Initial Investigation Report

East-West Corridor Roadway
Yakima, Washington

Prepared for:

Yakima County

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MAUL FOSTER ALONGI

Initial Investigation Report

Yakima, Washington

The material and data in this report were prepared under the supervision and direction of the undersigned.

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Abbreviations

ARAR	Applicable or Relevant and Appropriate Requirements
bgs	below ground surface
CFU	colony-forming units
City	City of Yakima
CUL	cleanup level
COPC	chemical of potential concern
cPAH	carcinogenic polycyclic aromatic hydrocarbon
County	Yakima County
CSID	cleanup site ID
CSM	conceptual site model
DDD	dichlorodiphenyldichloroethane
DDT	dichlorodiphenyltrichloroethane
DRO	diesel-range organic
Ecology	Washington State Department of Ecology
EIC	Ecological Indicator Concentrations
EPA	U.S. Environmental Protection Agency
FBI	Friedman & Bruya, Inc.
GRO	gasoline-range organic
IIWP	initial investigation work plan
MFA	Maul Foster & Alongi, Inc.
mg/kg	milligrams per kilogram
mL	milliliter
MPN	most probable number
MTCA	Model Toxics Control Act
NTU	nephelometric turbidity units
NWTPH	Northwest Total Petroleum Hydrocarbons
ORO	heavy oil-range organics
the Parcels	portions of County parcels 191318-11002 and 191318-41002
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCUL	preliminary cleanup level
PID	photoionization detector
POC	point of compliance
PSL	preliminary screening level

PQL	practical quantitation limit
TEQ	toxic equivalent quotient
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administative Code
Yakima Landfill	Yakima City Landfill

1 Introduction

On behalf of Yakima County (the County), Maul Foster & Alongi, Inc. (MFA) has prepared this initial investigation report to describe investigation activities performed on a portion of two County-owned parcels adjacent to the Yakima River (portions of County parcels 191318-11002 and 191318-41002; the Parcels) (see Figure 1-1). Consistent with descriptions in previous documents, including the initial investigation work plan (IIWP) (MFA 2024), the Parcels refers to the portions of the County-owned Parcels bounded to the west by Interstate 82, and to the south and east by the Yakima River.

1.1 Regulatory Framework

MFA prepared this report to describe the results of the initial investigation work at the Parcels. This work is currently being coordinated with the Washington State Department of Ecology (Ecology) and the Yakama Nation as an independent cleanup action. The County expects to enter into a de minimis consent decree for the roadway corridor.

1.2 Purpose and Objectives

The purpose of the initial investigation was to perform additional environmental investigation work to inform the nature and extent of potential contamination (if present) and inform potential cleanup considerations. Specific objectives of the initial investigation are the following:

- Summarize existing environmental data for the Parcels.
- Identify areas potentially impacted by constituents and consider potential sources.
- Develop a conceptual site model (CSM).
- Generate data of sufficient quality for screening to evaluate the potential for risks to current and reasonably likely future human and ecological receptors.
- Inform the development and evaluation of remaining data gaps, if any, and potential cleanup considerations.

2 Background and Physical Setting

The background and physical setting information summarized below for the Parcels was obtained from the County's description and an environmental file review.

2.1 Property Description

The Parcels are located in township 13 north and range 19 east of the Willamette Meridian, section 18 and comprise two Yakima County tax parcels (portions of 191318-11002 and 191318-41002). The Parcels are currently zoned suburban residential by the City of Yakima (City) (City of Yakima 2024). The Parcels are in the northeast corner of the city and do not have unique street addresses.

The Parcels consist of approximately 19 acres of undeveloped land covered with a mix of grass and gravel. The Parcels are bounded to the west by I-82, the north by railroad tracks and the south and east by the Yakima River. The Sunrise Rotary Park, a public park, is located at the southern end of the Parcels; however, the park is already developed and is not included in the scope of this assessment effort. A federally authorized levee, intended to protect the City from the 100-year flood and maintained by the County, runs along the eastern portion of the Parcels and a paved greenway trail is constructed on top of the levee. A railroad right-of-way runs through Parcel 191318-11002, dividing the Parcels into two main areas (see Figure 1-1).

There is a roadway corridor and bridge abutment planned for the northern portion of Parcel 191318-41002; utility improvements associated with the roadway are planned on the southern portion of Parcel 191318-11002.

2.2 Property History and Current Use

The Boise Cascade Mill site (cleanup site ID [CSID] 12095), located in northeast Yakima at 805 North 7th Street, began lumber milling operations in the early 1900s. Railroad tracks have been present on the Parcels since at least 1920 and likely much earlier. The industrial history of the Parcels is described in the *East Side Conceptual Site Model and Data Gaps Report* for the Boise Cascade Mill site (Barr Engineering 2024). This report includes an analysis of aerial photographs of the Parcels from 1927 to 2021. In the 1927 aerial photo, there is evidence of log yard operations (characterized by Barr Engineering as consistent with sawdust-type material) on the southern portion of parcel 191318-11002 and the northeastern corner of parcel 191318-41002. This area of disturbance has expanded on the next photo from 1939. By the next aerial photo from 1947, the area of disturbance now includes the entirety of Parcel 191318-41002 and has expanded to the north of the railroad bridge on Parcel 191318-11002. Piles and rows of this sawdust-type material are visible especially south of the railroad bridge. By the 1964 aerial photo, following construction of Interstate 82, pile(s) of sawdust-type material are visible, potentially generated by excavation of the wood waste from the interstate corridor. These piles do not remain visible on the 1970 aerial photo.

The Parcels were conveyed by way of donation through a quit claim deed from Boise Cascade to the Yakima River Greenway Foundation in January 1987 and then conveyed by quit claim deed to Yakima County in January 1988. The Parcels appear vacant and undeveloped by 1996. The Boise Cascade Mill officially ceased operations in 2006.

In 1938, designs for a federal levee system on the Yakima River were completed, but this project was not constructed until after World War II. The levee along the Yakima River was completed in 1948 and repaired and extended the next year after the 1948 flood. The levee system was constructed to protect the urban areas of Yakima and Terrace Heights. A series of large floods during the 1970s prompted further studies by the U.S. Army Corps of Engineers, and levees earlier constructed under U.S. Army Corps of Engineers authority were raised twice in the 1970s and

1990s. A 1947 levee easement identifies a “sawdust and refuse pile on the west bank of the Yakima River”. A 1966 levee repair plan identifies sawdust on the Parcels with an average depth of 3 to 4 feet. The levee is owned and maintained by Yakima County. A greenway trail was developed on the levee in 1988. A small park, originally named McGuire Community Playground, was developed on the southern portion of the Parcels in the early 1990s. The playground was redeveloped in July 2021 as the Sunrise Rotary Park but was partially destroyed by fire in March 2024. The Parcels are currently vacant.

2.2.1 Cultural Context

The County Parcels are part of a larger Mid-Columbia and Plateau sub-region that is the traditional territory of speakers of the language family that the Yakama refer to as Echeesh-Keen (Griffin 2001). This sub-region lies within the ceded lands of the Yakama Indian Nation.

The general pattern of human adaptation on the Plateau appears to exhibit a change through time from an upland hunting strategy to a semi-sedentary riverine-based subsistence organization. The prehistoric wetland environments supported diverse flora and fauna.

Traditional land use within the general vicinity of the project area may have included hunting of large and small game such as deer, elk, and mountain sheep, and root collecting during seasonal occupation at optimal locations. Specialized fishing for salmon and steelhead, using platforms, traps, prongs and dip nets was conducted in the Yakima River (Hunn et al. 1990). Anadromous fish found in creeks would likely have been taken using weirs and willow and stone traps. The grasslands in the valley were used by Yakama Indians to pasture and sustain their great herds of horses.

2.3 Previous Environmental Investigations

There have been numerous investigations on the adjacent Boise Cascade Mill site and City Landfill Site (Yakima Landfill, CSID 3853). The Boise Cascade Mill site west of Interstate 82 has been characterized, with results documented in a revised draft remedial investigation with formal oversight by Ecology (Barr Engineering, 2021).

The Yakima Landfill has also been characterized, with results documented in a remedial investigation (SLR International Corp 2009) and a supplemental remedial investigation report with formal oversight by Ecology (Fellows, et al. 2015). An interim action work plan for the Yakima Landfill (Landau Associates 2019; see Appendix D of the IIWP) was developed by the City to present:

- Existing site conditions for the roadway prism over which the City and Yakima County plan to construct a new roadway.
- Design and construction information for the roadway alignment construction project, including landfill gas mitigation measures.
- Contingency plans should unexpected contamination be encountered in the roadway prism during construction.

These documents for the adjacent sites were used to inform the initial investigation described in this work plan.

Various geotechnical borings and test pit explorations to support the roadway corridor design were conducted on the Parcels between 2014 and 2023. Two borings were completed in 2014 and one

boring and one test pit were completed in 2017 to support the geotechnical design of the East West Corridor (see Appendix E of the IIWP). The County excavated two test pits in 2021 to determine the depth of the wood waste. Another two test pits were excavated in 2023 (one south of the proposed roadway and one in the area originally proposed for an infiltration pond [see Appendix F of the IIWP]).

Soil samples were collected and submitted for laboratory analysis; previous analytical data and sample locations for the Parcels are provided in Table 2-1 and shown on Figure 1-1, respectively. The previous soil borings and laboratory reports for the 2014 and 2017 borings are described in the geotechnical report for the roadway corridor project (Shannon & Wilson 2023). This report also includes results for samples collected west of Interstate 82 and not within the Parcels. The laboratory reports for the 2023 test pits excavated by the County are provided in Appendix F of the IIWP.

The analytical data presented in Table 2-1 is screened against the preliminary cleanup levels (PCULs) for chemicals of potential concern (COPCs) identified at the Boise Cascade Mill site and Yakima Landfill. In general, the analytical soil results were either not detected or were below the PCULs with a few exceptions described below.

All soil samples that were analyzed for barium exceeded the Yakima Landfill site PCUL of 41 milligrams per kilogram (mg/kg) for soil in the saturated zone but were below the PCUL of 820 mg/kg for soil in the vadose zone.

Surface soil at location B-2-17 exceeded the Boise Cascade Mill site PCULs for copper and nickel. Subsurface soil at 8.8 feet below ground surface (bgs) at location B-2-17 slightly exceeded the diesel-range organics (DRO)/heavy oil-range organics (ORO) PCUL of 460 mg/kg (the PCUL is the same for both the Boise Cascade Mill and Yakima Landfill sites). Soil at 12.5 feet bgs and 12.0 feet bgs at locations EWC-B-02-14 and EWC-B-03-14, respectively, slightly exceeded the Boise Cascade Mill site PCUL of 0.041 mg/kg for pentachlorophenol.

2.4 Topography

The Parcels are relatively flat with a levee constructed on the eastern edge of the Parcels. The top elevation of the levee is approximately 1060 feet North American Vertical Datum of 1988. West of the levee, the Parcels have a slight slope away to the west and southwest, towards Interstate 82. East of the levee toe, in areas where the Yakima River is not immediately adjacent to the levee, the Parcels have a slight slope towards the Yakima River. Elevations range between 1050 and 1060 feet North American Vertical Datum of 1988.

The topography of Parcel 191813-11002 is gently rolling to flat with trees and grasses along the Yakima Greenway trail.

The southern portion of Parcel 191813-11002 (both north and south of the railroad) is dominated by open areas with limited surface vegetation west of the levee. Fill mixed with wood waste, metal scrap, and other debris is present at the ground surface.

The Sunrise Rotary Park McGuire Community Playground is located in the southern portion of Parcel 191318-41002. Although a portion of the playground structures were destroyed by fire in March 2024, woodchips remain present at the ground surface from the playground construction. The ground surface over the remaining portion of Parcel 191318-41002 west of the levee is similar to that for Parcel 19183-11002.

2.5 Geology and Hydrogeology

Previous geotechnical borings advanced on the Parcels indicate that they are underlain by 1 to 6.5 feet of sand, fines, fill material, underlain by soil and wood waste to approximately 10 feet bgs, and then underlain by poorly graded gravel with cobbles to 30 feet bgs, with intermittent one-foot-thick beds of silty sand with gravel.

Shallow groundwater has been encountered on the Parcels between approximately 10 and 15 feet bgs. The groundwater flow direction at the Parcels has not been confirmed but is inferred to flow toward the east to southeast and discharge to the Yakima River as documented at the adjacent Boise Cascade Mill and Yakima Landfill sites. Groundwater elevation contours from the Yakima Landfill Site Supplemental Remedial Investigation Report (Fellows, et al. 2015) and the Yakima Mill Site Revised Draft Remedial Investigation Report (Barr Engineering, 2021) were provided as Appendix G to the IIWP.

2.6 Surface Water

The Yakima River lies immediately east of the Parcels. Precipitation falling on the Parcels west of the levee likely infiltrates or, if precipitation were to generate overland flow, such flow would move towards the base of the Interstate 82 embankment to the west where it would pond and eventually infiltrate. Precipitation falling on the Parcels to the east of the levee either infiltrates or runs to the river. As described above, the western portions of the Parcels lie within a federally authorized levee—outside of the 100-year and 500-year floodplain (Federal Emergency Management Agency 2009). Portions of the Parcels east of the levee are within the regulatory floodway.

2.7 Beneficial Water and Land Uses

Providing protection for the highest beneficial use (i.e., the use requiring the highest quality in the resource) of water will generally provide protection for other existing and future beneficial uses of water. Based on the proximity of the Yakima River and the hydrogeological conditions observed at the adjacent Boise Cascade Mill and Yakima Landfill sites, shallow groundwater at the Parcels appears to flow toward the Yakima River. Currently, there are no potable water wells on the Parcels.

The current and reasonably likely future uses of the river include recreation, fishing, and fish and wildlife habitat. The Yakima River provides habitat for several fish species and is designated as critical habitat for Endangered Species Act-listed middle Columbia River distinct population segment steelhead (National Oceanic and Atmospheric Administration 2024). The lower Yakima River is listed in Table 602 of Washington Administrative Code (WAC) 173-201A-602 as salmonid spawning/rearing for aquatic life uses, primary contact for recreational uses, all for water supply and miscellaneous uses. The applicable numeric criteria from WAC 173-201A-200 are as follows:

- Aquatic life temperature: 7-day average of the daily maximum temperature of 17.5° C.
- Aquatic life dissolved oxygen: 1-day minimum water column concentration of 10 milligrams/liter or 90% saturation.
- Aquatic life turbidity: Turbidity shall not exceed: 5 nephelometric turbidity units (NTU) over background when the background is 50 NTU or less; or a 10% increase over background when the background is 50 NTU or more.

- Aquatic life total dissolved gas: Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.
- Aquatic life pH: pH shall be within the range of 6.5 to 8.5 with a human-caused variation within the above range of less than 0.5 units.
- Water contact recreation bacteria: E. coli organism levels within an averaging period must not exceed a geometric mean value of 100 colony-forming units (CFU) or most probable number (MPN) per 100 milliliter (mL), with not more than 10 percent of all samples (or any single sample when less than 10 sample points exist) obtained within the averaging period exceeding 320 CFU or MPN per 100 mL. Fecal coliform organism levels within an averaging period must not exceed a geometric mean value of 100 CFU or MPN per 100 mL, with not more than 10 percent of all samples (or any single sample when less than 10 sample points exist) obtained within an averaging period exceeding 200 CFU or MPN per 100 mL.

Pacific salmon have a historic range extending throughout the Pacific Ocean. The Yakima River and its tributaries support numerous salmonid and other resident fish species including Chinook and coho salmon, as well as steelhead/rainbow trout, Westslope cutthroat, and bull trout. These native and hatchery produced anadromous species of salmon and trout are found in the Yakima River throughout every month of the year. All these salmonid species utilize the Yakima River for many phases of their life history. The Yakima River also supports Pacific lamprey, which spawn and rear for several years in inland rivers such as the Yakima River and its tributaries.

The Yakima River provides salmon and trout with habitat for spawning, incubation, rearing, foraging, migration, and refugia. Additionally, the Yakima River and its tributaries, including existing off-channel habitat, provide a rich source of prey resources, such as aquatic and terrestrial invertebrates and resident fish, for adult and rearing juvenile salmon and trout. The complex off-channel habitat and prey food resources provided by the area are critical for salmonid growth, resilience, and survival.

Two trout species (steelhead trout and bull trout) that are expected to utilize habitat in the action area are federally listed as threatened by the National Marine Fisheries Service and the U.S. Fish and Wildlife Service (USFWS). Designated critical habitat for these two species includes the Yakima River in the vicinity of the action area. The Pacific lamprey, listed as a species of concern by the USFWS, is also expected to use the habitat in the action area.

As mitigation for the East-West Corridor project, the County is planning restoration work downstream from the parcels on the east bank of the Yakima River.

The USFWS Information for Planning and Conservation tool (USFWS 2024) identifies the endangered gray wolf and threatened North American wolverine and yellow-billed cuckoo as potential present at the site, although there is no critical habitat for these species in the vicinity.

The Washington State Priority Habitat and Species mapping tool identifies pockets of shrubsteppe priority habitat as potentially present on upland portions of the parcels and freshwater forested/shrub wetland as potentially present along the edges of the Yakima River (east of the levee) (Washington Department of Fish and Wildlife 2024). The mapping tool also identifies the priority sharp-tailed snake as potentially present in the vicinity of the site.

3 Field and Analytical Methods

The initial investigation fieldwork was conducted between June 23 and 28, 2024, consistent with the IIWP (MFA, 2024). The investigation included field screening of soil with a photoionization detector (PID), logging of soil types encountered in borings, soil sample collection from temporary borings and monitoring wells, monitoring well development, measurement of groundwater levels, measurement of geochemical groundwater parameters, low-flow groundwater sampling of newly installed monitoring wells, and laboratory analysis for COPCs. MFA employed an inadvertent discovery plan, which provided procedures in the event of incidental cultural resource discovery (MFA, 2024). No artifacts were encountered during fieldwork.

Sample locations, sample depths, and chemical analyses from the initial investigation are summarized in Table 3-1.

3.1 Soil

Soil samples were collected from 18 temporary borings and four monitoring wells on the Parcels (see Figure 1-1) between June 23 and 28, 2024. State of Washington licensed drillers, Anderson Environmental Contracting, used a sonic drill rig to advance the 18 temporary soil borings to a depth of 20 feet bgs and four monitoring well borings to a depth of 25 feet bgs. Continuous soil cores were retrieved during drilling for observation and sampling.

Soil conditions were described, visual and olfactory observations were recorded, and soil was screened with a PID for volatiles. Soil lithology and PID screening results are detailed in the boring logs (Appendix A). Geographic coordinates of the boring locations were recorded using a handheld global positioning system device (see Figure 1-1). Combustible gas was monitored during soil boring and well drilling (see the combustible gas monitoring forms in Appendix B).

Soil samples were submitted to Friedman & Bruya, Inc. (FBI) of Seattle, Washington, for analysis under standard chain-of-custody procedures. Soil samples intervals and analyses were selected in accordance with the sampling approach described in Table 4-1 of the IIWP. For reporting purposes, samples collected from intervals identified in the field as wood waste are presented in Table 3-1 while samples collected from intervals identified as soil are presented in Table 3-2. Sample depths and specific analyses are summarized in Table 3-1. Field photos, including soil core photos, are provided in Appendix E.

3.2 Groundwater

Monitoring wells were constructed with 2-inch-diameter schedule 40 polyvinyl chloride well casings, prepacked 0.010-inch machine slotted well screens, and traffic-grade flush-mounted monuments (see monitoring well completion details on the boring logs, included as Appendix A).

On June 26, 2024, at least 24 hours after well installation, the new monitoring wells were developed by Anderson Environmental Contracting to remove sediment that may have accumulated during well installation and to improve the hydraulic connection with the water bearing zone. Development of the new wells consisted of surging and purging ten pore volumes of groundwater from the well casing.

The existing well, MW-15, was developed by MFA by surging and purging groundwater until stabilization parameters were met (see well development forms in Appendix D).

Groundwater samples were collected using low-flow sampling methods from the five monitoring wells no sooner than 24 hours following well development. Before sample collection, monitoring wells were purged at a low flow rate until water quality field parameters (i.e., temperature, specific conductance, pH, oxidation-reduction potential, and turbidity) stabilized consistent with U.S. Environmental Protection Agency (EPA) sampling guidance (EPA 2017). During purging, the flow rates, water levels, and water quality parameters were recorded on field sampling data sheets (see Appendix E). Groundwater sampling was conducted in accordance with the means and protocols outlined in the sampling and analysis plan, provided as Appendix A to the IIWP (MFA, 2024).

Groundwater samples were submitted to FBI for analysis under standard chain-of-custody procedures. Chemical analyses were selected in accordance with the sampling approach described in Table 4-1 of the IIWP.

4 Investigation Results

Laboratory analytical reports are provided as Appendix F. Analytical data and the laboratory's internal quality assurance and quality control data were reviewed to assess whether they met project-specific data quality objectives. A data validation memorandum summarizing data evaluation procedures, data usability, and deviations from specific field and/or laboratory methods is included as Appendix G. The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

Detailed soil and wood waste observations are shown in the soil boring logs provided in Appendix E. Wood waste observations are summarized visually in Figure 4-1, which shows an interpolation (based on the natural neighbor method using ArcGIS) of wood waste lateral and vertical extents.

4.1 Data Usability

Analytical results collected during initial investigation activities were reviewed for usability and are qualified consistent with EPA procedures for evaluating laboratory analytical data (EPA, 2017a,b) and appropriate laboratory and method-specific guidelines (FBI, 2019). All validated analytical data have been uploaded to Ecology's Environmental Information Management System database[1].

Detected concentrations of some constituents were summed for comparison to applicable screening levels, as described in the IIWP (MFA, 2024). The summation procedures for these constituents are as follows:

- **Total Polychlorinated Biphenyls (PCBs).** Total PCBs are the sum of detected Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268, with non-detected values assigned a value of zero. Where all results are non-detect, the highest reporting or detection limit is used.

[1] Available at Environmental Information Management database – Washington State Department of Ecology.

- **Toxicity Equivalent Quotients (TEQs).** Consistent with WAC 173-340-708(8), mixtures of carcinogenic polycyclic aromatic hydrocarbons (cPAHs) are considered as single hazardous substances in evaluating compliance with preliminary screening levels (PSLs) such that the toxicity of a particular congener is expressed relative to the most toxic cPAH congener, benzo(a)pyrene. The toxicity of cPAHs as groups was assessed using a toxic equivalent approach. Each congener in the group is assigned a toxic equivalent factor (TEF) describing the toxicity of that congener relative to the toxicity of the reference compound, benzo(a)pyrene. Multiplying the concentration of a congener by its TEF produces the concentration of cPAH that is equivalent in toxicity to the congener concentration of concern. Summing those values permits expression of all congener concentrations in terms of a total cPAH TEQ:

  $$\text{cPAH TEQ} = \sum_{i=1}^{k} C_i \times TEF_i$$

  cPAH TEQs were qualified and calculated as follows:

  - Congeners qualified as non-detected and flagged with a "U" are used in the TEQ calculation at one-half the associated value.
  - Congeners qualified as estimated and flagged with a "J" are used without modification in the TEQ calculation.
  - Congeners qualified as non-detect with an estimated limit (i.e., flagged with a "UJ") are used in the TEQ calculation at one-half the associated value.
  - If all congeners in a chemical group are undetected, the group sum is reported as non-detect (i.e., "ND").

  TEFs for cPAHs were used consistent with WAC 173-340-708(8)(e) and Table 708-2 of WAC.

- **Diesel- and Oil-Range Hydrocarbons.** Consistent with *Implementation Memorandum No. 4* (Ecology 2004) and *Guidance for Remediation of Petroleum Contaminated Sites* (Ecology 2016), the diesel- and oil-range hydrocarbon results were summed for a total detection value and were calculated as follows:

  - Diesel- and oil-range hydrocarbon results qualified as non-detect and flagged with a "U" are used in the total calculation at one-half the associated value. When both results are non-detect, the highest detection limit is used.

  Diesel- and oil-range hydrocarbon results qualified as estimated and flagged with a "J" are used in the total calculation without modification.

4.2 Analytical Results

Soil (from intervals identified as soils and from intervals identified as wood waste) and groundwater analytical results are summarized in tables and compared to PSLs as further described in section 6.3.

5 Preliminary Conceptual Site Model

A CSM describes potential chemical sources, release mechanisms, environmental transport processes, exposure routes, and receptors. The primary purpose of the CSM is to describe pathways by which human and ecological receptors could be exposed to site-related chemicals (if present). A complete exposure pathway consists of four necessary elements: (1) a source and mechanism of chemical release to the environment, (2) an environmental transport medium for a released chemical, (3) a point of potential contact with the impacted medium (referred to as the exposure point), and (4) an exposure route (e.g., water ingestion) at the exposure point. The potential release mechanisms and pathways are described below. The preliminary CSM described in the IIWP has been updated to reflect new data collected under the IIWP.

5.1 Source Characterization

Based on historical aerial photographs, the environmental record for the adjacent Boise Cascade Mill and Yakima Landfill sites, and the investigation completed, the following processes could have impacted environmental media at the Parcels.

- Log storage and vehicular traffic on the Parcels.
- Potential import of wood waste and other materials to the Parcels from the Boise Cascade Mill site.
- Potential import of fill material to the Parcels from off-site for construction of the levee.
- Off-property migration of contamination from the Boise Cascade Mill site.
- Off-property migration of contamination from the Yakima Landfill site.

These potential sources and release mechanisms may have resulted in chemical releases to soil and/or groundwater.

5.2 Fate and Transport of Contaminants

The primary mechanisms likely to influence the fate and transport of chemicals at the Parcels include natural biodegradation of organic compounds, sorption of chemicals to soil, physical dispersion of adsorbed chemicals, advection of contaminated groundwater onto the Parcels from adjacent sites and leaching of chemicals from soil to groundwater. The relative importance of these processes varies, depending on the chemical and physical properties of the released chemical. The properties of the soil and the dynamics and elevation of groundwater also affect chemical fate and transport.

The Parcels are covered in a mix of gravel and grass. The soil-to-groundwater migration pathway is potentially complete because of the potential for infiltration of precipitation into the vadose-zone soil/wood waste and shallow groundwater. During and following precipitation events, the leaching of chemicals from near surface wood waste and/or soil could result in impacts to shallow groundwater at the Parcels. The presence of wood waste can alter the pH of the surrounding soil or water which can mobilize contaminants that were previously stable in the environment. The organic matter in

wood waste can also promote microbial growth, which can either immobilize or mobilize contaminants in surrounding areas.

The Parcels are relatively flat. The closest surface water body nearest to the Parcels is the Yakima River, located between 50 and 100 feet to the east (and likely downgradient much of the year) of the Parcels. Due to the short distance between the Parcels and the Yakima River, it is possible that dissolved-phase contamination in groundwater, if present, could impact surface water.

There are no current uses of groundwater at the Parcels, and potable water, supplied by the City of Yakima, is available in the vicinity. Groundwater beneath the Parcels is not currently used as a drinking water source. However, there are no covenants restricting groundwater use on the Parcels; therefore, groundwater is considered available for potable use.

Volatile organic compounds and methane gas, if present, partitioning from contaminated soil or groundwater have the potential to impact outdoor air on the Parcels.

5.3 Potential Exposure Scenarios

Potential current or future human exposure paths include the following:

- Incidental ingestion of surface or subsurface soil, groundwater, surface water, or sediment
- Incidental contact with surface or subsurface soil, groundwater, surface water, or sediment
- Inhalation of fugitive dusts generated from surface or subsurface soil
- Inhalation of vapors emanating from soil or groundwater
- Ingestion, contact, and inhalation via use of groundwater as drinking water
- Consumption of fish and shellfish exposed to sediment and surface water

Potential current and future exposure pathways for ecological receptors, including terrestrial receptors (mammals, birds, plants and soil biota) and aquatic receptors (fish, shellfish, and benthic organisms) include the following:

- Ingestion of and contact with surface water
- Contact with, uptake of, and ingestion of soil and sediments
- Inhalation of fugitive dusts generated from surface soil
- Inhalation of vapors emanating from soil or groundwater
- Consumption of tissue of ecological receptors exposed to soil, sediment, and surface water

5.4 Potential Receptors

Aside from the public park and the paved trail on the levee, the Parcels are currently undeveloped and are zoned suburban residential. Plans for the Parcels include the construction of a roadway corridor and bridge abutment across the southern portion of the Parcels. The following current and future human and ecological receptors may potentially be exposed to chemicals originating from the Parcels:

- Visitors

- Construction workers
- Recreationists
- Fish and shellfish fishers in the Yakima River
- Terrestrial ecological receptors
- Benthic and aquatic ecological receptors in the Yakima River

6 Data Evaluation

PSLs were developed as part of the IIWP for soil and groundwater and are provided as Tables 6-1 and 6-2, respectively (MFA, 2024). The PSLs account for multiple potential human health and ecological exposure scenarios and include criteria protective of soil, groundwater, surface water, and sediment as described below. Soil, wood waste, and groundwater results obtained as part of the investigation are compared to the PSLs in Section 6.3.

Note that according to the Washington Model Toxics Control Act (MTCA), cleanup standards that inform cleanup decision-making for a site have two primary components: chemical-specific cleanup levels (CULs) and points of compliance (POCs). The CUL is the concentration of a chemical in a specific environmental medium that will not pose unacceptable risks to human health or the environment. The POC is the location where the CUL must be met. Cleanup standards are often developed in coordination with Ecology for sites that are under formal oversight. The PSLs presented in this report should therefore be considered preliminary. The actual cleanup levels will be determined in the future.

6.1 Soil

Soil PSLs were developed that account for the following criteria and pathways:

- MTCA Method B cleanup levels (CULs) for the direct contact, leaching to groundwater (saturated and vadose zone), and protection of the groundwater to surface water (saturated and vadose zone) pathways. Soil samples from the vadose zone are compared with vadose-based criteria, and saturated zone soil samples are compared with saturated-based criteria.
- MTCA Method A CULs levels for unrestricted land use are used in the absence of Method B values.
- Natural background concentrations for metals based on Ecology's 1994 *Natural Background Soil Metals Concentrations in Washington State* are considered as described in Ecology's guidance on mixing methods (Ecology 2022).
- Table 749-3 Ecological Indicator Concentrations (EICs) protective of plants, soil biota, and wildlife.
- At Ecology's request, Table VI: Freshwater Sediment Cleanup Screening Levels Chemical Criteria (WAC 173-204-563) protective of benthic invertebrates.

- Practical quantitation limits (PQLs) provided in the remedial investigation reports for the Boise Cascade Mill (Barr Engineering 2021) and the City of Yakima Landfill remedial investigation report (Fellows and Syverson 2015).

Consistent with standard Ecology practice, the lowest applicable criteria is assigned as the preliminary screening level for each chemical and adjusted upwards to the natural background level or the PQL where those apply. The identified soil PSLs and their basis are provided in Table 6-1 and are used for comparison with the soil and wood waste samples obtained. Preliminary cleanup levels identified for the Boise Cascade Mill and the City of Yakima Landfill sites under Ecology oversight are also shown for reference.

6.1.1 Points of Compliance in Soil

The soil POC is the depth at which soil CULs shall be attained. The standard POC in soil for human direct contact and for ecological receptors is from the surface to 15 feet bgs throughout the entire site. This standard POC is applied to soil at the Parcels.

6.2 Groundwater

Groundwater PSLs were developed that account for the following criteria and pathways:

- MTCA Method B CULs and the lowest state or federal Applicable or Relevant and Appropriate Requirements (ARARs) for groundwater protection of human health. MTCA Method A CULs for groundwater were applied in the absence of Method B values or ARARs.
- MTCA Method B CULs and the lowest state or federal aquatic life and human health ARAR for surface water protection of aquatic life and human health.
- The natural background concentrations for arsenic was considered consistent with Ecology's 2022 *Natural Background Groundwater Arsenic Concentrations in Washington State* guidance (San Juan, 2022; Ecology 2022).
- Groundwater criteria protective of sediment calculated using the fixed parameter three phase partitioning model in WAC 173-340-747 and the Table VI sediment cleanup objectives in WAC 173-204-563.
- PQLs provided in the remedial investigation reports for the Boise Cascade Mill (Barr Engineering 2021) and the City of Yakima Landfill remedial investigation report (Fellows and Syverson 2015).

Consistent with standard Ecology practice, the lowest applicable criteria is assigned as the preliminary screening level for each chemical and adjusted upwards to the natural background level or the PQL where those apply. The identified groundwater PSLs and their basis are provided in Table 6-2 and are used for comparison with the groundwater samples obtained. Preliminary cleanup levels identified for the Boise Cascade Mill and the City of Yakima Landfill sites under Ecology oversight are also shown for reference.

6.2.1 Points of Compliance in Groundwater

For groundwater, the POC is the point or points where groundwater CULs must be attained for a site to comply with the cleanup standards. Groundwater CULs shall be attained in all groundwater, from the POC to the outer boundary of the hazardous substance plume. Under WAC 173-340-720(8)(c),

Ecology may approve a conditional POC if it is not practicable to meet the CULs throughout the site within a reasonable restoration time frame.

6.3 Screening Results

Wood waste, soil, and groundwater screening results are summarized in Tables 6-3 through 6-5. Figures 6-1 through 6-3 illustrate the locations of PSL exceedances. For reporting purposes, samples collected from intervals identified in the field as soil are summarized separately from samples collected from intervals identified as wood waste.

6.3.1 Wood Waste

Samples containing wood waste were collected and screened relative to the soil PSLs discussed in Section 6.1. The results are provided in Table 6-3 and are summarized in Figure 6-1.

6.3.1.1 Metals

Arsenic, barium, cadmium, chromium (total and hexavalent), copper, iron, lead, manganese, mercury, and zinc were analyzed for in wood waste samples and analytical results are discussed below:

- **Arsenic, Barium, Cadmium, Chromium (total and hexavalent), Copper, Lead, Manganese, and Mercury.** These metals did not exceed the PSLs in any samples.
- **Iron.** Iron exceeded the natural background based PSL of 51,500 mg/kg in 3 of the 18 sample intervals with concentrations ranging from 75,300 mg/kg to 280,000 mg/kg.
- **Zinc.** Zinc exceeded the EIC based (protection of plants) PSL of 86 mg/kg in 1 of 18 sample intervals.

6.3.1.2 Total Petroleum Hydrocarbons (TPH)

Gasoline-range organics (GRO), diesel-range organics (DRO,), and oil-range organics (ORO) each exceeded PSLs in at least one sample interval, as described below.

- **GRO.** There were four detections of GRO (MEWC04 at 2.5 feet bgs, SB-1 at 5.5 feet bgs, SB-4 at 4.0 feet bgs, and SB-6 at 3.0 feet bgs). The concentrations at SB-1 and SB-4 (76 mg/kg and 110 mg/kg respectively) exceeded the Method A based PSL of 30 mg/kg.
- **DRO.** DRO was detected in most samples and exceeded the EIC based PSL of 200 mg/kg in 8 of the 18 sample intervals, with concentrations ranging from 290 mg/kg to 1,200 mg/kg.
- **ORO.** ORO was detected and exceeded the EIC based PSL of 200 mg/kg in all samples, with concentrations ranging from 320 mg/kg to 28,000 mg/kg.

The wood waste sample collected at SB-14 was also analyzed for TPH with silica gel cleanup to better understand whether the especially high ORO concentration was associated with organics from the wood waste itself or from petroleum product. The resulting concentrations were consistent with the TPH analysis without silica gel cleanup and are therefore shown in Table 4-1 for informational purposes only. Further, Ecology typically applies cleanup levels to samples without silica gel cleanup.

6.3.1.3 Pesticides

4-4'-dichlorodiphenyldichloroethane (DDD) and 4-4'-dichlorodiphenyltrichloroethane (DDT) were analyzed in all wood waste samples. DDD was detected in only one sample (SB-1 at 5.5 feet bgs) at 0.004 mg/kg, exceeding the PQL based PSL of 0.00265 mg/kg. DDT was not detected in any wood waste samples.

6.3.1.4 PCBs

Total PCBs were not detected or were detected below the PQL based PSL of 0.04 mg/kg in all wood waste samples.

6.3.1.5 Organic Compounds

Eight organic compounds (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, and cPAH TEQ) in wood waste samples exceeded their respective PSLs as discussed below:

- **Benzo(a)anthracene.** Benzo(a)anthracene exceeded the PQL based PSL of 0.02 mg/kg in the samples taken from 2.5 feet bgs at MWEC-04 and SB-3, with concentrations of 0.14 mg/kg and 0.041 mg/kg, respectively.
- **Benzo(a)pyrene.** Benzo(a)pyrene exceeded the PQL based PSL of 0.05 mg/kg in the samples taken from 2.5 feet bgs at MWEC-04 and SB-3, with concentrations of 0.078 mg/kg and 0.056 mg/kg, respectively.
- **Benzo(b)fluoranthene.** Benzo(b)fluoranthene exceeded the PQL based PSL of 0.05 mg/kg in the samples taken from 2.5 feet bgs at MWEC-04 and SB-3, with concentrations of 0.23 mg/kg and 0.067 mg/kg, respectively.
- **Benzo(ghi)perylene.** Benzo(ghi)perylene exceeded the PQL based PSL of 0.0035 mg/kg in the samples taken from 2.5 feet bgs at MWEC-04 and SB-3, with concentrations of 0.023 mg/kg and 0.037 mg/kg, respectively.
- **Benzo(k)fluoranthene.** Benzo(k)fluoranthene exceeded the PQL based PSL of 0.05 mg/kg in the sample taken from 2.5 feet bgs at MWEC-04 with a concentration of 0.066 mg/kg.
- **Chrysene.** Chrysene exceeded the PQL based PSL of 0.02 mg/kg in the samples taken from 2.5 feet bgs at MWEC-04 and SB-3, with concentrations of 0.2 mg/kg and 0.056 mg/kg, respectively.
- **Indeno(1,2,3-cd)pyrene.** Indeno(1,2,3-cd)pyrene exceeded the PQL based PSL of 0.02 mg/kg in the samples taken from 2.5 feet bgs at MWEC-04 and SB-3, with concentrations of 0.035 mg/kg for both samples.
- **cPAH TEQ.** cPAH TEQ exceeded the PQL based PSL of 0.05 mg/kg in the samples taken from 2.5 feet bgs at MWEC-04 and SB-3, with concentrations of 0.13 mg/kg and 0.074 mg/kg, respectively.

6.3.2 Soil

Soil data collected was screened to the PSLs discussed in Section 6.1. The results are provided in Table 6-4 and are summarized in Figure 6-2.

6.3.2.1 Metals

Arsenic, barium, cadmium, chromium, chromium (hexavalent), copper, iron, lead, manganese, mercury, and zinc were analyzed and screening results for those contaminants are discussed below:

- **Arsenic, Cadmium, Chromium (total and hexavalent), Copper, Lead, and Zinc.** These metals did not exceed the PSLs in any samples.
- **Barium.** Barium slightly exceeded the saturated soil to groundwater to surface water based PSL of 41 mg/kg in the sample collected from 11.3 feet bgs at MWEC-01 (45 mg/kg) and the sample collected from MWEC-02 at 13.0 feet bgs (51 mg/kg). Barium was not detected in groundwater at concentrations exceeding PSLs.
- **Iron.** Iron exceeded the natural background based PSL of 51,500 mg/kg in 14 of the 70 sample intervals with concentrations ranging from 160,000 mg/kg to 456,000 mg/kg.
- **Manganese.** Manganese exceeded the natural background based PSL of 1,100 mg/kg in 4 of the 70 sample intervals with concentrations ranging from 1,600 mg/kg to 1,700 mg/kg.
- **Mercury.** Mercury exceeded the EIC based PSL of 0.1 mg/kg in the sample collected from 4.0 feet bgs at SB-2 (1.8 mg/kg) and in the sample collected from 7.0 feet bgs at SB-14 (0.56 mg/kg).

6.3.2.2 TPH

TPH were analyzed and screening results for those contaminants are discussed below:

- **DRO.** DRO did not exceed the PSL in any samples.
- **GRO.** There was one detection of GRO in the sample collected from 0.5 feet bgs at SB-14 (79 mg/kg); this concentration exceeded the Method A based PSL of 30 mg/kg.
- **ORO.** ORO was detected in 9 of the 70 soil intervals sampled. All detected ORO concentrations exceeded the EIC based PSL of 200 mg/kg, with concentrations ranging from 300 mg/kg to 1,400 mg/kg.

6.3.2.3 Pesticides

DDD and DDT were analyzed in all soil samples. DDD was detected in only one sample (SB-14 at 7.0 feet bgs) at 0.004 mg/kg, exceeding the PQL based PSL of 0.00265 mg/kg. DDT was detected in only one sample (SB-14 at 0.5 feet bgs) at 0.012 mg/kg, exceeding the PQL based PSL of 0.00265 mg/kg.

6.3.2.4 PCBs

Total polychlorinated biphenyls (PCBs) were analyzed in all samples and were not detected or were detected below the PQL based PSL of 0.04 mg/kg.

6.3.2.5 Organic Compounds

Eleven organic compounds (vinyl chloride, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, bis(2-ethylhexyl) phthalate, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and cPAH TEQ in soil samples exceeded their respective PSLs as discussed below:

- **Vinyl chloride.** Vinyl chloride was detected in only one sample (MWEC-03 at 11.0 feet bgs) at 0.0022 mg/kg, slightly exceeding the PQL based PSL of 0.002 mg/kg. As discussed in the section below, vinyl chloride was not detected in groundwater from this monitoring well.
- **Benzo(a)anthracene.** Benzo(a)anthracene exceeded the PQL based PSL of 0.02 mg/kg in the samples taken from 1.0 feet bgs at SB-3 and from 11.0 and 13.0 feet bgs at SB-18, with concentrations of 0.026 mg/kg, 0.027 mg/kg and 0.15 mg/kg, respectively.
- **Benzo(a)pyrene.** Benzo(a)pyrene exceeded the PQL based PSL of 0.05 mg/kg in the sample taken from 13.0 feet bgs at SB-18 (0.19 mg/kg).
- **Benzo(b)fluoranthene.** Benzo(b)fluoranthene exceeded the PQL based PSL of 0.05 mg/kg in the sample taken from 13.0 feet bgs at SB-18 (0.26 mg/kg).
- **Benzo(ghi)perylene.** Benzo(ghi)perylene exceeded the PQL based PSL of 0.0035 mg/kg in the samples taken from 1.0 feet bgs at SB-3, from 7.0 feet at SB-14, from 3.5 feet bgs at SB-16, and from 11.0 and 13.0 feet bgs at SB-18 with concentrations of 0.024 mg/kg, 0.011 mg/kg, 0.0038 mg/kg, 0.02 mg/kg, and 0.11 mg/kg, respectively.
- **Benzo(k)fluoranthene.** Benzo(k)fluoranthene exceeded the PQL based PSL of 0.05 mg/kg in the sample taken from 13.0 feet bgs at SB-18 (0.079 mg/kg).
- **Bis(2-ethylhexyl) phthalate**. Bis(2-ethylhexyl) phthalate exceeded the Method B based PSL of 0.1 mg/kg in the samples taken from 5.5 feet bgs at SB-17 and from 1.0 feet bgs at SB-18 with concentrations of 3.2 mg/kg and 0.22 mg/kg, respectively.
- **Chrysene**. Chrysene exceeded the PQL based PSL of 0.02 mg/kg in the samples taken from 1.0 feet bgs at SB-3 and from 11.0 and 13.0 feet bgs at SB-18, with concentrations of 0.031 mg/kg, 0.032 mg/kg, and 0.17 mg/kg, respectively.
- **Dibenzo(a,h)anthracene.** Dibenzo(a,h)anthracene exceeded the PQL based PSL of 0.02 mg/kg in the sample taken from 13.0 feet bgs at SB-18 (0.027 mg/kg).
- **Indeno(1,2,3-cd)pyrene.** Indeno(1,2,3-cd)pyrene exceeded the PQL based PSL of 0.02 mg/kg in the samples taken 1.0 feet bgs at SB-3 and from 13.0 feet bgs at SB-18, with concentrations of 0.023 mg/kg and 0.11 mg/kg, respectively.
- **cPAH TEQ.** cPAH TEQ exceeded the PSL of PQL based 0.05 mg/kg in the sample taken from 13.0 feet bgs at SB-18 (0.25 mg/kg).

6.3.3 Groundwater

Groundwater data collected was screened to the PSLs discussed in Section 6.2. The results are provided in Table 6-5 and are summarized in Figure 6-3.

6.3.3.1 Metals

Groundwater from all wells was analyzed for both total and dissolved arsenic, barium, cadmium, chromium (total and hexavalent), copper, iron, lead, manganese, mercury, and zinc. Screening results are discussed below:

- **Arsenic, Barium, Cadmium, Chromium (total and hexavalent), Copper, Lead, Mercury, and Zinc.** These metals were not detected or did not exceed PSLs in any samples (either total or dissolved).

- **Iron.** Dissolved and total iron exceeded the ARAR based PSL of 300 ug/L in MWEC-01, MWEC-02, MWEC-04, and MW-15. Dissolved iron concentrations ranged up to 7,000 ug/L.
- **Manganese.** Dissolved and total manganese exceeded the ARAR based PSL of 50 ug/L in all samples, with dissolved concentrations ranging up to 1,800 mg/L.

6.3.3.2 TPH

There were no detections of TPH in groundwater.

6.3.3.3 Pesticides

There were no detections of either DDD or DDT in groundwater.

6.3.3.4 PCBs

There were no detections of PCBs in groundwater.

6.3.3.5 Organic Compounds

Aside from a single detection of N- Nitrosodiphenylamine at 0.13 ug/L in MW-15 (well below the PSL of 2 ug/L), there were no detections of volatile organic compounds, semivolatile organic compounds, or polycyclic aromatic hydrocarbons (PAHs) in groundwater.

6.4 Results Summary

The lateral and vertical extents of wood waste are shown in Figure 4-1. TPH concentrations exceeding ecological based EICs (200 mg/kg) were observed in all samples for ORO, and for DRO in several samples. In some cases, concentrations also exceeded Method A CULs (2,000 mg/kg) protective of human health unrestricted land use. TPH impacts are not typically associated with wood waste unless the wood has been contaminated with petroleum products, such as from spills, wood use in industrial settings, or petroleum treated wood. PSL exceedances for other constituents (select metals, DDD, and PAHs) typically associated with wood waste were more isolated and were found in fewer samples. It is noted that wood waste can mobilize contaminants under certain environmental conditions. As wood waste decomposes, it can alter the pH of the surrounding soil or water which can mobilize contaminants (e.g., metals) that were previously stable in the environment.

While all wood waste samples showed PSL exceedances, the frequency of PSL exceedances in soil samples and concentrations observed were generally much lower. Metals showed sporadic exceedances limited to less than 10 percent of samples, with the exception of iron which exceeded the PSLs at all sample intervals at SB-8, -9, -10, and -11, an area that coincides with the footprint of planned roadway improvements. TPH exceedances of the ecological based EICs (200 mg/kg) were limited to less than 15 percent of samples collected; TPH concentrations did not exceed Method A CULs (2,000 mg/kg) protective of human health unrestricted land use. Similarly, PAH exceedances were isolated to few locations and less than 10 percent of samples showed exceedances. For example, cPAH TEQ exceeded the PQL based PSL of 0.05 mg/kg (which is nearly four times lower than the human health based Method B CUL of 0.19 mg/kg) in just one sample at location SB-18 at the dike. Isolated exceedances (less than 5 percent of samples) along the dike were also observed for vinyl chloride, phthalates, and DDD/DDT. These results suggest that the sporadic PSL exceedances observed along the dike are associated with fill placement from off-site areas.

Groundwater samples were collected along the riverbank. The results show that contaminants often associated with wood waste, such as pesticides, PCBs, volatile organic compounds, and semivolatile organic compounds, were not detected. Similarly, although present in soil and wood waste samples, TPH was also not detected in groundwater for GRO, DRO, and ORO. The only metals observed above the PSLs were iron and manganese. Typical conditions leading to elevated levels of iron and manganese in groundwater includes elevated organic matter (such as wood waste), which can more readily solubilize metals. While they are essential nutrients at low concentrations, elevated concentrations above typical natural background levels were also observed in soils. Typical anthropogenic sources include industrial processing and manufacturing, agricultural application (fertilizers/soil amendments), and urban runoff. Elevated levels can cause water quality issues and both iron and manganese exceeded PSLs in most locations. It is noted the PSLs are based on EPA secondary maximum contaminant levels for drinking water based on aesthetic reasons, such as taste, color, and staining, rather than health effects.

7 Data Gaps and Cleanup Considerations

Soil borings were collected throughout the Parcels providing dense spatial coverage. Soils were comprehensively characterized throughout the soil POC (0-15 feet bgs) for an extensive suite of contaminants. Where wood waste was present in soil borings, the vertical extent of woodwaste was bounded by several feet of underlying soil. To characterize groundwater, multiple monitoring wells were installed in key areas of the Parcels (near the river), providing high quality data for an extensive suite of contaminants. In summary, sufficient data to inform cleanup considerations was collected and no significant data gaps are identified.

To construct the East-West Corridor Roadway, the County plans to remove wood waste within the roadway corridor as wood waste is not geotechnically suitable under the proposed infrastructure. Wood waste thus removed would be disposed of off-site. This activity would constitute cleanup of wood waste and would provide access for excavation of underlying shallow soil, if needed.

Aside from directly removing contaminated materials, the removal of woodwaste would be expected to lessen the conditions that can lead to metals leaching from underlying soils. These include organic acid production from the decomposition of woodwaste and chelation of organic matter from decomposing woodwaste with heavy metals; both processes increase the solubility and mobility of heavy metals. Removal of wood waste is also likely to lead to restoration of soil buffering capacity and more stable soil conditions over time. The removal and off-site disposal of woodwaste would not represent a significant environmental impact but rather an environmental improvement.

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Limitations

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

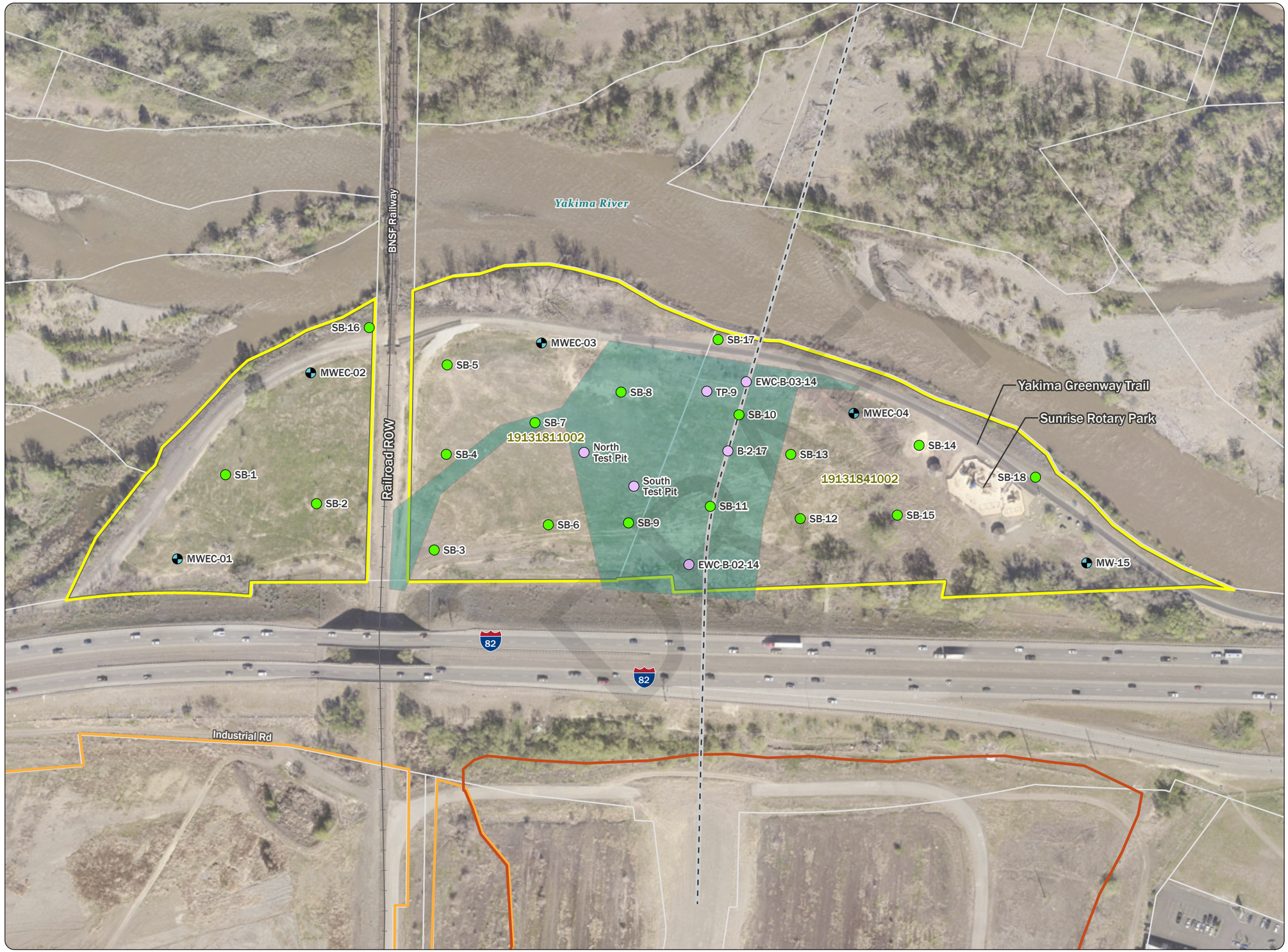
Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

Figures

MAUL FOSTER ALONGI

Figure 1-1
Site Overview

Yakima County
East-West Corridor Roadway
Yakima, Washington



Legend

- Boring
- Monitoring Well
- Previous Sample Location
- Proposed Roadway Corridor Centerline Alignment
- Appoximate Footprint of Roadway Improvements
- Approximate Parcel Boundary
- Yakima City Landfill Site
- Boise Cascade Mill Site
- Tax Lot

Notes
ROW = right of way.

0 150
Feet

Data Sources
Aerial photograph obtained from Esri; tax lot data obtained from Yakima County.

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Path: X:\O_MFA_Projects\M2703\01\001\Pro\M2703_01_001_001.aprx\Fig Site Overview
Print Date: 8/20/2024
Reviewed By: jelliott
Produced By: sturner
Project: M2703.01.001

Figure 4-1
Wood Waste Depth

Yakima County
East-West Corridor Roadway
Yakima, Washington

Yakima River

Interstate 82

SB-16 0 Ft
MWEC-03 6 Ft
SB-17 0 Ft
MWEC-02 0 Ft
SB-5 9.4 Ft
SB-8 1.9 Ft
SB-7 6.7 Ft
SB-10 5.9 Ft
MWEC-04 6 Ft
SB-4 5 Ft
SB-13 11.3 Ft
SB-14 13 Ft
SB-1 7.1 Ft
SB-18 0 Ft
SB-2 3.3 Ft
SB-11 6.7 Ft
SB-12 2.2 Ft
SB-15 6 Ft
SB-6 3.5 Ft
SB-9 3.7 Ft
SB-3 6.4 Ft
MWEC-01 0 Ft
MW-15 0 Ft

Legend

- Boring
- Monitoring Well
- Proposed Roadway Corridor Centerline Alignment
- Appoximate Footprint of Roadway Improvements
- Approximate Parcel Boundary

Woodwaste Depth

13 Feet
No Woodwaste

- Yakima City Landfill Site
- Boise Cascade Mill Site

Notes
PAH = polynuclear aromatic hydrocarbons.
PCUL = preliminary cleanup level.
DDD = Dichlorodiphenyldichloroethane.

0 150
Feet

Data Sources
Aerial photograph obtained from Esri.

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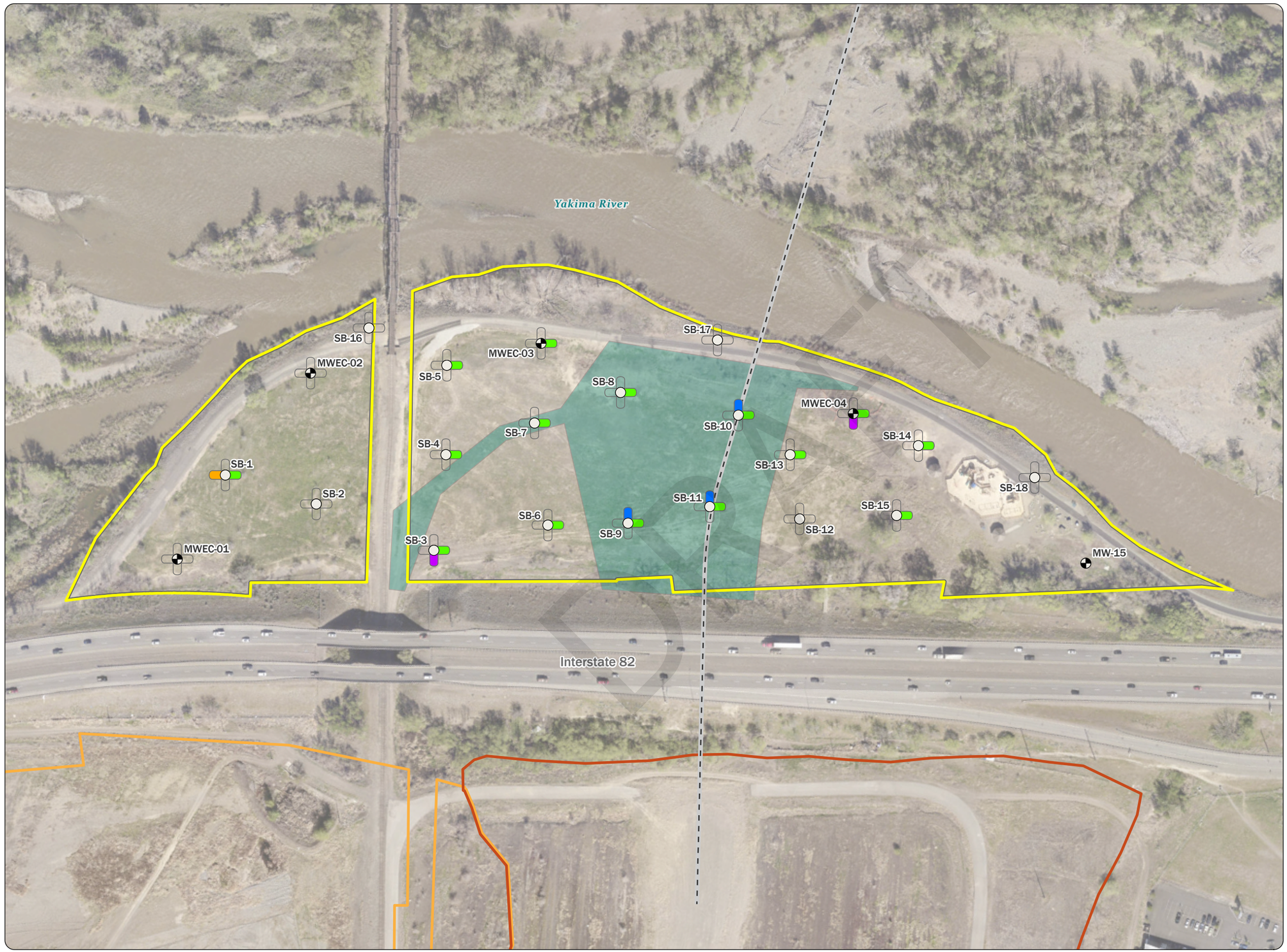
Figure 6-1
Wood Waste Sample Results

Yakima County
East-West Corridor Roadway
Yakima, Washington



Legend

- Boring
- Monitoring Well

PSL Exceedances

- Metals
- Pesticides
- Total Petroleum Hydrocarbons
- PAHs

- Proposed Roadway Corridor Centerline Alignment
- Approximate Project Area
- Appoximate Footprint of Roadway Improvements
- Yakima City Landfill Site
- Boise Cascade Mill Site
- Tax Parcel

Notes
PAHs = polynuclear aromatic hydrocarbons.
PSL = preliminary screening level.

0 150
Feet

Data Sources
Aerial photograph obtained from Esri.

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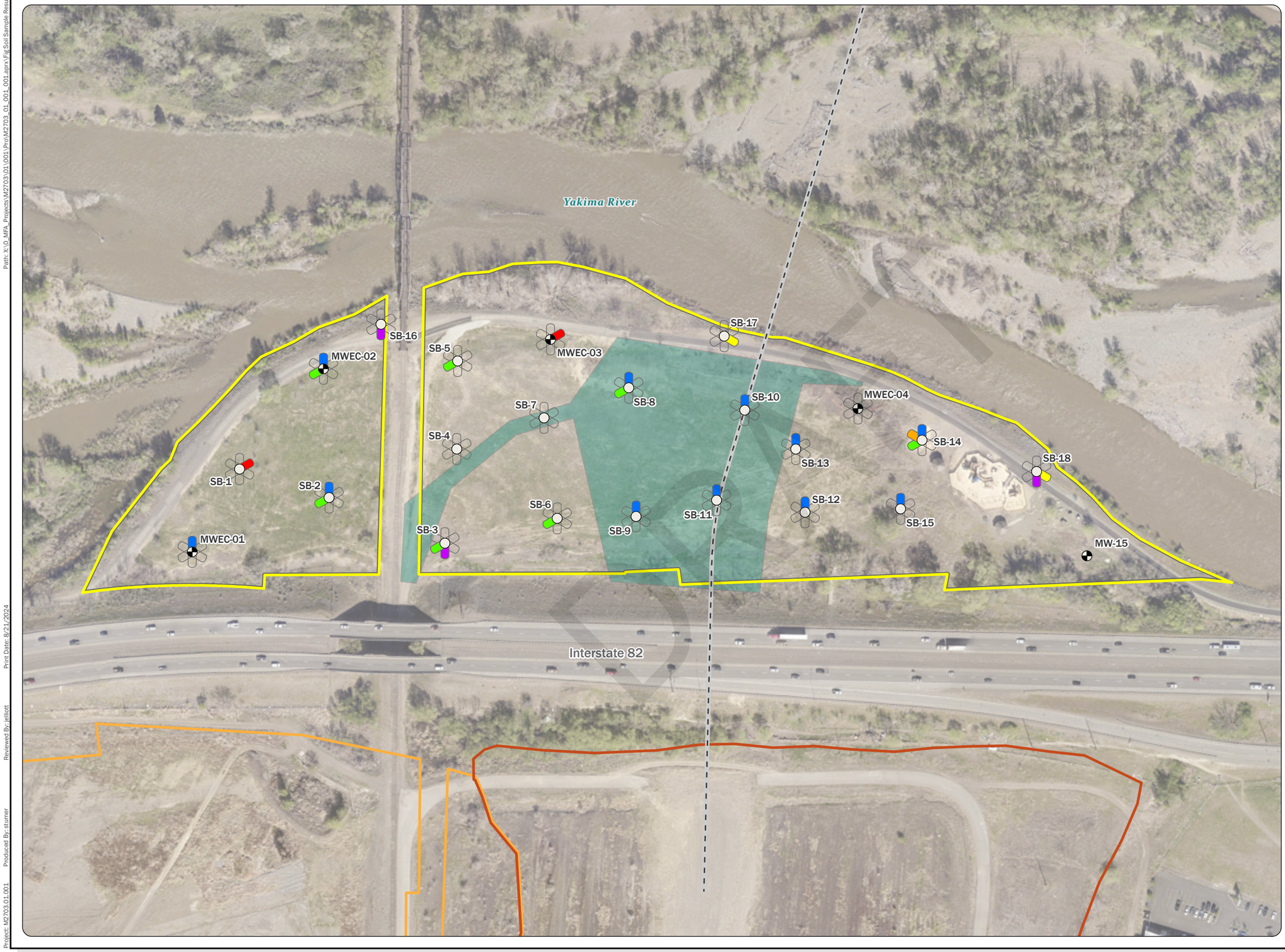
Figure
Soil Sample Results

Yakima County
East-West Corridor Roadway
Yakima, Washington



Legend

- Boring
- Monitoring Well

PSL Exceedances

- Metals
- Pesticides
- Total Petroleum Hydrocarbons
- PAHs
- Phthalates
- VOCs

- Proposed Roadway Corridor Centerline Alignment
- Approximate Parcel Boundary
- Appoximate Footprint of Roadway Improvements
- Yakima City Landfill Site
- Boise Cascade Mill Site
- Tax Parcel

Notes
PAHs = polynuclear aromatic hydrocarbons.
PSL = preliminary screening level.
VOCs = Volatile organic compounds.

0 150
Feet

Data Sources
Aerial photograph obtained from Esri.

