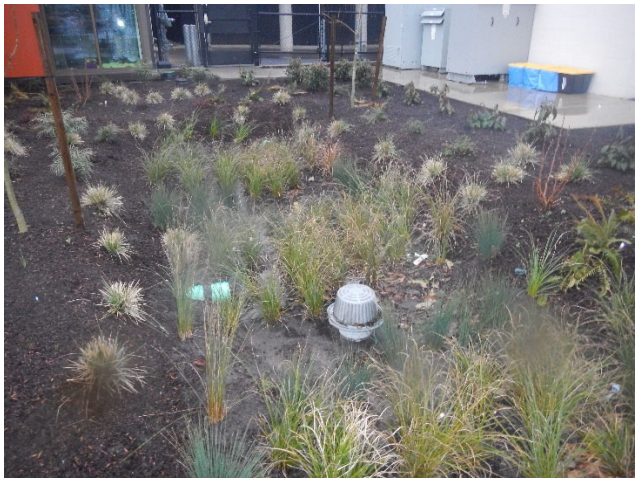
CREEKSIDE ENVIRONMENTAL CONSULTING, LLC

with EVREN NORTHWEST INC.
environmental & natural resource consultants

STORM WATER SOURCE CONTROL EVALUATION REPORT



OREGON HUMANE SOCIETY FACILITY

7865-7885 NE 14th Place
(Previous address: 1409 NE Columbia Blvd)
Portland, Oregon

Agency Information

ODEQ ESCI Site No. 4017

Prepared for:

OREGON HUMANE SOCIETY

1067 NE Columbia Boulevard
Portland, Oregon 97211

Issued on:

August 1, 2023

Project No. 351-18019-09

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This

Storm Water Source Control Evaluation Report

For the:

Oregon Humane Society Facility

7865-7885 NE 14th Place
(Previous address: 1409 NE Columbia Boulevard)
Portland, Oregon

Has been prepared for the sole benefit and use of our Client:

OREGON HUMANE SOCIETY

1067 NE Columbia Boulevard
Portland, Oregon 97211

and its assignees

Issued August 1, 2023 *by:*

CERTIFIED OREGON LYNN DELAVAN GREEN E2332 ENGINEERING GEOLOGIST

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BMPs	best management practices
Client	Oregon Humane Society
CoC	constituent of concern
COI	constituent of interest
COPCs	constituents of potential concern
Creekside	Creekside Environmental Consulting, LLC
DRO	diesel-range organics
ECSI	Environmental Cleanup Site Information
ENW	EVREN Northwest, Inc.
EPA	US Environmental Protection Agency
JSCS	Joint Source Control Strategy
LUST	leaking underground storage tank
MRLs	method reporting limits
NPDES	National Pollutant Discharge Elimination System
ODEQ	Oregon Department of Environmental Quality
PAHs	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PPA	Prospective Purchaser Agreement
RRO	residual(oil)-range organics
SCE	Source Control Evaluation
SLV	screening level value
TSS	total suspended solids
UST	underground storage tank
VOC	volatile organic constituent

1.0 Introduction

At the request of Oregon Humane Society (Client), Creekside Environmental Consulting, LLC (Creekside) has prepared this **Storm Water Source Control Evaluation** (SCE) report for the property located at 7865-7885 NE 14th Place in Portland, Oregon (project site; see Figures 1 and 2). This SCE was requested by the Oregon Department of Environmental Quality (ODEQ) as part of ongoing remedial investigations at the site. Creekside requested EVREN Northwest, Inc. (ENW) to collaborate on this project.

1.1 Purpose

The purpose of the SCE was to identify, evaluate, and control any sources of contamination on the project site with the potential to discharge to the Columbia Slough. Creekside understands the findings will support decision making by ODEQ in their overall evaluation of site conditions.

1.2 Source Control Objectives

The objective of this storm water SCE is to demonstrate that existing and potential sources of contamination at the site have been addressed and no additional characterization or source control measures are needed at the site. This work is in support of issuance by ODEQ and other governing bodies/agencies of a source control determination and subsequent no further action (NFA) determination.

1.3 Regulatory Framework

The storm water SCE follows Creekside's *Stormwater Source Control Evaluation Work Plan,*[1] which was approved by ODEQ. The SCE was completed in general accordance with ODEQ guidance[2] and relied upon the following references:

- ODEQ's *Guidance for Evaluating the Stormwater Pathway at Upland Sites*, dated January 2009 (updated October 2010).

This storm water SCE was also prepared pursuant to the Prospective Purchaser Agreement (PPA) issued in January 2019 and Agreement for Remedial Investigation and Source Control Measures, ODEQ No. LQVC-NWR-08-12 dated October 27, 2008 and as amended or modified by agreement with project stakeholders.

The SCE is intended to provide supporting documentation to assist ODEQ in completing an uplands source control decision for the project site to satisfy the ODEQ SCE requirements.

1.4 Report Organization

This report is organized to be generally consistent with ODEQ's *Template for a Stormwater Source Control Evaluation Report.*[3] Specifically, this report includes: an introduction, a discussion of the site background, an examination of potential sources and contaminants of interest, an evaluation of discharge pathways, presentation of ongoing storm-water management measures, the results of the source control evaluation, and findings and conclusions.

2.0 Site Background

2.1 Site Description

The 4.52-acre subject property includes Tax Lot 1800 located in the southwest quarter of the southeast quarter of Section 11, Range 1 North, Township 1 East of the Willamette Meridian. The subject property is located at the northwest corner of the intersection of NE 14th Place and NE Columbia Boulevard in an industrial land use area. Currently, the subject site is developed as an animal hospital and behavioral rehabilitation center that consists of three large buildings and covered dog runs. The subject property is bordered by Oregon Humane Society-owned properties to the west and north. The City of Portland Planning and Development office has zoned the subject property and most surrounding properties General Industrial 2 (IG2). The subject site is shown relative to surrounding physical features on Figure 1. The subject site layout and adjacent properties are shown on Figure 2. Underground sanitary and storm water utilities are shown on Figure 3.

Exterior areas are used mostly for vehicle access and parking. Three paved and covered dog runs are also present. Refuse is stored in closed receptacles located in the northeast corner of the site.

[1] Creekside. December 4, 2020. Stormwater Source Control Evaluation Work Plan.

[2] https://www.oregon.gov/deq/Hazards-and-Cleanup/env-cleanup/Pages/Stormwater-Guidance.aspx

[3] https://www.oregon.gov/deq/FilterDocs/cu-stormwaterSitesAppC.pdf

The subject property is about 1,000 feet south of the Columbia Slough and is at an elevation of about 45 feet above mean sea level (Figure 1). The site and vicinity are generally level to gently sloping toward the north-northeast toward the Columbia Slough.

Shallow ground water has been encountered at depths generally greater than 25 feet bgs in temporary borings completed at the site. The elevation of shallow ground water is consistent with the elevation of the water level in the Lower Slough.[4] The northerly sloping topography and presence of Columbia Slough to the north are strong indications that the shallow ground water gradient at the site has a northerly orientation.

2.2 Description of Storm Water Conveyance System

Please refer to Figure 3 – Storm System.

Storm water collection, pretreatment and conveyance at the project site is accomplished via seven on-site interconnected vegetated flow-through planters, a Contech Filterra Peak Diversion biofiltration system, one catch basin, and two French drains. Roof drains discharge to the vegetated planters or French drains. All storm water is pretreated before leaving the site via the flow through planters or the Contech Filterra Peak Diversion biofiltration system, except for one French drain which only receives water from a vegetated area. The system ultimately discharges storm water to City Outfall 65, in the Lower Slough (Figure 3). Several catch basins are located in the trash enclosure and in the covered dog runs and are connected to the city sanitary sewer line.

The storm water system on site, including primary source control measures and best management practices, are described in detail in the Storm Water Management Plan[5] prepared by Creekside.

2.3 Site Ownership and Operating History

The subject property was historically operated by Star Equipment Company, Bobcat of Portland, Columbia Spring Service, Hessel Tractor & Equipment, and Superior Tire Company. In 2019, Oregon Humane Society entered an agreement to acquire the subject site and completed the transaction in 2021. In 2022, the subject site's address was changed from 1409-1411 NE Columbia Boulevard to 7685-7885 NE 14th Place. The site has since been redeveloped into an animal hospital.

2.4 Environmental Regulatory Review

2.4.1 Industrial Storm Water Discharge

Bobcat of Portland, a former tenant of the property, originally developed a Storm Water Pollution Prevention Plan in 1998, as part of general storm water management guidance; however, a formal storm water plan was not required as part of an ODEQ National Pollution Discharge Elimination System (NPDES) storm water discharge permit since the facility was not required to obtain a permit at that time. The general format, content and Best Management Practices (BMPs) provided in this plan did incorporate significant elements of the ODEQ NPDES 1200Z Storm Water Discharge Permit guidelines. Sometime in 2001 or earlier, the facility applied for a NPDES 1200Z permit. Although agency files regarding this permit were requested, the only information provided was a summary spreadsheet showing a few analytical

[4] Creekside/ENW, January 6, 2017. *Beneficial Water Use Determination for 8001 and 8101 NE 14th Place, Portland.*

[5] Creekside/ENW, May 30, 2023. *Storm Water Management Plan.*

results between 2001 and 2003. The results suggested that, on occasion, permit benchmarks were exceeded for a few constituents (total copper, total lead, oil and grease, total phosphorus, total suspended solids, and total zinc). Currently, the site has a No Exposure Certification (NEC) for Exclusion from NPDES Storm Water Permitting, since no significant industrial exposure to storm water is present at the facility.

Following recent redevelopment, the site is not required to operate under storm water permits.

2.4.2 Underground Injection Control

A 2019 Phase I Environmental Site Assessment identified dry wells on site. The site held an Underground Injection Control (UIC) permit (#12053) under ODEQ's Water Quality UIC program for four (4) dry wells on site that received storm water drainage. Between December 2021 and March 2022, all dry wells on site (formerly identified as dry wells DW01 through DW05) were decommissioned according to the ODEQ-approved work plan. Collection and analysis of soil samples from the floor of each of the dry well excavations confirmed that impacted soils and sediments had been removed, resulting in no residual impacts above screening-level risk-based concentrations. Underground Injection Control (UIC) decommissioning was documented in a technical memorandum[6] and submitted to the ODEQ UIC program for UIC closure.

2.5 Previous Investigations

The subject property was historically operated by Star Equipment Company, Bobcat of Portland, Columbia Spring Service, and Hessel Tractor & Equipment. Most recently the site was occupied by Superior Tire Company. In 2019, Oregon Humane Society entered an agreement to acquire the subject site and completed the transaction in 2021. In 2022, the subject site's address was changed from 1409-1411 NE Columbia Boulevard to 7685-7885 NE 14th Place.

Between 1990 and 2000, Hessel undertook a cleanup of a release from a UST located at the subject site (Leaking Underground Storage Tank [LUST] No. 26-96-0075). Collectively, the results from tank decommissioning in 1990, soil and ground water investigations completed 1995 through 1998, petroleum-contaminated soil removal activities in 1998, and additional site investigation activities required by ODEQ in 1998-2000 concluded that there are no unacceptable risks associated with any identified exposure pathways. Based on these findings, ODEQ issued a No Further Action (NFA) determination in August 2001. Despite the regulatory closure, elevated diesel concentrations may remain in the ground water fluctuation zone and in the vadose zone beneath the former SE Building.

Additionally, releases of hazardous substances had resulted from improper disposal of various wastes over several years. Sand blast grit, fill with paint chips, burned and unburned trash, and solvent were the primary types of materials containing hazardous materials. In 1999, Hessel Tractor conducted soil removal activities to mitigate several areas of the site identified with sand blast grit and lead paint impacted sediments. The site is currently listed on ODEQ's Voluntary Cleanup Program, Environmental Cleanup Site Information (ECSI) and Confirmed Release List databases as Facility No. 4017.

Pre-redevelopment investigation of this property found areas of diesel-range organics (DRO) and residual (oil)-range organics (RRO) soil and ground water impacts and areas with possible enrichment of lead

[6] Creekside/ENW. April 19, 2022. Technical Memorandum: Dry Well Decommissioning Report (UICs DW01 through DW05)

and/or arsenic in soil and arsenic in ground water. Impacts to soil and ground water have been delineated on the property. Based on data collected during previous investigations, impacts of arsenic and DRO to shallow ground water are likely localized and are not likely to migrate from the subject site.

During redevelopment, an area containing non-friable asbestos-containing building materials (ACBM) was discovered during utility trenching. Exposed materials included brick, wood (some burned), stained soil, and roofing materials. The roofing material was analyzed and confirmed to be ACBM, specifically non-friable roofing. ACBM excavated from this trenched area was segregated into a separate stockpile, and subsequently disposed offsite. Materials outside the limits of the utility excavation were left in place.

A residual risk assessment was prepared in November 2022 in order to assess residual risk at the subject property, if any, and recommend next steps to obtain regulatory site closure. The report demonstrated that residual risk to surface soil, subsurface soil and ground water from a release from former USTs and improper disposal of hazardous substances are no longer present on site. Continued implementation of the Contaminated Media Management Plan and Soil Cap Management Plan following redevelopment of the site is required pursuant to the PPA and Easement and Equitable Servitude.

A PPA was negotiated prior to the purchase of the subject site by Client, which included requirements regarding additional work to be performed at the site. These requirements include:

1. Preparation of a Focused Phase II Environmental Site Assessment Work Plan and report to characterize soil and ground water conditions based on previous environmental reports.
2. Submittal of copies of historical environmental reports prepared by other consulting firms dating back to 1998.
3. Preparation of a Stormwater Source Control Evaluation Work Plan and report.
4. Preparation of a Contaminated Media Management Plan.
5. Assess residual risk from remaining impacts on site as related to the ingestion, dermal contact, and inhalation pathway. If unacceptable risk is found, an Easement and Equitable Servitude and Operation and Maintenance Plan will be developed.
6. Decommissioning of the oil/water separator in the northeast portion of the site.

This report fulfills the preparation of a storm water SCE, included as part of Requirement 3. At this time, all other items identified above have been completed.

3.0 Potential Sources and Contaminants of Interest

3.1 Potential On-Site Sources

Based on previous investigations and our knowledge of the project site, the sources for potential project site-related contaminants to impact the Columbia Slough are as follows:

- The presence of residual arsenic, lead, DRO, and RRO in project site soil and ground water.

Based on Creekside's understanding of historical and current land use and site characteristics, the sources for potential project site-related contaminants are as follows:

- Parking Lots, Drives: typical parking lot and roadway pollutants (total suspended solids [TSS], oil and grease, copper, and zinc from truck traffic on site.
- Residual arsenic, lead, DRO, and RRO from former releases on site.

3.2 Potential Off-Site Sources of Contaminants of Interest

The subject site is located in an industrial area of northeast Portland and discharges to Outfall 65, the easternmost outfall of the Lower Slough. According to the *Columbia Slough Sediment Study,*[7] the area downstream of Outfall 65, which is where the storm water system discharges, is the third of five high priority areas designated for cleanup within the lower Columbia Slough due to polychlorinated biphenyl (PCB)-impacted sediments.

Adjacent properties are industrial in use and include a storage yard to the north, a construction machine dealer (Pepé Machinery) across NE 14th Place to the east, A&M Lift Truck Inc. across NE Columbia Blvd to the south, and the Oregon Humane Society animal shelter to the west.

3.3 Contaminants of Interest

Contaminants of interest (COIs) in storm water discharging from the subject site include arsenic, lead, DRO, and RRO. However, to be consistent with impacts that have been detected in Columbia Slough river sediment near Outfall 65, the following COIs were identified:

- Polycyclic aromatic hydrocarbons (PAHs),
- Polychlorinated biphenyls (PCBs),
- Total metals (specifically: arsenic, cadmium, chromium, copper, lead, mercury, and zinc), and
- TPH by NWTPH-Gx and NWTPH-Dx.

4.0 Evaluation of Storm Water Pathways

Only one complete pathway for potential sources of contaminants from the subject site to impact the Columbia Slough sediments was identified:

- Discharge of contaminants via storm water conveyance lines to Outfall 65.

This potential storm-water pathway is discussed in more detail below.

We do not consider the ground water migration pathway (from the project site to the Columbia Slough) a required component of the SCE for the following reasons:

- Source areas of DRO, RRO, lead, and arsenic in project site soil have been excavated during redevelopment activities to remove continued contributions of contaminants to ground water,

[7] ODEQ, 2012. *Columbia Slough Sediment Study*, Lower Slough between River Mile 5.9 and 8.7 (January 2012 Update): State of Oregon Department of Environmental Quality DEQ 11-NWR-003, 70 pages, 11 tables, 35 figures, and 8 appendices.

and the entire site is capped with hardscape (buildings and asphalt paving). This soil cap is maintained by a Soil Cap Management Plan[8], that includes regular inspections and monitoring.

