Solids, TPH extended range (C4-C40), CAM 17 Metals, Volatiles, Semi-Volatiles, PCB's
Water Treatment Sludge	pH, Paint Filter, Percent Solids, CAM 17 Metals

California Code of Regulations Title 22 Limits for Hazardous Waste

22 CCR § 66261.24

Organic Constituents:

CONSTITUENT	TCLP mg/L	TTLC Trigger mg/kg	STLC mg/L	TTLC Trigger mg/kg
Aldrin			0.14	1.4
Benzene	0.5	10.0		
Carbon Tetrachloride	0.5	10.0		
Chlordane	0.03	0.6	0.25	2.5
Chlorobenzene	100.0	2000.0		
Chloroform	6.0	120.0		
Cresols	200.0	4000.0		
2,4 Dichlorophenoxyacetic Acid	10.0	200.0	10.0	100.0
DDT, DDE, DDD (Sum Total)			0.10	1.0
1,4 Dichlorobenzene	7.5	150.0		
1,2 Dichloroethane	0.5	10.0		
1,1 Dichloroethylene	0.7	14.0		
2,4 Dinitrotoluene	0.13	2.6		
Dieldrin			0.8	8.0
Dioxin			0.001	0.01
Endrin	0.02	0.4	0.02	0.2
Heptachlor and Epoxide	0.008	0.16	0.47	4.7
Hexachlorobenzene	0.13	2.6		
Hexachlorobutadiene	0.5	10.0		
Hexachloroethane	3.0	60.0		
Kepone			2.1	21.0
Lindane	0.4	8.0	0.4	4.0
Methoxychlor	10.0	200.0	10.0	100.0
Methyl Ethyl Ketone	200.0	4000.0		
Mirex			2.1	21.0
Nitrobenzene	2.0	40.0		
Pentachlorophenol	100.0	2000.0	1.7	17.0
Polychlorinated Biphenyls (PCBs)			5.0	50.0
Pyridine	5.0	100.0		
Tetrachloroethylene (PCE)	0.7	14.0		
Toxaphene	0.5	10.0	0.5	5.0
Trichloroethylene (TCE)	0.5	10.0	204.0	2040.0
2,4,5 TP (Silvex)	1.0	20.0	1.0	10.0
2,4,5 Trichlorophenol	400.0	8000.0		
2,4,6, Trichlorophenol	2.0	40.0		
Vinyl Chloride	0.2	4.0		

Petroleum Hydrocarbon Levels for Soils

Petroleum Hydrocarbon Contaminant	Maximum Concentration Limits	Additional Testing When in Range
Gasoline and lighter end hydrocarbons (C4-C12) (**GRO**)	1,000 ppm TPH	1,000-5,000 ppm TPH with RCI and Toxicity - 96-hour fish bioassay
Diesel fuel, kerosene oil, jet fuel, (C8-C22) heavy end hydrocarbons (**DRO**)	3,000 ppm TPH	3,000-15,000 ppm TPH with RCI and Toxicity - 96-hour fish bioassay
Hydraulic oil, cutting and grinding oil, virgin motor oil, waste oil, (C8-C40) heavy end hydrocarbons (**ORO**)	3,000 ppm TPH	3,000-15,000 ppm TPH with RCI and Toxicity - 96-hour fish bioassay

Note: SW-846 statistical analysis can be used in some cases; please contact the special waste group regarding specific projects.

Inorganic Constituents (Per 22CCR§66261.24) California 17 Metals:

California 17 Metal <u>Constituent</u> *RCRA 8 are Bold*	Soluble Threshold STLC mg/L	Trigger Level* STLC mg/kg	Total Threshold TTLC mg/kg	Toxicity Leaching Characteristic Procedure TCLP mg/L	Trigger Level* TCLP mg/kg
Antimony (Sb)	15.0	150.0	500.0		
Arsenic (As)	**5.0**	**50.0**	**500.0**	**5.0**	**100.0**
Barium (Ba)	**100.0**	**1,000.0**	**10,000.0**	**100.0**	**2,000.0**
Beryllium (Be)	0.75	7.5	75.0		
Cadmium (Cd)	**1.0**	**10.0**	**100.0**	**1.0**	**20.0**
Chromium (Cr HEX VI)	5.0	50.0	500.0		
Chromium (Cr)	**5.0**	**50.0**	**2,500.0**	**5.0**	**100.00**
Cobalt (Co)	80.0	800.0	8,000.0		
Copper (Cu)	25.0	250.0	2,500.0		
Lead (Pb)	**5.0**	**50.0**	**1,000.0**	**5.0**	**100.0**
Mercury (Hg)	**0.2**	**2.0**	**20.0**	**0.2**	**4.0**
Molybdenum (Mo)	350.0	3,500.0	3,500.0		
Nickel (Ni)	20.0	200.0	2,000.0		
Selenium (Se)	**1.0**	**10.0**	**100.0**	**1.0**	**20.0**
Silver (Ag)	**5.0**	**50.0**	**500.0**	**5.0**	**100.0**
Thallium (Tl)	7.0	70.0	700.0		
Vanadium (V)	24.0	240.0	2,400.0		
Zinc (Zn)	250.0	2,500.0	5,000.0		

**Results over threshold level triggers must conduct follow up STLC and TCLP to determine acceptability.*

Guidelines to consider when determining characteristics of waste

- *Non-Hazardous results are below TTLC, STLC and TCLP*
- *Cal Haz, Non-RCRA Hazardous results are above TTLC and/or above STLC and below TCLP*
- *RCRA Hazardous results above TCLP*

Important Notes

- The Waste Extraction Test (WET) is required for organic or inorganic with a total (TTLC) level 10 times equal to or greater than the permitted STLC. Results over the above listed thresholds do not necessarily disqualify the acceptance of the waste material but do indicate the need for follow up STLC testing.
- The TCLP is required for any organic or inorganic with a total (TTLC) level 20 times equal to or greater than the permitted TCLP. Some organic compounds and the RCRA 8 Metals have both Federal and State regulatory levels.

Test Methods and Important Notes

- Total Petroleum Hydrocarbons (TPH) – EPA Method 8015M. Extended range is Gasoline (GRO), Diesel (DRO) and Waste Oil (ORO) (C_4 through C_{40})
- California 17 Metals (CAM17) – EPA Method 6010B and Mercury 7471A. Metals list in table labeled Inorganic Constituents (Per 22CCR§66261.24) California 17 Metals (CAM17).
- Volatile Organics (VOC) – EPA Method 8260B
- Semi Volatile Organics (Semi VOC) – EPA Method 8270C
- Polychlorinated Biphenyls (PCBs) –EPA Method 8082 and PCB < 50 ppm and not from a Toxic Substances Control Act (TSCA) source.
- Dioxin – EPA Method 8280
- BTEX (Benzene, Toluene, Ethylbenzene, and Xylene) – EPA Method 8021
- Pesticides/Herbicides (Pest/Herb) – EPA Method Organochlorine Pesticide 8081A and Organophosphorus Pesticide 8141
- Paint Filter – EPA Method 9095A - Paint Filter Test must indicate no free liquids.
- Percent Moisture – waste must not exceed 50% moisture.
- Reactivity, Corrosivity and Ignitability (RCI) – Per 22CCR§66261.21-23 Hazardous Waste Characteristics. pH (Corrosivity): $2 \leq X \geq 12.5$ (22CCR§66261.22) – EPA Method 9045C
- Toxicity - 96-hour Fish Bioassay – Per 26CCR§66261.24(6)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN DIEGO REGION

ADDENDUM No. 1 TO ORDER NO. 93-86

MAXIMUM CONCENTRATION LIMITS FOR SOILS CONTAINING NONHAZARDOUS CONCENTRATIONS OF PETROLEUM HYDROCARBONS, ORGANIC AND INORGANIC COMPOUNDS, METALS, AND PESTICIDES FOR MSW LANDFILLS WITH SUBTITLE D LINERS

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. On August 16, 1993, this Regional Board adopted Order No. 93-86, **Waste Discharge Requirement (WDR) Amendment for all Class III Municipal Solid Waste (MSW) Landfills in this Region, to Implement State Water Board Resolution No. 93-62, Adopted June 17, 1993, as State Policy for Water Quality Control under Section 13140 of the Water Code.** Order No. 93-86 established compliance with Federal Regulations (40 CFR parts 247 & 248, referred to as Subtitle D).

2. Landfills with liners and leachate collection systems approved in accordance with California Code of Regulations, Title 27, Division 2 (hereinafter 27 CCR) provides enhanced waste containment and an additional level of protection against leakage as compared to unlined landfills.

3. As amended, Order No. 93-86 would establish concentration limits for the discharge of soils containing nonhazardous concentrations of petroleum hydrocarbons, organic and inorganic compounds, metals and pesticides to lined cells of operating landfills.

4. Section 25157.8(a) of the California Health and Safety Code prohibits the disposal of waste containing total lead in excess of 350 parts per million (ppm), copper in excess of 2500 ppm, and Nickel in excess of 2000 ppm to other than a Class I hazardous waste site, unless (1) the appropriate Regional Water Quality Control Board amends waste discharge requirements to specifically allow the disposal of the waste and (2) the appropriate local enforcement agency has revised the solid waste facility permit of the facility to specifically allow the disposal of the waste.

5. Soils containing non-hazardous concentrations of petroleum hydrocarbons, organic and inorganic compounds, metals and pesticides discharged to lined waste management units shall be considered to not pose a significant threat to water quality if concentration levels are below the threshold concentrations listed in the Discharge Specifications of this Order.

6. Soil wastes shall be considered to pose a threat to water quality if it has contamination levels above the threshold concentrations listed in the specifications of this Order and may not be discharged at these sites.

7. The discharge of hazardous waste, as defined in California Code of Regulations (CCR) Title 22 Division 3, Chapter 30, Article 11 is prohibited.

8. MSW landfills subject to this order are existing facilities and as such are exempt from the provisions of the California Environmental Quality Act in accordance with Title 14, California Code of Regulations, Chapter 3, Article 19, Section 15301.

9. The Regional Board in a public meeting heard and considered all comments pertaining to the modification of Order No. 93-86.

10. The Regional Board has notified all known interested parties of its intent to modify Order No. 93-86.

IT IS HEREBY ORDERED, That Order No. 93-86 be modified as follows:

Add the following:

A. DISCHARGE SPECIFICATIONS

1. Soil samples shall be taken in accordance with sampling guidelines set forth in the most recently promulgated edition of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846", U.S. Environmental Protection Agency. At a minimum, for quantities of soil less than or equal to 500 cubic yards, four samples per 100 cubic yards will be taken. For quantities of soil between 500 to 5000 cubic yards, an additional sample shall be taken for every 500 cubic yards.