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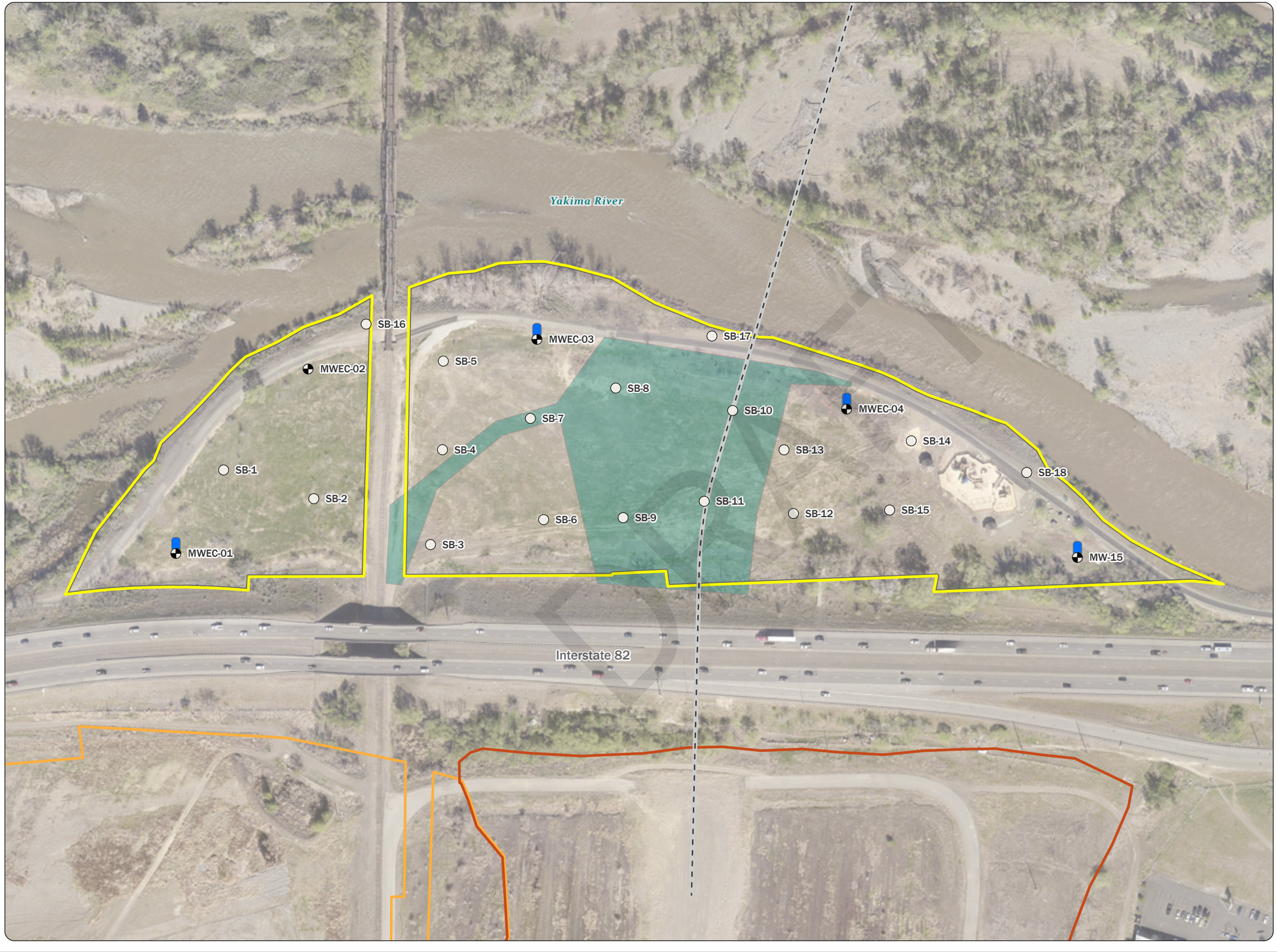
Figure 6-3
Sample Results: Groundwater

Yakima County
East-West Corridor Roadway
Yakima, Washington



Legend

- Boring
- Monitoring Well

PSL Exceedance

- Metals
- Proposed Roadway Corridor Centerline Alignment
- Approximate Project Area
- Appoximate Footprint of Roadway Improvements
- Yakima City Landfill Site
- Boise Cascade Mill Site

Notes
PSL = preliminary screening level.

0 150
Feet

Data Sources
Aerial photograph obtained from Esri.

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Tables

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Table 2-1
Previous Investigation Soil Analytical Data Summary
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Screening Value (PCULs Mill Site)[a]	Screening Value (PCULs Landfill Site)[a]	TP-9	TP-9	B-2-17				EWC-B-02-14	EWC-B-03-14
Sample Name:			TP-9-18-23-R	TP-9-18-23-P	ES-5	ES-6	ES-7	ES-8	EWC-B-02-14:12.25	EWC-B-03-14:12.0
Collection Date:			09/18/2023	9/18/2023	08/03/2017	08/03/2017	08/03/2017	08/03/2017	06/24/2014	06/26/2014
Collection Depth (ft bgs):			9	11	0.2	8.8	15.8	21.2	12.5	12.0
Total Metals (mg/kg)										
Arsenic	20	--	1.39	1.16	4.19	2.92	2.07	2.1	2.2	2.0
Barium	--	820[b], 41[c]	80.9	62.7	162	72.5	54.2	63.6	--	--
Cadmium	1	--	0.0611	0.0734	0.175	0.473 U	0.17 U	0.172 U	0.17 U	0.16 U
Chromium	--	--	13.3	13.9	36.7	5.51	23	23.2	14	11
Copper	36	--	--	--	48.8	12	14.7	18.7	--	--
Lead	220	--	3.10	4.42	7.1	14.2	2.65	2.29	2.9	1.9
Mercury	--	--	0.169 U	0.171 U	0.251 U	0.702 U	0.253 U	0.288 U	0.29 U	0.26 U
Nickel	67.8	--	--	--	69.1	5.56	25	19.5	--	--
Selenium	--	--	0.843 U	0.854 U	2.16	1.18 U	1.63	1.53	--	--
Silver	400	--	0.0228	0.0171	0.081 U	0.224 U	0.08 U	0.094 U	--	--
Zinc	124	--	--	--	82.7	56.5	43.7	42.2	--	--
PCBs (mg/kg)										
Aroclor 1016	--	--	--	--	--	0.295 U	0.103 U	0.118 U	--	--
Aroclor 1221	--	--	--	--	--	0.295 U	0.103 U	0.118 U	--	--
Aroclor 1232	--	--	--	--	--	0.295 U	0.103 U	0.118 U	--	--
Aroclor 1242	--	--	--	--	--	0.295 U	0.103 U	0.118 U	--	--
Aroclor 1248	--	--	--	--	--	0.295 U	0.103 U	0.118 U	--	--
Aroclor 1254	--	--	--	--	--	0.295 U	0.103 U	0.118 U	--	--
Aroclor 1260	--	--	--	--	--	0.295 U	0.103 U	0.118 U	--	--
Aroclor 1262	--	--	--	--	--	0.295 U	0.103 U	0.118 U	--	--
Aroclor 1268	--	--	--	--	--	0.295 U	0.103 U	0.118 U	--	--
Total PCBs[d]	--	--	--	--	--	0.295 U	0.103 U	0.118 U	--	--
PAHs (mg/kg)										
1-Methylnaphthalene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
2-Methylnaphthalene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Acenaphthene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Acenaphthylene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Anthracene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Benz[a]anthracene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Benzo(a)pyrene	0.19	--	0.0332 U	0.0319 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Benzo(b)fluoranthene	--	--	0.0277 U	0.0266 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Benzo(ghi)perylene	--	--	0.0553 U	0.0531 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Benzo(k)fluoranthene	--	--	0.0277 U	0.0266 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Chrysene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U

Table 2-1
Previous Investigation Soil Analytical Data Summary
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Screening Value (PCULs Mill Site)[(a)]	Screening Value (PCULs Landfill Site)[(a)]	TP-9	TP-9	B-2-17				EWC-B-02-14	EWC-B-03-14
Sample Name:			TP-9-18-23-R	TP-9-18-23-P	ES-5	ES-6	ES-7	ES-8	EWC-B-02-14:12.25	EWC-B-03-14:12.0
Collection Date:			09/18/2023	9/18/2023	08/03/2017	08/03/2017	08/03/2017	08/03/2017	06/24/2014	06/26/2014
Collection Depth (ft bgs):			9	11	0.2	8.8	15.8	21.2	12.5	12.0
Dibenzo(a,h)anthracene	--	--	0.0553 U	0.0531 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Fluoranthene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Fluorene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Indeno(1,2,3-cd)pyrene	--	--	0.0442 U	0.0425 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Naphthalene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Phenanthrene	--	--	0.0221 U	0.0212 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
Pyrene	--	--	0.0442 U	0.0425 U	--	0.119 U	0.0371 U	0.0455 U	0.053 U	0.049 U
SVOCs (mg/kg)										
Phenol	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Bis(2-chloroethyl) ether	--	--	0.0536 U	0.0515 U	--	--	--	--	--	--
2-Chlorophenol	--	--	0.0428 U	0.0412 U	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	0.0428 U	0.0412 U	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	0.0428 U	0.0412 U	--	--	--	--	--	--
Benzyl alcohol	--	--	0.161 U	0.155 U	--	--	--	--	--	--
2-Methylphenol (o-cresol)	--	--	0.0428 U	0.0412 U	--	--	--	--	--	--
Hexachloroethane	--	--	0.0428 U	0.0412 U	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	--	--	0.0857 U	0.0824 U	--	--	--	--	--	--
3&4-Methylphenol (m, p-cresol)	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Nitrobenzene	--	--	0.0536 U	0.0515 U	--	--	--	--	--	--
Isophorone	--	--	0.0428 U	0.0412 U	--	--	--	--	--	--
2-Nitrophenol	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Naphthalene	--	--	0.0428 U	0.0412 U	--	--	--	--	--	--
4-Chloroaniline	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Hexachlorobutadiene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
2-Methylnaphthalene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
1-Methylnaphthalene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	0.107 U	0.103 U	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
2-Chloronaphthalene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--

Table 2-1
Previous Investigation Soil Analytical Data Summary
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Screening Value (PCULs Mill Site)[a]	Screening Value (PCULs Landfill Site)[a]	TP-9	TP-9	B-2-17				EWC-B-02-14	EWC-B-03-14
Sample Name:			TP-9-18-23-R	TP-9-18-23-P	ES-5	ES-6	ES-7	ES-8	EWC-B-02-14:12.25	EWC-B-03-14:12.0
Collection Date:			09/18/2023	9/18/2023	08/03/2017	08/03/2017	08/03/2017	08/03/2017	06/24/2014	06/26/2014
Collection Depth (ft bgs):			9	11	0.2	8.8	15.8	21.2	12.5	12.0
2-Nitroaniline	--	--	0.0536 U	0.0515 U	--	--	--	--	--	--
Acenaphthene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Dimethylphthalate	--	--	3.75 U	3.61 U	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	0.0428 U	0.0412 U	--	--	--	--	--	--
Acenaphthylene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	0.321 U	0.309 U	--	--	--	--	--	--
Dibenzofuran	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	0.0643 U	0.0618 U	--	--	--	--	--	--
4-Nitrophenol	--	--	0.214 U	0.206 U	--	--	--	--	--	--
Fluorene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Diethylphthalate	--	--	0.803 U	0.773 U	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	0.268 U	0.258 U	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Hexachlorobenzene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Pentachlorophenol	0.041	--	0.214 U	0.206 U	--	--	--	--	0.043	0.051
Phenanthrene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Anthracene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Carbazole	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Di-n-butylphthalate	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Fluoranthene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Pyrene	--	--	0.161 U	0.155 U	--	--	--	--	--	--
Butyl Benzylphthalate	530	--	0.0536 U	0.0515 U	--	--	--	--	--	--
bis(2-Ethylhexyl)adipate	--	--	0.214 U	0.206 U	--	--	--	--	--	--
Benz(a)anthracene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Chrysene	--	--	0.0536 U	0.0515 U	--	--	--	--	--	--
bis (2-Ethylhexyl) phthalate	0.445	0.119	0.0428 U	0.0412 U	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	0.0803 U	0.0773 U	--	--	--	--	--	--
Benzo(b)fluoranthene	--	0.012	0.107 U	0.103 U	--	--	--	--	--	--
Benzo(k)fluoranthene	--	--	0.0321 U	0.0309 U	--	--	--	--	--	--
Benzo(a)pyrene	0.19	--	0.0428 U	0.0412 U	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	0.214 U	0.206 U	--	--	--	--	--	--
Dibenz(a,h)anthracene	--	--	0.107 U	0.103 U	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	0.107 U	0.103 U	--	--	--	--	--	--
Organochlorine Pesticides (mg/kg)										
4,4'-DDD	--	0.00265	--	--	0.011 U	--	--	--	--	--

Table 2-1
Previous Investigation Soil Analytical Data Summary
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Screening Value (PCULs Mill Site)[(a)]	Screening Value (PCULs Landfill Site)[(a)]	TP-9	TP-9	B-2-17				EWC-B-02-14	EWC-B-03-14
Sample Name:			TP-9-18-23-R	TP-9-18-23-P	ES-5	ES-6	ES-7	ES-8	EWC-B-02-14:12.25	EWC-B-03-14:12.0
Collection Date:			09/18/2023	9/18/2023	08/03/2017	08/03/2017	08/03/2017	08/03/2017	06/24/2014	06/26/2014
Collection Depth (ft bgs):			9	11	0.2	8.8	15.8	21.2	12.5	12.0
4,4'-DDE	--	--	--	--	0.011 U	--	--	--	--	--
4,4'-DDT	--	0.00265	--	--	0.011 U	--	--	--	--	--
Aldrin	--	--	--	--	0.011 U	--	--	--	--	--
alpha-BHC	--	--	--	--	0.011 U	--	--	--	--	--
beta-BHC	--	--	--	--	0.011 U	--	--	--	--	--
cis-Chlordane	--	--	--	--	0.011 U	--	--	--	--	--
delta-BHC	--	--	--	--	0.011 U	--	--	--	--	--
Dieldrin	--	--	--	--	0.011 U	--	--	--	--	--
Endosulfan I	--	--	--	--	0.011 U	--	--	--	--	--
Endosulfan II	--	--	0.0164 U	0.0164 U	0.011 U	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	0.011 U	--	--	--	--	--
Endrin	--	--	--	--	0.011 U	--	--	--	--	--
Endrin Aldehyde	--	--	--	--	0.011 U	--	--	--	--	--
Endrin Ketone	--	--	--	--	0.011 U	--	--	--	--	--
gamma-Chlordane	--	--	--	--	0.011 U	--	--	--	--	--
Heptachlor	--	--	--	--	0.011 U	--	--	--	--	--
Heptachlor Epoxide	--	--	--	--	0.011 U	--	--	--	--	--
Lindane	--	--	--	--	0.011 U	--	--	--	--	--
Methoxychlor	--	--	--	--	0.011 U	--	--	--	--	--
Toxaphene	--	--	--	--	0.106 U	--	--	--	--	--
Herbicides (mg/kg)										
2,4,5-T	--	--	--	--	0.0516 U	--	--	--	--	--
2,4-D	--	--	--	--	0.0309 U	--	--	--	--	--
2,4-DB	--	--	--	--	0.0258 U	--	--	--	--	--
3,5-Dichlorobenzoic Acid	--	--	--	--	0.0413 U	--	--	--	--	--
4-Nitrophenol	--	--	--	--	0.0309 U	--	--	--	--	--
Acifluorfen	--	--	--	--	0.0825 U	--	--	--	--	--
Bentazon	--	--	--	--	0.0361 U	--	--	--	--	--
Chloramben	--	--	--	--	0.0206 U	--	--	--	--	--
Chlorthal-dimethyl	--	--	--	--	0.0309 U	--	--	--	--	--
Dalapon	--	--	--	--	0.206 U	--	--	--	--	--
Dicamba	--	--	--	--	0.0361 U	--	--	--	--	--
Dichlorprop	--	--	--	--	0.0258 U	--	--	--	--	--
Dinoseb	--	--	--	--	0.0309 U	--	--	--	--	--
MCPA	--	--	--	--	2.89 U	--	--	--	--	--
Mecoprop	--	--	--	--	4.54 U	--	--	--	--	--

Table 2-1
Previous Investigation Soil Analytical Data Summary
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Screening Value (PCULs Mill Site)[a]	Screening Value (PCULs Landfill Site)[a]	TP-9	TP-9	B-2-17				EWC-B-02-14	EWC-B-03-14
Sample Name:			TP-9-18-23-R	TP-9-18-23-P	ES-5	ES-6	ES-7	ES-8	EWC-B-02-14:12.25	EWC-B-03-14:12.0
Collection Date:			09/18/2023	9/18/2023	08/03/2017	08/03/2017	08/03/2017	08/03/2017	06/24/2014	06/26/2014
Collection Depth (ft bgs):			9	11	0.2	8.8	15.8	21.2	12.5	12.0
Picloram	--	--	--	--	0.0516 U	--	--	--	--	--
Silvex	--	--	--	--	0.0206 U	--	--	--	--	--
TPH (mg/kg)										
Gasoline-Range Hydrocarbons	30	--	--	--	--	25.8 U	4.5 U	4.7 U	5.1 U	4.5 U
Diesel-Range Hydrocarbons	--	--	--	--	--	19.2 U	18.9 U	20.4 U	18 U	18 U
Oil-Range Hydrocarbons	--	--	--	--	--	495	47.3 U	51 U	46 U	46 U
Diesel + Heavy Oil[e]	460[f]	460[f]	--	--	--	504.6	47.3 U	51 U	46 U	46 U
VOCs (mg/kg)										
Dichlorodifluoromethane	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
Chloromethane	--	--	0.0374 U	0.0307 U	--	--	--	--	--	--
Vinyl chloride	0.67	--	0.0187 U	0.0154 U	--	--	--	--	--	--
Bromomethane	--	--	0.0187 U	0.0154 U	--	--	--	--	--	--
Trichlorofluoromethane	--	--	0.015 U	0.0123 U	--	--	--	--	--	--
Chloroethane	--	--	0.0561 U	0.0461 U	--	--	--	--	--	--
1,1-Dichloroethene	--	--	0.0748 U	0.0615 U	--	--	--	--	--	--
Acetone	72000	--	0.187 U	0.154 U	--	--	--	--	--	--
Methylene chloride	94	--	0.0262 U	0.0215 U	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	--	0.00748 U	0.00615 U	--	--	--	--	--	--
Methyl tert-butyl ether	560	--	0.015 U	0.0123 U	--	--	--	--	--	--
1,1-Dichloroethane	--	--	0.0187 U	0.0154 U	--	--	--	--	--	--
cis-1,2-Dichloroethene	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
2-Butanone	48000	--	0.224 U	0.184 U	--	--	--	--	--	--
Chloroform	32	--	0.0131 U	0.0108 U	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	0.015 U	0.0123 U	--	--	--	--	--	--
1,1-Dichloropropene	--	--	0.015 U	0.0123 U	--	--	--	--	--	--
Carbon tetrachloride	14	--	0.0187 U	0.0154 U	--	--	--	--	--	--
1,2-Dichloroethane	11	--	0.015 U	0.0123 U	--	--	--	--	--	--
Benzene	18	--	0.0131 U	0.0108 U	--	--	--	--	0.02 U	0.018 U
Trichloroethene	12	--	0.0112 U	0.00922 U	--	--	--	--	--	--
1,2-Dichloropropane	--	--	0.0187 U	0.0154 U	--	--	--	--	--	--
Bromodichloromethane	--	--	0.0187 U	0.0154 U	--	--	--	--	--	--
Dibromomethane	--	--	0.00935 U	0.00768 U	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
Toluene	6400	--	0.0224 U	0.0184 U	--	0.177	0.0181 U	0.0186 U	0.02 U	0.018 U
Trans-1,3-Dichloropropylene	--	--	0.015 U	0.0123 U	--	--	--	--	--	--
Methyl isobutyl ketone	--	--	0.0449 U	0.0369 U	--	--	--	--	--	--

Table 2-1
Previous Investigation Soil Analytical Data Summary
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Screening Value (PCULs Mill Site)[(a)]	Screening Value (PCULs Landfill Site)[(a)]	TP-9	TP-9	B-2-17				EWC-B-02-14	EWC-B-03-14
Sample Name:			TP-9-18-23-R	TP-9-18-23-P	ES-5	ES-6	ES-7	ES-8	EWC-B-02-14:12.25	EWC-B-03-14:12.0
Collection Date:			09/18/2023	9/18/2023	08/03/2017	08/03/2017	08/03/2017	08/03/2017	06/24/2014	06/26/2014
Collection Depth (ft bgs):			9	11	0.2	8.8	15.8	21.2	12.5	12.0
1,1,2-Trichloroethane	--	--	0.00935 U	0.00768 U	--	--	--	--	--	--
1,3-Dichloropropane	--	--	0.00748 U	0.00615 U	--	--	--	--	--	--
Tetrachloroethene	480	--	0.0112 U	0.00922 U	--	--	--	--	--	--
Dibromochloromethane	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
1,2-Dibromoethane	0.5	--	0.00748 U	0.00615 U	--	--	--	--	--	--
2-Hexanone	--	--	0.0468 U	0.0384 U	--	--	--	--	--	--
Chlorobenzene	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	--	--	0.0187 U	0.0154 U	--	--	--	--	--	--
Ethylbenzene	8000	--	0.0187 U	0.0154 U	--	--	--	--	0.03 U	0.027 U
m,p-Xylene	--	--	0.0374 U	0.0307 U	--	--	--	--	0.02 U	0.018 U
o-Xylene	--	--	0.0187 U	0.0154 U	--	--	--	--	0.02 U	0.018 U
Total Xylenes	16000	--	0.0561 U	0.0461 U	--				0.04 U	0.036 U
Styrene	--	--	0.00748 U	0.00615 U	--	--	--	--	--	--
Isopropylbenzene	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
Bromoform	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	0.15 U	0.123 U	--	--	--	--	--	--
n-Propylbenzene	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
Bromobenzene	--	--	0.00935 U	0.00768 U	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
2-Chlorotoluene	--	--	0.0123 U	0.0101 U	--	--	--	--	--	--
4-Chlorotoluene	--	--	0.0123 U	0.0101 U	--	--	--	--	--	--
tert-Butylbenzene	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	0.0224 U	0.0184 U	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	0.0449 U	0.0369 U	--	0.27	0.0226 U	0.0233 U	--	--
sec-Butylbenzene	--	--	0.112 U	0.0922 U	--	--	--	--	--	--
4-Isopropyltoluene	--	--	0.15 U	0.123 U	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	0.015 U	0.0123 U	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
n-Butylbenzene	--	--	0.015 U	0.0123 U	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	0.015 U	0.0123 U	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	0.0224 U	0.0184 U	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	0.0112 U	0.00922 U	--	--	--	--	--	--
Hexachloro-1,3-butadiene	--	--	0.0299 U	0.0246 U	--	--	--	--	--	--
Naphthalene	1600	--	0.0748 U	0.0615 U	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	0.0449 U	0.0369 U	--	0.27	0.0181 U	0.0186 U	--	--

Table 2-1
Previous Investigation Soil Analytical Data Summary
East-West Corridor Roadway, Yakima, Washington
Yakima County

Notes

These values were copied from analytical reports provided to MFA. A third-party validation was not performed on these data.

Shading inidcates values that exceed screening criteria; non-detects (U) were not compared with screening criteria.

-- = no value or data.

[a] The PCULs shown in this column are only those for contaminants of potential concern at that site.

[b] Vadose-zone PCUL.

[c] Saturated-zone PCUL.

[d] Total PCBs is the sum of all PCB Aroclors. When all results are non-detect, the highest reporting limit is shown.

[e]Diesel+Oil is the sum of diesel-range and lube-oil-range hydrocarbons. When results are non-detect, half the reporting limit is used. When both results are non-detect, the highest reporting limit is shown.

[f]Value is the lowest applicable screening value for diesel- and lube-oil-range hydrocarbons.

ft bgs = feet below ground surface.

MFA = Maul Foster & Alongi, Inc.

Mill Site = Boise Cascade Mill site.

mg/kg = milligrams per kilogram.

Landfill Site = Yakima City Landfill site.

PCUL = preliminary cleanup level.

U = not detected above the method reporting limit.

Table 3-1
Sample Summary
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location	Sample Name	Sample Depth (ft bgs)	Matrix	Collection Zone	Collection Date
MW-15	MW15-GW-16.0	16.0	Groundwater	NA	06/27/2024
	MW15-GW-16.0-M	16.0	Groundwater	NA	06/28/2024
MWEC-01	MWEC01-S-1.0	1.0	Soil	Vadose	06/25/2024
	MWEC01-S-3.0	3.0	Soil	Vadose	06/25/2024
	MWEC01-S-8.0	8.0	Soil	Vadose	06/25/2024
	MWEC01-S-11.3	11.3	Soil	Saturated	06/25/2024
	MWEC01-GW-20.0	20.0	Groundwater	NA	06/28/2024
MWEC-02	MWEC02-S-1.0	1.0	Soil	Vadose	06/25/2024
	MWEC02-S-3.0	3.0	Soil	Vadose	06/25/2024
	MWEC02-S-8.0	8.0	Soil	Vadose	06/25/2024
	MWEC02-S-13.0	13.0	Soil	Saturated	06/25/2024
	MWEC02-GW-21.0	21.0	Groundwater	NA	06/27/2024
MWEC-03	MWEC03-S-1.0	1.0	Soil/Woodwaste	Vadose	06/24/2024
	MWEC03-S-5.5	5.5	Soil/Woodwaste	Vadose	06/24/2024
	MWEC03-S-7.0	7.0	Soil	Vadose	06/24/2024
	MWEC03-S-11.0	11.0	Soil	Saturated	06/24/2024
	MWEC03-GW-20.0	20.0	Groundwater	NA	06/27/2024
	MWEC03-GW-20.0-M	20.0	Groundwater	NA	06/28/2024
	MWDUP-GW-20.0	20.0	Groundwater	NA	06/27/2024
	MWDUP-GW-20.0-M	20.0	Groundwater	NA	06/28/2024
MWEC-04	MWEC04-S-0.5	0.5	Soil/Woodwaste	Vadose	06/24/2024
	MWEC04-S-2.5	2.5	Soil/Woodwaste	Vadose	06/24/2024
	MWEC04-S-8.0	8.0	Soil	Vadose	06/24/2024
	MWEC04-S-12.5	12.5	Soil	Vadose	06/24/2024
	MWEC04-GW-20.0	20.0	Groundwater	NA	06/27/2024
	MWEC04-GW-20.0-M	20.0	Groundwater	NA	06/28/2024
SB-1	SB1-S-1.0	1.0	Soil	Vadose	06/25/2024
	SB1-S-5.5	5.5	Soil/Woodwaste	Vadose	06/25/2024
	SB1-S-8.5	8.5	Soil	Vadose	06/25/2024
	SB1-S-13.5	13.5	Soil	Vadose	06/25/2024
SB-2	SB2-S-1.0	1.0	Soil	Vadose	06/25/2024
	SB2-S-4.0	4.0	Soil	Vadose	06/25/2024
	SB2-S-10.5	10.5	Soil	Vadose	06/25/2024
	SB2-S-13.5	13.5	Soil	Vadose	06/25/2024
SB-3	SB3-S-1.0	1.0	Soil	Vadose	06/26/2024
	SB3-S-2.5	2.5	Soil/Woodwaste	Vadose	06/26/2024
	SB3-S-7.5	7.5	Soil	Vadose	06/26/2024
	SB3-S-13.5	13.5	Soil	Vadose	06/26/2024
SB-4	SB4-S-1.0	1.0	Soil	Vadose	06/26/2024
	SB4-S-4.0	4.0	Soil/Woodwaste	Vadose	06/26/2024

Table 3-1
Sample Summary
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location	Sample Name	Sample Depth (ft bgs)	Matrix	Collection Zone	Collection Date
SB-4 Continued	SB4-S-10.5	10.5	Soil	Vadose	06/26/2024
	SB4-S-13.0	13.0	Soil	Vadose	06/26/2024
SB-5	SB5-S-1.0	1.0	Soil	Vadose	06/26/2024
	SB5-S-2.5	2.5	Soil/Woodwaste	Vadose	06/26/2024
	SB5-S-9.5	9.5	Soil	Vadose	06/26/2024
	SB5-S-15.7	15.7	Soil	Vadose	06/26/2024
SB-6	SB6-S-1.0	1.0	Soil	Vadose	06/26/2024
	SB6-S-3.0	3.0	Soil/Woodwaste	Vadose	06/26/2024
	SBDUP-S-3.0	3.0	Soil/Woodwaste	Vadose	06/26/2024
	SB6-S-10.5	10.5	Soil	Vadose	06/26/2024
	SB6-S-13.5	13.5	Soil	Vadose	06/26/2024
SB-7	SB7-S-1.0	1.0	Soil	Vadose	06/26/2024
	SB7-S-4.0	4.0	Soil/Woodwaste	Vadose	06/26/2024
	SB7-S-7.0	7.0	Soil	Vadose	06/26/2024
	SB7-S-13.5	13.5	Soil	Vadose	06/26/2024
SB-8	SB8-S-0.5	0.5	Soil	Vadose	06/27/2024
	SB8-S-3.0	3.0	Soil	Vadose	06/27/2024
	SBDUP2-S-3.0	3.0	Soil	Vadose	06/27/2024
	SB8-S-10.5	10.5	Soil	Vadose	06/27/2024
	SB8-S-13.5	13.5	Soil	Vadose	06/27/2024
SB-9	SB9-S-1.0	1.0	Soil/Woodwaste	Vadose	06/27/2024
	SB9-S-4.0	4.0	Soil	Vadose	06/27/2024
	SB9-S-10.5	10.5	Soil	Vadose	06/27/2024
	SB9-S-13.5	13.5	Soil	Vadose	06/27/2024
SB-10	SB10-S-0.5	0.5	Soil	Vadose	06/27/2024
	SB10-S-5.5	5.5	Soil/Woodwaste	Vadose	06/27/2024
	SBDUP-S-5.5	5.5	Soil/Woodwaste	Vadose	06/27/2024
	SB10-S-11.0	11.0	Soil	Vadose	06/27/2024
	SB10-S-15.5	15.5	Soil	Vadose	06/27/2024
SB-11	SB11-S-1.0	1.0	Soil	Vadose	06/27/2024
	SBDUP-S-1.0	1.0	Soil	Vadose	06/27/2024
	SB11-S-5.5	5.5	Soil/Woodwaste	Vadose	06/27/2024
	SB11-S-8.0	8.0	Soil	Vadose	06/27/2024
	SB11-S-12.0	12.0	Soil	Vadose	06/27/2024
SB-12	SB12-S-1.0	1.0	Soil	Vadose	06/28/2024
	SB12-S-5.5	5.5	Soil	Vadose	06/28/2024
	SBDUP2-S-5.5	5.5	Soil	Vadose	06/28/2024
	SB12-S-10.5	10.5	Soil	Saturated	06/28/2024
	SB12-S-16.5	16.5	Soil	Saturated	06/28/2024
SB-13	SB13-S-0.5	0.5	Soil	Vadose	06/27/2024

Table 3-1
Sample Summary
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location	Sample Name	Sample Depth (ft bgs)	Matrix	Collection Zone	Collection Date
SB-13 Continued	SB13-S-5.5	5.5	Soil/Woodwaste	Vadose	06/27/2024
	SB13-S-7.5	7.5	Soil	Vadose	06/27/2024
	SB13-S-11.5	11.5	Soil	Vadose	06/27/2024
SB-14	SB14-S-0.5	0.5	Soil	Vadose	06/24/2024
	SB14-S-3.0	3.0	Soil/Woodwaste	Vadose	06/24/2024
	SB14-S-7.0	7.0	Soil	Vadose	06/24/2024
	SB14-S-13.5	13.5	Soil	Saturated	06/24/2024
SB-15	SB15-S-1.0	1.0	Soil/Woodwaste	Vadose	06/28/2024
	SB15-S-3.0	3.0	Soil/Woodwaste	Vadose	06/28/2024
	SB15-S-10.5	10.5	Soil	Saturated	06/28/2024
	SB15-S-15.5	15.5	Soil	Saturated	06/28/2024
SB-16	SB16-S-1.0	1.0	Soil	Vadose	06/26/2024
	SB16-S-3.5	3.5	Soil	Vadose	06/26/2024
	SB16-S-7.5	7.5	Soil	Vadose	06/26/2024
	SB16-S-12.5	12.5	Soil	Vadose	06/26/2024
SB-17	SB17-S-5.5	5.5	Soil	Vadose	06/28/2024
	SB17-S-9.0	9.0	Soil	Vadose	06/28/2024
	SB17-S-13.5	13.5	Soil	Vadose	06/28/2024
SB-18	SB18-S-1.0	1.0	Soil	Vadose	06/24/2024
	SB18-S-4.0	4.0	Soil	Vadose	06/24/2024
	SB18-S-11.0	11.0	Soil	Vadose	06/24/2024
	SB18-S-13.0	13.0	Soil	Vadose	06/24/2024

Notes

Woodwaste designation and saturated/vadose zone collection information from boring logs.

ft bgs = feet below ground surface.

NA = not applicable.

Table 6-1
Soil Preliminary Screening Levels
East-West Corridor Roadway, Yakima, Washington
Yakima County

Analyte	Mill Site PCULs [a]	Landfill Site PCULs [a]	PQL Mill Site	PQL Landfill Site	Natural Background Concentration [1]	Method A Unrestricted Land Use	Method B Direct Contact [b]	Method B Protective of GW (Vadose)	Method B Protective of GW (Saturated)	Method B Protective of GW to SW (Vadose)	Method B Protective of GW to SW (Saturated)	Freshwater Sediment Cleanup Objectives	Freshwater Sediment Cleanup Screening Level	Table 749-3 Ecological Indicator Concentration for Plants	Table 749-3 Ecological Indicator Concentration for Soil Biota	Table 749-3 Ecological Indicator Concentrations for Wildlife
Total Metals (mg/kg)																
Arsenic	20	20	0.322	4.5	7	**20**	0.67	2.9	0.15	2.9	0.15	14	120	10[d]	60[d]	7[c], 132[d]
Barium	--	820[e], 41[f]	--	0.3	--	--	16000	1600	83	**820**	**41**	--	--	500	--	102
Cadmium	1	25	0.172	0.1	**1**	2	80	0.69	0.035	0.099	0.005	2.1	5.4	4	20	14
Chromium III	--	42	--	0.5	--	2000	120000	480000	24000	**1500**	**74**	--	--	--	--	--
Chromium (Total)	42	42	0.5	0.5	**42**	2000	120000	480000	24000	1500	74	72	88	**42**	**42**	67
Copper	36	--	0.257	--	**36**	--	3200	280	14	4.9	0.25	400	1200	100	50	217
Iron	56000	51500	5	5	**51500[g]**	--	56000	150	7.6	500	25	--	--	--	--	--
Lead	220	220	0.257	0.1	17	250	--	3000	150	500	**25**	360	>1,300	**50**	500	118
Manganese	3700	1100	0.1	0.1	**1100**	--	3700	65	3.3	65	3.3	--	--	1100	--	1500
Mercury	--	2	--	0.02	0.07	--	400	32	1.6	--	--	0.66	0.8	0.3	**0.1**	5.5
Zinc	124	--	0.644	--	**86**	--	24000	6000	300	120	6.2	3200	>4,200	86	200	360
TPH (mg/kg)																
Gasoline-Range Hydrocarbons	30	100	5	5	--	**30**	--	--	--	--	--	--	--	--	100	5000
Diesel-Range Hydrocarbons	--	--	25	25	--	2000	--	--	--	--	--	--	--	--	**200**	6000
Oil-Range Hydrocarbons	--	--	25	25	--	2000	--	--	--	--	--	--	--	--	**200**	6000
Diesel + Heavy Oil	460	460	25	25	--	2000	--	--	--	--	--	340	510	--	**200**	6000
VOCs (mg/kg)																
Benzene	18	--	**0.0235**	--	--	0.03	18	0.027	0.0017	0.0024	0.00015	--	--	--	--	--
Chlorobenzene	--	1600	--	0.002	--	--	1600	0.86	0.051	**0.86**	**0.051**	--	--	--	40	--
Chloroform	32	32	0.0221	0.002	--	--	32	**0.074**	**0.0048**	0.31	0.02	--	--	--	--	--
Ethylbenzene	8000	--	**0.0292**	--	--	6	8000	5.9	0.34	**0.1**	0.0059	--	--	--	--	--
Tetrachloroethene	12	--	**0.05**	--	--	0.03	12	0.025	0.0015	0.0019	0.00011	--	--	--	--	--
Toluene	6400	--	0.0223	--	--	7	6400	4.5	0.27	**0.37**	**0.023**	--	--	200	--	--
Vinyl Chloride	0.67	0.002	0.05	**0.002**	--	--	0.67	0.0017	0.00009	0.00012	0.0000062	--	--	--	--	--
Xylenes	16000	--	**0.0591**	--	--	9	16000	14	0.83	**0.51**	0.03	--	--	--	--	--
SVOCs (mg/kg)																
1,2,4-Trichlorobenzene	--	0.05	--	**0.05**	--	--	34	0.56	0.029	0.0013	0.00007	--	--	--	20	--
1-Methylnaphthalene	--	34	--	0.5	--	--	34	**0.082**	**0.0042**	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	240	--	**0.215**	--	--	240	0.33	0.021	0.069	0.0043	--	--	20	--	--
2-Methylnaphthalene	--	320	--	**0.5**	--	--	320	**1.7**	0.088	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	--	0.33	--	**0.215**	--	--	2.2	0.013	0.00068	0.00021	0.000011	--	--	--	--	--
Acenaphthene	--	4800	--	0.0435	--	--	4800	49	2.5	**3.1**	**0.16**	--	--	20	--	--
Acenaphthylene	--	23	--	250	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	--	24000	--	0.0435	--	--	24000	1100	57	**47**	**2.4**	--	--	--	--	--
Benz(a)anthracene	--	0.02	0.05	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	0.19	0.05	**0.05**	**0.05**	--	0.1	0.19	3.9	0.19	0.00031	0.000016	--	--	--	--	12

Table 6-1
Soil Preliminary Screening Levels
East-West Corridor Roadway, Yakima, Washington
Yakima County

Analyte	Mill Site PCULs [a]	Landfill Site PCULs [a]	PQL Mill Site	PQL Landfill Site	Natural Background Concentration [1]	Method A Unrestricted Land Use	Method B Direct Contact [b]	Method B Protective of GW (Vadose)	Method B Protective of GW (Saturated)	Method B Protective of GW to SW (Vadose)	Method B Protective of GW to SW (Saturated)	Freshwater Sediment Cleanup Objectives	Freshwater Sediment Cleanup Screening Level	Table 749-3 Ecological Indicator Concentration for Plants	Table 749-3 Ecological Indicator Concentration for Soil Biota	Table 749-3 Ecological Indicator Concentrations for Wildlife
Benzo(b)fluoranthene	--	0.012	0.05	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	0.05	0.0035	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	--	--	0.05	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(j)fluoranthene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-Ethylhexyl) phthalate	0.445	0.119	**0.053**	0.119	--	--	71	13	0.67	**0.1**	0.005	0.5	22	--	--	--
Butyl Benzylphthalate	530	--	**0.052**	--	--	--	530	13	0.65	0.0036	0.00018	--	--	--	--	--
Chrysene	--	0.02	0.05	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	--	0.02	0.05	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	3200	--	0.005	--	--	3200	630	32	**5.9**	**0.3**	--	--	--	--	--
Fluorene	--	3200	--	0.005	--	--	3200	51	2.6	**1.6**	**0.08**	--	--	--	30	--
Indeno(1,2,3-cd)pyrene	--	0.02	0.05	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	1600	1600	0.0423	0.5	--	5	1600	**4.5**	**0.24**	140	7.3	--	--	--	--	--
N-Nitrosodiphenylamine	--	0.05	--	**0.05**	--	--	200	1	0.052	0.035	0.0018	--	--	--	20	--
Pentachlorophenol	0.041	2.5	**0.041**	0.185	--	--	2.5	0.016	0.00088	0.000032	0.0000018	1.2	>1.2	3	6	4.5
Phenanthrene[h]	--	2400	--	0.05	--	--	2400	330	16	**11**	**0.55**	--	--	--	--	--
Pyrene	--	8	--	0.05	--	--	--	330	16	**11**	**0.55**	--	--	--	--	--
Total cPAH TEQ	0.19	0.05	**0.05**	**0.05**	--	0.1	0.19	3.9	0.19	0.00031	0.000016	--	--	--	--	--
Total PAHs	--	--	--	--	--	--	--	--	--	--	--	**17**	30	--	--	--
PCB Aroclors (mg/kg)																
Total PCB Aroclors	--	1	--	**0.04**	--	1	0.5	0.34	0.017	0.000011	0.00000055	1.1	2.5	40	--	0.65
Pesticides (mg/kg)																
4,4'-DDD	--	0.00265	--	**0.00265**	--	--	4.2	0.34	0.017	0.0000073	0.00000036	0.31	0.86	--	--	0.75
4,4'-DDT	--	0.00265	--	**0.00265**	--	--	4.2	0.34	0.017	0.0000073	0.00000036	0.1	8.1	--	--	0.75

Table 6-1
Soil Preliminary Screening Levels
East-West Corridor Roadway, Yakima, Washington
Yakima County

Notes

[a] The PCUL shown is the lowest of the PCULs protective of drinking water and discharge to surface water.

[b] The lowest of the cancer and noncancer values is shown.

[c] Value for arsenic III.

[d] Value for arsenic V.

[e] Vadose-zone PCUL.

[f] Saturated-zone PCUL.

[g] Value for the Yakima Basin.

[h] Pyrene as surrogate.

Bold values indicate the lowest applicable preliminary screening level.

-- = no value.

cPAH = carcinogenic polycyclic aromatic hydrocarbon.

GW = groundwater.

Landfill Site = Yakima City Landfill site.

Mill Site = Boise Cascade Mill site.

mg/kg = milligrams per kilogram.

PAH = polycyclic aromatic hydrocarbon.

PCB = polychlorinated biphenyls.

PCULs = preliminary cleanup levels.

PQL = practical quantitation limit.

SVOC = semivolatile organic compound.

SW = surface water.

TEQ = toxicity equivalency.

Total cPAH TEQ = the sum of benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, chrysene, dibenz(a,h)anthracene, and ideno(1,2,3-cd)pyrene multiplied by their respective Toxicity Equivalency Factor from Table 708-2 in WAC 173-340-900.

Total PAH = the sum of 1-methylnaphthalene, 2-methylnaphthalene , acenaphthene, acenaphthylene, anthracene, benz[a]anthracene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenz[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-c,d] pyrene, naphthalene, phenanthrene, pyrene, and total benzofluoranthenes [b+j+k]

TPH = total petroleum hydrocarbons.

Source

[1] Washington Department of Ecology, Toxics Cleanup Program. 1994 *Natural Background Soil Metals Concentrations in Washington State* . Publication #94-115. October.

Table 6-2
Groundwater Preliminary Screening Levels
East-West Corridor Roadway, Yakima, Washington
Yakima County

Analyte	Mill Site PCULs [a]	Landfill Site PCULs [a]	PQL Mill Site	PQL Landfill Site	Yakima Basin Natural Background [1]	Method A Groundwater [b]	Method B Groundwater [c]	Lowest State or Federal Groundwater ARAR	Method B Surface Water [c]	Lowest State or Federal Aquatic Life Surface Water ARAR	Lowest State or Federal Human Health Surface Water ARAR	Groundwater Protective of Table VI Sediment Cleanup Objectives
Total Metals (ug/L)												
Arsenic	6	6	2.5	0.5	**6**	--	0.058	10	0.098	150	0.018	478
Barium	--	4	--	0.625	--	--	3200	2000	--	--	**1000**	--
Cadmium	0.72	--	0.2	--	--	--	8	5	41	**0.72**	--	301
Chromium III	--	74	--	0.2	--	--	24000	--	240000	**74**	--	--
Chromium (Total)	--	50	1	0.2	--	--	--	100	--	--	--	**72**
Copper	11	--	0.5	--	--	--	640	1300	2900	**11**	1300	17900
Iron	1000	300	1000	2.05	--	--	11000	**300**	--	1000	--	--
Lead	2.5	--	1	0.1	--	--	--	15	--	**2.5**	--	36
Manganese	50	50	20	1.03	--	--	750	**50**	--	--	50	--
Mercury	--	2	--	0.006	--	--	--	2	--	**0.012**	--	12.6
Zinc	100	--	3.5	--	--	--	4800	5000	17000	**100**	1000	51400
TPH (ug/L)												--
Gasoline-Range Hydrocarbons	800	--	250		--	**1000**	--	--	--	--	--	--
Diesel-Range Hydrocarbons	500	500	250	250	--	**500**	--	--	--	--	--	--
Oil Range Hydrocarbons	500	500	250	250	--	**500**	--	--	--	--	--	--
Diesel + Heavy Oil	500	500	250	250	--	**500**	--	--	--	--	--	--
VOCs (ug/L)												--
Chlorobenzene	--	64	--	0.055	--	--	160	**100**	5000	--	100	--
Chloroform	60	14.1	1	0.052	--	--	**1.4**	80	56	--	60	--
Vinyl Chloride	1	0.06	1	**0.06**	--	--	0.029	2	3.7	--	0.02	--
Xylenes	57	--	1	--	--	--	1600	10000	--	**57**	--	--
SVOCs (ug/L)												--
1,2,4-Trichlorobenzene	--	0.1	--	**0.1**	--	--	1.5	70	2	--	0.036	--
1-Methylnapthalene	--	1.51	--	1	--	--	**1.5**	--	--	--	--	--
2,4-Dichlorophenol		48	--	2	--	--	48	--	190	--	**10**	--
2-Methylnapthalene	--	32	--	1	--	--	**32**	--	--	--	--	--
3,3'-Dichlorobenzidine	--	2	--	**2**	--	--	0.19	--	0.046	--	0.0031	--
Acenaphthene	--	23	--	0.05	--	--	480	--	640	--	**30**	--
Anthracene	--	0.3	--	0.05	--	--	2400	--	26000	--	**100**	--
Benzo(a)pyrene	0.0073	0.02	**0.0073**	0.02	--	--	0.023	0.2	0.035	--	0.000016	--
Benzo(b)fluoranthene	0.1	0.02	0.1	**0.02**	--	--	--	--	--	--	0.00016	--
Benzo(k)fluoranthene	0.032	0.02	**0.032**	0.02	--	--	--	--	--	--	0.0016	--
Bis(2-ethylhexyl)phthalate	0.5	3	**0.5**	3	--	--	6.3	6	3.6	--	0.045	4.49
Chrysene	0.1	0.02	0.1	**0.02**	--	--	--	--	--	--	0.016	--
Dibenz[a,h]anthracene	0.0021	0.02	0.0021	**0.02**	--	--	--	--	--	--	0.000016	--
Fluoranthene	--	6	--	0.05	--	--	640	--	90	--	**6**	--

Table 6-2
Groundwater Preliminary Screening Levels
East-West Corridor Roadway, Yakima, Washington
Yakima County

Analyte	Mill Site PCULs [a]	Landfill Site PCULs [a]	PQL Mill Site	PQL Landfill Site	Yakima Basin Natural Background [1]	Method A Groundwater [b]	Method B Groundwater [c]	Lowest State or Federal Groundwater ARAR	Method B Surface Water [c]	Lowest State or Federal Aquatic Life Surface Water ARAR	Lowest State or Federal Human Health Surface Water ARAR	Groundwater Protective of Table VI Sediment Cleanup Objectives
Fluorene	--	10	--	0.05	--	--	320	--	3500	--	**10**	--
Indeno[1,2,3-cd]pyrene	0.1	0.02	0.1	**0.02**	--	--	--	--	--	--	0.00016	--
N-Nitrosodiphenylamine	--	2	--	**2**	--	--	18	--	9.7	--	0.62	--
Pentachlorophenol	0.1	0.13	0.1	**0.06**	--	--	0.22	1	1.5	13	0.002	1370
Phenanthrene (pyrene as a surrogate)	--	8	--	0.05	--	--	240	--	2600	--	**8**	--
Total cPAH TEQ	0.0073	0.02	**0.0073**	0.02	--	--	0.023	0.2	0.035	--	0.000016	--
PCB Aroclors (ug/L)												--
Total PCB Aroclors	--	0.1	--	**0.1**	--	--	0.022	0.5	0.0001	0.014	0.000007	14
Pesticides (ug/L)												--
4,4'-DDD	--	0.0025	--	**0.0025**	--	--	0.36	--	0.0005	--	0.0000079	67.3
4,4'-DDT	--	0.003	--	**0.003**	--	--	0.26	--	0.00036	0.001	0.0000012	11.9

Notes

[a] The PCUL shown is the lowest of the PCULs protective of drinking water and discharge to surface water.

[b] Method A values are only shown for chemicals without Method B values.

[c] The lowest of the cancer and noncancer values is shown.

Bold values indicate the lowest applicable preliminary screening level.

ARAR = Applicable or Relevant and Appropriate Requirements.

cPAH = carcinogenic polycyclic aromatic hydrocarbon.

Mill Site = Boise Cascade Mill site.

Landfill Site = Yakima City Landfill site.

PCB = polychlorinated biphenyls.

PCUL = preliminary cleanup level.

PQL = practical quantitation limit.

SVOC = semivolatile organic compound.

TEQ = toxic equivalency.

Total cPAH TEQ = the sum of benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, chrysene, dibenz(a,h)anthracene, and ideno(1,2,3-cd)pyrene multiplied by their respective Toxicity Equivalency Factor from Table 708-2 in WAC 173-340-900.

TPH = total petroleum hydrocarbons.

ug/L = micrograms per liter.

VOC = volatile organic compound.

Source

[1] San Juan, Charles, LHG. 2022. *Natural Background Groundwater Arsenic Concentrations in Washington State* . Washington States Department of Ecology, Toxics Cleanup Program: Olimpia, WA. January.

Table 6-3
Wood Waste Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	MWEC-03		MWEC-04		SB-1	SB-3	SB-4	SB-5	SB-6		SB-7	SB-9	SB-10	
Sample Name:		MWEC03-S-1.0	MWEC03-S-5.5	MWEC04-S-0.5	MWEC04-S-2.5	SB1-S-5.5	SB3-S-2.5	SB4-S-4.0	SB5-S-2.5	SB6-S-3.0	SBDUP-S-3.0	SB7-S-4.0	SB9-S-1.0	SB10-S-5.5	SBDUP-S-5.5
Collection Date:		06/24/2024	06/24/2024	06/24/2024	06/24/2024	06/25/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/27/2024	06/27/2024	06/27/2024
Collection Depth (ft bgs):		1.0	5.5	0.5	2.5	5.5	2.5	4.0	2.5	3.0	3.0	4.0	1.0	5.5	5.5
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	FD	N	N	N	FD
Metals (mg/kg)															
Arsenic	20	1.5	1.6	2.3	2 U	2.4	1.9	2 U	1.5	2 U	2 U	2 U	2	1.5	1.7
Barium	820 / 41	120	83	120	190	99	66	68	77	47	58	34	110	82	96
Cadmium	1	0.5 U	0.5 U	0.61	1 U	0.53	1 U	1 U	0.5 U	2 U	2 U	1 U	0.5 U	0.5 U	0.54
Chromium (hexavalent)	NV	11.7 U	5.62 U	6.31 U	13.7 U	5.05 U	10.2 U	13.8 U	2.5 UJ	6.3 U	6.63 U	1.53 U	8.19 U	4.92 U	4.95 U
Chromium (total)	42	5.4	7.3	9	2.8	14	9.2	5.2	6.8	6.4	8	2.6	10	7.1	8.1
Chromium (trivalent)[b]	1,500 / 74	5.4	7.3	9	2.8	14	9.2	5.2	6.8	6.4	8	2.6	10	7.1	8.1
Copper	36	13	12	18	8	25 U	14	7.3	13	10 U	11	7.6	15	14	16
Iron	51,500	20,300	28,800	36,300	3,970	28,800	14,300	8,620	19,500	10,100	10,100	4,120 U	203,000	280,000 J	29,400 J
Lead	50 / 25	11	11	13	6.4	10	20	8.5	9.5	5.1	5.6	8	20	9.3	11
Manganese	1,100	260	570	820	350	770	300	310	380	39	44	75	600	350	400
Mercury	0.1	0.066	0.052	0.078	0.073	0.078	0.045	0.055	0.053	0.039	0.036	0.02 U	0.076	0.06	0.083
Zinc	86	41	34	55	120	50	60	49	39	41	52	19	49	42	47
TPH (mg/kg)															
Gasoline-range hydrocarbons	30	30 UJ	30 UJ	10 U	19	76	10 U	110	25 U	13	10 U	30 UJ	5 U	25 U	25 U
Diesel-range hydrocarbons	200	140	34	81	530	68	180	170	25 U	380	390	200	200	130	77
Motor oil-range hydrocarbons	200	1,200	500	1,200	2,100	320	790	890	790	690	880	620	1,800	830	760
Diesel+Heavy Oil[c]	200	1,300	530	1,300	2,600	390	970	1,100	800	1,100	1,300	820	2,000	960	840
TPH with Silica Gel Cleanup (mg/kg)															
Diesel-range hydrocarbons	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Motor oil-range hydrocarbons	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel+Heavy Oil[c]	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organochlorine Pesticides (mg/kg)															
4,4'-DDD	0.00265	0.002 U	0.002 U	0.002 U	0.002 UJ	0.004	0.004 U	0.004 U	0.002 U	0.004 U	0.004 U	0.002 U	0.002 U	0.002 U	0.002 U
4,4'-DDT	0.00265	0.002 U	0.002 U	0.002 U	0.002 UJ	0.002 U	0.004 U	0.004 U	0.002 U	0.004 U	0.004 U	0.002 U	0.002 U	0.002 U	0.002 U

Table 6-3
Wood Waste Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	MWEC-03		MWEC-04		SB-1	SB-3	SB-4	SB-5	SB-6		SB-7	SB-9	SB-10	
Sample Name:		MWEC03-S-1.0	MWEC03-S-5.5	MWEC04-S-0.5	MWEC04-S-2.5	SB1-S-5.5	SB3-S-2.5	SB4-S-4.0	SB5-S-2.5	SB6-S-3.0	SBDUP-S-3.0	SB7-S-4.0	SB9-S-1.0	SB10-S-5.5	SBDUP-S-5.5
Collection Date:		06/24/2024	06/24/2024	06/24/2024	06/24/2024	06/25/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/27/2024	06/27/2024	06/27/2024
Collection Depth (ft bgs):		1.0	5.5	0.5	2.5	5.5	2.5	4.0	2.5	3.0	3.0	4.0	1.0	5.5	5.5
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	FD	N	N	N	FD
PCBs (mg/kg)															
Aroclor 1016	NV	0.004 U	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U	0.008 U	0.004 U	0.008 U	0.008 U	0.008 U	0.004 U	0.004 U	0.004 U
Aroclor 1221	NV	0.004 U	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U	0.008 U	0.004 U	0.008 U	0.008 U	0.008 U	0.004 U	0.004 U	0.004 U
Aroclor 1232	NV	0.004 U	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U	0.008 U	0.004 U	0.008 U	0.008 U	0.008 U	0.004 U	0.004 U	0.004 U
Aroclor 1242	NV	0.004 U	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U	0.008 U	0.004 U	0.008 U	0.008 U	0.008 U	0.004 U	0.004 U	0.004 U
Aroclor 1248	NV	0.004 U	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U	0.008 U	0.004 U	0.008 U	0.008 U	0.008 U	0.004 U	0.004 U	0.004 U
Aroclor 1254	NV	0.004 U	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U	0.008 U	0.004 U	0.008 U	0.008 U	0.008 U	0.004 U	0.004 U	0.004 U
Aroclor 1260	NV	0.004 U	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U	0.008 U	0.004 U	0.008 U	0.008 U	0.008 U	0.004 U	0.004 U	0.004 U
Aroclor 1262	NV	0.004 U	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U	0.008 U	0.004 U	0.008 U	0.008 U	0.008 U	0.004 U	0.004 U	0.004 U
Aroclor 1268	NV	0.004 U	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U	0.008 U	0.004 U	0.008 U	0.008 U	0.008 U	0.004 U	0.004 U	0.004 U
Total PCB Aroclors[d]	0.04	0.004 U	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U	0.008 U	0.004 U	0.008 U	0.008 U	0.008 U	0.004 U	0.004 U	0.004 U
VOCs (mg/kg)															
Benzene	0.0235	0.002 U	0.002 U	0.002 U	0.008 U	0.002 U	0.01	0.004 U	0.002 U	0.004 U	0.004 U	0.004 U	0.02 U	0.02 U	0.02 U
Chlorobenzene	0.86 / 0.051	0.05 U	0.05 U	0.05 U	0.2 U	0.05 U	0.1 U	0.1 U	0.05 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.5 U
Chloroform	0.074 / 0.0048	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.02 UJ	0.006 UJ	0.0096 UJ	0.0096 UJ	0.006 UJ	0.0096 UJ	0.0096 UJ	0.0096 UJ	0.06 UJ	0.06 UJ	0.06 UJ
Ethylbenzene	0.1 / 0.0292	0.0034	0.019	0.002 U	0.008 U	0.012	0.004 U	0.048	0.002 U	0.004 U	0.004 U	0.004 U	0.02 U	0.02 U	0.02 U
m,p-Xylene	NV	0.015	0.084	0.0084	0.016 U	0.055	0.008 U	0.055	0.004 U	0.008 U	0.008 U	0.008 U	0.04 U	0.04 U	0.04 U
o-Xylene	NV	0.004	0.022	0.002	0.008 U	0.015	0.004 U	0.014	0.002 U	0.004 U	0.004 U	0.004 U	0.02 U	0.02 U	0.02 U
Tetrachloroethene	0.05	0.002 U	0.002 U	0.002 U	0.008 U	0.002 U	0.004 U	0.004 U	0.002 U	0.004 U	0.004 U	0.004 U	0.02 U	0.02 U	0.02 U
Toluene	0.37 / 0.023	0.014	0.011	0.012	0.012	0.017	0.21	0.086	0.0071	0.18	0.11	0.038	0.02 U	0.025	0.02 U
Vinyl chloride	0.002	0.002 U	0.002 U	0.002 U	0.008 U	0.002 U	0.004 U	0.004 U	0.002 U	0.004 U	0.004 U	0.004 U	0.02 U	0.02 U	0.02 U
Xylenes (total)[e]	0.51 / 0.0591	0.019	0.11	0.010	0.016 U	0.070	0.008 U	0.069	0.004 U	0.008 U	0.008 U	0.008 U	0.04 U	0.04 U	0.04 U

Table 6-3
Wood Waste Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	MWEC-03		MWEC-04		SB-1	SB-3	SB-4	SB-5	SB-6		SB-7	SB-9	SB-10	
Sample Name:		MWEC03-S-1.0	MWEC03-S-5.5	MWEC04-S-0.5	MWEC04-S-2.5	SB1-S-5.5	SB3-S-2.5	SB4-S-4.0	SB5-S-2.5	SB6-S-3.0	SBDUP-S-3.0	SB7-S-4.0	SB9-S-1.0	SB10-S-5.5	SBDUP-S-5.5
Collection Date:		06/24/2024	06/24/2024	06/24/2024	06/24/2024	06/25/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/27/2024	06/27/2024	06/27/2024
Collection Depth (ft bgs):		1.0	5.5	0.5	2.5	5.5	2.5	4.0	2.5	3.0	3.0	4.0	1.0	5.5	5.5
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	FD	N	N	N	FD
SVOCs (mg/kg)															
1,2,4-Trichlorobenzene	0.05	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U	0.2 U	0.2 U	0.1 U	0.2 U	0.2 U	0.2 U	0.1 U	0.1 U	0.1 U
1-Methylnaphthalene	0.082 / 0.0042	0.005 U	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U
2,4-Dichlorophenol	0.215	1 U	1 U	1 U	2 U	1 U	2 U	2 U	1 U	2 U	2 U	2 U	1 U	1 U	1 U
2-Methylnaphthalene	1.7 / 0.5	0.005 U	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U
3,3-Dichlorobenzidine	0.215	1 U	1 U	1 U	2 U	1 U	2 U	2 U	1 U	2 U	2 U	2 U	1 U	1 U	1 U
Acenaphthene	3.1 / 0.16	0.005 U	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U
Acenaphthylene	23	0.005 U	0.005 U	0.005 U	0.01 U	0.005 U	0.015	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U
Anthracene	47 / 2.4	0.005 U	0.005 U	0.005 U	0.049	0.005 U	0.013	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U
Benzo(a)anthracene	0.02	0.01 U	0.01 U	0.01 U	0.14	0.011	0.041	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene	0.05	0.005 U	0.005 U	0.005 U	0.078	0.011	0.056	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.0057
Benzo(b)fluoranthene	0.05	0.0072	0.0053	0.0059	0.23	0.017	0.067	0.011	0.0054	0.01 U	0.01 U	0.01 U	0.005	0.0056	0.009
Benzo(ghi)perylene	0.0035	0.01 U	0.01 U	0.01 U	0.023	0.01 U	0.037	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene	0.05	0.005 U	0.005 U	0.005 U	0.066	0.005 U	0.024	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U
Bis(2-ethylhexyl) phthalate	0.1 / 0.053	0.2 UJ	0.2 UJ	0.2 UJ	0.4 UJ	0.2 UJ	0.4 UJ	0.4 UJ	0.2 UJ	0.4 UJ	0.4 UJ	0.4 UJ	0.2 UJ	0.2 UJ	0.2 UJ
Butylbenzyl phthalate	0.052	0.15 UJ	0.15 UJ	0.15 UJ	0.3 UJ	0.15 UJ	0.3 UJ	0.3 UJ	0.15 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.15 UJ	0.15 UJ	0.15 UJ
Chrysene	0.02	0.005 U	0.005 U	0.005 U	0.2	0.01	0.056	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.0053
Dibenzo(a,h)anthracene	0.02	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U
Dibenzofuran	NV	0.005 U	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U
Fluoranthene	5.9 / 0.3	0.0057	0.0053	0.0055	0.65	0.02	0.12	0.015	0.0057	0.01 U	0.01 U	0.01 U	0.006	0.0063	0.011
Fluorene	1.6 / 0.08	0.005 U	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U	0.01 U	0.005 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.005 U
Indeno(1,2,3-cd)pyrene	0.02	0.01 U	0.01 U	0.01 U	0.035	0.01 U	0.035	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U
Naphthalene	4.5 / 0.24	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.034	0.02	0.01 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U
N-Nitrosodiphenylamine	0.05	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U	0.2 U	0.2 U	0.1 U	0.2 U	0.2 U	0.2 U	0.1 U	0.1 U	0.1 U
Pentachlorophenol	0.041	0.1 UJ	0.1 UJ	0.1 UJ	0.2 UJ	0.1 UJ	0.2 UJ	0.2 UJ	0.1 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Phenanthrene	11 / 0.55	0.0072	0.005 U	0.005 U	0.33	0.013	0.094	0.018	0.005 U	0.01 U	0.01 U	0.01 U	0.0072	0.005 U	0.0065
Pyrene	11 / 0.55	0.0061	0.005 U	0.005 U	0.6	0.037	0.12	0.029	0.0076	0.01 U	0.01 U	0.01 U	0.0055	0.005 U	0.011
cPAH TEQ[f][2]	0.05	0.005	0.0048	0.0049	0.13	0.015	0.074	0.0097	0.0048	0.02 U	0.02 U	0.02 U	0.0048	0.0048	0.0084
Total PAHs[g]	17	0.074	0.063	0.064	2.4	0.16	0.74	0.18	0.069	0.02 U	0.02 U	0.02 U	0.071	0.064	0.091

Table 6-3
Wood Waste Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-11	SB-13	SB-14	SB-15	
Sample Name:		SB11-S-5.5	SB13-S-5.5	SB14-S-3.0	SB15-S-1.0	SB15-S-3.0
Collection Date:		06/27/2024	06/27/2024	06/24/2024	06/28/2024	06/28/2024
Collection Depth (ft bgs):		5.5	5.5	3.0	1.0	3.0
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N
Metals (mg/kg)						
Arsenic	20	1 U	1.1	1.1	2.5	3
Barium	820 / 41	94	87	67	110	74
Cadmium	1	0.5 U	0.5 U	1 U	0.5 U	1 U
Chromium (hexavalent)	NV	14.7 U	7.38 U	22.6 U	7.01 U	8.2 U
Chromium (total)	42	9.9	6.3	4	12	7.7
Chromium (trivalent)[b]	1,500 / 74	9.9	6.3	4	12	7.7
Copper	36	11	11	12	22	17
Iron	51,500	75,300	12,500	11,400	16,900	7,670
Lead	50 / 25	12	9.4	7.1	27	17
Manganese	1,100	400	310	260	530	190
Mercury	0.1	0.058	0.061	0.066	0.074	0.061
Zinc	86	54	36	50	65	64
TPH (mg/kg)						
Gasoline-range hydrocarbons	30	25 U	5 U	20 U	10 U	30 UJ
Diesel-range hydrocarbons	200	1,200	640	790 J+	230	290
Motor oil-range hydrocarbons	200	6,900	2,400	28,000 J+	2,300	1,500
Diesel+Heavy Oil[c]	200	8,100	3,000	29,000 J+	2,500	1,800
TPH with Silica Gel Cleanup (mg/kg)						
Diesel-range hydrocarbons	200	--	--	500 U	--	--
Motor oil-range hydrocarbons	200	--	--	31,000	--	--
Diesel+Heavy Oil[c]	200	--	--	31,000	--	--
Organochlorine Pesticides (mg/kg)						
4,4'-DDD	0.00265	0.002 U	0.002 U	0.002 UJ	0.002 U	0.004 U
4,4'-DDT	0.00265	0.002 U	0.002 U	0.002 UJ	0.002 U	0.004 U

Table 6-3
Wood Waste Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-11	SB-13	SB-14	SB-15	
Sample Name:		SB11-S-5.5	SB13-S-5.5	SB14-S-3.0	SB15-S-1.0	SB15-S-3.0
Collection Date:		06/27/2024	06/27/2024	06/24/2024	06/28/2024	06/28/2024
Collection Depth (ft bgs):		5.5	5.5	3.0	1.0	3.0
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N
PCBs (mg/kg)						
Aroclor 1016	NV	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U
Aroclor 1221	NV	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U
Aroclor 1232	NV	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U
Aroclor 1242	NV	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U
Aroclor 1248	NV	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U
Aroclor 1254	NV	0.004 U	0.004 U	0.004 UJ	0.0083	0.008 U
Aroclor 1260	NV	0.004 U	0.004 U	0.004 UJ	0.0047	0.008 U
Aroclor 1262	NV	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U
Aroclor 1268	NV	0.004 U	0.004 U	0.004 UJ	0.004 U	0.008 U
Total PCB Aroclors[d]	0.04	0.004 U	0.004 U	0.004 U	0.013	0.008 U
VOCs (mg/kg)						
Benzene	0.0235	0.02 U	0.02 U	0.008 U	0.02 U	0.04 U
Chlorobenzene	0.86 / 0.051	0.5 U	0.5 U	0.2 U	0.5 U	1 U
Chloroform	0.074 / 0.0048	0.06 UJ	0.06 UJ	0.02 UJ	0.06 UJ	0.096 UJ
Ethylbenzene	0.1 / 0.0292	0.02 U	0.02 U	0.008 U	0.02 U	0.04 U
m,p-Xylene	NV	0.04 U	0.04 U	0.016 U	0.04 U	0.08 U
o-Xylene	NV	0.02 U	0.02 U	0.008 U	0.02 U	0.04 U
Tetrachloroethene	0.05	0.02 U	0.02 U	0.008 U	0.02 U	0.04 U
Toluene	0.37 / 0.023	0.02 U	0.021	0.034	0.02 U	0.078
Vinyl chloride	0.002	0.02 U	0.02 U	0.008 U	0.02 U	0.04 U
Xylenes (total)[e]	0.51 / 0.0591	0.04 U	0.04 U	0.016 U	0.04 U	0.08 U

Table 6-3
Wood Waste Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-11	SB-13	SB-14	SB-15	
Sample Name:		SB11-S-5.5	SB13-S-5.5	SB14-S-3.0	SB15-S-1.0	SB15-S-3.0
Collection Date:		06/27/2024	06/27/2024	06/24/2024	06/28/2024	06/28/2024
Collection Depth (ft bgs):		5.5	5.5	3.0	1.0	3.0
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N
SVOCs (mg/kg)						
1,2,4-Trichlorobenzene	0.05	0.1 U	0.1 U	0.2 U	0.1 U	0.2 U
1-Methylnaphthalene	0.082 / 0.0042	0.005 U	0.022	0.01 U	0.005 U	0.01 U
2,4-Dichlorophenol	0.215	1 U	1 U	2 U	1 U	2 U
2-Methylnaphthalene	1.7 / 0.5	0.005 U	0.01	0.01 U	0.005 U	0.01 U
3,3-Dichlorobenzidine	0.215	1 U	1 U	2 U	1 U	2 U
Acenaphthene	3.1 / 0.16	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U
Acenaphthylene	23	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U
Anthracene	47 / 2.4	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U
Benzo(a)anthracene	0.02	0.01 U	0.01 U	0.02 U	0.01 U	0.02 U
Benzo(a)pyrene	0.05	0.005 U	0.005 U	0.01 U	0.0095	0.01 U
Benzo(b)fluoranthene	0.05	0.005 U	0.005 U	0.01 U	0.015	0.017
Benzo(ghi)perylene	0.0035	0.01 U	0.01 U	0.02 U	0.01 U	0.02 U
Benzo(k)fluoranthene	0.05	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U
Bis(2-ethylhexyl) phthalate	0.1 / 0.053	0.2 UJ	0.2 UJ	0.4 UJ	0.2 UJ	0.4 UJ
Butylbenzyl phthalate	0.052	0.15 UJ	0.15 UJ	0.3 UJ	0.15 UJ	0.3 UJ
Chrysene	0.02	0.005 U	0.005 U	0.01 U	0.0061	0.01 U
Dibenzo(a,h)anthracene	0.02	0.01 U	0.01 U	0.02 U	0.01 U	0.02 U
Dibenzofuran	NV	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U
Fluoranthene	5.9 / 0.3	0.0067	0.013	0.013	0.012	0.02
Fluorene	1.6 / 0.08	0.005 U	0.005 U	0.01 U	0.005 U	0.01 U
Indeno(1,2,3-cd)pyrene	0.02	0.01 U	0.01 U	0.02 U	0.01 U	0.02 U
Naphthalene	4.5 / 0.24	0.01 U	0.01 U	0.02 U	0.01 U	0.027
N-Nitrosodiphenylamine	0.05	0.1 U	0.1 U	0.2 U	0.1 U	0.2 U
Pentachlorophenol	0.041	0.1 UJ	0.1 UJ	0.2 UJ	0.1 UJ	0.2 UJ
Phenanthrene	11 / 0.55	0.0075	0.04	0.026	0.0099	0.024
Pyrene	11 / 0.55	0.017	0.027	0.028	0.015	0.018
cPAH TEQ[f][2]	0.05	0.01 U	0.01 U	0.02 U	0.013	0.01
Total PAHs[g]	17	0.081	0.16	0.17	0.11	0.19

Table 6-3
Wood Waste Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Notes

Only soil samples representative of woodwaste are shown on this table. See boring logs.