- Based on results of previous delineation investigations[9] on the adjacent down-gradient property to the north, impacts of arsenic and DRO to shallow ground water are likely localized and are not likely to migrate from the subject site.

4.1 Storm Water Discharges to City Conveyance Lines

As described in Section 2.2, all storm water is collected, pretreated, and conveyed at the site via seven on site interconnected vegetated flow-through planters, a water quality vault, one catch basin, and two French drains. The system ultimately discharges storm water to City Outfall 65, in the Lower Slough.

According to utility as-built drawings provided by City of Portland[10] storm water from the subject property enters the City storm-only sewer connection near the northwest corner of the subject property. From there, storm water flows north to City Outfall 65 in the Lower Slough, joining additional inflow from several industrial and commercial properties at NE Argyle Drive.

The storm water from the subject site that enters the City storm system is not likely to come in contact with facility activities (which are almost entirely conducted inside the building or under covered areas and not industrial in nature). Additionally, no current sources of COIs have been identified at the subject site (see Section 3.1).

5.0 Ongoing Storm Water Management Measures

The following best management practices (BMPs) are employed to minimize pollutant contact with storm water runoff:

- Recycling/waste dumpsters are covered and located away from catch basins.
- Vehicle cleaning, maintenance, and repair activities are prohibited.
- Routine inspection of parking areas to collect refuse and identify excessive oil and grease accumulation.
- Monthly sweeping to remove sediment and debris that might otherwise be transported to the storm water system.
- Routine cleaning of storm water features to prevent buildup of silt, leaves, and other debris.
- Routine inspections to identify, contain, report, and remove accidental spills.
- Annual training of employees in BMPs.

These practices are outlined in the Storm Water Management Plan[5] prepared for the facility.

[8] Creekside/ENW, August 1, 2022. *Soil Cap Management Plan*, Oregon Humane Society, 1409 NE Columbia Boulevard, Portland, Oregon.

[9] Creekside/ENW, December 16, 2019. *Phase II Environmental Site Assessment*, Superior Tire Site, 1409 NE Columbia Boulevard, Portland, Oregon.

[10] Portlandmaps.com

5.1.1 Maintenance of the Storm Water Treatment System

As outlined in the Storm Water Management Plan,[5] the storm water treatment system is maintained following City of Portland recommended BMPs for catch basins and vegetated planters, and French drains. Sediment accumulation within the storm water collection features, if any, is removed and disposed of following these BMPs.

6.0 Data Collection and Interpretation

6.1 Conveyance Line Cleaning

As conveyance lines were installed new as part of the recent site redevelopment, cleaning of the lines was not performed prior to sampling.

6.2 Storm Water Sampling

6.2.1 Overview and Rationale

The project site has seven interconnected flow through vegetated planters, two French drains, a storm water treatment vault, and one catch basin that collect storm water at the site. Roof drains discharge to the vegetated flow-through planters. Storm water captured by these features along with roof drain discharge from the onsite buildings constitute all the storm water being conveyed and discharged to the City of Portland storm sewer system.

Storm water samples were collected and analyzed following the methodology described in the Work Plan. A manhole where the downstream ends of the lateral lines meet prior to discharge offsite was designated as the sampling point (ML001) as this flow represents treated storm water discharge entering the City of Portland storm sewer system.

Two storm water confirmation samples were collected to represent a first-flush condition and the other two storm water confirmation samples were collected to represent a longer rain event. In accordance with ODEQ guidance,[2] specific conditions necessary to support first-flush sampling include the following:

- Antecedent dry period of at least 24 hours preceding the sample event (as defined by <0.1 inch precipitation over the previous 24 hours).
- Minimum predicted rainfall volume of 0.2 inch per storm event.
- Expected duration of storm event of at least three hours.
- Samples collected within the first 30 minutes of observed storm water flow.

6.2.2 SCE Storm Water Sampling

Storm water sampling events related to the SCE process were completed on November 29, 2022, December 20, 2022, February 7, 2023, and March 23, 2023. All samples were collected at the proposed sampling point indicated in the ODEQ approved Work Plan.[1] Storm-water samples were collected from Storm Water Monitoring Location 1 (ML001) during a period when storm water was flowing. Samples were collected using a decontaminated sampling "scoop" lowered into the central portion of the flow

stream (as shown on Figure 2). The sampling location is shown on Figure 3. Chemical analytical data from the sampling events are summarized in Table 1.

A total of four stormwater samples were collected, as outline in the work plan. Maximum detected concentrations from the four sampling events were used for comparison to SLVs.

All storm-water samples represent grab samples. Samples were temporarily stored on ice until transported to the laboratory under chain-of-custody documentation.

7.0 Data Summary

7.1 Storm Event Data

Precipitation Hydrographs are presented in Appendix A for each of the sampling events. According to rainfall data gathered from City of Portland's Hydra Network, the four storm events lasted between 7 and 29 hours in duration and produced between 0.12 inches and 0.99 inches of total measurable precipitation. Storm data for each event, including time of onset, duration, total precipitation, and sample times are summarized below in Table 6-1.

Table 6-1. Storm Event Data

Storm Event No.	Beginning of Storm Event [1]		Duration (hrs)	Total Precip (in)	Sample		Notes/Observations
	Date	Time			Date	Time	
#1	11/29/2022	8:00	25	0.99	11/29/2022	9:00	First observed discharge at 9 am
#2	12/20/2022	9:00	10	0.18	12/20/2022	11:00	Storm water discharging upon arrival
#3	2/7/2023	8:00	7	0.12	2/7/2023	9:20	Storm water discharging upon arrival
#4	3/23/2023	7:00	29	0.42	3/23/2023	8:53	Storm water discharging upon arrival
Notes:							
[1] Based on data from Mallory Rain Gauge, 8030 NE Mallory Avenue, Portland, OR							

A brief summary of the nature of each of the sampling storm events regarding storm event criteria is presented below.

- **Storm event #1 (November 29, 2022).** The storm event began with steady precipitation at approximately 8:00 am on November 29, 2022, and lasted 25 hours, with two short breaks in rainfall around 10 to 11 am and another from 7 pm to 9 pm. A total of 0.99 inches of rain was produced during the storm event. The sample was collected at 9 am within 30 minutes of first observed discharge.
- **Storm Event #2 (December 20, 2022).** The storm event began with steady precipitation at approximately 9:00 am on December 20, 2022, and lasted 10 hours. A total of 0.18 inches of rain was produced during the storm event. The sample was collected at 11 am on December 20, 2022.
- **Storm Event #3 (February 7, 2023).** The storm event began with steady precipitation at approximately 8:00 am on February 7, 2023, and lasted 7 hours. A total of 0.99 inches of rain was produced during the storm event. The sample was collected at 9:20 am. Storm water was flowing upon arrival to the site.
- **Storm Event #4 (March 23, 2023).** Storm event #4 actually consisted of several rain events separated by dry periods lasting 1 to 6 hours. The sample was collected at 8:53 am on March 23,

2023, immediately following the onset of the first rain event. Storm event #4 lasted approximately 29 hours and produced approximately 0.42 inches of rain.

In general, storm and sampling criteria were met during the sampling events, except for Storm Events #2 and #3, which saw slightly less rainfall than the required 0.2 inches per storm event. All sampling was preceded by a full 24-hour dry period. Based on sample time, Samples #1 and #4 are considered to represent first flush conditions and samples #2 and #3 represent stabilized storm water flow conditions.

During each sampling event, the paved areas of the project site were generally free of debris. Storage, parking, and traveled areas appeared generally clean and in order. Rainfall was present the sampling activities and storm-water conveyances were observed to have active flow. Before sample collection, the antecedent dry period (less than 0.1 inch of rain in the 24 hours preceding the sampling storm) was met during all four of the sampling events.

During sampling event #3, rat poison was noted in the landscaped area near storm water swale PL06. As rat poison oftentimes contains arsenic, Creekside advised the Client to remove the rat poison and place it in a location where it will not come into contact with storm water.

7.2 Storm Water Sample Analytical Results

Stormwater sampling analytical results are summarized in Table 1. Laboratory analytical reports are presented as Appendix B. The analytical results for storm-water samples were compared to the JSCS non-Portland Harbor Sites screening table located in ODEQ's Guidance for Evaluating Stormwater Pathway at Upland Sites. The following is a brief summary of analytical results from the four sampling events.

7.2.1 Total Petroleum Hydrocarbons

Diesel-range organics (DRO) were detected during two sampling events; however, both DRO concentrations were flagged as not being indicative of the fuel standard used for quantitation. These data suggest initial sample results may have been biased high by biogenic effects (i.e., decaying leaves and other organic matter in contact with storm water).

There are no source control screening levels established for DRO and RRO. The highest level of DRO detected in samples (200 micrograms per liter [µg/L]) is not elevated above the NPDES 1200Z permit benchmarks for oil and grease.

7.2.2 Total Metals

Laboratory analysis by EPA 6020 reported the following total metals results:

- Total arsenic was detected at up to 7.24 µg/L, exceeding its JSCS SLV in all four sampling events.
- Total cadmium was detected at up to 0.132 µg/L, exceeding its JSCS SLV in sampling events #1 and #4.
- Total chromium was detected at up to 1.29 µg/L. No JSCS SLV has been established for chromium.
- Total copper was detected at up to 9.24 µg/L, exceeding its JSCS SLV during all four sampling events.
- Total lead was detected at up to 2.04 µg/L, exceeding its JSCS SLV during sampling events #1 and #4.

- Total zinc was detected at up to 21.1 µg/L, which is below its JSCS SLV.
- Total mercury and total nickel were not detected above laboratory method detection limits in any sampling event.

7.2.3 Dissolved Metals

Laboratory analysis by EPA 6020 reported the following dissolved metals results:

- Arsenic was detected at 2.58 µg/L, exceeding its JSCS SLV in sampling event #3, the only sampling event in which dissolved arsenic was evaluated.

7.2.4 Polychlorinated Biphenyls

Polychlorinated biphenyls (PCBs) were not detected above laboratory method reporting limits in samples collected during any of the storm water sampling events.

7.2.5 Polynuclear Aromatic Hydrocarbons

The only PAH constituent detected above laboratory method reporting limits was phenanthrene. Phenanthrene was detected at 0.010 µg/L during sampling event #2. Phenanthrene does not have an established JSCS SLV. All other PAH constituents were non-detect.

7.2.6 Total Suspended Solids

TSS was only measured in the storm water sample collected during sampling event #3 at a concentration of 13 mg/L. TSS does not have an established JSCS SLV.

8.0 Source Control Evaluation

The following sections summarize the evidence used to support our opinion that the storm-water source control at the project site is adequate and that the site does not represent a significant current or future source of contaminant to the Columbia Slough. Data evaluation and other lines of evidence are discussed below.

It is our opinion that the analytical data are appropriate for the intended purpose. Data quality exceptions are noted in Appendix B. These limited exceptions do not interfere with the evaluation of source control because consistent and replicated data are available with respect to the COIs.

8.1 Data Evaluation

The environmental site assessments conducted at the subject property, in combination with site inspections as part of the development of the source control evaluation work plan have led to the development of the list of COIs for this assessment. Based on these prior assessments and remedial actions, the site does not appear to have significant residual impacts from any historical releases or site operations. Additionally, the recent SCE stormwater sampling shows that the source control measures already implemented at the subject property are providing effective control of typical potential pollutants from commercial site parking lots.

8.1.1 Evaluation of Current Storm Water Data with DEQ's *Tool for Evaluating Storm Water*

Creekside compared the analytical data from the 2022 and 2023 storm-water sampling activities to the charts presented in Appendix C of the Upland Guidance document to evaluate if the concentrations of contaminants were representative of typical industrial storm water. Of the 13 constituents with charts, six of the constituents (arsenic, cadmium, chromium, copper, lead, and zinc) were detected in two or more of the four storm water monitoring events and were retained as constituents of potential concern (COPCs) in storm water discharge. TSS was only analyzed in one storm water sample but is retained as a COPC. Five constituents (mercury, nickel, silver, PCBs, and total PAHs) were not retained as COPCs, since they were either not detected, or the detected concentrations did not exceed screening criteria.

Charts are provided in the tool to evaluate contaminant concentrations at industrial sites in the Columbia Slough area. The concentrations are charted in a curve, which includes a flat portion and a steep portion. The transition area is called the "knee" of the curve. Concentrations within the flat area of the curve are considered typical of industrial sites, while concentrations higher than the knee may represent elevated concentrations.

In the case of five of the six detected constituents, the detected concentrations were in the low range of the lower/flatter portions of the curves suggesting that storm water is not being unusually impacted by contaminants at the site and is therefore representative of "typical" industrial storm water. The comparison of project site stormwater sample analytical results to other industrial sites using the ODEQ tool is presented in Appendix C.

Arsenic was the only constituent measured in project site stormwater above the typical industrial range in the Portland Harbor vicinity. Constituents detected above the SLVs during the source control sampling can sometimes be associated with particulate deposition, which may be an intermittent source to subject site storm water. In any event, the data already collected with respect to storm water at the project site are sufficient to establish that it is highly unlikely that an on-site source of these constituents is present at the project site connected to current or historical site operations.

8.2 Other Lines of Evidence

Although residual impacts related to a historical release at the site remain in the subsurface, the subject property is completely covered with impermeable surfaces and all planters on site are flow-through in design and do not allow water seepage to the subsurface. Additionally, during recent redevelopment of the site, the previous storm water system was abandoned, and the current storm water system was newly constructed. The owner and future tenants will continue to use Best Management Practices including routine maintenance of storm-water conveyance features to prevent the buildup or discharge of COIs in storm water. Ongoing implementation of the BMPs described by the SWMP should continue to effectively control the site's current, typical commercial storm water contaminant sources. If new operations at the subject property have the potential to impact storm water, the application for and operation under a new NPDES permit would ensure appropriate storm water source control measures are in place.

9.0 Findings and Conclusions

Creekside has conducted SCE activities (including reviews of site storm-water source control measures) at the project site located at 7865-7885 NE 14th Place in Portland, Oregon. These activities were performed in accordance with an ODEQ work plan, ODEQ's *Guidance for Evaluating the Stormwater Pathway at Upland Sites,* dated January 2009 (updated October 2010). The results of the SCE activities indicate the following:

1. Existing and potential facility-related contaminant sources have been identified and characterized:
    a. The potential sources to impact river sediments are constituents in storm water. This potential source has been fully characterized by investigations performed pursuant to DEQ-approved work plans.
        i. Substances detected and the basis for deciding that all sources have been identified and characterized are as follows:
            a) In storm-water samples, some metals were detected at concentrations exceeding the most conservative SLVs. However, with the exception of arsenic, all of these contaminants are present at concentrations below "typical industrial stormwater concentrations" per ODEQ's *Tool for Evaluating Stormwater Data* (see Appendix C).
            b) In storm water, arsenic has been detected exceeding its JSCS SLV and also what is considered typical of industrial storm water. The source of elevated levels of arsenic in storm water was further investigated and determined to likely be related to use of rodent traps containing poison on site. During the third storm water sampling event, one of these traps was observed in a landscaped area. Since rodent traps sometimes contain arsenic, to mitigate potential contribution of arsenic from these traps to storm water, the property owner removed all rat traps from areas that may come into contact with precipitation. Based on additional storm water sampling following removal of the rat traps, the concentration of arsenic in storm water is within the knee of the curve for "typical industrial stormwater concentrations" per ODEQ's *Tool for Evaluating Stormwater Data* (see Appendix C).
            c) For other constituents evaluated as part of this SCE, the discharge of contaminants via storm water conveyance lines pathway is considered controlled and insignificant for the migration of contaminants to the Lower Slough.
2. Potential storm-water contaminant sources are being controlled to the extent feasible:
    a. Particulate matter on paved surfaces is controlled by regular site sweeping and good housekeeping practices. Build-up of catch basin and flow through planter sediments is controlled by regular cleaning of catch basins and planters and catch basin filters are maintained and/or replaced as needed.

b. The occupant minimizes exposure of pollutants to storm water by implementing the above-mentioned BMPs and also by storing all significant materials indoors. Additionally, no industrial activities occur on site.

3. The remaining contaminants in stormwater (metals) that continue to exceed cleanup levels/SLVs, in spite of current source control measures and storm-water management measures are not likely to result in sediment contamination in the Lower Slough or contribute to unacceptable risk:

    a. Stormwater contaminants may occasionally exceed the SLVs; however, are generally in the typical range of industrial storm water in Non-Portland Harbor sites, with the exception of arsenic, which the Client has mitigated through the removal of rodent traps from areas where they were exposed to precipitation.