2. MSW Class III landfills shall have an approved load check program in compliance with 27 CCR Section 20870.

3. Waste soils shall be discharged into lined areas specifically approved by the Regional Board in accordance with 27 CCR. Soils may also be utilized for daily landfill cover within lined units if approved for such use by the appropriate agencies

4. All wastes received at the landfill are to be certified California non-hazardous according to 22 CCR.

5. Lined Class III Waste Management Units, as designed, may accept only soils contaminated with petroleum hydrocarbons, organic and inorganic compounds, metals, and pesticides below the following concentration limits which could pose a threat to water quality if discharged in an uncontrolled manner:

   a. Soils containing nonhazardous concentrations of metals and pesticides, organic and inorganic compounds shall not exceed hazardous waste classifications as determined using the waste extraction test (WET) (Reference CCR Title 22, Section 66261.24 as amended).

   b. Soils containing nonhazardous concentrations of metals, pesticides, organic and inorganic compounds shall not exceed maximum concentrations of contaminants using Toxicity Characteristic Leaching Procedure (TCLP) analysis (Reference: CCR Title 22, Section 66261.24 as Amended).

c. The discharge of total lead at concentrations shall not exceed the threshold for hazardous concentration established in 22 CCR. The current level is 1000 mg/kg (ppm). This Order would not effect the concentration levels established in Section 25157.8(a) for Nickel and Copper as these are equivalent to the threshold for hazardous waste for concentration levels in 22 CCR.

d. Soils containing nonhazardous concentrations of petroleum hydrocarbons. The following maximum concentration levels will be used to determine if soils containing petroleum hydrocarbons are acceptable for disposal.

Petroleum Hydrocarbon Contaminant	**Maximum Concentration Limits**	
Gasoline and lighter end hydrocarbons (C_4 -C_{12})	1,000 ppm TPH	1,000 -5,000 ppm TPH w/RCI and 96 hour bioassay
Diesel fuel, Kerosene Oil, Jet Fuel, (C_8-C_{22}) heavy end hydrocarbons	3,000 ppm TPH	3,000 -15000 ppm TPH w/RCI and 96 hour bioassay
Hydraulic Oil, Cutting and Grinding Oil, Virgin Motor Oil, Waste Oil (C_8-C_{40} heavy end hydrocarbons)	3000 ppm TRPH	3,000 -15000 ppm TPH w/RCI and 96 hour bioassay

TPH - Total Petroleum Hydrocarbon
TRPH - Total Recoverable Petroleum Hydrocarbon
RCI - Hazardous Waste Criteria for Reactivity, Corrosivity, Ignitiability and 96 Hour Acute Bioassay as established by CCR 22

6. Test Methods for Soils Containing Petroleum Hydrocarbons:

The following test methods shall be performed for soils containing Petroleum Hydrocarbons.

Petroleum constituent	**TPH (8015M) Gas**	**TPH (8015 M Diesel**	**(EPA 418.1)**	**BTEX (8020)**	**Lead (TCLP)**	**Metals (Cd, Cr, Pb, Ni, Zn), OX, and PCBs**	**Semi-Volatile Organics (8270 or EPA 625)**	**Volatile organics (8260)**	**Metals (CAM 17), and PCBs**
Leaded Gasoline	■			■	■				
Unleaded gasoline	■			■	*				
Kerosene Oil		■		■					
Jet Fuel		■		■					
Diesel Fuel		■		■					
Hydraulic Oil		■	■	■		■			
Cutting and Grinding Oil		■	■	■		■			
Virgin Motor Oil		■	■	■			■		
Waste Oil		■	■	■			■	■	■

* with documentation that only unleaded gas was historically on site

7. Test Methods for Soils Containing Metals and Pesticides

The analyses can include the following methodologies:

TPH (418.1 or 8015M)	TCLP Analysis (8 RCRA metals)
8260	CAM 17
8270 (Semi-VOCs)	8080 (Chlorinated pesticides & PCBs)
8150 (herbicides)	

8. Recordkeeping

Copies of the waste approvals will be kept on file at the facility and at a minimum will include:

a. Certification from the generator certifying that the analyses submitted is representative of the material to be disposed.

b. Analytical data or Material and Safety Data Sheets representing the waste stream.

c. The Chain-of-Custody form showing the sample's integrity was not compromised.

d. The approximate yardage of the material and the transporter information.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on June 7, 1999.

- signed by -

JOHN H. ROBERTUS
Executive Officer

Table 1- Maximum Concentration Limits For Soils Containing Nonhazardous Concentrations Of Metals and Pesticides and organic and inorganic compounds. (Reference: CCR Title 22, Section 66261.24 as Amended).

Contaminant (CAM 17*)	Maximum Concentration Limits **STLC* * mg/l**
Antimony	15
Arsenic	5.0
Barium	100
Beryllium	0.75
Cadmium	1.0
Chromium	5
Cobalt	80
Copper	25
Lead	5.0
Mercury	0.2
Molybdenum	350
Nickel	20
Selenium	1.0
Silver	5
Thallium	7.0
Vanadium	24
Zinc	250
Contaminant	**STLC (mg/l)**
Aldrin	0.14
Chlordane	0.25
DDT, DDE, DDD	0.1
2,4-Dichlorophenoxyacetic acid	10
Dieldrin	0.8
Dioxin (2,3,7,8-TCDD)	0.001
Endrin	0.02
Heptachlor	0.47
Kepone	2.1
Lead compounds, organic	-
Lindane	0.4
Methoxychlor	10
Mirex	2.1
Pentachlorophenol	1.7
Polychlorinated biphenyls (PCBs)	5.0
Toxaphene	0.5
Trichloroethylene	204
2,4,5-Trichlorophenoxypropionic acid	1.0

** California Metals 22 CCR 66261.24*

***STLC - Soluble Threshold Limit Concentration*

Table 2- Maximum Concentration Limits For Soils Containing Nonhazardous Concentrations Of Metals, Pesticides and Organic and Inorganic Compounds using Toxicity Characteristic Leaching Procedure (TCLP) analysis.(Reference: CCR Title 22, Section 66261.24 as Amended).

Contaminant	Maximum Concentration Limits Regulatory Level (Mg/l)
Arsenic	5.0
Barium	100.0
Benzene	0.5
Cadmium	1.0
Carbon tetrachloride	0.5
Chlordane	0.03
Chlorobenzene	100.0
Chloroform	6.0
Chromium	5.0
0-Cresol	200.0
m-Cresol	200.0
p-Cresol	200.0
Cresol, total	200.0
2,4- D	10.0
1,4-Dichlorobenzene	7.5
1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.7
2,4-Dinitrotoluene	0.13
Endrin	0.02
Heptachlor (and its epoxide)	0.008
Hexachlorobenzene	0.13
Hexachlorobutadiene	0.5
Hexachloroethane	3.0
Lead	5.0
Lindane	0.4
Mercury	0.2
Methoxychlor	10.0
Methyl ethyl ketone	200.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0
Selenium	1.0
Silver	5.0
Tetrachloroethylene	0.7
Toxaphene	0.5
Trichloroethylene	0.5
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0
2,4,5-TP (Silvex)	1.0
Vinyl Chloride	0.2

Appendix D

Glossary of Regulatory Terms, Pertinent Agencies, and Applicable Legislation Regulatory Guidelines

Funding provided by State Coastal Conservancy through Proposition 68 California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 resources

General

Upland is defined as any area out of the water (above the higher high tide line or approximately +7 feet relative to the North American Vertical Datum in tidal locations and above the ordinary high water mark and outside of special aquatic sites in riverine systems) and not on the beach. **Inland and fresh/brackish waters** include rivers, lakes, non-tidal wetlands, and connecting waters. **Coastal and estuarine waters** include tidal waters, waters extending from the baseline (as defined by the Convention on the Territorial Sea and the Contiguous Zone, Clean Water Act Title 40 Code of Federal Regulations 230.3) to 3 nautical miles offshore, also called the territorial sea. **Open ocean** is defined as commencing 3 nautical miles offshore to 12 nautical miles offshore and beyond, also called the contiguous zone (USACE and EPA 2004).

Federal

Federal legislation that may apply to sediment management activities in the Valley is presented below.

Legislation

Rivers and Harbors Act (Section 10) - Section 10 of the Rivers and Harbors Act of 1899 established the regulatory structure for dredging and related construction. USACE was designated as the lead agency to review and approve construction permits “for any work or structure, including fill material discharges, in navigable waters of the United States” (USACE and EPA 2004). The goal of the permitting system is to safeguard federal navigation from unfavorable effects of private in-water construction (USACE and EPA 2004).

National Environmental Policy Act (NEPA) of 1969 - NEPA pertains to federal projects that may cause considerable environmental impact and is applicable to all types of beneficial use and disposal regardless of their locations. It requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed plans and/or actions and their reasonable alternatives. Permits authorized by USACE fall under this regulation. Therefore, dredging, beneficial use, and disposal of dredged and fill material must comply with NEPA. Alternatives for a new project must be developed and evaluated in either an environmental assessment or an environmental impact statement. An environmental assessment is a concise document that either results in a Finding of No Significance or, if environmental impacts are apparent, an environmental impact statement. An environmental impact statement is similar to an environmental assessment but requires a more in-depth review of cumulative impacts and reasonable alternatives. As part of the NEPA process, the document will go out for public comment (USACE and EPA 2004).

Marine Protection, Research, and Sanctuaries Act (MPRSA) - The MPRSA, also known as the Ocean Dumping Act, governs disposal into the open ocean or territorial sea. It is “the primary Federal environmental statue governing transportation of dredged material to the ocean for the purpose of disposal” (USACE and EPA 2004). The MPRSA overlaps with the Clean Water Act (CWA); formerly the federal Water Pollution Control Act Amendments of 1972, jurisdiction and precedence is defined by the function of disposal. Material dredged, transported, and placed within the territorial sea for purposes of disposal is regulated under MPRSA. If the material is placed within the territorial sea for purposes other than disposal such as beach nourishment, island creation, underwater berms, and aquatic habitat enhancement, the activity is regulated as fill placement under the CWA (USACE and EPA 2004). EPA has primary responsibility under Section 102 of MPRSA to authorize ocean dumping for all substances except dredged material. In the case of dredged material, EPA establishes environmental criteria and selects disposal site locations in consultation with USACE. Section 103 tasks USACE with the authority to authorize disposal of dredged material and any related excavated sediment in the open ocean. Permit applications are evaluated against EPA criteria, economic and industrial development considerations, navigation impacts, available beneficial use alternatives, and foreign and domestic commerce effects. EPA reviews permit determinations, especially focusing on environmental impacts, and has veto authority (USACE and EPA 2004). The National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) advises USACE regarding habitat/biological resources protected under the MPRSA such as fisheries.

Clean Water Act (CWA) of 1977 – The CWA is the chief statute that governs beneficial use and disposal in the inland and estuarian waters of the United States and fill (not disposal) in the territorial sea. Section 404 of the CWA organizes the regulatory structure similarly to MPRSA. EPA has the primary responsibility to develop environmental guidelines that protect the waters of the United States from negative outcomes. USACE is tasked with evaluating and permitting beneficial use projects in the inland and estuarian waters and the territorial sea, in addition to disposal of material in the inland and estuarian waters. USACE assesses permit applications using EPA guidelines. EPA reviews permit determinations as part of their environmental oversight authority and retains veto power (USACE and EPA 2004). Enforcement of permit stipulations is the joint responsibility of EPA and USACE (USACE and EPA 1998).