Data summation rules are as follows: non-detect results are multiplied by one-half when used for sums or TEQ calculations. When all results are non-detect, the highest reporting limit is provided as the sum or TEQ.

Shading indicates values that exceed PCULs; non-detects (U and UJ) were not compared with preliminary screening levels.

-- = not analyzed.

cPAH = carcinogenic polycyclic aromatic hydrocarbon.

FD = field duplicate sample.

ft bgs = feet below ground surface.

J = result is estimated.

J+ = result is estimated, but the result may be biased high.

mg/kg = milligrams per kilogram.

N = normal environmental sample.

NV = no value.

PAH = polycyclic aromatic hydrocarbon.

PCB = polychlorinated biphenyl.

SVOC = semivolatile organic compound.

TEQ = toxicity equivalency.

TPH = total petroleum hydrocarbons.

U = result is non-detect at the method reporting limit.

UJ = result is non-detect with an estimated method reporting limit.

VOC = volatile organic compound.

[a]Analytes with two preliminary screening levels are for samples collected in the vadose zone or saturated zone, respectively. Each sample is screened to either the vadose or saturated preliminary screening levels based on their designation. Analytes with a single preliminary screening level are screened for all samples.

[b]Trivalent chromium calculated as [total chromium - hexavalent chromium] in ug/L. When hexavalent chromium is not detected in a sample, the total chromium result/method reporting limit is provided as the trivalent chromium result.

[c]Diesel+Heavy Oil is the sum of diesel- and motor-oil-range hydrocarbons.

[d]Total PCB Aroclors is the sum of all detected PCB Aroclors.

[e]Total xylenes is the sum of m,p-xylene and o-xylene.

[f]cPAH TEQ calculated as the sum of each cPAH concentration multiplied by the corresponding toxic equivalent factor.

[g]Per Washington Administrative Code 173-204-563 (2)(h); total PAHs is the sum of 1-methylnaphthalene, 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benz(a)anthracene, benzo(a)pyrene, benzo(ghi)perylene, chrysene, dibenz(ah)anthracene, fluoranthene, fluorene, indeno(123-cd)pyrene, naphthalene, phenanthrene, pyrene, total benzofluoranthenes (b+k+j). Benzo(b)fluoranthene and benzo(j)fluoranthene coelude and the benzo(b)fluoranthene isomer is representative of both results.

References

[1]See Table 6-1.

[2]Ecology. 2015. *Implementation Memorandum #10: Evaluating the Human Health Toxicity of Carcinogenic PAHs (cPAHs) Using Toxicity Equivalency Factors (TEFs)*. Publication No. 15-09-049. Washington State Department of Ecology, Toxics Cleanup Program. April 20.

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	MWEC-01				MWEC-02				MWEC-03		MWEC-04	
Sample Name:		MWEC01-S-1.0	MWEC01-S-3.0	MWEC01-S-8.0	MWEC01-S-11.3	MWEC02-S-1.0	MWEC02-S-3.0	MWEC02-S-8.0	MWEC02-S-13.0	MWEC03-S-7.0	MWEC03-S-11.0	MWEC04-S-8.0	MWEC04-S-12.5
Collection Date:		06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/24/2024	06/24/2024	06/24/2024	06/24/2024
Collection Depth (ft bgs):		1.0	3.0	8.0	11.3	1.0	3.0	8.0	13.0	7.0	11.0	8.0	12.5
Collection Zone:		Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Saturated	Vadose	Saturated	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	N
Metals (mg/kg)													
Arsenic	20	2.9	1.8	1.7	1.3	1.4	1.9	1.7	2.7	1.6	1.7	1.6	1 U
Barium	820 / 41	95	48	46	43	67	54	42	51	32	26	32	43
Cadmium	1	0.9	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chromium (hexavalent)	NV	0.554 U	0.522 U	0.512 U	0.443 U	5.07 U	0.501 U	0.479 U	0.516 U	0.517 U	0.503 U	0.52 U	0.525 U
Chromium (total)	42	18	11	10	9.7	5.6	9.2	8.8	11	7.4	6.5	6.9	11
Chromium (trivalent)[b]	1,500 / 74	18	11	10	9.7	5.6	9.2	8.8	11	7.4	6.5	6.9	11
Copper	36	17 J	13 J	12 J	15	10	11	12 J	11	11	9.4	10	13 J
Iron	51,500	32,400	23,600	19,400	21,800	22,000	22,100	20,100	17,200	25,000	25,800	23,200	27,700
Lead	50 / 25	7.2	3.5	2	2.4	6.4	3.9	2.4	3.4	2	1.8	2.2	2
Manganese	1,100	910	320	290	240	470	350	260	1,100	250	240	170	190
Mercury	0.1	0.074	0.079	0.02 U	0.02 U	0.046	0.027	0.028	0.084	0.034	0.02 U	0.034	0.04
Zinc	86	52	41	34	28	30	32	35	30	22	19	26	40
TPH (mg/kg)													
Gasoline-range hydrocarbons	30	5 U	5 U	5 U	5 U	30 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	200	25 U	25 U	25 U	25 U	77	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Motor oil-range hydrocarbons	200	125 U	125 U	125 U	125 U	600	125 U	125 U	125 U	125 U	125 U	125 U	125 U
Diesel+Heavy Oil[c]	200	125 U	125 U	125 U	125 U	680	125 U	125 U	125 U	125 U	125 U	125 U	125 U
TPH with Silica Gel Cleanup (mg/kg)													
Diesel-range hydrocarbons	200	--	--	--	--	64	--	--	--	--	--	--	--
Motor oil-range hydrocarbons	200	--	--	--	--	330	--	--	--	--	--	--	--
Diesel+Heavy Oil[c]	200	--	--	--	--	390	--	--	--	--	--	--	--
Organochlorine Pesticides (mg/kg)													
4,4'-DDD	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
4,4'-DDT	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	MWEC-01				MWEC-02				MWEC-03		MWEC-04	
Sample Name:		MWEC01-S-1.0	MWEC01-S-3.0	MWEC01-S-8.0	MWEC01-S-11.3	MWEC02-S-1.0	MWEC02-S-3.0	MWEC02-S-8.0	MWEC02-S-13.0	MWEC03-S-7.0	MWEC03-S-11.0	MWEC04-S-8.0	MWEC04-S-12.5
Collection Date:		06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/24/2024	06/24/2024	06/24/2024	06/24/2024
Collection Depth (ft bgs):		1.0	3.0	8.0	11.3	1.0	3.0	8.0	13.0	7.0	11.0	8.0	12.5
Collection Zone:		Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Saturated	Vadose	Saturated	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	N
PCBs (mg/kg)													
Aroclor 1016	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1221	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1232	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1242	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1248	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1254	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1260	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1262	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1268	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Total PCB Aroclors[d]	0.04	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
VOCs (mg/kg)													
Benzene	0.0235	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Chlorobenzene	0.86 / 0.051	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform	0.074 / 0.0048	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ
Ethylbenzene	0.1 / 0.0292	0.002 U	0.002 U	0.002 U	0.002 U	0.0046	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
m,p-Xylene	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.014	0.008	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.0055
o-Xylene	NV	0.002 U	0.002 U	0.002 U	0.002 U	0.0061	0.0065	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Tetrachloroethene	0.05	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Toluene	0.37 / 0.023	0.002 U	0.002 U	0.002 U	0.002 U	0.013	0.0048	0.002 U	0.0025	0.002 U	0.002 U	0.0024	0.002 U
Vinyl chloride	0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0022	0.002 U	0.002 U
Xylenes (total)[e]	0.51 / 0.0591	0.004 U	0.004 U	0.004 U	0.004 U	0.020	0.015	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.0065

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	MWEC-01				MWEC-02				MWEC-03		MWEC-04	
Sample Name:		MWEC01-S-1.0	MWEC01-S-3.0	MWEC01-S-8.0	MWEC01-S-11.3	MWEC02-S-1.0	MWEC02-S-3.0	MWEC02-S-8.0	MWEC02-S-13.0	MWEC03-S-7.0	MWEC03-S-11.0	MWEC04-S-8.0	MWEC04-S-12.5
Collection Date:		06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/24/2024	06/24/2024	06/24/2024	06/24/2024
Collection Depth (ft bgs):		1.0	3.0	8.0	11.3	1.0	3.0	8.0	13.0	7.0	11.0	8.0	12.5
Collection Zone:		Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Vadose	Saturated	Vadose	Saturated	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	N
SVOCs (mg/kg)													
1,2,4-Trichlorobenzene	0.05	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
1-Methylnaphthalene	0.082 / 0.0042	0.0005 U	0.00059	0.0005 U	0.0005 U	0.005 U	0.0071	0.0014	0.0034	0.0005 U	0.0005 U	0.0005 U	0.0005 U
2,4-Dichlorophenol	0.215	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
2-Methylnaphthalene	1.7 / 0.5	0.00056	0.00076	0.0005 U	0.00062	0.005 U	0.0087	0.0018	0.0042	0.0005 U	0.0005 U	0.0005 U	0.0005 U
3,3-Dichlorobenzidine	0.215	0.1 UJ	0.1 U	0.1 U	0.1 U	1 U	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Acenaphthene	3.1 / 0.16	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Acenaphthylene	23	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Anthracene	47 / 2.4	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.00072	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Benzo(a)anthracene	0.02	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.0038	0.001 U	0.0012	0.001 U	0.001 U	0.001 U	0.001 U
Benzo(a)pyrene	0.05	0.00078	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.004	0.0005 U	0.0011	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Benzo(b)fluoranthene	0.05	0.0016	0.0005 U	0.0005 U	0.00062	0.007	0.0051	0.00065	0.0016	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Benzo(ghi)perylene	0.0035	0.0013	0.001 U	0.001 U	0.001 U	0.01 U	0.0026	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzo(k)fluoranthene	0.05	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0016	0.0005 U	0.00051	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Bis(2-ethylhexyl) phthalate	0.1 / 0.053	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.2 UJ	0.02 U	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Butylbenzyl phthalate	0.052	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.15 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Chrysene	0.02	0.001	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0044	0.00054	0.0012	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Dibenzo(a,h)anthracene	0.02	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibenzofuran	NV	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0017	0.0005 U	0.00083	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Fluoranthene	5.9 / 0.3	0.0022	0.0005 U	0.0005 U	0.00072	0.0073	0.0077	0.0012	0.0019	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Fluorene	1.6 / 0.08	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Indeno(1,2,3-cd)pyrene	0.02	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.0023	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Naphthalene	4.5 / 0.24	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.0043	0.001	0.0021	0.001 U	0.001 U	0.001 U	0.001 U
N-Nitrosodiphenylamine	0.05	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	0.041	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.1 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Phenanthrene	11 / 0.55	0.0015	0.0011	0.00076	0.0012	0.0051	0.0043	0.0013	0.0021	0.0005 U	0.0005 U	0.00055	0.00089
Pyrene	11 / 0.55	0.0016	0.0005 U	0.0005 U	0.00058	0.0059	0.0071	0.00092	0.0017	0.0005 U	0.0005 U	0.0005 U	0.0005 U
cPAH TEQ[f][2]	0.05	0.0011	0.001 U	0.001 U	0.00049	0.005	0.0054	0.0005	0.0015	0.001 U	0.001 U	0.001 U	0.001 U
Total PAHs[g]	17	0.014	0.0075	0.0063	0.0082	0.073	0.065	0.012	0.024	0.001 U	0.001 U	0.0061	0.0064

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-1			SB-2				SB-3			SB-4		
Sample Name:		SB1-S-1.0	SB1-S-8.5	SB1-S-13.5	SB2-S-1.0	SB2-S-4.0	SB2-S-10.5	SB2-S-13.5	SB3-S-1.0	SB3-S-7.5	SB3-S-13.5	SB4-S-1.0	SB4-S-10.5	SB4-S-13.0
Collection Date:		06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024
Collection Depth (ft bgs):		1.0	8.5	13.5	1.0	4.0	10.5	13.5	1.0	7.5	13.5	1.0	10.5	13.0
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	N	N
Metals (mg/kg)														
Arsenic	20	2.6	1.5	2.1	3.2	1.7	1.9	1.7	1.8	1.5	1 U	3.8	1.5	1
Barium	820 / 41	100	44	35	120	36	43	45	62	79	31	140	45	50
Cadmium	1	0.52	0.5 U	0.5 U	0.51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.64	0.5 U	0.5 U
Chromium (hexavalent)	NV	13.4 U	0.497 U	0.517 U	13.5 U	0.527 U	0.522 U	0.523 U	2.89 U	0.58 U	0.475 U	0.564 U	0.483 U	0.481 U
Chromium (total)	42	13	12	12	11	15	9.2	7.6	7.3 J+	12	11	20	8.4	10
Chromium (trivalent)[b]	1,500 / 74	13	12	12	11	15	9.2	7.6	7.3 J+	12	11	20	8.4	10
Copper	36	25 U	25 U	25 U	25 U	25 U	25 U	25 U	13 J	15	11	31	8.4	25 U
Iron	51,500	23,900	21,300	21,600	32,700	23,000	30,200	17,400	22,300	29,800	15,200	41,500	18,300	25,000
Lead	50 / 25	10	1.6	4.6	13	2.8	2.2	1.9	18	4.1	2	7.4	2.4	1.7
Manganese	1,100	610	230	220	780	230	230	180	100	200	150	1,000	190	260
Mercury	0.1	0.068	0.024	0.021	0.073	1.8	0.043	0.034	0.045	0.096	0.023	0.085	0.037	0.02 U
Zinc	86	52	30	29	61	33	32	30	47	36	22	60	26	39
TPH (mg/kg)														
Gasoline-range hydrocarbons	30	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	200	25 U	25 U	25 U	62	25 U	25 U	25 U	99	25 U	25 U	25 U	25 U	25 U
Motor oil-range hydrocarbons	200	300	125 U	125 U	510	125 U	125 U	125 U	580	125 U	125 U	125 U	125 U	125 U
Diesel+Heavy Oil[c]	200	310	125 U	125 U	570	125 U	125 U	125 U	680	125 U	125 U	125 U	125 U	125 U
TPH with Silica Gel Cleanup (mg/kg)														
Diesel-range hydrocarbons	200	--	--	--	--	--	--	--	--	--	--	--	--	--
Motor oil-range hydrocarbons	200	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel+Heavy Oil[c]	200	--	--	--	--	--	--	--	--	--	--	--	--	--
Organochlorine Pesticides (mg/kg)														
4,4'-DDD	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
4,4'-DDT	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 UJ	0.002 U	0.002 U	0.002 U

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-1			SB-2				SB-3			SB-4		
Sample Name:		SB1-S-1.0	SB1-S-8.5	SB1-S-13.5	SB2-S-1.0	SB2-S-4.0	SB2-S-10.5	SB2-S-13.5	SB3-S-1.0	SB3-S-7.5	SB3-S-13.5	SB4-S-1.0	SB4-S-10.5	SB4-S-13.0
Collection Date:		06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024
Collection Depth (ft bgs):		1.0	8.5	13.5	1.0	4.0	10.5	13.5	1.0	7.5	13.5	1.0	10.5	13.0
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	N	N
PCBs (mg/kg)														
Aroclor 1016	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1221	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1232	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1242	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1248	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1254	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1260	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1262	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1268	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Total PCB Aroclors[d]	0.04	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
VOCs (mg/kg)														
Benzene	0.0235	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0027	0.002 U	0.002 U	0.004 U	0.002 U	0.002 U
Chlorobenzene	0.86 / 0.051	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.05 U	0.05 U
Chloroform	0.074 / 0.0048	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.0096 UJ	0.006 UJ	0.006 UJ
Ethylbenzene	0.1 / 0.0292	0.0039	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.004	0.002 U	0.002 U	0.004 U	0.002 U	0.002 U
m,p-Xylene	NV	0.02	0.004 U	0.0044	0.004 U	0.0063	0.004 U	0.004 U	0.0086	0.004 U	0.004 U	0.008 U	0.0089	0.0081
o-Xylene	NV	0.0055	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0029	0.002 U	0.002 U	0.004 U	0.0023	0.002 U
Tetrachloroethene	0.05	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.004 U	0.002 U	0.002 U
Toluene	0.37 / 0.023	0.0063	0.002 U	0.002 U	0.002 U	0.0022	0.002 U	0.002 U	0.097	0.0021	0.002 U	0.004 U	0.002 U	0.0028
Vinyl chloride	0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.004 U	0.002 U	0.002 U
Xylenes (total)[e]	0.51 / 0.0591	0.026	0.004 U	0.0054	0.004 U	0.0073	0.004 U	0.004 U	0.012	0.004 U	0.004 U	0.008 U	0.011	0.0091

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-1			SB-2				SB-3			SB-4		
Sample Name:		SB1-S-1.0	SB1-S-8.5	SB1-S-13.5	SB2-S-1.0	SB2-S-4.0	SB2-S-10.5	SB2-S-13.5	SB3-S-1.0	SB3-S-7.5	SB3-S-13.5	SB4-S-1.0	SB4-S-10.5	SB4-S-13.0
Collection Date:		06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/25/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024
Collection Depth (ft bgs):		1.0	8.5	13.5	1.0	4.0	10.5	13.5	1.0	7.5	13.5	1.0	10.5	13.0
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	N	N
SVOCs (mg/kg)														
1,2,4-Trichlorobenzene	0.05	0.1 U	0.01 U	0.01 U	0.1 U	0.01 U	0.01 U	0.01 U	0.1 U	0.01 U	0.01 UJ	0.01 U	0.01 U	0.01 U
1-Methylnaphthalene	0.082 / 0.0042	0.005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0027	0.0005 U	0.0005 U	0.0005 U	0.0005 U
2,4-Dichlorophenol	0.215	1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
2-Methylnaphthalene	1.7 / 0.5	0.005 U	0.0005 U	0.0005 U	0.005 U	0.00053	0.0005 U	0.0005 U	0.005 U	0.0032	0.0005 U	0.0005 U	0.0005 U	0.0005 U
3,3-Dichlorobenzidine	0.215	1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Acenaphthene	3.1 / 0.16	0.005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Acenaphthylene	23	0.005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Anthracene	47 / 2.4	0.005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Benzo(a)anthracene	0.02	0.01 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.026	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzo(a)pyrene	0.05	0.0085	0.0005 U	0.0005 U	0.0065	0.00059	0.0005 U	0.0005 U	0.036	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Benzo(b)fluoranthene	0.05	0.014	0.0005 U	0.0005 U	0.01	0.00099	0.0005 U	0.0005 U	0.04	0.00053	0.0005 U	0.0012	0.0005 U	0.0005 U
Benzo(ghi)perylene	0.0035	0.01 U	0.001 U	0.001 U	0.01 U	0.0011	0.001 U	0.001 U	0.024	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzo(k)fluoranthene	0.05	0.005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.014	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Bis(2-ethylhexyl) phthalate	0.1 / 0.053	0.2 UJ	0.02 UJ	0.02 UJ	0.2 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.2 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Butylbenzyl phthalate	0.052	0.15 UJ	0.015 UJ	0.015 UJ	0.15 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.15 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Chrysene	0.02	0.0091	0.0005 U	0.0005 U	0.0067	0.00066	0.0005 U	0.0005 U	0.031	0.0005 U	0.0005 U	0.00059	0.0005 U	0.0005 U
Dibenzo(a,h)anthracene	0.02	0.01 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibenzofuran	NV	0.005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0007	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Fluoranthene	5.9 / 0.3	0.017	0.0005 U	0.0005 U	0.012	0.0016	0.0005 U	0.0005 U	0.046	0.00073	0.0005 U	0.00065	0.0005 U	0.0005 U
Fluorene	1.6 / 0.08	0.005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.00096	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Indeno(1,2,3-cd)pyrene	0.02	0.01 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.023	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Naphthalene	4.5 / 0.24	0.01 U	0.001 U	0.001 U	0.01 U	0.0022	0.001 U	0.001 U	0.01	0.0024	0.001 UJ	0.001 U	0.001 U	0.001 U
N-Nitrosodiphenylamine	0.05	0.1 U	0.01 U	0.01 U	0.1 U	0.01 U	0.01 U	0.01 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	0.041	0.1 UJ	0.01 UJ	0.01 UJ	0.1 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.1 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Phenanthrene	11 / 0.55	0.01	0.00052	0.0005 U	0.008	0.002	0.0005 U	0.0005 U	0.021	0.0035	0.0005 U	0.00054	0.00086	0.00074
Pyrene	11 / 0.55	0.016	0.0005 U	0.0005 U	0.011	0.001	0.0005 U	0.0005 U	0.044	0.00087	0.0005 U	0.00075	0.0005 U	0.0005 U
cPAH TEQ[f][2]	0.05	0.012	0.001 U	0.001 U	0.0093	0.00087	0.001 U	0.001 U	0.047	0.00048	0.001 U	0.00055	0.001 U	0.001 U
Total PAHs[g]	17	0.12	0.006	0.001 U	0.097	0.014	0.001 U	0.001 U	0.34	0.018	0.001 UJ	0.0082	0.0064	0.0062

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-5			SB-6			SB-7			SB-8				
Sample Name:		SB5-S-1.0	SB5-S-9.5	SB5-S-15.7	SB6-S-1.0	SB6-S-10.5	SB6-S-13.5	SB7-S-1.0	SB7-S-7.0	SB7-S-13.5	SB8-S-0.5	SB8-S-3.0	SBDUP2-S-3.0	SB8-S-10.5	SB8-S-13.5
Collection Date:		06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024
Collection Depth (ft bgs):		1.0	9.5	15.7	1.0	10.5	13.5	1.0	7.0	13.5	0.5	3.0	3.0	10.5	13.5
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	FD	N	N
Metals (mg/kg)															
Arsenic	20	2	1.7	1.2	1.7	1	1.3	2.6	1 U	1.3	1.6	1.3	1.6	1.3	1.3
Barium	820 / 41	92	49	35	130	48	59	110	32	47	85	40	44	36	31
Cadmium	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.61	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chromium (hexavalent)	NV	14.8 U	0.538 U	0.502 U	5.9 U	0.488 U	0.523 U	0.529 U	0.503 U	0.515 U	8.93 U	0.519 U	0.507 U	0.489 U	0.507 U
Chromium (total)	42	9.3	8.2	6.8	7.8	8.6	10	20	7.9	8.6	7.3	6.2	6.5	7.6	5.6
Chromium (trivalent)[b]	1,500 / 74	9.3	8.2	6.8	7.8	8.6	10	20	7.9	8.6	7.3	6.2	6.5	7.6	5.6
Copper	36	14	9.5	8.8	15	11	12	27	8.5	13	13	11	11	10	9.6
Iron	51,500	20,600	25,900	21,800	23,900	17,500	19,900	34,100	16,300	19,500	360,000	185,000	188,000	169,000	160,000
Lead	50 / 25	10	3.7	2.6	12	3.7	2.5	6.2	1.8	2.5	12	2.4	2.6	2.2	1.6
Manganese	1,100	710	230	190	580	180	180	1,000	130	180	380	180	190	180	150
Mercury	0.1	0.063	0.038	0.03	0.065	0.021	0.034	0.052	0.028	0.02 U	0.053	0.024	0.029	0.037	0.032
Zinc	86	39	28	21	51	28	28	58	27	28	44	26	28	26	22
TPH (mg/kg)															
Gasoline-range hydrocarbons	30	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	200	56	25 U	25 U	95	25 U	25 U	25 U	25 U	25 U	160	25 U	25 U	25 U	25 U
Motor oil-range hydrocarbons	200	820	125 U	125 U	730	125 U	125 U	125 U	125 U	125 U	1,400	125 U	125 U	125 U	125 U
Diesel+Heavy Oil[c]	200	880	125 U	125 U	830	125 U	125 U	125 U	125 U	125 U	1,600	125 U	125 U	125 U	125 U
TPH with Silica Gel Cleanup (mg/kg)															
Diesel-range hydrocarbons	200	--	--	--	--	--	--	--	--	--	370	--	--	--	--
Motor oil-range hydrocarbons	200	--	--	--	--	--	--	--	--	--	2,400	--	--	--	--
Diesel+Heavy Oil[c]	200	--	--	--	--	--	--	--	--	--	2,800	--	--	--	--
Organochlorine Pesticides (mg/kg)															
4,4'-DDD	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
4,4'-DDT	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-5			SB-6			SB-7			SB-8				
Sample Name:		SB5-S-1.0	SB5-S-9.5	SB5-S-15.7	SB6-S-1.0	SB6-S-10.5	SB6-S-13.5	SB7-S-1.0	SB7-S-7.0	SB7-S-13.5	SB8-S-0.5	SB8-S-3.0	SBDUP2-S-3.0	SB8-S-10.5	SB8-S-13.5
Collection Date:		06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024
Collection Depth (ft bgs):		1.0	9.5	15.7	1.0	10.5	13.5	1.0	7.0	13.5	0.5	3.0	3.0	10.5	13.5
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	FD	N	N
PCBs (mg/kg)															
Aroclor 1016	NV	0.004 U	0.004 U	0.004 U	0.008 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1221	NV	0.004 U	0.004 U	0.004 U	0.008 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1232	NV	0.004 U	0.004 U	0.004 U	0.008 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1242	NV	0.004 U	0.004 U	0.004 U	0.008 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1248	NV	0.004 U	0.004 U	0.004 U	0.008 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1254	NV	0.004 U	0.004 U	0.004 U	0.008 U	0.0099	0.004 U	0.004 U	0.004 U	0.004 U	0.0041	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1260	NV	0.004 U	0.004 U	0.004 U	0.008 U	0.0049	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1262	NV	0.004 U	0.004 U	0.004 U	0.008 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1268	NV	0.004 U	0.004 U	0.004 U	0.008 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Total PCB Aroclors[d]	0.04	0.004 U	0.004 U	0.004 U	0.008 U	0.015	0.004 U	0.004 U	0.004 U	0.004 U	0.0041	0.004 U	0.004 U	0.004 U	0.004 U
VOCs (mg/kg)															
Benzene	0.0235	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Chlorobenzene	0.86 / 0.051	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform	0.074 / 0.0048	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ
Ethylbenzene	0.1 / 0.0292	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
m,p-Xylene	NV	0.004 U	0.0047	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.0093	0.0045	0.0069
o-Xylene	NV	0.002 U	0.0035	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0021	0.002 U	0.002 U
Tetrachloroethene	0.05	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Toluene	0.37 / 0.023	0.0047	0.0044	0.002	0.017	0.0032	0.002 U	0.002 U	0.002 U	0.0044	0.0022	0.002 U	0.0022	0.002 U	0.002 U
Vinyl chloride	0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Xylenes (total)[e]	0.51 / 0.0591	0.004 U	0.0082	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.011	0.0055	0.0079

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-5			SB-6			SB-7			SB-8				
Sample Name:		SB5-S-1.0	SB5-S-9.5	SB5-S-15.7	SB6-S-1.0	SB6-S-10.5	SB6-S-13.5	SB7-S-1.0	SB7-S-7.0	SB7-S-13.5	SB8-S-0.5	SB8-S-3.0	SBDUP2-S-3.0	SB8-S-10.5	SB8-S-13.5
Collection Date:		06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024
Collection Depth (ft bgs):		1.0	9.5	15.7	1.0	10.5	13.5	1.0	7.0	13.5	0.5	3.0	3.0	10.5	13.5
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	FD	N	N
SVOCs (mg/kg)															
1,2,4-Trichlorobenzene	0.05	0.1 U	0.01 U	0.01 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U
1-Methylnaphthalene	0.082 / 0.0042	0.005 U	0.0033	0.00097	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
2,4-Dichlorophenol	0.215	1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U
2-Methylnaphthalene	1.7 / 0.5	0.005 U	0.0038	0.0012	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.00053	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
3,3-Dichlorobenzidine	0.215	1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U
Acenaphthene	3.1 / 0.16	0.005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Acenaphthylene	23	0.005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Anthracene	47 / 2.4	0.005 U	0.00057	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Benzo(a)anthracene	0.02	0.01 U	0.002	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzo(a)pyrene	0.05	0.005 U	0.0026	0.00061	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Benzo(b)fluoranthene	0.05	0.0051	0.0032	0.00085	0.005 U	0.0005 U	0.0005 U	0.00074	0.0005 U	0.0005 U	0.0061	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Benzo(ghi)perylene	0.0035	0.01 U	0.0017	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzo(k)fluoranthene	0.05	0.005 U	0.001	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Bis(2-ethylhexyl) phthalate	0.1 / 0.053	0.2 UJ	0.02 UJ	0.02 UJ	0.2 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.2 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Butylbenzyl phthalate	0.052	0.15 UJ	0.015 UJ	0.015 UJ	0.15 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.15 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Chrysene	0.02	0.005 U	0.0029	0.0005	0.005 U	0.0005 U	0.0005 U	0.00051	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Dibenzo(a,h)anthracene	0.02	0.01 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibenzofuran	NV	0.005 U	0.0011	0.00054	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Fluoranthene	5.9 / 0.3	0.005 U	0.0055	0.001	0.005 U	0.0005 U	0.0005 U	0.00058	0.0005 U	0.0005 U	0.0077	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Fluorene	1.6 / 0.08	0.005 U	0.0007	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Indeno(1,2,3-cd)pyrene	0.02	0.01 U	0.0016	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U
Naphthalene	4.5 / 0.24	0.01 U	0.0031	0.001	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.01 U	0.001 U	0.001 U	0.001 U	0.001 U
N-Nitrosodiphenylamine	0.05	0.1 U	0.01 U	0.01 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	0.041	0.1 UJ	0.01 UJ	0.01 UJ	0.1 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.1 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Phenanthrene	11 / 0.55	0.005 U	0.005	0.0013	0.005 U	0.00093	0.0005 U	0.0005 U	0.001	0.0011	0.008	0.00088	0.0009	0.00057	0.0005 U
Pyrene	11 / 0.55	0.005 U	0.0057	0.00096	0.0058	0.0005 U	0.0005 U	0.00095	0.0005 U	0.0005 U	0.0079	0.0005 U	0.0005 U	0.0005 U	0.0005 U
cPAH TEQ[f][2]	0.05	0.0048	0.0035	0.00088	0.01 U	0.001 U	0.001 U	0.0005	0.001 U	0.001 U	0.0049	0.001 U	0.001 U	0.001 U	0.001 U
Total PAHs[g]	17	0.06	0.044	0.012	0.061	0.0064	0.001 U	0.0075	0.0065	0.0069	0.077	0.0064	0.0064	0.0061	0.001 U

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-9			SB-10			SB-11				SB-12			
Sample Name:		SB9-S-4.0	SB9-S-10.5	SB9-S-13.5	SB10-S-0.5	SB10-S-11.0	SB10-S-15.5	SB11-S-1.0	SBDUP-S-1.0	SB11-S-8.0	SB11-S-12.0	SB12-S-1.0	SB12-S-5.5	SBDUP2-S-5.5	SB12-S-10.5
Collection Date:		06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/28/2024	06/28/2024	06/28/2024	06/28/2024
Collection Depth (ft bgs):		4.0	10.5	13.5	0.5	11.0	15.5	1.0	1.0	8.0	12.0	1.0	5.5	5.5	10.5
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated
Sample Type:		N	N	N	N	N	N	N	FD	N	N	N	N	FD	N
Metals (mg/kg)															
Arsenic	20	1.3	1 U	1.5	2.6	1 U	1 U	2.6	2.2	1 U	1 U	2.5	1.1	1.1	1.1
Barium	820 / 41	79	39	45	150	29	33	150	130	35	34	140	46	39	44
Cadmium	1	0.5 U	0.5 U	0.5 U	0.83	0.5 U	0.5 U	0.7	0.68	0.5 U	0.5 U	0.68	0.5 U	0.5 U	0.5 U
Chromium (hexavalent)	NV	0.586 U	0.505 U	0.527 U	0.531 U	0.451 U	0.511 U	0.508 UJ	5.75 J	0.495 U	0.493 U	0.56 U	0.523 R	0.507 R	0.573 U
Chromium (total)	42	11	9.9 J+	10	21	5.2	7.2	24	21	9.4	7.5	25	9.5	11	7.4
Chromium (trivalent)[b]	1,500 / 74	11	9.9 J+	10	21	5.2	7.2	24	15	9.4	7.5	25	9.5	11	7.4
Copper	36	14	12 J-	14	33	12	16	33	30	25 U	11	35	11	11	11
Iron	51,500	227,000	147,000	177,000	456,000	170,000	213,000	297,000	344,000	217,000	162,000	47,700	18,400	18,300	22,000
Lead	50 / 25	4	2	3.1	8.3	1.7	1.9	7.4	6.9	2	2.3	8	2.7	2.3	3.1
Manganese	1,100	200	130	110	1,700	140	150	1,700	1,700	280	130	1,600	120	130	150
Mercury	0.1	0.097	0.029 J	0.031	0.085	0.023	0.02	0.1	0.091	0.031	0.029	0.096	0.051	0.056	0.03
Zinc	86	38	24	29	71	28	24	72	65	43	28	77	33	31	26
TPH (mg/kg)															
Gasoline-range hydrocarbons	30	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	200	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Motor oil-range hydrocarbons	200	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U
Diesel+Heavy Oil[c]	200	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U	125 U
TPH with Silica Gel Cleanup (mg/kg)															
Diesel-range hydrocarbons	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Motor oil-range hydrocarbons	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel+Heavy Oil[c]	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organochlorine Pesticides (mg/kg)															
4,4'-DDD	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
4,4'-DDT	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-9			SB-10			SB-11				SB-12			
Sample Name:		SB9-S-4.0	SB9-S-10.5	SB9-S-13.5	SB10-S-0.5	SB10-S-11.0	SB10-S-15.5	SB11-S-1.0	SBDUP-S-1.0	SB11-S-8.0	SB11-S-12.0	SB12-S-1.0	SB12-S-5.5	SBDUP2-S-5.5	SB12-S-10.5
Collection Date:		06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/28/2024	06/28/2024	06/28/2024	06/28/2024
Collection Depth (ft bgs):		4.0	10.5	13.5	0.5	11.0	15.5	1.0	1.0	8.0	12.0	1.0	5.5	5.5	10.5
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated
Sample Type:		N	N	N	N	N	N	N	FD	N	N	N	N	FD	N
PCBs (mg/kg)															
Aroclor 1016	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1221	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1232	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1242	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1248	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1254	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1260	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1262	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1268	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Total PCB Aroclors[d]	0.04	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
VOCs (mg/kg)															
Benzene	0.0235	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Chlorobenzene	0.86 / 0.051	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform	0.074 / 0.0048	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ
Ethylbenzene	0.1 / 0.0292	0.0037	0.002 U	0.002 U	0.0066	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
m,p-Xylene	NV	0.0096	0.004 U	0.0081	0.033	0.004 U	0.004 U	0.004 U	0.004 U	0.0046	0.0052	0.004 U	0.004 U	0.004 U	0.004 U
o-Xylene	NV	0.0025	0.002 U	0.002 U	0.0082	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Tetrachloroethene	0.05	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Toluene	0.37 / 0.023	0.0041	0.002 U	0.002	0.0028	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0021	0.002 U	0.002 U	0.0027	0.002 U
Vinyl chloride	0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Xylenes (total)[e]	0.51 / 0.0591	0.012	0.004 U	0.0091	0.041	0.004 U	0.004 U	0.004 U	0.004 U	0.0056	0.0062	0.004 U	0.004 U	0.004 U	0.004 U

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-9			SB-10			SB-11				SB-12			
Sample Name:		SB9-S-4.0	SB9-S-10.5	SB9-S-13.5	SB10-S-0.5	SB10-S-11.0	SB10-S-15.5	SB11-S-1.0	SBDUP-S-1.0	SB11-S-8.0	SB11-S-12.0	SB12-S-1.0	SB12-S-5.5	SBDUP2-S-5.5	SB12-S-10.5
Collection Date:		06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/27/2024	06/28/2024	06/28/2024	06/28/2024	06/28/2024
Collection Depth (ft bgs):		4.0	10.5	13.5	0.5	11.0	15.5	1.0	1.0	8.0	12.0	1.0	5.5	5.5	10.5
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated
Sample Type:		N	N	N	N	N	N	N	FD	N	N	N	N	FD	N
SVOCs (mg/kg)															
1,2,4-Trichlorobenzene	0.05	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
1-Methylnaphthalene	0.082 / 0.0042	0.0028	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.00077	0.0011	0.0005 U
2,4-Dichlorophenol	0.215	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
2-Methylnaphthalene	1.7 / 0.5	0.0034	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.00096	0.0012	0.0005 U
3,3-Dichlorobenzidine	0.215	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Acenaphthene	3.1 / 0.16	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Acenaphthylene	23	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Anthracene	47 / 2.4	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Benzo(a)anthracene	0.02	0.0012	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzo(a)pyrene	0.05	0.00086	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Benzo(b)fluoranthene	0.05	0.0016	0.0005 U	0.0005 U	0.00067	0.0005 U	0.0005 U	0.0005 U	0.0005	0.0005 U	0.0005 U	0.00054	0.0005 U	0.0005 U	0.0005 U
Benzo(ghi)perylene	0.0035	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzo(k)fluoranthene	0.05	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Bis(2-ethylhexyl) phthalate	0.1 / 0.053	0.02 UJ	0.02 UJ	0.02 UJ	0.028 J	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Butylbenzyl phthalate	0.052	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Chrysene	0.02	0.0014	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Dibenzo(a,h)anthracene	0.02	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibenzofuran	NV	0.00097	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Fluoranthene	5.9 / 0.3	0.0031	0.0005 U	0.00073	0.00079	0.0005 U	0.0005 U	0.0005 U	0.00064	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Fluorene	1.6 / 0.08	0.001	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Indeno(1,2,3-cd)pyrene	0.02	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Naphthalene	4.5 / 0.24	0.0036	0.001 U	0.001 U	0.001	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
N-Nitrosodiphenylamine	0.05	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	0.041	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Phenanthrene	11 / 0.55	0.0045	0.0005 U	0.00067	0.00063	0.00061	0.0007	0.0005 U	0.00066	0.0011	0.0005 U	0.0005 U	0.0013	0.0016	0.0005 U
Pyrene	11 / 0.55	0.0023	0.0005 U	0.00087	0.00059	0.0005 U	0.0005 U	0.0005 U	0.00059	0.0005 U	0.00064	0.00051	0.0005 U	0.0005 U	0.0005 U
cPAH TEQ[f][2]	0.05	0.0013	0.001 U	0.001 U	0.00049	0.001 U	0.001 U	0.001 U	0.00048	0.001 U	0.001 U	0.00048	0.001 U	0.001 U	0.001 U
Total PAHs[g]	17	0.028	0.001 U	0.0073	0.0079	0.0061	0.0062	0.001 U	0.0071	0.0066	0.0061	0.0063	0.008	0.0089	0.001 U

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-12 (cont.)	SB-13			SB-14			SB-15		SB-16			
Sample Name:		SB12-S-16.5	SB13-S-0.5	SB13-S-7.5	SB13-S-11.5	SB14-S-0.5	SB14-S-7.0	SB14-S-13.5	SB15-S-10.5	SB15-S-15.5	SB16-S-1.0	SB16-S-3.5	SB16-S-7.5	SB16-S-12.5
Collection Date:		06/28/2024	06/27/2024	06/27/2024	06/27/2024	06/24/2024	06/24/2024	06/24/2024	06/28/2024	06/28/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024
Collection Depth (ft bgs):		16.5	0.5	7.5	11.5	0.5	7.0	13.5	10.5	15.5	1.0	3.5	7.5	12.5
Collection Zone:		Saturated	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Saturated	Saturated	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	N	N
Metals (mg/kg)														
Arsenic	20	1.9	2.4	1.3	1	1.4	3.4	1.4	1	2.7	2	1.4	1.8	1.5
Barium	820 / 41	39	130	59	38	54	130	35	25	55	50	47	47	39
Cadmium	1	0.5 U	0.64	0.5 U	0.5 U	0.5 U	0.62	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chromium (hexavalent)	NV	0.535 U	0.484 U	0.508 U	0.499 U	0.551 U	7.78 U	0.532 U	0.532 U	0.637 U	0.484 U	0.495 U	0.517 U	0.499 U
Chromium (total)	42	7.7 J	21	10	7.9	6.5	13	10	6.9	19	11	11	11	11
Chromium (trivalent)[b]	1,500 / 74	7.7 J	21	10	7.9	6.5	13	10	6.9	19	11	11	11	11
Copper	36	11 J-	31	11	11	14 J	30	13	8.9	21	25 U	25 U	25 U	25 U
Iron	51,500	21,200	369,000	17,700	22,200	25,900	24,200	21,000	18,700	22,600	24,100	26,500	24,100	22,200
Lead	50 / 25	2.5	7.4	3	2.9	6.7	47	2	3	3.3	5	5.4	4.3	2.8
Manganese	1,100	250	1,600	120	140	430	290	170	120	200	250	240	250	200
Mercury	0.1	0.037 J	0.092	0.05	0.024	0.025	0.56	0.056	0.02 U	0.031	0.031	0.025	0.025	0.02 U
Zinc	86	30	70	38	28	47	81	28	24	38	33	30	33	28
TPH (mg/kg)														
Gasoline-range hydrocarbons	30	5 U	5 U	5 U	5 U	79	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	200	25 U	25 U	25 U	25 U	94	100	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Motor oil-range hydrocarbons	200	125 U	125 U	125 U	125 U	510	680	125 U	125 U	125 U	125 U	125 U	125 U	125 U
Diesel+Heavy Oil[c]	200	125 U	125 U	125 U	125 U	600	780	125 U	125 U	125 U	125 U	125 U	125 U	125 U
TPH with Silica Gel Cleanup (mg/kg)														
Diesel-range hydrocarbons	200	--	--	--	--	--	170	--	--	--	--	--	--	--
Motor oil-range hydrocarbons	200	--	--	--	--	--	1,300	--	--	--	--	--	--	--
Diesel+Heavy Oil[c]	200	--	--	--	--	--	1,500	--	--	--	--	--	--	--
Organochlorine Pesticides (mg/kg)														
4,4'-DDD	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0033	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
4,4'-DDT	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.012	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-12 (cont.)	SB-13			SB-14			SB-15		SB-16			
Sample Name:		SB12-S-16.5	SB13-S-0.5	SB13-S-7.5	SB13-S-11.5	SB14-S-0.5	SB14-S-7.0	SB14-S-13.5	SB15-S-10.5	SB15-S-15.5	SB16-S-1.0	SB16-S-3.5	SB16-S-7.5	SB16-S-12.5
Collection Date:		06/28/2024	06/27/2024	06/27/2024	06/27/2024	06/24/2024	06/24/2024	06/24/2024	06/28/2024	06/28/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024
Collection Depth (ft bgs):		16.5	0.5	7.5	11.5	0.5	7.0	13.5	10.5	15.5	1.0	3.5	7.5	12.5
Collection Zone:		Saturated	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Saturated	Saturated	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	N	N
PCBs (mg/kg)														
Aroclor 1016	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1221	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1232	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1242	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1248	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1254	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.0086	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1260	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.0057	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1262	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1268	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Total PCB Aroclors[d]	0.04	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.0143	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
VOCs (mg/kg)														
Benzene	0.0235	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Chlorobenzene	0.86 / 0.051	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform	0.074 / 0.0048	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ	0.006 UJ
Ethylbenzene	0.1 / 0.0292	0.002 U	0.0069	0.002 U	0.002 U	0.002 U	0.003	0.002 U	0.002 U	0.002 U	0.002 U	0.0059	0.002 U	0.002 U
m,p-Xylene	NV	0.004 U	0.035	0.004 U	0.0048 J	0.004 U	0.004 U	0.004 U	0.004 U	0.011	0.0044	0.032	0.0062	0.0084
o-Xylene	NV	0.002 U	0.0094	0.002 U	0.002 U	0.002 U	0.0021	0.002 U	0.002 U	0.0027	0.0041	0.012	0.0036	0.0034
Tetrachloroethene	0.05	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Toluene	0.37 / 0.023	0.003	0.002 U	0.0063	0.002 U	0.0022	0.061	0.002 U	0.0066	0.002	0.0023	0.0085	0.0047	0.002 U
Vinyl chloride	0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Xylenes (total)[e]	0.51 / 0.0591	0.004 U	0.044	0.004 U	0.0058	0.004 U	0.0041	0.004 U	0.004 U	0.014	0.0085	0.044	0.0098	0.012

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-12 (cont.)	SB-13			SB-14			SB-15		SB-16			
Sample Name:		SB12-S-16.5	SB13-S-0.5	SB13-S-7.5	SB13-S-11.5	SB14-S-0.5	SB14-S-7.0	SB14-S-13.5	SB15-S-10.5	SB15-S-15.5	SB16-S-1.0	SB16-S-3.5	SB16-S-7.5	SB16-S-12.5
Collection Date:		06/28/2024	06/27/2024	06/27/2024	06/27/2024	06/24/2024	06/24/2024	06/24/2024	06/28/2024	06/28/2024	06/26/2024	06/26/2024	06/26/2024	06/26/2024
Collection Depth (ft bgs):		16.5	0.5	7.5	11.5	0.5	7.0	13.5	10.5	15.5	1.0	3.5	7.5	12.5
Collection Zone:		Saturated	Vadose	Vadose	Vadose	Vadose	Vadose	Saturated	Saturated	Saturated	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N	N	N	N	N	N	N
SVOCs (mg/kg)														
1,2,4-Trichlorobenzene	0.05	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
1-Methylnaphthalene	0.082 / 0.0042	0.0005 U	0.0005 U	0.00076	0.0005 U	0.00072	0.0074	0.0005 U	0.0005 U	0.0005 U	0.002	0.0027	0.0028	0.0025
2,4-Dichlorophenol	0.215	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
2-Methylnaphthalene	1.7 / 0.5	0.0005 U	0.0005 U	0.0009	0.0005 U	0.0009	0.0094	0.0005 U	0.00058	0.0005 U	0.0022	0.0037	0.0036	0.003
3,3-Dichlorobenzidine	0.215	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Acenaphthene	3.1 / 0.16	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0022	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Acenaphthylene	23	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0057	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Anthracene	47 / 2.4	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0044	0.0033	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.00099	0.00056	0.0005 U
Benzo(a)anthracene	0.02	0.001 U	0.001 U	0.001 U	0.001 U	0.001	0.0083	0.001 U	0.001 U	0.001 U	0.0015	0.0035	0.0024	0.0013
Benzo(a)pyrene	0.05	0.0005 U	0.00091	0.0005 U	0.0005 U	0.0014	0.012	0.0005 U	0.0005 U	0.0005 U	0.0015	0.0042	0.0034	0.0014
Benzo(b)fluoranthene	0.05	0.0005 U	0.0018	0.00071	0.0005 U	0.0022	0.025	0.0005 U	0.0005 U	0.0005 U	0.0022	0.012	0.009	0.003
Benzo(ghi)perylene	0.0035	0.001 U	0.0015	0.001 U	0.001 U	0.001 U	0.011	0.001 U	0.001 U	0.001 U	0.001	0.0038	0.0028	0.0015
Benzo(k)fluoranthene	0.05	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0027	0.0057	0.0005 U	0.0005 U	0.0005 U	0.0007	0.0034	0.0025	0.00089
Bis(2-ethylhexyl) phthalate	0.1 / 0.053	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 J	0.069 J	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
Butylbenzyl phthalate	0.052	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.042 J	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Chrysene	0.02	0.0005 U	0.0019	0.0005 U	0.0005 U	0.0013	0.014	0.0005 U	0.0005 U	0.0005 U	0.0018	0.0097	0.0059	0.0024
Dibenzo(a,h)anthracene	0.02	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0016	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Dibenzofuran	NV	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0023	0.0033	0.0005 U	0.0005 U	0.0005 U	0.00054	0.0029	0.0022	0.0012
Fluoranthene	5.9 / 0.3	0.0005 U	0.002	0.00073	0.0005 U	0.0027	0.035	0.0005 U	0.00061	0.0005 U	0.0033	0.017	0.0092	0.0039
Fluorene	1.6 / 0.08	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0036	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Indeno(1,2,3-cd)pyrene	0.02	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0088	0.001 U	0.001 U	0.001 U	0.001 U	0.0035	0.0027	0.0012
Naphthalene	4.5 / 0.24	0.001 U	0.0027	0.001 U	0.001 U	0.0011	0.033	0.001 U	0.001	0.001 U	0.0012	0.0063	0.0045	0.0027
N-Nitrosodiphenylamine	0.05	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	0.041	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Phenanthrene	11 / 0.55	0.00076	0.0012	0.0018	0.00051	0.0025	0.032	0.0005	0.001	0.00073	0.0028	0.016	0.0094	0.0042
Pyrene	11 / 0.55	0.00082	0.0018	0.00078	0.0005 U	0.0024	0.04	0.00057	0.00068	0.0005 U	0.0033	0.012	0.0066	0.0031
cPAH TEQ[f][2]	0.05	0.001 U	0.0013	0.0005	0.001 U	0.0021	0.017	0.001 U	0.001 U	0.001 U	0.0021	0.0066	0.0052	0.0021
Total PAHs[g]	17	0.0068	0.017	0.0099	0.006	0.026	0.26	0.0063	0.0081	0.0062	0.026	0.1	0.067	0.033

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-17			SB-18			
Sample Name:		SB17-S-5.5	SB17-S-9.0	SB17-S-13.5	SB18-S-1.0	SB18-S-4.0	SB18-S-11.0	SB18-S-13.0
Collection Date:		06/28/2024	06/28/2024	06/28/2024	06/24/2024	06/24/2024	06/24/2024	06/24/2024
Collection Depth (ft bgs):		5.5	9.0	13.5	1.0	4.0	11.0	13.0
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N
Metals (mg/kg)								
Arsenic	20	1.3	1 U	1.4	1.7	1.9	1.1	1.8
Barium	820 / 41	31	35	36	52 J	44	50	57
Cadmium	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chromium (hexavalent)	NV	0.504 U	0.456 U	0.481 U	0.531 U	0.525 U	0.515 U	0.516 U
Chromium (total)	42	8.4	7.3	8.7	8.5	11	7.2	8.4
Chromium (trivalent)[b]	1,500 / 74	8.4	7.3	8.7	8.5	11	7.2	8.4
Copper	36	11	25 U	25 U	11 J	15 J	13 J	14 J
Iron	51,500	24,900	21,900	19,800	36,400	23,700	32,000	29,500
Lead	50 / 25	1.9	2.2	2.2	7.3	3	2.4	3.2
Manganese	1,100	230	500	260	340	270	290	330
Mercury	0.1	0.037	0.02 U	0.025	0.039 J	0.035	0.02 U	0.036
Zinc	86	25	48	34	39	42	30	41
TPH (mg/kg)								
Gasoline-range hydrocarbons	30	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	200	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Motor oil-range hydrocarbons	200	125 U	125 U	125 U	125 U	125 U	125 U	125 U
Diesel+Heavy Oil[c]	200	125 U	125 U	125 U	125 U	125 U	125 U	125 U
TPH with Silica Gel Cleanup (mg/kg)								
Diesel-range hydrocarbons	200	--	--	--	--	--	--	--
Motor oil-range hydrocarbons	200	--	--	--	--	--	--	--
Diesel+Heavy Oil[c]	200	--	--	--	--	--	--	--
Organochlorine Pesticides (mg/kg)								
4,4'-DDD	0.00265	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
4,4'-DDT	0.00265	0.002 U	0.002 U	0.002 U	0.0021	0.002 UJ	0.002 U	0.002 U

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-17			SB-18			
Sample Name:		SB17-S-5.5	SB17-S-9.0	SB17-S-13.5	SB18-S-1.0	SB18-S-4.0	SB18-S-11.0	SB18-S-13.0
Collection Date:		06/28/2024	06/28/2024	06/28/2024	06/24/2024	06/24/2024	06/24/2024	06/24/2024
Collection Depth (ft bgs):		5.5	9.0	13.5	1.0	4.0	11.0	13.0
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N
PCBs (mg/kg)								
Aroclor 1016	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1221	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1232	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1242	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1248	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1254	NV	0.004 U	0.004 U	0.004 U	0.0088	0.004 U	0.004 U	0.004 U
Aroclor 1260	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1262	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Aroclor 1268	NV	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Total PCB Aroclors[d]	0.04	0.004 U	0.004 U	0.004 U	0.0088	0.004 U	0.004 U	0.004 U
VOCs (mg/kg)								
Benzene	0.0235	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Chlorobenzene	0.86 / 0.051	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform	0.074 / 0.0048	0.006 UJ	0.006 UJ	0.006 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ	0.0048 UJ
Ethylbenzene	0.1 / 0.0292	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
m,p-Xylene	NV	0.008	0.004 U	0.0044	0.004 U	0.004 U	0.0072	0.004 U
o-Xylene	NV	0.0021	0.002 U	0.002 U	0.002 U	0.002 U	0.0022	0.002 U
Tetrachloroethene	0.05	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Toluene	0.37 / 0.023	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0082	0.002 U
Vinyl chloride	0.002	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Xylenes (total)[e]	0.51 / 0.0591	0.010	0.004 U	0.0054	0.004 U	0.004 U	0.0094	0.004 U

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1] (Vadose/ Saturated[a])	SB-17			SB-18			
Sample Name:		SB17-S-5.5	SB17-S-9.0	SB17-S-13.5	SB18-S-1.0	SB18-S-4.0	SB18-S-11.0	SB18-S-13.0
Collection Date:		06/28/2024	06/28/2024	06/28/2024	06/24/2024	06/24/2024	06/24/2024	06/24/2024
Collection Depth (ft bgs):		5.5	9.0	13.5	1.0	4.0	11.0	13.0
Collection Zone:		Vadose	Vadose	Vadose	Vadose	Vadose	Vadose	Vadose
Sample Type:		N	N	N	N	N	N	N
SVOCs (mg/kg)								
1,2,4-Trichlorobenzene	0.05	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
1-Methylnaphthalene	0.082 / 0.0042	0.001	0.0005 U	0.0005 U	0.0007	0.0005 U	0.0005 U	0.00096
2,4-Dichlorophenol	0.215	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
2-Methylnaphthalene	1.7 / 0.5	0.0014	0.00055	0.0005 U	0.00091	0.0005 U	0.00058	0.001
3,3-Dichlorobenzidine	0.215	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Acenaphthene	3.1 / 0.16	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0011	0.0056
Acenaphthylene	23	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Anthracene	47 / 2.4	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0022	0.012
Benzo(a)anthracene	0.02	0.001 U	0.001 U	0.001 U	0.0011	0.001 U	0.027	0.15
Benzo(a)pyrene	0.05	0.0005 U	0.0005 U	0.0005 U	0.0015	0.00067	0.034	0.19
Benzo(b)fluoranthene	0.05	0.00061	0.00054	0.0005 U	0.0033	0.00085	0.048	0.26
Benzo(ghi)perylene	0.0035	0.001 U	0.001 U	0.001 U	0.0015	0.001 U	0.02	0.11
Benzo(k)fluoranthene	0.05	0.0005 U	0.0005 U	0.0005 U	0.00074	0.0005 U	0.016	0.079
Bis(2-ethylhexyl) phthalate	0.1 / 0.053	3.2	0.028 J	0.02 UJ	0.22 J	0.02 UJ	0.02 UJ	0.02 UJ
Butylbenzyl phthalate	0.052	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ	0.015 UJ
Chrysene	0.02	0.0005 U	0.0005 U	0.0005 U	0.0023	0.0005 U	0.032	0.17
Dibenzo(a,h)anthracene	0.02	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0047	0.027
Dibenzofuran	NV	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.00062
Fluoranthene	5.9 / 0.3	0.00088	0.00068	0.0005 U	0.0025	0.0005 U	0.049	0.25
Fluorene	1.6 / 0.08	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.002
Indeno(1,2,3-cd)pyrene	0.02	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.018	0.11
Naphthalene	4.5 / 0.24	0.0016	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
N-Nitrosodiphenylamine	0.05	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	0.041	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Phenanthrene	11 / 0.55	0.0018	0.001	0.00053	0.0017	0.0005 U	0.015	0.073
Pyrene	11 / 0.55	0.00076	0.00059	0.0005 U	0.002	0.0005 U	0.043	0.22
cPAH TEQ[f][2]	0.05	0.00049	0.00048	0.001 U	0.0021	0.00093	0.046	0.25
Total PAHs[g]	17	0.012	0.0079	0.006	0.021	0.0068	0.31	1.7

Table 6-4
Soil Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Notes

Only soil samples not impacted by woodwaste are shown on this table. See boring logs.

Data summation rules are as follows: non-detect results are multiplied by one-half when used for sums or TEQ calculations. When all results are non-detect, the highest reporting limit is provided as the sum or TEQ.

Shading indicates values that exceed PCULs; non-detects (U and UJ) and rejected results (R) were not compared with preliminary screening levels.

-- = not analyzed.

cPAH = carcinogenic polycyclic aromatic hydrocarbon.

FD = field duplicate sample.

ft bgs = feet below ground surface.

J = result is estimated.

J+ = result is estimated, but the result may be biased high.

J- = result is estimated, but the result may be biased low.

mg/kg = milligrams per kilogram.

N = normal environmental sample.

NV = no value.

PAH = polycyclic aromatic hydrocarbon.

PCB = polychlorinated biphenyl.

R = result is rejected. The analyte may or may not be present in the sample.

SVOC = semivolatile organic compound.

TEQ = toxicity equivalency.

TPH = total petroleum hydrocarbons.

U = result is non-detect at the method reporting limit.

UJ = result is non-detect with an estimated method reporting limit.

VOC = volatile organic compound.

[a]Analytes with two preliminary screening levels are for samples collected in the vadose zone or saturated zone, respectively. Each sample is screened to either the vadose or saturated preliminary screening levels based on their designation. Analytes with a single preliminary screening level are screened for all samples.

[b]Trivalent chromium calculated as [total chromium - hexavalent chromium] in ug/L. When hexavalent chromium is not detected in a sample, the total chromium result/method reporting limit is provided as the trivalent chromium result.

[c]Diesel+Heavy Oil is the sum of diesel- and motor-oil-range hydrocarbons.

[d]Total PCB Aroclors is the sum of all detected PCB Aroclors.

[e]Total xylenes is the sum of m,p-xylene and o-xylene.

[f]cPAH TEQ calculated as the sum of each cPAH concentration multiplied by the corresponding toxic equivalent factor.

[g]Per Washington Administrative Code 173-204-563 (2)(h); total PAHs is the sum of 1-methylnaphthalene, 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benz(a)anthracene, benzo(a)pyrene, benzo(ghi)perylene, chrysene, dibenz(ah)anthracene, fluoranthene, fluorene, indeno(123-cd)pyrene, naphthalene, phenanthrene, pyrene, total benzofluoranthenes (b+k+j). Benzo(b)fluoranthene and benzo(j)fluoranthene coelude and the benzo(b)fluoranthene isomer is representative of both results.

References

[1]See Table 6-1.

[2]Ecology. 2015. *Implementation Memorandum #10: Evaluating the Human Health Toxicity of Carcinogenic PAHs (cPAHs) Using Toxicity Equivalency Factors (TEFs)*. Publication No. 15-09-049. Washington State Department of Ecology, Toxics Cleanup Program. April 20.