Based on the findings of this SCE and mitigation efforts implemented by the client, no further investigation and/or remedial action are anticipated to be needed at this time. Therefore, based on ongoing management of both onsite storm water facilities and impacted media, we request that ODEQ issue a formal Source Control Decision and subsequent determination of No Further Action Required for this facility, considering that (1) the site has been adequately characterized, sources and pathways for mobilization of contaminants have been addressed, and sufficient monitoring has been completed to confirm that contaminants are not leaving the site at levels presenting unacceptable risk; and (2) the site is eligible for a determination that it is not a past, current or reasonably likely future source of contamination to the Lower Slough and that additional source control measures are not required.

10.0 Limitations

The scope of this report is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

The focus of the work does not extend to the presence of the following conditions:

1. Naturally occurring toxic or hazardous substances in the subsurface soils, geology and water,
2. Toxicity of substances common in current habitable environments, such as stored chemicals, products, building materials and consumables,
3. Contaminants or contaminant concentrations that are not a concern now but may be under future regulatory standards,
4. Unpredictable events that may occur after Creekside/ENW's site work, such as illegal dumping or accidental spillage.

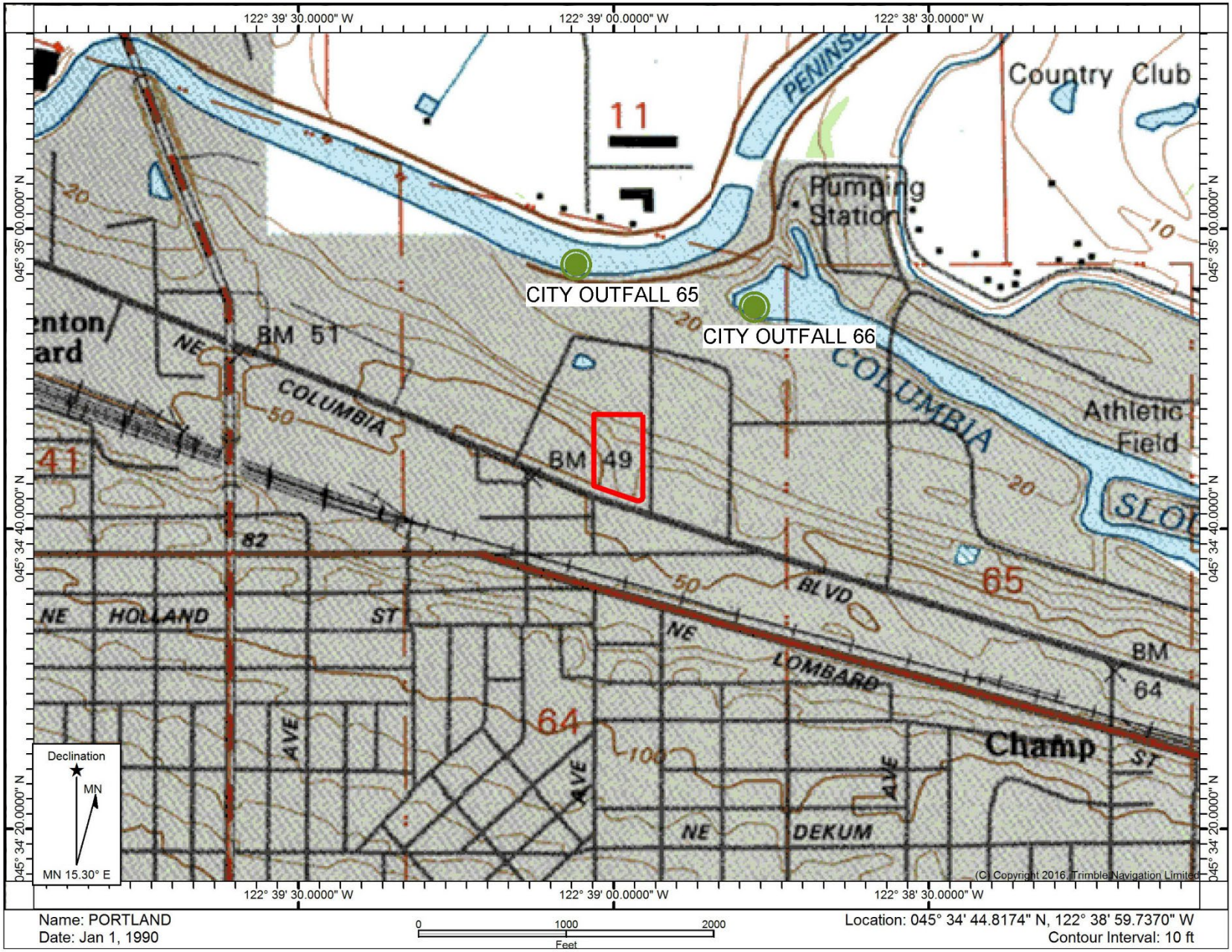
There is no practice that is thorough enough to absolutely identify the presence of all hazardous substances that may be present at a given site. Creekside/ENW's investigation has been focused only on the potential for contamination that was specifically identified in the Scope of Work. Therefore, if contamination other than that specifically mentioned is present and not identified as part of a limited Scope of Work, Creekside/ENW's environmental investigation shall not be construed as a guaranteed absence of such materials. Creekside/ENW has endeavored to collect representative analytical samples

for the locations and depths indicated in this report. However, no sampling program can thoroughly identify all variations in contaminant distribution.

We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client.

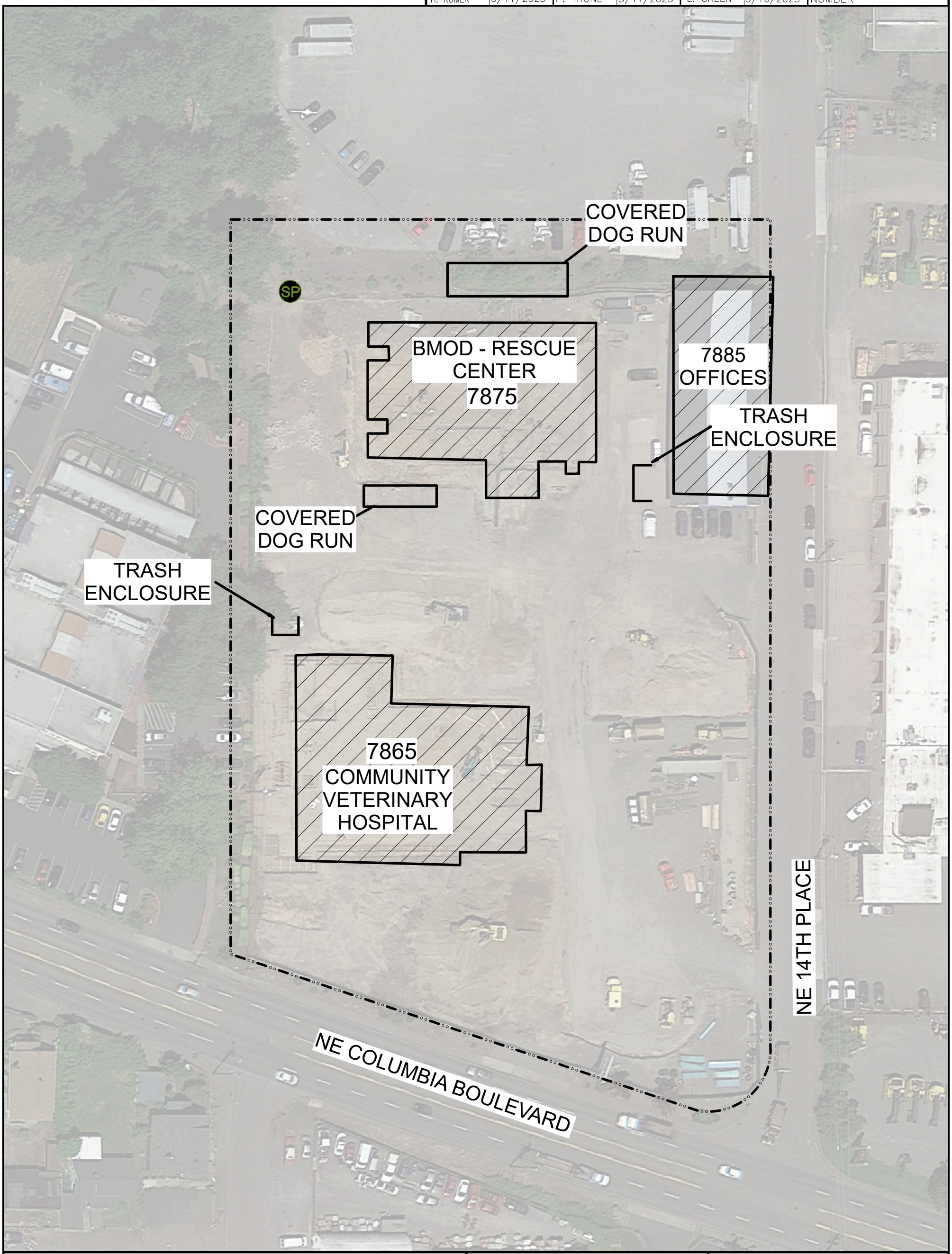
Creekside/ENW performed this study under a limited scope of services per our agreement. Creekside/ENW assumes no responsibility for conditions that we did not specifically evaluate or conditions that were not generally recognized as environmentally unacceptable at the time this report was prepared.

Figures



	Date Drawn: 5/11/2023 CAD File Name: 351-18019-fig1sv_map(v01) Drawn By: CLR Approved By: LDG	Oregon Humane Society Facility 7865-7885 NE 14th Place Portland, Oregon	**Site Vicinity Map**	Project No. 351-18019 Figure No. **1**

DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
H. ROMER	5/11/2023	P. TRONE	5/11/2023	L. GREEN	5/16/2023	351-18019(v01)



LEGEND:

- SUBJECT PROPERTY BOUNDARIES
- EXISTING BUILDINGS
- SP — STORM WATER SAMPLING PORT/MANHOLE

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2021 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION

APPROXIMATE SCALE

0 60 120 FEET

N

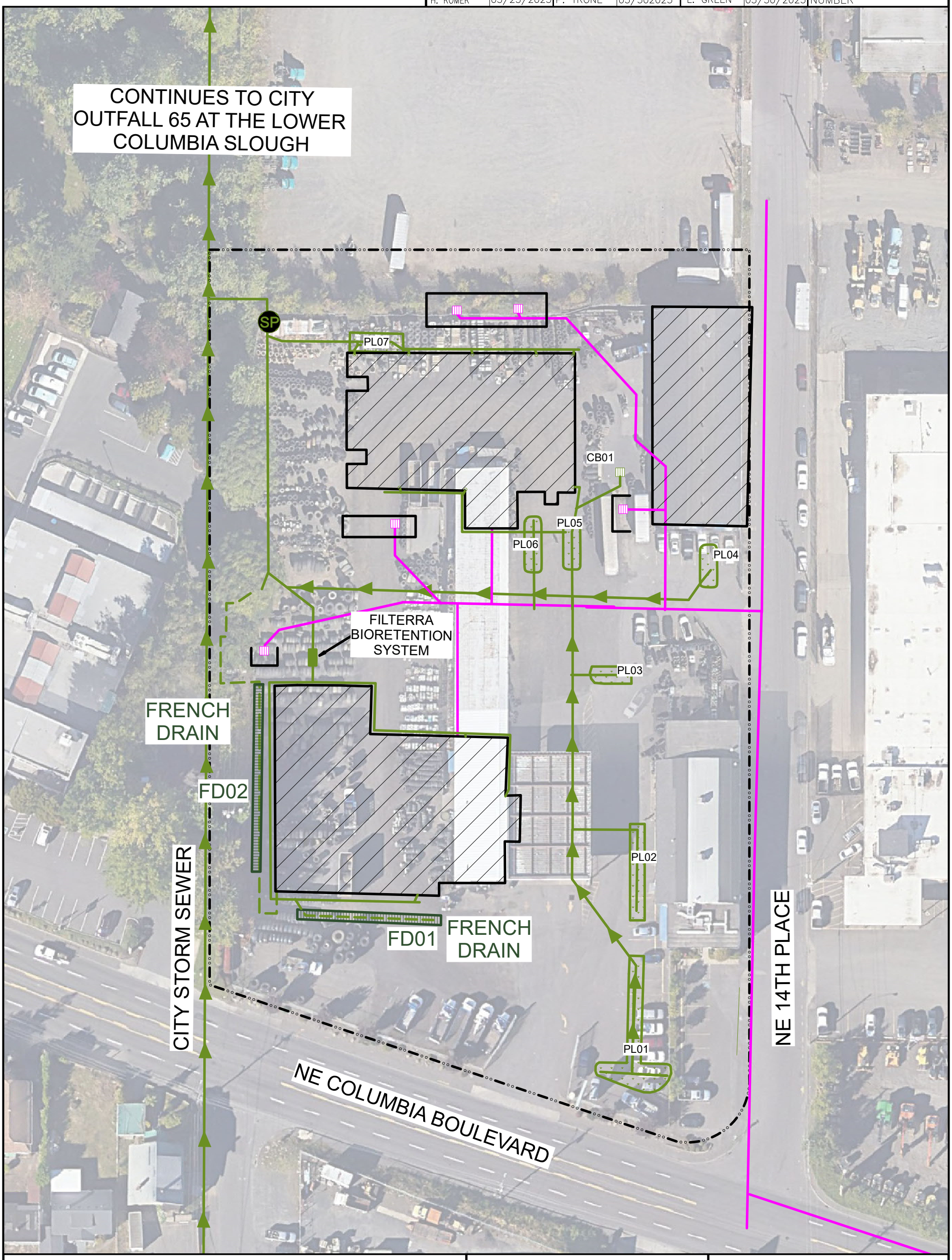
CREEKSIDE ENVIRONMENTAL CONSULTING, LLC
40 SE 24TH AVENUE, SUITE A
PORTLAND, OREGON 97214
(503) 692-8118

FIGURE 2

SITE PLAN

OREGON HUMANE SOCIETY FACILITY
7865-7885 NE 14TH PLACE
PORTLAND, OREGON

DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
H. ROMER	05/25/2023	P. TRONE	05/302023	L. GREEN	05/30/2023	351-18019(v01)



LEGEND:

- SUBJECT PROPERTY BOUNDARIES
- EXISTING BUILDINGS TO REMAIN
- FLOW-THROUGH PLANTERS
- SP — STORM WATER SAMPLING PORT/MANHOLE
- STORM SEWER
- PERFORATED PIPE
- SANITARY SEWER
- CATCH BASIN
- SANITARY SEWER AREA DRAIN

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2017 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION

APPROXIMATE SCALE

0 120 240 FEET

N

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC
40 SE 24TH AVENUE, SUITE A
PORTLAND, OREGON 97214
(503) 692-8118

FIGURE 3

STORM SYSTEM

OREGON HUMANE SOCIETY FACILITY
7865-7885 NE 14TH PLACE
PORTLAND, OREGON

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
H. ROMER 5/11/2023	T. BENNETT 5/11/2023	L. GREEN 5/11/2023	351-18019(V01)

LEGEND:

- SUBJECT PROPERTY BOUNDARY
- STORM SYSTEM
- OUTFALL

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2022.