Section 401 of the CWA declares that any projects permitted by USACE and discharging material into the waters of the United States also require state water quality certifications to ensure that those projects are meeting water quality standards of the state (Table 6-1) where the construction is occurring (USACE and EPA 2004).

Section 402 of the Clean Water Act requires that a discharge of any pollutant or combination of pollutants to surface waters that are deemed waters of the United States be regulated by a National Pollutant Discharge Elimination System permit. National Pollutant Discharge Elimination System permitting requirements cover runoff discharged from point (e.g., industrial outfall discharges) and non-point (e.g., stormwater runoff) sources. In California, the National Pollutant Discharge Elimination System permit regulations are encompassed into the Waste Discharge Requirements (WDR), which are written and enforced by the State Water Resources Control Board and RWQCBs as part of their Basin Plans (see Porter Cologne Act).

Coastal Zone Management Act - Directs states with a coast to create a coastal management program that will coordinate with USACE through the permitting process.

Fish and Wildlife Coordination Act of 1958 – Establishes the policy that wildlife conservation is to be given equal consideration with other water resources development. The act requires any federal agency or permittee proposing to modify a water body to consult with USFWS and other appropriate state agencies.

Federal Endangered Species Act (FESA) of 1973 – The FESA protects threatened and endangered species and their habitats. Section 7(c) of FESA requires that any federal agency authorizing, funding, or carrying out an action that “may negatively affect” (referred to as “take” within the FESA) a federally listed threatened or endangered species or its critical habitat consult with the USFWS and NMFS prior to commencing with the action. In the event a threatened or endangered species is present, an Incidental Take Statement will be required from USFWS and or NMFS, which includes the extent to which a proposed action will result in harm to a threatened or endangered species and recommended mitigation measures.

Section 10 of FESA allows an individual or private citizen to “take” a listed species by acquiring an Incidental Take Permit, administered by USFWS/NMFS.

Migratory Bird Treaty Act (MBTA) – The MBTA is a federal statute enforced by USFWS that implements treaties with several countries on the conservation and protection of migratory birds. MBTA prohibits the take of migratory birds except under a valid permit. “Take” as defined in MBTA is less general than that in FESA and as a result MBTA authority does not extend to activities beyond the nests, eggs, feathers, or specific bird parts. Migratory birds are not necessarily federally listed endangered or threatened birds under FESA. The list of bird species covered by the MBTA is extensive and is detailed in Title 50 of the Code of Federal Regulations, Section 10.13. The regulatory definition of “migratory bird” is broad and includes any mutation or hybrid of a listed species, including any part, egg, or nest of such a bird (Title 50 Code of Federal Regulations Section 10.12).

National Historic Preservation Act of 1966 – Requires identification of all National Register of Historic Places or eligible properties in a project area and development of mitigation measures for those adversely affected. The act mandates USACE to solicit comments from the Federal and State Advisory Council on Historic Preservation (also referred to Section 106 consultation) and evaluate any historic object in the environmental impact report/ environmental impact statement prior to approval of a permit.

Federal Water Project Recreation Act – Requires consideration of opportunities for outdoor recreation and fish and wildlife enhancement in planning water resource projects.

Resource Conservation and Recovery Act (RCRA) - Governs upland disposal in an existing landfill. RCRA is a conglomerate of federal laws and regulations governing the generation, storage, treatment, and disposal of non-hazardous and hazardous solid waste. EPA is authorized as the lead agency to produce policy and regulations that the states then implement. RCRA bans the unrestricted disposal of waste; therefore, dredged or excavated material would need to be placed in an existing landfill, or a new landfill would need to go through NEPA and RCRA permitting. This report assumes that projects will use an existing landfill. Therefore, a permitted landfill that accepts the material may be used (EPA 2022).

Magnuson–Stevens Fishery Conservation and Management Act – The Magnuson–Stevens Fishery Conservation and Management Act, commonly referred to as the Magnuson–Stevens Act (MSA), is the legislation providing for the management of marine fisheries in U.S. waters. Originally enacted in 1976 to assert control of foreign fisheries that were operating as close as 12 nautical miles off the U.S. coast, the legislation has since been amended, in 1996 and 2007, to better address the twin problems of overfishing and overcapacity (i.e., too much fishing power). These ecological and economic problems arose in the domestic fishing industry as it grew to fill the vacuum left by departing foreign fishing fleets.

Eight regional fishery management councils, composed of representatives of the fishing industry and state fishery officials, prepare fishery management plans for approval and implementation by the NMFS, which is an agency within the National Oceanic and Atmospheric Administration, a part of the Department of Commerce. The plans are amended frequently to adjust management policies and measures to changes in fish stock abundance and to meet the goals of the MSA as they are revised by Congress. Acting on behalf of the secretary of commerce, who is responsible for implementing the MSA's mandates, the National Oceanic and Atmospheric Administration administrator must determine whether a council's proposed plan amendment or adjustment meets the MSA's national standards. These standards require that management measures actually prevent overfishing, are based on the best scientific information available, and are fair and equitable. If allocations of allowable catches are necessary to prevent overfishing or rebuild overfished stocks, such allocation schemes do not allow sectors of the industry to obtain an excessive share.

Federal Antidegradation Policy – The Federal Antidegradation Policy (Title 40 Code of Federal Regulations Part 131.12) requires states to develop and implement statewide antidegradation policies. State antidegradation policies and implementation methods must, at a minimum, protect and maintain (1) existing instream water uses; (2) water quality, where the quality of the waters exceeds levels necessary to support existing beneficial uses (unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area); and (3) water quality in waters considered an outstanding national resource. No water quality degradation is permitted in waters classified as an outstanding national resource (CDPR 2021).

Regulatory Agencies and Permits

Regulatory agencies and their relative individual permits are addressed in this section. For any of the sediment pathways described in Section 5, an assortment of permits will be required prior to commencing any work. Some permits such as a Section 404/10 permit from USACE are widely applicable as they pertain to actions such as dredging or excavation that are required regardless of the sediment pathway. Other permits are project specific, and applicability may vary depending on the chosen sediment pathway and other specific aspects such as location.

USACE

USACE will be the primary federal permitting agency for sediment management projects. They are primarily responsible for navigation and protection of aquatic resources under Section 10 of the Rivers and Harbors Act and Section 404 of the CWA, and thus issue Sections 10 and 404 permits.

Clean Water Act Section 404 Permit and Rivers and Harbors Act Section 10 Permit

The following section only describes the Sections 10 and 404 Permits as typically only a single permit decision, pursuant to both authorities, is required.

Section 404 of the Federal Clean Water Act regulates the discharge of fill material within waters of the United States. Section 10 of the Rivers and Harbors Act similarly regulates obstruction or alteration of navigable waters of the United States. For beach nourishment projects, compliance involves demonstration that the sediment proposed for placement will not degrade water quality, closely matches the sediment grain size of the receiver beach sediment, contains a minimum quantity of silt and clay, and is free of contaminants. Sediment sampling and testing of the proposed source sediment and the beach receiver site must be performed to demonstrate compatibility; review and approval of the sediment testing program and results is the responsibility of the EPA. Additional requirements include the submittal and implementation of a detailed pre- and post-monitoring report.

EPA

EPA advises USACE on compliance with 404(b)(1) guidelines and on sediment/water quality and impacts to habitat/biological resources, concurs on MPRSA issues, and has joint enforcement authority for the CWA. They are also the lead agency responsible for regulating upland disposal of non-hazardous and hazardous waste under RCRA.

USFWS

USFWS advises USACE regarding habitat/biological resources, specifically wildlife and fisheries protected by the FESA and Fish and Wildlife Coordination Act. They conduct a Section 7 Consultation for USACE and issue a biological opinion that USACE can use to quantify impacts and any mitigation measures. In the event a threatened or endangered species is present, an Incidental Take Statement will be required for inclusion in the biological opinion. Additionally, USFWS is responsible for issuing ESA Section 10 Permits also known as Incidental Take Permits.

Federal Endangered Species Act Section 10 Permit

In the event a proposed project may result in take of a threatened or endangered species not associated with another federal action (i.e., USACE 404/10 Permit), an ESA Section 10 permit, also known as Incidental Take Permit, is required. Note that most sediment management activities will require a USACE permit, in which case a Section 10 permit would not apply. In the case that a Section 10 permit is required, an applicant must develop a habitat conservation plan. At a minimum, the habitat conservation plan must include an assessment of the likely impacts on protected species, measures that will be taken to mitigate potential impacts, an analysis of alternative mitigation efforts, potential funding sources, and a plan to monitor and manage species and their habitats. Typically, the NEPA/California Environmental Quality Act (CEQA) process will identify the potential need for a habitat conservation plan in California (USFWS 2016).

National Oceanic Atmospheric Administration National Marine Fisheries Service

NMFS advises USACE regarding habitat/biological resources, specifically fisheries protected under the MPRSA and MSA, and some endangered species protected under the FESA. Specifically, NMFS is responsible for all marine species listed under the FESA (all other species are the responsibility of USFWS). Similar to USFWS, NMFS conducts Section 7 consultations and administers ESA Section 10 permits (see above) for relevant species.

State

State legislation that may apply to sediment management activities in the Valley is presented below.

Legislation

California Coastal Act of 1976 – The California Coastal Act requires the state to consider actions within the Coastal Zone (roughly one mile inland and along the perimeters of wetlands and embayments). The act served to form the California Coastal Commission (CCC) to assess and enforce provisions of the act. The act also includes provisions for local agencies (cities) to prepare their own local coastal programs (LCPs) to cover actions anticipated within the boundaries of their coastal zone and make local determinations. The state can consider certain local decisions if they address actions within certain “appealable areas.”

The CCC is a state agency within the California Natural Resources Agency with quasi-judicial control of land and public access along the state's 1,100 miles (1,800 kilometers) of coastline. The CCC's mission is defined in the California Coastal Act, including to "protect" and "enhance" California's coast. Protection of coastal resources includes shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, and regulation of agricultural lands, commercial fisheries, and industrial infrastructure. By regulating land use within a defined "coastal zone" extending inland from 3,000 feet (910 meters) up to 5 miles (8.0 kilometers), it has the authority to control construction of any type, including buildings, housing, roads, and fire and erosion abatement structures, and can issue fines for unapproved construction. It has been called the single most powerful land-use authority in the United States due to its purview over vast environmental assets and extremely valuable real estate.

The California Coastal Act has particularly stringent regulations pertaining to coastal wetlands, requiring most projects to instill buffers or avoid them entirely. Specifically, the act limits the diking, dredging, or filling of wetlands to certain allowable uses, and these are only permitted "where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects" (California Coastal Act Section 30233, as referenced in CDPR 2021).

Porter Cologne Water Quality Act – The Porter-Cologne Water Quality Control Act is the pioneering clean water act of California that expanded the enforcement authority of the State Water Resources Control Board and the nine RWQCB. The act provided for the California Environmental Protection Agency to create the local boards and better protect water rights and water quality. The act requires the RWQCBs to create Basin Plans, which identify beneficial uses (recreation, drinking water, agriculture, etc.), establish goals to protect beneficial uses, and create a program to achieve those goals for each water body in their jurisdiction. The plans must be reviewed and updated every 3 years. Within the Basin Plans the RWQCBs create WDR, which encompass all discharges that "could affect the quality of the state." A permit is required from the RWQCBs to ensure compliance with the most up to date WDR.