Table 6-5
Groundwater Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1]	MWEC-01	MWEC-02	MWEC-03				MWEC-04		MW-15	
Sample Name:		MWEC01-GW-20.0	MWEC02-GW-21.0	MWEC03-GW-20.0	MWDUP-GW-20.0	MWEC03-GW-20.0-M	MWDUP-GW-20.0-M	MWEC04-GW-20.0	MWEC04-GW-20.0-M	MW15-GW-16.0	MW15-GW-16.0-M
Collection Date:		06/28/2024	06/27/2024	06/27/2024	06/27/2024	06/28/2024	06/28/2024	06/27/2024	06/28/2024	06/27/2024	06/28/2024
Sample Type:		N	N	N	FD	N	FD	N	N	N	N
Dissolved Metals (ug/L)[a]											
Arsenic	6	1 U	1.5 J	--	--	1 U	1 U	--	3.1	--	2.2
Barium	1,000	26	17	--	--	5.8	5.9	--	18	--	25
Cadmium	0.72	0.5 U	0.5 U	--	--	0.5 U	0.5 U	--	0.5 U	--	0.5 U
Chromium (hexavalent)	NV	50 U	50 U	--	--	50 U	50 U	--	50 U	--	50 U
Chromium (total)	72	1 U	1 U	--	--	1 U	1 U	--	1 U	--	1 U
Chromium (trivalent)[b]	74	1 U	1 U	--	--	1 U	1 U	--	1 U	--	1 U
Copper	11	5 U	5 U	--	--	5 U	5 U	--	5 U	--	5 U
Iron	300	5,900	1,800	--	--	50 U	50 U	--	5,600	--	7,000
Lead	2.5	1 U	1 U	--	--	1 U	1 U	--	1 U	--	1 U
Manganese	50	400	1,800	--	--	98	95	--	360	--	760
Mercury	0.012	0.01 U	0.01 U	--	--	0.01 U	0.01 U	--	0.01 U	--	0.01 U
Zinc	100	5 U	5 U	--	--	5 U	5 U	--	5 U	--	5 U
Total Metals (ug/L)											
Arsenic	6	1 U	1.2 J	--	--	1 U	1 U	--	2.7	--	1.8
Barium	1,000	26	16	--	--	5.7	5.9	--	18	--	25
Cadmium	0.72	0.5 U	0.5 U	--	--	0.5 U	0.5 U	--	0.5 U	--	0.5 U
Chromium	72	1 U	1 U	--	--	1 U	1 U	--	1 U	--	1 U
Copper	11	5 U	5 U	--	--	5 U	5 U	--	5 U	--	5 U
Iron	300	6,000	1,900	--	--	91	86	--	5,900	--	7,900
Lead	2.5	1 U	1 U	--	--	1 U	1 U	--	1 U	--	1 U
Manganese	50	1,100	1,900	--	--	91	94	--	1,100	--	790
Mercury	0.012	0.01 U	0.01 U	--	--	0.01 U	0.01 U	--	0.01 U	--	0.01 U
Zinc	100	5 U	5 U	--	--	5 U	5 U	--	5 U	--	5 U
TPH (ug/L)											
Gasoline-range hydrocarbons	1,000	100 U	100 U	100 U	100 U	--	--	100 U	--	100 U	--
Diesel-range hydrocarbons	500	50 U	50 U	50 U	50 U	--	--	50 U	--	50 U	--
Motor oil-range hydrocarbons	500	250 U	250 U	250 U	250 U	--	--	250 U	--	250 U	--
Diesel+Heavy Oil[c]	500	250 U	250 U	250 U	250 U	--	--	250 U	--	250 U	--
Organochlorine Pesticides (ug/L)											
4,4'-DDD	0.0025	0.002 U	0.002 U	0.002 U	0.002 U	--	--	0.002 U	--	0.002 U	--
4,4'-DDT	0.003	0.002 U	0.002 U	0.002 U	0.002 U	--	--	0.002 U	--	0.002 U	--
PCBs (ug/L)											
Aroclor 1016	NV	0.01 U	0.01 UJ	0.01 U	0.01 U	--	--	0.01 U	--	0.01 U	--
Aroclor 1221	NV	0.01 U	0.01 UJ	0.01 U	0.01 U	--	--	0.01 U	--	0.01 U	--
Aroclor 1232	NV	0.01 U	0.01 UJ	0.01 U	0.01 U	--	--	0.01 U	--	0.01 U	--
Aroclor 1242	NV	0.01 U	0.01 UJ	0.01 U	0.01 U	--	--	0.01 U	--	0.01 U	--
Aroclor 1248	NV	0.01 U	0.01 UJ	0.01 U	0.01 U	--	--	0.01 U	--	0.01 U	--
Aroclor 1254	NV	0.01 U	0.01 UJ	0.01 U	0.01 U	--	--	0.01 U	--	0.01 U	--

Table 6-5
Groundwater Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Location:	Preliminary Screening Levels[1]	MWEC-01	MWEC-02	MWEC-03				MWEC-04		MW-15	
Sample Name:		MWEC01-GW-20.0	MWEC02-GW-21.0	MWEC03-GW-20.0	MWDUP-GW-20.0	MWEC03-GW-20.0-M	MWDUP-GW-20.0-M	MWEC04-GW-20.0	MWEC04-GW-20.0-M	MW15-GW-16.0	MW15-GW-16.0-M
Collection Date:		06/28/2024	06/27/2024	06/27/2024	06/27/2024	06/28/2024	06/28/2024	06/27/2024	06/28/2024	06/27/2024	06/28/2024
Sample Type:		N	N	N	FD	N	FD	N	N	N	N
PCBs, cont. (ug/L)											
Aroclor 1260	NV	0.01 U	0.01 UJ	0.01 U	0.01 U	--	--	0.01 U	--	0.01 U	--
Aroclor 1262	NV	0.01 U	0.01 UJ	0.01 U	0.01 U	--	--	0.01 U	--	0.01 U	--
Aroclor 1268	NV	0.01 U	0.01 UJ	0.01 U	0.01 U	--	--	0.01 U	--	0.01 U	--
Total PCB Aroclors[d]	0.1	0.01 U	0.01 UJ	0.01 U	0.01 U	--	--	0.01 U	--	0.01 U	--
VOCs (ug/L)											
Chlorobenzene	100	1 U	1 U	1 U	1 U	--	--	1 U	--	1 U	--
Chloroform	1.4	1 U	1 U	1 U	1 U	--	--	1 U	--	1 U	--
m,p-Xylene	NV	2 U	2 U	2 U	2 U	--	--	2 U	--	2 U	--
o-Xylene	NV	1 U	1 U	1 U	1 U	--	--	1 U	--	1 U	--
Vinyl chloride	0.06	0.02 U	0.02 U	0.02 U	0.02 U	--	--	0.02 U	--	0.02 U	--
Xylenes (total)[e]	57	2 U	2 U	2 U	2 U	--	--	2 U	--	2 U	--
SVOCs (ug/L)											
1,2,4-Trichlorobenzene	0.1	0.1 U	0.1 U	0.1 U	0.1 U	--	--	0.1 U	--	0.1 U	--
1-Methylnaphthalene	1.5	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	--	0.05 U	--
2,4-Dichlorophenol	10	1 U	1 U	1 U	1 U	--	--	1 U	--	1 U	--
2-Methylnaphthalene	32	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	--	0.05 U	--
3,3-Dichlorobenzidine	2	1 U	1 U	1 U	1 U	--	--	1 U	--	1 U	--
Acenaphthene	30	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
Anthracene	100	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
Benzo(a)anthracene	NV	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
Benzo(a)pyrene	0.0073	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
Benzo(b)fluoranthene	0.02	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
Benzo(k)fluoranthene	0.032	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
Bis(2-ethylhexyl) phthalate	0.5	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	--	--	0.5 UJ	--	0.5 UJ	--
Chrysene	0.02	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
Dibenzo(a,h)anthracene	0.02	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
Fluoranthene	6	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
Fluorene	10	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
Indeno(1,2,3-cd)pyrene	0.02	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
N-Nitrosodiphenylamine	2	0.1 U	0.1 U	0.1 U	0.1 U	--	--	0.1 U	--	0.13	--
Pentachlorophenol	0.06	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	--	--	0.1 UJ	--	0.1 UJ	--
Phenanthrene	8	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--
cPAH TEQ[f][2]	0.0073	0.005 U	0.005 U	0.005 U	0.005 U	--	--	0.005 U	--	0.005 U	--

Table 6-5
Groundwater Analytical Results
East-West Corridor Roadway, Yakima, Washington
Yakima County

Notes

Data summation rules are as follows: non-detect results are multiplied by one-half when used for sums or TEQ calculations. When all results are non-detect, the highest reporting limit is provided as the sum or TEQ.

Shading indicates values that exceed PCULs; non-detects (U and UJ) were not compared with preliminary screening levels.

-- = not analyzed.

cPAH = carcinogenic polycyclic aromatic hydrocarbon.

FD = field duplicate sample.

J = result is estimated.

N = normal environmental sample.

NV = no value.

PCB = polychlorinated biphenyl.

SVOC = semivolatile organic compound.

TEQ = toxicity equivalency.

TPH = total petroleum hydrocarbons.

U = result is non-detect at the method reporting limit.

ug/L = micrograms per liter.

UJ = result is non-detect with an estimated method reporting limit.

VOC = volatile organic compound.

[a]Dissolved metals results are screened to total metals preliminary screening levels.

[b]Trivalent chromium calculated as [total chromium - hexavalent chromium] in ug/L. When hexavalent chromium is not detected in a sample, the total chromium result/method reporting limit is provided as the trivalent chromium result.

[c]Diesel+Heavy Oil is the sum of diesel- and motor-oil-range hydrocarbons.

[d]Total PCB Aroclors is the sum of all detected PCB Aroclors.

[e]Total xylenes is the sum of m,p-xylene and o-xylene.

[f]cPAH TEQ calculated as the sum of each cPAH concentration multiplied by the corresponding toxic equivalent factor.

References

[1]See Table 6-2.

[2]Ecology. 2015. *Implementation Memorandum #10: Evaluating the Human Health Toxicity of Carcinogenic PAHs (cPAHs) Using Toxicity Equivalency Factors (TEFs)*. Publication No. 15-09-049. Washington State Department of Ecology, Toxics Cleanup Program. April 20.

Appendix A

Geologic Boring and Monitoring Well Construction Logs

MAUL FOSTER ALONGI

MAUL FOSTER ALONGI

Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	MWEC-01	1 of 2

Project Name	East - West Corridor Initial Investigation	TOC Elevation (feet)	
Project Location	Yakima Washington	Surface Elevation (feet)	
Start/End Date	6/25/2024 to 6/25/2024	Northing	467849.4
Driller/Equipment	Anderson Environmental Contracting, LLC/Terra Sonic 150	Easting	1642486.0
Geologist/Engineer	C. Sifford	Total Depth of Borehole	25.0 feet
Sample Method	Core Barrel	Outer Hole Diam	6 inch

Depth (feet, bgs)	Well Details	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1				MWEC01-S-1.0	3		0.0 to 1.3 feet: SAND (SP); tan; 100% sand, fine to medium; very loose; no odor; dry.
2							1.3 to 2.1 feet: SANDY WOODY DEBRIS; dark brown; 50% sand, fine to medium; 50% woody debris (dust, fibers, and bark chips up to 1 inch); very loose; no odor; dry.
3			68	MWEC01-S-3.0	3		2.1 to 2.5 feet: GRAVELLY SAND (SP); tan; 70% sand, fine; 30% gravel, medium to coarse, rounded to subrounded; very loose; no odor; dry. 2.5 to 2.9 feet: WOODY DEBRIS; dark brown; 15% sand, fine; 10% gravel, medium to coarse, rounded; 75% woody debris (dust, fibers, and bark chips up to 0.5 inches); very loose; no odor; dry. 2.9 to 3.4 feet: GRAVELLY SAND (SP); tan; 70% sand, fine; 30% gravel, medium to coarse, rounded to subrounded; very loose; no odor; dry.
4							3.4 to 5.0 feet: NO RECOVERY.
5							5.0 to 6.2 feet: SANDY WOODY DEBRIS; dark brown; 50% sand, fine to medium; 50% woody debris (dust, fibers, and bark chips up to 1 inch); loose; no odor; dry.
6					2		
7			84				6.2 to 9.2 feet: SANDY GRAVEL (GW); gray; 40% sand, fine to coarse; 60% gravel, fine to coarse, rounded to subrounded; very loose; no odor; dry. @ 7.1 to 7.6 feet: Cobble.
8				MWEC01-S-8.0	0		
9							9.2 to 10.0 feet: NO RECOVERY.
10		▼					
11							10.0 to 11.5 feet: SANDY GRAVEL (GW); gray; 40% sand, fine to coarse; 60% gravel, fine to coarse, rounded to subrounded; loose; no odor; moist.
12		▽		MWEC01-S-11.3	1		11.5 to 11.9 feet: GRAVEL WITH SAND AND SILT (GW-GM); dark gray; 10% fines; 15% sand, fine to medium; 75% gravel, fine to coarse, rounded to subrounded; very loose; no odor; wet.
13			19				11.9 to 20.0 feet: NO RECOVERY.
14							
15							

MAUL FOSTER ALONGI

Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**MWEC-01**	**2 of 2**

Depth (feet, bgs)	Well Details	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
16							
17							
18			**19**				
19							
20				**MWEC01-GW-20.0**			*20.0 to 22.9 feet: GRAVEL WITH SAND AND SILT (GW-GM); dark gray; 10% fines; 15% sand, fine to medium; 75% gravel, fine to coarse, rounded to subrounded; very loose; no odor; wet.*
21							
22			**100**				
23							*22.9 to 25.0 feet: GRAVELLY SAND WITH SILT (SP-SM); dark gray; 15% fines, nonplastic; 50% sand, fine to medium; 35% gravel, fine to medium, rounded to subrounded; very loose; no odor; wet.*
24							
25							

Total Depth = 25.0 feet bgs

NOTES:

1) Minimal wet soil encountered in 10 to 20 foot push. Advanced boring to 25 feet for well installation. 2) Depths are relative to feet bgs. 3) bgs = below ground surface. 4) ID = identification. 5) PID = photoionization detector. 6) ppm = parts per million.

Borehole Completion Details

0 to 25.0 feet: 6-inch-diameter borehole.
0 to 2.0 feet: Concrete.
2.0 to 12.0 feet: Bentonite chips hydrated with potable water.
12.0 to 25.0 feet: 12x20 silica sand filter pack.

Monitoring Well Completion Details

Washington State Department of Ecology Well No. BQG815.
Traffic-grade flush-mounted, monitoring well vault.
0 to 13.9 feet: 2-inch diameter, schedule 40, polyvinyl chloride riser pipe.
13.9 to 23.9 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot well screen with threaded polyvinyl chloride end cap.

▽ *Soil becomes wet at approximately 11.5 feet as observed in core sample at time of drilling.* ▼ *Water level measured at 9.64 feet on 6/26/2024 prior to well development.*

Geologic Borehole Log

MAUL FOSTER ALONGI

Project Number	Well Number	Sheet
M2703.01.001	MWEC-02	1 of 2

Project Name	East - West Corridor Initial Investigation	TOC Elevation (feet)	
Project Location	Yakima Washington	Surface Elevation (feet)	
Start/End Date	6/25/2024 to 6/25/2024	Northing	467724.2
Driller/Equipment	Anderson Environmental Contracting, LLC/Terra Sonic 150	Easting	1642902.9
Geologist/Engineer	C. Sifford	Total Depth of Borehole	25.0 feet
Sample Method	Core Barrel	Outer Hole Diam	6 inch

Depth (feet, bgs)	Well Details	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1				MWEC02-S-1.0	1		0.0 to 1.4 feet: GRAVELLY SAND (SP); tan; 75% sand, fine; 25% gravel, fine to medium; trace woody debris (bark chips); very loose; no odor; dry.
							@ 0.8 to 1.4 feet: Becomes moist and brown.
2							1.4 to 3.5 feet: SANDY GRAVEL (GW); brownish gray; 40% sand, fine to coarse; 60% gravel, fine to coarse, subangular to rounded; trace cobbles up to 4 inches; loose; no odor; dry.
			70				
3				MWEC02-S-3.0	1		
4							3.5 to 5.0 feet: NO RECOVERY.
5							
6					1		5.0 to 6.6 feet: GRAVELLY SAND (SP); brown; 75% sand, fine; 25% gravel, fine to medium; trace woody debris (bark chips); very loose; no odor; moist.
7							6.6 to 14.7 feet: SANDY GRAVEL (GW); gray; 40% sand, fine to coarse; 60% gravel, fine to coarse, rounded to subrounded; trace cobbles up to 4 inches; loose; no odor; moist.
			100				
8				MWEC02-S-8.0	1		
9							
10							
11					1		@ 10.9 feet: Becomes brown.
12							
			47				
13		▽		MWEC02-S-13.0	1		@ 13.1 feet: Becomes wet.
14							
15							14.7 to 20.0 feet: NO RECOVERY.

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**MWEC-02**	**2 of 2**

Depth (feet, bgs)	Well Details	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
16							
17							
18		▼	47				
19							
20							20.0 to 23.3 feet: SANDY GRAVEL (GW); gray; 40% sand, fine to coarse; 60% gravel, fine to coarse, rounded to subrounded; trace cobbles up to 4 inches; loose; no odor; moist.
21				MWEC02-GW-21.0			
22			100				
23							23.3 to 24.5 feet: GRAVELLY SAND (SW); gray; 80% sand, fine to coarse; 20% gravel, fine to medium, rounded to subrounded; very loose; no odor; moist.
24							@ 24.0 feet: Becomes brown.
25							24.5 to 25.0 feet: SANDY GRAVEL (GW); dark gray; 40% sand, fine to coarse; 60% gravel, fine to coarse, rounded to subrounded; trace cobbles up to 4 inches; loose; no odor; wet.

Total Depth = 25.0 feet bgs

NOTES:

1) Minimal wet soil encountered in 10 to 20 foot push. Advanced boring to 25 feet for well installation. 2) Depths are relative to feet bgs. 3) bgs = below ground surface. 4) ID = identification. 5) PID = photoionization detector. 6) ppm = parts per million.

Borehole Completion Details

0 to 25.0 feet: 6-inch-diameter borehole.
0 to 2.0 feet: Concrete.
2.0 to 12.0 feet: Bentonite chips hydrated with potable water.
12.0 to 25.0 feet: 12x20 silica sand filter pack.

Monitoring Well Completion Details

Washington State Department of Ecology Well No. BQG814.
Traffic-grade flush-mounted, monitoring well vault.
0 to 14.3 feet: 2-inch diameter, schedule 40, polyvinyl chloride riser pipe.
14.3 to 24.3 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot well screen with threaded polyvinyl chloride end cap.

▽ Soil becomes wet at approximately 13.1 feet as observed in core sample at time of drilling. ▼ Water level measured at 18.12 feet on 6/26/2024 prior to well development.

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**MWEC-03**	**1 of 2**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/24/2024 to 6/24/2024**	Northing	**467328.8**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1643098.9**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**25.0 feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**6 inch**

Depth (feet, bgs)	Well Details	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1				**MWEC03-S-1.0**	**3**		*0.0 to 0.9 feet: GRAVELLY SAND (SP); light brown; 70% sand, fine; 30% gravel, fine to medium, rounded to subrounded; loose; no odor; dry.*
							0.9 to 1.7 feet: SANDY WOODY DEBRIS; brown; 50% sand, fine; 50% woody debris (dust and chips up to 1 inch); organic-like odor; very loose; dry.
2							*1.7 to 5.0 feet: NO RECOVERY.*
3			**34**				
4							
5							
				MWEC03-S-5.5	**2**		*5.0 to 5.8 feet: SANDY WOODY DEBRIS; brown; 50% sand, fine; 50% woody debris (dust and chips up to 1 inch); organic-like odor; very loose; dry.*
6							*5.8 to 7.3 feet: SANDY GRAVEL (GW); gray; 40% sand, medium to coarse; 60% gravel, fine to coarse, rounded to subrounded; trace cobbles up to 4 inches; very loose; no odor; moist.*
7				**MWEC03-S-7.0**	**2**		
			46				*7.3 to 10.0 feet: NO RECOVERY.*
8							
9							
10							
							10.0 to 11.9 feet: SANDY GRAVEL (GW); gray; 40% sand, medium to coarse; 60% gravel, fine to coarse, rounded to subrounded; trace cobbles up to 4 inches; very loose; no odor; moist.
11		▽		**MWEC03-S-11.0**	**1**		
							@ 11.4 feet: Becomes wet.
12							*11.9 to 20.0 feet: NO RECOVERY.*
			19				
13							
14		▼					
15							

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**MWEC-03**	**2 of 2**

Depth (feet, bgs)	Well Details	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
16							
17							
18			19				
19							
20							
21				**MWEC03-GW-20.0** **MWEC03-GW-20.0-M** **MWDUP-GW-20.0** **MWDUP-GW-20.0-M**			*20.0 to 23.9 feet: SANDY GRAVEL (GW); gray; 40% sand, medium to coarse; 60% gravel, fine to coarse, rounded to subrounded; trace cobbles up to 4 inches; loose; no odor; wet.*
22							
23			78				
24							*23.9 to 25.0 feet: NO RECOVERY.*
25							

Total Depth = 25.0 feet bgs

NOTES:

1) Minimal wet soil encountered in 10 to 20 foot push. Advanced boring to 25 feet for well installation. 2) Depths are relative to feet bgs. 3) bgs = below ground surface. 4) ID = identification. 5) PID = photoionization detector. 6) ppm = parts per million.

Borehole Completion Details

0 to 25.0 feet: 6-inch-diameter borehole.
0 to 2.0 feet: Concrete.
2.0 to 12.0 feet: Bentonite chips hydrated with potable water.
12.0 to 25.0 feet: 12x20 silica sand filter pack.

Monitoring Well Completion Details

Washington State Department of Ecology Well No. BQG813.
Traffic-grade flush-mounted, monitoring well vault.
0 to 14.9 feet: 2-inch diameter, schedule 40, polyvinyl chloride riser pipe.
14.9 to 24.9 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot well screen with threaded polyvinyl chloride end cap.

▽ *Soil becomes wet at approximately 11.4 feet as observed in core sample at time of drilling.* ▼ *Water level measured at 13.87 feet on 6/26/2024 prior to well development.*

Geologic Borehole Log

MAUL FOSTER ALONGI

Project Number	Well Number	Sheet
M2703.01.001	MWEC-04	1 of 2

Project Name	East - West Corridor Initial Investigation	TOC Elevation (feet)	
Project Location	Yakima Washington	Surface Elevation (feet)	
Start/End Date	6/24/2024 to 6/24/2024	Northing	466723.4
Driller/Equipment	Anderson Environmental Contracting, LLC/Terra Sonic 150	Easting	1643166.2
Geologist/Engineer	C. Sifford	Total Depth of Borehole	25.3 feet
Sample Method	Core Barrel	Outer Hole Diam	6 inch

Depth (feet, bgs)	Well Details	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1				MWEC04-S-0.5	1		0.0 to 1.6 feet: SANDY WOODY DEBRIS; light brown; 30% sand, fine; 70% woody debris (dust, fibers, and chips up to 1 inch); trace cobbles up to 2 inches, rounded; very loose; no odor; dry. @ 0.9 feet: Becomes moist.
2			54	MWEC04-S-2.5	1		1.6 to 2.7 feet: WOODY DEBRIS; dark brown; 100% woody debris (fibers and bark chips up to 3 inches); very loose; moist; no odor. 2.7 to 5.0 feet: NO RECOVERY.
3							
4							
5							
6			90		2		5.0 to 5.9 feet: SANDY WOODY DEBRIS; light brown; 30% sand, fine; 70% woody debris (dust, fibers, and chips up to 1 inch); trace cobbles up to 2 inches, rounded; very loose; no odor; moist. 5.9 to 6.3 feet: WOODY DEBRIS; dark brown; 100% woody debris (fibers and bark chips up to 1 inch); loose; moist.
7							6.3 to 9.5 feet: GRAVELLY SAND (SP); gray; 70% sand, fine to medium; 30% gravel, fine to medium, rounded to subrounded; loose; no odor; moist. @ 6.7 to 6.9 feet: Layer of SILTY GRAVELLY SAND; 30% fines, nonplastic; 40% sand, fine; 30% gravel, fine to medium, rounded to subrounded; medium dense; no odor; moist. @ 6.9 feet: Becomes tan.
8				MWEC04-S-8.0	1		
9							
10							9.5 to 10.0 feet: NO RECOVERY.
11					2		10.0 to 14.3 feet: GRAVELLY SAND (SP); gray; 70% sand, fine to medium; 30% gravel, fine to medium, rounded to subrounded; medium dense; no odor; moist.
12							
13		▽	43	MWEC04-S-12.5	1		@ 12.9 feet: Becomes wet; trace cobbles up to 4 inches.
14		▼					
15							14.3 to 20.0 feet: NO RECOVERY.

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**MWEC-04**	**2 of 2**

Depth (feet, bgs)	Well Details	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
16							
17							
18			**43**				
19							
20				**MWEC04-GW-20.0** **MWEC04-GW-20.0-M**			*20.0 to 25.3 feet: GRAVELLY SAND (SP); gray; 70% sand, fine to medium; 30% gravel, fine to medium, rounded to subrounded; trace cobbles up to 4 inches; loose; no odor; wet.*
21							
22							
23			**100**				
24							
25							

Total Depth = 25.3 feet bgs

NOTES:

1) Minimal wet soil encountered in 10 to 20 foot push. Advanced boring to 25 feet for well installation. 2) Depths are relative to feet bgs. 3) bgs = below ground surface. 4) ID = identification. 5) PID = photoionization detector. 6) ppm = parts per million.

Borehole Completion Details
0 to 25.0 feet: 6-inch-diameter borehole.
0 to 2.0 feet: Concrete.
2.0 to 13.0 feet: Bentonite chips hydrated with potable water.
13.0 to 25.0 feet: 12x20 silica sand filter pack.

Monitoring Well Completion Details
Washington State Department of Ecology Well No. BQG812.
Traffic-grade flush-mounted, monitoring well vault.
0 to 15.3 feet: 2-inch diameter, schedule 40, polyvinyl chloride riser pipe.
15.3 to 25.3 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot well screen with threaded polyvinyl chloride end cap.

▽ Soil becomes wet at approximately 12.9 feet as observed in core sample at time of drilling. ▼ Water level measured at 14.13 feet on 6/26/2024 prior to well development.

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**SB-1**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/25/24 to 6/25/24**	Northing	**467814.7**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1642667.3**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1			SB1-S-1.0	1		0.0 to 1.4 feet: SAND (SP); light brown; 100% sand, fine to medium; trace bark chips; very loose; no odor; dry.
2						1.4 to 2.1 feet: WOODY DEBRIS; brown; 100% woody debris (dust, fibers, bark chips, and wood chips up to 1.5 inches); very loose; organic-like odor; dry.
3		42				2.1 to 5.0 feet: NO RECOVERY.
4						
5						
6			SB1-S-5.5	13		5.0 to 7.1 feet: WOODY DEBRIS; brown; 100% woody debris (dust, fibers, bark chips, and wood chips up to 1.5 inches); very loose; organic-like odor; dry.
7						
8		84				7.1 to 9.2 feet: GRAVELLY COBBLY SAND (SW); tan; 50% sand, fine to coarse; 30% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; loose; no odor; dry.
9			SB1-S-8.5	0		
10						9.2 to 10.0 feet: NO RECOVERY.
11				1		10.0 to 13.6 feet: GRAVELLY SANDY COBBLE (GW); gray; 25% sand, fine to coarse; 35% gravel, fine to coarse, rounded to subrounded; 40% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; dry.
12						
13		100				@ 12.7 feet: Becomes moist.
14			SB1-S-13.5	1		13.6 to 15.0 feet: GRAVELLY COBBLY SAND (SW); tan; 50% sand, fine to coarse; 30% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
15						
16				1		15.0 to 17.2 feet: GRAVELLY SAND (SW); gray; 70% sand, fine to coarse; 30% gravel, fine to medium, rounded to subrounded; loose; no odor; moist.
17						
18		64				17.2 to 18.2 feet: COBBLY GRAVEL (GW); brownish gray; 80% gravel, fine to medium, rounded; 20% cobbles up to 3 inches, rounded to subrounded; trace sand, medium; very loose; no odor; moist.
19						18.2 to 20.0 feet: NO RECOVERY.
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details
0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

Geologic Borehole Log

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Project Number	Well Number	Sheet
M2703.01.001	**SB-2**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/25/24 to 6/25/24**	Northing	**467633.6**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1642671.6**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1			**SB2-S-1.0**	**2**		0.0 to 1.4 feet: SAND (SP); tan; 100% sand, fine to medium; loose; no odor; dry.
2						1.4 to 2.4 feet: black; 100% soft, fine, sand sized material; loose; no odor; dry; (CHARCOAL).
3						2.4 to 3.3 feet: WOODY DEBRIS; brown; 100% woody debris (bark chips and wood chips up to 2 inches); loose; organic-like odor; wet.
4			**SB2-S-4.0**	**1**		3.3 to 3.9 feet: SILTY SAND WITH GRAVEL (SM); dark gray; 20% fines, nonplastic; 70% sand, fine to medium; 10% gravel, medium, rounded; trace bark chips; medium dense; no odor; wet.
5		**60**				3.9 to 6.0 feet: SANDY GRAVEL WITH COBBLES (GW); gray; 30% sand, medium to coarse; 60% gravel, fine to coarse, rounded; 10% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
6						6.0 to 10.0 feet: NO RECOVERY.
7						
8						
9						
10						
11			**SB2-S-10.5**	**1**		10.0 to 12.4 feet: SANDY GRAVEL WITH COBBLES (GW); gray; 30% sand, medium to coarse; 60% gravel, fine to coarse, rounded; 10% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
12						
13		**78**				12.4 to 13.3 feet: COBBLES WITH GRAVEL; gray; 5% sand, medium to coarse; 10% gravel, fine to medium, rounded to subrounded; 85% cobbles up to 4 inches, rounded; loose; no odor; moist.
14			**SB2-2-13.5**	**0**		13.3 to 13.9 feet: SANDY GRAVEL WITH COBBLES (GW); gray; 30% sand, medium to coarse; 60% gravel, fine to coarse, rounded; 10% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
15						13.9 to 15.0 feet: NO RECOVERY.
16						15.0 to 16.8 feet: SANDY GRAVEL WITH COBBLES (GW); dark gray; 30% sand, medium to coarse; 60% gravel, fine to coarse, rounded; 10% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
17				**0**		16.8 to 17.5 feet: SANDY COBBLES WITH GRAVEL; dark gray; 20% sand, medium to coarse; 10% gravel, fine to coarse, rounded to subrounded; 70% cobbles up to 3 inches, rounded; loose; no odor; moist.
18	▽	**64**				17.5 to 18.2 feet: SANDY GRAVEL WITH COBBLES (GW); dark gray; 30% sand, medium to coarse; 60% gravel, fine to coarse, rounded; 10% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; wet.
19						18.2 to 20.0 feet: NO RECOVERY.
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

▽ *Soil becomes wet at 17.5 feet as observed in core sample at time of drilling.*

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**SB-3**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/26/24 to 6/26/24**	Northing	**467393.4**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1642660.8**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1						0.0 to 1.0 feet: SANDY GRAVELLY WOODY DEBRIS; tan; 40% sand, fine to medium; 20% gravel, fine to medium, subangular to rounded; 40% woody debris (bark chips up to 1 inch); loose; no odor; dry.
2			SB3-S-1.0	1		1.0 to 1.9 feet: GRAVELLY SAND (SP); dark gray; 60% sand, medium; 40% gravel, fine to coarse, rounded; medium dense; no odor; moist.
3		60	SB3-S-2.5	1		1.9 to 3.0 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, and bark chips up to 1 inch); loose; organic-like odor; moist.
4						3.0 to 5.0 feet: NO RECOVERY.
5						
6						5.0 to 5.3 feet: GRAVELLY SAND (SP); dark gray; 60% sand, medium; 40% gravel, fine to coarse, rounded; medium dense; no odor; moist.
7				2		5.3 to 6.4 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, and bark chips up to 1 inch); loose; organic-like odor; moist.
8		80	SB3-S-7.5	1		6.4 to 7.3 feet: GRAVELLY SAND WITH SILT (SP-SM); dark gray; 10% fines; 50% sand, fine to medium; 40% gravel, fine to coarse, rounded to subrounded; medium dense; no odor; moist.
9						7.3 to 7.9 feet: SILTY SAND (SM); dark gray; 30% fines, nonplastic; 70% sand, fine to medium; medium dense; no odor; moist.
10						7.9 to 9.0 feet: GRAVELLY SAND WITH SILT (SP-SM); dark gray; 10% fines; 50% sand, fine to medium; 40% gravel, fine to coarse, rounded to subrounded; medium dense; no odor; moist.
11						9.0 to 10.0 feet: NO RECOVERY.
12						10.0 to 14.0 feet: SANDY COBBLY GRAVEL (GW); dark gray; 30% sand, medium to coarse; 50% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded; loose; no odor; moist.
13		80				
14			SB3-S-13.5	2		
15						14.0 to 15.0 feet: NO RECOVERY.
16						
17						
18		0				
19						
20						

Total Depth = 20.0 feet bgs

NOTES:

1) No recovery from 15 to 20 feet due to large cobble and loose soil. 2) Depths are relative to feet bgs. 3) bgs = below ground surface. 4) ID = identification. 5) PID = photoionization detector. 6) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

Geologic Borehole Log

MAUL FOSTER ALONGI

Project Number	Well Number	Sheet
M2703.01.001	**SB-4**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/26/24 to 6/26/24**	Northing	**467431.1**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1642840.4**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1			**SB4-S-1.0**	**0**		0.0 to 1.9 feet: SILTY SAND (SM); tan; 20% fines, nonplastic; 80% sand, fine to medium; loose; no odor; dry.
2						@ 1.8 to 1.9 feet: Layer of 40% gravel, coarse, rounded.
3						1.9 to 2.7 feet: WOODY DEBRIS; black; 100% woody debris (dust, fibers, and bark chips up to 3 inches); loose; organic-like odor; moist.
4			**SB-4-S-4.0**	**1**		2.7 to 3.2 feet: GRAVELLY SAND (SP); tan; 50% sand, medium to coarse; 50% gravel, fine to coarse, rounded to subrounded; loose; no odor; moist.
5		**60**				3.2 to 5.0 feet: WOODY DEBRIS; black; 100% woody debris (dust, fibers, and bark chips up to 3 inches); loose; organic-like odor; moist. @ 4.4 feet: Bark chips decrease in size to less than 1 inch.
6						5.0 to 6.0 feet: GRAVELLY SAND (SP); gray; 80% sand, fine to medium; 20% gravel, coarse, rounded; medium dense; no odor; moist.
7						6.0 to 10.0 feet: NO RECOVERY.
8						
9						
10						
11			**SB4-S-10.5**	**1**		10.0 to 10.4 feet: GRAVELLY SAND (SP); gray; 80% sand, fine to medium; 20% gravel, coarse, rounded; medium dense; no odor; moist.
12						10.4 to 13.3 feet: GRAVELLY COBBLES WITH SAND; gray; 20% sand, fine to coarse; 20% gravel, fine to coarse, rounded to subrounded; 60% cobbles up to 4 inches, rounded; loose; no odor; moist.
13		**66**	**SB4-S-13.0**	**1**		
14						13.3 to 15.0 feet: NO RECOVERY.
15						
16				**1**		15.0 to 19.5 feet: GRAVELLY COBBLES WITH SAND; gray; 20% sand, fine to coarse; 20% gravel, fine to coarse, rounded to subrounded; 60% cobbles up to 4 inches, rounded; loose; no odor; moist. @ 16.0 to 16.5 feet: Large cobble.
17						
18		**90**				
19						
20						19.5 to 20.0 feet: NO RECOVERY.

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details
0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

Geologic Borehole Log

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Project Number	Well Number	Sheet
M2703.01.001	SB-5	1 of 1

Project Name	East - West Corridor Initial Investigation	TOC Elevation (feet)	
Project Location	Yakima Washington	Surface Elevation (feet)	
Start/End Date	6/26/24 to 6/26/24	Northing	467484.9
Driller/Equipment	Anderson Environmental Contracting, LLC/Terra Sonic 150	Easting	1643001.8
Geologist/Engineer	C. Sifford	Total Depth of Borehole	20.0-feet
Sample Method	Core Barrel	Outer Hole Diam	4.75-inch

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1						0.0 to 0.9 feet: SAND WITH SILT (SP-SM); tan; 10% fines, nonplastic; 90% sand, fine to medium; loose; no odor; dry.
2			SB5-S-1.0	1		0.9 to 1.5 feet: SANDY WOODY DEBRIS; brown; 50% sand, fine to medium; trace gravel, coarse, rounded; 50% woody debris (dust and wood chips up to 0.25 inches); loose; dry.
3		52	SB-5-S-2.5	0		1.5 to 2.6 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, and bark chips up to 1.5 inches); loose; organic-like odor; moist.
4						2.6 to 5.0 feet: NO RECOVERY.
5						
6				1		5.0 to 9.4 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, and bark chips up to 1.5 inches); loose; organic-like odor; moist.
7						@ 6.7 feet: Becomes predominantly wood chips and fibers.
8		100				
9						@ 8.6 feet: Becomes black.
10			SB5-S-9.5	2		9.4 to 10.0 feet: SANDY COBBLY GRAVEL (GW); gray; 35% sand, medium; 40% gravel, fine to coarse, rounded to subrounded; 25% cobbles up to 3 inches, rounded; loose; no odor; moist.
11				2		11.0 to 11.6 feet: GRAVELLY COBBLES WITH SAND; gray; 20% sand, medium; 25% gravel, fine to coarse; 55% cobbles up to 3 inches, rounded; very loose; no odor; moist.
12						11.6 to 15.0 feet: NO RECOVERY.
13		32				
14						
15						
16	▽		SB5-S-15.7	1		15.0 to 16.7 feet: GRAVELLY COBBLES WITH SAND; gray; 20% sand, medium; 25% gravel, fine to coarse; 55% cobbles up to 3 inches, rounded; very loose; no odor; moist.
17						@ 16.4 feet: becomes wet.
18		52				16.4 to 17.6 feet: COBBLES; dark grayish brown; 100% cobbles up to 3 inches, rounded to subrounded; trace sand, fine; very loose; no odor; wet.
19						17.6 to 20.0 feet: NO RECOVERY.
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

▽ Soil becomes wet at 16.4 feet as observed in core sample at time of drilling.

MFA BOREHOLE W/WELL W:\GINT\GINTWPROJECTS\M2703.01.001\SB01-SB18.GPJ 8/23/24

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**SB-6**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/26/24 to 6/26/24**	Northing	**467203.8**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1642776.8**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1						0.0 to 1.2 feet: SAND WITH GRAVEL (SP); tan; 90% sand, fine to medium; 10% gravel, medium to coarse; trace woody debris (bark chips up to 1 inch); loose; no odor; dry.
2			**SB6-S-1.0**	**8**		1.2 to 3.5 feet: WOODY DEBRIS; dark brown; 100% woody debris (fibers and bark chips up to 2 inches); loose; organic-like odor; moist.
3			**SB6-S-3.0**	**1**		
4			**SBDUP-S-3.0**			3.5 to 5.5 feet: SANDY COBBLY GRAVEL (GW); gray; 40% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
5		**55**				
6						5.5 to 10.0 feet: NO RECOVERY.
7						
8						
9						
10						
11			**SB6-S-10.5**	**0**		10.0 to 13.8 feet: SANDY COBBLY GRAVEL (GW); gray; 40% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; loose; no odor; dry. @ 10.2 to 10.5 feet: Cobble.
12						
13		**76**				@ 12.4 feet: Becomes moist.
14			**SB6-S-13.5**	**0**		13.8 to 15.0 feet: NO RECOVERY.
15						
16				**0**		15.0 to 16.6 feet: SANDY COBBLY GRAVEL (GW); gray; 40% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; loose; no odor; dry.
17						16.6 to 20.0 feet: NO RECOVERY.
18		**32**				
19						
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details
0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

Geologic Borehole Log

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Project Number	Well Number	Sheet
M2703.01.001	**SB-7**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/26/24 to 6/26/24**	Northing	**467291.4**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1642951.7**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1			**SB7-S-1.0**	**1**		0.0 to 2.3 feet: SAND (SP); tan; 100% sand, fine to medium; loose; no odor; dry.
2						@ 1.6 feet: Becomes brown; trace gravel, fine to medium, rounded to subrounded; trace bark chips up to 0.5 inches.
3						2.3 to 6.7 feet: WOODY DEBRIS; dark brown; 100% woody debris (fibers and bark chips up to 2 inches); loose; organic-like odor; moist.
4			**SB7-S-4.0**	**1**		@ 3.8 to 4.3 feet: Becomes fibers and coarse dust.
5		**80**				@ 4.3 to 5.1 feet: Becomes solid chunks of wood up to 4 inches.
6						@ 6.1 to 6.7 feet: Becomes fibers and coarse dust.
7			**SB7-S-7.0**	**1**		6.7 to 8.0 feet: SANDY COBBLY GRAVEL (GW); gray; 40% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
8						8.0 to 10.0 feet: NO RECOVERY.
9						
10						
11				**1**		10.0 to 11.5 feet: SANDY COBBLY GRAVEL (GW); gray; 40% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
12						11.5 to 14.3 feet: SANDY GRAVELLY COBBLES; 30% sand, medium to coarse; 30% gravel, fine to coarse, rounded to subrounded; 40% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
13		**86**				@ 11.8 to 12.6 feet: Becomes dry.
14			**SB7-S-13.5**	**1**		
15						14.3 to 15.0 feet: NO RECOVERY.
16				**1**		15.0 to 16.4 feet: SANDY GRAVELLY COBBLES; gray; 30% sand, medium to coarse; 30% gravel, fine to coarse, rounded to subrounded; 40% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
17						16.4 to 20.0 feet: NO RECOVERY.
18		**28**				
19						
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details
0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

Geologic Borehole Log

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Project Number	Well Number	Sheet
M2703.01.001	SB-8	1 of 1

Project Name	East - West Corridor Initial Investigation	TOC Elevation (feet)	
Project Location	Yakima Washington	Surface Elevation (feet)	
Start/End Date	6/27/24 to 6/27/24	Northing	467155.4
Driller/Equipment	Anderson Environmental Contracting, LLC/Terra Sonic 150	Easting	1643060.2
Geologist/Engineer	C. Sifford	Total Depth of Borehole	20.0-feet
Sample Method	Core Barrel	Outer Hole Diam	4.75-inch

Depth (feet, bgs)	Water Levels	Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1			SB8-S-0.5	0		0.0 to 0.6 feet: SAND (SP); tan; 100% sand, fine to medium; trace fines; loose; no odor; dry.
						0.6 to 1.5 feet: SANDY WOODY DEBRIS; brown; 40% sand, fine to medium; 60% woody debris (bark chips up to 1 inch); loose; organic-like odor; dry.
2						1.5 to 1.9 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, and bark chips up to 1.5 inches); loose; organic-like odor; moist.
3						1.9 to 2.2 feet: SAND WITH SILT (SP-SM); dark gray; 10% fines; 90% sand, fine to medium; medium dense; no odor; moist.
4			SB8-S-3.0 SBDUP2-S-3.0	0		2.2 to 3.5 feet: GRAVELLY SAND WITH COBBLES (SP); gray; 60% sand, medium; 30% gravel, fine to coarse, rounded to subrounded; 10% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
5		35				3.5 to 10.0 feet: NO RECOVERY.
6						
7						
8						
9						
10						
11			SB8-S-10.5	0		10.0 to 11.9 feet: GRAVELLY SAND WITH COBBLES (SP); gray; 60% sand, medium; 30% gravel, fine to coarse, rounded to subrounded; 10% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
12						11.9 to 13.8 feet: GRAVELLY COBBLY SAND (SW); tannish gray; 40% sand, medium to coarse; 30% gravel, fine to coarse, rounded to subrounded; 30% cobbles up to 3 inches, rounded; loose; no odor; moist.
13	▽		SB8-S-13.0	0		@ 13.5 feet: Becomes wet.
14						13.8 to 20.0 feet: NO RECOVERY.
15		38				
16						
17						
18						
19						
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details
0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

▽ Soil becomes wet at 13.5 feet as observed in core sample at time of drilling.

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**SB-9**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/27/24 to 6/27/24**	Northing	**467060.6**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1642830.1**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1						0.0 to 0.9 feet: SAND WITH SILT (SP-SM); tan; 10% fines; 90% sand, fine to medium; loose; no odor; dry.
2			**SB9-S-1.0**	**0**		0.9 to 1.7 feet: SANDY WOODY DEBRIS; brown; 50% sand, fine to medium; 50% woody debris (bark chips); trace gravel, rounded to subrounded; loose; organic-like odor; dry.
3						1.7 to 3.7 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, and bark chips up to 1 inch); loose; organic-like odor; moist. @ 2.0 to 2.8 feet: Becomes predominently wood chunks up to 3 inches and bark chips. @ 2.8 to 3.7 feet: Becomes predominently fibers and bark chips up to 0.5 inches.
4			**SB9-S-4.0**	**1**		3.7 to 4.2 feet: SILTY SAND (SM); dark gray; 20% fines, nonplastic; 80% sand, fine to medium; medium dense; no odor; moist.
5		**45**				4.2 to 4.5 feet: SANDY COBBLY GRAVEL (GW); dark gray; 30% sand, medium; 50% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
6						4.5 to 10.0 feet: NO RECOVERY.
7						
8						
9						
10						
11			**SB9-S-10.5**	**1**		10.0 to 12.0 feet: SANDY COBBLY GRAVEL (GW); dark gray; 30% sand, medium; 50% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
12						
13		**80**				12.0 to 14.0 feet: COBBLY GRAVEL WITH SAND(GW); dark gray; 15% sand, medium; 50% gravel, fine to coarse, rounded to subrounded; 35% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
14			**SB9-S-13.5**	**0**		14.0 to 15.0 feet: NO RECOVERY.
15						
16						15.0 to 18.3 feet: COBBLY GRAVEL WITH SAND (GW); dark gray; 15% sand, medium; 50% gravel, fine to coarse, rounded to subrounded; 35% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
17				**1**		
18		**66**				
19						18.3 to 20.0 feet: NO RECOVERY.
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details
0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

Geologic Borehole Log

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Project Number	Well Number	Sheet
M2703.01.001	SB-10	1 of 1

Project Name	East - West Corridor Initial Investigation	TOC Elevation (feet)	
Project Location	Yakima Washington	Surface Elevation (feet)	
Start/End Date	6/27/24 to 6/27/24	Northing	466929.8
Driller/Equipment	Anderson Environmental Contracting, LLC/Terra Sonic 150	Easting	1643092.0
Geologist/Engineer	C. Sifford	Total Depth of Borehole	20.0-feet
Sample Method	Core Barrel	Outer Hole Diam	4.75-inch

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1			SB10-S-0.5	0		0.0 to 0.7 feet: SAND WITH SILT (SP-SM); tan; 10% fines; 90% sand, fine to medium; loose; no odor; dry.
2						0.7 to 2.0 feet: SANDY WOODY DEBRIS; brown; 50% sand, fine to medium; 50% woody debris (dust, fibers, and bark chips up to 1 inch); loose; organic-like odor; dry.
3		50				2.0 to 2.5 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust and bark chips up to 1 inch); loose; organic-like odor; moist.
4						@ 2.2 to 2.5 feet: Solid wood chunk.
5						2.5 to 5.0 feet: NO RECOVERY.
6			SB10-S-5.5	0		5.0 to 5.9 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust and bark chips up to 4 inches); loose; organic-like odor; moist.
7			SBDUP-S-5.5			5.9 to 7.0 feet: COBBLY SANDY GRAVEL (GW); gray; 30% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 30% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
8		40				7.0 to 10.0 feet: NO RECOVERY.
9						
10						
11			SB10-S-11.0	0		10.0 to 11.5 feet: COBBLY SANDY GRAVEL (GW); gray; 30% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 30% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
12						11.5 to 15.0 feet: NO RECOVERY.
13		30				
14						
15						
16			SB10-S-15.5	0		15.0 to 15.9 feet: COBBLY SANDY GRAVEL (GW); gray; 30% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 30% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
17						15.9 to 20.0 feet: NO RECOVERY.
18		18				
19						
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**SB-11**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/27/24 to 6/27/24**	Northing	**466924.8**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1642910.1**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1						0.0 to 1.1 feet: SAND WITH SILT (SP-SM); tan; 10% fines; 90% sand, fine to medium; very loose; no odor; dry.
2			**SB11-S-1.0**	**0**		1.1 to 1.4 feet: SANDY WOODY DEBRIS; brown; 40% sand, fine to medium; 60% woody debris (dust, fibers, and bark chips up to 0.5 inches); very loose; organic-like odor; dry.
3		**54**	**SBDUP-S-1.0**			1.4 to 2.7 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust and bark chips up to 4 inches); loose; organic-like odor; moist.
4						2.7 to 5.0 feet: NO RECOVERY.
5						
6			**SB11-S-5.5**	**0**		5.0 to 6.7 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust and bark chips up to 4 inches); loose; organic-like odor; moist.
7						6.7 to 7.2 feet: SAND WITH SILT (SP-SM); dark gray; 10% fines; 90% sand, medium; medium dense; no odor; moist.
8		**72**				7.2 to 8.6 feet: COBBLY SANDY GRAVEL (GW); gray; 30% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 30% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
9			**SB11-S-8.0**	**1**		
10						8.6 to 10.0 feet: NO RECOVERY.
11				**1**		10.0 to 12.8 feet: SANDY GRAVEL WITH COBBLES (GW); gray; 40% sand, medium to coarse; 50% gravel, fine to coarse, rounded to subrounded; 10% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
12						
13		**92**	**SB11-S-12.0**	**0**		12.8 to 14.6 feet: COBBLY SANDY GRAVEL (GW); gray; 30% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 30% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
14						
15						14.6 to 15.0 feet: NO RECOVERY.
16				**1**		15.0 to 16.0 feet: COBBLY SANDY GRAVEL (GW); gray; 30% sand, medium to coarse; 40% gravel, fine to coarse, rounded to subrounded; 30% cobbles up to 3 inches, rounded to subrounded; very loose; no odor; moist.
17						16.0 to 16.4 feet: COBBLE.
18		**28**				16.4 to 20.0 feet: NO RECOVERY.
19						
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**SB-12**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/28/24 to 6/28/24**	Northing	**466755.4**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1642943.3**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1						0.0 to 1.3 feet: SAND WITH SILT (SP-SM); tan; 10% fines; 90% sand, fine to medium; loose; no odor; dry.
2			**SB12-S-1.0**	**0**		1.3 to 2.2 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, and bark chips up to 2 inches); loose; organic-like odor; moist.
3		**60**				2.2 to 3.0 feet: SAND (SP); gray; 100% sand, medium; very loose; no odor; dry.
4						3.0 to 5.0 feet: NO RECOVERY.
5						
6			**SB12-S-5.5** **SBDUP2-S-5.5**	**0**		5.0 to 6.1 feet: SAND (SP); gray; 100% sand, medium; very loose; no odor; dry.
7						6.1 to 6.8 feet: SILTY SAND (SM); brownish gray; 30% fines, nonplastic; 70% sand, fine to medium; trace gravel, medium, rounded; dense; no odor; moist.
8		**36**				6.8 to 10.0 feet: NO RECOVERY.
9						
10	▽					
11			**SB12-S-10.5**	**0**		10.0 to 11.5 feet: SANDY GRAVEL WITH COBBLES (GW); brownish gray; 40% sand, medium to coarse; 50% gravel, fine to coarse, rounded to subrounded; 10% cobbles up to 3 inches, rounded to subrounded; loose; no odor; wet.
12						11.5 to 15.0 feet: NO RECOVERY.
13		**30**				
14						
15						
16						15.0 to 16.4 feet: GRAVELLY COBBLES WITH SAND; dark gray; 10% sand, medium; 20% gravel, fine to coarse, rounded to subrounded; 70% cobbles up to 4 inches, rounded; very loose; no odor; wet.
17			**SB12-S-16.5**	**0**		16.4 to 17.8 feet: SANDY GRAVEL WITH COBBLES (GW); brownish gray; 40% sand, medium to coarse; 50% gravel, fine to coarse, rounded to subrounded; 10% cobbles up to 3 inches, rounded to subrounded; loose; no odor; wet.
18		**56**				17.8 to 20.0 feet: NO RECOVERY.
19						
20						

Total Depth = 20.0 feet bgs

NOTES:

1) A soil sample from 15 to 16.4 was unable to be collected as the core sample had insufficient sand- or fine-sized particles, and was saturated at this interval. 2) Depths are relative to feet bgs. 3) bgs = below ground surface. 4) ID = identification. 5) PID = photoionization detector. 6) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

▽ Soil becomes wet at 10.0 feet as observed in core sample at time of drilling.

MAUL FOSTER ALONGI

Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**SB-13**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/27/24 to 6/27/24**	Northing	**466812.3**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1643053.0**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1			**SB13-S-0.5**	**0**		0.0 to 0.8 feet: SAND WITH SILT (SP-SM); tan; 10% fines; 90% sand, fine to medium; loose; no odor; dry.
2						0.8 to 5.0 feet: NO RECOVERY.
3		**16**				
4						
5						
6			**SB13-S-5.5**	**1**		5.0 to 6.8 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, wood chips, and bark chips up to 0.5 inches); loose; organic-like odor; moist.
7						6.8 to 7.6 feet: SAND (SP); gray; 100% sand, medium; loose; no odor; moist.
8		**60**	**SB13-S-7.5**	**0**		7.6 to 8.0 feet: COBBLY GRAVELLY SAND (SP); gray; 40% sand, medium; 30% gravel, fine to coarse, rounded to subrounded; 30% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
9						8.0 to 10.0 feet: NO RECOVERY.
10						
11						10.0 to 11.3 feet: COBBLY WOODY DEBRIS; brown; 20% cobbles up to 4 inches, rounded; 80% woody debris; loose; organic-like odor; moist.
12			**SB13-S-11.5**	**0**		11.3 to 12.1 feet: COBBLY GRAVELLY SAND (SP); gray; 40% sand, medium; 30% gravel, fine to coarse, rounded to subrounded; 30% cobbles up to 3 inches, rounded to subrounded; loose; no odor; moist.
13		**42**				12.1 to 15.0 feet: NO RECOVERY.
14						
15						15.0 to 15.4 feet: COBBLES; grayish brown; 100% cobbles up to 3 inches, subangular; tightly packed; dry.
16						15.4 to 20.0 feet: NO RECOVERY.
17						
18		**8**				
19						
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Driller noted that drilling felt very soft from 0 to 20 feet. 2) Large cobble plugged cutter in 10 to 15 foot push. 3) Cutter plugged with tightly packed cobbles during 15 to 20 foot push. 4) Depths are relative to feet bgs. 5) bgs = below ground surface. 6) ID = identification. 7) PID = photoionization detector. 8) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**SB-14**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/24/24 to 6/24/24**	Northing	**466587.2**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1643148.6**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1		28	SB14-S-0.5	1		0.0 to 0.3 feet: WOOD CHIPS; 100% wood chips; loose; no odor; dry. 0.3 to 0.7 feet: SANDY SILTY GRAVEL (GM); brown; 20% fines, nonplastic; 30% sand, fine to medium; 50% gravel, medium to coarse, angular; loose; no odor; moist. 0.7 to 2.5 feet: NO RECOVERY.
2						
3		56	SB14-S-3.0	1		2.5 to 3.9 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, and bark chips); loose; organic-like odor. 3.9 to 5.0 feet: NO RECOVERY.
4						
5						
6		48	SB14-S-7.0	4		5.0 to 6.7 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, and bark chips); loose; organic-like odor; moist. @ 5.8 feet: Layer of cobbles mixed with woody debris.
7				1		6.7 to 7.4 feet: SANDY SILT WITH WOODY DEBRIS; dark gray; 40% fines, nonplastic; 30% sand, fine, rounded; 30% woody debris (dust and bark chips); soft; organic-like odor; moist. 7.4 to 10.0 feet: NO RECOVERY.
8						
9						
10						
11		45	SB14-S-13.5	1		10.0 to 13.0 feet: WOODY DEBRIS; dark brown; 100% woody debris (dust, fibers, and bark chips); loose; organic-like odor; moist.
12						
13						
14	▽			1		13.0 to 14.5 feet: GRAVELLY SAND (SP); gray; 60% sand, coarse; 40% gravel, fine to coarse, rounded to subrounded; loose; no odor; dry. @ 13.4 feet: Becomes moist. @ 14.0 feet: Becomes wet. 14.5 to 20.0 feet: NO RECOVERY.
15						
16						
17						
18						
19						
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details
0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

▽ *Soil becomes wet at 14.0 feet as observed in core sample at time of drilling.*

Geologic Borehole Log

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Project Number	Well Number	Sheet
M2703.01.001	**SB-15**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/26/24 to 6/26/24**	Northing	**466582.8**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1643009.8**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1						0.0 to 3.3 feet: WOODY DEBRIS; brown; 100% woody debris (dust, fibers, and bark chips up to 2 inches); loose; organic-like odor; moist.
2			**SB15-S-1.0**	**1**		
3		**66**				@ 1.5 to 1.8 feet: Becomes predominantly wood chips up to 2 inches.
4			**SB15-S-3.0**	**0**		3.3 to 5.0 feet: NO RECOVERY.
5						
6						5.0 to 5.2 feet: GRAVEL (GP); gray; 100% gravel, medium to coarse, rounded; very loose; no odor; moist.
7		**24**				5.2 to 6.0 feet: WOODY DEBRIS; brown; 100% woody debris (dust, fibers, wood chips, and bark chips up to 1 inch); loose; organic-like odor; moist.
8						6.0 to 6.2 feet: GRAVELLY SAND (SP); gray; 80% sand, medium; 20% gravel, fine to medium, rounded to subrounded; loose; no odor; moist.
9						6.2 to 10.0 feet: NO RECOVERY.
10	▽					
11			**SB15-S-10.5**	**1**		10.0 to 10.6 feet: SANDY GRAVEL WITH SILT (GP-GM); dark gray; 10% fines; 40% sand, medium to coarse; 50% gravel, fine to medium, rounded to subrounded; trace cobbles up to 3 inches, rounded; loose; no odor; wet.
12						10.6 to 10.8 feet: COBBLE.
13		**16**				10.8 to 15.0 feet: NO RECOVERY.
14						
15						
16			**SB15-S-15.5**	**0**		15.0 to 16.2 feet: SAND (SP); gray; 100% sand, medium to coarse; loose; no odor; wet.
17						16.2 to 16.4 feet: GRAVELLY COBBLES WITH SAND; gray; 10% sand, coarse; 20% gravel, fine, rounded to subrounded; 70% cobbles up to 3 inches, rounded; loose; no odor; wet.
18		**28**				16.4 to 20.0 feet: NO RECOVERY.
19						
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Material from bottom of 5 to 10 foot push fell out of the bottom of the core barrel during removal from the boring. 2) Cobble stuck in cutter during the 10 to 15 foot push. 3) Depths are relative to feet bgs. 4) bgs = below ground surface. 5) ID = identification. 6) PID = photoionization detector. 7) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

▽ Soil becomes wet at 10.0 feet as observed in core sample at time of drilling.

Geologic Borehole Log

MAUL FOSTER ALONGI

Project Number	Well Number	Sheet
M2703.01.001	SB-16	1 of 1

Project Name	East - West Corridor Initial Investigation	TOC Elevation (feet)	
Project Location	Yakima Washington	Surface Elevation (feet)	
Start/End Date	6/26/24 to 6/26/24	Northing	467647.7
Driller/Equipment	Anderson Environmental Contracting, LLC/Terra Sonic 150	Easting	1643020.0
Geologist/Engineer	C. Sifford	Total Depth of Borehole	20.0-feet
Sample Method	Core Barrel	Outer Hole Diam	4.75-inch

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1–2		100	SB16-S-1.0	0		0.0 to 2.5 feet: SANDY COBBLY GRAVEL (GW); tannish gray; 40% sand, fine to medium; 40% gravel, fine to coarse, subangular to rounded; 20% cobbles up to 4 inches, subangular to rounded; loose; no odor; dry.
3						2.5 to 3.1 feet: GRAVELLY SAND (SW); tan; 60% sand, fine to coarse; 40% gravel, fine to medium, rounded to subrounded; loose; no odor; dry.
4–5		100	SB16-S-3.5	0		3.1 to 5.0 feet: GRAVELLY SAND (SP); tan; 80% sand, fine to medium; 20% gravel, fine, rounded to subrounded; very loose; no odor; dry. @ 4.0 to 5.0 feet: Becomes dark gray; 50% sand, medium; 50% gravel, fine to coarse, subangular to rounded; loose; no odor; moist.
6						5.0 to 6.0 feet: COBBLES; tan; 100% cobbles up to 5 inches, rounded to subrounded; trace sand, fine; very loose; no odor; dry.
7–8		50	SB16-S-7.5	0		6.0 to 7.2 feet: GRAVELLY SAND (SP); tan; 80% sand, fine to medium; 20% gravel, fine, rounded to subrounded; very loose; no odor; dry. @ 7.2 to 8.5 feet: Becomes dark gray; 50% sand, medium; 50% gravel, fine to coarse, subangular to rounded; loose; no odor; moist.
9						8.5 to 10.0 feet: NO RECOVERY.
10–11						10.0 to 12.3 feet: GRAVELLY SAND (SP); dark gray; 50% sand, medium; 50% gravel, fine to coarse, subangular to rounded; loose; no odor; moist.
12–13			SB16-S-12.5	0		12.3 to 13.5 feet: SANDY GRAVEL WITH SILT (GW-GM); dark brownish gray; 10% fines; 40% sand, fine to coarse; 50% gravel, fine to coarse, rounded to subrounded; loose; no odor; moist.
14						13.5 to 20.0 feet: NO RECOVERY.
15–20		35				

Total Depth = 20.0 feet bgs

NOTES:

1) Driller notes that soil feels primarily like loose cobbles getting pushed to the side rather than cut causing poor recovery. 2) Depths are relative to feet bgs. 3) bgs = below ground surface. 4) ID = identification. 5) PID = photoionization detector. 6) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

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Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**SB-17**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/28/24 to 6/28/24**	Northing	**467013.6**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1643214.4**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1						0.0 to 0.5 feet: GRAVEL (GP); gray; 100% gravel, coarse, subangular to angular; very loose; no odor; dry.
						0.5 to 0.7 feet: COBBLE.
2						0.7 to 5.0 feet: NO RECOVERY.
3		**14**				
4						
5						
6			**SB17-S-5.5**	**2**		5.0 to 6.1 feet: SANDY COBBLY GRAVEL (GW); brown; 30% sand, fine to coarse; 50% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; medium dense; no odor; dry.
7		**44**				6.1 to 7.5 feet: NO RECOVERY.
8						7.5 to 12.6 feet: SANDY COBBLY GRAVEL (GW); brown; 30% sand, fine to coarse; 50% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; medium dense; no odor; dry.
9		**100**	**SB17-S-9.0**	**0**		@ 8.7 feet: Becomes gray.
10						@ 8.7 to 9.0 feet: Cobble.
11				**0**		
12						
13		**88**				12.6 to 14.4 feet: GRAVELLY COBBLY SAND (SP); tannish gray; 50% sand, medium; 30% gravel, fine to coarse, subangular to subrounded; 20% cobbles up to 3 inches, rounded; loose; no odor; moist.
14			**SB17-S-13.5**	**1**		
15						14.4 to 15.0 feet: NO RECOVERY.
16				**1**		15.0 to 17.9 feet: SANDY COBBLY GRAVEL (GW); gray; 30% sand, fine to coarse; 50% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; medium dense; no odor; moist.
17						
18		**100**				17.9 to 19.3 feet: GRAVELLY COBBLY SAND (SP); tannish gray; 50% sand, medium; 30% gravel, fine to coarse, subangular to subrounded; 20% cobbles up to 3 inches, rounded; loose; no odor; moist.
19				**0**		19.3 to 20.0 feet: SANDY COBBLY GRAVEL (GW); gray; 30% sand, fine to coarse; 50% gravel, fine to coarse, rounded to subrounded; 20% cobbles up to 3 inches, rounded to subrounded; medium dense; no odor; moist.
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Cobble stuck in cutter during the 0 to 5 foot push. Hard drilling during this push. 2) Insufficient material in 0 to 5 foot push for sample collection. 3) Material aproximately 1 to 3 feet bgs in walls of borehole appears to be riprap. 4) Depths are relative to feet bgs. 5) bgs = below ground surface. 6) ID = identification. 7) PID = photoionization detector. 8) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

MAUL FOSTER ALONGI

Geologic Borehole Log

Project Number	Well Number	Sheet
M2703.01.001	**SB-18**	**1 of 1**

Project Name	**East - West Corridor Initial Investigation**	TOC Elevation (feet)	
Project Location	**Yakima Washington**	Surface Elevation (feet)	
Start/End Date	**6/24/24 to 6/24/24**	Northing	**466358.1**
Driller/Equipment	**Anderson Environmental Contracting, LLC/Terra Sonic 150**	Easting	**1643163.7**
Geologist/Engineer	**C. Sifford**	Total Depth of Borehole	**20.0-feet**
Sample Method	**Core Barrel**	Outer Hole Diam	**4.75-inch**

Depth (feet, bgs)	Water Levels	Sample Data: Percent Recovery	Sample Data: Sample ID	Sample Data: PID (ppm)	Lithologic Column	Soil Description
1						0.0 to 0.5 feet: GRAVEL (GP); gray; 100% gravel, medium to coarse, angular; loose; no odor; dry.
1			**SB18-S-1.0**	**1**		0.5 to 5.3 feet: GRAVELLY SAND (SW); grayish brown; 60% sand, fine to coarse; 40% gravel, fine to coarse, angular to subangular; loose; no odor; dry.
2						@ 1.1 feet: Becomes moist.
4			**SB18-S-4.0**	**1**		@ 3.6 feet: Becomes brown; gravels become subangular to subround.
5		**53**				5.3 to 10.0 feet: NO RECOVERY.
10						10.0 to 11.0 feet: GRAVELLY SAND (SW); grayish brown; 60% sand, fine to coarse; 40% gravel, fine to coarse, subangular to subrounded; very loose; no odor; moist.
11			**SB18-S-11.0**	**1**		11.0 to 14.1 feet: SAND WITH GRAVEL (SW); gray; 80% sand, fine to coarse; 15% gravel, fine to medium, rounded to subrounded; 5% cobbles up to 4 inches, rounded; very loose; no odor; moist.
13			**SB18-S-13.0**	**1**		
14	▽					14.1 to 16.4 feet: SANDY GRAVEL (GW); brown; 40% sand, medium to coarse; 60% gravel, fine to coarse, subangular to rounded; trace cobbles up to 4 inches, rounded; very loose; no odor; wet.
15		**85**				
17				**1**		16.4 to 16.8 feet: SANDY GRAVEL WITH SILT (GW-GM); brown; 15% fines, nonplastic; 40% sand, fine to medium; 45% gravel, fine to coarse, rounded; medium dense; no odor; wet.
18						16.8 to 18.5 feet: SANDY GRAVEL (GW); grayish brown; 30% sand, medium; 70% gravel, fine to coarse, rounded to subrounded; loose; no odor; wet.
19						18.5 to 20.0 feet: NO RECOVERY.
20						

Total Depth = 20.0 feet bgs

NOTES:

1) Depths are relative to feet bgs. 2) bgs = below ground surface. 3) ID = identification. 4) PID = photoionization detector. 5) ppm = parts per million.

Borehole Abandonment Details

0 to 20.0 feet: 4.75-inch borehole.
0 to 20.0 feet: Bentonite chips hydrated with potable water.

▽ Soil becomes wet at 14.1 feet as observed in core sample at time of drilling.