3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

3. STORM WATER DATA FROM PORTLAND MAPS, 2023.

0 165 330 660 Feet

N

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC

FIGURE 4

STORM WATER OUTFALL (DISTAL)

OREGON HUMANE SOCIETY FACILITY
7865-7885 NE 14TH PLACE
PORTLAND, OREGON

Tables

Table 1 - Summary of Analytical Data, Storm Water

Sample ID		ML001-SW-221129	ML001-SW-221220	ML001-SW230207	ML001-SW230323
Date Sampled		11/29/22	12/20/22	2/7/23	3/23/23
Depth Sampled (feet)		N/A	N/A	N/A	N/A
Sampled By		ENW	ENW	ENW	ENW
Location		monitoring location 001, NW corner of property	monitoring location 001, NW corner of property	monitoring location 001, NW corner of property	monitoring location 001, NW corner of property
Constituent of Interest	Note	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
Metals					
Arsenic	c, nv	6.40	7.24	2.88	4.15
Arsenic (dissolved)	c, nv	---	---	2.58	---
Cadmium	nc, nv	0.132 J	<0.05 (ND)	0.066 j	0.102 j
Chromium (total)		1.29	0.866	0.796	1.16
Copper	nc, nv	8.88	6.47	5.24	9.2
Lead	NA, nv	2.04	0.518	0.399	0.783
Mercury	nc, nv	<0.2 (ND)	<0.05 (ND)	<0.057 (ND) j	<0.05 (ND)
Nickel	c, nv	---	<2.32 (ND)	---	---
Zinc		21.1	14.7	15.2	17.5
Semivolatile Organic Constituents					
Polychlorinated biphenyls (Total PCBs)	c, v	<0.0019 (ND) J	<0.0019 (ND) j	<0.01 (ND)	<0.011 (ND) j
Aroclor 1016	c, v	<0.0019 (ND) J	<0.0019 (ND) j	<0.01 (ND)	<0.011 (ND) j
Aroclor 1221	c, v	<0.0019 (ND) J	<0.0019 (ND) j	<0.01 (ND)	<0.011 (ND) j
Aroclor 1232	c, v	<0.0019 (ND) J	<0.0019 (ND) j	<0.01 (ND)	<0.011 (ND) j
Aroclor 1242	c, v	<0.0019 (ND) J	<0.0019 (ND) j	<0.01 (ND)	<0.011 (ND) j
Aroclor 1248	c, v	<0.0019 (ND) J	<0.0019 (ND) j	<0.01 (ND)	<0.0089 (ND) j
Aroclor 1254	c, v	<0.0019 (ND) J	<0.0019 (ND) j	<0.01 (ND)	<0.0089 (ND) j
Aroclor 1260	c, v	<0.0019 (ND) J	<0.0019 (ND) j	<0.01 (ND)	<0.0089 (ND) j
Aroclor 1262	c, v	<0.0019 (ND) J	<0.0019 (ND) j	<0.01 (ND)	<0.0089 (ND) j
Aroclor 1268	c, v	<0.0019 (ND) J	<0.0019 (ND) j	<0.01 (ND)	<0.0089 (ND) j
Polycyclic Aromatic Hydrocarbons					
1-Methylnaphthalene		<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)
2-Methylnaphthalene		<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)
Acenaphthene	nc, v	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Acenaphthylene		<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Anthracene	nc, v	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Benzo[a]anthracene	#N/A	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Benzo[a]pyrene (BaP equivalents)	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Benzo[b]fluoranthene	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Benzo(g,h,i)perylene		<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Benzo[k]fluoranthene	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Chrysene	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Dibenz[a,h]anthracene	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Fluoranthene	nc, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Fluorene	nc, v	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Indeno[1,2,3-cd]pyrene	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Naphthalene		<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)
Phenanthrene		<0.01 (ND)	0.010	<0.01 (ND)	<0.01 (ND)
Pyrene	nc, v	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)
Total Petroleum Hydrocarbons					
Generic Gasoline (GRO)	nc, v	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)
Generic Diesel / Heating Oil (DRO)	nc, v	190 x	<20 (ND)	200 x	<50 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<250 (ND)	<250 (ND)	<250 (ND)	<250 (ND)
Conventionals					
Total Suspended Solids		---	---	13000	---

Notes:

ug/L = micrograms per Liter or parts per billion (ppb).

<# (ND) = not detected at or above the laboratory method reporting limit shown.

NE = not established.

* = the method reporting limit was reported in absence of method detection limit

[1] Lowest Risk-Based Concentration for ground water (screening level assumes residential use, from ODEQ RBCs dated May 2018).

— = not analyzed or not applicable

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

BKG = detected at default backgound concentration in soil

Bolded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.

[1] Lowest Risk-Based Concentration for ground water (screening level).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

J = inidicates the internal standard associated with the analyte is out of control limits; the reported concentration is an estimate.

x = the pattern of peaks is not indicative of the fuel standard used for quantitation.

Table 1 - Summary of Analytical Data, Storm Water

Sample ID / Date Sampled / Depth Sampled (feet) / Sampled By / Location	Note	Maximum Storm Water Concentration	ODEQs Screening-level Risk-Based Concentrations (SLRBCs) [1]	SLV for Non-Portland Harbor Sites	ODEQ SG Appendix E Curve "Knee" Range	Background Concentrations (metals, Surface Water)	Exceeds Background Concentrations (metals)? TRUE OR Y FALSE OR N	COPC (exceeds SLV for Non-Portland Harbor)? TRUE OR Y FALSE OR N	COC (exceeds ODEQ SG Appendix E Curve "Knee" Range)? TRUE OR Y FALSE OR N
Constituent of Interest		µg/L (ppb)							
Metals									
Arsenic	c, nv	7.24	0.052	0.14	2-4	2	Y	Y	Y
Arsenic (dissolved)	c, nv	2.58	0.052	0.14	2-4	2	Y	Y	N
Cadmium	nc, nv	0.132 J	20	0.094	0.5-1.5	<1	N	Y	N
Chromium (total)		1.29	--	---	7-15	1	--	N	N
Copper	nc, nv	9.2	800	2.7	40-150	9	bkg	Y	N
Lead	NA, nv	2.04	15	0.54	30-100	13.3	N	Y	N
Mercury	nc, nv	<0.2 (ND)	6	0.77	0.17-.5	0.1	(Y)	N	N
Nickel	c, nv	<2.32 (ND)	400	48	7-14	5.5	N	N	N
Zinc		21.1	0	36	350-1000	38	N	N	N
Semivolatile Organic Constituents									
Polychlorinated biphenyls (Total PCBs)	c, v	<0.011 (ND) J	0.006	0.0000064	0.2-0.6	NE	--	(Y)	N
Aroclor 1016	c, v	<0.011 (ND) J	--	--	--	NE	--	---	---
Aroclor 1221	c, v	<0.011 (ND) J	--	0.28	--	NE	--	N	N
Aroclor 1232	c, v	<0.011 (ND) J	--	0.58	--	NE	--	N	N
Aroclor 1242	c, v	<0.011 (ND) J	--	0.053	--	NE	--	N	N
Aroclor 1248	c, v	<0.01 (ND) J	--	0.081	--	NE	--	N	N
Aroclor 1254	c, v	<0.01 (ND) J	--	0.033	--	NE	--	N	N
Aroclor 1260	c, v	<0.01 (ND) J	--	94	--	NE	--	N	N
Aroclor 1262	c, v	<0.01 (ND) J	--	--	--	NE	--	---	N
Aroclor 1268	c, v	<0.01 (ND) J	--	--	--	NE	--	---	N
Polycyclic Aromatic Hydrocarbons									
1-Methylnaphthalene		<0.1 (ND)	--	NE	--	NE	--	---	N
2-Methylnaphthalene		<0.1 (ND)	--	2.1	--	NE	--	N	N
Acenaphthene	nc, v	<0.01 (ND)	510	520	--	NE	--	N	N
Acenaphthylene		<0.01 (ND)	--	NE	--	NE	--	---	N
Anthracene	nc, v	<0.01 (ND)	>S	40000	--	NE	--	N	N
Benzo[a]anthracene	#N/A	<0.01 (ND)	0.03	0.018	--	NE	--	N	N
Benzo[a]pyrene (BaP equivalents)	c, nv	<0.01 (ND)	0.025	0.018	--	NE	--	N	N
Benzo[b]fluoranthene	c, nv	<0.01 (ND)	0.25	0.018	--	NE	--	N	N
Benzo(g,h,i)perylene		<0.02 (ND)	--	NE	--	NE	--	---	N
Benzo[k]fluoranthene	c, nv	<0.01 (ND)	2.5	0.018	--	NE	--	N	N
Chrysene	c, nv	<0.01 (ND)	>S	0.018	--	NE	--	N	N
Dibenz[a,h]anthracene	c, nv	<0.01 (ND)	0.025	0.018	--	NE	--	N	N
Fluoranthene	nc, nv	<0.01 (ND)	>S	140	--	NE	--	N	N
Fluorene	nc, v	<0.01 (ND)	280	3.9	--	NE	--	N	N
Indeno[1,2,3-cd]pyrene	c, nv	<0.01 (ND)	>S	0.018	--	NE	--	N	N
Naphthalene		<0.1 (ND)	--	620	--	NE	--	N	N
Phenanthrene		0.010	--	NE	--	NE	--	---	N
Pyrene	nc, v	<0.01 (ND)	>S	4000	--	NE	--	N	N
Total Petroleum Hydrocarbons									
Generic Gasoline (GRO)	nc, v	<100 (ND)	110	--	--	NE	N	---	N
Generic Diesel / Heating Oil (DRO)	nc, v	200 x	100	--	--	NE	N	---	N
Generic Mineral Insulating Oil (RRO)	nc, nv	<250 (ND)	NA	--	--	NE	N	---	---
Conventionals									
Total Suspended Solids		13000	--	--	50,000-100,000	NE	--	--	N

Notes:

ug/L = micrograms per Liter or parts per billion (ppb).

<# (ND) = not detected at or above the laboratory method reporting limit shown.

NE = not established.

* = the method reporting limit was reported in absence of method detection limit

[1] Lowest Risk-Based Concentration for ground water (screening level assumes residential use, from ODEQ RBCs dated May 2018).

— = not analyzed or not applicable

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

BKG = detected at default backgound concentration in soil

Bolded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.

[1] Lowest Risk-Based Concentration for ground water (screening level).

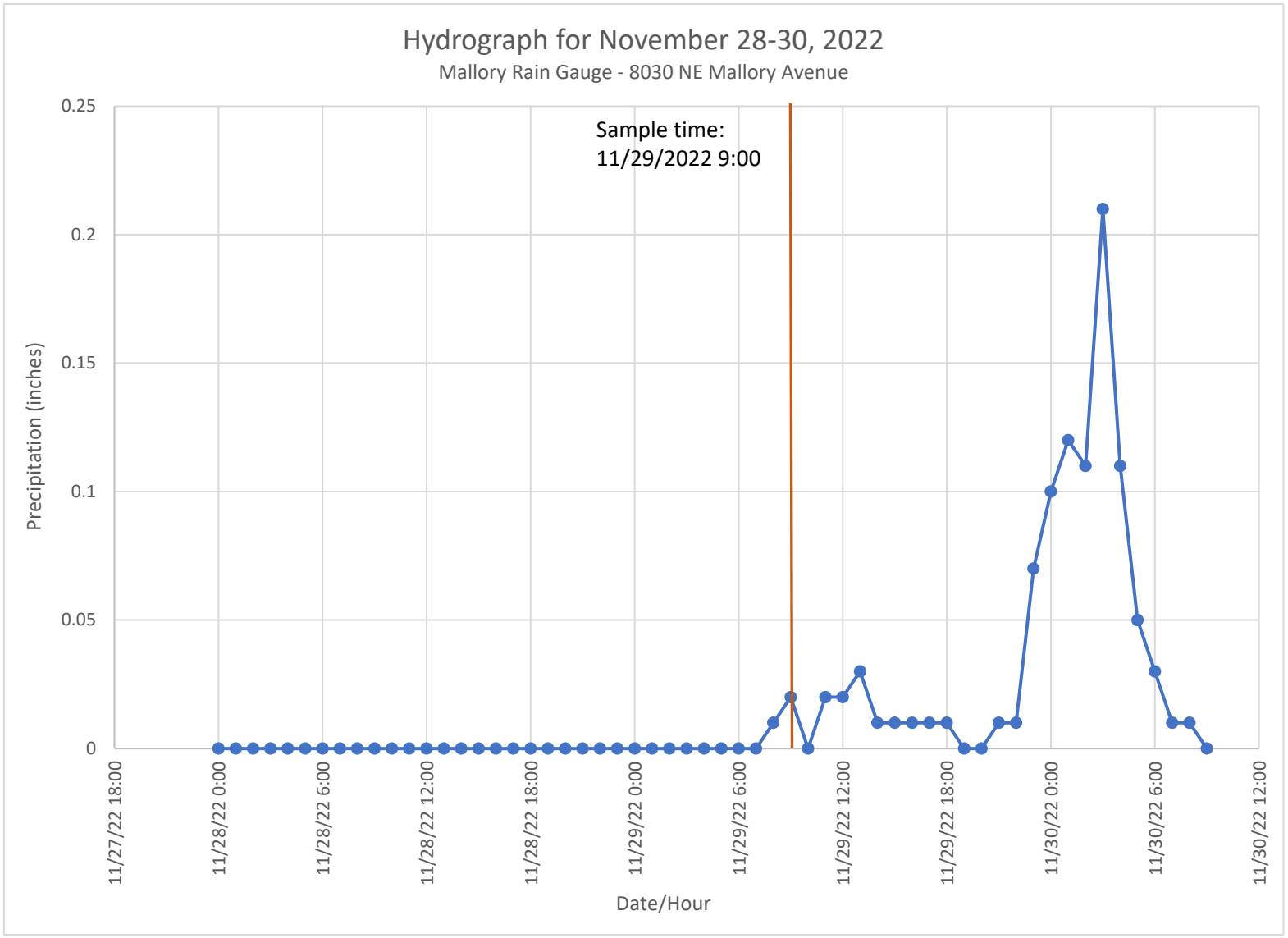
(Y) indicates analyte not detected, but detection limit is above screening concentration.

J = inidicates the internal standard associated with the analyte is out of control limits; the reported concentration is an estimate.

x = the pattern of peaks is not indicative of the fuel standard used for quantitation.

Appendix A

Precipitation Hydrographs


Hydrograph for November 28-30, 2022
Mallory Rain Gauge - 8030 NE Mallory Avenue
Sample time:
11/29/2022 9:00
Precipitation (inches)
0.25
0.2
0.15
0.1
0.05
0
11/27/22 18:00
11/28/22 0:00
11/28/22 6:00
11/28/22 12:00
11/28/22 18:00
11/29/22 0:00
11/29/22 6:00
11/29/22 12:00
11/29/22 18:00
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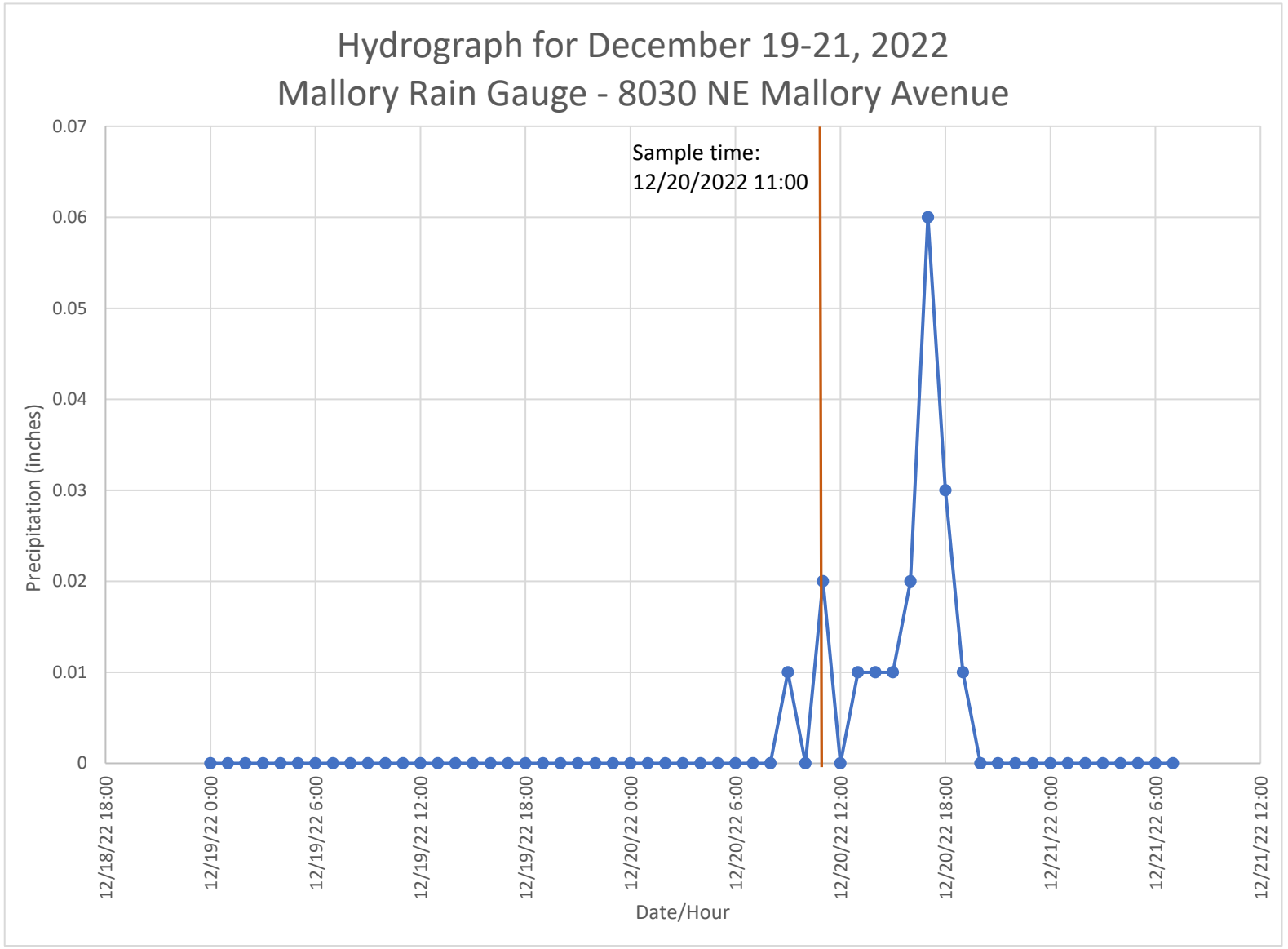
11/30/22 6:00
11/30/22 12:00
Date/Hour