California Ocean Protection Act – The California Ocean Protection Act was signed into law in 2004, establishing the California Ocean Protection Trust Fund and the Ocean Protection Council. As amended in 2011, the act is also a tool in assisting city governments to plan for climate change adaptation and SLR.

The Ocean Protection Council seeks to improve management, conservation, and protection of coastal waters and ocean ecosystems by:

- Coordinating activities of state agencies that are related to the ocean and coasts to improve the effectiveness of state efforts to protect ocean resources
- Establishing policies to coordinate the collection and sharing of scientific data related to ocean and coastal resources between agencies

A Identifying and recommending to the changes in law and related actions to the governor and legislature
The California Ocean Protection Act implements policies specifically related to climate change adaptation. The act mandates the provision of funding for adaptive management, planning, coordination, monitoring, research, and other necessary activities to minimize the adverse impacts of climate change on California's ocean ecosystem, including, but not limited to, the effects of SLR, changes in ocean productivity, and ocean acidification on coastal and ocean habitat, wildlife, fisheries, chemistry, and other key attributes of ocean ecosystems, and to increase the state's understanding of the ocean's role in carbon sequestration.

Specifically, it mandates that adaptive management strategies, planning, research, monitoring, or other activities shall be designed to improve the management of coastal and ocean resources or aid the state to adapt to climate change impacts. Further, the act calls for increasing the amount of baseline scientific and geospatial information that is available to public agencies in a publicly accessible, electronic, and geospatial format—specifically with respect to the effects of climate change on coastal and ocean ecosystems.

The California Ocean Protection Act also created the institutional and financial structures needed for older, unimplemented policies to be enacted, such as the Marine Life Protection Act (1999) and the Marine Life Management Act (1999). The Marine Life Protection Act mandated the creation of 124 interconnected marine protected areas based on comprehensive mapping and ecosystem-based marine spatial planning.

California Environmental Quality Act (CEQA) – CEQA is a California statute passed in 1970 and signed in to law by Governor Ronald Reagan, shortly after the United States federal government passed NEPA, to institute a statewide policy of environmental protection. CEQA makes environmental protection a mandatory part of every California state and local (public) agency's decision-making process, and as a result all state and local level permits mentioned in this document must be CEQA compliant. It has also become the basis for numerous lawsuits concerning public and private projects.

CEQA does not directly regulate land uses, but instead requires state and local agencies within California to follow a tiered protocol of analysis and public disclosure of environmental impacts of proposed projects and, in a departure from NEPA, adopt all feasible measures to mitigate those impacts. From the analysis protocol, an appropriate level of environmental impact assessment review is performed that is commensurate with the project's scope of work, prior background record, perceived impact potential, and stakeholder interest. The project may undergo one of four levels of review with increasingly stringent mitigation requirements for each level. A project falls under the first level and is considered "Exempt" if the proposal can be viewed with certainty that it will have no significant adverse impact on the environment. If there is a perception that some impacts may occur, an initial study is performed to make a preliminary assessment of significance based upon a checklist of prescribed environmental review categories. From this analysis, the initial study may then conclude one of the following:

> Negative Declaration – There are no significant impacts or impacts are all considered less than significant. No mitigation measures are necessary.
>
> Mitigated Negative Declaration – Potentially significant impacts may be identified, but these impacts could be mitigated to less than significant through adoption and implementation of specific mitigation measures. As a result, project related impacts would be considered less than significant with mitigation implementation.

B Environmental Impact Report – Any impacts identified that cannot be mitigated to a less than significant level trigger preparation of a detailed environmental impact report that considers impacts, mitigations, and alternatives to the proposed project.

When a project is subject to federal and state/local jurisdiction typically a joint document can be written to satisfy both NEPA and CEQA requirements. However, agency coordination is advised as NEPA and CEQA requirements are slightly different.

Opportunistic beach nourishment projects may generally be considered as requiring CEQA review under a mitigated negative declaration. Mitigation measures are proposed for implementation before, during, and/or after the nourishment activity with the intent of reducing anticipated environmental impacts. Specific mitigation measures that may be proposed include best management practices that specify construction procedures to be followed and equipment operation and maintenance practices to be employed. Generally, this type of mitigation action is intended to address potential air quality and noise impacts. Significantly more expensive monitoring programs have been invoked on many past opportunistic beach nourishment projects to verify that the construction operations and the resultant nourishment volume that is placed does not adversely impact adjacent beaches, recreational surfing, biological resources, or water quality. The longer-term monitoring and reporting requirements can result in higher project cost.

California Endangered Species Act (CESA) – The CESA protects state designated threatened and endangered species. CESA is enforced by CDFW.

California Toxics Rule – The California Toxics Rule was promulgated by EPA to create numeric water quality criteria for priority toxic pollutants within the State of California, as required in the CWA. Specifically, the legislation established acute (i.e., short-term) and chronic (i.e., long-term) standards for pollutants in bodies of water, such as inland surface waters and enclosed bays and estuaries, that are designated by each RWQCB as having beneficial uses protective of aquatic life or human health (CDPR 2021).

California Antidegradation Policy – The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High-Quality Water in California, was adopted by the State Water Resources Control Board (State Board Resolution No. 68-16) in 1968. The policy incorporates and expands upon the minimum water quality requirements established by the federal Antidegradation Policy. Unlike the federal Antidegradation Policy, the California Antidegradation Policy applies to all waters of the state (e.g., includes isolated wetlands and groundwater), not just surface waters. The policy states that whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high-quality waters must be maintained, and discharges to that water body must not unreasonably affect present or anticipated beneficial uses of such water resources. The policy also states any discharge of waste to high quality waters are subject to compliance with WDR (CDPR 2021).

Regulatory Agencies and Permits

California Coastal Commission

The CCC enforces consistency with the California Coastal Act, specifically public access and recreation, habitat/biological resources, sediment transport, impacts to water quality, traffic, air quality, and noise. They are responsible for issuing a Coastal Development Permit for projects within state jurisdiction including cities that do not have an approved LCP (see California Coastal Act).

Coastal Development Permit

The California Coastal Act of 1976 established the statewide program requirement to obtain a state permit for any development or work within the coastal zone so that existing resources and public uses are protected. Applications must demonstrate that the excavation, conveyance, and placement of source sediment at a receiver site complies with a broad spectrum of policies and guidelines that are outlined in the act. Protection of biological resources, preservation of public access, public acceptance of the project proposal, and minimization of temporary or permanent environmental impacts associated with sand placement are the key assessment criteria commonly involved when reviewing beach nourishment projects.

California Department of Fish and Wildlife

CDFW protects and manages the public's fish and wildlife resources of the state. Advises state agencies regarding habitat/biological resources, specifically wildlife and fisheries, and issues 1600-1601 Streambed Alteration Agreements and CESA incidental take permits for state listed species.

1600-1601 Streambed Alteration Agreement

A Streambed Alteration Agreement may be required if the receiver site is at or adjacent to an existing river mouth or streambed and may affect that stream.

California Endangered Species Act Incidental Take Permit 2081(b)

A CESA Incidental Take Permit 2081(b) is required if there is a likelihood of taking a state listed species.

If a species is listed by both the FESA and the CESA, California Fish and Game Code Section 2080.1 allows an applicant who has obtained federal Section 7 consultation or a federal Incidental Take Permit to request that the director of CDFW find the federal documents consistent with CESA. If the federal documents are found to be consistent with CESA, a consistency determination is issued, and no further authorization or approval is necessary under CESA.

California State Lands Commission

The California State Lands Commission maintains jurisdiction of lands waterward of the mean high tide line including habitat/biological resources, public access and recreation, sediment transport, water quality, and related issues with traffic, air quality, and noise. They are responsible for issuing a Lease of State Lands for projects within state jurisdiction not already possessing a lease. However, if a public benefit will result from the project proposal, rental fees are usually waived. For beach nourishment projects, the procedure can be nominal and consist of a relatively simple determination from the commission to verify the beneficial nature of the renourishment thereby exempting it from any further action.

Lease of State Lands

A Lease of State Lands is necessary for any work occurring below the mean high tide line. Prior to placement of sand below the mean high tide line a mean high tide line survey is required. Additional surveys may be required every few years for long-term programs. Supplemental maps and CAD drawing files of the survey may also be required.

California State Department of Parks and Recreation

State Parks manages state beach parks including habitat/biological resources, access and recreation, sediment transport, and water quality. The department also issues Encroachment Permits for projects within park jurisdiction.

Encroachment Permit

An Encroachment Permit will be required if the receiver site is located within a State Park or State Beach, or if access across state property is necessary for project implementation. This program could also require a special use permit or right of entry permit.

State Water Resources Control Board

The State Water Resources Control Board is the water pollution control agency of California. It establishes state policy on water quality control and enforces protection of water and sediment quality, and habitat/biological resources within waters of the state. Additional responsibilities include overseeing the legal and financial aspects of the RWQCBs.

Construction General Permit

Projects that disturb 1 or more acres of soil or disturb less than 1 acre are required to obtain coverage under the Construction General Permit. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation.

A stormwater pollution prevention plan containing site maps, best management practices, and visual and chemical monitoring programs is required.

Regional/Local

This section includes regional and local legislation that may apply sediment management activities in the Valley.

Regional Water Quality Control Board

Within California there are nine RWQCBs whose jurisdictions are based upon watershed limits. Projects within the Valley fall under the jurisdiction of the San Diego RWQCB. The RWQCB enforces protection of water and sediment quality and habitat/biological resources, and evaluates beneficial reuses of sediment within the regional jurisdiction. It is responsible for implementing the Porter-Cologne Act and CWA within California and issues WDR enrollment and CWA Section 401 Water Quality Certifications.

Section 401 Certification and WDR Enrollment

Section 401 of the federal CWA requires that a state water quality certification be obtained for any project that discharges material into United States waters. The project must be reviewed to ensure that water quality will not be degraded, or sensitive biological resources affected. Limitations on turbidity and sediment toxicity are the primary criteria for assessment.

WDR encompass all discharges that “could affect the quality of the state’s waters.” Requirements are created by considering beneficial uses to be protected, water quality objectives, other waste discharges in the water body, the need to prevent nuisance, and economic considerations.

WDR can be written for a specific discharger (individual WDR) or to regulate a similar group of dischargers (general WDR). An individual WDR is written to address the specific discharges of an individual facility and must be renewed over time. A general WDR addresses a common source of discharge and has discharge specific requirements that permitees must meet to be granted coverage under the permit. Typically, if a general WDR is applicable to a project, it is preferred over an individual WDR. In previous projects the RWQCB has combined 401 certification and general WDR enrollment into one document.