Appendix B

Combustible Gas Monitoring Forms

MAUL FOSTER ALONGI

Combustible Gas Monitoring Form
East-West Corridor Roadway, Yakima, WA
Yakima County

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Samplers: B. Murphy, C. Sifford

Boring ID:	Depth (feet bgs)	Date	Time	CH_4 (% volume)	CO_2 (% volume)	O_2 (% volume)	H_2S (ppm)	CO (ppm)
SB-18	0 to 10	6/24/2024	9:33	0.0	0.2	20.5	0	0
SB-18	10 to 20	6/24/2024	9:41	0.0	0.1	20.3	0	0
SB-14	0 to 10	6/24/2024	10:56	0.3	6.2	16.4	1	9
SB-14	10 to 20	6/24/2024	11:09	0.0	0.9	19.8	0	2
MWEC-04	0 to 10	6/24/2024	12:49	0.0	0.6	19.2	0	1
MWEC-04	10 to 20	6/24/2024	12:53	0.0	2.0	17.6	1	7
MWEC-03	0 to 10	6/24/2024	14:57	0.0	0.1	20.7	0	0
MWEC-03	10 to 20	6/24/2024	15:05	0.0	0.3	20.4	0	0
MWEC-02	0 to 10	6/25/2024	8:38	0.0	0.2	20.7	0	1
MWEC-02	10 to 20	6/25/2024	8:45	0.0	0.1	20.2	0	1
MWEC-01	0 to 10	6/25/2024	10:14	0.0	0.3	20.1	0	1
MWEC-01	10 to 20	6/25/2024	10:22	0.0	0.3	19.4	1	1
SB-01	0 to 10	6/25/2024	13:31	0.0	2.6	17.8	1	5
SB-01	10 to 15	6/25/2024	13:37	0.0	1.9	18.0	0	1
SB-01	15 to 20	6/25/2024	13:42	0.0	1.7	17.7	0	1
SB-02	0 to 10	6/25/2024	14:43	0.0	10.6	9.9	1	3
SB-02	10 to 20	6/25/2024	14:53	0.0	11.0	8.1	1	4
SB-16	0 to 10	6/26/2024	7:34	0.0	0.2	21.4	0	7
SB-16	10 to 20	6/26/2024	7:39	0.0	0.1	21.3	0	1
SB-5	0 to 10	6/26/2024	9:14	0.1	2.2	19.2	0	0
SB-5	10 to 20	6/26/2024	9:22	0.1	4.1	17.0	0	1
SB-4	0 to 10	6/26/2024	11:03	0.0	0.6	19.2	0	0
SB-4	10 to 20	6/26/2024	11:19	0.0	2.8	16.1	2	11
SB-3	0 to 10	6/26/2024	12:42	0.5	2.6	17.1	2	5
SB-3	0 to 10	6/26/2024	12:46	0.0	1.2	18.9	2	4
SB-3	10 to 20	6/26/2024	12:58	0.0	0.1	20.3	0	0
SB-6	0 to 10	6/26/2024	13:35	0.1	3.2	17.6	1	2
SB-6	10 to 20	6/26/2024	13:48	0.0	1.1	19.6	0	0
SB-7	0 to 10	6/26/2024	14:47	0.0	0.5	21.1	0	0
SB-7	10 to 20	6/26/2024	14:58	0.0	0.2	21.4	0	0

Combustible Gas Monitoring Form
East-West Corridor Roadway, Yakima, WA
Yakima County

Samplers: B. Murphy, C. Sifford

Boring ID:	Depth (feet bgs)	Date	Time	CH_4 (% volume)	CO_2 (% volume)	O_2 (% volume)	H_2S (ppm)	CO (ppm)
SB-8	0 to 10	6/27/2024	7:39	0.0	1.1	21.0	0	0
SB-8	10 to 20	6/27/2024	8:00	0.0	0.4	20.0	0	0
SB-9	0 to 10	6/27/2024	9:43	0.6	7.1	14.5	1	2
SB-9	10 to 20	6/27/2024	9:53	6.3	11.4	1.6	0	1
SB-11	0 to 10	6/27/2024	11:11	0.0	0.2	20.9	0	0
SB-11	10 to 20	6/27/2024	11:21	0.0	1.0	19.7	0	1
SB-10	0 to 10	6/27/2024	13:27	0.0	0.6	20.1	1	0
SB-10	10 to 20	6/27/2024	13:42	0.0	0.2	20.7	0	0
SB-13	0 to 10	6/27/2024	15:17	0.0	1.0	20.0	0	1
SB-13	10 to 20	6/27/2024	15:30	0.0	0.7	19.8	0	1
SB-12	0 to 10	6/28/2024	7:24	0.0	2.9	18.0	0	2
SB-12	10 to 20	6/28/2024	7:38	0.0	1.7	19.4	0	0
SB-17	0 to 10	6/28/2024	9:09	0.0	0.3	19.5	0	5
SB-17	10 to 20	6/28/2024	9:25	0.0	0.2	20.6	0	0
SB-15	0 to 10	6/28/2024	10:35	0.0	0.8	20.2	0	1
SB-15	10 to 20	6/28/2024	10:49	0.0	1.0	19.3	0	2

Notes

All measurements will be taken with a GEM 5000 landfill gas meter or equivalent.
% = percent.
bgs = feet below ground surface.
CH_4 = methane.
CO = carbon monoxide.
CO_2 = carbon dioxide.
H_2S = hydrogen sulfide.
NV = no value.
O_2 = oxygen.
ppm = parts per million.

Appendix C

Field Photographs

MAUL FOSTER ALONGI

Photographs

Project Name: East-West Corridor Roadway Initial Investigation
Project Number: M2703.01.001
Location: Yakima, Washington

Photo No. 1.

Description

Photo looking north along the footpath at the top of the levee from the Sunrise Rotary Park.

Photo No. 2.

Description

Photo looking east toward the Yakima River from the footpath on top of the levee near Sunrise Rotary Park.

Photographs

Project Name: East-West Corridor Roadway Initial Investigation
Project Number: M2703.01.001
Location: Yakima, Washington

Photo No. 3.

Description

Photo looking west from SB-7 near the center of the parcels showing Interstate 82 in the background with the drilling operation in the foreground.

Photo No. 4.

Description

Photo looking south toward drilling operations at SB-2 showing active railroad spur crossing the parcels.

Photographs

Project Name: East-West Corridor Roadway Initial Investigation
Project Number: M2703.01.001
Location: Yakima, Washington

Photo No. 5.

Description

Photo of the drilling of MWEC-04 near the levee. Note the dark-brown wood waste at the surface within the vegetated areas.

Photo No. 6.

Description

Photo depicting down-hole landfill gas measurement and logging during drilling activities.

Photographs

Project Name: East-West Corridor Roadway Initial Investigation
Project Number: M2703.01.001
Location: Yakima, Washington

Photo No. 7.

Description

Photo looking south towards Sunrise Rotary Park from near MWEC-04 at the soil logging and sampling setup.

Photo No. 8.

Description

Photo of core material representative of sandy surface soil overlying wood waste dust and chips.

Photographs

Project Name: East-West Corridor Roadway Initial Investigation
Project Number: M2703.01.001
Location: Yakima, Washington

Photo No. 9.

Description

Photo of core material representative of predominantly bark wood waste at the surface and near-surface.

Photo No. 10.

Description

Photo of core material representative of loose fibrous wood waste from 5 to 10 feet below ground surface at SB-14

Photographs

Project Name: East-West Corridor Roadway Initial Investigation
Project Number: M2703.01.001
Location: Yakima, Washington

Photo No. 11.

Description

Photo of core material showing layered wood waste, soil-wood waste mixtures, and sandy coarse gravels underlying the wood waste.

Photo No. 12.

Description

Photo of core material representative of borings with minimal or intermixed wood waste near the surface.

Photographs

Project Name: East-West Corridor Roadway Initial Investigation
Project Number: M2703.01.001
Location: Yakima, Washington

Photo No. 13.

Description

Photo of soil core representative of near-surface soil along levee.

Appendix D

Well Development Forms

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Well Development Field Form

Project No.: M2703.01.001	Date: 6/26/2024	
Project Location: Yakima, WA	Well ID: MWEC-01	
Project Name: East-West Corridor	Initial DTB: 23.88 ft	Final DTB:
MFA Staff Name: B. Murphy	Initial DTW: 9.64 ft	Final DTW:
Development Method: Submersible Pump	Well Casing Vol.: 2.32 gal	
Total Water Purged: 23.2 gal	Casing Diameter: 2 inches	

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Time	Purge Vol. (gal)	Pump Rate (L/min)	Turbidity (NTUs)	pH	Temp. (°C)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	DTW (ft)	Comments
8:05	0	--	--	--	--	--	--	--	9.64	Take DTW and DTB measurements.

Drillers developed the well with a submersible pump on 6/26/2024 by surging and purging a total of 10 casing volumes.

Notes:
Depths are relative to ft below top of casing.
°C = degrees Celsius.
DO = dissolved oxygen.
DTB = depth to bottom.
DTW = depth to water.
ft = feet.
gal = gallon.
L/min = liters per minute.
mg/L = milligrams per liter.
mV = millivolts.
NTUs = nephelometric turbidity units.
ORP = oxygen reduction potential.
vol. = volume.
uS/cm = microsiemens per centimeter.

MAUL FOSTER ALONGI

Well Development Field Form

Project No.: M2703.01.001	Date: 6/26/2024	
Project Location: Yakima, WA	Well ID: MWEC-02	
Project Name: East-West Corridor	Initial DTB: 24.31 ft	Final DTB:
MFA Staff Name: B. Murphy	Initial DTW: 18.12 ft	Final DTW:
Development Method: Submersible Pump	Well Casing Vol.: 1.01 gal	
Total Water Purged: 10.1 gal	Casing Diameter: 2 inches	

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Time	Purge Vol. (gal)	Pump Rate (L/min)	Turbidity (NTUs)	pH	Temp. (°C)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	DTW (ft)	Comments
7:50	0	--	--	--	--	--	--	--	18.12	Take DTW and DTB measurements.

Drillers developed the well with a submersible pump on 6/26/2024 by surging and purging a total of 10 casing volumes.

Notes:
Depths are relative to ft below top of casing.
°C = degrees Celsius.
DO = dissolved oxygen.
DTB = depth to bottom.
DTW = depth to water.
ft = feet.
gal = gallon.
L/min = liters per minute.
mg/L = milligrams per liter.
mV = millivolts.
NTUs = nephelometric turbidity units.
ORP = oxygen reduction potential.
vol. = volume.
uS/cm = microsiemens per centimeter.

MAUL FOSTER ALONGI

Well Development Field Form

Project No.: M2703.01.001	Date: 6/26/2024	
Project Location: Yakima, WA	Well ID: MWEC-03	
Project Name: East-West Corridor	Initial DTB: 24.89 ft	Final DTB:
MFA Staff Name: B. Murphy	Initial DTW: 13.87 ft	Final DTW:
Development Method: Submersible Pump	Well Casing Vol.: 1.80 gal	
Total Water Purged: 18.0 gal	Casing Diameter: 2 inches	

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Time	Purge Vol. (gal)	Pump Rate (L/min)	Turbidity (NTUs)	pH	Temp. (°C)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	DTW (ft)	Comments
7:35	0	--	--	--	--	--	--	--	13.87	Take DTW and DTB measurements.

Drillers developed the well with a submersible pump on 6/26/2024 by surging and purging a total of 10 casing volumes.

Notes:
Depths are relative to ft below top of casing.
°C = degrees Celsius.
DO = dissolved oxygen.
DTB = depth to bottom.
DTW = depth to water.
ft = feet.
gal = gallon.
L/min = liters per minute.
mg/L = milligrams per liter.
mV = millivolts.
NTUs = nephelometric turbidity units.
ORP = oxygen reduction potential.
vol. = volume.
uS/cm = microsiemens per centimeter.

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Well Development Field Form

Project No.: M2703.01.001	Date: 6/26/2024	
Project Location: Yakima, WA	Well ID: MWEC-04	
Project Name: East-West Corridor	Initial DTB: 25.29 ft	Final DTB:
MFA Staff Name: B. Murphy	Initial DTW: 14.13 ft	Final DTW:
Development Method: Submersible Pump	Well Casing Vol.: 1.82 gal	
Total Water Purged: 18.2 gal	Casing Diameter: 2 inches	

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Time	Purge Vol. (gal)	Pump Rate (L/min)	Turbidity (NTUs)	pH	Temp. (°C)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	DTW (ft)	Comments
7:20	0	--	--	--	--	--	--	--	14.13	Take DTW and DTB measurements.

Drillers developed the well with a submersible pump on 6/26/2024 by surging and purging a total of 10 casing volumes.

Notes:

Depths are relative to ft below top of casing.

°C = degrees Celsius.

DO = dissolved oxygen.

DTB = depth to bottom.

DTW = depth to water.

ft = feet.

gal = gallon.

L/min = liters per minute.

mg/L = milligrams per liter.

mV = millivolts.

NTUs = nephelometric turbidity units.

ORP = oxygen reduction potential.

vol. = volume.

uS/cm = microsiemens per centimeter.

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Well Development Field Form

Project No.: M2703.01.001	Date: 6/26/2024
Project Location: Yakima, WA	Well ID: MW-15
Project Name: East-West Corridor	Initial DTB: 17.71 ft Final DTB: 18.15 ft
MFA Staff Name: B. Murphy	Initial DTW: 13.25 ft Final DTW: 13.28 ft
Development Method: Bailer Surge/Peristaltic Pump Purge	Well Casing Vol.: 0.73 gal
Total Water Purged: 9.0 gal	Casing Diameter: 2 inches

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Time	Purge Vol. (gal)	Pump Rate (L/min)	Turbidity (NTUs)	pH	Temp. (°C)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	DTW (ft)	Comments
8:50	0.0	0.0	--	--	--	--	--	--	13.25	Begin surging.
9:20	2.4	0.3	--	--	--	--	--	--	--	Complete surging.
9:23	2.4	0.3	--	--	--	--	--	--	13.25	Begin purging, peristaltic pump.
10:03	5.0	0.3	288	--	--	--	--	--	13.29	Continue purging, peristaltic pump.
10:09	5.5	0.3	174	--	--	--	--	--	13.29	
10:13	5.9	0.3	111	--	--	--	--	--	13.29	
10:17	6.2	0.3	86.2	--	--	--	--	--	13.29	
10:21	6.5	0.3	64.2	--	--	--	--	--	13.29	
10:24	6.7	0.3	53.0	--	--	--	--	--	13.29	
10:27	6.8	0.3	50.0	6.43	16.6	240.5	0.11	-66.3	13.29	Turbidity low enough to hook up YSI
10:30	7.0	0.3	44.6	6.45	16.5	240.3	0.11	-69.4	13.29	
10:33	7.2	0.3	39.5	6.43	16.0	240.0	0.11	-70.9	13.29	
10:36	7.4	0.3	36.2	6.44	15.9	239.0	0.10	-73.1	13.29	
10:39	7.6	0.3	32.7	6.46	16.2	240.8	0.10	-75.7	13.29	
10:43	7.8	0.3	28.5	6.47	16.3	241.6	0.10	-78.4	13.29	
10:46	8.0	0.3	24.0	6.47	16.2	240.8	0.09	-79.0	13.29	
10:49	8.2	0.3	23.6	6.48	16.3	240.9	0.09	-80.9	13.29	
10:52	8.4	0.3	21.7	6.49	16.5	240.0	0.09	-81.8	13.29	
10:55	8.6	0.3	18.5	6.49	16.0	239.9	0.09	-82.3	13.29	
10:58	8.8	0.3	19.5	6.48	15.9	237.6	0.09	-83.2	13.29	
11:01	9.0	0.3	19.0	6.49	15.9	238.7	0.09	-84.5	13.29	Complete well development.

Notes

Depths are relative to ft below top of casing.
°C = degrees Celsius.
cumltv. = cumulative.
DO = dissolved oxygen.
DTB = depth to bottom.
DTW = depth to water.
ft = feet.
gal = gallon.
L/min = liters per minute.
mg/L = milligrams per liter.
mV = millivolts.
NTUs = nephelometric turbidity units.
ORP = oxygen reduction potential.
vol. = volume.
uS/cm = microsiemens per centimeter.

Appendix E

Groundwater Field Sampling Data Sheets

MAUL FOSTER ALONGI

Groundwater Field Sampling Data Sheet

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Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2703.01.001	Yakima County	East-West Corridor	June 2024	B. Murphy

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MWEC-01	Monitoring	Flush-mount	Top of Casing	2.0	15 to 25	20.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
06/28/2024	6:14	23.93	--	9.60	--	14.33	2.34

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*							
Purge Start Time	6:20	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*		*± 10*	*< 5 or ± 10% if > 5*
Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
6:40	1.9	0.38	9.63	6.74	12.2	354.2	0.15	-49.7	1.72
6:43	2.2	0.38	9.63	6.78	12.1	353.5	0.14	-61.1	1.12
6:46	2.5	0.38	9.63	6.82	12.3	352.1	0.13	-69.0	0.93
6:49	2.8	0.38	9.63	6.83	12.3	351.6	0.15	-73.7	0.74
6:52	3.1	0.38	9.63	6.84	12.4	351.3	0.15	-77.9	0.53
6:55	3.4	0.38	9.63	6.84	12.4	350.8	0.14	-81.1	0.39

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear; colorless; slight sulfur-like odor; no sheen.

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MWEC01-GW-20.0		
Sample Date	06/28/2024	Sample Time	6:55

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA	HCl	N	6
Amber glass	None	N	4
Poly	HNO3	Y	2
Poly	Other (specify in	Y	2
Poly	None	Y	1
		Total No. Containers:	15

General Comments

Poly container types include two HNO_3 preserved poly bottles, one filtered and one unfiltered; two BrCl preserved poly bottles, one filtered and one unfiltered; and one unpreserved poly, filtered.

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2703.01.001	Yakima County	East-West Corridor	June 2024	B. Murphy

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MWEC-02	Monitoring	Flush-mount	Top of Casing	2.0	15 to 25	21.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
06/27/2024	11:31	24.31	--	17.98	--	6.33	1.03

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*							
Purge Start Time	11:40	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*	
Time	**Cumulative Purge Volume**	**Flowrate**	**Water Level**	**pH**	**Temperature**	**Conductivity**	**Dissolved Oxygen**	**ORP**	**Turbidity**
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
13:57	10.4	0.27	17.98	7.00	13.3	185.1	0.15	-49.3	9.83
14:00	10.6	0.27	17.98	7.01	13.2	184.7	0.21	-51.5	11.1
14:03	10.8	0.27	17.98	6.95	13.6	184.4	0.17	-53.5	4.24
14:06	11.0	0.27	17.98	6.98	13.3	184.2	0.13	-54.5	2.22
14:09	11.2	0.27	17.98	6.96	13.2	184.0	0.12	-54.9	1.47
14:12	11.4	0.27	17.98	6.97	13.1	184.6	0.13	-54.6	1.25
14:15	11.7	0.27	17.98	6.96	13.0	184.4	0.13	-54.4	1.02

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear; colorless; no odor; no sheen.

General Comments

Poly container types include two HNO_3 preserved poly bottles, one filtered and one unfiltered; two BrCl preserved poly bottles, one filtered and one unfiltered; and one unpreserved poly, filtered.

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MWEC02-GW-21.0		
Sample Date	06/27/2024	Sample Time	14:15

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA	HCl	N	6
Amber glass	None	N	4
Poly	HNO3	Y	2
Poly	Other (specify in	Y	2
Poly	None	Y	1
		Total No. Containers:	15

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2703.01.001	Yakima County	East-West Corridor	June 2024	B. Murphy

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MWEC-03	Monitoring	Flush-mount	Top of Casing	2.0	15 to 25	20.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
06/28/2024	6:53	24.88	--	13.75	--	11.13	1.81

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method: Peristaltic Pump

Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other

Purge Start Time	6:56		*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*
Time	**Cumulative Purge Volume**	**Flowrate**	**Water Level**	**pH**	**Temperature**	**Conductivity**	**Dissolved Oxygen**	**ORP**	**Turbidity**
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
7:00	0.2	0.32	13.75						
8:03	4.6	0.32	13.75	6.82	12.0	120.6	0.28	25.8	0.60
8:06	4.8	0.32	13.75	6.83	11.9	120.6	0.28	26.0	0.45
8:09	5.0	0.32	13.75	6.84	11.9	120.6	0.28	25.9	0.30
8:12	5.3	0.32	13.75	6.84	11.9	120.3	0.28	26.0	0.16
8:15	5.6	0.32	13.75	6.83	11.9	120.3	0.28	26.0	0.49

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear; colorless; no odor; no sheen.

General Comments

Field duplicate collected at this location. Poly container types include two HNO3 preserved poly bottles, one filtered and one unfiltered; two BrCl preserved poly bottles, one filtered and one unfiltered; and one unpreserved poly, filtered.

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MWEC03-GW-20.0-M		
Sample Date	06/28/2024	Sample Time	8:15

Container Type	Preservative	Filtered (Y/N)	No. Containers
Poly	HNO3	N	1
Poly	HNO3	Y	1
Poly	Other (specify in	N	1
Poly	Other (specify in	Y	1
Poly	None	Y	1
		Total No. Containers:	5

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2703.01.001	Yakima County	East-West Corridor	June 2024	B. Murphy

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MWEC-03	Monitoring	Flush-mount	Top of Casing	2.0	15 to 25	20.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
06/27/2024	10:09	24.89	--	13.80	--	11.09	1.81

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*							
Purge Start Time	10:15	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*		*± 10*	*< 5 or ± 10% if > 5*
Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
12:04	9.0	0.31	13.80	6.81	12.7	143.6	0.22	30.5	0.49
12:07	9.2	0.31	13.80	6.84	12.6	144.1	0.16	27.4	0.22
12:10	9.5	0.31	13.80	6.82	12.7	144.2	0.15	26.4	0.20
12:15	9.9	0.31	13.80	6.82	12.6	144.5	0.15	27.0	0.18

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*	Clear; colorless; no odor; no sheen.

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MWEC03-GW-20.0		
Sample Date	06/27/2024	Sample Time	12:15

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA	HCl	N	12
Amber glass	None	N	8
		Total No. Containers:	20

General Comments

Field duplicate collected at this location.

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2703.01.001	Yakima County	East-West Corridor	June 2024	B. Murphy

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MWEC-04	Monitoring	Flush-mount	Top of Casing	2.0	15-25	20.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
06/28/2024	7:49	25.27	--	13.93	--	11.34	1.85

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*							
Purge Start Time	7:52	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*	
Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
9:08	6.5	0.35	13.95	6.52	16.9	199.4	0.08	-27.3	0.45
9:11	6.8	0.35	13.95	6.53	16.8	200.8	0.07	-32.3	0.25
9:14	7.0	0.35	13.95	6.53	16.9	201.2	0.07	-34.9	0.71
9:17	7.3	0.35	13.95	6.54	16.9	201.3	0.07	-36.7	0.41
9:20	7.6	0.35	13.95	6.53	16.9	201.0	0.07	-39.0	0.49

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear; colorless; no odor; no sheen

General Comments

Poly container types include two HNO_3 preserved poly bottles, one filtered and one unfiltered; two BrCl preserved poly bottles, one filtered and one unfiltered; and one unpreserved poly, filtered.

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MWEC04-GW-20.0-M		
Sample Date	06/28/2024	Sample Time	9:20

Container Type	Preservative	Filtered (Y/N)	No. Containers
Poly	HNO3	N	1
Poly	HNO3	Y	1
Poly	Other (specify in	N	1
Poly	Other (specify in	Y	1
Poly	None	Y	1
		Total No. Containers:	5

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2703.01.001	Yakima County	East-West Corridor	June 2024	B. Murphy

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MWEC-04	Monitoring	Flush-mount	Top of Casing	2.0	15-25	20.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
06/27/2024	7:57	25.29	--	14.01	--	11.28	1.84

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*							
Purge Start Time	8:04	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*	
Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
10:30	13.2	0.27	14.01	6.45	17.2	203.2	0.13	-46.7	0.66
10:33	13.4	0.27	14.01	6.42	17.2	207.4	0.09	-48.4	0.47
10:36	13.6	0.27	14.01	6.44	17.2	207.7	0.08	-49.8	0.50
10:39	13.9	0.27	14.01	6.46	17.3	206.6	0.07	-51.2	0.39

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear; colorless; no odor; no sheen.

General Comments

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MWEC04-GW-20.0		
Sample Date	06/27/2024	Sample Time	10:40
Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA	HCl	N	6
Amber glass	None	N	6
		Total No. Containers:	12

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2703.01.001	Yakima County	East-West Corridor	June 2024	B. Murphy

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MW-15	Monitoring	Flush-mount	Top of Casing	2.0	5.1 to 19.7	16.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
06/27/2024	7:29	18.16	--	13.27	--	4.89	0.80

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method: Peristaltic Pump

Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other

Purge Start Time	7:30		*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*
Time	**Cumulative Purge Volume**	**Flowrate**	**Water Level**	**pH**	**Temperature**	**Conductivity**	**Dissolved Oxygen**	**ORP**	**Turbidity**
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
8:30	5.0	0.34	13.29	6.16	14.4	266.4	0.38	-4.4	1.76
8:33	5.5	0.34	13.29	6.26	14.4	264.1	0.13	-28.9	1.37
8:36	5.7	0.34	13.29	6.31	14.3	258.0	0.10	-35.2	1.35
8:39	6.0	0.34	13.29	6.41	14.4	254.0	0.09	-46.9	0.93
8:42	6.3	0.34	13.29	6.43	14.4	251.8	0.08	-53.9	1.29
8:46	6.6	0.34	13.29	6.46	14.4	253.4	0.08	-58.1	1.52
8:50	6.8	0.34	13.29	6.46	14.4	249.9	0.08	-61.0	1.69

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear; colorless; slight sulfur-like odor; no sheen.

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MW15-GW-16.0		
Sample Date	06/27/2024	Sample Time	8:50

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA	HCl	N	6
Amber glass	None	N	4
		Total No. Containers:	10

General Comments

Soil around the well monument is undercut. The well monument is up in the air by the PVC casing. The casing is bent.

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2703.01.001	Yakima County	East-West Corridor	June 2024	B. Murphy

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
MW-15	Monitoring	Flush-mount	Top of Casing	2.0	5.1 to 19.7	16.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
06/28/2024	9:01	18.14	--	13.25	--	4.89	0.80

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*							
Purge Start Time	9:03	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*	
Time	**Cumulative Purge Volume**	**Flowrate**	**Water Level**	**pH**	**Temperature**	**Conductivity**	**Dissolved Oxygen**	**ORP**	**Turbidity**
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
9:51	4.5	0.38	13.27	6.31	14.8	247.2	0.21	24.2	1.89
9:54	4.8	0.38	13.27	6.37	14.9	247.2	0.14	12.4	1.87
9:57	5.1	0.38	13.27	6.43	14.9	247.6	0.11	3.1	1.94
10:00	5.4	0.38	13.27	6.44	14.8	247.2	0.09	-5.9	1.62

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear; colorless; slight sulfur-like odor; no sheen.

General Comments

Poly container types include two HNO_3 preserved poly bottles, one filtered and one unfiltered; two BrCl preserved poly bottles, one filtered and one unfiltered; and one unpreserved poly, filtered.

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	MW15-GW-16.0-M		
Sample Date	06/28/2024	Sample Time	10:00

Container Type	Preservative	Filtered (Y/N)	No. Containers
Poly	HNO3	N	1
Poly	HNO3	Y	1
Poly	Other (specify in	N	1
Poly	Other (specify in	Y	1
Poly	None	Y	1
		Total No. Containers:	5

Appendix F

Analytical Lab Reports

MAUL FOSTER ALONGI

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 Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

July 30, 2024

Josh Elliott, Project Manager
Maul Foster Alongi
6 Centerpointe Dr, Suite 360
Lake Oswego, OR 97035

Dear Mr Elliott:

Included is the amended report from the testing of material submitted on June 28, 2024 from the Yakima East West Corridor M2701.01.001, F&BI 406448 project. Per your request, benz(a)anthracene was added to the reported semi-volatile compounds.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: JElliott@MaulFoster.com, Christian Sifford, Carolyn Wise, Fiona Bellows
MFA0710R.DOC

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 Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

July 10, 2024

Josh Elliott, Project Manager
Maul Foster Alongi
6 Centerpointe Dr, Suite 360
Lake Oswego, OR 97035

Dear Mr Elliott:

Included are the results from the testing of material submitted on June 28, 2024 from the Yakima East West Corridor M2701.01.001, F&BI 406448 project. There are 62 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: JElliott@MaulFoster.com, Christian Sifford, Carolyn Wise
MFA0710R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 28, 2024 by Friedman & Bruya, Inc. from the Maul Foster Alongi Yakima East West Corridor M2701.01.001, F&BI 406448 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
406448 -01	MWEC01-GW-20.0
406448 -02	MWEC03-GW-20.0-M
406448 -03	MWDUP-GW-20.0-M
406448 -04	MWEC04-GW-20.0-M
406448 -05	MW15-GW-16.0-M
406448 -06	MWEC03-GW-20.0
406448 -07	MWDUP-GW-20.0
406448 -08	MWEC04-GW-20.0
406448 -09	MW15-GW-16.0
406448 -10	Trip Blank4

The samples marked for hexavalent chromium analysis were sent to Alliance Technical Group. The report is enclosed.

The 6020B total zinc calibration standard exceeded the acceptance criteria. The metal was not detected, therefore this did not represent an out of control condition, and the results are not considered estimates.

All quality control requirements were acceptable.

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448
Date Extracted: 07/05/24
Date Analyzed: 07/05/24

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)
MWEC01-GW-20.0 406448-01	<100	109
MWEC03-GW-20.0 406448-06	<100	106
MWDUP-GW-20.0 406448-07	<100	97
MWEC04-GW-20.0 406448-08	<100	107
MW15-GW-16.0 406448-09	<100	109
Trip Blank4 406448-10	<100	109
Method Blank 04-1379 MB	<100	100

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448
Date Extracted: 07/03/24
Date Analyzed: 07/03/24

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)
MWEC01-GW-20.0 406448-01	<50	<250	84
MWEC03-GW-20.0 406448-06	<50	<250	82
MWDUP-GW-20.0 406448-07	<50	<250	78
MWEC04-GW-20.0 406448-08	<50	<250	84
MW15-GW-16.0 406448-09	<50	<250	85
Method Blank 04-1531 MB	<50	<250	78

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MWEC01-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-01
Date Analyzed:	07/03/24	Data File:	070319.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	92	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MWEC03-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-06
Date Analyzed:	07/03/24	Data File:	070320.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MWDUP-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-07
Date Analyzed:	07/03/24	Data File:	070321.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	71	132
Toluene-d8	92	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MWEC04-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-08
Date Analyzed:	07/03/24	Data File:	070322.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	71	132
Toluene-d8	89	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW15-GW-16.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-09
Date Analyzed:	07/03/24	Data File:	070323.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	71	132
Toluene-d8	91	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank4	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-10
Date Analyzed:	07/03/24	Data File:	070318.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	71	132
Toluene-d8	93	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	04-1472 mb
Date Analyzed:	07/03/24	Data File:	070308.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	88	71	132
Toluene-d8	92	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC01-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-01 1/0.25
Date Analyzed:	07/03/24	Data File:	070324.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	78	15	144
2-Fluorobiphenyl	76	25	128
2,4,6-Tribromophenol	100	10	142
Terphenyl-d14	109	41	138

Compounds:	Concentration ug/L (ppb)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
2-Methylnaphthalene	<0.05
1-Methylnaphthalene	<0.05
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
N-Nitrosodiphenylamine	<0.1
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.005
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.005
Dibenz(a,h)anthracene	<0.005
Pentachlorophenol	<0.1 j
Bis(2-ethylhexyl) phthalate	<0.5 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC03-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-06 1/0.25
Date Analyzed:	07/03/24	Data File:	070312.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	51	11	173
2-Fluorobiphenyl	58	25	128
2,4,6-Tribromophenol	78	10	140
Terphenyl-d14	95	50	150

Compounds:	Concentration ug/L (ppb)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
2-Methylnaphthalene	<0.05
1-Methylnaphthalene	<0.05
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
N-Nitrosodiphenylamine	<0.1
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.005
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.005
Dibenz(a,h)anthracene	<0.005
Pentachlorophenol	<0.1 j
Bis(2-ethylhexyl) phthalate	<0.5 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWDUP-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-07 1/0.25
Date Analyzed:	07/03/24	Data File:	070313.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	71	11	173
2-Fluorobiphenyl	74	25	128
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	96	50	150

Compounds:	Concentration ug/L (ppb)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
2-Methylnaphthalene	<0.05
1-Methylnaphthalene	<0.05
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
N-Nitrosodiphenylamine	<0.1
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.005
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.005
Dibenz(a,h)anthracene	<0.005
Pentachlorophenol	<0.1 j
Bis(2-ethylhexyl) phthalate	<0.5 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC04-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-08 1/0.25
Date Analyzed:	07/03/24	Data File:	070314.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64	11	173
2-Fluorobiphenyl	68	25	128
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	92	50	150

Compounds:	Concentration ug/L (ppb)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
2-Methylnaphthalene	<0.05
1-Methylnaphthalene	<0.05
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
N-Nitrosodiphenylamine	<0.1
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.005
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.005
Dibenz(a,h)anthracene	<0.005
Pentachlorophenol	<0.1 j
Bis(2-ethylhexyl) phthalate	<0.5 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW15-GW-16.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-09 1/0.25
Date Analyzed:	07/03/24	Data File:	070315.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	75	11	173
2-Fluorobiphenyl	79	25	128
2,4,6-Tribromophenol	114	10	140
Terphenyl-d14	101	50	150

Compounds:	Concentration ug/L (ppb)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
2-Methylnaphthalene	<0.05
1-Methylnaphthalene	<0.05
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
N-Nitrosodiphenylamine	0.13
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.005
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.005
Dibenz(a,h)anthracene	<0.005
Pentachlorophenol	<0.1 j
Bis(2-ethylhexyl) phthalate	<0.5 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	04-1525 mb 1/0.25
Date Analyzed:	07/03/24	Data File:	070308.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	86	15	144
2-Fluorobiphenyl	68	25	128
2,4,6-Tribromophenol	89	10	142
Terphenyl-d14	101	41	138

Compounds:	Concentration ug/L (ppb)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
2-Methylnaphthalene	<0.05
1-Methylnaphthalene	<0.05
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
N-Nitrosodiphenylamine	<0.1
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.005
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.005
Dibenz(a,h)anthracene	<0.005
Pentachlorophenol	<0.1 j
Bis(2-ethylhexyl) phthalate	<0.5 j

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/01/24	Lab ID:	406448-01
Date Analyzed:	07/08/24	Data File:	406448-01.147
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	26
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Zinc	<5 k

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/01/24	Lab ID:	406448-01 x50
Date Analyzed:	07/03/24	Data File:	406448-01 x50.161
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	6,000
Manganese	1,100

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC03-GW-20.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/01/24	Lab ID:	406448-02
Date Analyzed:	07/08/24	Data File:	406448-02.148
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	5.7
Cadmium	<0.5
Chromium	<1
Copper	<5
Iron	91
Lead	<1
Manganese	91
Zinc	<5 k

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWDUP-GW-20.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/01/24	Lab ID:	406448-03
Date Analyzed:	07/08/24	Data File:	406448-03.149
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	5.9
Cadmium	<0.5
Chromium	<1
Copper	<5
Iron	86
Lead	<1
Manganese	94
Zinc	<5 k

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC04-GW-20.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/01/24	Lab ID:	406448-04
Date Analyzed:	07/08/24	Data File:	406448-04.152
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.7
Barium	18
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Zinc	<5 k

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC04-GW-20.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/01/24	Lab ID:	406448-04 x50
Date Analyzed:	07/03/24	Data File:	406448-04 x50.164
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	5,900
Manganese	1,100

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW15-GW-16.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/01/24	Lab ID:	406448-05
Date Analyzed:	07/08/24	Data File:	406448-05.153
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.8
Barium	25
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW15-GW-16.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/01/24	Lab ID:	406448-05 x50
Date Analyzed:	07/03/24	Data File:	406448-05 x50.210
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	7,900
Manganese	790

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Yakima East West Corridor
Date Extracted:	07/01/24	Lab ID:	I4-541 mb
Date Analyzed:	07/01/24	Data File:	I4-541 mb.217
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<0.5
Chromium	<1
Copper	<5
Iron	<50
Lead	<1
Manganese	<1
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MWEC01-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-01
Date Analyzed:	07/03/24	Data File:	406448-01.391
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	26
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MWEC01-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-01 x20
Date Analyzed:	07/03/24	Data File:	406448-01 x20.362
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	5,900
Manganese	400

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MWEC03-GW-20.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-02
Date Analyzed:	07/03/24	Data File:	406448-02.392
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	5.8
Cadmium	<0.5
Chromium	<1
Copper	<5
Iron	<50
Lead	<1
Manganese	34
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MWEC03-GW-20.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-02 x20
Date Analyzed:	07/03/24	Data File:	406448-02 x20.363
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	98

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MWDUP-GW-20.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-03
Date Analyzed:	07/03/24	Data File:	406448-03.393
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	5.9
Cadmium	<0.5
Chromium	<1
Copper	<5
Iron	<50
Lead	<1
Manganese	34
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MWDUP-GW-20.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-03 x20
Date Analyzed:	07/03/24	Data File:	406448-03 x20.374
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	95

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MWEC04-GW-20.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-04
Date Analyzed:	07/03/24	Data File:	406448-04.394
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.1
Barium	18
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MWEC04-GW-20.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-04 x20
Date Analyzed:	07/03/24	Data File:	406448-04 x20.375
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	5,600
Manganese	360

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW15-GW-16.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-05
Date Analyzed:	07/03/24	Data File:	406448-05.395
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.2
Barium	25
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW15-GW-16.0-M	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406448-05 x20
Date Analyzed:	07/03/24	Data File:	406448-05 x20.376
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	7,000
Manganese	760

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	I4-546 mb
Date Analyzed:	07/02/24	Data File:	I4-546 mb.258
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<0.5
Chromium	<1
Copper	<5
Iron	<50
Lead	<1
Manganese	<1
Zinc	<5

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448
Date Extracted: 06/28/24
Date Analyzed: 07/01/24, 07/02/24

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
MWEC01-GW-20.0 406448-01	<0.01
MWEC03-GW-20.0-M 406448-02	<0.01
MWDUP-GW-20.0-M 406448-03	<0.01
MWEC04-GW-20.0-M 406448-04	<0.01
MW15-GW-16.0-M 406448-05	<0.01
Method Blank i4-537 mb	<0.01

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448
Date Extracted: 06/28/24
Date Analyzed: 07/01/24, 07/02/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Dissolved Mercury
MWEC01-GW-20.0 406448-01	<0.01
MWEC03-GW-20.0-M 406448-02	<0.01
MWDUP-GW-20.0-M 406448-03	<0.01
MWEC04-GW-20.0-M 406448-04	<0.01
MW15-GW-16.0-M 406448-05	<0.01
Method Blank i4-539 mb	<0.01

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC01-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-01
Date Analyzed:	07/05/24	Data File:	070512.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	54	11	96
Decachlorobiphenyl	74 ca vo	13	65

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:	MWEC03-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-06
Date Analyzed:	07/05/24	Data File:	070513.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	55	11	96
Decachlorobiphenyl	83 ca vo	13	65

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:	MWDUP-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-07
Date Analyzed:	07/05/24	Data File:	070514.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	52	11	96
Decachlorobiphenyl	77 ca vo	13	65

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:	MWEC04-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-08
Date Analyzed:	07/05/24	Data File:	070515.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	51	11	96
Decachlorobiphenyl	73 ca vo	13	65

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:	MW15-GW-16.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-09
Date Analyzed:	07/05/24	Data File:	070516.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	51	11	96
Decachlorobiphenyl	59 ca	13	65

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:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	04-1532 mb
Date Analyzed:	07/06/24	Data File:	070532.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	70	11	96
Decachlorobiphenyl	58 ca	13	65

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 Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC01-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-01
Date Analyzed:	07/05/24	Data File:	070512.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	55	20	121
Decachlorobiphenyl	98 vo	20	89

Compounds:	Concentration ug/L
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC03-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-06
Date Analyzed:	07/05/24	Data File:	070513.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	20	121
Decachlorobiphenyl	114 vo	20	89

Compounds:	Concentration ug/L
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWDUP-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-07
Date Analyzed:	07/05/24	Data File:	070514.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53	20	121
Decachlorobiphenyl	96 vo	20	89

Compounds:	Concentration ug/L
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC04-GW-20.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-08
Date Analyzed:	07/05/24	Data File:	070515.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	54	20	121
Decachlorobiphenyl	100 vo	20	89

Compounds:	Concentration ug/L
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MW15-GW-16.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406448-09
Date Analyzed:	07/05/24	Data File:	070516.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	54	20	121
Decachlorobiphenyl	85	20	89

Compounds:	Concentration ug/L
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	04-1533 mb
Date Analyzed:	07/05/24	Data File:	070508.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	63	20	121
Decachlorobiphenyl	60	20	89

Compounds:	Concentration ug/L
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

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

Laboratory Code: 406443-01 (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	100	70-130

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

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	112	101	65-151	10

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 407014-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	118	16-176
Chloroform	ug/L (ppb)	10	<1	104	50-150
Chlorobenzene	ug/L (ppb)	10	<1	106	50-150
m,p-Xylene	ug/L (ppb)	20	<2	113	50-150
o-Xylene	ug/L (ppb)	10	<1	107	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	10	102	104	43-149	2
Chloroform	ug/L (ppb)	10	93	95	70-130	2
Chlorobenzene	ug/L (ppb)	10	104	104	70-130	0
m,p-Xylene	ug/L (ppb)	20	110	109	70-130	1
o-Xylene	ug/L (ppb)	10	103	104	70-130	1

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

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

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Pentachlorophenol	ug/L (ppb)	10	92	92	14-137	0
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	10	92	93	52-142	1

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

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

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
2,4-Dichlorophenol	ug/L (ppb)	10	87	88	34-113	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	58	61	48-104	5
2-Methylnaphthalene	ug/L (ppb)	10	68	67	52-113	1
1-Methylnaphthalene	ug/L (ppb)	10	71	70	51-115	1
Acenaphthene	ug/L (ppb)	10	89	83	57-110	7
Fluorene	ug/L (ppb)	10	88	84	61-115	5
N-Nitrosodiphenylamine	ug/L (ppb)	10	94	98	60-123	4
Phenanthrene	ug/L (ppb)	10	91	92	63-113	1
Anthracene	ug/L (ppb)	10	92	90	65-117	2
Fluoranthene	ug/L (ppb)	10	95	93	68-121	2
3,3'-Dichlorobenzidine	ug/L (ppb)	15	90	94	31-139	4
Benz(a)anthracene	ug/L (ppb)	10	96	94	66-131	2
Chrysene	ug/L (ppb)	10	94	91	66-129	3
Benzo(a)pyrene	ug/L (ppb)	10	102	101	66-129	1
Benzo(b)fluoranthene	ug/L (ppb)	10	99	98	55-144	1
Benzo(k)fluoranthene	ug/L (ppb)	10	103	99	58-139	4
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	10	101	101	62-136	0
Dibenz(a,h)anthracene	ug/L (ppb)	10	99	103	55-146	4
Pentachlorophenol	ug/L (ppb)	10	92	92	14-137	0
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	10	92	93	52-142	1

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 406430-01 (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	1.25	88	86	75-125	2
Barium	ug/L (ppb)	50	16.1	95 b	92 b	75-125	3 b
Cadmium	ug/L (ppb)	5	<1	99	99	75-125	0
Chromium	ug/L (ppb)	20	<1	89	88	75-125	1
Copper	ug/L (ppb)	20	<5	87	86	75-125	1
Iron	ug/L (ppb)	100	1,480	169 b	72 b	75-125	80 b
Lead	ug/L (ppb)	10	<1	96	96	75-125	0
Manganese	ug/L (ppb)	20	1,510	651 b	50 b	75-125	171 b
Zinc	ug/L (ppb)	50	<5	91	90	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	90	80-120
Barium	ug/L (ppb)	50	94	80-120
Cadmium	ug/L (ppb)	5	93	80-120
Chromium	ug/L (ppb)	20	96	80-120
Copper	ug/L (ppb)	20	93	80-120
Iron	ug/L (ppb)	100	106	80-120
Lead	ug/L (ppb)	10	92	80-120
Manganese	ug/L (ppb)	20	111	80-120
Zinc	ug/L (ppb)	50	97	80-120

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 406392-01 (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	107	107	75-125	0
Barium	ug/L (ppb)	50	52.6	105 b	106 b	75-125	1 b
Cadmium	ug/L (ppb)	5	<1	105	105	75-125	0
Chromium	ug/L (ppb)	20	<1	97	96	75-125	1
Copper	ug/L (ppb)	20	<5	89	90	75-125	1
Iron	ug/L (ppb)	100	95.1	94 b	89 b	75-125	5 b
Lead	ug/L (ppb)	10	<1	101	103	75-125	2
Manganese	ug/L (ppb)	20	56.2	40 b	42 b	75-125	5 b
Zinc	ug/L (ppb)	50	9.85	85	85	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	99	80-120
Barium	ug/L (ppb)	50	100	80-120
Cadmium	ug/L (ppb)	5	100	80-120
Chromium	ug/L (ppb)	20	98	80-120
Copper	ug/L (ppb)	20	98	80-120
Iron	ug/L (ppb)	100	89	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	101	80-120

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

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

Laboratory Code: 406430-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.02	<0.01	107	109	71-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	114	66-126

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

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

Laboratory Code: 406430-01 (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	<0.01	102	104	71-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	107	66-126

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

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	75	78	10-119	4
Aroclor 1260	ug/L (ppb)	0.25	76	80	10-144	5

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2701.01.001, F&BI 406448

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR ORGANOCHLORINE PESTICIDES BY EPA METHOD 8081B

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
4,4'-DDD	ug/L (ppb)	0.25	81	81	41-134	0
4,4'-DDT	ug/L (ppb)	0.25	88	87	19-154	1

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 low; 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.

406448

SAMPLE CHAIN OF CUSTODY

06/28/24 I5/VW5/, L4

Page # 1 of 1

Report To Josh Elliott

Company Maul Foster Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*) Brenden Murphy

PROJECT NAME: Yakima East West Corridor

PO #: ~~M1270~~.01.001 M2703

REMARKS: Please email results to csilford@maulfoster.com

Project specific RLs? - Yes / No

INVOICE TO: accounting@maulfoster.com

Project ID update per FB 07/12/24 ME

TURNAROUND TIME
- [x] 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	~~*Metals EPA 6020 [illegible] EPA 6021~~	~~*Dis. Cr(VI) EPA 218.6 [illegible] EPA 7196A~~	*VOCs EPA 8260	SIM PAHs EPA 8270	PCBs EPA 8082	Hg by EPA 1631 Total + dissolved	*SVOCs EPA 8270	4-4'DDD + 4-4'DDT by EPA 8081	Analyze	*Total + dissolved Metals * 24 hour hold for Cr(VI). Notes *please see emailed list of analytes
MWEC01-GW-20.0	01 A-D	6/28/24	6:55	Water	15	X	X	X	X	X	X	X	X	X	X	X	
MWEC03-GW-20.0-M	02 A-E	6/28/24	8:15		~~5~~ 10 BM			X	X				X			X	
MWDUP-GW-20.0-M	03	6/28/24	8:15		5			X	X				X			X	
MWEC04-GW-20.0-M	04	6/28/24	9:20		5			X	X				X			X	
~~HOLD~~ BM MW15-GW-16.0-M	05	6/28/24	10:00		5			X	X				X			X	
MWEC03-GW-20.0	06 A-J	6/27/24	12:15		~~20~~ 10 BM	X	X			X	X	X		X	X	X	
MWDUP-GW-20.0	07	6/27/24	12:15		10	X	X			X	X	X		X	X	X	
MWEC04-GW-20.0	08	6/27/24	10:40		10	X	X			X	X	X		X	X	X	
MW15-GW-16.0	09	6/27/24	8:50		10	X	X			X	X	X		X	X	X	
Trip Blank4	10 A-B	6/27/24	N/A	Water	2		X			X						X	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Brenden Murphy	Brenden Murphy	MFA	6/28/24	13:50
Received by: Nhan Phan	Nhan Phan	FEBT	6/28/24	1350
Relinquished by:		Samples received at 2 °C		
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 406448 CLIENT MFA INITIALS/ DATE: (NP) 06/28/24

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 2 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: (NP) 6/28/24
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0 ≥ 1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes	☐ No	☐ Not on COC/label
Date Sampled	☑ Yes	☐ No	☐ Not on COC/label
Time Sampled	☑ Yes	☐ No	☐ Not on COC/label
# of Containers	☑ Yes	☐ No	
Relinquished	☑ Yes	☐ No	
Requested analysis	☑ Yes	☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ **Number of unused TO17 tubes** _____

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 406448,
Work Order Number: 2406540

July 03, 2024

Attention Michael Erdahl:

Fremont Analytical, Inc, an Alliance Technical Group company, received 5 sample(s) on 6/28/2024 for the analyses presented in the following report.

Hexavalent Chromium by SM 3500 Cr B

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Please note, while the appearance of our logo and branding will update, our commitment to accuracy, speed, and customer service remain values celebrated and shared by Alliance Technical Group. Thank you for the opportunity to serve you.

Sincerely,

Brianna Barnes
Project Manager

Date: *07/08/2024*

CLIENT: Friedman & Bruya
Project: 406448
Work Order: 2406540

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2406540-001	MWEC01-GW-20.0	06/28/2024 6:55 AM	06/28/2024 3:35 PM
2406540-002	MWEC03-GW-20.0-M	06/28/2024 8:15 AM	06/28/2024 3:35 PM
2406540-003	MWDUP-GW-20.0-M	06/28/2024 8:15 AM	06/28/2024 3:35 PM
2406540-004	MWEC04-GW-20.0-M	06/28/2024 9:20 AM	06/28/2024 3:35 PM
2406540-005	MW15-GW-16.0-M	06/28/2024 10:00 AM	06/28/2024 3:35 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2406540**

Date: **7/3/2024**

CLIENT: Friedman & Bruya
Project: 406448

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

7/8/2024: Rev1 includes an updated project name per client request.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

CLIENT: Friedman & Bruya
Project: 406448

Lab ID: 2406540-001 **Collection Date:** 6/28/2024 6:55:00 AM
Client Sample ID: **MWEC01-GW-20.0** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Hexavalent Chromium by SM 3500 Cr B				Batch ID: R92794		Analyst: NR
Chromium, Hexavalent	ND	0.0500		mg/L	1	6/28/2024 4:15:00 PM

Lab ID: 2406540-002 **Collection Date:** 6/28/2024 8:15:00 AM
Client Sample ID: **MWEC03-GW-20.0-M** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Hexavalent Chromium by SM 3500 Cr B				Batch ID: R92794		Analyst: NR
Chromium, Hexavalent	ND	0.0500		mg/L	1	6/28/2024 4:20:00 PM

Lab ID: 2406540-003 **Collection Date:** 6/28/2024 8:15:00 AM
Client Sample ID: **MWDUP-GW-20.0-M** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Hexavalent Chromium by SM 3500 Cr B				Batch ID: R92794		Analyst: NR
Chromium, Hexavalent	ND	0.0500		mg/L	1	6/28/2024 4:25:00 PM

Lab ID: 2406540-004 **Collection Date:** 6/28/2024 9:20:00 AM
Client Sample ID: **MWEC04-GW-20.0-M** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Hexavalent Chromium by SM 3500 Cr B				Batch ID: R92794		Analyst: NR
Chromium, Hexavalent	ND	0.0500		mg/L	1	6/28/2024 4:30:00 PM

Analytical Report

Work Order: **2406540**
Date Reported: **7/3/2024**

CLIENT: Friedman & Bruya
Project: 406448

Lab ID: 2406540-005 **Collection Date:** 6/28/2024 10:00:00 AM
Client Sample ID: **MW15-GW-16.0-M** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Hexavalent Chromium by SM 3500 Cr B				Batch ID: R92794		Analyst: NR
Chromium, Hexavalent	ND	0.0500		mg/L	1	6/28/2024 4:35:00 PM

Work Order: 2406540
CLIENT: Friedman & Bruya
Project: 406448

QC SUMMARY REPORT

Hexavalent Chromium by SM 3500 Cr B

Sample ID: **MB-92794**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **6/28/2024**		RunNo: **92794**		
Client ID: **MBLKW**	Batch ID: **R92794**					Analysis Date: **6/28/2024**		SeqNo: **1936593**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.0500									

Sample ID: **LCS-92794**	SampType: **LCS**			Units: **mg/L**		Prep Date: **6/28/2024**		RunNo: **92794**		
Client ID: **LCSW**	Batch ID: **R92794**					Analysis Date: **6/28/2024**		SeqNo: **1936594**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.266	0.0500	0.2500	0	107	88.1	108.1				

Sample ID: **2406505-001CDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/28/2024**		RunNo: **92794**		
Client ID: **BATCH**	Batch ID: **R92794**					Analysis Date: **6/28/2024**		SeqNo: **1936596**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.0680	0.0500						0.06470	4.97	20	H

Sample ID: **2406505-001CMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **6/28/2024**		RunNo: **92794**		
Client ID: **BATCH**	Batch ID: **R92794**					Analysis Date: **6/28/2024**		SeqNo: **1936597**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.314	0.0500	0.2500	0.06470	99.9	75.2	115				H

Sample ID: **2406505-001CMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **6/28/2024**		RunNo: **92794**		
Client ID: **BATCH**	Batch ID: **R92794**					Analysis Date: **6/28/2024**		SeqNo: **1936598**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.316	0.0500	0.2500	0.06470	100	75.2	115	0.3145	0.444	20	H

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2406540
Logged by:	Clare Griggs	Date Received:	6/28/2024 3:35:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	4.0

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Alliance Technical Group

PROJECT NAME/NO.	PO #
406440	E-275

REMARKS

EQuIS 2406540

TURNAROUND TIME
☒ Standard TAT
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Cr VI										Notes
MWEC01-GW-20.0		6/28/2024	655	water	1	x										
MWEC03-GW-20.0-M		6/28/2024	815	water	1	x										
MWDUP-GW-20.0-M		6/28/2024	815	water	1	x										
MWEC04-GW-20.0-M		6/28/2024	920	water	1	x										
MW15-GW-16.0-M		6/28/2024	1000	water	1	x										

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	6/28/24	1415
Received by:		Jack Hawthorne	ATG	6/28/24	1535
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl
Company Friedman and Bruya, Inc.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Alliance Technical Group

PROJECT NAME/NO.	PO #
406448 ~~406440~~	E-275

REMARKS Edit per M.E. 7/8/2024 -BB

EQuIS 2406540

TURNAROUND TIME
☒ Standard TAT
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Cr VI										Notes
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MWEC03-GW-20.0-M		6/28/2024	815	water	1	x										
MWDUP-GW-20.0-M		6/28/2024	815	water	1	x										
MWEC04-GW-20.0-M		6/28/2024	920	water	1	x										
MW15-GW-16.0-M		6/28/2024	1000	water	1	x										

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Ph. (206) 285-8282
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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	6/28/24	1415
Received by:		Jack Hawthorne	ATG	6/28/24	1535
Relinquished by:					
Received 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 Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

August 8, 2024

Josh Elliott, Project Manager
Maul Foster Alongi
6 Centerpointe Dr, Suite 360
Lake Oswego, OR 97035

Dear Mr Elliott:

Included are the additional results from the testing of material submitted on June 28, 2024 from the Yakima East West Corridor M2703.01.001, F&BI 406447 project. There are 5 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: csifford@maulfoster.com, Fiona BellowsMFA0808R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 28, 2024 by Friedman & Bruya, Inc. from the Maul Foster Alongi Yakima East West Corridor M2703.01.001, F&BI 406447 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
406447 -01	SB1-S-1.0
406447 -02	SB1-S-5.5
406447 -03	SB1-S-8.5
406447 -04	SB1-S-13.5
406447 -05	SB2-S-1.0
406447 -06	SB2-S-4.0
406447 -07	SB2-S-10.5
406447 -08	SB2-S-13.5
406447 -09	SB16-S-1.0
406447 -10	SB16-S-3.5
406447 -11	SB16-S-7.5
406447 -12	SB16-S-12.5
406447 -13	SB5-S-1.0
406447 -14	SB5-S-2.5
406447 -15	SB5-S-9.5
406447 -16	SB5-S-15.7
406447 -17	SB4-S-1.0
406447 -18	SB4-S-4.0
406447 -19	SB4-S-10.5
406447 -20	SB4-S-13.0
406447 -21	SB3-S-1.0
406447 -22	SB3-S-2.5
406447 -23	SB3-S-7.5
406447 -24	SB3-S-13.5
406447 -25	SB6-S-1.0
406447 -26	SB6-S-3.0
406447 -27	SBDUP-S-3.0
406447 -28	SB6-S-10.5
406447 -29	SB6-S-13.5
406447 -30	SB7-S-1.0
406447 -31	SB7-S-4.0
406447 -32	SB7-S-7.0
406447 -33	SB7-S-13.5
406447 -34	SB8-S-0.5
406447 -35	SBDUP2-S-3.0
406447 -36	SB8-S-3.0
406447 -37	SB8-S-10.5

CASE NARRATIVE (continued)

Laboratory ID	Maul Foster Alongi
406447 -38	SB8-S-13.5
406447 -39	SB9-S-1.0
406447 -40	SB9-S-4.0
406447 -41	SB9-S-10.5
406447 -42	SB9-S-13.5
406447 -43	SBDUP-S-1.0
406447 -44	SB11-S-1.0
406447 -45	SB11-S-5.5
406447 -46	SB11-S-12.0
406447 -47	SB11-S-8.0
406447 -48	SB10-S-0.5
406447 -49	SBDUP-S-5.5
406447 -50	SB10-S-5.5
406447 -51	SB10-S-11.0
406447 -52	SB10-S-15.5
406447 -53	SB13-S-0.5
406447 -54	SB13-S-5.5
406447 -55	SB13-S-7.5
406447 -56	SB13-S-11.5
406447 -57	SB12-S-1.0
406447 -58	SB12-S-5.5
406447 -59	SBDUP2-S-5.5
406447 -60	SB12-S-10.5
406447 -61	SB12-S-16.5
406447 -62	SB17-S-5.5
406447 -63	SB17-S-9.0
406447 -64	SB17-S-13.5
406447 -65	SB15-S-1.0
406447 -66	SB15-S-3.0
406447 -67	SB15-S-10.5
406447 -68	SB15-S-15.5
406447 -69	Trip Blank3

All quality control requirements were acceptable.

Date of Report: 08/08/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 08/07/24

RESULTS FROM THE ANALYSIS OF SOIL 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 on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
SB8-S-0.5 406447-34	370 x	2,400	121
Method Blank 04-1555 MB	<50	<250	105

Date of Report: 08/08/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-21 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	510	100	106	63-146	6

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	118	77-123

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 low; 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.

406447

SAMPLE CHAIN OF CUSTODY

06/28/24 M4/VW1/N4

Page # 1 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*): Brenden Murphy

PROJECT NAME: Yakima East-West Corridor

PO#: M2703.01.001

REMARKS: Please email results to csifford@maulfoster.com as well. Project specific RLs? - (Yes) / No

INVOICE TO: accounting@maulfoster.com

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	~~*metals 6020 BTEX EPA 8021~~	~~Cr(VI) 7196 NWTPH-HCID~~	*VOCs EPA 8260	~~SIM~~ PAHs EPA 8270	Total Aroclors PCBs EPA 8082	Hg 1631	*SVOCs 8270	4,4'-DDD, 4,4'-DDT EPA 8081		Notes
SB1-S-1.0	01 A-F	6/25/24	13:40	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB1-S-5.5	02		13:50		6	X	X	X	X	X	X	X	X	X	X		
SB1-S-8.5	03		14:00		6	X	X	X	X	X	X	X	X	X	X		
SB1-S-13.5	04		14:10		6	X	X	X	X	X	X	X	X	X	X		
SB2-S-1.0	05		14:50		6	X	X	X	X	X	X	X	X	X	X		
SB2-S-4.0	06		15:00		6	X	X	X	X	X	X	X	X	X	X		
SB2-S-10.5	07		15:10		6	X	X	X	X	X	X	X	X	X	X		
SB2-S-13.5	08	↓	15:20		6	X	X	X	X	X	X	X	X	X	X		
SB16-S-1.0	09	6/26/24	8:20		6	X	X	X	X	X	X	X	X	X	X		
SB16-S-3.5	10	↓	8:30	↓	6	X	X	X	X	X	X	X	X	X	X		

*see emailed analyte list

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Brenden Murphy	Brenden Murphy	MFA	6/28/24	13:50
Received by: [signature]	Nhan Phan	FEBT	6/28/24	1350
Relinquished by:		Samples received at 2 °C		
Received by:				

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

406447

SAMPLE CHAIN OF CUSTODY

06/28/24 M4/uw1 / N4

Page # 2 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (signature) [signature]

PROJECT NAME	PO#
Yakima East-West Corridor	M270301.001
REMARKS Please email results to csifford@maulfoster.com as well Project specific RLs? - (Yes) / No	INVOICE TO accounting@maulfoster.com

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	*metals 6020 ~~BTEX EPA 8021~~	cr(VI) 7196 ~~NWTPH-HCID~~	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Arochlors PCBs EPA 8082	Hg 1631	*SVOCs 8270	44'DDD, 4-4'DDT 8081		Notes
SB16-S-7.5	11 A-F	6/26/24	8:40	Soil	6	X	X	X	X	X	X	X	X	X	X		*see emailed analyte list
SB16-S-12.5	12	↓	8:50	↓	6	X	X	X	X	X	X	X	X	X	X		
SB5-S-1.0	13		10:00		6	X	X	X	X	X	X	X	X	X	X		
SB5-S-2.5	14		10:10		6	X	X	X	X	X	X	X	X	X	X		
SB5-S-9.5	15		10:20		6	X	X	X	X	X	X	X	X	X	X		
SB5-S-15.7	16		10:30		6	X	X	X	X	X	X	X	X	X	X		
SB4-S-1.0	17		11:45		6	X	X	X	X	X	X	X	X	X	X		
SB4-S-4.0	18		12:00		6	X	X	X	X	X	X	X	X	X	X		
SB4-S-10.5	19		12:10		6	X	X	X	X	X	X	X	X	X	X		
SB4-S-13.0	20 ↓	↓	12:20	↓	6	X	X	X	X	X	X	X	X	X	X		

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	Brenden Murphy	MFA	6/28/24	13:50
Received by:	[signature]	Nhan Phan	FeBI	6/28/24	1352
Relinquished by:			Samples received at 2 °C		
Received by:					

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

406447

SAMPLE CHAIN OF CUSTODY 06/28/24

M4 / VW1 / N4

Page # 3 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-52[redacted] Email jelliott@maulfoster.com

SAMPLERS (*signature*) [redacted]

PROJECT NAME: Yakima East-West Corridor

PO#: M2703.01.001

REMARKS: please also email csifford@maulfoster.com

Project specific RLs? - Yes / No

INVOICE TO: accounting@maulfoster.com

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	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	~~X metals 6020 BTEX EPA 8021~~	~~Cr(VI) 7196 NWTPH-HCID~~	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Arochlor PCBs EPA 8082	Hg 1631	*SVOCS 8270	4,4'DDD, 4,4'DDT EPA 8081		Notes
SB3-S-1.0	21 A-F	6/26/24	12:55	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB3-S-2.5	22		13:00		6	X	X	X	X	X	X	X	X	X	X		
SB3-S-7.5	23		13:10		6	X	X	X	X	X	X	X	X	X	X		
SB3-S-13.5	24		13:20		6	X	X	X	X	X	X	X	X	X	X		
SB6-S-1.0	25		13:45		6	X	X	X	X	X	X	X	X	X	X		
SB6-S-3.0	26		14:00		6	X	X	X	X	X	X	X	X	X	X		
SBDUP-S-3.0	27		14:00		6	X	X	X	X	X	X	X	X	X	X		
SB6-S-10.5	28		14:10		6	X	X	X	X	X	X	X	X	X	X		
SB6-S-13.5	29		14:20		6	X	X	X	X	X	X	X	X	X	X		
SB7-S-1.0	30		15:00		6	X	X	X	X	X	X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [redacted]	Brenden Murphy	MFA	06/28/24	13:50
Received by: [redacted]	Nhan Phan	FEBT	6/28/24	1352
Relinquished by:		Samples received at 2 °C		
Received by:				

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

406447

SAMPLE CHAIN OF CUSTODY

06/28/24

M4/OW1/N4

Page # 4 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*)

PROJECT NAME: Yakima East-West Corridor

PO#: M2703.01.001

REMARKS: Project specific RLs? - (Yes) / No

INVOICE TO: accounting@maulfoster.com

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	*Metals 6020 BTEX EPA 8021	Cr VI 7196 NWTPH-HCID	*VOCs EPA 8260	*SVOCs EPA 8270 PAHs EPA 8270	Total Arochlors PCBs EPA 8082	Hg 1631	*SVOCs 8270	4-4'DDD, 4-4'DDT EPA 8081	Dx w/ SG	A-per FB 08/06/24 ME Notes *see emailed analyte list
SB7-S-4.0	31 A-F	6/26/24	15:10	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB7-S-7.0	32	↓	15:20	↓	6	X	X	X	X	X	X	X	X	X	X		
SB7-S-13.5	33	↓	15:30	↓	6	X	X	X	X	X	X	X	X	X	X		
SB8-S-0.5	34	6/27/24	8:10	↓	6	X	X	X	X	X	X	X	X	X	X	A	
SBDUP-S-3.0	35	↓	8:20	↓	6	X	X	X	X	X	X	X	X	X	X		
SB8-S-3.0	36	↓	8:20	↓	6	X	X	X	X	X	X	X	X	X	X		
SB8-S-10.5	37	↓	8:30	↓	6	X	X	X	X	X	X	X	X	X	X		
SB8-S-13.5	38	↓	8:40	↓	6	X	X	X	X	X	X	X	X	X	X		label SB8-S-13.0 @ 6/28
SB9-S-1.0	39	↓	10:20	↓	6	X	X	X	X	X	X	X	X	X	X		
SB9-S-4.0	40	↓	10:30	↓	6	X	X	X	X	X	X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Brenden Murphy	MFA	6/28/24	13:50
Received by:	Nhan Phan	FEB I	6/28/24	1352
Relinquished by:		Samples received at 2 oC		
Received by:				

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

406447

SAMPLE CHAIN OF CUSTODY

06/28/24

M4 / VW1 / N4

Page # 5 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (signature)

PROJECT NAME: Yakima East-West Corridor

PO #: M2703.01.001

REMARKS: email results to csifford@maulfoster.com as well

Project specific RLs? - (Yes) / No

INVOICE TO: accounting@maulfoster.com

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	*metals BTEX EPA 8021	cr CVD 7196 NWTPH-HCID	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Arochlors PCBs EPA 8082	Hg 1631	*SVOCs 8270	4,4'DDD,4,4'DDT EPA 8081		Notes
																	* see emailed analyte list
SB9-S-10.5	41 A.F	6/27/24	10:40	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB9-S-13.5	42		10:50		6	X	X	X	X	X	X	X	X	X	X		
SBDUP-S-1.0	43		12:20		6	X	X	X	X	X	X	X	X	X	X		
SB11-S-1.0	44		12:20		6	X	X	X	X	X	X	X	X	X	X		label SB_S_1.0
SB11-S-5.5	45		12:30		6	X	X	X	X	X	X	X	X	X	X		
SB11-S-12.0	46		12:50		6	X	X	X	X	X	X	X	X	X	X		
SB11-S-8.0	47		12:40		6	X	X	X	X	X	X	X	X	X	X		
SB10-S-0.5	48		~~12~~:20 CS		6	X	X	X	X	X	X	X	X	X	X		
SBDUP-S-5.5	49		~~12~~:30 CS		6	X	X	X	X	X	X	X	X	X	X		
SB10-S-5.5	50		~~12~~:30 CS		6	X	X	X	X	X	X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Brenden Murphy	MFA	6/28/24	13:50
Received by:	Nhan Phan	FEBI	6/28/24	1350
Relinquished by:		Samples received at 2 °C		
Received by:				

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

406447 [redacted]

SAMPLE CHAIN OF CUSTODY

06/28/24 [redacted] M4/UW1/N4

Page # 6 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (signature) [signature]

PROJECT NAME Yakima East-West Corridor

PO # M2703.01.001

REMARKS also email results to csifford@maulfoster.com

INVOICE TO accounting@maulfoster.com

Project specific RLs? - Yes / No (Yes circled)

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	*metals 6020 ~~BTEX EPA 8021~~	Cr(VI) 7196 ~~NWTPH-HCID~~	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Arochlors PCBs EPA 8082	Hg 1631	*SVOCs 8270	4-4'DDD, 4-4'DDT EPA 8081		Notes
SB10-S-11.0	51A-F	6/27/24	14:40	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB10-S-15.5	52		14:50		6	X	X	X	X	X	X	X	X	X	X		
SB13-S-0.5	53		16:10		6	X	X	X	X	X	X	X	X	X	X		
SB13-S-5.5	54		16:20		6	X	X	X	X	X	X	X	X	X	X		
SB13-S-7.5	55		16:30		6	X	X	X	X	X	X	X	X	X	X		
SB13-S-11.5	56		16:40		6	X	X	X	X	X	X	X	X	X	X		
SB12-S-1.0	57	6/28/24	8:00	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB12-S-5.5	58		8:10		6	X	X	X	X	X	X	X	X	X	X		
SBDUP-S-5.5	59		8:10		6	X	X	X	X	X	X	X	X	X	X		
SB12-S-10.5	60		8:20		6	X	X	X	X	X	X	X	X	X	X		

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Brenden Murphy	MFA	6/28/24	13:50
Received by: [signature]	Nhan Phan	FeBI	6/28/24	1352
Relinquished by:		Samples received at 2 °C		
Received by:				

DRAFT

406447 [redacted]

SAMPLE CHAIN OF COUSTODY

06/28/24 M4/UW1/N4

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (signature) [signature] [redacted]

Page # 1 of 1

PROJECT NAME	PO #
Yakima East-West Corridor	M2703.01.001
REMARKS also email results to csifford@maulfoster.com	INVOICE TO accounting@maulfoster.com
Project specific RLs? - (Yes) / No	

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	*metals 6020 ~~BTEX EPA 8021~~	Cr(VI) 7196 ~~NWTPH-HCID~~	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Aroclors PCBs EPA 8082	Hg 1631	*SVOCs 8270	4-4'DDD, 4-4'DDT EPA 8081		Notes * see emailed analyte list
SB12-S-16.5	61 A-F	6/28/24	8:30	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB17-S-5.5	62	BM	9:15		6	X	X	X	X	X	X	X	X	X	X		
SB17-S-9.0	63		9:40		6	X	X	X	X	X	X	X	X	X	X		
SB17-S-13.5	64		9:50		6	X	X	X	X	X	X	X	X	X	X		
SB15-S-1.0	65		10:40		6	X	X	X	X	X	X	X	X	X	X		
SB15-S-5.5	66		10:50		6	X	X	X	X	X	X	X	X	X	X		Label SB15-S-3.0
SB15-S-10.5	67		11:00		6	X	X	X	X	X	X	X	X	X	X		
SB15-S-15.5	68		11:10		6	X	X	X	X	X	X	X	X	X	X		
Trip Blank 3	69 A-B	6/27/24	N/A	Water	2		X			X							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Brenden Murphy	MFA	6/28/24	13:50
Received by: [signature]	Nhan Phan	F&BI	6/28/24	1352
Relinquished by:		Samples received at 2 °C		
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 406447 CLIENT MFA INITIALS/ DATE: DB 6/28/24

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 2 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: NP 6/28/24
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0 > 3 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☐ Yes ☑ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)
-38 ID on label: SB8-S-13.0
-44 ID on label: SB11-S-1.0
-66 ID on label: SB15-S-3.0

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ Number of unused TO17 tubes _____

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 Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

August 12, 2024

Josh Elliott, Project Manager
Maul Foster Alongi
6 Centerpointe Dr, Suite 360
Lake Oswego, OR 97035

Dear Mr Elliott:

Included is the amended report from the testing of material submitted on June 28, 2024 from the Yakima East West Corridor M2703.01.001, F&BI 406447 project. Per your request, several sample IDs have been updated.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: JElliott@MaulFoster.com, Christian Sifford, Fiona Bellows
MFA0716R.DOC

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 Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

July 16, 2024

Josh Elliott, Project Manager
Maul Foster Alongi
6 Centerpointe Dr, Suite 360
Lake Oswego, OR 97035

Dear Mr Elliott:

Included are the results from the testing of material submitted on June 28, 2024 from the Yakima East West Corridor M2703.01.001, F&BI 406447 project. There are 489 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: JElliott@MaulFoster.com, Christian Sifford, Carolyn Wise
MFA0716R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 28, 2024 by Friedman & Bruya, Inc. from the Maul Foster Alongi Yakima East West Corridor M2703.01.001, F&BI 406447 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
406447 -01	SB1-S-1.0
406447 -02	SB1-S-5.5
406447 -03	SB1-S-8.5
406447 -04	SB1-S-13.5
406447 -05	SB2-S-1.0
406447 -06	SB2-S-4.0
406447 -07	SB2-S-10.5
406447 -08	SB2-S-13.5
406447 -09	SB16-S-1.0
406447 -10	SB16-S-3.5
406447 -11	SB16-S-7.5
406447 -12	SB16-S-12.5
406447 -13	SB5-S-1.0
406447 -14	SB5-S-2.5
406447 -15	SB5-S-9.5
406447 -16	SB5-S-15.7
406447 -17	SB4-S-1.0
406447 -18	SB4-S-4.0
406447 -19	SB4-S-10.5
406447 -20	SB4-S-13.0
406447 -21	SB3-S-1.0
406447 -22	SB3-S-2.5
406447 -23	SB3-S-7.5
406447 -24	SB3-S-13.5
406447 -25	SB6-S-1.0
406447 -26	SB6-S-3.0
406447 -27	SBDUP-S-3.0
406447 -28	SB6-S-10.5
406447 -29	SB6-S-13.5
406447 -30	SB7-S-1.0
406447 -31	SB7-S-4.0
406447 -32	SB7-S-7.0
406447 -33	SB7-S-13.5
406447 -34	SB8-S-0.5
406447 -35	SBDUP2-S-3.0
406447 -36	SB8-S-3.0
406447 -37	SB8-S-10.5

CASE NARRATIVE (continued)

Laboratory ID	Maul Foster Alongi
406447 -38	SB8-S-13.5
406447 -39	SB9-S-1.0
406447 -40	SB9-S-4.0
406447 -41	SB9-S-10.5
406447 -42	SB9-S-13.5
406447 -43	SBDUP-S-1.0
406447 -44	SB11-S-1.0
406447 -45	SB11-S-5.5
406447 -46	SB11-S-12.0
406447 -47	SB11-S-8.0
406447 -48	SB10-S-0.5
406447 -49	SBDUP-S-5.5
406447 -50	SB10-S-5.5
406447 -51	SB10-S-11.0
406447 -52	SB10-S-15.5
406447 -53	SB13-S-0.5
406447 -54	SB13-S-5.5
406447 -55	SB13-S-7.5
406447 -56	SB13-S-11.5
406447 -57	SB12-S-1.0
406447 -58	SB12-S-5.5
406447 -59	SBDUP2-S-5.5
406447 -60	SB12-S-10.5
406447 -61	SB12-S-16.5
406447 -62	SB17-S-5.5
406447 -63	SB17-S-9.0
406447 -64	SB17-S-13.5
406447 -65	SB15-S-1.0
406447 -66	SB15-S-3.0
406447 -67	SB15-S-10.5
406447 -68	SB15-S-15.5
406447 -69	Trip Blank3

The soil samples were sent to Alliance Technical Group for total iron and hexavalent chromium analyses. The report is enclosed.