Hydrograph for December 19-21, 2022
Mallory Rain Gauge - 8030 NE Mallory Avenue
Sample time:
12/20/2022 11:00
Precipitation (inches)
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
12/18/22 18:00
12/19/22 0:00
12/19/22 6:00
12/19/22 12:00
12/19/22 18:00
12/20/22 0:00
12/20/22 6:00
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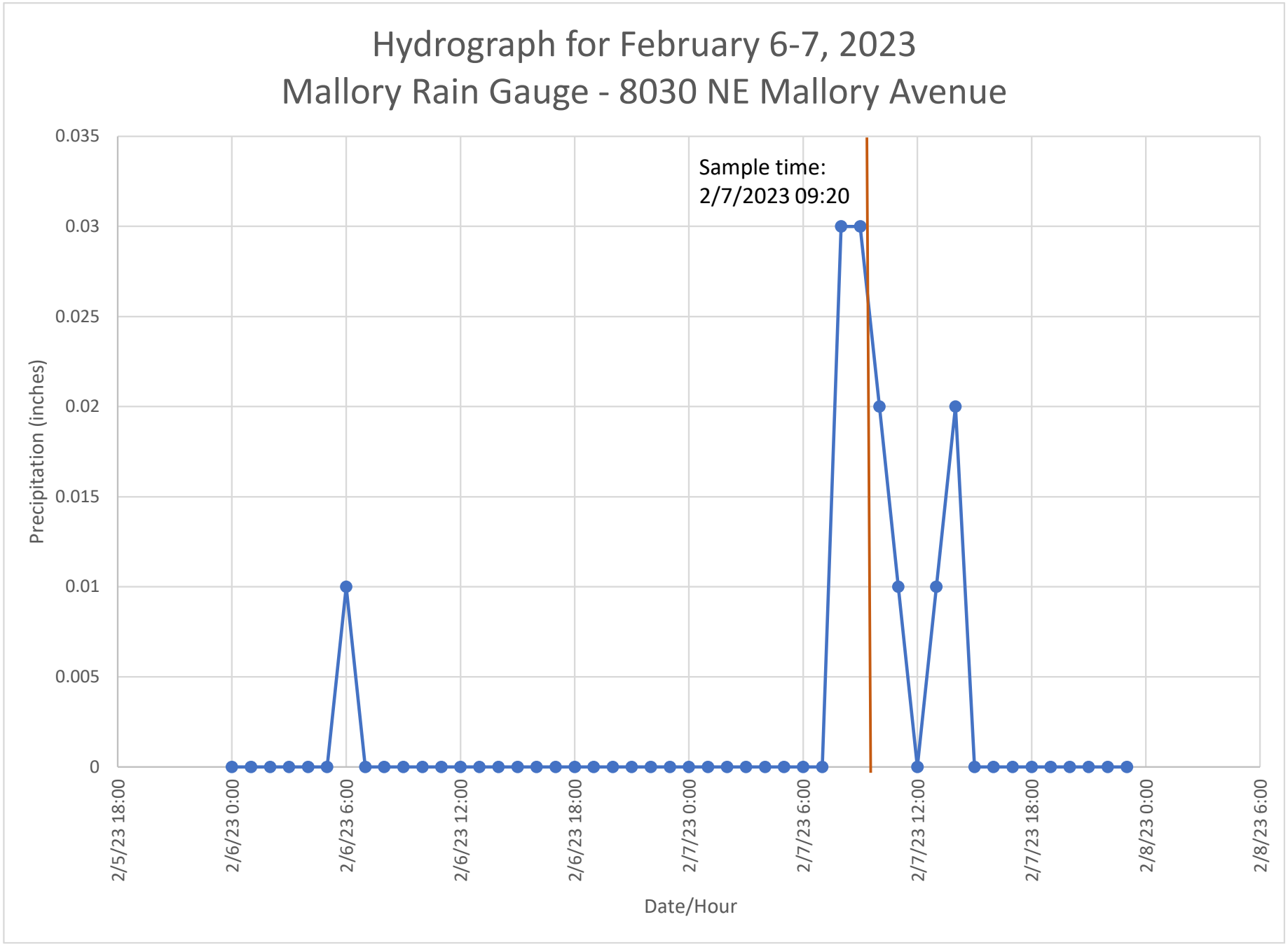
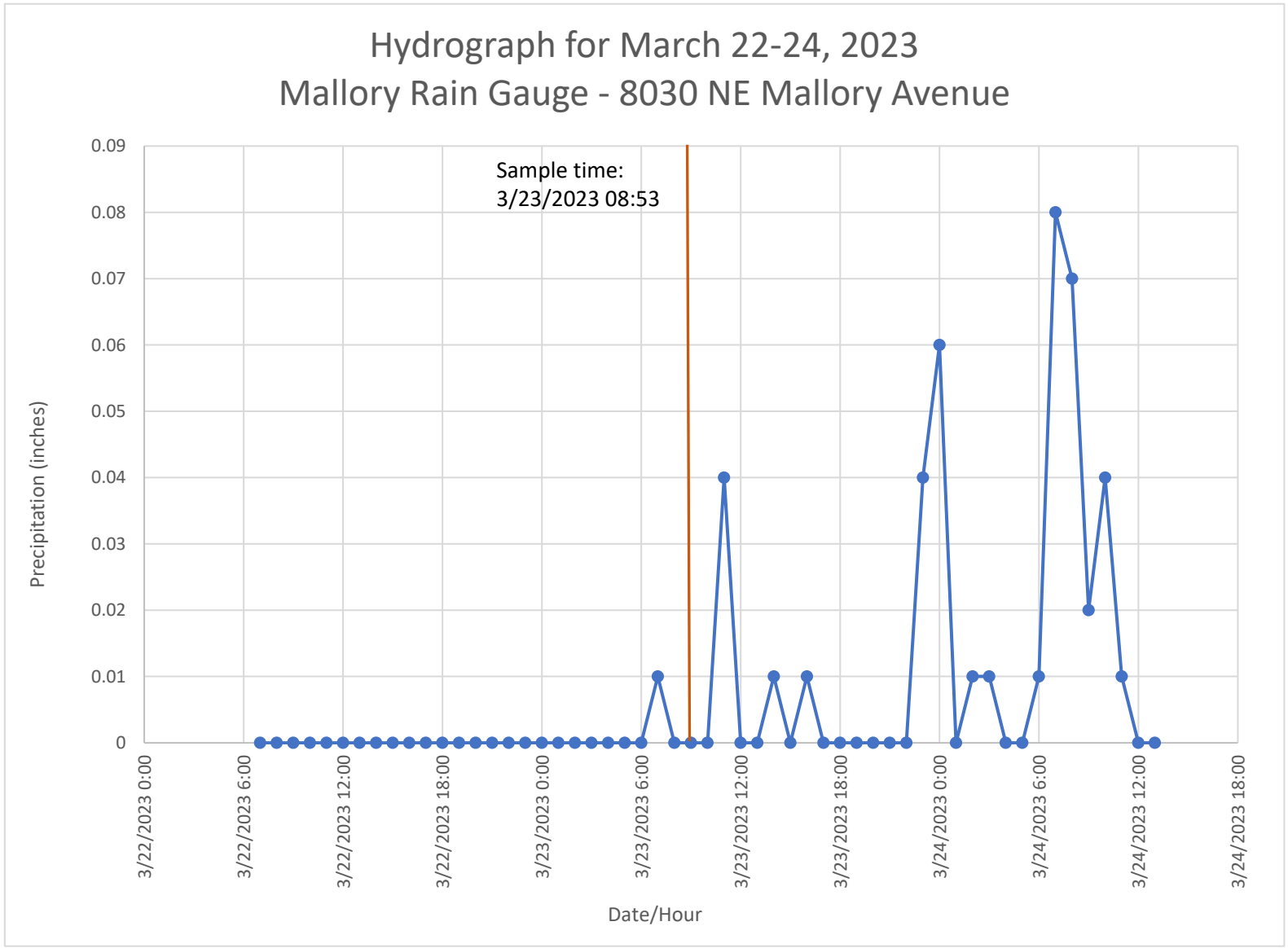
12/20/22 18:00
12/21/22 0:00
12/21/22 6:00
12/21/22 12:00
Date/Hour


Hydrograph for February 6-7, 2023
Mallory Rain Gauge - 8030 NE Mallory Avenue
Sample time:
2/7/2023 09:20
Precipitation (inches)
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
2/5/23 18:00
2/6/23 0:00
2/6/23 6:00
2/6/23 12:00
2/6/23 18:00
2/7/23 0:00
2/7/23 6:00
2/7/23 12:00
2/7/23 18:00
2/8/23 0:00
2/8/23 6:00
Date/Hour


Hydrograph for March 22-24, 2023
Mallory Rain Gauge - 8030 NE Mallory Avenue
Sample time:
3/23/2023 08:53
Precipitation (inches)
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
3/22/2023 0:00
3/22/2023 6:00
3/22/2023 12:00
3/22/2023 18:00
3/23/2023 0:00
3/23/2023 6:00
3/23/2023 12:00
3/23/2023 18:00
3/24/2023 0:00
3/24/2023 6:00
3/24/2023 12:00
3/24/2023 18:00
Date/Hour

Appendix B

Laboratory Analytical Results

Summary: DATA VALID? ☒YES

Analytical Laboratory Data Validation Check Sheet

Project Name: Superior Tire-1409 NE Columbia Blvd-Portland Project Number: 351-18019-09

Date of Review: 5/18/2023 Lab. Name: F&BI Lab Batch ID #: 211412

Chain of Custody

1.) Are all requested analyses reported?	☒yes	☐no	
2.) Were the requested methods used?	☒yes	☐no	
3.) Trip blank submitted?	☐yes	☒no	
4.) Field blank submitted?	☐yes	☒no	

Timing

5.) Samples extracted within holding times?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
6.) Analysis performed within holding times?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA

Quality Assurance/Quality Control

7.) Are the required reporting limits reported? (MRLs vs MDLs/PQLs)	☒yes	☐no	
8.) Are all reported values above either MRL or MDL?	☒yes	☐no	
9.) Are all values between the MDL & PQL tagged as trace?	☐yes	☐no	☒NA
10a.) Are reporting limits raised for other reason besides high analyte conc.?	☐yes	☒no	
10b.) If so, are they footnoted?	☐yes	☐no	☒NA
11.) Lab method blank completed?	☒yes	☐no	
12.) Lab, Field, or Trip Blank(s) report detections?	☐yes	☒no	

If yes, indicate blank type, chemical(s) and concentration(s): _____

13.) For inorganics and metals, is there one method blank for each analyte?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	
14.) For VOCs, is there one method blank for each day of analysis?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	
15.) For SVOC's, is there one method blank for each extraction batch?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	

Accuracy

16.) Is there a surrogate spike recovery for all VOC & SVOC samples?	☒yes	☐no	☐NA
Do all surrogate spike recoveries meet accepted criteria?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
17.) Is there a spike recovery for all Laboratory Control Samples?	☒yes	☐no	☐NA
Do all LCS/LCSD spike recoveries meet accepted criteria?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
18.) Are all LCS/LCSD RPDs within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA

Precision

19.) Are all matrix spike/matrix spike duplicate recoveries within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
20.) Are all matrix spike/matrix spike duplicate RPDs within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
21.) Do all RPD calculations for Field Duplicates meet accepted criteria?	☐yes	☐no	☒NA

Comments:
The concentration of cadmium using method 200.8 and all the analytes using method 8082A were reported below the lowest calibration standard. The reported concentrations are estimates and are acceptable. (j)

The chromatographic pattern, of sample M1001-SW-221129, does not resemble the diesel fuel standard used for quantitation using NWTPH-Dx. (x)

Initial Review By: LMP _____ **Final** Review By: _____

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

December 9, 2022

Lynn Green, Project Manager
Evren Northwest, Inc.
PO Box 14488
Portland, OR 97293

Dear Mr Green:

Included are the results from the testing of material submitted on November 30, 2022 from the 351-18019-09, F&BI 211412 project. There are 15 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Neil Woller, Paul Trone, Evan Bruggeman
ENW1209R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 30, 2022 by Friedman & Bruya, Inc. from the Evren Northwest 351-18019-09, F&BI 211412 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Evren Northwest
211412 -01	M1001-SW-221129

All quality control requirements were acceptable.

Date of Report: 12/09/22
Date Received: 11/30/22
Project: 351-18019-09, F&BI 211412
Date Extracted: 12/06/22
Date Analyzed: 12/06/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
M1001-SW-221129 211412-01	<100	106
Method Blank 02-2740 MB	<100	108

Date of Report: 12/09/22
Date Received: 11/30/22
Project: 351-18019-09, F&BI 211412
Date Extracted: 12/01/22
Date Analyzed: 12/01/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
M1001-SW-221129 211412-01 1/0.4	190 x	<250	85
Method Blank 02-2891 MB	<50	<250	110

Analysis For Total Metals By EPA Method 200.8

Client ID:	M1001-SW-221129	Client:	Evren Northwest
Date Received:	11/30/22	Project:	351-18019-09, F&BI 211412
Date Extracted:	12/05/22	Lab ID:	211412-01
Date Analyzed:	12/06/22	Data File:	211412-01.449
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	6.40
Cadmium	0.132 j
Chromium	1.29
Copper	8.88
Lead	2.04
Mercury	<0.2
Zinc	21.1

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Evren Northwest
Date Received:	NA	Project:	351-18019-09, F&BI 211412
Date Extracted:	12/05/22	Lab ID:	I2-865 mb
Date Analyzed:	12/05/22	Data File:	I2-865 mb.232
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<0.09 j
Chromium	<1
Copper	<5
Lead	<1
Mercury	<0.2
Zinc	<5

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	M1001-SW-221129	Client:	Evren Northwest
Date Received:	11/30/22	Project:	351-18019-09, F&BI 211412
Date Extracted:	12/01/22	Lab ID:	211412-01 1/0.5
Date Analyzed:	12/02/22	Data File:	120211.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	28	15	144
2-Fluorobiphenyl	35	25	128
2,4,6-Tribromophenol	53	10	142
Terphenyl-d14	58	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
2-Methylnaphthalene	<0.1
1-Methylnaphthalene	<0.1
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	351-18019-09, F&BI 211412
Date Extracted:	12/01/22	Lab ID:	02-2892 mb 1/0.5
Date Analyzed:	12/02/22	Data File:	120208.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	93	15	144
2-Fluorobiphenyl	92	25	128
2,4,6-Tribromophenol	65	10	142
Terphenyl-d14	113	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
2-Methylnaphthalene	<0.1
1-Methylnaphthalene	<0.1
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	M1001-SW-221129	Client:	Evren Northwest
Date Received:	11/30/22	Project:	351-18019-09, F&BI 211412
Date Extracted:	12/01/22	Lab ID:	211412-01 1/0.5
Date Analyzed:	12/02/22	Data File:	120205.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	44	29	154

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0019 j
Aroclor 1232	<0.0019 j
Aroclor 1016	<0.0019 j
Aroclor 1242	<0.0019 j
Aroclor 1248	<0.0019 j
Aroclor 1254	<0.0019 j
Aroclor 1260	<0.0019 j
Aroclor 1262	<0.0019 j
Aroclor 1268	<0.0019 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	351-18019-09, F&BI 211412
Date Extracted:	12/01/22	Lab ID:	02-2888 mb2 1/0.5
Date Analyzed:	12/02/22	Data File:	120204.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	53	29	154

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0019 j
Aroclor 1232	<0.0019 j
Aroclor 1016	<0.0019 j
Aroclor 1242	<0.0019 j
Aroclor 1248	<0.0019 j
Aroclor 1254	<0.0019 j
Aroclor 1260	<0.0019 j
Aroclor 1262	<0.0019 j
Aroclor 1268	<0.0019 j

Date of Report: 12/09/22
Date Received: 11/30/22
Project: 351-18019-09, F&BI 211412

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 212013-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	190	190	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	110	70-130

Date of Report: 12/09/22
Date Received: 11/30/22
Project: 351-18019-09, F&BI 211412

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	1,000	82	84	70-130	2

Date of Report: 12/09/22
Date Received: 11/30/22
Project: 351-18019-09, F&BI 211412

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 211400-15 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	97	96	70-130	1
Cadmium	ug/L (ppb)	5	<1	95	94	70-130	1
Chromium	ug/L (ppb)	20	3.04	100	96	70-130	4
Copper	ug/L (ppb)	20	<5	91	92	70-130	1
Lead	ug/L (ppb)	10	<1	97	98	70-130	1
Mercury	ug/L (ppb)	5	<1	95	97	70-130	2
Zinc	ug/L (ppb)	50	5.47	95	95	70-130	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	93	85-115
Cadmium	ug/L (ppb)	5	99	85-115
Chromium	ug/L (ppb)	20	99	85-115
Copper	ug/L (ppb)	20	112	85-115
Lead	ug/L (ppb)	10	95	85-115
Mercury	ug/L (ppb)	5	96	85-115
Zinc	ug/L (ppb)	50	103	85-115