Previous projects, such as the Tijuana River Valley Fate and Transport Study utilized the general WDR for dredged or fill discharges to use sediment from the Valley as beach nourishment. However, various sediment pathways may require coverage under additional WDR at their end destination. For example, upland disposal methods including mine reclamation and construction material may require enrollment under a General Permit that regulates stormwater runoff discharges and as a result requires the development of a stormwater pollution prevention plan. The Nelson Sloan Quarry Restoration and Beneficial Re-use of Sediment Project Environmental Impact Report concluded this permit would be necessary for the beneficial reuse of excess sediment excavated from managed sources within the Valley to be used as fill to facilitate the closure of the mine.

San Diego Regional Board Conditional Waivers for Upland Disposal

In 2019 the RWQCB established Conditional Waivers of Waste Discharge Requirements for low threat discharges, which may allow for a more streamlined process that eliminates extra requirements from the previously mentioned WDR. Conditional Waivers relevant to the scope of the sediment management plan are applicable to upland disposal options and include Waiver No 8: Discharges of Slurries to land and No 9: Discharges/Disposal of Solid Wastes to Land.

Local Agencies

City Of San Diego

<u>City of San Diego General Plan</u>

Comprised of 10 elements that provide a comprehensive slate of citywide policies, the City of San Diego General Plan (General Plan) is the City's constitution for development (City of San Diego 2008). The General Plan has a strong sustainability focus and provides local policies to address global climate change. Also, the General Plan furthers the city of villages smart growth strategy for growth and development in San Diego. The plan includes many policies relevant to the scope of the Sediment Management Plan. Sections of relevance include the Land Use & Community Planning Element, Conservation Element, and Historic Preservation Element. Relevant policies and information from these elements are provided below.

<u>Tijuana River Valley Local Coastal Program Land Use Plan and Coastal Development Permit</u>

Community plans work together with the General Plan to provide location-based policies and recommendations in the City's more than 50 community planning areas. Community plans are written to refine the General Plan's citywide policies, designate land uses and housing densities, and provide additional site-specific recommendations as needed. The Tijuana River Valley Local Coastal Program Land Use Plan is the community plan for City jurisdictional lands in the Tijuana River Valley (City of San Diego 2007). The Tijuana River Valley planning area, including Border Highlands, is located within the California Coastal Zone and, as such, is subject to the regulations of the California Coastal Act of 1976. The LCP has been approved by the CCC and as a result the City of San Diego has the ability to implement Coastal Development Permits within their jurisdiction.

San Diego Multiple Species Conservation Program and Local Incidental Take Permits

The City is one of several jurisdictions participating in the San Diego Multiple Species Conservation Program, a comprehensive, regional long-term habitat conservation program. The Multiple Species Conservation Program is a cooperative federal, state, and local program for conservation of native vegetation communities to address the habitat needs of multiple species. It serves as an approved habitat conservation plan pursuant to Section 10(a)(2)(A) of the FESA and the California Natural Communities Conservation Planning Act. The Multiple Species Conservation Program provides permit issuance authority for incidental take of covered species to the local regulatory agencies.

Grading Permit

A grading permit is required for any grading, public right-of-way improvement, construction changes to an existing grading or public improvement permit, site reconnaissance and testing, and as-graded soils reports within City jurisdiction.

City of Imperial Beach

The City of Imperial Beach is significantly smaller than the City of San Diego but has similar responsibilities within their jurisdiction. Like the City of San Diego, the City of Imperial Beach issues Coastal Development Permits and grading permits (see City of San Diego). Given their smaller jurisdiction, the City of Imperial Beach's General Plan also serves as the LCP and includes sections regarding land use, conservation, and safety, which may be relevant to sediment transport projects.

A Coastal Development Permit is required for any project involving development or repair and maintenance within the City's coastal boundary. The permit ensures compliance with the City's local coastal program as approved by the CCC.

County of San Diego

County of San Diego General Plan

The San Diego County General Plan applies to the unincorporated area of the County and is the County's long-term blueprint for the vision of the future. It reflects an environmentally sustainable approach to planning that balances the need for adequate infrastructure, housing, and economic vitality while maintaining and preserving existing communities, agricultural areas, and open spaces.

Grading Permit

Similar to the Cities, the County administers grading permits within their jurisdiction (see City of San Diego).

Appendix E

Example Monitoring Plans

Funding provided by State Coastal Conservancy through Proposition 68 California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 resources

Nautilus Environmental

Biological Science Monitoring Plan
Tijuana Estuary Sediment Fate and Transport Study

Final

August 2008

Prepared by:

Nautilus Environmental, LLC

In collaboration with:

Nordby Biological Consultants

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Submitted to:

Border Field State Park

Tijuana River National Estuarine Research Reserve

California Coastal Conservancy

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TABLE OF CONTENTS

Page

LIST OF TABLES

1.0 INTRODUCTION

Fine-grained sediment is a natural part of the California nearshore coastal waters, and recent work suggests that approximately 34 million tonnes (Mt) – or roughly 30,000,000 cubic yards – of fine-grained sediment enters California coastal waters each year from coastal watersheds. Fine-grained sediment may also enter California coastal waters from human activities, including opportunistic use of sediment for beach nourishment, that are subject to a precautionary rule of thumb that sediment with greater than 20% fines (silt and clay) is not appropriate for placement in the nearshore unless additional information exists to show that such placement will not result in environmental degradation. This so-called 80-20 (coarse-to-fine sediment) “rule of thumb” was originally used as a threshold because of concern that pollutants might be attached to the fines in sufficient quantity to pose environmental problems. The rule of thumb is now also applied to “clean” sediment, with extensive/long-lasting turbidity and burial of species/habitat typically cited as the reasons for concern.

Unfortunately, much of the available sediment suitable for opportunistic use does not meet the 80-20 grain-size standard and must be transported inland to landfills at high cost rather than added beneficially to nearby coastal locations to meet needs such as for beach restoration. In order to reevaluate whether this rule of thumb is appropriately protective or overly conservative, a small demonstration project is proposed to provide the physical and biological data needed to assess when sediment with greater that 20% fines is used for opportunistic reuse.

The CDPR, in partnership with the California State Coastal Conservancy (SCC), the California Coastal Sediment Management Workgroup (CSMW), the TRNERR, and the Southwest Wetlands Interpretive Association are proposing to implement a Sediment Fate and Transport Study (“Science Study”) primarily within Border Field State Park (BFSP) at the TRNERR. The proposed project would utilize sorted sediment obtained from the Goat Canyon sediment basins, and include transportation and deposition of 60,000 cubic yards of this sediment to designated areas on the beach south of the Tijuana River mouth. Sediment would be sorted at an existing staging area and transported from the staging area near Goat Canyon to the beach approximately 0.5 miles south of the Tijuana River mouth. Sediment would be transported via haul truck along a dirt road that serves as a horse trail (horse trail road), to the beach. Sediment transport would commence in the fall/winter of 2008/2009 and placement of the material in the nearshore would occur during periods of fall/winter mid and low tides. Dispersion of the placed materials in the oceanic environment would then be monitored by the U.S. Geological Survey (USGS) according to the proposed Science Study to determine whether any adverse impacts would arise from the use of the sorted sediments. Results of the Science Study regarding the transport and fate of fine grained sediments in the surf zone would be published as a USGS professional paper.

The Physical Monitoring Science Plan has been generated by USGS scientists (Warrick et al. 2008) to address the following pending questions about fine-grained sediment in California nearshore waters:

- What are the transport pathways and fate of fine-grained sediment introduced at the coastal shoreline?
- How do environmental and project variables, such as sediment placement volume, percent fines, waves, currents, and shelf setting, influence the rates and modes of transport and eventual fate?

USGS monitoring will be accomplished by systematically using seafloor mapping and turbidity plume tracking approaches. Plume tracking data will be obtained using nearshore moored instrumentation, vessel surveys, surf-zone sampling, aerial survey data, and other locally available data (including data from Southern California Coastal Ocean Observation System and National Oceanic and Atmospheric Administration program sources).

In addition to the physical aspects of the project, placement of fine-grained sediments on California beaches also has the potential to differentially impact the existing biota (in comparison to placement of sediments meeting the 80% criterion). The project site biota include two general habitats of interest with respect to the project: the intertidal area on which the sediments would be placed, the nearshore subtidal areas potentially impacted as sediments are transported offshore by natural processes. Placement of sediments will result in impacts at the disposal site, but the precise effects on neighboring habitat as sediments are washed alongshore and offshore are not known. In addition, impacts to these habitats also have the potential to impact the broader ecological system, in particular that of shorebirds which feed upon intertidal invertebrates. This Biological Monitoring Science Plan has been developed to assess these basic biological parameters of interest as identified by project scientists, the public (received during the Mitigated Negative Declaration public hearing process), and regulatory agency representatives. The Biological Monitoring Science Plan seeks to address the following questions:

- Is the benthic macroinvertebrate fauna of the beach impacted in the long-term by sediment placement? What are the spatial dimensions of the impact?

- Are offshore sand dollar beds impacted by the sediment placement, either in terms of the spatial band they inhabit or in terms of the population size-frequency distribution?
- Are bird foraging patterns influenced by the project?
- Can underwater photographic/video data collected as part of the physical monitoring effort be used to establish qualitative nearshore benthic invertebrate population data?

These questions will be addressed by using several types of surveying techniques, including benthic macroinvertebrate core sampling, conducting SCUBA diver transects, performing bird surveys, and reviewing other available project data (e.g. seafloor photographic data).

2.0 METHODS

Biological data collection will be conducted on a year-round basis, with particular attention focused on the late spring through fall period. This period is targeted due to timing of the threatened and endangered bird species nesting period (e.g., snowy plover and least tern), the seasonality of coastal environments (which typically climax during summer months), and health and safety concerns regarding water contact during the wet season.

2.1 Benthic Macroinvertebrate Sampling

This portion of the investigations will initially focus on two time frames: mid-summer (July) and fall (October-November). The sediment placement site is located approximately equidistant from both the U.S.-Mexico border and the Tijuana River mouth. This geographical setting lends itself to an experimental design which assesses the impact site as well as near-field control areas to the north and south. In addition, far-field control areas are available further to the north within the Silver Strand littoral cell (intervening areas consisting of either cobble back beach or rip-rap armored upper intertidal conditions which were excluded from consideration as control areas).

The sampling will therefore consist of four sampling sites: control south (500 to 1000 ft south of the southerly placement boundary (32° 32'33.26" N, 117° 07'29.95" W), the placement site, control north (32° 32'58.08" N, 117° 07'37.03 W), and a Silver Strand control location in the vicinity of the entrance gate to Silver Strand State Beach. Each of the four sites will be sampled with at least 5 replicate transects running perpendicular to the shoreline. Each transect will be designated randomly within a 100-meter length of beach, with a minimum 10-meter separation. Three tidal zones will be established for each transect (as measured horizontally from the high tide line: upper from 10 to 30 meters, middle from 30 to 50 meters, and lower from 50 to 70 meters), and three replicate 6-inch diameter cores will be sampled from each zone. Within each of these zones, a uniform area of sandy substrate will be sampled to a depth of approximately 20 centimeters and sieved through a 1-millimeter (mm) mesh following general techniques identified in Dugan et al. 2003. Each of the 9 cores collected from within individual transects will function as independent experimental units, but it is anticipated that these data will be pooled as part of the statistical analysis. The approximate area sampled per transect will be 0.16 m2.