The reporting limits in samples SB4-S-4.0, SB6-S-3.0, SBDUP-S-3.0, SB7-S-4.0, and SB15-S-3.0, SB13-S-5.5, SB15-S-1.0, and SB15-S-3.0 were raised due to the high percent moisture in the samples.

CASE NARRATIVE (continued)

The NWTPH-Gx reporting limits for samples SB5-S-1.0, SB5-S-2.5, SB7-S-4.0, SB8-S-0.5, SB11-S-5.5, SBDUP-S-5.5, SB10-S-5.5, and SB15-S-3.0 and the 8260D reporting limits for SB9-S-1.0, SB11-S-5.5, SBDUP-S-5.5, and SB10-S-5.5 were raised due to extract foaming. In addition, several reporting limits were raised due to low 5035 sample sample mass.

The 2,2-dichloropropane 8260D water calibration standard exceeded the acceptance criteria for sample Trip Blank3. The compound was not detected, therefore this did not represent an out of control condition, and the results are not considered estimates.

The 8270E, 6020B, 1631E, 8082A and 8081B matrix spike and matrix spike duplicate did not meet the accetpance criteria for several compounds. The laboratory control sample passed the acceptance criteria, therefore the results were due to matrix effect.

An 8082A calibration standard exceeded the acceptance criteria for Aroclor 1260 for several samples. PCBs were not detected in the associated samples, therefore this did not represent an out of control condition, and were qualified with a "k" qualifier.

The 8270E benzo(b)fluoranthene concentrations reported include the coelution isomer benzo(j)fluoranthene. The reported results are representative of both concentrations.

All other quality control requirements were acceptable.

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: NA
Date Analyzed: 07/03/24

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR PERCENT MOISTURE USING ASTM D2216-98

Sample ID Laboratory ID	% Moisture
SB1-S-1.0 406447-01	10
SB1-S-5.5 406447-02	9
SB1-S-8.5 406447-03	2
SB1-S-13.5 406447-04	3
SB2-S-1.0 406447-05	11
SB2-S-4.0 406447-06	6
SB2-S-10.5 406447-07	4
SB2-S-13.5 406447-08	3
SB16-S-1.0 406447-09	6
SB16-S-3.5 406447-10	2
SB16-S-7.5 406447-11	3
SB16-S-12.5 406447-12	5

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: NA
Date Analyzed: 07/03/24

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR PERCENT MOISTURE USING ASTM D2216-98

Sample ID Laboratory ID	% Moisture
SB5-S-1.0 406447-13	12
SB5-S-2.5 406447-14	50
SB5-S-9.5 406447-15	8
SB5-S-15.7 406447-16	6
SB4-S-1.0 406447-17	12
SB4-S-4.0 406447-18	65
SB4-S-10.5 406447-19	5
SB4-S-13.0 406447-20	2
SB3-S-1.0 406447-21	22
SB3-S-2.5 406447-22	51
SB3-S-7.5 406447-23	21
SB3-S-13.5 406447-24	22

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: NA
Date Analyzed: 07/03/24

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR PERCENT MOISTURE USING ASTM D2216-98

Sample ID Laboratory ID	% Moisture
SB6-S-1.0 406447-25	13
SB6-S-3.0 406447-26	59
SBDUP-S-3.0 406447-27	62
SB6-S-10.5 406447-28	4
SB6-S-13.5 406447-29	6
SB7-S-1.0 406447-30	11
SB7-S-4.0 406447-31	74
SB7-S-7.0 406447-32	6
SB7-S-13.5 406447-33	5
SB8-S-0.5 406447-34	11
SBDUP2-S-3.0 406447-35	5
SB8-S-3.0 406447-36	5

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: NA
Date Analyzed: 07/03/24

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR PERCENT MOISTURE USING ASTM D2216-98

Sample ID Laboratory ID	% Moisture
SB8-S-10.5 406447-37	4
SB8-S-13.5 406447-38	3
SB9-S-1.0 406447-39	15
SB9-S-4.0 406447-40	19
SB9-S-10.5 406447-41	4
SB9-S-13.5 406447-42	5
SBDUP-S-1.0 406447-43	9
SB11-S-1.0 406447-44	10
SB11-S-5.5 406447-45	50
SB11-S-12.0 406447-46	3
SB11-S-8.0 406447-47	5
SB10-S-0.5 406447-48	7

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: NA
Date Analyzed: 07/03/24

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR PERCENT MOISTURE USING ASTM D2216-98

Sample ID Laboratory ID	% Moisture
SBDUP-S-5.5 406447-49	9
SB10-S-5.5 406447-50	11
SB10-S-11.0 406447-51	4
SB10-S-15.5 406447-52	5
SB13-S-0.5 406447-53	7
SB13-S-5.5 406447-54	41
SB13-S-7.5 406447-55	8
SB13-S-11.5 406447-56	4
SB12-S-1.0 406447-57	15
SB12-S-5.5 406447-58	5
SBDUP2-S-5.5 406447-59	7
SB12-S-10.5 406447-60	16

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: NA
Date Analyzed: 07/03/24

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR PERCENT MOISTURE USING ASTM D2216-98

Sample ID Laboratory ID	% Moisture
SB12-S-16.5 406447-61	29
SB17-S-5.5 406447-62	3
SB17-S-9.0 406447-63	2
SB17-S-13.5 406447-64	2
SB15-S-1.0 406447-65	40
SB15-S-3.0 406447-66	61
SB15-S-10.5 406447-67	8
SB15-S-15.5 406447-68	30

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/01/24
Date Analyzed: 07/02/24

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)
Trip Blank3 406447-69	<100	106
Method Blank 04-1374 MB	<100	106

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB1-S-1.0 406447-01	<5	86
SB1-S-5.5 406447-02	76	88
SB1-S-8.5 406447-03	<5	90
SB1-S-13.5 406447-04	<5	90
SB2-S-1.0 406447-05	<5	89
SB2-S-4.0 406447-06	<5	85
SB2-S-10.5 406447-07	<5	89
SB2-S-13.5 406447-08	<5	83
SB16-S-1.0 406447-09	<5	89
SB16-S-3.5 406447-10	<5	95
SB16-S-7.5 406447-11	<5	84

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB16-S-12.5 406447-12	<5	90
SB5-S-1.0 406447-13 1/5	<25	91
SB5-S-2.5 406447-14 1/5	<25	88
SB5-S-9.5 406447-15	<5	88
SB5-S-15.7 406447-16	<5	87
SB4-S-1.0 406447-17	<5	85
SB4-S-4.0 406447-18 1/5	110	92
SB4-S-10.5 406447-19	<5	89
SB4-S-13.0 406447-20	<5	88
SB3-S-1.0 406447-21	<5	88
SB3-S-2.5 406447-22	<10	91

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB3-S-7.5 406447-23	<5	86
SB3-S-13.5 406447-24	<5	90
SB6-S-1.0 406447-25	<5	87
SB6-S-3.0 406447-26	13	92
SBDUP-S-3.0 406447-27	<10	89
SB6-S-10.5 406447-28	<5	83
SB6-S-13.5 406447-29	<5	86
SB7-S-1.0 406447-30	<5	87
SB7-S-4.0 406447-31 1/5	<30 j	88
SB7-S-7.0 406447-32	<5	89
SB7-S-13.5 406447-33	<5	90

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB8-S-0.5 406447-34 1/5	<25	91
SBDUP2-S-3.0 406447-35	<5	93
SB8-S-3.0 406447-36	<5	92
SB8-S-10.5 406447-37	<5	92
SB8-S-13.5 406447-38	<5	85
SB9-S-1.0 406447-39	<5	87
SB9-S-4.0 406447-40	<5	85
SB9-S-10.5 406447-41	<5	88
SB9-S-13.5 406447-42	<5	89
SBDUP-S-1.0 406447-43	<5	90
SB11-S-1.0 406447-44	<5	89

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB11-S-5.5 406447-45 1/5	<25	91
SB11-S-12.0 406447-46	<5	91
SB11-S-8.0 406447-47	<5	88
SB10-S-0.5 406447-48	<5	87
SBDUP-S-5.5 406447-49 1/5	<25	91
SB10-S-5.5 406447-50 1/5	<25	89
SB10-S-11.0 406447-51	<5	91
SB10-S-15.5 406447-52	<5	88
SB13-S-0.5 406447-53	<5	91
SB13-S-5.5 406447-54	<5	89
SB13-S-7.5 406447-55	<5	88

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB13-S-11.5 406447-56	<5	91
SB12-S-1.0 406447-57	<5	89
SB12-S-5.5 406447-58	<5	90
SBDUP2-S-5.5 406447-59	<5	87
SB12-S-10.5 406447-60	<5	82
SB12-S-16.5 406447-61	<5	88
SB17-S-5.5 406447-62	<5	86
SB17-S-9.0 406447-63	<5	91
SB17-S-13.5 406447-64	<5	87
SB15-S-1.0 406447-65	<10	91
SB15-S-3.0 406447-66 1/5	<30 j	84
SB15-S-10.5 406447-67	<5	87

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SB15-S-15.5 406447-68	<5	89
Method Blank 04-1380 MB	<1.5 j	82
Method Blank 04-1381 MB	<1.5 j	85
Method Blank 04-1382 MB	<1.5 j	87
Method Blank 04-1383 MB	<1.5 j	88

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
SB1-S-1.0 406447-01	<25	300	116
SB1-S-5.5 406447-02	68 x	320	112
SB1-S-8.5 406447-03	<25	<125	105
SB1-S-13.5 406447-04	<25	<125	102
SB2-S-1.0 406447-05	62 x	510	111
SB2-S-4.0 406447-06	<25	<125	103
SB2-S-10.5 406447-07	<25	<125	101
SB2-S-13.5 406447-08	<25	<125	102
SB16-S-1.0 406447-09	<25	<125	110
SB16-S-3.5 406447-10	<25	<125	107
SB16-S-7.5 406447-11	<25	<125	108
SB16-S-12.5 406447-12	<25	<125	109

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
SB5-S-1.0 406447-13	56 x	820	107
SB5-S-2.5 406447-14	<25	790	117
SB5-S-9.5 406447-15	<25	<125	103
SB5-S-15.7 406447-16	<25	<125	111
SB4-S-1.0 406447-17	<25	<125	110
SB4-S-4.0 406447-18	170 x	890 x	112
SB4-S-10.5 406447-19	<25	<125	107
SB4-S-13.0 406447-20	<25	<125	109
SB3-S-1.0 406447-21	99 x	580	117
SB3-S-2.5 406447-22	180 x	790	124
SB3-S-7.5 406447-23	<25	<125	115
SB3-S-13.5 406447-24	<25	<125	118

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
SB6-S-1.0 406447-25	95 x	730	119
SB6-S-3.0 406447-26	380 x	690 x	132
SBDUP-S-3.0 406447-27	390 x	880 x	144
SB6-S-10.5 406447-28	<25	<125	119
SB6-S-13.5 406447-29	<25	<125	117
SB7-S-1.0 406447-30	<25	<125	115
SB7-S-4.0 406447-31	200 x	620 x	128
SB7-S-7.0 406447-32	<25	<125	113
SB7-S-13.5 406447-33	<25	<125	114
SB8-S-0.5 406447-34	160 x	1,400	121
SBDUP2-S-3.0 406447-35	<25	<125	114
SB8-S-3.0 406447-36	<25	<125	114

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
SB8-S-10.5 406447-37	<25	<125	117
SB8-S-13.5 406447-38	<25	<125	118
SB9-S-1.0 406447-39	200 x	1,800	114
SB9-S-4.0 406447-40	<25	<125	119
SB9-S-10.5 406447-41	<25	<125	117
SB9-S-13.5 406447-42	<25	<125	120
SBDUP-S-1.0 406447-43	<25	<125	117
SB11-S-1.0 406447-44	<25	<125	116
SB11-S-5.5 406447-45	1,200 x	6,900	148
SB11-S-12.0 406447-46	<25	<125	119
SB11-S-8.0 406447-47	<25	<125	119
SB10-S-0.5 406447-48	<25	<125	118

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
SBDUP-S-5.5 406447-49	77 x	760	122
SB10-S-5.5 406447-50	130 x	830	116
SB10-S-11.0 406447-51	<25	<125	116
SB10-S-15.5 406447-52	<25	<125	119
SB13-S-0.5 406447-53	<25	<125	115
SB13-S-5.5 406447-54	640 x	2,400	117
SB13-S-7.5 406447-55	<25	<125	123
SB13-S-11.5 406447-56	<25	<125	113
SB12-S-1.0 406447-57	<25	<125	118
SB12-S-5.5 406447-58	<25	<125	126
SBDUP2-S-5.5 406447-59	<25	<125	114
SB12-S-10.5 406447-60	<25	<125	113

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/03/24
Date Analyzed: 07/03/24 and 07/04/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
SB12-S-16.5 406447-61	<25	<125	113
SB17-S-5.5 406447-62	<25	<125	112
SB17-S-9.0 406447-63	<25	<125	109
SB17-S-13.5 406447-64	<25	<125	117
SB15-S-1.0 406447-65	230 x	2,300	120
SB15-S-3.0 406447-66	290 x	1,500	126
SB15-S-10.5 406447-67	<25	<125	115
SB15-S-15.5 406447-68	<25	<125	116
Method Blank 04-1554 MB	<25	<125	122
Method Blank 04-1555 MB	<25	<125	103
Method Blank 04-1556 MB	<25	<125	114
Method Blank 04-1557 MB	<25	<125	115

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank3	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-69
Date Analyzed:	07/05/24	Data File:	070514.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	71	132
Toluene-d8	94	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb))
Vinyl chloride	<0.02
Chloroform	<1
Benzene	<0.35
Toluene	<1
Tetrachloroethene	<1
Chlorobenzene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	04-1482 mb
Date Analyzed:	07/05/24	Data File:	070508.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	71	132
Toluene-d8	93	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Benzene	<0.35
Toluene	<1
Tetrachloroethene	<1
Chlorobenzene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB1-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-01 1/0.5
Date Analyzed:	07/02/24	Data File:	070210.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	79	128
Toluene-d8	103	84	121
4-Bromofluorobenzene	100	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0063
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.0039
m,p-Xylene	0.020
o-Xylene	0.0055

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB1-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-02 1/0.5
Date Analyzed:	07/02/24	Data File:	070211.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	79	128
Toluene-d8	101	84	121
4-Bromofluorobenzene	107	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.017
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.012
m,p-Xylene	0.055
o-Xylene	0.015

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB1-S-8.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-03 1/0.5
Date Analyzed:	07/02/24	Data File:	070208.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	84	120
Toluene-d8	102	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB1-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-04 1/0.5
Date Analyzed:	07/02/24	Data File:	070212.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	79	128
Toluene-d8	101	84	121
4-Bromofluorobenzene	103	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0044
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB2-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-05 1/0.5
Date Analyzed:	07/02/24	Data File:	070213.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	79	128
Toluene-d8	102	84	121
4-Bromofluorobenzene	103	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB2-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-06 1/0.5
Date Analyzed:	07/02/24	Data File:	070209.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0022
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0063
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB2-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-07 1/0.5
Date Analyzed:	07/02/24	Data File:	070210.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB2-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-08 1/0.5
Date Analyzed:	07/02/24	Data File:	070211.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	84	120
Toluene-d8	95	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB16-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-09 1/0.5
Date Analyzed:	07/02/24	Data File:	070212.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	84	120
Toluene-d8	95	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0023
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0044
o-Xylene	0.0041

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB16-S-3.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-10 1/0.5
Date Analyzed:	07/02/24	Data File:	070213.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0085
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.0059
m,p-Xylene	0.032
o-Xylene	0.012

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB16-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-11 1/0.5
Date Analyzed:	07/02/24	Data File:	070214.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	84	120
Toluene-d8	100	73	128
4-Bromofluorobenzene	96	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0047
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0062
o-Xylene	0.0036

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB16-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-12 1/0.5
Date Analyzed:	07/02/24	Data File:	070215.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	84	120
Toluene-d8	102	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0084
o-Xylene	0.0034

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB5-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-13 1/0.5
Date Analyzed:	07/02/24	Data File:	070214.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	79	128
Toluene-d8	105	84	121
4-Bromofluorobenzene	106	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0047
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB5-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-14 1/0.5
Date Analyzed:	07/02/24	Data File:	070215.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	79	128
Toluene-d8	99	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0071
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB5-S-9.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-15 1/0.5
Date Analyzed:	07/02/24	Data File:	070216.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0044
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0047
o-Xylene	0.0035

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB5-S-15.7	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-16 1/0.5
Date Analyzed:	07/02/24	Data File:	070217.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	92	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0020
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB4-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-17 1/0.5
Date Analyzed:	07/02/24	Data File:	070218.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	102	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.004
Chloroform	<0.012 j
Benzene	<0.004
Toluene	<0.004
Tetrachloroethene	<0.004
Chlorobenzene	<0.1
Ethylbenzene	<0.004
m,p-Xylene	<0.008
o-Xylene	<0.004

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB4-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-18 1/0.5
Date Analyzed:	07/02/24	Data File:	070216.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	79	128
Toluene-d8	102	84	121
4-Bromofluorobenzene	101	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.004
Chloroform	<0.006 j
Benzene	<0.004
Toluene	0.086
Tetrachloroethene	<0.004
Chlorobenzene	<0.1
Ethylbenzene	0.048
m,p-Xylene	0.055
o-Xylene	0.014

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB4-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-19 1/0.5
Date Analyzed:	07/02/24	Data File:	070219.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0089
o-Xylene	0.0023

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB4-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-20 1/0.5
Date Analyzed:	07/02/24	Data File:	070220.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	95	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0028
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0081
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB3-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-21 1/0.5
Date Analyzed:	07/02/24	Data File:	070225.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	79	128
Toluene-d8	100	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	0.0027
Toluene	0.097
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.0040
m,p-Xylene	0.0086
o-Xylene	0.0029

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB3-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-22 1/0.5
Date Analyzed:	07/02/24	Data File:	070226.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	79	128
Toluene-d8	99	84	121
4-Bromofluorobenzene	108	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.004
Chloroform	<0.012 j
Benzene	0.010
Toluene	0.21
Tetrachloroethene	<0.004
Chlorobenzene	<0.1
Ethylbenzene	<0.004
m,p-Xylene	<0.008
o-Xylene	<0.004

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB3-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-23 1/0.5
Date Analyzed:	07/02/24	Data File:	070227.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	79	128
Toluene-d8	104	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0021
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB3-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-24 1/0.5
Date Analyzed:	07/02/24	Data File:	070228.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	79	128
Toluene-d8	101	84	121
4-Bromofluorobenzene	106	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB6-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-25 1/0.5
Date Analyzed:	07/02/24	Data File:	070217.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	79	128
Toluene-d8	100	84	121
4-Bromofluorobenzene	101	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.017
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB6-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-26 1/0.5
Date Analyzed:	07/02/24	Data File:	070219.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	79	128
Toluene-d8	103	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.004
Chloroform	<0.012 j
Benzene	<0.004
Toluene	0.18
Tetrachloroethene	<0.004
Chlorobenzene	<0.1
Ethylbenzene	<0.004
m,p-Xylene	<0.008
o-Xylene	<0.004

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SBDUP-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-27 1/0.5
Date Analyzed:	07/02/24	Data File:	070220.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	79	128
Toluene-d8	96	84	121
4-Bromofluorobenzene	101	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.004
Chloroform	<0.012 j
Benzene	<0.004
Toluene	0.11
Tetrachloroethene	<0.004
Chlorobenzene	<0.1
Ethylbenzene	<0.004
m,p-Xylene	<0.008
o-Xylene	<0.004

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB6-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-28 1/0.5
Date Analyzed:	07/02/24	Data File:	070229.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	79	128
Toluene-d8	105	84	121
4-Bromofluorobenzene	107	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0032
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB6-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-29 1/0.5
Date Analyzed:	07/02/24	Data File:	070230.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	79	128
Toluene-d8	101	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB7-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-30 1/0.5
Date Analyzed:	07/02/24	Data File:	070231.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	79	128
Toluene-d8	100	84	121
4-Bromofluorobenzene	104	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB7-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-31 1/0.5
Date Analyzed:	07/02/24	Data File:	070232.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	79	128
Toluene-d8	102	84	121
4-Bromofluorobenzene	107	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.004
Chloroform	<0.012 j
Benzene	<0.004
Toluene	0.038
Tetrachloroethene	<0.004
Chlorobenzene	<0.1
Ethylbenzene	<0.004
m,p-Xylene	<0.008
o-Xylene	<0.004

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB7-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-32 1/0.5
Date Analyzed:	07/02/24	Data File:	070233.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	79	128
Toluene-d8	100	84	121
4-Bromofluorobenzene	104	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB7-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-33 1/0.5
Date Analyzed:	07/02/24	Data File:	070234.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	79	128
Toluene-d8	100	84	121
4-Bromofluorobenzene	102	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0044
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB8-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-34 1/0.5
Date Analyzed:	07/02/24	Data File:	070235.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	79	128
Toluene-d8	100	84	121
4-Bromofluorobenzene	102	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0022
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SBDUP2-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-35 1/0.5
Date Analyzed:	07/02/24	Data File:	070236.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	79	128
Toluene-d8	101	84	121
4-Bromofluorobenzene	102	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0022
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0093
o-Xylene	0.0021

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB8-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-36 1/0.5
Date Analyzed:	07/02/24	Data File:	070237.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	79	128
Toluene-d8	100	84	121
4-Bromofluorobenzene	102	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB8-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-37 1/0.5
Date Analyzed:	07/02/24	Data File:	070238.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	79	128
Toluene-d8	101	84	121
4-Bromofluorobenzene	101	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0045
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB8-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-38 1/0.5
Date Analyzed:	07/02/24	Data File:	070239.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	79	128
Toluene-d8	101	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0069
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB9-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-39 1/5
Date Analyzed:	07/05/24	Data File:	070511.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	84	120
Toluene-d8	104	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.02
Chloroform	<0.06 j
Benzene	<0.02
Toluene	<0.02
Tetrachloroethene	<0.02
Chlorobenzene	<0.5
Ethylbenzene	<0.02
m,p-Xylene	<0.04
o-Xylene	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB9-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-40 1/0.5
Date Analyzed:	07/02/24	Data File:	070240.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	79	128
Toluene-d8	98	84	121
4-Bromofluorobenzene	103	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0041
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.0037
m,p-Xylene	0.0096
o-Xylene	0.0025

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB9-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-41 1/0.5
Date Analyzed:	07/02/24	Data File:	070226.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB9-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-42 1/0.5
Date Analyzed:	07/02/24	Data File:	070227.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0020
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0081
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SBDUP-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-43 1/0.5
Date Analyzed:	07/02/24	Data File:	070228.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	84	120
Toluene-d8	92	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB11-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-44 1/0.5
Date Analyzed:	07/02/24	Data File:	070229.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB11-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-45 1/5
Date Analyzed:	07/03/24	Data File:	070311.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	79	128
Toluene-d8	106	84	121
4-Bromofluorobenzene	109	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.02
Chloroform	<0.06 j
Benzene	<0.02
Toluene	<0.02
Tetrachloroethene	<0.02
Chlorobenzene	<0.5
Ethylbenzene	<0.02
m,p-Xylene	<0.04
o-Xylene	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB11-S-12.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-46 1/0.5
Date Analyzed:	07/02/24	Data File:	070230.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	92	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0021
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0052
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB11-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-47 1/0.5
Date Analyzed:	07/02/24	Data File:	070231.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	84	120
Toluene-d8	92	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0046
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB10-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-48 1/0.5
Date Analyzed:	07/02/24	Data File:	070232.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	102	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0028
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.0066
m,p-Xylene	0.033
o-Xylene	0.0082

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SBDUP-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-49 1/5
Date Analyzed:	07/03/24	Data File:	070312.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	79	128
Toluene-d8	103	84	121
4-Bromofluorobenzene	107	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.02
Chloroform	<0.06 j
Benzene	<0.02
Toluene	<0.02
Tetrachloroethene	<0.02
Chlorobenzene	<0.5
Ethylbenzene	<0.02
m,p-Xylene	<0.04
o-Xylene	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB10-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-50 1/5
Date Analyzed:	07/03/24	Data File:	070313.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	79	128
Toluene-d8	102	84	121
4-Bromofluorobenzene	102	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.02
Chloroform	<0.06 j
Benzene	<0.02
Toluene	0.025
Tetrachloroethene	<0.02
Chlorobenzene	<0.5
Ethylbenzene	<0.02
m,p-Xylene	<0.04
o-Xylene	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB10-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-51 1/0.5
Date Analyzed:	07/02/24	Data File:	070233.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	84	120
Toluene-d8	91	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB10-S-15.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-52 1/0.5
Date Analyzed:	07/02/24	Data File:	070234.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB13-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-53 1/0.5
Date Analyzed:	07/02/24	Data File:	070235.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	84	120
Toluene-d8	102	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.0069
m,p-Xylene	0.035
o-Xylene	0.0094

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB13-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-54 1/5
Date Analyzed:	07/03/24	Data File:	070314.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	79	128
Toluene-d8	99	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.02
Chloroform	<0.06 j
Benzene	<0.02
Toluene	0.021
Tetrachloroethene	<0.02
Chlorobenzene	<0.5
Ethylbenzene	<0.02
m,p-Xylene	<0.04
o-Xylene	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB13-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-55 1/0.5
Date Analyzed:	07/02/24	Data File:	070236.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0063
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB13-S-11.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-56 1/0.5
Date Analyzed:	07/03/24	Data File:	070318.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	79	128
Toluene-d8	103	84	121
4-Bromofluorobenzene	104	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0048 j
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB12-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-57 1/0.5
Date Analyzed:	07/03/24	Data File:	070319.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	79	128
Toluene-d8	102	84	121
4-Bromofluorobenzene	107	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB12-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-58 1/0.5
Date Analyzed:	07/03/24	Data File:	070320.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	79	128
Toluene-d8	103	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SBDUP2-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-59 1/0.5
Date Analyzed:	07/03/24	Data File:	070321.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	79	128
Toluene-d8	106	84	121
4-Bromofluorobenzene	107	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0027
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB12-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-60 1/0.5
Date Analyzed:	07/03/24	Data File:	070327.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	79	128
Toluene-d8	97	84	121
4-Bromofluorobenzene	104	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB12-S-16.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-61 1/0.5
Date Analyzed:	07/03/24	Data File:	070328.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	79	128
Toluene-d8	99	84	121
4-Bromofluorobenzene	107	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0030
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB17-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-62 1/0.5
Date Analyzed:	07/03/24	Data File:	070329.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	79	128
Toluene-d8	100	84	121
4-Bromofluorobenzene	104	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0080
o-Xylene	0.0021

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB17-S-9.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-63 1/0.5
Date Analyzed:	07/03/24	Data File:	070330.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	79	128
Toluene-d8	95	84	121
4-Bromofluorobenzene	106	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB17-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-64 1/0.5
Date Analyzed:	07/03/24	Data File:	070331.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	79	128
Toluene-d8	99	84	121
4-Bromofluorobenzene	102	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0044
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB15-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-65 1/5
Date Analyzed:	07/03/24	Data File:	070316.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	79	128
Toluene-d8	103	84	121
4-Bromofluorobenzene	106	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.02
Chloroform	<0.06 j
Benzene	<0.02
Toluene	<0.02
Tetrachloroethene	<0.02
Chlorobenzene	<0.5
Ethylbenzene	<0.02
m,p-Xylene	<0.04
o-Xylene	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB15-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-66 1/5
Date Analyzed:	07/03/24	Data File:	070317.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	79	128
Toluene-d8	101	84	121
4-Bromofluorobenzene	106	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.04
Chloroform	<0.12 j
Benzene	<0.04
Toluene	0.078
Tetrachloroethene	<0.04
Chlorobenzene	<1
Ethylbenzene	<0.04
m,p-Xylene	<0.08
o-Xylene	<0.04

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB15-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-67 1/0.5
Date Analyzed:	07/03/24	Data File:	070332.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	79	128
Toluene-d8	97	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0066
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB15-S-15.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-68 1/0.5
Date Analyzed:	07/03/24	Data File:	070333.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	79	128
Toluene-d8	99	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	0.0020
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.011
o-Xylene	0.0027

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	04-1471 mb 1/0.5
Date Analyzed:	07/02/24	Data File:	070206.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	04-1473 mb 1/0.5
Date Analyzed:	07/02/24	Data File:	070207.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	04-1475 mb 1/0.5
Date Analyzed:	07/02/24	Data File:	070225.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	84	120
Toluene-d8	96	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	04-1479 mb 1/0.5
Date Analyzed:	07/03/24	Data File:	070307.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	79	128
Toluene-d8	101	84	121
4-Bromofluorobenzene	105	84	116

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.006 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB1-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-01 1/10
Date Analyzed:	07/06/24	Data File:	070614.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64 d	10	198
2-Fluorobiphenyl	71 d	45	117
2,4,6-Tribromophenol	99 d	11	158
Terphenyl-d14	85 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	0.010
Anthracene	<0.005
Fluoranthene	0.017
Pyrene	0.016
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	0.0091
Benzo(a)pyrene	0.0085
Benzo(b)fluoranthene	0.014
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB1-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-02 1/10
Date Analyzed:	07/06/24	Data File:	070615.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	66 d	10	198
2-Fluorobiphenyl	76 d	45	117
2,4,6-Tribromophenol	95 d	11	158
Terphenyl-d14	121 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	0.013
Anthracene	<0.005
Fluoranthene	0.020
Pyrene	0.037
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	0.011
Chrysene	0.010
Benzo(a)pyrene	0.011
Benzo(b)fluoranthene	0.017
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB1-S-8.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-03
Date Analyzed:	07/05/24	Data File:	070508.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64	16	137
2-Fluorobiphenyl	73	46	122
2,4,6-Tribromophenol	81	17	154
Terphenyl-d14	85	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00052
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB1-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-04
Date Analyzed:	07/05/24	Data File:	070512.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	51	16	137
2-Fluorobiphenyl	54	46	122
2,4,6-Tribromophenol	74	17	154
Terphenyl-d14	78	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB2-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-05 1/10
Date Analyzed:	07/06/24	Data File:	070616.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	61 d	10	198
2-Fluorobiphenyl	70 d	45	117
2,4,6-Tribromophenol	98 d	11	158
Terphenyl-d14	78 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	0.0080
Anthracene	<0.005
Fluoranthene	0.012
Pyrene	0.011
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	0.0067
Benzo(a)pyrene	0.0065
Benzo(b)fluoranthene	0.010
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB2-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-06
Date Analyzed:	07/05/24	Data File:	070513.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	65	16	137
2-Fluorobiphenyl	77	46	122
2,4,6-Tribromophenol	90	17	154
Terphenyl-d14	86	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0022
2-Methylnaphthalene	0.00053
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0020
Anthracene	<0.0005
Fluoranthene	0.0016
Pyrene	0.0010
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	0.00066
Benzo(a)pyrene	0.00059
Benzo(b)fluoranthene	0.00099
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	0.0011
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB2-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-07
Date Analyzed:	07/05/24	Data File:	070514.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	71	16	137
2-Fluorobiphenyl	81	46	122
2,4,6-Tribromophenol	96	17	154
Terphenyl-d14	93	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB2-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-08
Date Analyzed:	07/05/24	Data File:	070524.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	77	16	137
2-Fluorobiphenyl	86	46	122
2,4,6-Tribromophenol	86	17	154
Terphenyl-d14	94	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB16-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-09
Date Analyzed:	07/05/24	Data File:	070525.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	81	16	137
2-Fluorobiphenyl	87	46	122
2,4,6-Tribromophenol	89	17	154
Terphenyl-d14	91	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0012
2-Methylnaphthalene	0.0022
1-Methylnaphthalene	0.0020
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.00054
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0028
Anthracene	<0.0005
Fluoranthene	0.0033
Pyrene	0.0033
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	0.0015
Chrysene	0.0018
Benzo(a)pyrene	0.0015
Benzo(b)fluoranthene	0.0022
Benzo(k)fluoranthene	0.00070
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	0.0010
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB16-S-3.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-10
Date Analyzed:	07/05/24	Data File:	070526.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	70	16	137
2-Fluorobiphenyl	76	46	122
2,4,6-Tribromophenol	84	17	154
Terphenyl-d14	79	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0063
2-Methylnaphthalene	0.0037
1-Methylnaphthalene	0.0027
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.0029
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.016
Anthracene	0.00099
Fluoranthene	0.017
Pyrene	0.012
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	0.0035
Chrysene	0.0097
Benzo(a)pyrene	0.0042
Benzo(b)fluoranthene	0.012
Benzo(k)fluoranthene	0.0034
Indeno(1,2,3-cd)pyrene	0.0035
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	0.0038
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB16-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-11
Date Analyzed:	07/05/24	Data File:	070527.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	65	16	137
2-Fluorobiphenyl	72	46	122
2,4,6-Tribromophenol	83	17	154
Terphenyl-d14	84	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0045
2-Methylnaphthalene	0.0036
1-Methylnaphthalene	0.0028
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.0022
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0094
Anthracene	0.00056
Fluoranthene	0.0092
Pyrene	0.0066
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	0.0024
Chrysene	0.0059
Benzo(a)pyrene	0.0034
Benzo(b)fluoranthene	0.0090
Benzo(k)fluoranthene	0.0025
Indeno(1,2,3-cd)pyrene	0.0027
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	0.0028
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB16-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-12
Date Analyzed:	07/05/24	Data File:	070528.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	65	16	137
2-Fluorobiphenyl	75	46	122
2,4,6-Tribromophenol	86	17	154
Terphenyl-d14	87	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0027
2-Methylnaphthalene	0.0030
1-Methylnaphthalene	0.0025
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.0012
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0042
Anthracene	<0.0005
Fluoranthene	0.0039
Pyrene	0.0031
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	0.0013
Chrysene	0.0024
Benzo(a)pyrene	0.0014
Benzo(b)fluoranthene	0.0030
Benzo(k)fluoranthene	0.00089
Indeno(1,2,3-cd)pyrene	0.0012
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	0.0015
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB5-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-13 1/10
Date Analyzed:	07/06/24	Data File:	070617.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	59 d	10	198
2-Fluorobiphenyl	65 d	45	117
2,4,6-Tribromophenol	90 d	11	158
Terphenyl-d14	74 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
Pyrene	<0.005
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	0.0051
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB5-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-14 1/10
Date Analyzed:	07/06/24	Data File:	070618.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	69 d	10	198
2-Fluorobiphenyl	73 d	45	117
2,4,6-Tribromophenol	101 d	11	158
Terphenyl-d14	79 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	0.0057
Pyrene	0.0076
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	0.0054
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB5-S-9.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-15
Date Analyzed:	07/05/24	Data File:	070529.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	79	16	137
2-Fluorobiphenyl	84	46	122
2,4,6-Tribromophenol	91	17	154
Terphenyl-d14	84	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0031
2-Methylnaphthalene	0.0038
1-Methylnaphthalene	0.0033
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.0011
Fluorene	0.00070
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0050
Anthracene	0.00057
Fluoranthene	0.0055
Pyrene	0.0057
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	0.0020
Chrysene	0.0029
Benzo(a)pyrene	0.0026
Benzo(b)fluoranthene	0.0032
Benzo(k)fluoranthene	0.0010
Indeno(1,2,3-cd)pyrene	0.0016
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	0.0017
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB5-S-15.7	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-16
Date Analyzed:	07/05/24	Data File:	070530.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	71	16	137
2-Fluorobiphenyl	80	46	122
2,4,6-Tribromophenol	89	17	154
Terphenyl-d14	84	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0010
2-Methylnaphthalene	0.0012
1-Methylnaphthalene	0.00097
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.00054
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0013
Anthracene	<0.0005
Fluoranthene	0.0010
Pyrene	0.00096
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	0.00050
Benzo(a)pyrene	0.00061
Benzo(b)fluoranthene	0.00085
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB4-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-17
Date Analyzed:	07/05/24	Data File:	070531.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	71	16	137
2-Fluorobiphenyl	78	46	122
2,4,6-Tribromophenol	81	17	154
Terphenyl-d14	86	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00054
Anthracene	<0.0005
Fluoranthene	0.00065
Pyrene	0.00075
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	0.00059
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.0012
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB4-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-18 1/10
Date Analyzed:	07/06/24	Data File:	070619.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	72 d	10	198
2-Fluorobiphenyl	74 d	45	117
2,4,6-Tribromophenol	105 d	11	158
Terphenyl-d14	81 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<2
1,2,4-Trichlorobenzene	<0.2
Naphthalene	0.020
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Dibenzofuran	<0.01
Fluorene	<0.01
N-Nitrosodiphenylamine	<0.2
Phenanthrene	0.018
Anthracene	<0.01
Fluoranthene	0.015
Pyrene	0.029
3,3'-Dichlorobenzidine	<2
Benz(a)anthracene	<0.02
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	0.011
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02
Pentachlorophenol	<0.2 j
Benzyl butyl phthalate	<0.3 j
Bis(2-ethylhexyl) phthalate	<0.4 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB4-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-19
Date Analyzed:	07/05/24	Data File:	070532.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	79	16	137
2-Fluorobiphenyl	87	46	122
2,4,6-Tribromophenol	97	17	154
Terphenyl-d14	88	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00086
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB4-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-20
Date Analyzed:	07/06/24	Data File:	070609.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64	16	137
2-Fluorobiphenyl	72	46	122
2,4,6-Tribromophenol	83	17	154
Terphenyl-d14	82	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00074
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB3-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-21 1/10
Date Analyzed:	07/06/24	Data File:	070607.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	68 d	10	198
2-Fluorobiphenyl	76 d	45	117
2,4,6-Tribromophenol	90 d	11	158
Terphenyl-d14	80 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	0.010
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	0.021
Anthracene	<0.005
Fluoranthene	0.046
Pyrene	0.044
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	0.026
Chrysene	0.031
Benzo(a)pyrene	0.036
Benzo(b)fluoranthene	0.040
Benzo(k)fluoranthene	0.014
Indeno(1,2,3-cd)pyrene	0.023
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.024
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB3-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-22 1/10
Date Analyzed:	07/06/24	Data File:	070608.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	71 d	10	198
2-Fluorobiphenyl	70 d	45	117
2,4,6-Tribromophenol	98 d	11	158
Terphenyl-d14	77 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<2
1,2,4-Trichlorobenzene	<0.2
Naphthalene	0.034
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	0.015
Acenaphthene	<0.01
Dibenzofuran	<0.01
Fluorene	<0.01
N-Nitrosodiphenylamine	<0.2
Phenanthrene	0.094
Anthracene	0.013
Fluoranthene	0.12
Pyrene	0.12
3,3'-Dichlorobenzidine	<2
Benz(a)anthracene	0.041
Chrysene	0.056
Benzo(a)pyrene	0.056
Benzo(b)fluoranthene	0.067
Benzo(k)fluoranthene	0.024
Indeno(1,2,3-cd)pyrene	0.035
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	0.037
Pentachlorophenol	<0.2 j
Benzyl butyl phthalate	<0.3 j
Bis(2-ethylhexyl) phthalate	<0.4 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB3-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-23
Date Analyzed:	07/06/24	Data File:	070610.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	81	16	137
2-Fluorobiphenyl	82	46	122
2,4,6-Tribromophenol	93	17	154
Terphenyl-d14	83	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0024
2-Methylnaphthalene	0.0032
1-Methylnaphthalene	0.0027
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.00070
Fluorene	0.00096
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0035
Anthracene	<0.0005
Fluoranthene	0.00073
Pyrene	0.00087
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.00053
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB3-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-24
Date Analyzed:	07/05/24	Data File:	070509.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	90	16	137
2-Fluorobiphenyl	93	46	122
2,4,6-Tribromophenol	102	17	154
Terphenyl-d14	97	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB6-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-25 1/10
Date Analyzed:	07/06/24	Data File:	070609.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64 d	10	198
2-Fluorobiphenyl	70 d	45	117
2,4,6-Tribromophenol	90 d	11	158
Terphenyl-d14	71 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
Pyrene	0.0058
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB6-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-26 1/10
Date Analyzed:	07/06/24	Data File:	070610.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	76 d	10	198
2-Fluorobiphenyl	86 d	45	117
2,4,6-Tribromophenol	107 d	11	158
Terphenyl-d14	90 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<2
1,2,4-Trichlorobenzene	<0.2
Naphthalene	<0.02
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Dibenzofuran	<0.01
Fluorene	<0.01
N-Nitrosodiphenylamine	<0.2
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
3,3'-Dichlorobenzidine	<2
Benz(a)anthracene	<0.02
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02
Pentachlorophenol	<0.2 j
Benzyl butyl phthalate	<0.3 j
Bis(2-ethylhexyl) phthalate	<0.4 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SBDUP-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-27 1/10
Date Analyzed:	07/06/24	Data File:	070611.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	57 d	10	198
2-Fluorobiphenyl	67 d	45	117
2,4,6-Tribromophenol	97 d	11	158
Terphenyl-d14	75 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<2
1,2,4-Trichlorobenzene	<0.2
Naphthalene	<0.02
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Dibenzofuran	<0.01
Fluorene	<0.01
N-Nitrosodiphenylamine	<0.2
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
3,3'-Dichlorobenzidine	<2
Benz(a)anthracene	<0.02
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02
Pentachlorophenol	<0.2 j
Benzyl butyl phthalate	<0.3 j
Bis(2-ethylhexyl) phthalate	<0.4 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB6-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-28
Date Analyzed:	07/08/24	Data File:	070807.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	71	16	137
2-Fluorobiphenyl	82	46	122
2,4,6-Tribromophenol	85	17	154
Terphenyl-d14	86	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00093
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB6-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-29
Date Analyzed:	07/08/24	Data File:	070808.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	66	16	137
2-Fluorobiphenyl	75	46	122
2,4,6-Tribromophenol	88	17	154
Terphenyl-d14	85	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB7-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-30
Date Analyzed:	07/08/24	Data File:	070809.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	66	16	137
2-Fluorobiphenyl	71	46	122
2,4,6-Tribromophenol	61	17	154
Terphenyl-d14	85	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	0.00058
Pyrene	0.00095
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	0.00051
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.00074
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB7-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-31 1/10
Date Analyzed:	07/06/24	Data File:	070612.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	69 d	10	198
2-Fluorobiphenyl	73 d	45	117
2,4,6-Tribromophenol	104 d	11	158
Terphenyl-d14	83 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<2
1,2,4-Trichlorobenzene	<0.2
Naphthalene	<0.02
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Dibenzofuran	<0.01
Fluorene	<0.01
N-Nitrosodiphenylamine	<0.2
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
3,3'-Dichlorobenzidine	<2
Benz(a)anthracene	<0.02
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02
Pentachlorophenol	<0.2 j
Benzyl butyl phthalate	<0.3 j
Bis(2-ethylhexyl) phthalate	<0.4 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB7-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-32
Date Analyzed:	07/08/24	Data File:	070810.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	77	16	137
2-Fluorobiphenyl	80	46	122
2,4,6-Tribromophenol	96	17	154
Terphenyl-d14	93	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0010
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB7-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-33
Date Analyzed:	07/08/24	Data File:	070820.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	53	16	137
2-Fluorobiphenyl	64	46	122
2,4,6-Tribromophenol	88	17	154
Terphenyl-d14	82	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.00053
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0011
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB8-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-34 1/10
Date Analyzed:	07/06/24	Data File:	070613.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	50 d	10	198
2-Fluorobiphenyl	57 d	45	117
2,4,6-Tribromophenol	76 d	11	158
Terphenyl-d14	63 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	0.0080
Anthracene	<0.005
Fluoranthene	0.0077
Pyrene	0.0079
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	0.0061
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SBDUP2-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-35
Date Analyzed:	07/08/24	Data File:	070821.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	30	16	137
2-Fluorobiphenyl	53	46	122
2,4,6-Tribromophenol	82	17	154
Terphenyl-d14	83	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00090
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB8-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-36
Date Analyzed:	07/08/24	Data File:	070813.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	47	16	137
2-Fluorobiphenyl	61	46	122
2,4,6-Tribromophenol	80	17	154
Terphenyl-d14	93	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00088
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB8-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-37
Date Analyzed:	07/08/24	Data File:	070810.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	43	10	198
2-Fluorobiphenyl	56	45	117
2,4,6-Tribromophenol	81	11	158
Terphenyl-d14	87	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00057
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB8-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-38
Date Analyzed:	07/08/24	Data File:	070811.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	69	10	198
2-Fluorobiphenyl	70	45	117
2,4,6-Tribromophenol	72	11	158
Terphenyl-d14	80	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB9-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-39 1/10
Date Analyzed:	07/08/24	Data File:	070814.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	55 d	16	137
2-Fluorobiphenyl	60 d	46	122
2,4,6-Tribromophenol	55 d	17	154
Terphenyl-d14	66 d	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	0.0072
Anthracene	<0.005
Fluoranthene	0.0060
Pyrene	0.0055
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	0.0050
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB9-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	406447-40
Date Analyzed:	07/08/24	Data File:	070812.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64	10	198
2-Fluorobiphenyl	73	45	117
2,4,6-Tribromophenol	85	11	158
Terphenyl-d14	83	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0036
2-Methylnaphthalene	0.0034
1-Methylnaphthalene	0.0028
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.00097
Fluorene	0.0010
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0045
Anthracene	<0.0005
Fluoranthene	0.0031
Pyrene	0.0023
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	0.0012
Chrysene	0.0014
Benzo(a)pyrene	0.00086
Benzo(b)fluoranthene	0.0016
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB9-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-41
Date Analyzed:	07/06/24	Data File:	070539.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	78	10	198
2-Fluorobiphenyl	83	45	117
2,4,6-Tribromophenol	90	11	158
Terphenyl-d14	95	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB9-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-42
Date Analyzed:	07/06/24	Data File:	070541.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	66	10	198
2-Fluorobiphenyl	72	45	117
2,4,6-Tribromophenol	84	11	158
Terphenyl-d14	89	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00067
Anthracene	<0.0005
Fluoranthene	0.00073
Pyrene	0.00087
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SBDUP-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-43
Date Analyzed:	07/06/24	Data File:	070542.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	67	10	198
2-Fluorobiphenyl	75	45	117
2,4,6-Tribromophenol	84	11	158
Terphenyl-d14	87	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00066
Anthracene	<0.0005
Fluoranthene	0.00064
Pyrene	0.00059
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.00050
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB11-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-44
Date Analyzed:	07/06/24	Data File:	070543.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64	10	198
2-Fluorobiphenyl	78	45	117
2,4,6-Tribromophenol	86	11	158
Terphenyl-d14	89	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB11-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-45 1/10
Date Analyzed:	07/07/24	Data File:	070620.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	66 d	10	198
2-Fluorobiphenyl	71 d	45	117
2,4,6-Tribromophenol	98 d	11	158
Terphenyl-d14	79 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	0.0075
Anthracene	<0.005
Fluoranthene	0.0067
Pyrene	0.017
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB11-S-12.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-46
Date Analyzed:	07/06/24	Data File:	070544.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	83	10	198
2-Fluorobiphenyl	94	45	117
2,4,6-Tribromophenol	101	11	158
Terphenyl-d14	107	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	0.00064
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB11-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-47
Date Analyzed:	07/06/24	Data File:	070545.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	67	10	198
2-Fluorobiphenyl	76	45	117
2,4,6-Tribromophenol	88	11	158
Terphenyl-d14	91	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0011
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB10-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-48
Date Analyzed:	07/06/24	Data File:	070546.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	54	10	198
2-Fluorobiphenyl	74	45	117
2,4,6-Tribromophenol	82	11	158
Terphenyl-d14	89	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0010
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00063
Anthracene	<0.0005
Fluoranthene	0.00079
Pyrene	0.00059
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.00067
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	0.028 j jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SBDUP-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-49 1/10
Date Analyzed:	07/07/24	Data File:	070621.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	59 d	10	198
2-Fluorobiphenyl	67 d	45	117
2,4,6-Tribromophenol	93 d	11	158
Terphenyl-d14	78 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	0.0065
Anthracene	<0.005
Fluoranthene	0.011
Pyrene	0.011
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	0.0053
Benzo(a)pyrene	0.0057
Benzo(b)fluoranthene	0.0090
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB10-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-50 1/10
Date Analyzed:	07/07/24	Data File:	070622.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	55 d	10	198
2-Fluorobiphenyl	61 d	45	117
2,4,6-Tribromophenol	95 d	11	158
Terphenyl-d14	80 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	0.0063
Pyrene	<0.005
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	0.0056
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB10-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-51
Date Analyzed:	07/06/24	Data File:	070547.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	55	10	198
2-Fluorobiphenyl	68	45	117
2,4,6-Tribromophenol	84	11	158
Terphenyl-d14	89	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00061
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB10-S-15.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-52
Date Analyzed:	07/06/24	Data File:	070548.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	56	10	198
2-Fluorobiphenyl	71	45	117
2,4,6-Tribromophenol	91	11	158
Terphenyl-d14	97	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00070
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB13-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-53
Date Analyzed:	07/06/24	Data File:	070549.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	70	10	198
2-Fluorobiphenyl	85	45	117
2,4,6-Tribromophenol	92	11	158
Terphenyl-d14	96	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0027
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0012
Anthracene	<0.0005
Fluoranthene	0.0020
Pyrene	0.0018
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	0.0019
Benzo(a)pyrene	0.00091
Benzo(b)fluoranthene	0.0018
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	0.0015
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB13-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-54 1/10
Date Analyzed:	07/07/24	Data File:	070623.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	53 d	10	198
2-Fluorobiphenyl	59 d	45	117
2,4,6-Tribromophenol	100 d	11	158
Terphenyl-d14	66 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	0.010
1-Methylnaphthalene	0.022
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	0.040
Anthracene	<0.005
Fluoranthene	0.013
Pyrene	0.027
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB13-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-55
Date Analyzed:	07/06/24	Data File:	070536.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	76	16	137
2-Fluorobiphenyl	79	46	122
2,4,6-Tribromophenol	92	17	154
Terphenyl-d14	88	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.00090
1-Methylnaphthalene	0.00076
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0018
Anthracene	<0.0005
Fluoranthene	0.00073
Pyrene	0.00078
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.00071
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB13-S-11.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-56
Date Analyzed:	07/06/24	Data File:	070537.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	51	16	137
2-Fluorobiphenyl	72	46	122
2,4,6-Tribromophenol	92	17	154
Terphenyl-d14	87	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00051
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB12-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-57
Date Analyzed:	07/06/24	Data File:	070538.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	71	16	137
2-Fluorobiphenyl	78	46	122
2,4,6-Tribromophenol	88	17	154
Terphenyl-d14	92	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	0.00051
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.00054
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB12-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-58
Date Analyzed:	07/06/24	Data File:	070539.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	76	16	137
2-Fluorobiphenyl	85	46	122
2,4,6-Tribromophenol	100	17	154
Terphenyl-d14	98	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.00096
1-Methylnaphthalene	0.00077
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0013
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SBDUP2-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-59
Date Analyzed:	07/06/24	Data File:	070540.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	85	16	137
2-Fluorobiphenyl	94	46	122
2,4,6-Tribromophenol	106	17	154
Terphenyl-d14	99	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.0012
1-Methylnaphthalene	0.0011
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0016
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB12-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-60
Date Analyzed:	07/06/24	Data File:	070541.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	68	16	137
2-Fluorobiphenyl	78	46	122
2,4,6-Tribromophenol	94	17	154
Terphenyl-d14	94	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB12-S-16.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-61
Date Analyzed:	07/06/24	Data File:	070540.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	36	10	198
2-Fluorobiphenyl	48	45	117
2,4,6-Tribromophenol	95	11	158
Terphenyl-d14	100	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00076
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	0.00082
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB17-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-62
Date Analyzed:	07/05/24	Data File:	070533.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	58	16	137
2-Fluorobiphenyl	81	46	122
2,4,6-Tribromophenol	100	17	154
Terphenyl-d14	94	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0016
2-Methylnaphthalene	0.0014
1-Methylnaphthalene	0.0010
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0018
Anthracene	<0.0005
Fluoranthene	0.00088
Pyrene	0.00076
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.00061
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	2.3 ve

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB17-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-62 1/10
Date Analyzed:	07/08/24	Data File:	070816.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2,4,6-Tribromophenol	83 d	17	154
Terphenyl-d14	80 d	31	167

Compounds:	Concentration mg/kg (ppm)
Bis(2-ethylhexyl) phthalate	3.2

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB17-S-9.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-63
Date Analyzed:	07/08/24	Data File:	070818.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	52	16	137
2-Fluorobiphenyl	66	46	122
2,4,6-Tribromophenol	82	17	154
Terphenyl-d14	81	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.00055
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0010
Anthracene	<0.0005
Fluoranthene	0.00068
Pyrene	0.00059
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.00054
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	0.028 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB17-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-64
Date Analyzed:	07/06/24	Data File:	070535.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	76	16	137
2-Fluorobiphenyl	88	46	122
2,4,6-Tribromophenol	95	17	154
Terphenyl-d14	99	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00053
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB15-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-65 1/10
Date Analyzed:	07/07/24	Data File:	070624.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	60 d	10	198
2-Fluorobiphenyl	67 d	45	117
2,4,6-Tribromophenol	96 d	11	158
Terphenyl-d14	89 d	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
N-Nitrosodiphenylamine	<0.1
Phenanthrene	0.0099
Anthracene	<0.005
Fluoranthene	0.012
Pyrene	0.015
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	0.0061
Benzo(a)pyrene	0.0095
Benzo(b)fluoranthene	0.015
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB15-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-66 1/10
Date Analyzed:	07/08/24	Data File:	070815.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64 d	16	137
2-Fluorobiphenyl	70 d	46	122
2,4,6-Tribromophenol	79 d	17	154
Terphenyl-d14	72 d	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<2
1,2,4-Trichlorobenzene	<0.2
Naphthalene	0.027
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Dibenzofuran	<0.01
Fluorene	<0.01
N-Nitrosodiphenylamine	<0.2
Phenanthrene	0.024
Anthracene	<0.01
Fluoranthene	0.020
Pyrene	0.018
3,3'-Dichlorobenzidine	<2
Benz(a)anthracene	<0.02
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	0.017
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02
Pentachlorophenol	<0.2 j
Benzyl butyl phthalate	<0.3 j
Bis(2-ethylhexyl) phthalate	<0.4 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB15-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-67
Date Analyzed:	07/06/24	Data File:	070607.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	75	16	137
2-Fluorobiphenyl	77	46	122
2,4,6-Tribromophenol	81	17	154
Terphenyl-d14	79	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0010
2-Methylnaphthalene	0.00058
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.0010
Anthracene	<0.0005
Fluoranthene	0.00061
Pyrene	0.00068
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB15-S-15.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-68
Date Analyzed:	07/06/24	Data File:	070608.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	66	16	137
2-Fluorobiphenyl	77	46	122
2,4,6-Tribromophenol	99	17	154
Terphenyl-d14	91	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	0.00073
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	04-1550 mb
Date Analyzed:	07/05/24	Data File:	070506.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	88	16	137
2-Fluorobiphenyl	95	46	122
2,4,6-Tribromophenol	99	17	154
Terphenyl-d14	100	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/03/24	Lab ID:	04-1551 mb
Date Analyzed:	07/05/24	Data File:	070505.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	91	16	137
2-Fluorobiphenyl	95	46	122
2,4,6-Tribromophenol	97	17	154
Terphenyl-d14	99	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	04-1552 mb
Date Analyzed:	07/06/24	Data File:	070537.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	85	10	198
2-Fluorobiphenyl	89	45	117
2,4,6-Tribromophenol	86	11	158
Terphenyl-d14	105	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	04-1553 mb
Date Analyzed:	07/06/24	Data File:	070538.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	77	10	198
2-Fluorobiphenyl	89	45	117
2,4,6-Tribromophenol	96	11	158
Terphenyl-d14	111	50	124

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
N-Nitrosodiphenylamine	<0.01
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB1-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-01
Date Analyzed:	07/03/24	Data File:	406447-01.264
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.6
Barium	100
Cadmium	0.52
Lead	10

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB1-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-01 x5
Date Analyzed:	07/03/24	Data File:	406447-01 x5.270
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	13
Copper	<25
Zinc	52

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB1-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-01 x20
Date Analyzed:	07/03/24	Data File:	406447-01 x20.204
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	610

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB1-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-02
Date Analyzed:	07/03/24	Data File:	406447-02.273
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.4
Barium	99
Cadmium	0.53
Lead	10

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB1-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-02 x5
Date Analyzed:	07/03/24	Data File:	406447-02 x5.209
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	14
Copper	<25
Manganese	770
Zinc	50

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB1-S-8.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-03
Date Analyzed:	07/03/24	Data File:	406447-03.274
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.5
Barium	44
Cadmium	<0.5
Lead	1.6

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB1-S-8.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-03 x5
Date Analyzed:	07/03/24	Data File:	406447-03 x5.228
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	12
Copper	<25
Manganese	230
Zinc	30

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB1-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-04
Date Analyzed:	07/03/24	Data File:	406447-04.275
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.1
Barium	35
Cadmium	<0.5
Lead	4.6

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB1-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-04 x5
Date Analyzed:	07/03/24	Data File:	406447-04 x5.229
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	12
Copper	<25
Manganese	220
Zinc	29

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB2-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-05
Date Analyzed:	07/03/24	Data File:	406447-05.276
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.2
Barium	120
Cadmium	0.51
Lead	13

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB2-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-05 x5
Date Analyzed:	07/03/24	Data File:	406447-05 x5.230
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	11
Copper	<25
Manganese	780
Zinc	61

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB2-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-06
Date Analyzed:	07/03/24	Data File:	406447-06.277
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.7
Barium	36
Cadmium	<0.5
Lead	2.8

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB2-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-06 x5
Date Analyzed:	07/03/24	Data File:	406447-06 x5.231
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	15
Copper	<25
Manganese	230
Zinc	33

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB2-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-07
Date Analyzed:	07/03/24	Data File:	406447-07.312
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.9
Barium	43
Cadmium	<0.5
Lead	2.2

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB2-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-07 x5
Date Analyzed:	07/03/24	Data File:	406447-07 x5.232
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	9.2
Copper	<25
Manganese	230
Zinc	32

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB2-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-08
Date Analyzed:	07/03/24	Data File:	406447-08.313
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.7
Barium	45
Cadmium	<0.5
Lead	1.9