Date of Report: 12/09/22
Date Received: 11/30/22
Project: 351-18019-09, F&BI 211412

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	2.5	74	82	50-104	10
2-Methylnaphthalene	ug/L (ppb)	2.5	75	82	54-109	9
1-Methylnaphthalene	ug/L (ppb)	2.5	74	81	55-108	9
Acenaphthylene	ug/L (ppb)	2.5	90	99	60-114	10
Acenaphthene	ug/L (ppb)	2.5	86	95	57-110	10
Fluorene	ug/L (ppb)	2.5	90	99	61-115	10
Phenanthrene	ug/L (ppb)	2.5	89	100	63-113	12
Anthracene	ug/L (ppb)	2.5	90	100	65-117	11
Fluoranthene	ug/L (ppb)	2.5	98	110	68-121	12
Pyrene	ug/L (ppb)	2.5	108	114	66-125	5
Benz(a)anthracene	ug/L (ppb)	2.5	107	116	70-130	8
Chrysene	ug/L (ppb)	2.5	101	109	67-119	8
Benzo(a)pyrene	ug/L (ppb)	2.5	101	109	68-126	8
Benzo(b)fluoranthene	ug/L (ppb)	2.5	106	117	62-130	10
Benzo(k)fluoranthene	ug/L (ppb)	2.5	105	108	67-125	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	105	113	63-131	7
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	108	117	62-133	8
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	101	110	57-133	9

Date of Report: 12/09/22
Date Received: 11/30/22
Project: 351-18019-09, F&BI 211412

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	74	76	25-111	3
Aroclor 1260	ug/L (ppb)	0.25	85	88	23-123	3

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

211412

SAMPLE CHAIN OF CUSTODY

11/30/22 B4/M1/VW1

Page # 01 of 01

Report To Lynn Green

Company EVREN-NW

Address 40 SE 24th Ave

City, State, ZIP Portland, Oregon 97214

Phone 503-452-5561 Email lynng@evren-nw.com

SAMPLERS (*signature*)

PROJECT NAME: 351-19019-09

PO #

REMARKS: * SEE ATTACHED FORM FOR SELECT CONSTITUENTS & MDLS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME: (Standard Turnaround) RUSH

Rush charges authorized by:

SAMPLE DISPOSAL: Dispose after 30 days; Archive Samples; Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As, Cu, Ch, Cu, Pb, Hg, Zn	SELECT SVOCs *				Notes
M1001-SW-221129	01A-I	11-29-22	09:00	water	9	X	X				X	X	X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Britney Brewer	ENW	11-29-22	17:00
Received by:	ANH PHAN	F&B	11/30/22	11:06
Relinquished by:				
Received by:		Samples received at 1 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

January 11, 2023

Lynn Green, Project Manager
Evren Northwest, Inc.
PO Box 14488
Portland, OR 97293

Dear Mr Green:

Included are the additional results from the testing of material submitted on December 21, 2022 from the 651-18019-09, F&BI 212332 project. There are 4 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Neil Woller, Paul Trone, Evan Bruggeman
ENW0111R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 21, 2022 by Friedman & Bruya, Inc. from the Evren Northwest 651-18019-09, F&BI 212332 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Evren Northwest
212332 -01	M1001-SW-221220

All quality control requirements were acceptable.

Date of Report: 01/11/23
Date Received: 12/21/22
Project: 651-18019-09, F&BI 212332
Date Extracted: 01/09/23
Date Analyzed: 01/09/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
M1001-SW-221220 212332-01	<20	<100	80
Method Blank 02-3054 MB	<20	<100	100

Date of Report: 01/11/23
Date Received: 12/21/22
Project: 651-18019-09, F&BI 212332

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	93	70-130	6

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

212332

SAMPLE CHAIN OF CUSTODY

12/21/22 M1|VW3|I4

Page # 01 of 01

Report To Lynn Green

Company EVREN-NW

Address 40 SE 24th Ave

City, State, ZIP Portland, Oregon 97214

Phone 503-452-5561 Email lynng@evren-nw.com

SAMPLERS (*signature*)

PROJECT NAME: 351-18019-09

PO #

REMARKS: See Attached for Succ's and MDLs

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As, Cd, Cu, Pb, Hg, Zn	Select SVOCs	Dx VSG			Notes
M1001-SU-121722C	01A-J	12/20/22	11:06	water	10	X	X				X	X	X	(X)			(X) 20 LG 1/5/23 MG

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Bailey Fawver	ENW	12/20/22	17:00
Received by:	Nkam Pham	FEBT	12/21/22	1020
Relinquished by:				
Received by:		Samples received at 3 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

January 13, 2023

Lynn Green, Project Manager
Evren Northwest, Inc.
PO Box 14488
Portland, OR 97293

Dear Mr Green:

Included is the amended report from the testing of material submitted on December 21, 2022 from the 351-18019-09, F&BI 212332 project. There are 4 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Neil Woller, Paul Trone, Evan Bruggeman
ENW0111R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
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fbi@isomedia.com
www.friedmanandbruya.com

January 11, 2023

Lynn Green, Project Manager
Evren Northwest, Inc.
PO Box 14488
Portland, OR 97293

Dear Mr Green:

Included are the additional results from the testing of material submitted on December 21, 2022 from the 351-18019-09, F&BI 212332 project. There are 4 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Neil Woller, Paul Trone, Evan Bruggeman
ENW0111R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 21, 2022 by Friedman & Bruya, Inc. from the Evren Northwest 351-18019-09, F&BI 212332 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Evren Northwest
212332 -01	M1001-SW-221220

All quality control requirements were acceptable.

Date of Report: 01/11/23
Date Received: 12/21/22
Project: 351-18019-09, F&BI 212332
Date Extracted: 01/09/23
Date Analyzed: 01/09/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
M1001-SW-221220 212332-01	<20	<100	80
Method Blank 02-3054 MB	<20	<100	100

Date of Report: 01/11/23
Date Received: 12/21/22
Project: 351-18019-09, F&BI 212332

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	93	70-130	6

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

212332

SAMPLE CHAIN OF CUSTODY

12/21/22 M1|VW3|I4

Page # 01 of 01

Report To Lynn Green

Company EVREN-NW

Address 40 SE 24th Ave

City, State, ZIP Portland, Oregon 97214

Phone 503-452-5561 Email lynng@evren-nw.com

SAMPLERS (*signature*)

PROJECT NAME: 351-18019-09

PO #

REMARKS: See Attached for Succ's and MDLs

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As, Cd, Cu, Pb, Hg, Zn	Select SVOCs	Dx VSG			Notes
M1001-SU-121722C	01A-J	12/20/22	11:06	water	10	X	X				X	X	X	(X)			(X) 20 LG 1/5/23 MG

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Bailey Fawver	ENW	12/20/22	17:00
Received by:	Nkam Pham	FEBT	12/21/22	1020
Relinquished by:				
Received by:		Samples received at 3 °C		

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Eric Young, B.S.

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fbi@isomedia.com
www.friedmanandbruya.com

February 21, 2023

Lynn Green, Project Manager
Evren Northwest, Inc.
PO Box 14488
Portland, OR 97293

Dear Mr Green:

Included are the results from the testing of material submitted on February 8, 2023 from the 351-18019-09 Humane Society, F&BI 302111 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Neil Woller, Paul Trone, Evan Bruggeman
ENW0221R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 8, 2023 by Friedman & Bruya, Inc. from the Evren Northwest 351-18019-09 Humane Society, F&BI 302111 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Evren Northwest
302111 -01	M1001-SW-230207

Mercury in the 6020B matrix spike duplicate and the associated relative percent difference did not meet the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were due to matrix effect.

All other quality control requirements were acceptable.

Date of Report: 02/21/23
Date Received: 02/08/23
Project: 351-18019-09 Humane Society, F&BI 302111
Date Extracted: 02/09/23
Date Analyzed: 02/09/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
M1001-SW-230207 302111-01	<100	98
Method Blank 03-228 MB	<100	91

Date of Report: 02/21/23
Date Received: 02/08/23
Project: 351-18019-09 Humane Society, F&BI 302111
Date Extracted: 02/09/23
Date Analyzed: 02/09/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND RESIDUAL RANGE USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Residual Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
M1001-SW-230207 302111-01	200 x	<250	90
Method Blank 03-390 MB2	<50	<250	97

Analysis For Total Metals By EPA Method 200.8

Client ID:	M1001-SW-230207	Client:	Evren Northwest
Date Received:	02/08/23	Project:	351-18019-09 Humane Society
Date Extracted:	02/13/23	Lab ID:	302111-01
Date Analyzed:	02/13/23	Data File:	302111-01.182
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.88
Cadmium	0.066 j
Chromium	0.796
Copper	5.24
Lead	0.399
Zinc	15.2

Analysis For Total Metals By EPA Method 200.8

Client ID:	M1001-SW-230207	Client:	Evren Northwest
Date Received:	02/08/23	Project:	351-18019-09 Humane Society
Date Extracted:	02/13/23	Lab ID:	302111-01
Date Analyzed:	02/14/23	Data File:	302111-01.130
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Mercury	<0.057 j

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Evren Northwest
Date Received:	NA	Project:	351-18019-09 Humane Society
Date Extracted:	02/14/23	Lab ID:	I3-98 mb
Date Analyzed:	02/16/23	Data File:	I3-98 mb.099
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<0.2
Cadmium	<0.037 j
Chromium	<0.5
Copper	<0.5
Lead	<0.2
Mercury	<0.057 j
Zinc	<1

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	M1001-SW-230207	Client:	Evren Northwest
Date Received:	02/08/23	Project:	351-18019-09 Humane Society
Date Extracted:	02/09/23	Lab ID:	302111-01 1/0.5
Date Analyzed:	02/10/23	Data File:	021008.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	61	15	144
2-Fluorobiphenyl	66	25	128
2,4,6-Tribromophenol	83	10	142
Terphenyl-d14	97	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
2-Methylnaphthalene	<0.1
1-Methylnaphthalene	<0.1
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	351-18019-09 Humane Society
Date Extracted:	02/09/23	Lab ID:	03-400 mb2 1/0.5
Date Analyzed:	02/10/23	Data File:	021006.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	78	15	144
2-Fluorobiphenyl	75	25	128
2,4,6-Tribromophenol	80	10	142
Terphenyl-d14	88	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
2-Methylnaphthalene	<0.1
1-Methylnaphthalene	<0.1
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	M1001-SW-230207	Client:	Evren Northwest
Date Received:	02/08/23	Project:	351-18019-09 Humane Society
Date Extracted:	02/10/23	Lab ID:	302111-01 1/0.5
Date Analyzed:	02/10/23	Data File:	021011.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	27	24	127
Decachlorobiphenyl	52	11	152

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.01
Aroclor 1232	<0.01
Aroclor 1016	<0.01
Aroclor 1242	<0.01
Aroclor 1248	<0.01
Aroclor 1254	<0.01
Aroclor 1260	<0.01
Aroclor 1262	<0.01
Aroclor 1268	<0.01

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	351-18019-09 Humane Society
Date Extracted:	02/10/23	Lab ID:	03-404 mb 1/0.5
Date Analyzed:	02/10/23	Data File:	021008.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	30	24	127
DCB	62	11	152

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.01
Aroclor 1232	<0.01
Aroclor 1016	<0.01
Aroclor 1242	<0.01
Aroclor 1248	<0.01
Aroclor 1254	<0.01
Aroclor 1260	<0.01
Aroclor 1262	<0.01
Aroclor 1268	<0.01

Date of Report: 02/21/23
Date Received: 02/08/23
Project: 351-18019-09 Humane Society, F&BI 302111

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 302111-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	97	70-130

Date of Report: 02/21/23
Date Received: 02/08/23
Project: 351-18019-09 Humane Society, F&BI 302111

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	100	70-130	4

Date of Report: 02/21/23
Date Received: 02/08/23
Project: 351-18019-09 Humane Society, F&BI 302111

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 302175-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	98	98	70-130	0
Cadmium	ug/L (ppb)	5	<1	103	102	70-130	1
Copper	ug/L (ppb)	20	8.27	95	95	70-130	0
Lead	ug/L (ppb)	10	<1	93	94	70-130	1
Mercury	ug/L (ppb)	5	<1	101	64 vo	70-130	45 vo
Nickel	ug/L (ppb)	20	<1	94	95	70-130	1
Zinc	ug/L (ppb)	50	<5	104	105	70-130	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	97	85-115
Cadmium	ug/L (ppb)	5	103	85-115
Copper	ug/L (ppb)	20	98	85-115
Lead	ug/L (ppb)	10	94	85-115
Mercury	ug/L (ppb)	5	108	85-115
Nickel	ug/L (ppb)	20	95	85-115
Zinc	ug/L (ppb)	50	105	85-115

Date of Report: 02/21/23
Date Received: 02/08/23
Project: 351-18019-09 Humane Society, F&BI 302111

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	5	83	83	62-97	0
2-Methylnaphthalene	ug/L (ppb)	5	87	85	64-101	2
1-Methylnaphthalene	ug/L (ppb)	5	89	87	64-93	2
Acenaphthylene	ug/L (ppb)	5	102	96	70-130	6
Acenaphthene	ug/L (ppb)	5	94	90	70-130	4
Fluorene	ug/L (ppb)	5	101	98	70-130	3
Phenanthrene	ug/L (ppb)	5	99	96	70-130	3
Anthracene	ug/L (ppb)	5	100	98	70-130	2
Fluoranthene	ug/L (ppb)	5	102	94	70-130	8
Pyrene	ug/L (ppb)	5	104	100	70-130	4
Benz(a)anthracene	ug/L (ppb)	5	105	100	70-130	5
Chrysene	ug/L (ppb)	5	103	99	70-130	4
Benzo(a)pyrene	ug/L (ppb)	5	103	100	70-130	3
Benzo(b)fluoranthene	ug/L (ppb)	5	102	97	70-130	5
Benzo(k)fluoranthene	ug/L (ppb)	5	97	94	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	118	112	70-130	5
Dibenz(a,h)anthracene	ug/L (ppb)	5	113	107	70-130	5
Benzo(g,h,i)perylene	ug/L (ppb)	5	111	104	70-130	7

Date of Report: 02/21/23
Date Received: 02/08/23
Project: 351-18019-09 Humane Society, F&BI 302111

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	55	56	25-111	2
Aroclor 1260	ug/L (ppb)	0.25	77	77	23-123	0

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased high; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY

02/08/23 F3/VW2/K2

Page # 01 of 01

302111

Report To Lynn Erwin

Company Erwin NW

Address PO 14488

City, State, ZIP Portland, OR 97293

Phone 503-452-5561 Email Lynn@Erwin-NW.com

SAMPLERS (*signature*)

PROJECT NAME 351-18019-09 Humane Society

PO #

REMARKS *See Attached Form for SVOCs and benchmarks

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME

☒ Standard turnaround

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As, Cd, Cr, Cu, Pb, Hg, Zn	Select VOCs *			Notes
						ANALYSES REQUESTED											
M1001-SW-230207	01A-K	2-7-23	09:20	Water	11	X	X					X	X	X			
																	Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Bailey Fawver	ENW	02/07/23	17:00
Received by:	ANH PHAN	FSB	02/08/23	10:10
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

April 3, 2023

Lynn Green, Project Manager
Evren Northwest, Inc.
PO Box 14488
Portland, OR 97293

Dear Mr Green:

Included are the results from the testing of material submitted on March 24, 2023 from the 351-18019-09 Humane Society, F&BI 303400 project. There are 17 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Neil Woller, Paul Trone, Evan Bruggeman
ENW0403R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 24, 2023 by Friedman & Bruya, Inc. from the Evren Northwest 351-18019-09 Humane Society, F&BI 303400 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Evren Northwest
303400 -01	M1001-SW-230323

All quality control requirements were acceptable.