Organisms retained in the mesh will be transferred to a container containing seawater and magnesium sulfate added to prevent predation of the retained individuals. Shortly thereafter, samples will be preserved with ethanol and/or pH neutral-buffered formalin solution. Wet-weight biomass will also be determined separately for the different gross taxonomic groups (e.g., bivalves, polychaetes, etc.). Although organism abundance will be assessed for gross taxonomic groups (and for key species such as *Emerita analoga*), species identification is not contemplated at this time. Fixed and preserved subsamples of polychaetes, small crustaceans, and other soft-bodied organisms will be retained for a maximum of 2 years following collection.

A 10-meter offset from the most recent higher high tide line (as indicated by fresh wrack) was incorporated into the sampling design based on anticipated pattern of project-related heavy vehicle access (which will not be allowed of contractors above the most recent wrack line) and to avoid the confounding factor of beach hoppers (a proportion of which are likely to escape capture and enumeration, J. Duggan pers. comm. with J. Crooks) (and see Dugan 2003, where wrack-associated macrofauna were generally segregated). The 70-meter extent of each transect coincided with the approximate width of the beach (from wrack line to upper swash zone at low tide) at all locations except for the Silver Strand control, which exhibited a very slight slope in the very low intertidal. Calculation of abundance and biomass will therefore be calculable on a scale approximating that used in Dugan 2003; but since the upper intertidal is not ancticipated to be sampled (i.e., to the High Water Line or foot of dune vegetation), data will not be directly comparable.

2.2 Pismo Clam Monitoring

Pismo clams (*Tivela stultorum*) are well known to inhabit the Silver Strand littoral cell. It is expected that if *Tivela* is found to be a dominant species, it would be evident in the benthic macroinvertebrate sampling data. However, limited information is available on the clam’s distribution, and it is further likely that the distribution varies in space and time. In an effort to further assess potential impacts on this important fishery species, an additional qualitative visual survey of the project area will be made to estimate the prevalence of this species at the project site. The visual surveys will be undertaken during the benthic macroinvertebrate monitoring and will consist of visually assessing the low intertidal for live or freshly mortal individuals or fragments thereof. 100-foot 3-meter band transects (parallel with the shoreline at the approximate mean lower low water line) will serve as the basic survey unit. At least 3 replicate areas will be qualitatively surveyed in each of the four monitoring areas.

2.3 Sand Dollar Bed Monitoring

Sand dollars (*Dendraster excentricus*) beds are known to occur just offshore the sediment placement site (AMEC 2007) at depths of approximately –15 to –20 ft MLLW. Due to the mobile nature of sand dollars, the highly dynamic nature of the habitat from wave action, and the seasonal deposition of fines during the wet season (from the Tijuana River discharge), the population dynamics are not expected to be impacted by project-related deposition of fine particulates. However, qualitative monitoring will be undertaken as part of this monitoring program to document any project impacts. Baseline data consisting of the spatial distribution of sand dollars collected in the summer of 2008 will be confirmed in the summer of 2009. In addition, size-frequency data will be collected.

The three areas identified above for benthic invertebrate sampling at the project site will be paired with nearshore sampling areas and diver transects used to document the distribution of *Dendraster* with depth. Due to the extremely poor visibility in the nearshore zone (even during calm weather), the upper and lower bathymetric contours which bound the main *Dendraster* population will be determined using tactile means. Size frequency data will be determined by collecting a grab sample of approximately 100 individuals from each transect and measuring the maximum diameter of each individual (to within 2 mm) (methodology similar to that in Dexter 1978).

2.4 Bird Foraging Behavior Monitoring

The beaches of southern California act as a wintering ground for several species of shorebirds, e.g., sanderlings, willets, marbled godwits, and black-bellied plovers. Shorebirds are sensitive to disturbances on the beaches and to changes in food supplies. Therefore deposition of sand on the beaches may influence their distribution, abundance and foraging activities. The purpose of this portion of the Biological Monitoring Plan is to monitor shorebird numbers in and around the sediment placement site, and to provide information on the potential impact of beach sediment deposition on the distribution, abundance and foraging of these birds.

Shorebird monitoring will be conducted along eight 0.5 mile-long beach transects. The location of these transects is similar to those being used for the intertidal invertebrate monitoring, i.e., the placement site, the near-field control areas to the north and south of the impact site, and far-

Table 1. Shorebird Monitoring Conceptual Schedule

Site (Distance[1])													
Time Period:	**Before Placement**				**During Placement (3 Events)**			**After Placement**					
Month:	**September**				**November, December, January**			**March/April**					
Monitoring Event Number:	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**1**	**2**	**3**	**4**	**5**	**6**
Control South (0.5)	●	●	●	●	●	●	●	●	●	●	●	●	●
Placement (0)	●	●	●	●	●	●	●	●	●	●	●	●	●
Control North (0.5)	●	●	●	●	●	●	●	●	●	●	●	●	●
Control IB – 1 (1.0)	●	●	●	●	●	●	●	●	●	●	●	●	●
Control IB – 2 (1.5)	●	●	●	●	●	●	●	●	●	●	●	●	●
Control IB – 3 (2.0)	●	●	●	●	●	●	●	●	●	●	●	●	●
Control IB – 4 (3.25)	●	●	●	●	●	●	●	●	●	●	●	●	●
Control IB – 5 (3.75)	●	●	●	●	●	●	●	●	●	●	●	●	●

[1] Parenthetical value is approximate distance from placement site in miles.

field control areas to the north. However the surveys will also include a few very far-field control areas, i.e., more sites that are farther away from the placement site in order to more accurately measure the extent of the impact, e.g. Silver Strand.

Each site will be monitored four times before sand deposition, three times during sand deposition (anticipated to be once per placement event), and six times after sand deposition. Surveys will be conducted weekly and each will be at least one week apart. A proposed monitoring schedule is presented below.

2.5 Review of Nearshore Subtidal Benthic Photographic Data

The Physical Monitoring Science Plan identifies collection of benthic photographic data as part of their program. The first video transect monitoring occurred in May 2008; the effort is scheduled to be repeated again in May 2009. These records may be suitably detailed to assess the presence/absence of meiofauna (large invertebrates such as sea pens, crustacean burrows, etc.). Review of these data sources will be undertaken and qualitatively described in order to document the nearshore benthic community and any apparent impacts of the project. For the purposes of this study, review of photographs or video will be focused on the nearshore portion of the project site and to areas for which multiple video transects are/will be available. Bathymetric features of interest will also be targeted such that several habitat types are assessed for potential impacts with respect to biota. It is also recognized that specific areas, particularly those in shallow depths affected by wave-generated sediment resuspension, may be unsuitable for review due to poor recovery of image data.

3.0 DATA ASSESSMENT

3.1 Comparisons within Datasets

The experimental design incorporated into the proposed monitoring scheme will allow for comparisons between impact and control areas at discrete points in time. Data will be assessed using statistics appropriate for “before, after, control, impact” (BACI) designs. In addition, by studying post-placement data through time, benthic community recovery and post-placement shorebird foraging habitat utilization will be assessed as well.

Sand dollar populations will be assessed by comparing basic population parameters in space and time, and reviewing data to available local historical information (e.g., Dexter 1978). However, the lack of baseline information in the scientific literature at the project site, complexities of *Dendraster* population biology (relating primarily to the planktonic larval stage), and limited nature of the proposed surveys will limit the assessment to a level best described as qualitative.

3.2 Comparisons Across Data Types

Data, where possible, will be integrated to provide a unified assessment of the magnitude, if any, of impacts upon marine biological resources. The following assessments will be undertaken to relate the distinct monitoring efforts:

- Intertidal benthic macroinvertebrate population data will be compared to bird foraging data in order to assess whether any changes in food sources are correlated with shorebird foraging behavior.
- Sand dollar data will be compared to nearshore seafloor video/photographic data in order as an indication of the spatial extent of biological impacts upon the benthic invertebrate data, or differential effects upon different benthic communities.

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CONSTRUCTION MONITORING PLAN

TIJUANA ESTUARY SEDIMENT FATE AND TRANSPORT SCIENCE STUDY

10/14/2008

Proposed Monitoring

A primary objective of the program is to assess effects of beach nourishment on area beaches. Construction monitoring data will be one metric used to quantify the project impacts on the environment. The monitoring data will be important in assessing the success of the program in order to make future adjustments for optimization, if appropriate. The following construction monitoring program components are recommended.

1. Sandy Intertidal Monitoring

California grunion are known to spawn on nearby Imperial Beach (USACE 1995). California grunion spawn at night as the highest tides recede and after approximately two weeks, recently hatched fish larvae are swept out to sea during high tides. California grunion use the upper intertidal habitat of beaches for spawning from late February to early September. Grunion activity is expected to be concentrated from late March to early June, which does not coincide with the proposed project's implementation schedule. Therefore, no grunion monitoring is proposed.

Other sandy intertidal fauna are anticipated to be present at the project placement site, including macroinvertebrates. These resources are anticipated to be monitored as part of a separate, long-term Biological Monitoring Plan effort over a period beginning prior to placement and extending post-placement. Monitoring during placement operations is not proposed.

2. Nearshore Sandy Bottom Habitat and Nearshore Reef Monitoring

Pre-project biological surveys noted the presence of sand dollar (*Dendraster excentricus*) beds in the nearshore, in the vicinity of the outer limit of the surf zone direct. Since sand dollars have the ability to move vertically in the sediment and are subject to natural sedimentation events of a far greater magnitude from the Tijuana River, it is anticipated that the population will not be impacted by the project. It is anticipated that the population will be studied separately as part of the long-term Biological Monitoring Plan. Monitoring during the construction phase will not be undertaken due to the likely exceedance of water quality criteria during the wet season.

Monitoring of nearshore reefs is not recommended for the Border Field State Beach site as a result of the lack of nearshore reefs in the area. The closest nearshore reefs are located to the north of the Tijuana River mouth, well outside the immediate area of impact. These reefs consist of a patchy cobble substrate and sand, an environment which is likely near equilibrium with sedimentation loads flowing into the nearshore from the

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Tijuana River during the wet season (the average of which are several times the volume of the proposed project). Offshore kelp forest resources are located at a greater distance, and also consist of a cobble substrate. Since nearshore reefs are not present in the immediate vicinity of the project site, and construction will take place during the winter when river discharge may cause bacteriological contamination (and thereby limit water contact), no monitoring is proposed.

3. Snowy Plover Monitoring

It is well known that an over-wintering population of snowy plovers regularly inhabit the dunes south of the Tijuana River slough mouth, and monitoring provisions were included in the project as a mitigation measure for potential impacts (CDPR 2008). A minimum 400-yard buffer south of the slough mouth will be staked and delineated with signs, and all vehicle traffic and primary construction activities shall be prohibited from this area. In addition, a snowy plover biologist will be utilized to both ensure compliance with the mitigation measure and observe plover behavior.