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB2-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-08 x5
Date Analyzed:	07/03/24	Data File:	406447-08 x5.233
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	7.6
Copper	<25
Manganese	180
Zinc	30

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB16-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-09
Date Analyzed:	07/03/24	Data File:	406447-09.314
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.0
Barium	50
Cadmium	<0.5
Lead	5.0

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB16-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-09 x5
Date Analyzed:	07/03/24	Data File:	406447-09 x5.234
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	11
Copper	<25
Manganese	250
Zinc	33

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB16-S-3.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-10
Date Analyzed:	07/03/24	Data File:	406447-10.318
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.4
Barium	47
Cadmium	<0.5
Lead	5.4

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB16-S-3.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-10 x5
Date Analyzed:	07/03/24	Data File:	406447-10 x5.235
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	11
Copper	<25
Manganese	240
Zinc	30

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB16-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-11
Date Analyzed:	07/03/24	Data File:	406447-11.319
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.8
Barium	47
Cadmium	<0.5
Lead	4.3

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB16-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-11 x5
Date Analyzed:	07/03/24	Data File:	406447-11 x5.246
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	11
Copper	<25
Manganese	250
Zinc	33

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB16-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-12
Date Analyzed:	07/03/24	Data File:	406447-12.320
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.5
Barium	39
Cadmium	<0.5
Lead	2.8

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB16-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-12 x5
Date Analyzed:	07/03/24	Data File:	406447-12 x5.247
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	11
Copper	<25
Manganese	200
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB5-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-13
Date Analyzed:	07/03/24	Data File:	406447-13.321
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.0
Barium	92
Cadmium	<0.5
Chromium	9.3
Copper	14
Lead	10
Zinc	39

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB5-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-13 x20
Date Analyzed:	07/03/24	Data File:	406447-13 x20.207
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	710

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB5-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-14
Date Analyzed:	07/03/24	Data File:	406447-14.322
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.5
Barium	77
Cadmium	<0.5
Chromium	6.8
Copper	13
Lead	9.5
Zinc	39

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB5-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-14 x5
Date Analyzed:	07/04/24	Data File:	406447-14 x5.307
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	380

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB5-S-9.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-15
Date Analyzed:	07/03/24	Data File:	406447-15.323
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.7
Barium	49
Cadmium	<0.5
Chromium	8.2
Copper	9.5
Lead	3.7
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB5-S-9.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-15 x5
Date Analyzed:	07/04/24	Data File:	406447-15 x5.310
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	230

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB5-S-15.7	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-16
Date Analyzed:	07/03/24	Data File:	406447-16.324
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.2
Barium	35
Cadmium	<0.5
Chromium	6.8
Copper	8.8
Lead	2.6
Zinc	21

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB5-S-15.7	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-16 x5
Date Analyzed:	07/04/24	Data File:	406447-16 x5.311
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	190

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB4-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-17
Date Analyzed:	07/03/24	Data File:	406447-17.325
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.8
Barium	140
Cadmium	0.64
Lead	7.4

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB4-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-17 x5
Date Analyzed:	07/04/24	Data File:	406447-17 x5.312
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	20
Copper	31
Manganese	1,000
Zinc	60

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB4-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-18
Date Analyzed:	07/03/24	Data File:	406447-18.326
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Barium	68
Cadmium	<1
Chromium	5.2
Copper	7.3
Lead	8.5
Zinc	49

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB4-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-18 x5
Date Analyzed:	07/04/24	Data File:	406447-18 x5.313
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	310

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB4-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-19
Date Analyzed:	07/03/24	Data File:	406447-19.327
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.5
Barium	45
Cadmium	<0.5
Chromium	8.4
Copper	8.4
Lead	2.4
Zinc	26

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB4-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-19 x5
Date Analyzed:	07/04/24	Data File:	406447-19 x5.314
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	190

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB4-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-20
Date Analyzed:	07/03/24	Data File:	406447-20.330
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.0
Barium	50
Cadmium	<0.5
Lead	1.7

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB4-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-20 x5
Date Analyzed:	07/04/24	Data File:	406447-20 x5.315
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	10
Copper	<25
Manganese	260
Zinc	39

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB3-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-21
Date Analyzed:	07/03/24	Data File:	406447-21.331
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.8
Barium	62
Cadmium	<0.5
Chromium	7.3
Copper	13
Lead	18
Zinc	47

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB3-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-21 x5
Date Analyzed:	07/03/24	Data File:	406447-21 x5.334
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	100

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB3-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-22
Date Analyzed:	07/03/24	Data File:	406447-22.337
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.9
Barium	66
Cadmium	<1
Chromium	9.2
Copper	14
Lead	20
Zinc	60

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB3-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-22 x5
Date Analyzed:	07/05/24	Data File:	406447-22 x5.039
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	300

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB3-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-23
Date Analyzed:	07/03/24	Data File:	406447-23.338
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.5
Barium	79
Cadmium	<0.5
Chromium	12
Copper	15
Lead	4.1
Zinc	36

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB3-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-23 x5
Date Analyzed:	07/05/24	Data File:	406447-23 x5.040
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	200

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB3-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-24
Date Analyzed:	07/03/24	Data File:	406447-24.339
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	31
Cadmium	<0.5
Chromium	11
Copper	11
Lead	2.0
Zinc	22

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB3-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-24 x5
Date Analyzed:	07/05/24	Data File:	406447-24 x5.041
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	150

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB6-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-25
Date Analyzed:	07/03/24	Data File:	406447-25.342
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.7
Barium	130
Cadmium	<0.5
Chromium	7.8
Copper	15
Lead	12
Zinc	51

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB6-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-25 x10
Date Analyzed:	07/05/24	Data File:	406447-25 x10.042
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	580

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB6-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-26
Date Analyzed:	07/03/24	Data File:	406447-26.343
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Barium	47
Cadmium	<2
Chromium	6.4
Copper	<10
Lead	5.1
Manganese	39
Zinc	41

Analysis For Total Metals By EPA Method 6020B

Client ID:	SBDUP-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-27
Date Analyzed:	07/03/24	Data File:	406447-27.344
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Barium	58
Cadmium	<2
Chromium	8.0
Copper	11
Lead	5.6
Manganese	44
Zinc	52

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB6-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-28
Date Analyzed:	07/03/24	Data File:	406447-28.345
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.0
Barium	48
Cadmium	<0.5
Chromium	8.6
Copper	11
Lead	3.7
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB6-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-28 x5
Date Analyzed:	07/05/24	Data File:	406447-28 x5.043
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	180

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB6-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-29
Date Analyzed:	07/03/24	Data File:	406447-29.346
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.3
Barium	59
Cadmium	<0.5
Chromium	10
Copper	12
Lead	2.5
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB6-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-29 x5
Date Analyzed:	07/05/24	Data File:	406447-29 x5.044
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	180

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB7-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-30
Date Analyzed:	07/03/24	Data File:	406447-30.347
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.6
Barium	110
Cadmium	0.61
Lead	6.2

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB7-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-30 x5
Date Analyzed:	07/05/24	Data File:	406447-30 x5.046
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	20
Copper	27
Manganese	1,000
Zinc	58

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB7-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-31
Date Analyzed:	07/03/24	Data File:	406447-31.348
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Barium	34
Cadmium	<1
Chromium	2.6
Copper	7.6
Lead	8.0
Manganese	75
Zinc	19

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB7-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-32
Date Analyzed:	07/03/24	Data File:	406447-32.349
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	32
Cadmium	<0.5
Chromium	7.9
Copper	8.5
Lead	1.8
Zinc	27

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB7-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-32 x5
Date Analyzed:	07/05/24	Data File:	406447-32 x5.049
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	130

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB7-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-33
Date Analyzed:	07/03/24	Data File:	406447-33.350
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.3
Barium	47
Cadmium	<0.5
Chromium	8.6
Copper	13
Lead	2.5
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB7-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-33 x5
Date Analyzed:	07/05/24	Data File:	406447-33 x5.050
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	180

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB8-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-34
Date Analyzed:	07/03/24	Data File:	406447-34.351
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.6
Barium	85
Cadmium	<0.5
Chromium	7.3
Copper	13
Lead	12
Zinc	44

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB8-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-34 x10
Date Analyzed:	07/05/24	Data File:	406447-34 x10.051
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	380

Analysis For Total Metals By EPA Method 6020B

Client ID:	SBDUP2-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-35
Date Analyzed:	07/03/24	Data File:	406447-35.357
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.6
Barium	44
Cadmium	<0.5
Chromium	6.5
Copper	11
Lead	2.6
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	SBDUP2-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-35 x5
Date Analyzed:	07/05/24	Data File:	406447-35 x5.052
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	190

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB8-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-36
Date Analyzed:	07/03/24	Data File:	406447-36.358
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.3
Barium	40
Cadmium	<0.5
Chromium	6.2
Copper	11
Lead	2.4
Zinc	26

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB8-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-36 x5
Date Analyzed:	07/05/24	Data File:	406447-36 x5.053
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	180

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB8-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-37
Date Analyzed:	07/03/24	Data File:	406447-37.359
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.3
Barium	36
Cadmium	<0.5
Chromium	7.6
Copper	10
Lead	2.2
Zinc	26

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB8-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-37 x5
Date Analyzed:	07/05/24	Data File:	406447-37 x5.078
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	180

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB8-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-38
Date Analyzed:	07/03/24	Data File:	406447-38.360
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.3
Barium	31
Cadmium	<0.5
Chromium	5.6
Copper	9.6
Lead	1.6
Zinc	22

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB8-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-38 x5
Date Analyzed:	07/05/24	Data File:	406447-38 x5.079
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	150

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB9-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-39
Date Analyzed:	07/03/24	Data File:	406447-39.361
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.0
Barium	110
Cadmium	<0.5
Chromium	10
Copper	15
Lead	20
Zinc	49

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB9-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-39 x25
Date Analyzed:	07/08/24	Data File:	406447-39 x25.055
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	600

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB9-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-40
Date Analyzed:	07/03/24	Data File:	406447-40.366
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.3
Barium	79
Cadmium	<0.5
Chromium	11
Copper	14
Lead	4.0
Zinc	38

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB9-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-40 x25
Date Analyzed:	07/08/24	Data File:	406447-40 x25.056
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	200

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB9-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-41
Date Analyzed:	07/03/24	Data File:	406447-41.367
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	39
Cadmium	<0.5
Chromium	9.9
Copper	12
Lead	2.0
Zinc	24

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB9-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-41 x5
Date Analyzed:	07/03/24	Data File:	406447-41 x5.370
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	130

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB9-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-42
Date Analyzed:	07/03/24	Data File:	406447-42.052
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.5
Barium	45
Cadmium	<0.5
Chromium	10
Copper	14
Lead	3.1
Manganese	110
Zinc	29

Analysis For Total Metals By EPA Method 6020B

Client ID:	SBDUP-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-43
Date Analyzed:	07/03/24	Data File:	406447-43.053
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.2
Barium	130
Cadmium	0.68
Lead	6.9

Analysis For Total Metals By EPA Method 6020B

Client ID:	SBDUP-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-43 x5
Date Analyzed:	07/05/24	Data File:	406447-43 x5.088
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	21
Copper	30
Zinc	65

Analysis For Total Metals By EPA Method 6020B

Client ID:	SBDUP-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-43 x25
Date Analyzed:	07/08/24	Data File:	406447-43 x25.057
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	1,700

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB11-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-44
Date Analyzed:	07/03/24	Data File:	406447-44.054
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.6
Barium	150
Cadmium	0.70
Lead	7.4

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB11-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-44 x5
Date Analyzed:	07/05/24	Data File:	406447-44 x5.089
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	24
Copper	33
Zinc	72

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB11-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-44 x25
Date Analyzed:	07/08/24	Data File:	406447-44 x25.058
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	1,700

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB11-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-45
Date Analyzed:	07/03/24	Data File:	406447-45.055
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	94
Cadmium	<0.5
Chromium	9.9
Copper	11
Lead	12
Manganese	400
Zinc	54

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB11-S-12.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-46
Date Analyzed:	07/03/24	Data File:	406447-46.056
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	34
Cadmium	<0.5
Chromium	7.5
Copper	11
Lead	2.3
Manganese	130
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB11-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-47
Date Analyzed:	07/03/24	Data File:	406447-47.057
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	35
Cadmium	<0.5
Lead	2.0

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB11-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-47 x5
Date Analyzed:	07/05/24	Data File:	406447-47 x5.090
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	9.4
Copper	<25
Zinc	43

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB11-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-47 x25
Date Analyzed:	07/08/24	Data File:	406447-47 x25.059
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	280

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB10-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-48
Date Analyzed:	07/03/24	Data File:	406447-48.058
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.6
Barium	150
Cadmium	0.83
Lead	8.3

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB10-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-48 x5
Date Analyzed:	07/05/24	Data File:	406447-48 x5.091
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	21
Copper	33
Zinc	71

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB10-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-48 x25
Date Analyzed:	07/08/24	Data File:	406447-48 x25.060
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	1,700

Analysis For Total Metals By EPA Method 6020B

Client ID:	SBDUP-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-49
Date Analyzed:	07/03/24	Data File:	406447-49.059
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.7
Barium	96
Cadmium	0.54
Chromium	8.1
Copper	16
Lead	11
Manganese	400
Zinc	47

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB10-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-50
Date Analyzed:	07/03/24	Data File:	406447-50.060
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.5
Barium	82
Cadmium	<0.5
Chromium	7.1
Copper	14
Lead	9.3
Manganese	350
Zinc	42

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB10-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-51
Date Analyzed:	07/03/24	Data File:	406447-51.064
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	29
Cadmium	<0.5
Chromium	5.2
Copper	12
Lead	1.7
Manganese	140
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB10-S-15.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-52
Date Analyzed:	07/03/24	Data File:	406447-52.065
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	33
Cadmium	<0.5
Chromium	7.2
Copper	16
Lead	1.9
Manganese	150
Zinc	24

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB13-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-53
Date Analyzed:	07/03/24	Data File:	406447-53.066
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.4
Barium	130
Cadmium	0.64
Lead	7.4

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB13-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-53 x5
Date Analyzed:	07/05/24	Data File:	406447-53 x5.160
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	21
Copper	31
Zinc	70

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB13-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-53 x25
Date Analyzed:	07/08/24	Data File:	406447-53 x25.061
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	1,600

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB13-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-54
Date Analyzed:	07/03/24	Data File:	406447-54.067
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.1
Barium	87
Cadmium	<0.5
Chromium	6.3
Copper	11
Lead	9.4
Manganese	310
Zinc	36

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB13-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-55
Date Analyzed:	07/03/24	Data File:	406447-55.088
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.3
Barium	59
Cadmium	<0.5
Chromium	10
Copper	11
Lead	3.0
Manganese	120
Zinc	38

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB13-S-11.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-56
Date Analyzed:	07/03/24	Data File:	406447-56.089
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.0
Barium	38
Cadmium	<0.5
Chromium	7.9
Copper	11
Lead	2.9
Manganese	140
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB12-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-57
Date Analyzed:	07/03/24	Data File:	406447-57.090
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.5
Barium	140
Cadmium	0.68
Lead	8.0

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB12-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-57 x5
Date Analyzed:	07/05/24	Data File:	406447-57 x5.161
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	25
Copper	35
Zinc	77

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB12-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-57 x25
Date Analyzed:	07/08/24	Data File:	406447-57 x25.062
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	1,600

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB12-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-58
Date Analyzed:	07/03/24	Data File:	406447-58.091
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.1
Barium	46
Cadmium	<0.5
Chromium	9.5
Copper	11
Lead	2.7
Manganese	120
Zinc	33

Analysis For Total Metals By EPA Method 6020B

Client ID:	SBDUP2-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-59
Date Analyzed:	07/03/24	Data File:	406447-59.092
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.1
Barium	39
Cadmium	<0.5
Chromium	11
Copper	11
Lead	2.3
Manganese	130
Zinc	31

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB12-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-60
Date Analyzed:	07/03/24	Data File:	406447-60.093
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.1
Barium	44
Cadmium	<0.5
Chromium	7.4
Copper	11
Lead	3.1
Manganese	150
Zinc	26

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB12-S-16.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-61
Date Analyzed:	07/03/24	Data File:	406447-61.379
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.9
Barium	39
Cadmium	<0.5
Chromium	7.7
Copper	11
Lead	2.5
Zinc	30

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB12-S-16.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-61 x10
Date Analyzed:	07/08/24	Data File:	406447-61 x10.070
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	250

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB17-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-62
Date Analyzed:	07/03/24	Data File:	406447-62.100
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.3
Barium	31
Cadmium	<0.5
Chromium	8.4
Copper	11
Lead	1.9
Manganese	230
Zinc	25

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB17-S-9.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-63
Date Analyzed:	07/03/24	Data File:	406447-63.101
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	35
Cadmium	<0.5
Lead	2.2

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB17-S-9.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-63 x5
Date Analyzed:	07/05/24	Data File:	406447-63 x5.173
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	7.3
Copper	<25
Zinc	48

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB17-S-9.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-63 x10
Date Analyzed:	07/08/24	Data File:	406447-63 x10.071
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	500

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB17-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-64
Date Analyzed:	07/03/24	Data File:	406447-64.102
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.4
Barium	36
Cadmium	<0.5
Lead	2.2

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB17-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-64 x5
Date Analyzed:	07/05/24	Data File:	406447-64 x5.174
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	8.7
Copper	<25
Zinc	34

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB17-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-64 x10
Date Analyzed:	07/08/24	Data File:	406447-64 x10.072
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	260

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB15-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-65
Date Analyzed:	07/03/24	Data File:	406447-65.103
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.5
Barium	110
Cadmium	<0.5
Chromium	12
Copper	22
Lead	27
Manganese	530
Zinc	65

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB15-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-66
Date Analyzed:	07/03/24	Data File:	406447-66.104
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.0
Barium	74
Cadmium	<1
Chromium	7.7
Copper	17
Lead	17
Manganese	190
Zinc	64

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB15-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-67
Date Analyzed:	07/03/24	Data File:	406447-67.109
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.0
Barium	25
Cadmium	<0.5
Chromium	6.9
Copper	8.9
Lead	3.0
Manganese	120
Zinc	24

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB15-S-15.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	406447-68
Date Analyzed:	07/03/24	Data File:	406447-68.110
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.7
Barium	55
Cadmium	<0.5
Chromium	19
Copper	21
Lead	3.3
Manganese	200
Zinc	38

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	I4-547 mb
Date Analyzed:	07/03/24	Data File:	I4-547 mb.260
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	I4-548 mb
Date Analyzed:	07/03/24	Data File:	I4-548 mb.262
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	I4-549 mb
Date Analyzed:	07/03/24	Data File:	I4-549 mb.282
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Yakima East West Corridor
Date Extracted:	07/02/24	Lab ID:	I4-550 mb
Date Analyzed:	07/03/24	Data File:	I4-550 mb.284
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Zinc	<5

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/02/24
Date Analyzed: 07/02/24, 07/03/24, 07/05/24, 07/08/24

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB1-S-1.0 406447-01	0.068
SB1-S-5.5 406447-02	0.078
SB1-S-8.5 406447-03	0.024
SB1-S-13.5 406447-04	0.021
SB2-S-1.0 406447-05	0.073
SB2-S-4.0 406447-06 x10	1.8
SB2-S-10.5 406447-07	0.043
SB2-S-13.5 406447-08	0.034
SB16-S-1.0 406447-09	0.031
SB16-S-3.5 406447-10	0.025
SB16-S-7.5 406447-11	0.025

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/02/24
Date Analyzed: 07/02/24, 07/03/24, 07/05/24, 07/08/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB16-S-12.5 406447-12	<0.02
SB5-S-1.0 406447-13	0.063
SB5-S-2.5 406447-14	0.053
SB5-S-9.5 406447-15	0.038
SB5-S-15.7 406447-16	0.030
SB4-S-1.0 406447-17	0.085
SB4-S-4.0 406447-18	0.055
SB4-S-10.5 406447-19	0.037
SB4-S-13.0 406447-20	<0.02
SB3-S-1.0 406447-21	0.045
SB3-S-2.5 406447-22	0.045

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/02/24
Date Analyzed: 07/02/24, 07/03/24, 07/05/24, 07/08/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB3-S-7.5 406447-23	0.096
SB3-S-13.5 406447-24	0.023
SB6-S-1.0 406447-25	0.065
SB6-S-3.0 406447-26	0.039
SBDUP-S-3.0 406447-27	0.036
SB6-S-10.5 406447-28	0.021
SB6-S-13.5 406447-29	0.034
SB7-S-1.0 406447-30	0.052
SB7-S-4.0 406447-31	<0.02
SB7-S-7.0 406447-32	0.028
SB7-S-13.5 406447-33	<0.02

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/02/24
Date Analyzed: 07/02/24, 07/03/24, 07/05/24, 07/08/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB8-S-0.5 406447-34	0.053
SBDUP2-S-3.0 406447-35	0.029
SB8-S-3.0 406447-36	0.024
SB8-S-10.5 406447-37	0.037
SB8-S-13.5 406447-38	0.032
SB9-S-1.0 406447-39	0.076
SB9-S-4.0 406447-40	0.097
SB9-S-10.5 406447-41	0.029
SB9-S-13.5 406447-42	0.031
SBDUP-S-1.0 406447-43	0.091
SB11-S-1.0 406447-44	0.10

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/02/24
Date Analyzed: 07/02/24, 07/03/24, 07/05/24, 07/08/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB11-S-5.5 406447-45	0.058
SB11-S-12.0 406447-46	0.029
SB11-S-8.0 406447-47	0.031
SB10-S-0.5 406447-48	0.085
SBDUP-S-5.5 406447-49	0.083
SB10-S-5.5 406447-50	0.060
SB10-S-11.0 406447-51	0.023
SB10-S-15.5 406447-52	0.020
SB13-S-0.5 406447-53	0.092
SB13-S-5.5 406447-54	0.061
SB13-S-7.5 406447-55	0.050

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/02/24
Date Analyzed: 07/02/24, 07/03/24, 07/05/24, 07/08/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB13-S-11.5 406447-56	0.024
SB12-S-1.0 406447-57	0.096
SB12-S-5.5 406447-58	0.051
SBDUP2-S-5.5 406447-59	0.056
SB12-S-10.5 406447-60	0.030
SB12-S-16.5 406447-61	0.037
SB17-S-5.5 406447-62	0.037
SB17-S-9.0 406447-63	<0.02
SB17-S-13.5 406447-64	0.025
SB15-S-1.0 406447-65	0.074
SB15-S-3.0 406447-66	0.061

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447
Date Extracted: 07/02/24
Date Analyzed: 07/02/24, 07/03/24, 07/05/24, 07/08/24

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB15-S-10.5 406447-67	<0.02
SB15-S-15.5 406447-68	0.031
Method Blank i4-547 mb	<0.02
Method Blank i4-548 mb	<0.02
Method Blank i4-549 mb	<0.02
Method Blank i4-550 mb	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB1-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-01 1/5
Date Analyzed:	07/08/24	Data File:	070815.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	58	11	162
Decachlorobiphenyl	47	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB1-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-02 1/5
Date Analyzed:	07/08/24	Data File:	070816.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	40	11	162
Decachlorobiphenyl	35	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB1-S-8.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-03 1/5
Date Analyzed:	07/08/24	Data File:	070817.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	80	11	162
Decachlorobiphenyl	76	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB1-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-04 1/5
Date Analyzed:	07/10/24	Data File:	071014.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	55	41	139
Decachlorobiphenyl	77	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB2-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-05 1/5
Date Analyzed:	07/10/24	Data File:	071015.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	41	139
Decachlorobiphenyl	58	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB2-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-06 1/5
Date Analyzed:	07/08/24	Data File:	070809.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	63	41	139
Decachlorobiphenyl	67	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB2-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-07 1/5
Date Analyzed:	07/08/24	Data File:	070810.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	47	41	139
Decachlorobiphenyl	73	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB2-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-08 1/5
Date Analyzed:	07/08/24	Data File:	070811.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	62	41	139
Decachlorobiphenyl	73	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB16-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-09 1/5
Date Analyzed:	07/08/24	Data File:	070812.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66	41	139
Decachlorobiphenyl	78	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB16-S-3.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-10 1/5
Date Analyzed:	07/08/24	Data File:	070813.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	68	41	139
Decachlorobiphenyl	70	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB16-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-11 1/5
Date Analyzed:	07/08/24	Data File:	070814.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	46	41	139
Decachlorobiphenyl	54	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB16-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-12 1/5
Date Analyzed:	07/08/24	Data File:	070815.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	52	41	139
Decachlorobiphenyl	62	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB5-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-13 1/5
Date Analyzed:	07/10/24	Data File:	071008.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53	41	139
Decachlorobiphenyl	49	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB5-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-14 1/5
Date Analyzed:	07/10/24	Data File:	071009.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	71	41	139
Decachlorobiphenyl	64	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB5-S-9.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-15 1/5
Date Analyzed:	07/08/24	Data File:	070818.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	41	41	139
Decachlorobiphenyl	50	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB5-S-15.7	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-16 1/5
Date Analyzed:	07/10/24	Data File:	071010.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	83	41	139
Decachlorobiphenyl	91	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB4-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-17 1/5
Date Analyzed:	07/08/24	Data File:	070809.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	57	11	184
Decachlorobiphenyl	58 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004 k
Aroclor 1260	<0.004 k
Aroclor 1262	<0.004 k
Aroclor 1268	<0.004 k

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB4-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-18 1/5
Date Analyzed:	07/08/24	Data File:	070822.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	57	41	139
Decachlorobiphenyl	62	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.008
Aroclor 1232	<0.008
Aroclor 1016	<0.008
Aroclor 1242	<0.008
Aroclor 1248	<0.008
Aroclor 1254	<0.008
Aroclor 1260	<0.008
Aroclor 1262	<0.008
Aroclor 1268	<0.008

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB4-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-19 1/5
Date Analyzed:	07/08/24	Data File:	070810.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66	11	184
Decachlorobiphenyl	55 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004 k
Aroclor 1260	<0.004 k
Aroclor 1262	<0.004 k
Aroclor 1268	<0.004 k

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB4-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-20 1/5
Date Analyzed:	07/08/24	Data File:	070811.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	70	11	184
Decachlorobiphenyl	73 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004 k
Aroclor 1260	<0.004 k
Aroclor 1262	<0.004 k
Aroclor 1268	<0.004 k

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB3-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-21 1/5
Date Analyzed:	07/08/24	Data File:	070823.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	57	41	139
Decachlorobiphenyl	57	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB3-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-22 1/5
Date Analyzed:	07/08/24	Data File:	070824.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	50	41	139
Decachlorobiphenyl	50	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.008
Aroclor 1232	<0.008
Aroclor 1016	<0.008
Aroclor 1242	<0.008
Aroclor 1248	<0.008
Aroclor 1254	<0.008
Aroclor 1260	<0.008
Aroclor 1262	<0.008
Aroclor 1268	<0.008

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB3-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-23 1/5
Date Analyzed:	07/08/24	Data File:	070812.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	64	11	184
Decachlorobiphenyl	61 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004 k
Aroclor 1260	<0.004 k
Aroclor 1262	<0.004 k
Aroclor 1268	<0.004 k

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB3-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-24 1/5
Date Analyzed:	07/08/24	Data File:	070820.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	65	11	162
Decachlorobiphenyl	67	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB6-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-25 1/5
Date Analyzed:	07/08/24	Data File:	070813.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	45	11	184
Decachlorobiphenyl	31 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.008
Aroclor 1232	<0.008
Aroclor 1016	<0.008
Aroclor 1242	<0.008
Aroclor 1248	<0.008
Aroclor 1254	<0.008 k
Aroclor 1260	<0.008 k
Aroclor 1262	<0.008 k
Aroclor 1268	<0.008 k

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB6-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-26 1/5
Date Analyzed:	07/08/24	Data File:	070814.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	57	11	184
Decachlorobiphenyl	44 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.008
Aroclor 1232	<0.008
Aroclor 1016	<0.008
Aroclor 1242	<0.008
Aroclor 1248	<0.008
Aroclor 1254	<0.008 k
Aroclor 1260	<0.008 k
Aroclor 1262	<0.008 k
Aroclor 1268	<0.008 k

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SBDUP-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-27 1/5
Date Analyzed:	07/08/24	Data File:	070825.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	49	41	139
Decachlorobiphenyl	50	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.008
Aroclor 1232	<0.008
Aroclor 1016	<0.008
Aroclor 1242	<0.008
Aroclor 1248	<0.008
Aroclor 1254	<0.008
Aroclor 1260	<0.008
Aroclor 1262	<0.008
Aroclor 1268	<0.008

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB6-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-28 1/5
Date Analyzed:	07/10/24	Data File:	071011.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66	41	139
Decachlorobiphenyl	71	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	0.0099
Aroclor 1260	0.0049
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB6-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-29 1/5
Date Analyzed:	07/10/24	Data File:	071012.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	58	41	139
Decachlorobiphenyl	69	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB7-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-30 1/5
Date Analyzed:	07/08/24	Data File:	070817.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72	11	184
Decachlorobiphenyl	68 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004 k
Aroclor 1260	<0.004 k
Aroclor 1262	<0.004 k
Aroclor 1268	<0.004 k

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB7-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-31 1/5
Date Analyzed:	07/10/24	Data File:	071013.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	70	41	139
Decachlorobiphenyl	66	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.008
Aroclor 1232	<0.008
Aroclor 1016	<0.008
Aroclor 1242	<0.008
Aroclor 1248	<0.008
Aroclor 1254	<0.008
Aroclor 1260	<0.008
Aroclor 1262	<0.008
Aroclor 1268	<0.008

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB7-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-32 1/5
Date Analyzed:	07/08/24	Data File:	070821.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	80	11	184
Decachlorobiphenyl	71 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB7-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-33 1/5
Date Analyzed:	07/09/24	Data File:	070822.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	85	11	184
Decachlorobiphenyl	77 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB8-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/11/24	Lab ID:	406447-34 1/5
Date Analyzed:	07/11/24	Data File:	071113.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	82	11	162
Decachlorobiphenyl	67	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	0.0041
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SBDUP2-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-35 1/5
Date Analyzed:	07/09/24	Data File:	070823.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	87	11	184
Decachlorobiphenyl	85 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB8-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-36 1/5
Date Analyzed:	07/09/24	Data File:	070824.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	84	11	184
Decachlorobiphenyl	82 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB8-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-37 1/5
Date Analyzed:	07/09/24	Data File:	070825.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	74	11	184
Decachlorobiphenyl	72 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB8-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-38 1/5
Date Analyzed:	07/09/24	Data File:	070826.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	73	11	184
Decachlorobiphenyl	75 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB9-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/11/24	Lab ID:	406447-39 1/5
Date Analyzed:	07/11/24	Data File:	071114.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	11	162
Decachlorobiphenyl	45	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB9-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-40 1/5
Date Analyzed:	07/09/24	Data File:	070827.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	67	11	184
Decachlorobiphenyl	69 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB9-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-41 1/5
Date Analyzed:	07/05/24	Data File:	070522.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	73	11	184
Decachlorobiphenyl	74	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB9-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-42 1/5
Date Analyzed:	07/05/24	Data File:	070523.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	86	11	184
Decachlorobiphenyl	80	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SBDUP-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-43 1/5
Date Analyzed:	07/05/24	Data File:	070524.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	78	11	184
Decachlorobiphenyl	78	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB11-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-44 1/5
Date Analyzed:	07/09/24	Data File:	070912.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53	41	139
Decachlorobiphenyl	48	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB11-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-45 1/5
Date Analyzed:	07/09/24	Data File:	070913.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53	41	139
Decachlorobiphenyl	49	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB11-S-12.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-46 1/5
Date Analyzed:	07/05/24	Data File:	070508.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	78	41	139
Decachlorobiphenyl	85	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB11-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-47 1/5
Date Analyzed:	07/05/24	Data File:	070509.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	61	41	139
Decachlorobiphenyl	70	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB10-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-48 1/5
Date Analyzed:	07/05/24	Data File:	070510.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	64	41	139
Decachlorobiphenyl	66	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SBDUP-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-49 1/5
Date Analyzed:	07/09/24	Data File:	070914.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	51	41	139
Decachlorobiphenyl	51	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB10-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-50 1/5
Date Analyzed:	07/09/24	Data File:	070915.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	52	41	139
Decachlorobiphenyl	52	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB10-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-51 1/5
Date Analyzed:	07/09/24	Data File:	070909.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72	41	139
Decachlorobiphenyl	79	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB10-S-15.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-52 1/5
Date Analyzed:	07/09/24	Data File:	070910.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	50	41	139
Decachlorobiphenyl	51	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB13-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-53 1/5
Date Analyzed:	07/05/24	Data File:	070513.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66	41	139
Decachlorobiphenyl	62	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB13-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-54 1/5
Date Analyzed:	07/09/24	Data File:	070911.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	54	41	139
Decachlorobiphenyl	49	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB13-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-55 1/5
Date Analyzed:	07/05/24	Data File:	070515.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	45	41	139
Decachlorobiphenyl	58	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB13-S-11.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-56 1/5
Date Analyzed:	07/05/24	Data File:	070516.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66	41	139
Decachlorobiphenyl	67	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB12-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-57 1/5
Date Analyzed:	07/05/24	Data File:	070519.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	52	41	139
Decachlorobiphenyl	73	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB12-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-58 1/5
Date Analyzed:	07/05/24	Data File:	070520.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	69	41	139
Decachlorobiphenyl	71	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SBDUP2-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/11/24	Lab ID:	406447-59 1/5
Date Analyzed:	07/11/24	Data File:	071115.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	76	11	162
Decachlorobiphenyl	73	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB12-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-60 1/5
Date Analyzed:	07/05/24	Data File:	070522.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72	41	139
Decachlorobiphenyl	79	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB12-S-16.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-61 1/5
Date Analyzed:	07/05/24	Data File:	070522.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	88	11	162
Decachlorobiphenyl	82	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB17-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-62 1/5
Date Analyzed:	07/05/24	Data File:	070523.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	74	11	162
Decachlorobiphenyl	66	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB17-S-9.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-63 1/5
Date Analyzed:	07/05/24	Data File:	070524.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	80	11	162
Decachlorobiphenyl	75	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB17-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-64 1/5
Date Analyzed:	07/05/24	Data File:	070525.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	76	11	162
Decachlorobiphenyl	74	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB15-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-65 1/5
Date Analyzed:	07/09/24	Data File:	070916.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	64	41	139
Decachlorobiphenyl	56	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	0.0083
Aroclor 1260	0.0047
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB15-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-66 1/5
Date Analyzed:	07/09/24	Data File:	070917.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	60	41	139
Decachlorobiphenyl	54	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.008
Aroclor 1232	<0.008
Aroclor 1016	<0.008
Aroclor 1242	<0.008
Aroclor 1248	<0.008
Aroclor 1254	<0.008
Aroclor 1260	<0.008
Aroclor 1262	<0.008
Aroclor 1268	<0.008

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB15-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-67 1/5
Date Analyzed:	07/05/24	Data File:	070526.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	71	11	162
Decachlorobiphenyl	65	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB15-S-15.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-68 1/5
Date Analyzed:	07/05/24	Data File:	070523.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	58	41	139
Decachlorobiphenyl	57	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	04-1562 mb 1/5
Date Analyzed:	07/09/24	Data File:	070833.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	103	11	162
Decachlorobiphenyl	99	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	04-1563 mb 1/5
Date Analyzed:	07/09/24	Data File:	070835.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	108	11	162
Decachlorobiphenyl	102	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	04-1564 mb 1/5
Date Analyzed:	07/06/24	Data File:	070535.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	105	11	184
Decachlorobiphenyl	97	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	04-1565 mb 1/5
Date Analyzed:	07/06/24	Data File:	070533.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	109	11	162
Decachlorobiphenyl	111	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/11/24	Lab ID:	04-1589 mb2 1/5
Date Analyzed:	07/11/24	Data File:	071112.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	111	11	162
Decachlorobiphenyl	114	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB1-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-01 1/5
Date Analyzed:	07/08/24	Data File:	070815.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	42	32	117
Decachlorobiphenyl	42	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB1-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/09/24	Lab ID:	406447-02 1/5
Date Analyzed:	07/10/24	Data File:	071011.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72	20	157
Decachlorobiphenyl	113	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	0.0040
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB1-S-8.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-03 1/5
Date Analyzed:	07/08/24	Data File:	070817.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	32	117
Decachlorobiphenyl	58	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB1-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-04 1/5
Date Analyzed:	07/08/24	Data File:	070818.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	52	32	117
Decachlorobiphenyl	61	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB2-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-05 1/5
Date Analyzed:	07/08/24	Data File:	070819.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	51	32	117
Decachlorobiphenyl	54	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB2-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-06 1/5
Date Analyzed:	07/08/24	Data File:	070809.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	20	134
Decachlorobiphenyl	76	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB2-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-07 1/5
Date Analyzed:	07/08/24	Data File:	070810.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	42	20	134
Decachlorobiphenyl	72	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB2-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-08 1/5
Date Analyzed:	07/08/24	Data File:	070811.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	51	20	134
Decachlorobiphenyl	63	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB16-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-09 1/5
Date Analyzed:	07/08/24	Data File:	070812.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	20	134
Decachlorobiphenyl	75	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB16-S-3.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-10 1/5
Date Analyzed:	07/08/24	Data File:	070813.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	20	134
Decachlorobiphenyl	70	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB16-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-11 1/5
Date Analyzed:	07/08/24	Data File:	070814.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	42	20	134
Decachlorobiphenyl	62	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB16-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-12 1/5
Date Analyzed:	07/08/24	Data File:	070815.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	43	20	134
Decachlorobiphenyl	58	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB5-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-13 1/5
Date Analyzed:	07/08/24	Data File:	070816.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	45	20	134
Decachlorobiphenyl	22	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB5-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-14 1/5
Date Analyzed:	07/08/24	Data File:	070817.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	49	20	134
Decachlorobiphenyl	47	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB5-S-9.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-15 1/5
Date Analyzed:	07/08/24	Data File:	070818.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	39	20	134
Decachlorobiphenyl	56	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB5-S-15.7	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-16 1/5
Date Analyzed:	07/08/24	Data File:	070821.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	62	20	134
Decachlorobiphenyl	66	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB4-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-17 1/5
Date Analyzed:	07/08/24	Data File:	070809.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	47 ca	20	157
Decachlorobiphenyl	64 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB4-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-18 1/5
Date Analyzed:	07/09/24	Data File:	070912.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	62	20	157
Decachlorobiphenyl	92	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.004
4,4'-DDT	<0.004

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB4-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-19 1/5
Date Analyzed:	07/08/24	Data File:	070810.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	55 ca	20	157
Decachlorobiphenyl	71 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB4-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-20 1/5
Date Analyzed:	07/08/24	Data File:	070811.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	54 ca	20	157
Decachlorobiphenyl	77 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB3-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-21 1/5
Date Analyzed:	07/09/24	Data File:	070913.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	56	20	157
Decachlorobiphenyl	77	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB3-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-22 1/5
Date Analyzed:	07/09/24	Data File:	070914.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	52	20	157
Decachlorobiphenyl	78	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.004
4,4'-DDT	<0.004

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB3-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-23 1/5
Date Analyzed:	07/08/24	Data File:	070812.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	51 ca	20	157
Decachlorobiphenyl	75 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB3-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-24 1/5
Date Analyzed:	07/08/24	Data File:	070820.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	52	32	117
Decachlorobiphenyl	53	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB6-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-25 1/5
Date Analyzed:	07/08/24	Data File:	070813.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	35 ca	20	157
Decachlorobiphenyl	56 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB6-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-26 1/5
Date Analyzed:	07/08/24	Data File:	070814.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	48 ca	20	157
Decachlorobiphenyl	66 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.004
4,4'-DDT	<0.004

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SBDUP-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-27 1/5
Date Analyzed:	07/09/24	Data File:	070915.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	51	20	157
Decachlorobiphenyl	70	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.004
4,4'-DDT	<0.004

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB6-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-28 1/5
Date Analyzed:	07/09/24	Data File:	070908.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	51	20	157
Decachlorobiphenyl	65	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB6-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-29 1/5
Date Analyzed:	07/09/24	Data File:	070909.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	50	20	157
Decachlorobiphenyl	67	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB7-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-30 1/5
Date Analyzed:	07/08/24	Data File:	070817.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59 ca	20	157
Decachlorobiphenyl	79 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB7-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-31 1/5
Date Analyzed:	07/08/24	Data File:	070818.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	48 ca	20	157
Decachlorobiphenyl	67 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB7-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-32 1/5
Date Analyzed:	07/08/24	Data File:	070821.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	61 ca	20	157
Decachlorobiphenyl	84 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB7-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-33 1/5
Date Analyzed:	07/09/24	Data File:	070822.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66 ca	20	157
Decachlorobiphenyl	86 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB8-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-34 1/5
Date Analyzed:	07/09/24	Data File:	070916.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	46	20	157
Decachlorobiphenyl	61	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SBDUP2-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-35 1/5
Date Analyzed:	07/09/24	Data File:	070823.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	75 ca	20	157
Decachlorobiphenyl	100 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB8-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-36 1/5
Date Analyzed:	07/09/24	Data File:	070824.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	65 ca	20	157
Decachlorobiphenyl	87 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB8-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-37 1/5
Date Analyzed:	07/09/24	Data File:	070911.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	58	20	157
Decachlorobiphenyl	74	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB8-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-38 1/5
Date Analyzed:	07/09/24	Data File:	070826.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59 ca	20	157
Decachlorobiphenyl	82 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB9-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-39 1/5
Date Analyzed:	07/09/24	Data File:	070917.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	36	20	157
Decachlorobiphenyl	57	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB9-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	406447-40 1/5
Date Analyzed:	07/09/24	Data File:	070827.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53 ca	20	157
Decachlorobiphenyl	83 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB9-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-41 1/5
Date Analyzed:	07/05/24	Data File:	070522.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	70	20	157
Decachlorobiphenyl	90	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB9-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-42 1/5
Date Analyzed:	07/05/24	Data File:	070523.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	71	20	157
Decachlorobiphenyl	89	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SBDUP-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-43 1/5
Date Analyzed:	07/05/24	Data File:	070524.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	58	20	157
Decachlorobiphenyl	79	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB11-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-44 1/5
Date Analyzed:	07/05/24	Data File:	070525.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	63	20	157
Decachlorobiphenyl	74	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB11-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-45 1/5
Date Analyzed:	07/05/24	Data File:	070524.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	61	20	134
Decachlorobiphenyl	73	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB11-S-12.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-46 1/5
Date Analyzed:	07/05/24	Data File:	070508.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66	20	134
Decachlorobiphenyl	74	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB11-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-47 1/5
Date Analyzed:	07/05/24	Data File:	070509.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	60	20	134
Decachlorobiphenyl	69	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB10-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-48 1/5
Date Analyzed:	07/05/24	Data File:	070510.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53	20	134
Decachlorobiphenyl	63	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SBDUP-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-49 1/5
Date Analyzed:	07/05/24	Data File:	070525.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	55	20	134
Decachlorobiphenyl	94	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB10-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-50 1/5
Date Analyzed:	07/05/24	Data File:	070526.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	56	20	134
Decachlorobiphenyl	101	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB10-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-51 1/5
Date Analyzed:	07/09/24	Data File:	070909.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	73	20	134
Decachlorobiphenyl	83	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB10-S-15.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-52 1/5
Date Analyzed:	07/09/24	Data File:	070910.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53	20	134
Decachlorobiphenyl	56	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB13-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-53 1/5
Date Analyzed:	07/05/24	Data File:	070513.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	20	134
Decachlorobiphenyl	65	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB13-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-54 1/5
Date Analyzed:	07/05/24	Data File:	070514.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	60	20	134
Decachlorobiphenyl	135	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB13-S-7.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-55 1/5
Date Analyzed:	07/05/24	Data File:	070515.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	42	20	134
Decachlorobiphenyl	65	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB13-S-11.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-56 1/5
Date Analyzed:	07/05/24	Data File:	070516.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	20	134
Decachlorobiphenyl	74	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB12-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-57 1/5
Date Analyzed:	07/05/24	Data File:	070519.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	48	20	134
Decachlorobiphenyl	76	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB12-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-58 1/5
Date Analyzed:	07/05/24	Data File:	070520.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66	20	134
Decachlorobiphenyl	81	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SBDUP2-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-59 1/5
Date Analyzed:	07/09/24	Data File:	070908.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	37	20	134
Decachlorobiphenyl	52	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB12-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-60 1/5
Date Analyzed:	07/05/24	Data File:	070522.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66	20	134
Decachlorobiphenyl	82	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB12-S-16.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-61 1/5
Date Analyzed:	07/05/24	Data File:	070522.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	63	32	117
Decachlorobiphenyl	60	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB17-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-62 1/5
Date Analyzed:	07/05/24	Data File:	070523.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	56	32	117
Decachlorobiphenyl	49	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB17-S-9.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-63 1/5
Date Analyzed:	07/05/24	Data File:	070524.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	60	32	117
Decachlorobiphenyl	50	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB17-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-64 1/5
Date Analyzed:	07/05/24	Data File:	070525.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	60	32	117
Decachlorobiphenyl	51	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB15-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-65 1/5
Date Analyzed:	07/05/24	Data File:	070527.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	68	20	134
Decachlorobiphenyl	109	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB15-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-66 1/5
Date Analyzed:	07/06/24	Data File:	070528.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	20	134
Decachlorobiphenyl	123	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.004
4,4'-DDT	<0.004

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB15-S-10.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-67 1/5
Date Analyzed:	07/05/24	Data File:	070526.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	49	32	117
Decachlorobiphenyl	47	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB15-S-15.5	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	406447-68 1/5
Date Analyzed:	07/05/24	Data File:	070523.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53	20	134
Decachlorobiphenyl	72	20	139

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	04-1558 mb 1/5
Date Analyzed:	07/08/24	Data File:	070809.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	78	32	117
Decachlorobiphenyl	78	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/08/24	Lab ID:	04-1559 mb 1/5
Date Analyzed:	07/08/24	Data File:	070810.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	83	32	117
Decachlorobiphenyl	81	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	04-1560 mb 1/5
Date Analyzed:	07/05/24	Data File:	070519.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	89	20	157
Decachlorobiphenyl	113	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/05/24	Lab ID:	04-1561 mb 1/5
Date Analyzed:	07/05/24	Data File:	070517.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	82	32	117
Decachlorobiphenyl	74	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East West Corridor
Date Extracted:	07/09/24	Lab ID:	04-1569 mb 1/5
Date Analyzed:	07/10/24	Data File:	071008.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	56	20	157
Decachlorobiphenyl	82	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406403-01 (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	100	70-130

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	105	70-130

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-21 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	102	70-130

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-43 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	105	70-130

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-62 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	102	70-130

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	2,500	250	114	101	63-146	12

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	2,500	115	77-123

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-21 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	2,500	460	113	108	63-146	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	2,500	102	77-123

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-41 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	2,500	<25	108	104	63-146	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	2,500	113	77-123

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-61 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	2,500	<25	108	108	63-146	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	2,500	109	77-123

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 406428-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	78	16-176
Chloroform	ug/L (ppb)	10	5.3	72 b	50-150
Benzene	ug/L (ppb)	10	<0.35	79	50-150
Toluene	ug/L (ppb)	10	<1	82	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	83	50-150
Chlorobenzene	ug/L (ppb)	10	<1	78	50-150
Ethylbenzene	ug/L (ppb)	10	<1	83	50-150
m,p-Xylene	ug/L (ppb)	20	<2	83	50-150
o-Xylene	ug/L (ppb)	10	<1	78	50-150

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	10	104	110	43-149	6
Chloroform	ug/L (ppb)	10	95	101	70-130	6
Benzene	ug/L (ppb)	10	108	115	70-130	6
Toluene	ug/L (ppb)	10	110	109	70-130	1
Tetrachloroethene	ug/L (ppb)	10	109	107	70-130	2
Chlorobenzene	ug/L (ppb)	10	105	102	70-130	3
Ethylbenzene	ug/L (ppb)	10	112	110	70-130	2
m,p-Xylene	ug/L (ppb)	20	111	109	70-130	2
o-Xylene	ug/L (ppb)	10	105	104	70-130	1

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 406447-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2	<0.05	90	92	10-138	2
Chloroform	mg/kg (ppm)	2	<0.05	90	91	21-145	1
Benzene	mg/kg (ppm)	2	<0.03	87	88	29-129	1
Toluene	mg/kg (ppm)	2	<0.05	87	92	35-130	6
Tetrachloroethene	mg/kg (ppm)	2	<0.025	93	100	20-133	7
Chlorobenzene	mg/kg (ppm)	2	<0.05	91	92	32-129	1
Ethylbenzene	mg/kg (ppm)	2	<0.05	88	91	32-137	3
m,p-Xylene	mg/kg (ppm)	4	<0.1	93	93	34-136	0
o-Xylene	mg/kg (ppm)	2	<0.05	94	94	33-134	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2	105	22-139
Chloroform	mg/kg (ppm)	2	105	61-139
Benzene	mg/kg (ppm)	2	101	65-136
Toluene	mg/kg (ppm)	2	108	66-126
Tetrachloroethene	mg/kg (ppm)	2	105	68-128
Chlorobenzene	mg/kg (ppm)	2	109	67-128
Ethylbenzene	mg/kg (ppm)	2	109	64-123
m,p-Xylene	mg/kg (ppm)	4	114	68-128
o-Xylene	mg/kg (ppm)	2	110	67-129

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 406447-36 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2	<0.05	91	90	10-138	1
Chloroform	mg/kg (ppm)	2	<0.05	94	91	21-145	3
Benzene	mg/kg (ppm)	2	<0.03	90	88	29-129	2
Toluene	mg/kg (ppm)	2	<0.05	96	98	35-130	2
Tetrachloroethene	mg/kg (ppm)	2	<0.025	98	106	20-133	8
Chlorobenzene	mg/kg (ppm)	2	<0.05	97	101	32-129	4
Ethylbenzene	mg/kg (ppm)	2	<0.05	96	100	32-137	4
m,p-Xylene	mg/kg (ppm)	4	<0.1	98	99	34-136	1
o-Xylene	mg/kg (ppm)	2	<0.05	93	100	33-134	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2	96	22-139
Chloroform	mg/kg (ppm)	2	101	61-139
Benzene	mg/kg (ppm)	2	99	65-136
Toluene	mg/kg (ppm)	2	93	66-126
Tetrachloroethene	mg/kg (ppm)	2	95	68-128
Chlorobenzene	mg/kg (ppm)	2	96	67-128
Ethylbenzene	mg/kg (ppm)	2	97	64-123
m,p-Xylene	mg/kg (ppm)	4	100	68-128
o-Xylene	mg/kg (ppm)	2	101	67-129

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 406447-48 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2	<0.05	90	97	10-138	7
Chloroform	mg/kg (ppm)	2	<0.05	93	99	21-145	6
Benzene	mg/kg (ppm)	2	<0.03	89	97	29-129	9
Toluene	mg/kg (ppm)	2	<0.05	98	102	35-130	4
Tetrachloroethene	mg/kg (ppm)	2	<0.025	101	102	20-133	1
Chlorobenzene	mg/kg (ppm)	2	<0.05	98	107	32-129	9
Ethylbenzene	mg/kg (ppm)	2	<0.05	99	106	32-137	7
m,p-Xylene	mg/kg (ppm)	4	<0.1	101	107	34-136	6
o-Xylene	mg/kg (ppm)	2	<0.05	101	107	33-134	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2	75	22-139
Chloroform	mg/kg (ppm)	2	72	61-139
Benzene	mg/kg (ppm)	2	66	65-136
Toluene	mg/kg (ppm)	2	68	66-126
Tetrachloroethene	mg/kg (ppm)	2	71	68-128
Chlorobenzene	mg/kg (ppm)	2	71	67-128
Ethylbenzene	mg/kg (ppm)	2	70	64-123
m,p-Xylene	mg/kg (ppm)	4	72	68-128
o-Xylene	mg/kg (ppm)	2	70	67-129

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 406451-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2	<0.05	90	87	10-138	3
Chloroform	mg/kg (ppm)	2	<0.05	92	91	21-145	1
Benzene	mg/kg (ppm)	2	<0.03	91	90	29-129	1
Toluene	mg/kg (ppm)	2	<0.05	90	89	35-130	1
Tetrachloroethene	mg/kg (ppm)	2	<0.025	92	99	20-133	7
Chlorobenzene	mg/kg (ppm)	2	<0.05	92	96	32-129	4
Ethylbenzene	mg/kg (ppm)	2	<0.05	91	91	32-137	0
m,p-Xylene	mg/kg (ppm)	4	<0.1	93	91	34-136	2
o-Xylene	mg/kg (ppm)	2	<0.05	89	89	33-134	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2	98	22-139
Chloroform	mg/kg (ppm)	2	98	61-139
Benzene	mg/kg (ppm)	2	94	65-136
Toluene	mg/kg (ppm)	2	94	66-126
Tetrachloroethene	mg/kg (ppm)	2	100	68-128
Chlorobenzene	mg/kg (ppm)	2	97	67-128
Ethylbenzene	mg/kg (ppm)	2	94	64-123
m,p-Xylene	mg/kg (ppm)	4	96	68-128
o-Xylene	mg/kg (ppm)	2	94	67-129

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

Laboratory Code: 406447-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
2,4-Dichlorophenol	mg/kg (ppm)	0.83	<0.1	67	67	50-150	0
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	<0.01	63	62	50-150	2
Naphthalene	mg/kg (ppm)	0.83	<0.001	68	68	50-150	0
2-Methylnaphthalene	mg/kg (ppm)	0.83	<0.0005	67	66	50-150	2
1-Methylnaphthalene	mg/kg (ppm)	0.83	<0.0005	67	67	50-150	0
Acenaphthylene	mg/kg (ppm)	0.83	<0.0005	76	78	50-150	3
Acenaphthene	mg/kg (ppm)	0.83	<0.0005	77	76	50-150	1
Dibenzofuran	mg/kg (ppm)	0.83	<0.0005	75	74	50-150	1
Fluorene	mg/kg (ppm)	0.83	<0.0005	78	79	50-150	1
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	<0.01	77	76	50-150	1
Phenanthrene	mg/kg (ppm)	0.83	0.00051	81	82	10-170	1
Anthracene	mg/kg (ppm)	0.83	<0.0005	80	81	37-139	1
Fluoranthene	mg/kg (ppm)	0.83	<0.0005	87	89	10-203	2
Pyrene	mg/kg (ppm)	0.83	<0.0005	86	85	10-208	1
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	<0.1	85	84	10-119	1
Benz(a)anthracene	mg/kg (ppm)	0.83	<0.001	83	84	37-146	1
Chrysene	mg/kg (ppm)	0.83	<0.0005	83	84	36-144	1
Benzo(a)pyrene	mg/kg (ppm)	0.83	<0.0005	85	85	40-150	0
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	<0.0005	86	86	45-157	0
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	<0.0005	84	84	50-150	0
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	<0.001	94	92	24-145	2
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	<0.001	94	92	31-137	2
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	<0.03	92	89	14-141	3
Pentachlorophenol	mg/kg (ppm)	0.83	<0.05	84	84	15-159	0
Benzyl butyl phthalate	mg/kg (ppm)	0.83	<0.1	87	87	50-150	0
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	<0.16	85	87	50-150	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
2,4-Dichlorophenol	mg/kg (ppm)	0.83	85	62-112
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	79	59-105
Naphthalene	mg/kg (ppm)	0.83	85	59-105
2-Methylnaphthalene	mg/kg (ppm)	0.83	83	62-108
1-Methylnaphthalene	mg/kg (ppm)	0.83	83	62-108
Acenaphthylene	mg/kg (ppm)	0.83	95	61-111
Acenaphthene	mg/kg (ppm)	0.83	93	61-110
Dibenzofuran	mg/kg (ppm)	0.83	90	65-118
Fluorene	mg/kg (ppm)	0.83	94	62-114
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	87	64-116
Phenanthrene	mg/kg (ppm)	0.83	94	64-112
Anthracene	mg/kg (ppm)	0.83	94	63-111
Fluoranthene	mg/kg (ppm)	0.83	101	66-115
Pyrene	mg/kg (ppm)	0.83	97	65-112
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	63	10-100
Benz(a)anthracene	mg/kg (ppm)	0.83	93	64-116
Chrysene	mg/kg (ppm)	0.83	94	66-119
Benzo(a)pyrene	mg/kg (ppm)	0.83	95	62-116
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	96	61-118
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	97	65-119
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	101	64-130
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	102	67-131
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	100	67-126
Pentachlorophenol	mg/kg (ppm)	0.83	103	56-130
Benzyl butyl phthalate	mg/kg (ppm)	0.83	97	56-131
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	94	30-165

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

Laboratory Code: 406447-24 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
2,4-Dichlorophenol	mg/kg (ppm)	0.83	<0.1	60	61	50-150	2
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	<0.01	36 vo	37 vo	50-150	3
Naphthalene	mg/kg (ppm)	0.83	<0.001	46 vo	47 vo	50-150	2
2-Methylnaphthalene	mg/kg (ppm)	0.83	<0.0005	55	57	50-150	4
1-Methylnaphthalene	mg/kg (ppm)	0.83	<0.0005	57	59	50-150	3
Acenaphthylene	mg/kg (ppm)	0.83	<0.0005	71	72	50-150	1
Acenaphthene	mg/kg (ppm)	0.83	<0.0005	74	74	50-150	0
Dibenzofuran	mg/kg (ppm)	0.83	<0.0005	72	72	50-150	0
Fluorene	mg/kg (ppm)	0.83	<0.0005	76	76	50-150	0
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	<0.01	75	74	50-150	1
Phenanthrene	mg/kg (ppm)	0.83	<0.0005	81	79	10-170	2
Anthracene	mg/kg (ppm)	0.83	<0.0005	80	79	37-139	1
Fluoranthene	mg/kg (ppm)	0.83	<0.0005	86	84	10-203	2
Pyrene	mg/kg (ppm)	0.83	<0.0005	86	84	10-208	2
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	<0.1	84	84	10-119	0
Benz(a)anthracene	mg/kg (ppm)	0.83	<0.001	83	82	37-146	1
Chrysene	mg/kg (ppm)	0.83	<0.0005	84	81	36-144	4
Benzo(a)pyrene	mg/kg (ppm)	0.83	<0.0005	85	83	40-150	2
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	<0.0005	84	82	45-157	2
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	<0.0005	85	83	50-150	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	<0.001	93	94	24-145	1
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	<0.001	95	91	31-137	4
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	<0.03	93	89	14-141	4
Pentachlorophenol	mg/kg (ppm)	0.83	<0.05	88	87	15-159	1
Benzyl butyl phthalate	mg/kg (ppm)	0.83	<0.1	86	83	50-150	4
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	<0.16	83	81	50-150	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
2,4-Dichlorophenol	mg/kg (ppm)	0.83	89	62-112
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	76	59-105
Naphthalene	mg/kg (ppm)	0.83	83	59-105
2-Methylnaphthalene	mg/kg (ppm)	0.83	84	62-108
1-Methylnaphthalene	mg/kg (ppm)	0.83	85	62-108
Acenaphthylene	mg/kg (ppm)	0.83	99	61-111
Acenaphthene	mg/kg (ppm)	0.83	98	61-110
Dibenzofuran	mg/kg (ppm)	0.83	94	65-118
Fluorene	mg/kg (ppm)	0.83	98	62-114
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	91	64-116
Phenanthrene	mg/kg (ppm)	0.83	98	64-112
Anthracene	mg/kg (ppm)	0.83	97	63-111
Fluoranthene	mg/kg (ppm)	0.83	102	66-115
Pyrene	mg/kg (ppm)	0.83	99	65-112
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	63	10-100
Benz(a)anthracene	mg/kg (ppm)	0.83	96	64-116
Chrysene	mg/kg (ppm)	0.83	97	66-119
Benzo(a)pyrene	mg/kg (ppm)	0.83	99	62-116
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	104	61-118
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	100	65-119
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	107	64-130
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	105	67-131
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	103	67-126
Pentachlorophenol	mg/kg (ppm)	0.83	104	56-130
Benzyl butyl phthalate	mg/kg (ppm)	0.83	96	56-131
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	96	30-165

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

Laboratory Code: 406447-41 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
2,4-Dichlorophenol	mg/kg (ppm)	0.83	<0.1	87	76	19-144	13
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	<0.01	70	66	35-116	6
Naphthalene	mg/kg (ppm)	0.83	<0.001	74	70	28-125	6
2-Methylnaphthalene	mg/kg (ppm)	0.83	<0.0005	76	73	10-192	4
1-Methylnaphthalene	mg/kg (ppm)	0.83	<0.0005	78	75	10-163	4
Acenaphthylene	mg/kg (ppm)	0.83	<0.0005	89	80	45-128	11
Acenaphthene	mg/kg (ppm)	0.83	<0.0005	88	79	36-125	11
Dibenzofuran	mg/kg (ppm)	0.83	<0.0005	86	79	44-125	8
Fluorene	mg/kg (ppm)	0.83	<0.0005	88	84	48-121	5
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	<0.01	91	83	10-190	9
Phenanthrene	mg/kg (ppm)	0.83	<0.0005	90	85	46-122	6
Anthracene	mg/kg (ppm)	0.83	<0.0005	90	85	30-144	6
Fluoranthene	mg/kg (ppm)	0.83	<0.0005	92	91	50-150	1
Pyrene	mg/kg (ppm)	0.83	<0.0005	89	86	40-134	3
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	<0.1	87	76	12-137	13
Benz(a)anthracene	mg/kg (ppm)	0.83	<0.001	91	91	50-150	0
Chrysene	mg/kg (ppm)	0.83	<0.0005	91	88	50-150	3
Benzo(a)pyrene	mg/kg (ppm)	0.83	<0.0005	94	94	50-150	0
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	<0.0005	93	94	50-150	1
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	<0.0005	90	91	50-150	1
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	<0.001	97	97	40-140	0
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	<0.001	96	99	41-136	3
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	<0.03	93	94	29-139	1
Pentachlorophenol	mg/kg (ppm)	0.83	<0.05	101	106	18-159	5
Benzyl butyl phthalate	mg/kg (ppm)	0.83	<0.1	96	97	14-187	1
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	<0.16	98	100	45-130	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
2,4-Dichlorophenol	mg/kg (ppm)	0.83	87	63-111
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	63	56-111
Naphthalene	mg/kg (ppm)	0.83	72	57-107
2-Methylnaphthalene	mg/kg (ppm)	0.83	81	63-112
1-Methylnaphthalene	mg/kg (ppm)	0.83	84	63-113
Acenaphthylene	mg/kg (ppm)	0.83	101	70-130
Acenaphthene	mg/kg (ppm)	0.83	99	66-112
Dibenzofuran	mg/kg (ppm)	0.83	98	63-117
Fluorene	mg/kg (ppm)	0.83	103	67-117
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	99	61-118
Phenanthrene	mg/kg (ppm)	0.83	103	70-130
Anthracene	mg/kg (ppm)	0.83	102	70-130
Fluoranthene	mg/kg (ppm)	0.83	111	70-130
Pyrene	mg/kg (ppm)	0.83	110	70-130
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	95	10-134
Benz(a)anthracene	mg/kg (ppm)	0.83	115	70-130
Chrysene	mg/kg (ppm)	0.83	115	70-130
Benzo(a)pyrene	mg/kg (ppm)	0.83	114	68-120
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	115	67-128
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	114	70-130
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	118	67-129
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	122	67-128
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	116	65-130
Pentachlorophenol	mg/kg (ppm)	0.83	119	60-133
Benzyl butyl phthalate	mg/kg (ppm)	0.83	119	64-135
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	121 vo	59-116

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

Laboratory Code: 406447-61 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
2,4-Dichlorophenol	mg/kg (ppm)	0.83	<0.1	78	73	19-144	7
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	<0.01	44	35	35-116	23 vo
Naphthalene	mg/kg (ppm)	0.83	<0.001	53	43	28-125	21 vo
2-Methylnaphthalene	mg/kg (ppm)	0.83	<0.0005	66	58	10-192	13
1-Methylnaphthalene	mg/kg (ppm)	0.83	<0.0005	68	61	10-163	11
Acenaphthylene	mg/kg (ppm)	0.83	<0.0005	80	74	45-128	8
Acenaphthene	mg/kg (ppm)	0.83	<0.0005	80	73	36-125	9
Dibenzofuran	mg/kg (ppm)	0.83	<0.0005	79	74	44-125	7
Fluorene	mg/kg (ppm)	0.83	<0.0005	84	77	48-121	9
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	<0.01	80	79	10-190	1
Phenanthrene	mg/kg (ppm)	0.83	0.00054	82	80	46-122	2
Anthracene	mg/kg (ppm)	0.83	<0.0005	83	81	30-144	2
Fluoranthene	mg/kg (ppm)	0.83	<0.0005	88	86	50-150	2
Pyrene	mg/kg (ppm)	0.83	0.00058	85	80	40-134	6
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	<0.1	87	87	12-137	0
Benz(a)anthracene	mg/kg (ppm)	0.83	<0.001	89	86	50-150	3
Chrysene	mg/kg (ppm)	0.83	<0.0005	86	83	50-150	4
Benzo(a)pyrene	mg/kg (ppm)	0.83	<0.0005	93	91	50-150	2
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	<0.0005	93	89	50-150	4
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	<0.0005	92	89	50-150	3
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	<0.001	91	91	40-140	0
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	<0.001	88	88	41-136	0
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	<0.03	83	83	29-139	0
Pentachlorophenol	mg/kg (ppm)	0.83	<0.05	105	101	18-159	4
Benzyl butyl phthalate	mg/kg (ppm)	0.83	<0.1	95	95	14-187	0
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	<0.16	95	96	45-130	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
2,4-Dichlorophenol	mg/kg (ppm)	0.83	80	63-111
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	62	56-111
Naphthalene	mg/kg (ppm)	0.83	70	57-107
2-Methylnaphthalene	mg/kg (ppm)	0.83	73	63-112
1-Methylnaphthalene	mg/kg (ppm)	0.83	75	63-113
Acenaphthylene	mg/kg (ppm)	0.83	94	70-130
Acenaphthene	mg/kg (ppm)	0.83	91	66-112
Dibenzofuran	mg/kg (ppm)	0.83	90	63-117
Fluorene	mg/kg (ppm)	0.83	93	67-117
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	93	61-118
Phenanthrene	mg/kg (ppm)	0.83	94	70-130
Anthracene	mg/kg (ppm)	0.83	92	70-130
Fluoranthene	mg/kg (ppm)	0.83	97	70-130
Pyrene	mg/kg (ppm)	0.83	95	70-130
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	75	10-134
Benz(a)anthracene	mg/kg (ppm)	0.83	96	70-130
Chrysene	mg/kg (ppm)	0.83	96	70-130
Benzo(a)pyrene	mg/kg (ppm)	0.83	99	68-120
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	99	67-128
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	100	70-130
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	110	67-129
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	109	67-128
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	105	65-130
Pentachlorophenol	mg/kg (ppm)	0.83	101	60-133
Benzyl butyl phthalate	mg/kg (ppm)	0.83	98	64-135
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	97	59-116

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 406447-01 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<5	84	84	75-125	0
Barium	mg/kg (ppm)	50	93.0	81 b	78 b	75-125	4 b
Cadmium	mg/kg (ppm)	10	<2.5	91	91	75-125	0
Chromium	mg/kg (ppm)	50	12.0	81 b	80 b	75-125	1 b
Copper	mg/kg (ppm)	50	<25	82	76	75-125	8
Lead	mg/kg (ppm)	50	9.27	92	89	75-125	3
Manganese	mg/kg (ppm	20	239	0 b	0 b	75-125	nm
Zinc	mg/kg (ppm)	50	46.9	85 b	76 b	75-125	11 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	97	80-120
Barium	mg/kg (ppm)	50	96	80-120
Cadmium	mg/kg (ppm)	10	99	80-120
Chromium	mg/kg (ppm)	50	96	80-120
Copper	mg/kg (ppm)	50	94	80-120
Lead	mg/kg (ppm)	50	92	80-120
Manganese	mg/kg (ppm)	20	98	80-120
Zinc	mg/kg (ppm)	50	95	80-120

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 406447-21 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	1.43	99	98	75-125	1
Barium	mg/kg (ppm)	50	48.0	96 b	90 b	75-125	6 b
Cadmium	mg/kg (ppm)	10	<0.5	95	94	75-125	1
Chromium	mg/kg (ppm)	50	5.69	130 vo	127 vo	75-125	2
Copper	mg/kg (ppm)	50	9.75	76	72 vo	75-125	5
Lead	mg/kg (ppm)	50	13.8	97 b	93 b	75-125	4 b
Manganese	mg/kg (ppm	20	68.5	78 b	37 b	75-125	71 b
Mercury	mg/kg (ppm	5	<1	94	94	75-125	0
Zinc	mg/kg (ppm)	50	37.0	88 b	75 b	75-125	16 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	98	80-120
Barium	mg/kg (ppm)	50	97	80-120
Cadmium	mg/kg (ppm)	10	98	80-120
Chromium	mg/kg (ppm)	50	98	80-120
Copper	mg/kg (ppm)	50	94	80-120
Lead	mg/kg (ppm)	50	95	80-120
Manganese	mg/kg (ppm)	20	98	80-120
Mercury	mg/kg (ppm)	5	92	80-120
Zinc	mg/kg (ppm)	50	96	80-120

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 406447-41 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<1	98	103	75-125	5
Barium	mg/kg (ppm)	50	37.5	105 b	104 b	75-125	1 b
Cadmium	mg/kg (ppm)	10	<0.5	97	101	75-125	4
Chromium	mg/kg (ppm)	50	9.51	244 vo	247 vo	75-125	1
Copper	mg/kg (ppm)	50	11.3	67 b	66 b	75-125	2 b
Lead	mg/kg (ppm)	50	1.90	95	98	75-125	3
Manganese	mg/kg (ppm	20	37.7	67 b	49 b	75-125	31 b
Mercury	mg/kg (ppm	5	<1	97	101	75-125	4
Zinc	mg/kg (ppm)	50	22.9	80 b	79 b	75-125	1 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	101	80-120
Barium	mg/kg (ppm)	50	100	80-120
Cadmium	mg/kg (ppm)	10	102	80-120
Chromium	mg/kg (ppm)	50	100	80-120
Copper	mg/kg (ppm)	50	98	80-120
Lead	mg/kg (ppm)	50	95	80-120
Manganese	mg/kg (ppm)	20	99	80-120
Mercury	mg/kg (ppm)	5	95	80-120
Zinc	mg/kg (ppm)	50	99	80-120

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 406447-61 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	1.36	104	98	75-125	6
Barium	mg/kg (ppm)	50	28.0	101 b	88 b	75-125	14 b
Cadmium	mg/kg (ppm)	10	<0.5	100	98	75-125	2
Chromium	mg/kg (ppm)	50	5.49	234 vo	76	75-125	102 vo
Copper	mg/kg (ppm)	50	8.13	71 vo	72 vo	75-125	1
Lead	mg/kg (ppm)	50	1.79	93	92	75-125	1
Manganese	mg/kg (ppm	20	38.3	47 b	47 b	75-125	0 b
Mercury	mg/kg (ppm	5	<1	98	95	75-125	3
Zinc	mg/kg (ppm)	50	21.1	77 b	75 b	75-125	3 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	96	80-120
Barium	mg/kg (ppm)	50	93	80-120
Cadmium	mg/kg (ppm)	10	95	80-120
Chromium	mg/kg (ppm)	50	94	80-120
Copper	mg/kg (ppm)	50	93	80-120
Lead	mg/kg (ppm)	50	91	80-120
Manganese	mg/kg (ppm)	20	94	80-120
Mercury	mg/kg (ppm)	5	90	80-120
Zinc	mg/kg (ppm)	50	94	80-120

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-01 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	5	<0.25	86	82	71-125	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	5	139	68-143

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-41 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	5	<0.25	88	54 vo	71-125	44 vo

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	5	97	68-143

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-21 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	5	<0.25	82	85	71-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	5	87	68-143

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-61 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	5	<0.25	107	74	71-125	36 vo

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	5	124	68-143

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-41 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.004	75	67	24-163	11
Aroclor 1260	mg/kg (ppm)	0.25	<0.004	88	75	10-194	16

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	98	47-158
Aroclor 1260	mg/kg (ppm)	0.25	94	69-141

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-61 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.004	90	91	29-125	1
Aroclor 1260	mg/kg (ppm)	0.25	<0.004	85	80	12-177	6

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	97	55-137
Aroclor 1260	mg/kg (ppm)	0.25	102	51-150

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-03 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.004	108	84	29-125	25 vo
Aroclor 1260	mg/kg (ppm)	0.25	<0.004	104	84	12-177	21 vo

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	111	55-137
Aroclor 1260	mg/kg (ppm)	0.25	110	51-150

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 406447-24 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.004	71	56	29-125	24 vo
Aroclor 1260	mg/kg (ppm)	0.25	<0.004	73	70	12-177	4

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	108	55-137
Aroclor 1260	mg/kg (ppm)	0.25	104	51-150

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

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

Laboratory Code: 407075-06 1/30 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.02	90	96	29-125	6
Aroclor 1260	mg/kg (ppm)	0.25	<0.02	88	96	12-177	9

Laboratory Code: Laboratory Control Sample 1/30

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	111	55-137
Aroclor 1260	mg/kg (ppm)	0.25	111	51-150

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR ORGANOCHLORINE PESTICIDES BY EPA METHOD 8081B

Laboratory Code: 406447-02 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
4,4'-DDD	mg/kg (ppm)	0.1	<0.002	48	52	10-171	8
4,4'-DDT	mg/kg (ppm)	0.1	<0.002	26	22	10-146	17

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
4,4'-DDD	mg/kg (ppm)	0.1	80	54-137
4,4'-DDT	mg/kg (ppm)	0.1	83	25-169

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR ORGANOCHLORINE PESTICIDES BY EPA METHOD 8081B

Laboratory Code: 406447-24 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
4,4'-DDD	mg/kg (ppm)	0.1	<0.002	78	66	10-171	17
4,4'-DDT	mg/kg (ppm)	0.1	<0.002	3 vo	3 vo	10-146	0

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
4,4'-DDD	mg/kg (ppm)	0.1	84	54-137
4,4'-DDT	mg/kg (ppm)	0.1	85	25-169

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR ORGANOCHLORINE PESTICIDES BY EPA METHOD 8081B

Laboratory Code: 406447-41 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
4,4'-DDD	mg/kg (ppm)	0.1	<0.002	78	82	20-143	5
4,4'-DDT	mg/kg (ppm)	0.1	<0.002	60	60	10-385	0

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
4,4'-DDD	mg/kg (ppm)	0.1	94	70-130
4,4'-DDT	mg/kg (ppm)	0.1	97	57-135

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR ORGANOCHLORINE PESTICIDES BY EPA METHOD 8081B

Laboratory Code: 406447-61 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
4,4'-DDD	mg/kg (ppm)	0.1	<0.002	96	78	10-171	21 vo
4,4'-DDT	mg/kg (ppm)	0.1	<0.002	57	36	10-146	45 vo

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
4,4'-DDD	mg/kg (ppm)	0.1	86	54-137
4,4'-DDT	mg/kg (ppm)	0.1	78	25-169

Date of Report: 07/16/24
Date Received: 06/28/24
Project: Yakima East West Corridor M2703.01.001, F&BI 406447

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR ORGANOCHLORINE PESTICIDES BY EPA METHOD 8081B

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
4,4'-DDD	mg/kg (ppm)	0.1	86	85	70-130	1
4,4'-DDT	mg/kg (ppm)	0.1	92	92	57-135	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 low; 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.