Date of Report: 04/03/23
Date Received: 03/24/23
Project: 351-18019-09 Humane Society, F&BI 303400
Date Extracted: 03/24/23
Date Analyzed: 03/24/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
M1001-SW-230323 303400-01	<100	103
Method Blank 03-655 MB	<100	99

Date of Report: 04/03/23
Date Received: 03/24/23
Project: 351-18019-09 Humane Society, F&BI 303400
Date Extracted: 03/24/23
Date Analyzed: 03/24/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
M1001-SW-230323 303400-01	<50	<250	85
Method Blank 03-795 MB	<50	<250	124

Analysis For Total Metals By EPA Method 200.8

Client ID:	M1001-SW-230323	Client:	Evren Northwest
Date Received:	03/24/23	Project:	351-18019-09 Humane Society
Date Extracted:	03/24/23	Lab ID:	303400-01
Date Analyzed:	03/24/23	Data File:	303400-01.154
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.15
Cadmium	0.102 j
Chromium	1.16
Copper	9.20
Lead	0.783
Zinc	17.5

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Evren Northwest
Date Received:	NA	Project:	351-18019-09 Humane Society
Date Extracted:	03/24/23	Lab ID:	I3-228 mb
Date Analyzed:	03/24/23	Data File:	I3-228 mb.128
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<0.2
Cadmium	<0.09 j
Chromium	<1
Copper	<2.7
Lead	<0.5
Zinc	<5

Date of Report: 04/03/23
Date Received: 03/24/23
Project: 351-18019-09 Humane Society, F&BI 303400
Date Extracted: 03/24/23
Date Analyzed: 03/27/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
M1001-SW-230323 303400-01	<0.05
Method Blank i3-229 MB	<0.05

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	M1001-SW-230323	Client:	Evren Northwest
Date Received:	03/24/23	Project:	351-18019-09 Humane Society
Date Extracted:	03/27/23	Lab ID:	303400-01 1/0.5
Date Analyzed:	03/27/23	Data File:	032708.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	62	11	173
2-Fluorobiphenyl	69	44	108
2,4,6-Tribromophenol	85	10	140
Terphenyl-d14	86	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
2-Methylnaphthalene	<0.1
1-Methylnaphthalene	<0.1
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	351-18019-09 Humane Society
Date Extracted:	03/27/23	Lab ID:	03-800 mb 1/0.5
Date Analyzed:	03/27/23	Data File:	032706.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	79	11	173
2-Fluorobiphenyl	77	44	108
2,4,6-Tribromophenol	81	10	140
Terphenyl-d14	91	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
2-Methylnaphthalene	<0.1
1-Methylnaphthalene	<0.1
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	M1001-SW-230323	Client:	Evren Northwest
Date Received:	03/24/23	Project:	351-18019-09 Humane Society
Date Extracted:	03/27/23	Lab ID:	303400-01 1/0.5
Date Analyzed:	03/27/23	Data File:	032729.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	30	24	127
Decachlorobiphenyl	44	11	152

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.011 j
Aroclor 1232	<0.011 j
Aroclor 1016	<0.011 j
Aroclor 1242	<0.011 j
Aroclor 1248	<0.0089 j
Aroclor 1254	<0.0089 j
Aroclor 1260	<0.0089 j
Aroclor 1262	<0.0089 j
Aroclor 1268	<0.0089 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	351-18019-09 Humane Society
Date Extracted:	03/28/23	Lab ID:	03-801 mb 1/0.5
Date Analyzed:	03/28/23	Data File:	032809.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	55	24	127
Decachlorobiphenyl	77	11	152

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.011 j
Aroclor 1232	<0.011 j
Aroclor 1016	<0.011 j
Aroclor 1242	<0.011 j
Aroclor 1248	<0.0089 j
Aroclor 1254	<0.0089 j
Aroclor 1260	<0.0089 j
Aroclor 1262	<0.0089 j
Aroclor 1268	<0.0089 j

Date of Report: 04/03/23
Date Received: 03/24/23
Project: 351-18019-09 Humane Society, F&BI 303400

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 303404-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	98	70-130

Date of Report: 04/03/23
Date Received: 03/24/23
Project: 351-18019-09 Humane Society, F&BI 303400

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	120	104	70-130	14

Date of Report: 04/03/23
Date Received: 03/24/23
Project: 351-18019-09 Humane Society, F&BI 303400

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 303398-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	3.54	95 b	94 b	70-130	1 b
Cadmium	ug/L (ppb)	5	<1	98	98	70-130	0
Chromium	ug/L (ppb)	20	<1	98	98	70-130	0
Copper	ug/L (ppb)	20	8.60	98 b	96 b	70-130	2 b
Lead	ug/L (ppb)	10	<1	95	95	70-130	0
Zinc	ug/L (ppb)	50	390	102 b	93 b	70-130	9 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	96	85-115
Cadmium	ug/L (ppb)	5	100	85-115
Chromium	ug/L (ppb)	20	97	85-115
Copper	ug/L (ppb)	20	100	85-115
Lead	ug/L (ppb)	10	102	85-115
Zinc	ug/L (ppb)	50	100	85-115

Date of Report: 04/03/23
Date Received: 03/24/23
Project: 351-18019-09 Humane Society, F&BI 303400

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 303404-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.0008	111	91	71-125	20

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	78	68-125

Date of Report: 04/03/23
Date Received: 03/24/23
Project: 351-18019-09 Humane Society, F&BI 303400

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	5	77	76	62-97	1
2-Methylnaphthalene	ug/L (ppb)	5	79	78	64-101	1
1-Methylnaphthalene	ug/L (ppb)	5	79	77	64-93	3
Acenaphthylene	ug/L (ppb)	5	93	90	70-130	3
Acenaphthene	ug/L (ppb)	5	90	88	70-130	2
Fluorene	ug/L (ppb)	5	96	93	70-130	3
Phenanthrene	ug/L (ppb)	5	93	96	70-130	3
Anthracene	ug/L (ppb)	5	97	97	70-130	0
Fluoranthene	ug/L (ppb)	5	100	105	70-130	5
Pyrene	ug/L (ppb)	5	108	101	70-130	7
Benz(a)anthracene	ug/L (ppb)	5	102	104	70-130	2
Chrysene	ug/L (ppb)	5	102	101	70-130	1
Benzo(a)pyrene	ug/L (ppb)	5	100	100	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	5	99	98	70-130	1
Benzo(k)fluoranthene	ug/L (ppb)	5	100	97	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	106	104	70-130	2
Dibenz(a,h)anthracene	ug/L (ppb)	5	107	103	70-130	4
Benzo(g,h,i)perylene	ug/L (ppb)	5	105	100	70-130	5

Date of Report: 04/03/23
Date Received: 03/24/23
Project: 351-18019-09 Humane Society, F&BI 303400

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	40	46	25-111	14
Aroclor 1260	ug/L (ppb)	0.25	46	47	23-123	2

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased high; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

303400

SAMPLE CHAIN OF CUSTODY

03/24/23 I5/UW1/L2

Page # 01 of 01

Report To Lynn Erwin

Company Erwin NW

Address PO 14988

City, State, ZIP Portland, OR 97293

Phone 503-432-5561 Email LynnG@Erwin-nw.com

SAMPLERS (*signature*)

PROJECT NAME: 351-18019-09 Humane Society

PO #

REMARKS: ☆ See Attached Form

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☒ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

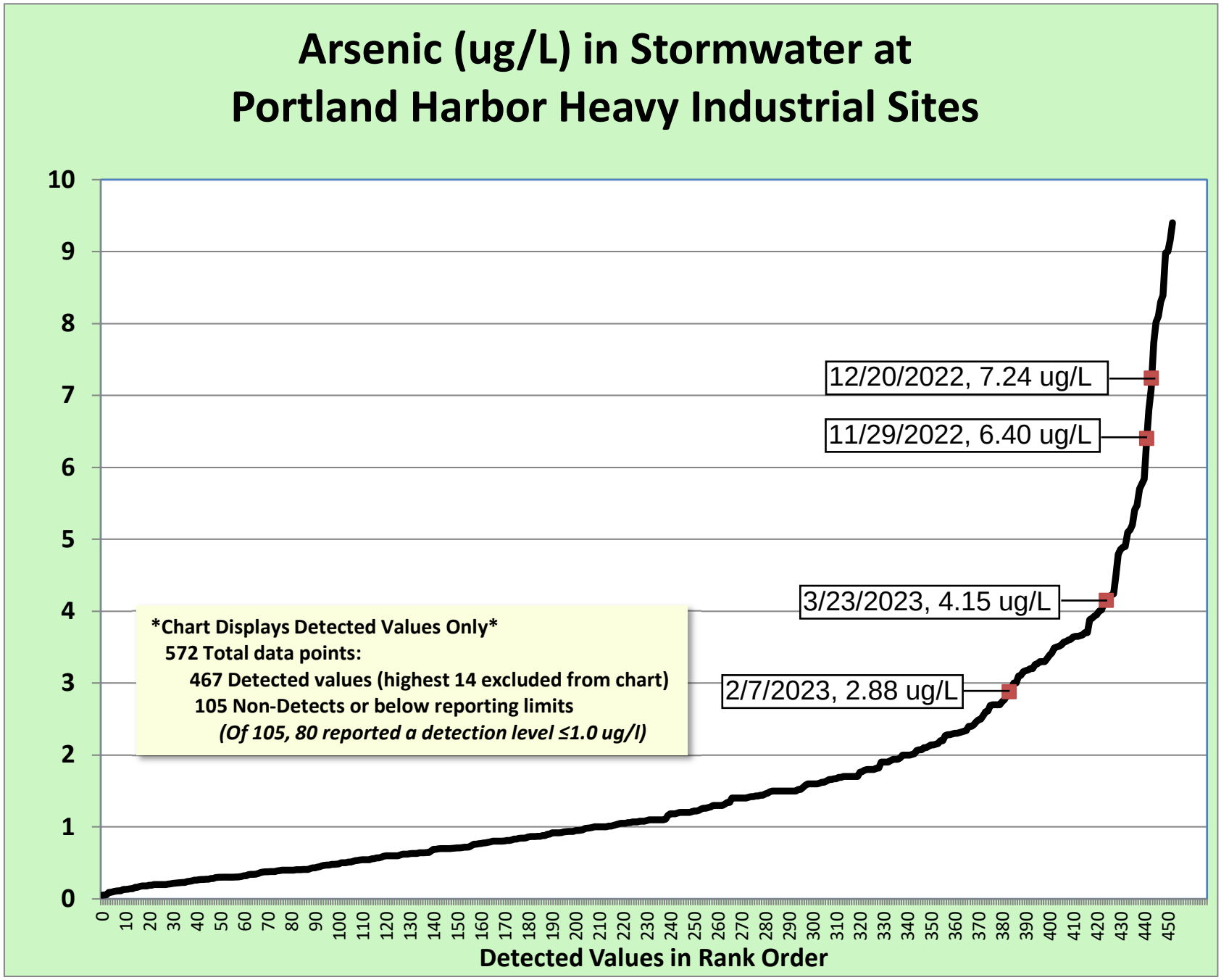
						ANALYSES REQUESTED											
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Select SVOCs ☆	Total As, Cd, Cr, Pb, Hg, Zn			Notes
M1001-SW-230323	01A-I	3-23-23	8:53	Water	10	X	X					X	X	X			
															Samples received at	2	°C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Bailey Fowler	ENW	3-23-23	17:06
Received by:	Nhan Pham	FEBI	3/24/23	1030
Relinquished by:				
Received by:				

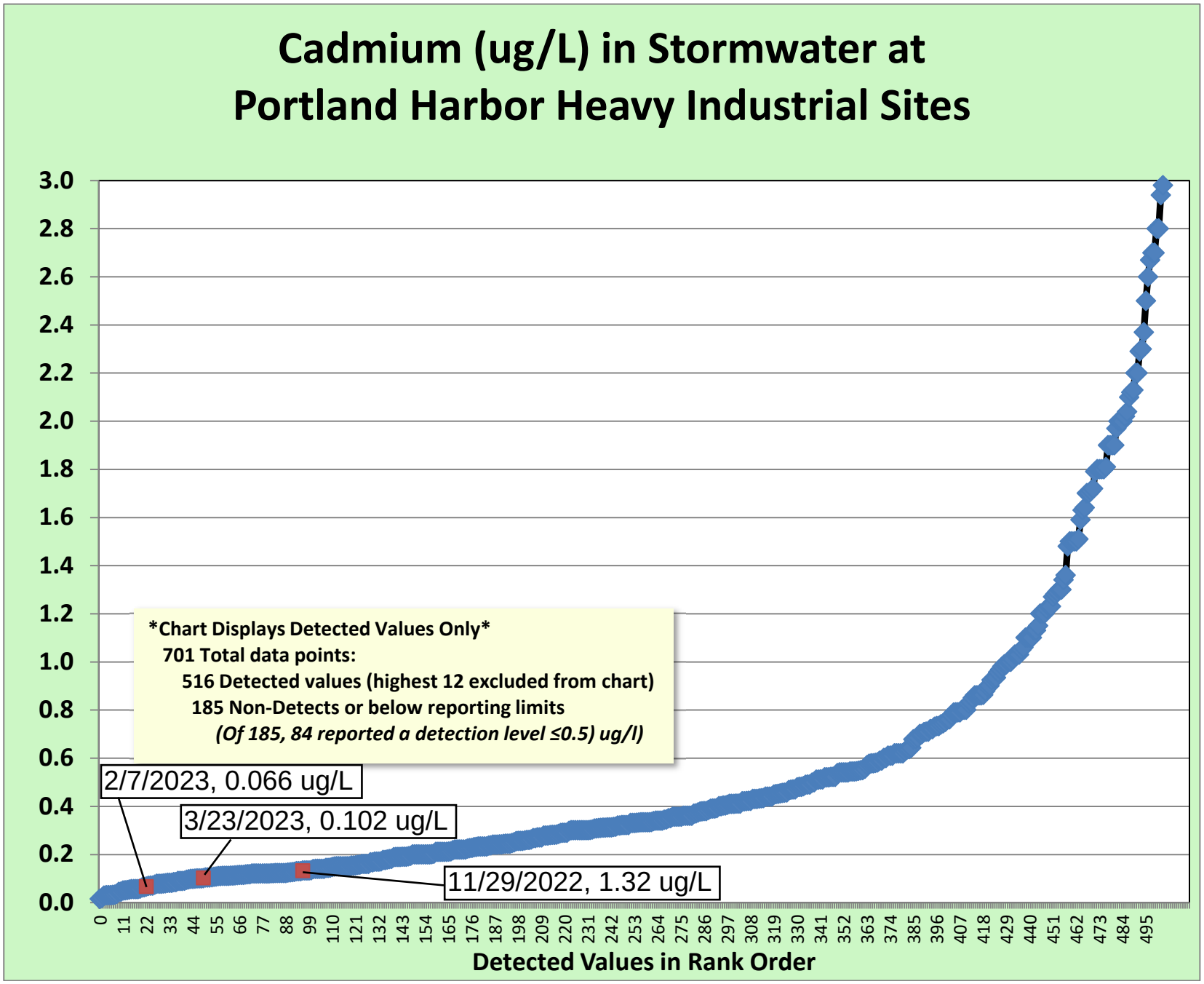
Friedman & Bruya, Inc.
Ph. (206) 285-8282

Appendix C

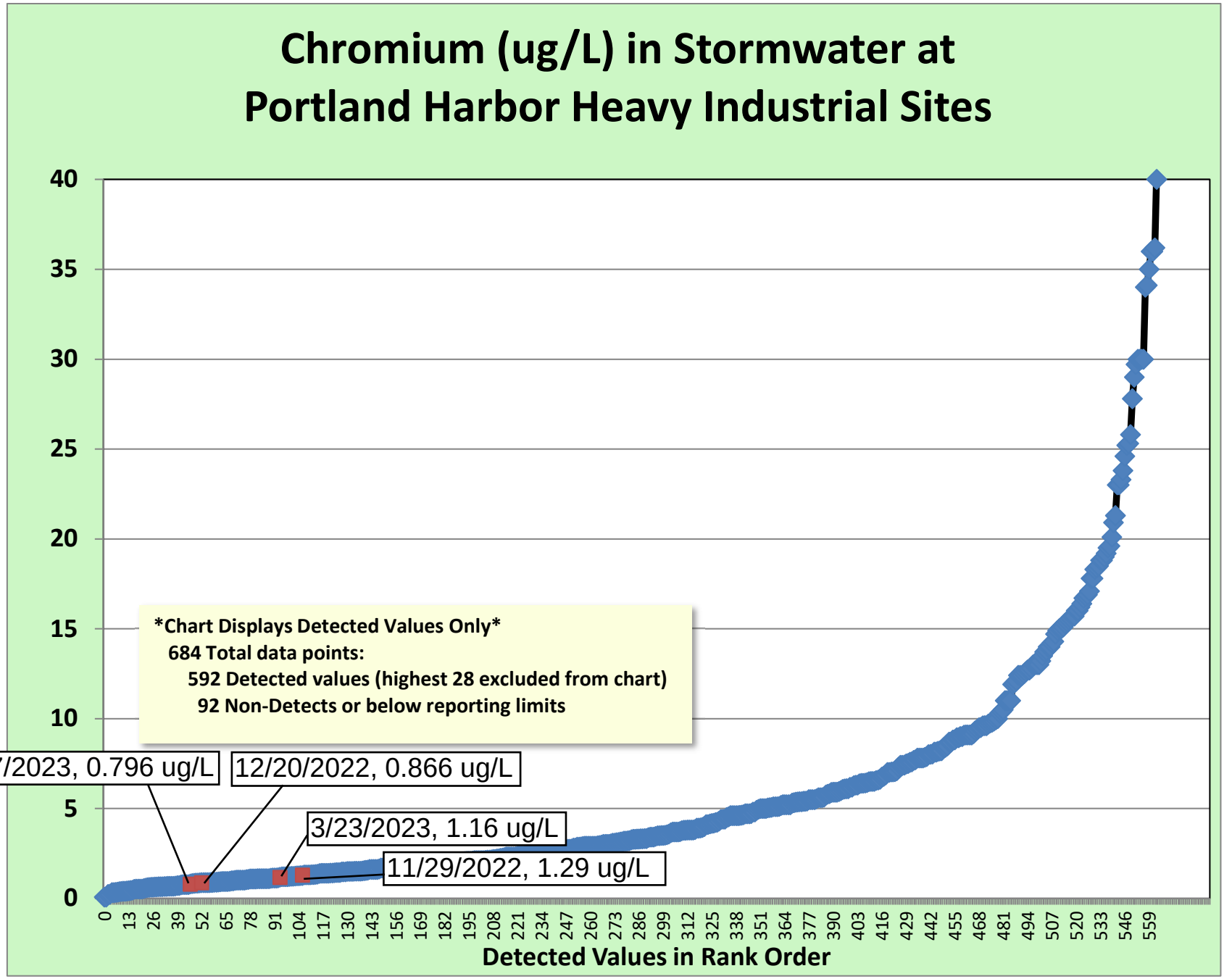
Comparison of Detected Storm Water Analytical Results to Typical Industrial Sites