The monitor will be present at the placement site twice weekly during all heavy-equipment operations. The monitor shall have the authority to expand the buffer zone up to 600 yards, and suspend work activities if necessary, to ensure protection of snowy plovers.

4. Turbidity

Turbidity will be monitored throughout construction to qualify (as described below) and quantify (as described in the attached Construction Monitoring Plan Addendum prepared by M&N in 2008) the effect on ocean water clarity from the project. Conditions in the area are typically moderately clear in the surf zone due to resuspension. Occasional storms cause high turbidity events due to both increased wave action and discharge of suspended solids from the Tijuana River. The project is anticipated to result in increased turbidity, but the condition will be short-lived, limited to the surf zone, and should diminish shortly after construction activities are halted.

Turbidity will be monitored qualitatively by an observer from a vantage point (such as a bluff top landward of the placement site) noting the extent of turbid conditions. The observer will map the area of turbidity each day on a base map and photograph the turbidity in the ocean. A map will be created by the observer, and they will document all other pertinent environmental conditions such as waves, wind, and weather.

5. Beach Profiling

Beach profiles will be monitored to quantify sand accretion or loss at Border Field State Park beach. The survey is to provide data that enables the State Parks and the City of Imperial Beach to determine the sand gain or loss at the placement site from the project. A licensed surveyor experienced with the survey methods and the specific project site will generate beach profiles of the site pre- and post-construction. There are two established profiles that will be used for this study (historic profile SS-0003 and SS-0005), shown in the attached figure. Tasks for beach profiling include:

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1) Utilize two existing beach profile transects to document pre- and post-construction conditions. These transects include one that is located within the beach fill footprint that is designated as SS-0005 and one located just downcoast of the site that is designated as SS-0003. Beach profiles at these transects will be surveyed within 30 days prior to construction, and within 14 days after construction to record pre- and post construction conditions, respectively.
2) Record beach and seabed elevation along the profiles from the back of the beach out to a wading depth of -10 feet relative to mean lower low water. Survey equipment to be used includes standard survey equipment (level, Global Positioning System or GPS, and rod).
3) Reduce data and produce receiver site profiles to compare pre-project with post-project profiles for interpretation and reporting

6. Monitoring Frequency

Monitoring will occur over time from pre- to post-construction as described below.

1) Pre-Project Baseline Monitoring – Surveys of the two beach profiles will occur within one month prior to construction to observe and document the baseline condition.
2) Construction Monitoring – Turbidity will be observed during construction to document project effects on a daily basis. Plover monitoring will be undertaken at times during which heavy equipment is operated at the placement site. Bacteriological testing, if required, would be undertaken weekly.
3) Post-Construction Monitoring – Beach profile monitoring will occur immediately after construction (within 14 days) to quantify initial project conditions. Beach profiling will occur at two locations as performed before construction.
4) Longer-Term Post-Project Monitoring – Monitoring will continue after construction to quantify project effects. Beach profiles will be recorded twice for one year after construction. They are to be recorded in fall and spring seasons after construction to determine changes and account for the natural seasonality.

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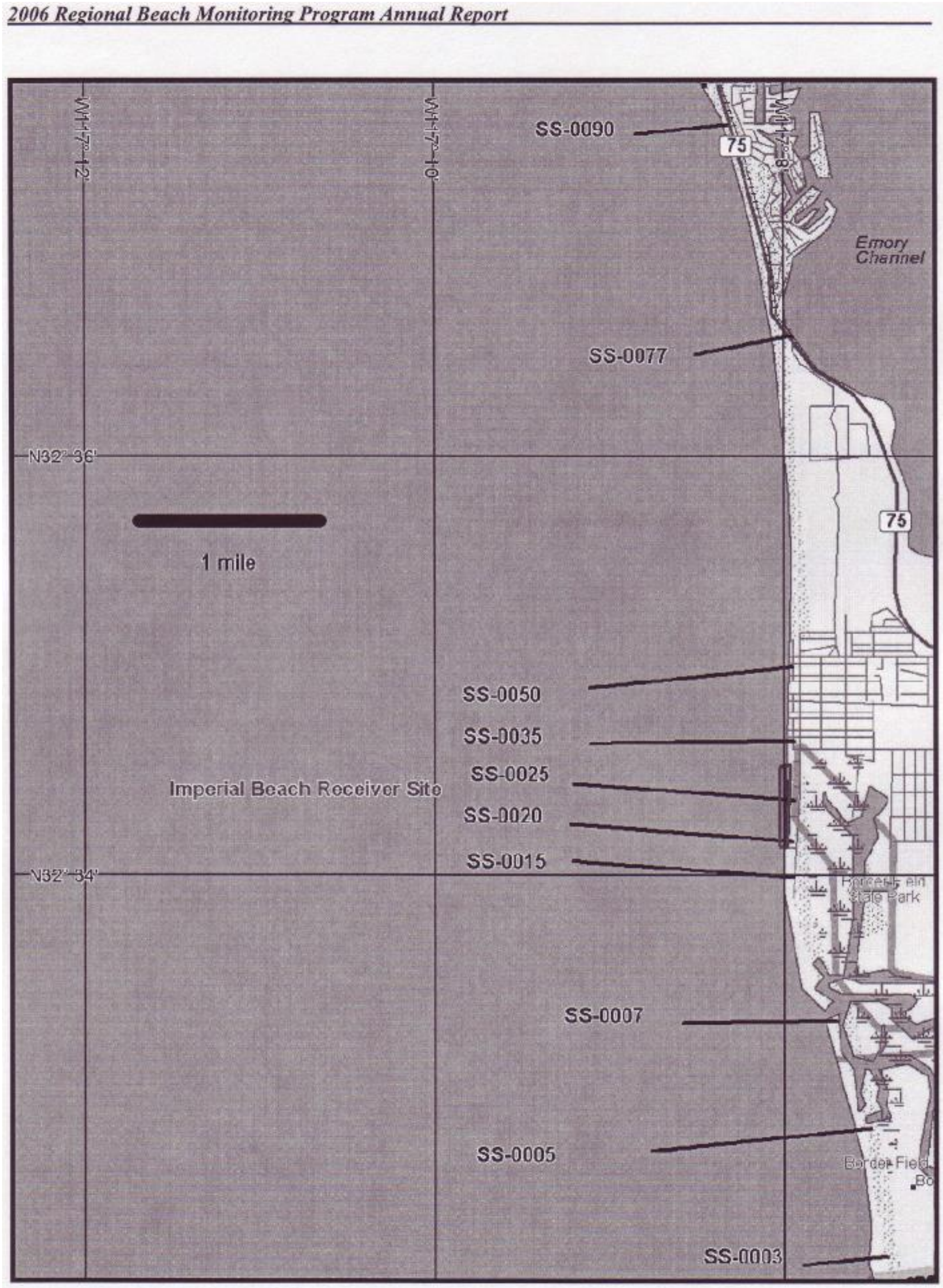

PROPOSED BEACH PROFILE LOCATIONS (TO SOUTH END)

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Tijuana Estuary Sediment Fate and Transport Science Study
Construction Monitoring Plan Addendum - Quantitative Turbidity Monitoring Plan
August 2008

Overview

As a supplement to the qualitative turbidity monitoring program detailed in the Construction Monitoring Plan (M&N 2008), additional quantitative turbidity data will be obtained and submitted to the RWQCB. The approach employed for this aspect of the monitoring is to utilize aspects of the Physical Monitoring Science Plan (Science Plan) (USGS 2008) to address turbidity concerns, but also to augment the Science Plan to collect data needed to meet regulatory requirements.

The primary goal of this supplemental effort is to assess (1) the short-term turbidity impacts in terms of compliance with the San Diego Basin Plan and (2) to ensure that beneficial uses of the Pacific Ocean are protected. The guideline for what is considered an impact will be conditions greater than 20% above ambient conditions. Furthermore, it was recognized that the goals need to be assessed on a short-term time frame (24-48 hours). The primary mechanism for meeting these goals will be accomplished by defining the sampling schedule and implementing a reporting procedure.

Methodology for Monitoring and Impact Assessment

Quantitative turbidity measurements described in the Science Plan will be collected pre-, during and post-deposition of sand on the receiving beach during each of the three project phases. This monitoring will be performed by shore and vessel monitoring teams. The vessel team will collect optical turbidity data using a CTD instrument equipped with a laser diffraction particle size analyzer (LISST). These data are one of several types of data being collected as part of the Science Plan. However, LISST data is particularly useful with regard to assessing turbidity due to the relatively quick data processing time and the ability to convert the data to total suspended solids-equivalents. LISST data will be assessed for turbidity impacts at depth of five (5) to 25 meters of the water column. A total of at least ten (10) locations will be sampled within a distance of one (1) kilometer from the source location as shown in Figure 1 below.

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Figure 1: LISST Turbidity Sampling Locations

Data from these boat-based sampling events will be provided in a clear, descriptive manner to the RWQCB via email approximately 24-48 hours after each sampling event along with a summary statement regarding whether significant turbidity impacts have occurred. If turbidity results are discovered to exceed 20% above ambient conditions, the RWQCB would coordinate with the Construction Manager and Engineer to halt or modify placement activities.

Monitoring Plan Schedule

The number of sampling events per phase is described below (all proposed sampling is weather dependant):

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Phase 1 – Consists of deposition of 10,000 cy of sand over a period of approximately 5 to 7 days.

- Pre-deposition sampling - One (1) sampling event 0-3 days before sand deposition (ambient condition).
- During deposition - Two (2) samplings events to take place during active sand deposition on the beach at least one hour following initiation of beach deposition activities. These events are tentatively scheduled to occur on the 2nd and 4th day of deposition.
- Post-deposition – One sampling event to take place on the third day after sand deposition on the beach has been completed (i.e., end of Phase 1).

Phase 2 - Consists of deposition of 10,000 cy of sand over a period of approximately 5 to 7 days. Monitoring is to replicate Phase 1 monitoring outlined above.

Phase 3 – Consists of deposition of up to 40,000 cy sand over a maximum of 30 days.

- Pre-deposition sampling - One (1) sampling event to take place 0-3 days before sand placement.
- During deposition – One (1) sampling event per week resulting in four (4) total sampling events over the deposition period.
- Post-deposition – One (1) sampling event to take place on the third day after sand deposition on the beach has been completed, signifying the end of Phase 3. Results from the sampling would be expedited to the RWQCB (within 24 hours) for their review. If the turbidity results signify that a turbidity plume is still present on the third day (as decided by the RWQCB), a fifth day post-deposition sampling event will be prompted.

Reporting Schedule

LISST data collected by the vessel team will be processed expeditiously following field monitoring. Results from the sampling would be expedited to the RWQCB (within 24-48 hours) for their review. Furthermore, if the turbidity results signify that a turbidity impact condition is still present at the time of the post-deposition sampling (Day 3), subsequent post-deposition sampling monitoring will be prompted on Day 5 to meet the goals of the Science Plan and demonstrate compliance with regulatory requirements.

Other data collected as part of the Science Plan (e.g., shoreline monitoring data, aerial photography, long-term optical data, etc.) which quantifies turbidity conditions will be processed using standard reporting times, and will be made available following data validation and receipt of publication authorization.

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Reference:

M&N 2008. Proposed Construction Monitoring Plan for the Tijuana Sediment Fate and Transport Study. July 6th.

Appendix F

Typical 401 Water Quality Certification Permit Conditions for Beach Nourishment Projects in San Diego

Funding provided by State Coastal Conservancy through Proposition 68 California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 resources

Table 1. Typical 401 Water Quality Certification Permit Conditions for Beach Nourishment Projects in San Diego, California

Line Item	Example Project Conditions		
	Tijuana Estuary Fate and Transport	RBSP II	Preliminary Guidance/Recommendation
General Conditions			
1	Source Sediment ▪ All sediment being used shall be screened, tested, and treated for trash, fecal coliform bacteria (through aeration and UV exposure as necessary), heavy metals, petroleum distillates and any other contaminants. If treatment does not bring sediment to acceptable usable levels, sediment shall be disposed of at an approved upland disposal site. ▪ Borrow site sediments will meet inland Testing Manual criteria administered by the EPA and USACE and found to be suitable in accordance with the Inland Testing Manual where applicable. ▪ Borrow site sediments will consist of clean sands and silts/clays, with only background levels of metals and nondetectable levels of trace organic contaminants. Sediment used will cause negligible impact to marine organisms. The sand used for replenishment and berm material will be free of trash and anthropogenic debris.	Source Sediment ▪ Borrow site sediments will meet inland Testing Manual criteria administered by the EPA and USACE. ▪ Borrow site sediments will consist of clean sands with only background levels of metals and only trace levels of organic contaminants that EPA/waterboard determine suitable. Sediment used will cause negligible impact to marine organisms. The sand used for replenishment and berm material will be free of trash and anthropogenic debris.	▪ Screening should consider the size of the sieve that excludes large cobbles and debris, but not so small as to add significantly to project duration and costs to the State. ▪ Source sediment will not exceed regulatory limits for metals, organics, or other contaminants.
Construction Best Management Practices			
2	Site Access/Traffic ▪ Wet and dry weather haul routes shall be established. ▪ Routes will be monitored and any necessary erosion control measures shall be implemented. ▪ Roads will be restored to existing conditions upon cessation of the proposed project. ▪ Public access to roads during construction will be considered and maintained if needed. ▪ Project traffic control monitors shall be posted at the beach with the authority to turn beach users away during periods of high activity.	▪ Construction activities shall not be conducted if existing conditions indicated such activity would cause a violation of water quality standards at the surf zone. Planned activities shall be postponed until the threat of causing a violation of water quality standards has been abated.	▪ Typical Construction Best Management Practices (BMPs) will be implemented for all projects, and site specific BMPs will be developed for each project. ▪ Equipment should be able to operate on the beach near the low tide line and within the reach of the water as needed to place the material as a low tide linear mound.
Additional Conditions			
3	▪ Work Windows: Construction activities limited to daylight hours. No work takes place on holidays. Work should be avoided on holiday weekends.	▪ Assume no compensatory mitigation will be required.	▪ Beach nourishment is considered self-mitigating as it will restore sand based marine habitat and recreational opportunities.
Monitoring Requirements			
4	▪ Monitoring Plan- Permittee must develop and implement a Monitoring Plan for the Project to evaluate potential project impacts from proposed beach replenishment activity at the designated surf zone areas. ▪ Monitoring Plan must qualitatively assess potential changes in water quality visually from a vantage point (Monument Mesa) during beach replenishment.	▪ Monitoring Plan- Permittee must develop and implement a Monitoring Plan for the Project to evaluate potential project impacts from proposed dredge and beach replenishment activity at the borrow sites and the designated surf zone areas. ▪ Monitoring Plan must measure potential changes in water quality during dredging and beach replenishment.	▪ Monitoring Plan must qualitatively assess potential changes in water quality visually from a vantage point during beach replenishment. Thresholds to shut down construction should be flexible enough to provide for exceptions considering the short-term nature of the impact and results of the TJFTS project monitoring.

Table 1. Typical 401 Water Quality Certification Permit Conditions for Beach Nourishment Projects in San Diego, California

Line Item	Example Project Conditions		Preliminary Guidance/Recommendation
	Tijuana Estuary Fate and Transport	RBSP II	
5	Visual Monitoring ▪ Visual Observations shall be made daily, recorded, and submitted for each period of nourishment activities. ▪ Observations shall include: i. Speed and direction of the currents; ii. Tidal stage; iii. Appearance of rubbish, trash, or any other solid waste; iv. Appearance of oil or other materials of petroleum origin; v. Discoloration and extent of any visible turbidity plume; and vi. odors.	Visual Monitoring ▪ Visual Observations shall be made daily, recorded, and submitted for each period of maintenance activities. ▪ Observations shall include: i. Speed and direction of the currents; ii. Tidal stage; iii. Appearance of rubbish, trash, or any other solid waste; iv. Appearance of oil or other materials of petroleum origin; v. Discoloration and extent of any visible turbidity plume; and vi. odors.	
6	Biological Resources Pre-construction: ▪ Survey to identify sensitive plants and wildlife. During-construction: ▪ Biological monitor is required on-site during all phases during-construction. ▪ Biological monitor is required to perform periodic inspections of the construction site. ▪ Biological monitor is required to ensure that active nesting behavior by all raptors and threatened and endangered bird species is protected.	Biological Resources ▪ California least tern- No activities will be conducted within 500 feet of *terna antillarum browni*, breeding colony from April 1 through September 30 (unless surveys confirm nesting ceased). ▪ Western Snowy Plover- No activities will be conducted within 500 feet of *Charadrius alexandrines nivosus*, breeding colony from May 1 through September 30 (unless surveys confirm nesting ceased). ▪ Grunion- If beach replenishment activities take place between March 1 and August 31, the Permittee must submit a Grunion Protection Plan to the San Diego Water Board for review and approval prior to the start of fill activities. ▪ Aquatic life- Sediment shall not be deposited in a location that may cause significant adverse effects to aquatic life, fish, shellfish, or wildlife or may harm the beneficial uses of the receiving waters.	
7	Archaeological Monitoring -During-construction: ▪ Archaeologist shall conduct “spot checks” of the work to ensure the transport vehicles are remaining on the designated roadways. ▪ A qualified archaeological monitor shall be present during any necessary road work to ensure that any accidental discoveries of archaeological resources are correctly identified and evaluated for significance. Native Americans shall be advised of the road work and invited to participate in monitoring activities.	—	
8	Photo DocumentationPre-, During-, and Post-Construction: ▪ Photo document the roads utilized for sediment transportation and the surrounding areas.	Photo Documentation ▪ Photo document all areas of permanent and temporary impact prior to and after project maintenance and construction.	
9	—	Borrow Site Monitoring ▪ Weekly sampling shall occur at designated sampling stations at each active borrow site. Sampling and analyses will, at a minimum, include temperature, salinity, pH, turbidity, and dissolved oxygen. The results of the water quality assessment must be submitted with the Final Post Construction Report.	

Table 1. Typical 401 Water Quality Certification Permit Conditions for Beach Nourishment Projects in San Diego, California

Line Item	Example Project Conditions		Preliminary Guidance/Recommendation
	Tijuana Estuary Fate and Transport	RBSP II	
10	—	**Surf Zone Monitoring** ▪ Weekly sampling shall occur at each active beach replenishment site. Sampling locations will be located 50 feet upcoast and downcoast from where the discharged water enters the surf zone. Sampling and analyses will, at a minimum, include: temperature, salinity, pH, total coliform, fecal coliform, enterococcus, turbidity, and dissolved oxygen. The results of the water quality assessment must be submitted with the Final Post Construction Report.	
11	—	**Bacteria Monitoring** ▪ Weekly sampling shall occur at the active beach replenishment site for Total Coliform, Fecal Coliform, and Enterococcus. If the mean weekly water samples are found to contain bacteria in levels that exceed Ocean Plan Bacterial Water Contact Standards, the County of San Diego Department of Health Services and the San Diego Water Board shall be notified within 24 hours.	
12	**Turbidity** ▪ Turbidity shall be monitored daily by a qualified observer from a high vantage point (e.g., a lifeguard tower) during construction. If significant water quality impacts are evident, then the discharge activities shall be modified or suspended.	**Turbidity** ▪ Turbidity shall be monitored daily by a qualified observer from a high vantage point (e.g., a lifeguard tower) during construction. If significant water quality impacts are evident, then the discharge activities shall be modified or suspended.	
13	**Trash and Anthropogenic Debris** ▪ The Permittee will be responsible for the collection and disposal of trash and debris associated with the beach replenishment activities. Trash and anthropogenic debris deposited on the active beach replenishment site will be removed daily. Trash and debris will be disposed in compliance with local, State, and Federal regulations. A daily record of debris observed and removed will be included as part of the final Post Construction Report.	**Trash and Anthropogenic Debris** ▪ The Permittee will be responsible for the collection and disposal of trash and debris associated with the beach replenishment activities. Trash and anthropogenic debris deposited on the active beach replenishment site will be removed daily. Trash and debris will be disposed in compliance with local, State, and Federal regulations. A daily record of debris observed and removed will be included as part of the final Post Construction Report.	
Reporting Requirements			
14	▪ The Permittee must submit a Final Post Construction Report describing status of compliance with all requirements within 90 days of project completion. Report shall include the data and analysis results from the Monitoring Plan.	▪ The Permittee must submit a Final Post Construction Report describing status of compliance with all requirements within 90 days of project completion. Report shall include the data and analysis results from the Monitoring Plan.	
15	**Cultural Resources- (Pre-construction report)** ▪ Prepare a historic study to define the precise location of the remains and foundations of historic buildings that lie beneath and around the project area.	—	
16	**Archaeological Monitoring- (Pre-construction report)** ▪ Perform archaeological testing to identify building foundation edges, confirm mapped building locations and elevation for remains of historic structures in close proximity to or underlying the project area that have the potential to be affected by implementation of the project.	—	

Table 1. Typical 401 Water Quality Certification Permit Conditions for Beach Nourishment Projects in San Diego, California

Line Item	Example Project Conditions		Preliminary Guidance/Recommendation
	Tijuana Estuary Fate and Transport	RBSP II	
17	**Source Sediment- (Pre-construction report)** ▪ Prepare a Sampling and Analysis Plan/Results Report based requirements in Line Item 1 above. A tracking log or similar safeguard procedure shall be used to ensure all necessary soil testing has been conducted prior to the transport and deposition of sediment onto the beach.	—	
18	**Site Access / Traffic- (Pre-construction report)** ▪ Prepare an engineering review of the structural adequacy of Routes to (1) accommodate heavy haul equipment, (2) estimate potential for such haul traffic to cause substantial damage to the road, (3) identify any possibility of subsurface compaction or compression below the road grade, (4) develop recommendations for any road improvements that would be necessary to prevent damage to the road and those resources beneath the road, and (5) determine if any road improvements needed to accommodate the project and/or return the road to its pre-project state.	—	