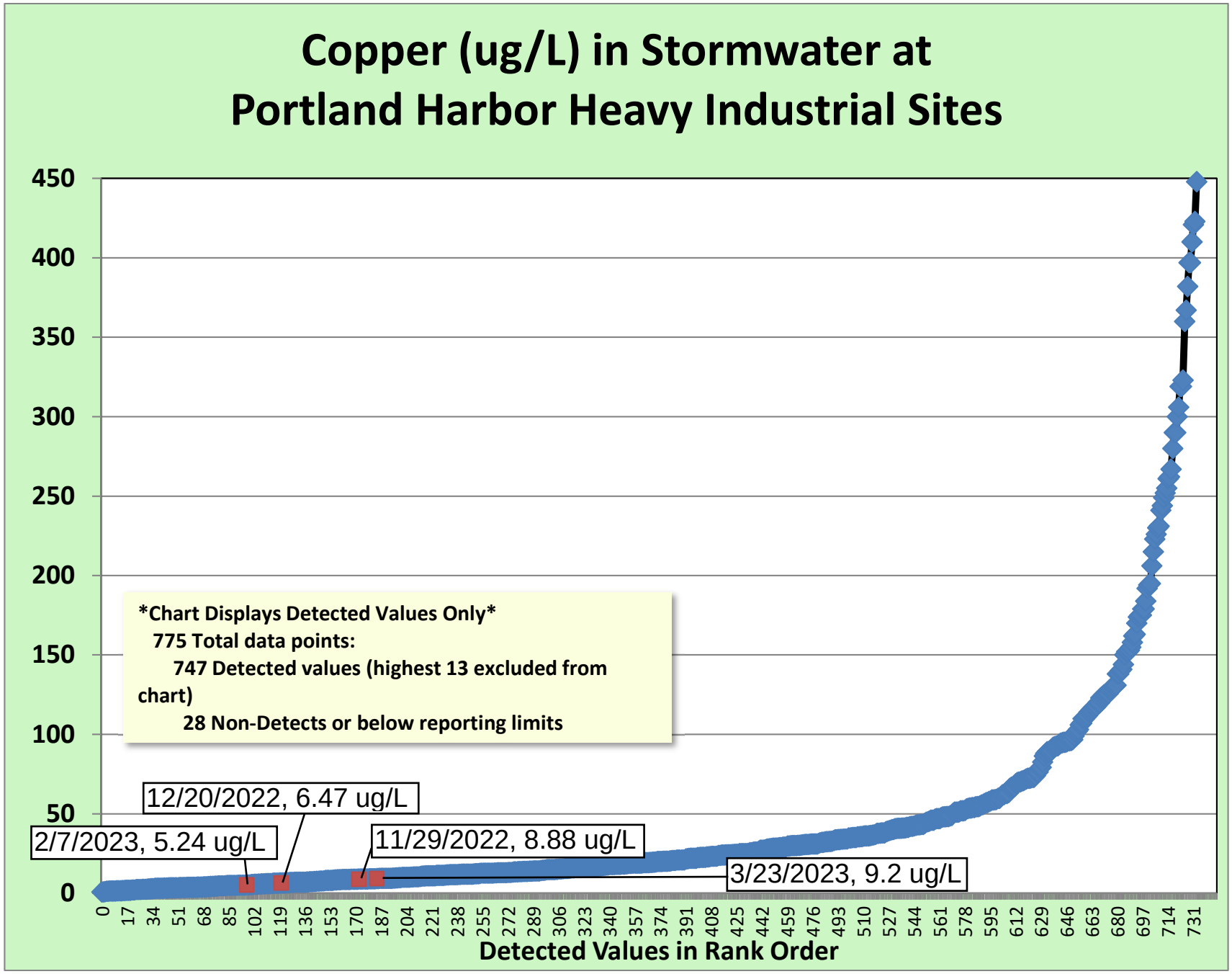
ENW Sample Date, Concentration



ENW Sample Date, Concentration

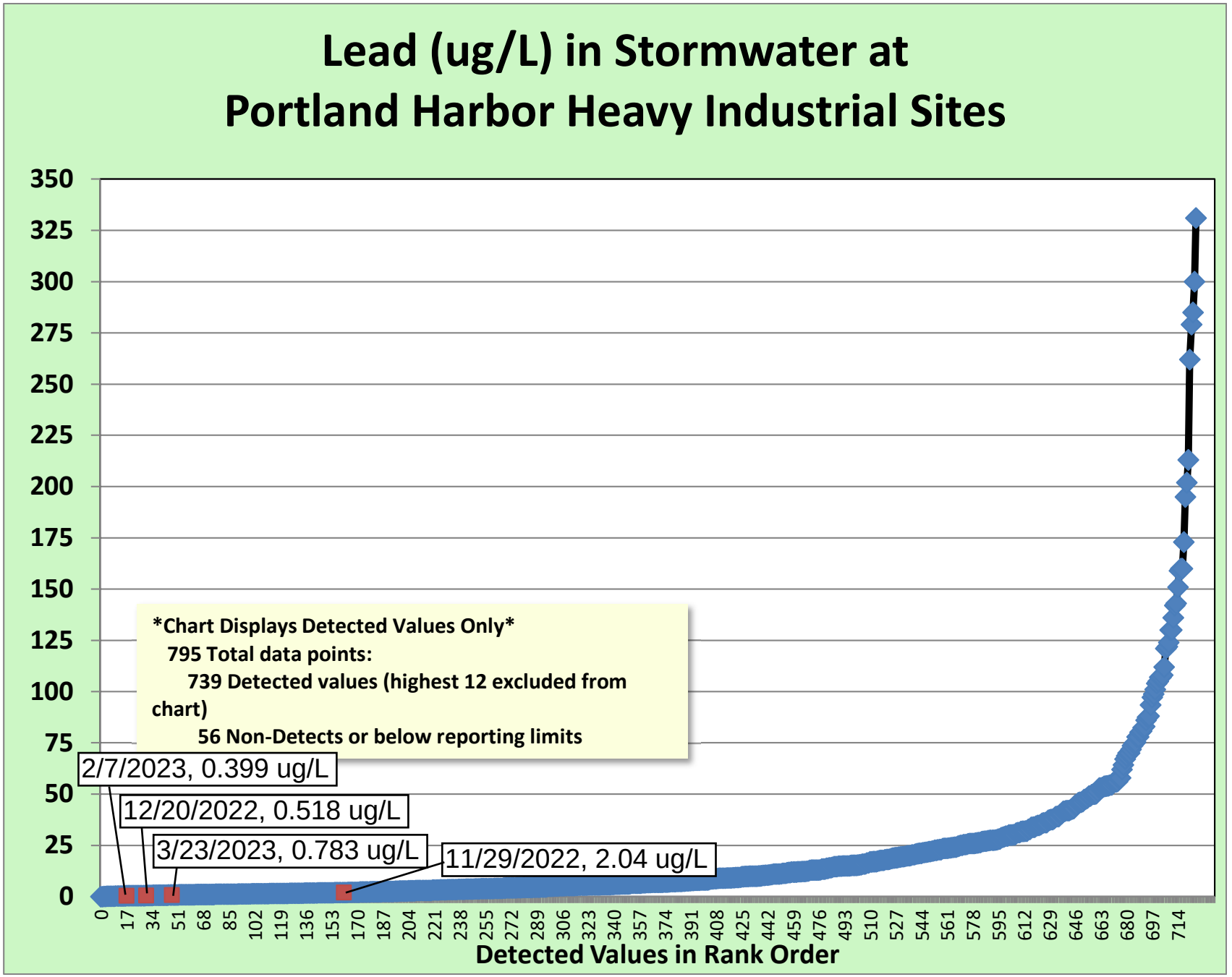


ENW Sample Date, Concentration

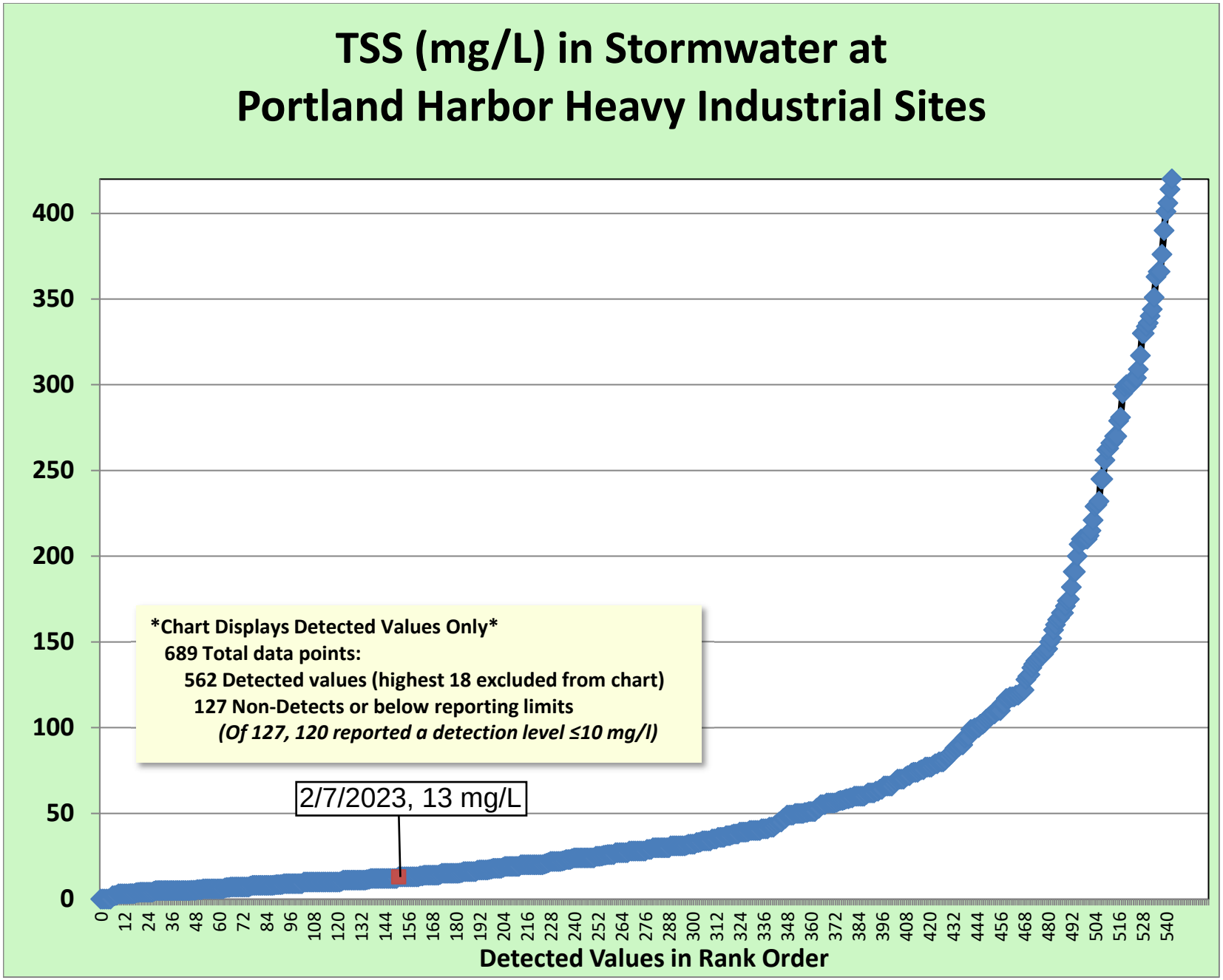


ENW Sample Date, Concentration

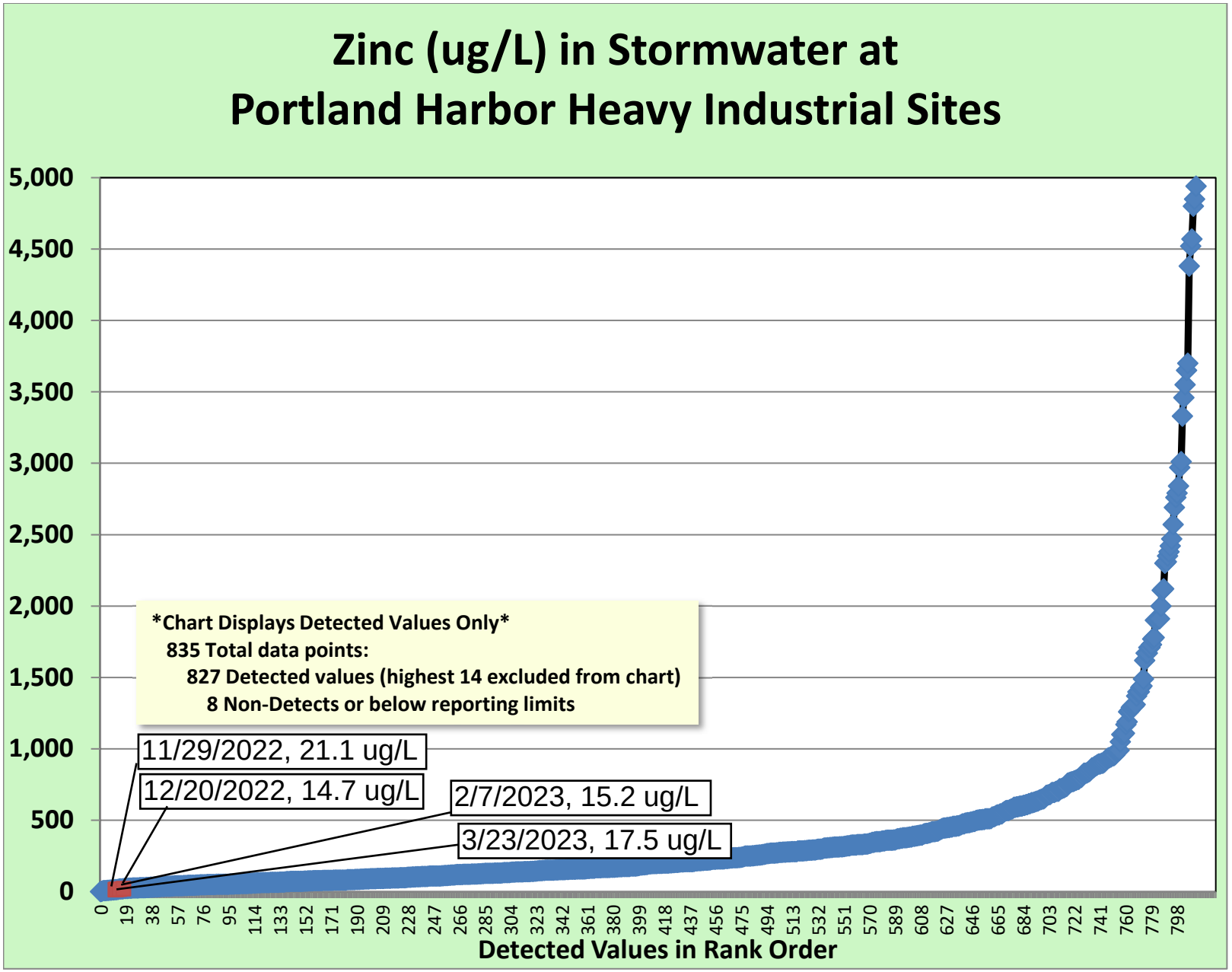
Lead (ug/L) in Stormwater at Portland Harbor Heavy Industrial Sites



ENW Sample Date, Concentration



ENW Sample Date, Concentration



ENW Sample Date, Concentration