406447

SAMPLE CHAIN OF CUSTODY

06/28/24 M4/VW1/N4

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Report To Josh Elliott
Company Maul Foster & Alongi
Address 6 Centerpointe Dr, Ste 360
City, State, ZIP Lake Oswego, OR 97035
Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*): Brenden Murphy

PROJECT NAME: Yakima East-West Corridor

PO#: M2703.01.001

REMARKS: Please email results to csifford@maulfoster.com as well
Project specific RLs? - (Yes) / No

INVOICE TO: accounting@maulfoster.com

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	~~metals 6020 BTEX EPA 8021~~	~~Cr(VI) 7196 NWTPH-HCID~~	VOCs EPA 8260	SIM PAHs EPA 8270	Total Aroclors PCBs EPA 8082	Hg 1631	*SVOCs 8270	4,4'-DDD, 4,4'-DDT EPA 8081		Notes
						ANALYSES REQUESTED											* see emailed analyte list
SB1-S-1.0	01 A-F	6/25/24	13:40	Soil	6	X	X	X	X	X	X	X	X	X	X		IDs updated per FB 07/29/24 ME
SB1-S-5.5	02		13:50		6	X	X	X	X	X	X	X	X	X	X		
SB1-S-8.5	03		14:00		6	X	X	X	X	X	X	X	X	X	X		
SB1-S-13.5	04		14:10		6	X	X	X	X	X	X	X	X	X	X		
SB2-S-1.0	05		14:50		6	X	X	X	X	X	X	X	X	X	X		
SB2-S-4.0	06		15:00		6	X	X	X	X	X	X	X	X	X	X		
SB2-S-10.5	07		15:10		6	X	X	X	X	X	X	X	X	X	X		
SB2-S-13.5	08	↓	15:20		6	X	X	X	X	X	X	X	X	X	X		
SB16-S-1.0	09	6/26/24	8:20		6	X	X	X	X	X	X	X	X	X	X		
SB16-S-3.5	10	↓	8:30	↓	6	X	X	X	X	X	X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Brenden Murphy	Brenden Murphy	MFA	6/28/24	13:50
Received by: [signature]	Nhan Phan	FEBT	6/28/24	1350
Relinquished by:		Samples received at 2 °C		
Received by:				

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

406447

SAMPLE CHAIN OF CUSTODY

06/28/24 M4/uw1/ N4

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Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (signature) [signature]

PROJECT NAME	PO#
Yakima East-West Corridor	M270301.001
REMARKS Please email results to csifford@maulfoster.com as well Project specific RLs? - (Yes) / No	INVOICE TO accounting@maulfoster.com

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	*metals 6020 ~~BTEX EPA 8021~~	CrVI 7196 ~~NWTPH-HCID~~	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Arochlors PCBs EPA 8082	Hg 1631	*SVOCs 8270	4,4'DDD, 4-4'DDT 8081		Notes
SB16-S-7.5	11 A-F	6/26/24	8:40	Soil	6	X	X	X	X	X	X	X	X	X	X		*see emailed analyte list
SB16-S-12.5	12	↓	8:50	↓	6	X	X	X	X	X	X	X	X	X	X		
SB5-S-1.0	13	↓	10:00	↓	6	X	X	X	X	X	X	X	X	X	X		
SB5-S-2.5	14	↓	10:10	↓	6	X	X	X	X	X	X	X	X	X	X		
SB5-S-9.5	15	↓	10:20	↓	6	X	X	X	X	X	X	X	X	X	X		
SB5-S-15.7	16	↓	10:30	↓	6	X	X	X	X	X	X	X	X	X	X		
SB4-S-1.0	17	↓	11:45	↓	6	X	X	X	X	X	X	X	X	X	X		
SB4-S-4.0	18	↓	12:00	↓	6	X	X	X	X	X	X	X	X	X	X		
SB4-S-10.5	19	↓	12:10	↓	6	X	X	X	X	X	X	X	X	X	X		
SB4-S-13.0	20	↓	12:20	↓	6	X	X	X	X	X	X	X	X	X	X		

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Brenden Murphy	MFA	6/28/24	13:50
Received by: [signature]	Nhan Phan	FeBI	6/28/24	1352
Relinquished by:		Samples received at 2 °C		
Received by:				

406447

SAMPLE CHAIN OF CUSTODY 06/28/24

M4 / VW1 / N4

Page # 3 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-52[redacted] Email jelliott@maulfoster.com

SAMPLERS (*signature*) [redacted]

PROJECT NAME: Yakima East-West Corridor

PO#: M2703.01.001

REMARKS: please also email csifford@maulfoster.com

Project specific RLs? - Yes / No

INVOICE TO: accounting@maulfoster.com

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	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	~~X metals 6020 BTEX EPA 8021~~	~~Cr(VI) 7196 NWTPH-HCID~~	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Arochlor PCBs EPA 8082	Hg 1631	*SVOCS 8270	4,4'DDD, 4,4'DDT EPA 8081		Notes
SB3-S-1.0	21 A-F	6/26/24	12:55	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB3-S-2.5	22		13:00		6	X	X	X	X	X	X	X	X	X	X		
SB3-S-7.5	23		13:10		6	X	X	X	X	X	X	X	X	X	X		
SB3-S-13.5	24		13:20		6	X	X	X	X	X	X	X	X	X	X		
SB6-S-1.0	25		13:45		6	X	X	X	X	X	X	X	X	X	X		
SB6-S-3.0	26		14:00		6	X	X	X	X	X	X	X	X	X	X		
SBDUP-S-3.0	27		14:00		6	X	X	X	X	X	X	X	X	X	X		
SB6-S-10.5	28		14:10		6	X	X	X	X	X	X	X	X	X	X		
SB6-S-13.5	29		14:20		6	X	X	X	X	X	X	X	X	X	X		
SB7-S-1.0	30		15:00		6	X	X	X	X	X	X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [redacted]	Brenden Murphy	MFA	06/28/24	13:50
Received by: [redacted]	Nhan Phan	FEBT	6/28/24	1352
Relinquished by:		Samples received at 2 °C		
Received by:				

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

406447

SAMPLE CHAIN OF CUSTODY

06/28/24

M4/OW1/N4

Page # 4 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*)

PROJECT NAME: Yakima East-West Corridor

PO#: M2703.01.001

REMARKS: Project specific RLs? - (Yes) / No

INVOICE TO: accounting@maulfoster.com

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	~~*metals 6020 BTEX EPA 8021~~	~~Cr VI 7196 NWTPH-HCID~~	*VOCs EPA 8260	~~SIM~~ PAHs EPA 8270	Total (Arochlors PCBs EPA 8082	Hg 1631	*SVOCs 8270	4-4'DDD, 4-4'DDT EPA 8081	Dx w/ SG	A-per FB 08/06/24 ME Notes *see emailed analyte list
SB7-S-4.0	31 A-F	6/26/24	15:10	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB7-S-7.0	32	↓	15:20	↓	6	X	X	X	X	X	X	X	X	X	X		
SB7-S-13.5	33	↓	15:30	↓	6	X	X	X	X	X	X	X	X	X	X		
SB8-S-0.5	34	6/27/24	8:10	↓	6	X	X	X	X	X	X	X	X	X	X	A	
~~SBDUP-S-3.0~~ SBDUP2-S-3.0	35	↓	8:20	↓	6	X	X	X	X	X	X	X	X	X	X		
SB8-S-3.0	36	↓	8:20	↓	6	X	X	X	X	X	X	X	X	X	X		
SB8-S-10.5	37	↓	8:30	↓	6	X	X	X	X	X	X	X	X	X	X		
SB8-S-13.5	38	↓	8:~~40~~ 45	↓	6	X	X	X	X	X	X	X	X	X	X		label SB8-S-13.0 @ 6/28
SB9-S-1.0	39	↓	10:20	↓	6	X	X	X	X	X	X	X	X	X	X		
SB9-S-4.0	40	↓	10:30	↓	6	X	X	X	X	X	X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Brenden Murphy	MFA	6/28/24	13:50
Received by:	Nhan Phan	FEB I	6/28/24	1352
Relinquished by:		Samples received at 2 oC		
Received by:				

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

406447

SAMPLE CHAIN OF CUSTODY

06/28/24

M4 / VW1 / N4

Page # 5 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (signature)

PROJECT NAME: Yakima East-West Corridor

PO #: M2703.01.001

REMARKS: email results to csifford@maulfoster.com as well

Project specific RLs? - (Yes) / No

INVOICE TO: accounting@maulfoster.com

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	*metals BTEX EPA 8021	cr CVD 7196 NWTPH-HCID	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Arochlors PCBs EPA 8082	Hg 1631	*SVOCs 8270	4,4'DDD,4,4'DDT EPA 8081		Notes
																	* see emailed analyte list
SB9-S-10.5	41 A.F	6/27/24	10:40	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB9-S-13.5	42		10:50		6	X	X	X	X	X	X	X	X	X	X		
SBDUP-S-1.0	43		12:20		6	X	X	X	X	X	X	X	X	X	X		
SB11-S-1.0	44		12:20		6	X	X	X	X	X	X	X	X	X	X		label SB_S_1.0
SB11-S-5.5	45		12:30		6	X	X	X	X	X	X	X	X	X	X		
SB11-S-12.0	46		12:50		6	X	X	X	X	X	X	X	X	X	X		
SB11-S-8.0	47		12:40		6	X	X	X	X	X	X	X	X	X	X		
SB10-S-0.5	48		~~12~~:20 CS		6	X	X	X	X	X	X	X	X	X	X		
SBDUP-S-5.5	49		~~12~~:30 CS		6	X	X	X	X	X	X	X	X	X	X		
SB10-S-5.5	50		~~12~~:30 CS		6	X	X	X	X	X	X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Brenden Murphy	MFA	6/28/24	13:50
Received by:	Nhan Phan	FEBI	6/28/24	1350
Relinquished by:		Samples received at 2 °C		
Received by:				

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

406447

SAMPLE CHAIN OF CUSTODY

06/28/24 M4/UW1/N4

Page # 6 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*)

PROJECT NAME: Yakima East-West Corridor

PO #: M2703.01.001

REMARKS: a/so email results to csifford@maulfoster.com

Project specific RLs? - (Yes) / No

INVOICE TO: accounting@maulfoster.com

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	* metals 6020 BTEX EPA 8021	Cr(VI) 7196 NWTPH-HCID	* VOCs EPA 8260	$1M PAHs EPA 8270	Total Arochlors PCBs EPA 8082	Hg 1631	* SVOCs 8270	4,4'-DDD,4,4'-DDT EPA 8081		Notes
SB10-S-11.0	51A.F	6/27/24	14:40	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB10-S-15.5	52		14:50		6	X	X	X	X	X	X	X	X	X	X		
SB13-S-0.5	53		16:10		6	X	X	X	X	X	X	X	X	X	X		
SB13-S-5.5	54		16:20		6	X	X	X	X	X	X	X	X	X	X		
SB13-S-7.5	55		16:30		6	X	X	X	X	X	X	X	X	X	X		
SB13-S-11.5	56		16:40		6	X	X	X	X	X	X	X	X	X	X		
SB12-S-1.0	57	6/28/24	8:00	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB12-S-5.5	58		8:10		6	X	X	X	X	X	X	X	X	X	X		
~~SBDUP-S-5.5~~ SBDUP2-S-5.5	59		8:10		6	X	X	X	X	X	X	X	X	X	X		
SB12-S-10.5	60		8:20		6	X	X	X	X	X	X	X	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Brenden Murphy	MFA	6/28/24	13:50
Received by:	Nhan Phan	FEBI	6/28/24	1352
Relinquished by:		Samples received at 2 °C		
Received by:				

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406447 [redacted]

SAMPLE CHAIN OF CUSTODY

06/28/24 M4/UW1/N4 [redacted]

Page # 7 of 7

Report To Josh Elliott

Company Maul Foster & Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (signature) [signature]

PROJECT NAME Yakima East-West Corridor

PO # M2703.01.001

REMARKS also email results to csifford@maulfoster.com

INVOICE TO accounting@maulfoster.com

Project specific RLs? - (Yes) / No

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	*metals 6020 ~~BTEX EPA 8021~~	Cr(VI) 7196 NWTPH-HCID	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Aroclors PCBs EPA 8082	Hg 1631	*SVOCs 8270	4-4'DDD, 4-4'DDT EPA 8081		Notes * see emailed analyte list
SB12-S-16.5	61 A-F	6/28/24	8:30	Soil	6	X	X	X	X	X	X	X	X	X	X		
SB17-S-5.5	62	BM	9:15		6	X	X	X	X	X	X	X	X	X	X		
SB17-S-9.0	63		9:40		6	X	X	X	X	X	X	X	X	X	X		
SB17-S-13.5	64		9:50		6	X	X	X	X	X	X	X	X	X	X		
SB15-S-1.0	65		10:40		6	X	X	X	X	X	X	X	X	X	X		
~~SB15-S-5.5~~ SB15-S-3.0	66		10:50		6	X	X	X	X	X	X	X	X	X	X		Label SB15-S-3.0
SB15-S-10.5	67		11:00		6	X	X	X	X	X	X	X	X	X	X		
SB15-S-15.5	68		11:10		6	X	X	X	X	X	X	X	X	X	X		
Trip Blank 3	69 A-B	6/27/24	N/A	Water	2		X			X							

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Brenden Murphy	MFA	6/28/24	13:50
Received by: [signature]	Nhan Phan	F&BI	6/28/24	1352
Relinquished by:		Samples received at 2 °C		
Received by:				

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 406447 CLIENT MFA INITIALS/ DATE: DB 6/28/24

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 2 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☑ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: NP 6/28/24
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0 > 3 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☑ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

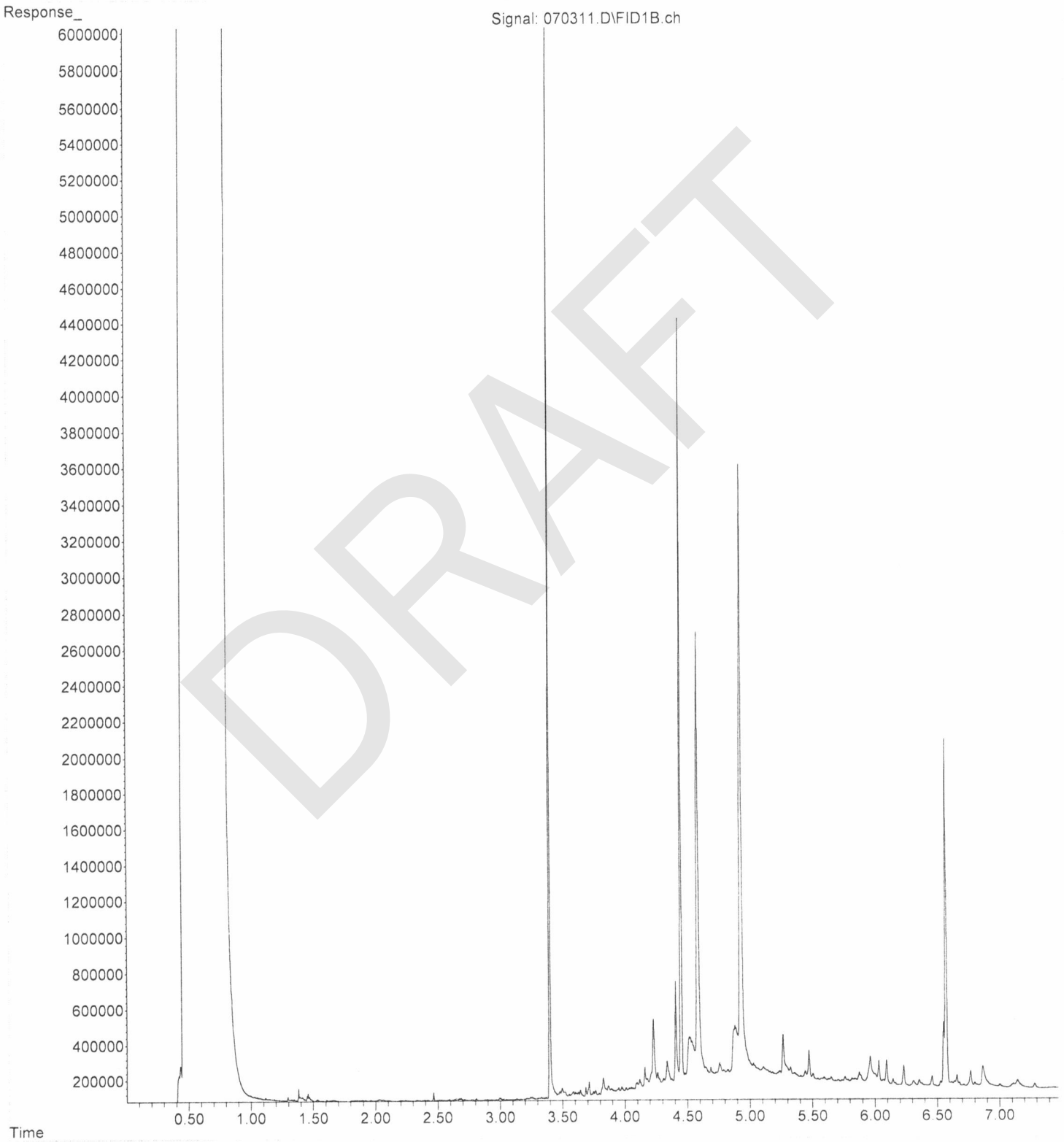
Sample ID's	☐ Yes ☑ No	☐ Not on COC/label
Date Sampled	☑ Yes ☐ No	☐ Not on COC/label
Time Sampled	☑ Yes ☐ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)
-38 ID on label: SB8-S-13.0
-44 ID on label: SB11-S-1.0
-66 ID on label: SB15-S-3.0

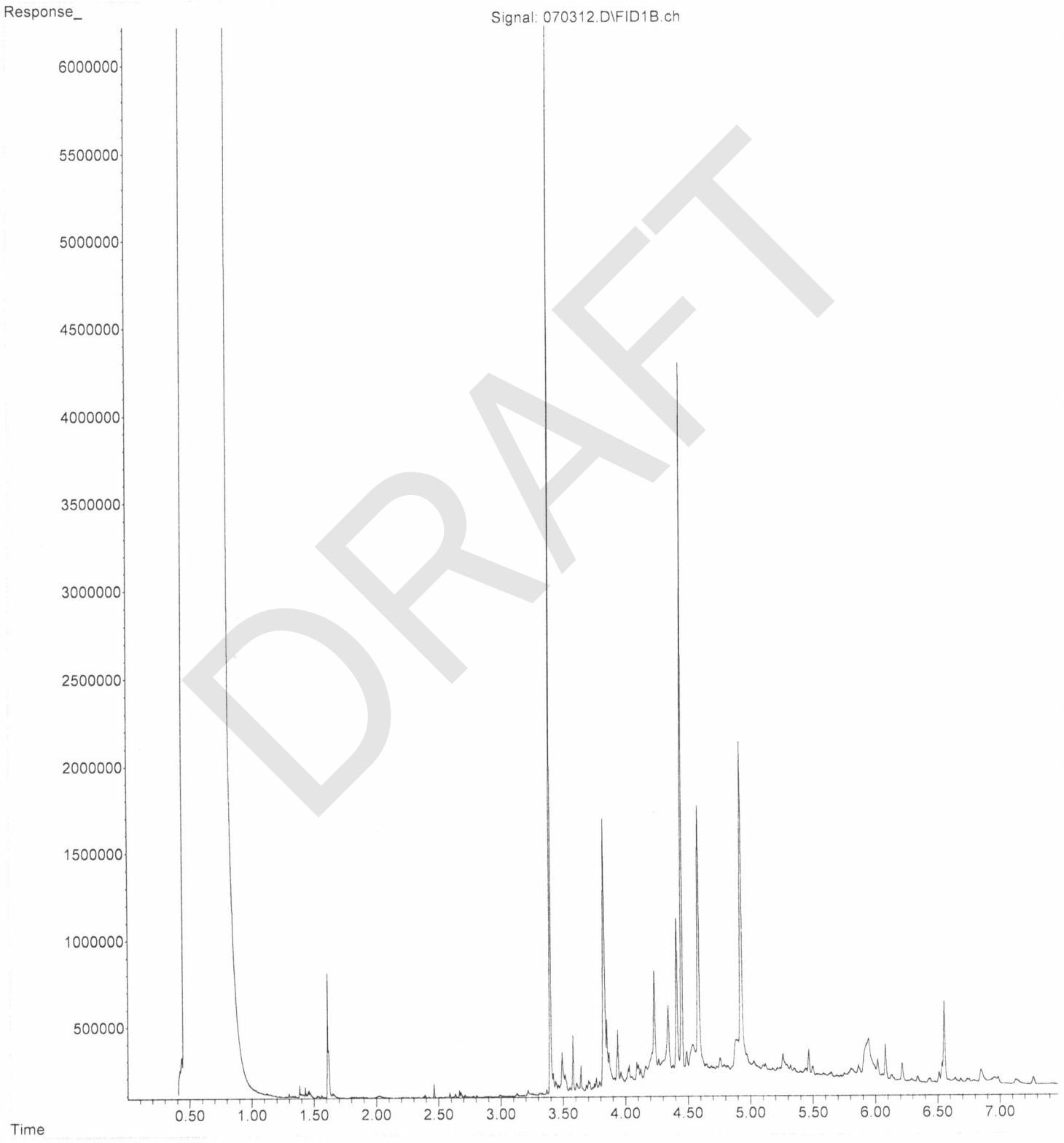
Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ Number of unused TO17 tubes _____

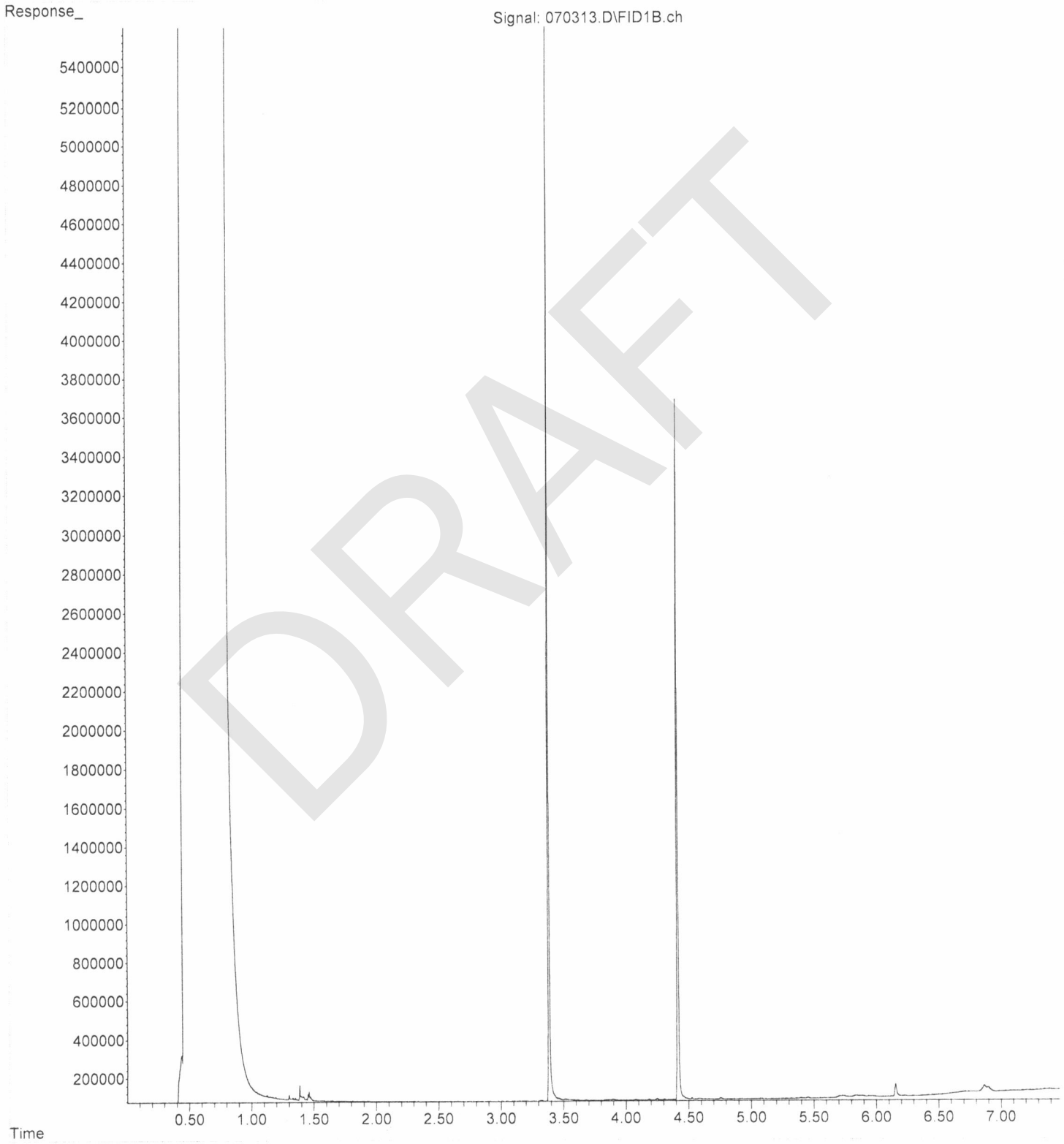
File :P:\Proc_GC10\07-03-24\070311.D
Operator : IJL
Acquired : 03 Jul 2024 11:23 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-01
Misc Info :
Vial Number: 12



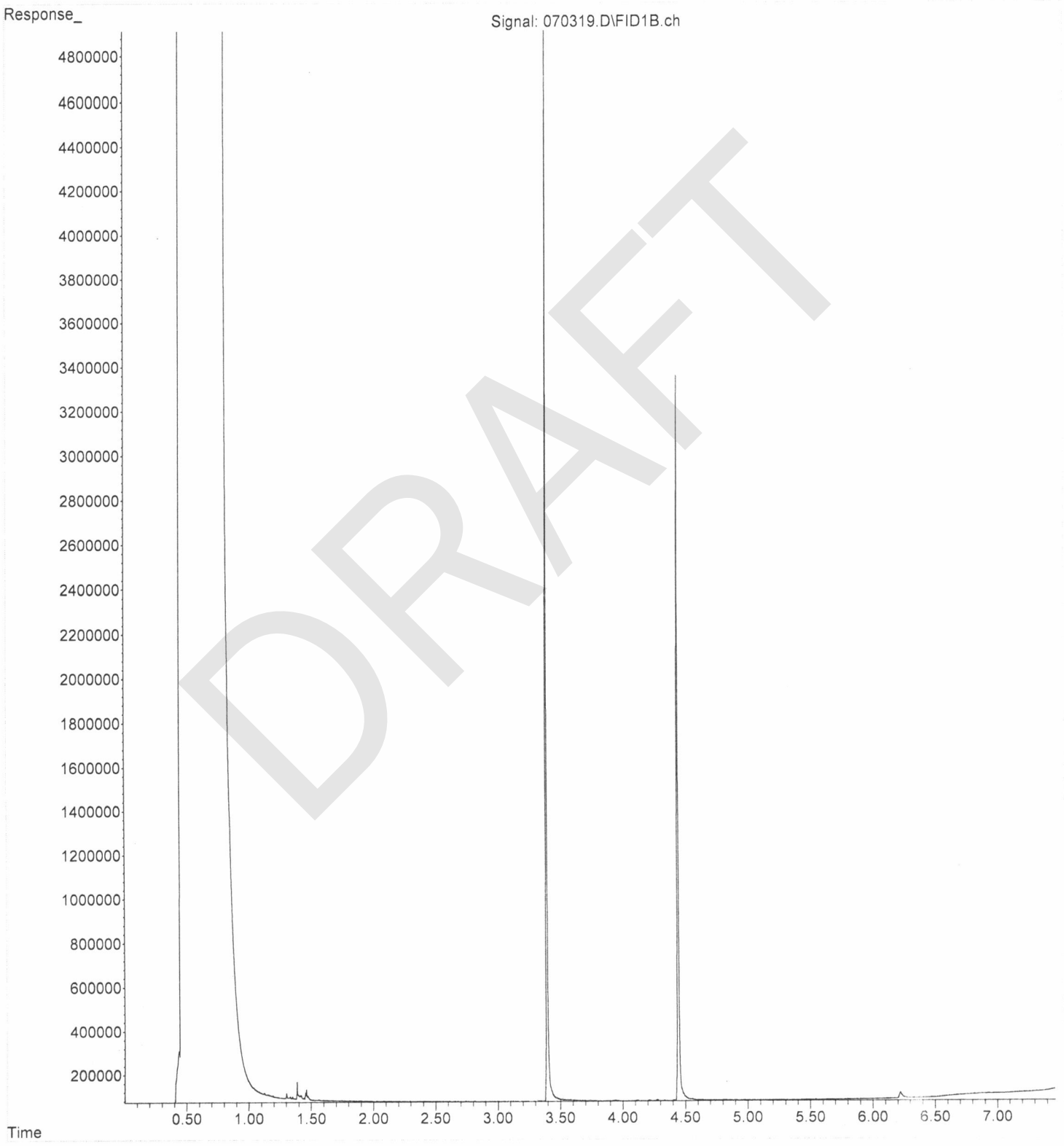
File :P:\Proc_GC10\07-03-24\070312.D
Operator : IJL
Acquired : 03 Jul 2024 11:35 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-02
Misc Info :
Vial Number: 13



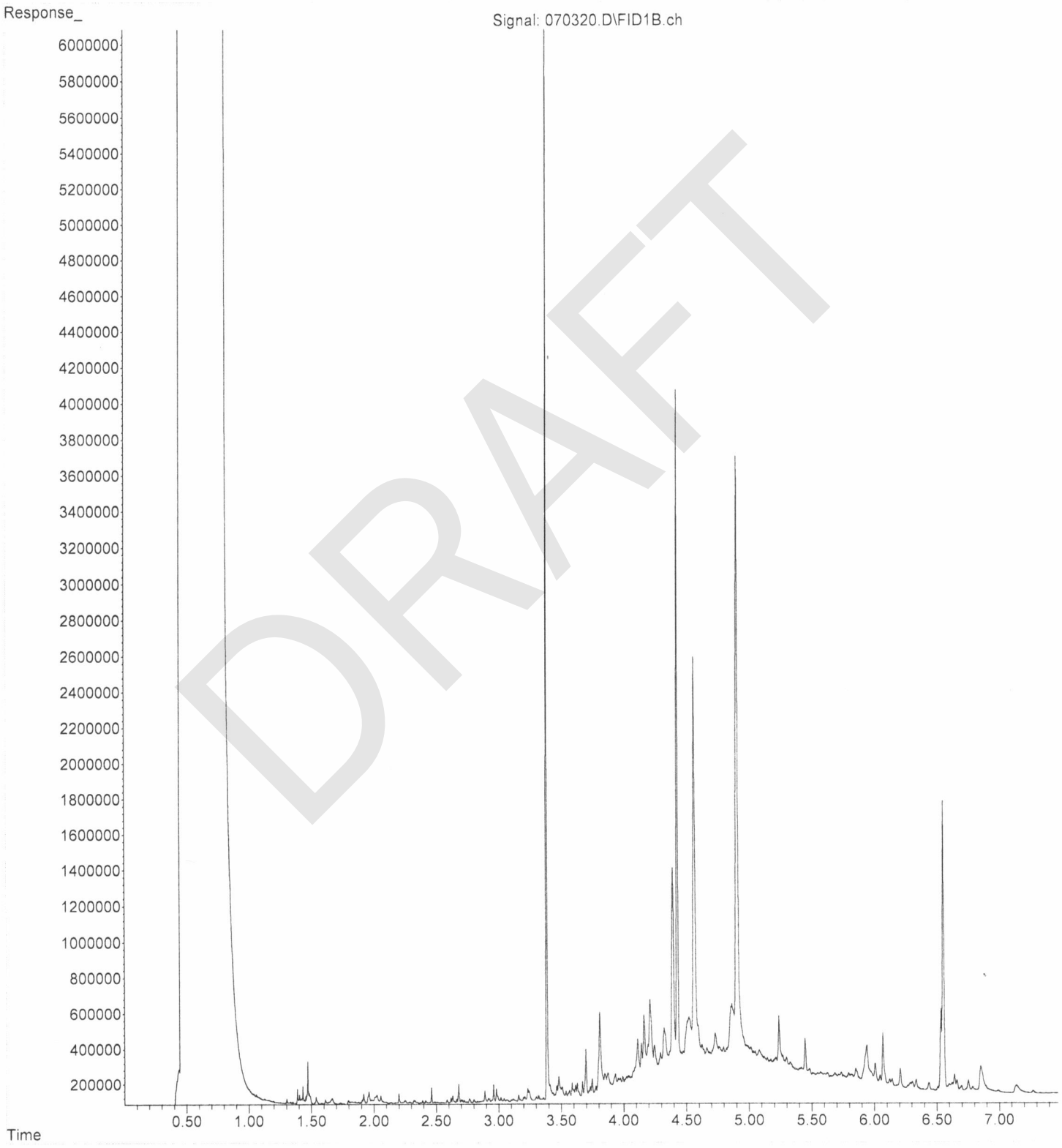
File :P:\Proc_GC10\07-03-24\070313.D
Operator : IJL
Acquired : 03 Jul 2024 11:47 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-03
Misc Info :
Vial Number: 14



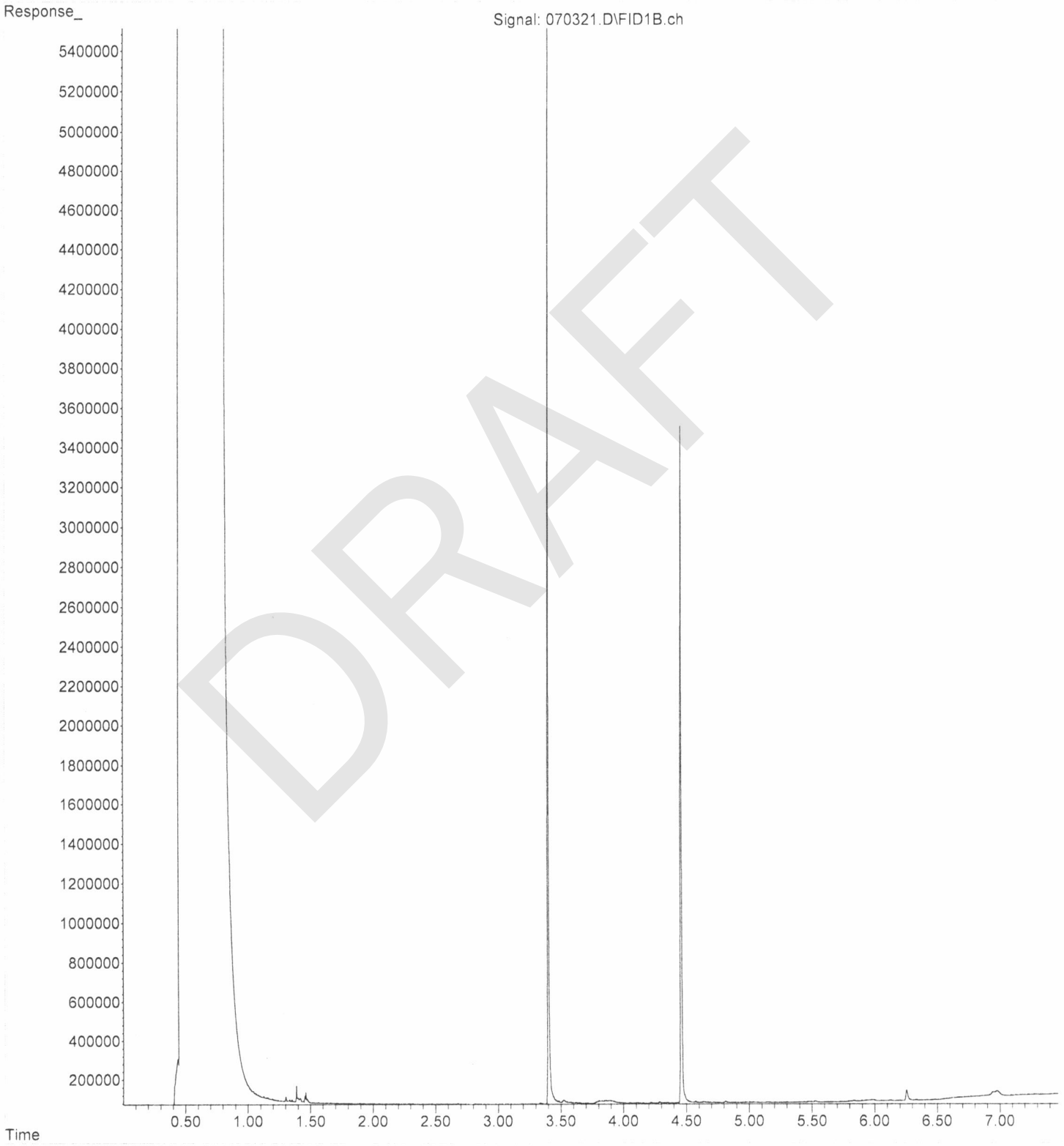
File :P:\Proc_GC10\07-03-24\070319.D
Operator : IJL
Acquired : 03 Jul 2024 12:59 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-04
Misc Info :
Vial Number: 15



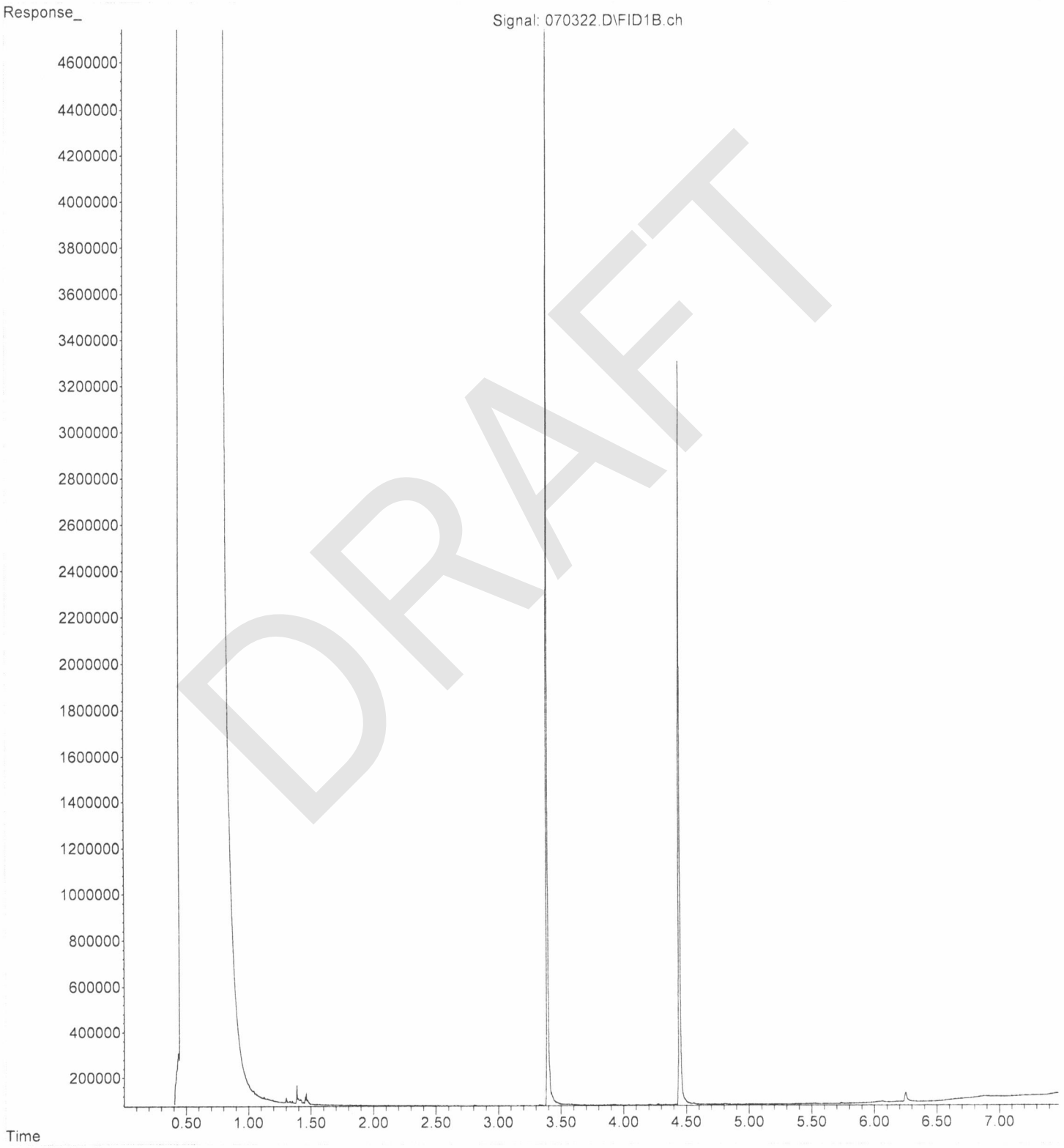
File :P:\Proc_GC10\07-03-24\070320.D
Operator : IJL
Acquired : 03 Jul 2024 01:11 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-05
Misc Info :
Vial Number: 16



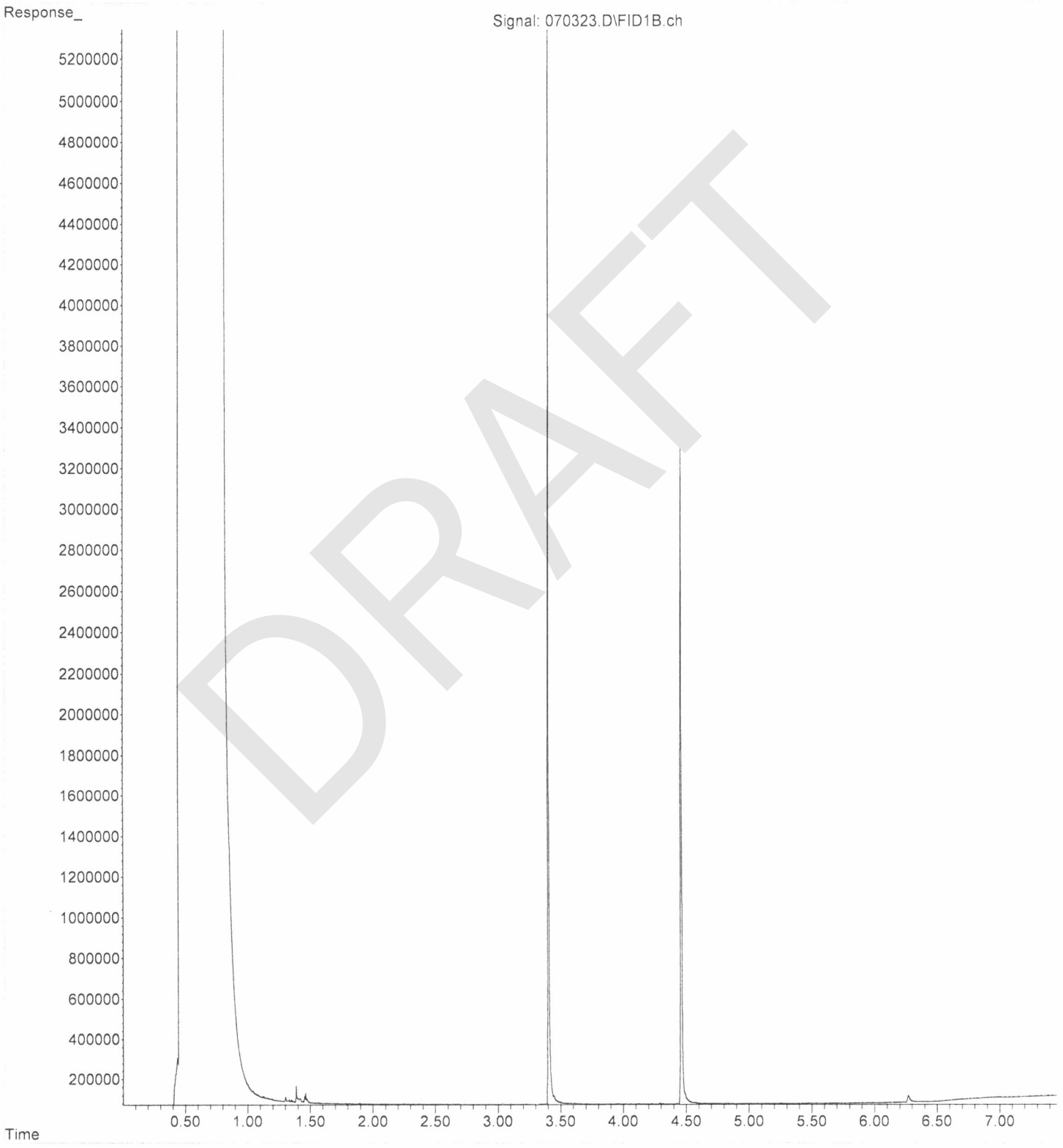
File :P:\Proc_GC10\07-03-24\070321.D
Operator : IJL
Acquired : 03 Jul 2024 01:24 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-06
Misc Info :
Vial Number: 17



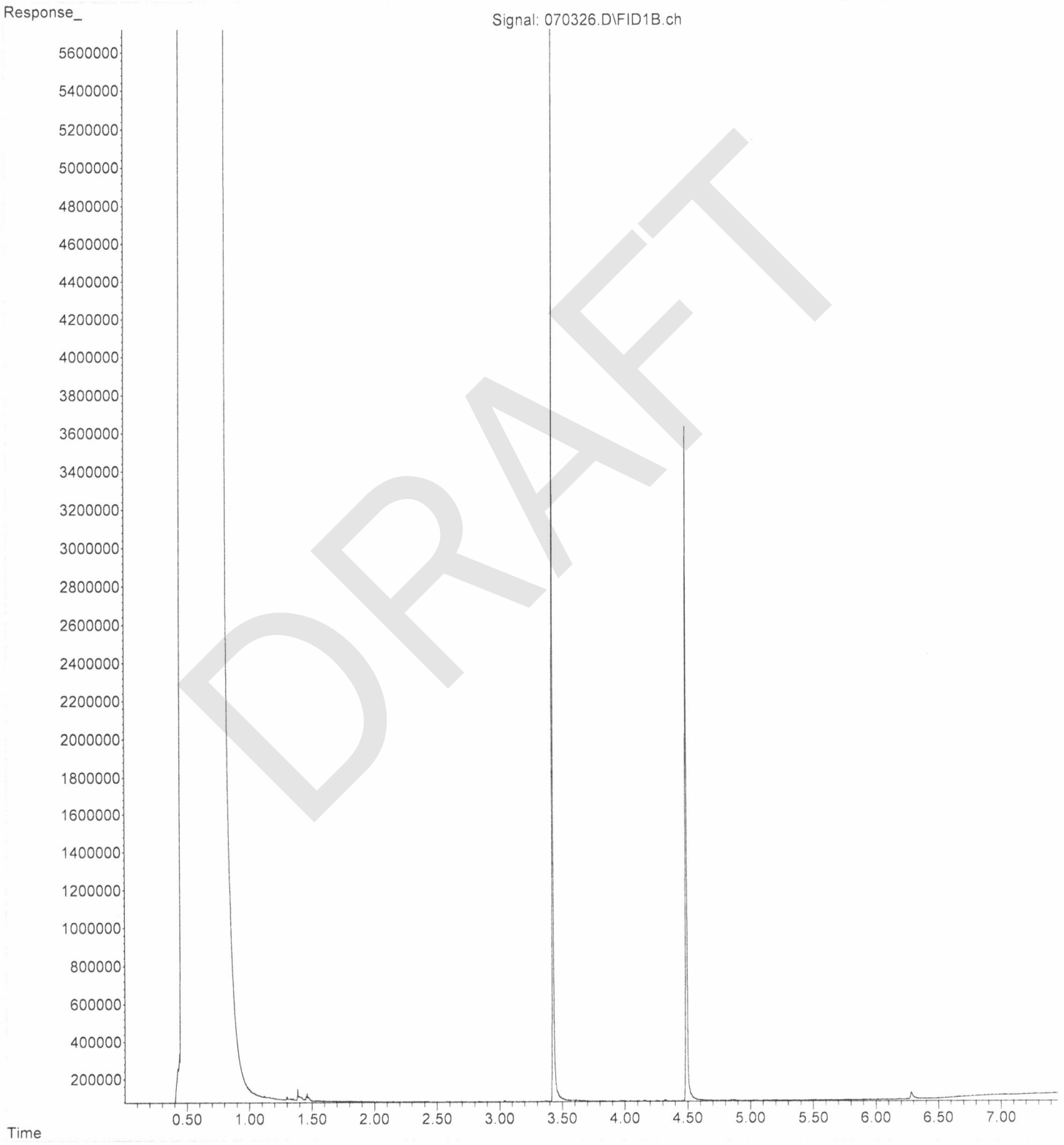
File :P:\Proc_GC10\07-03-24\070322.D
Operator : IJL
Acquired : 03 Jul 2024 01:36 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-07
Misc Info :
Vial Number: 18



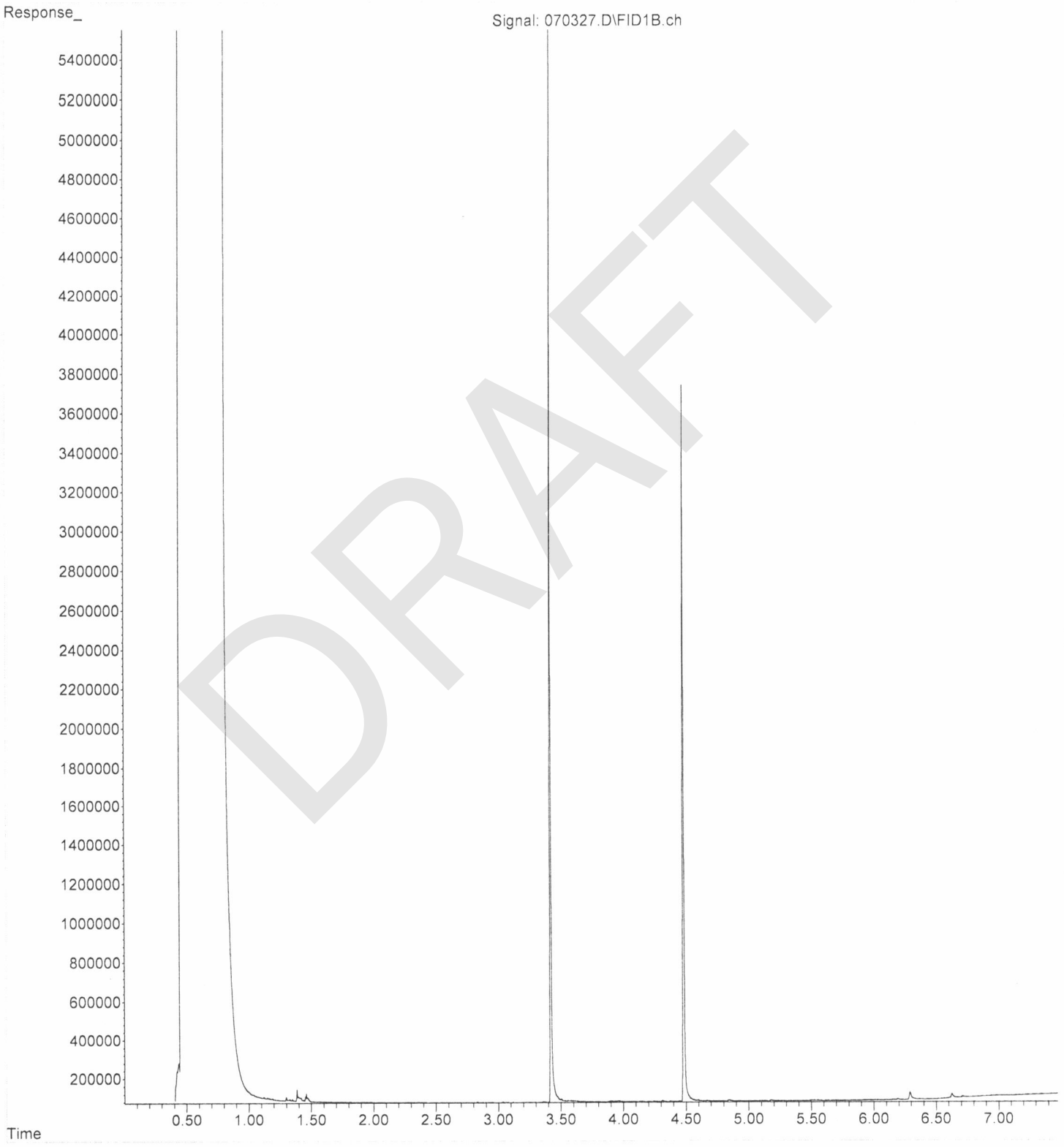
File :P:\Proc_GC10\07-03-24\070323.D
Operator : IJL
Acquired : 03 Jul 2024 01:48 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-08
Misc Info :
Vial Number: 19



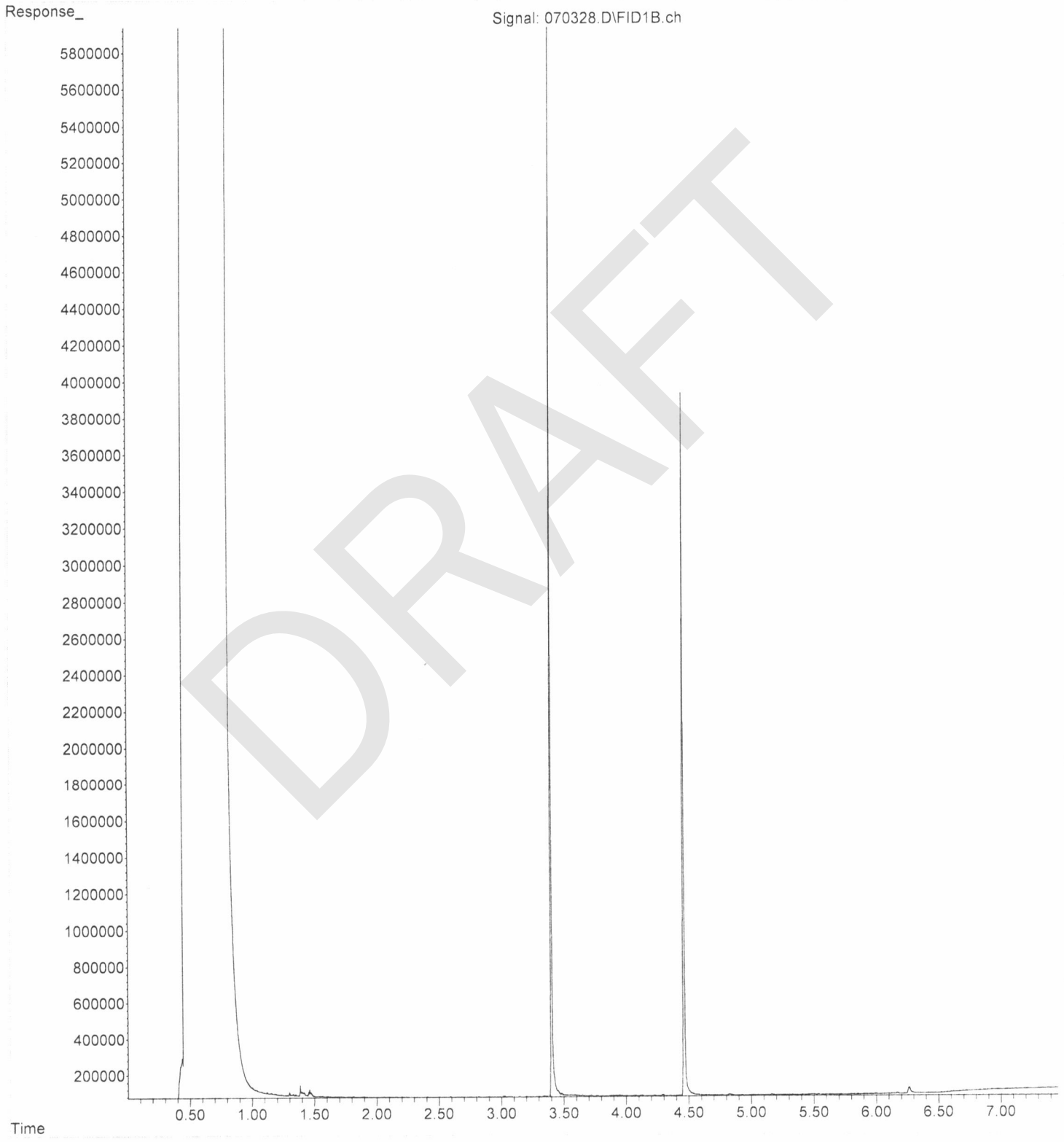
File :P:\Proc_GC10\07-03-24\070326.D
Operator : IJL
Acquired : 03 Jul 2024 02:24 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-09
Misc Info :
Vial Number: 20



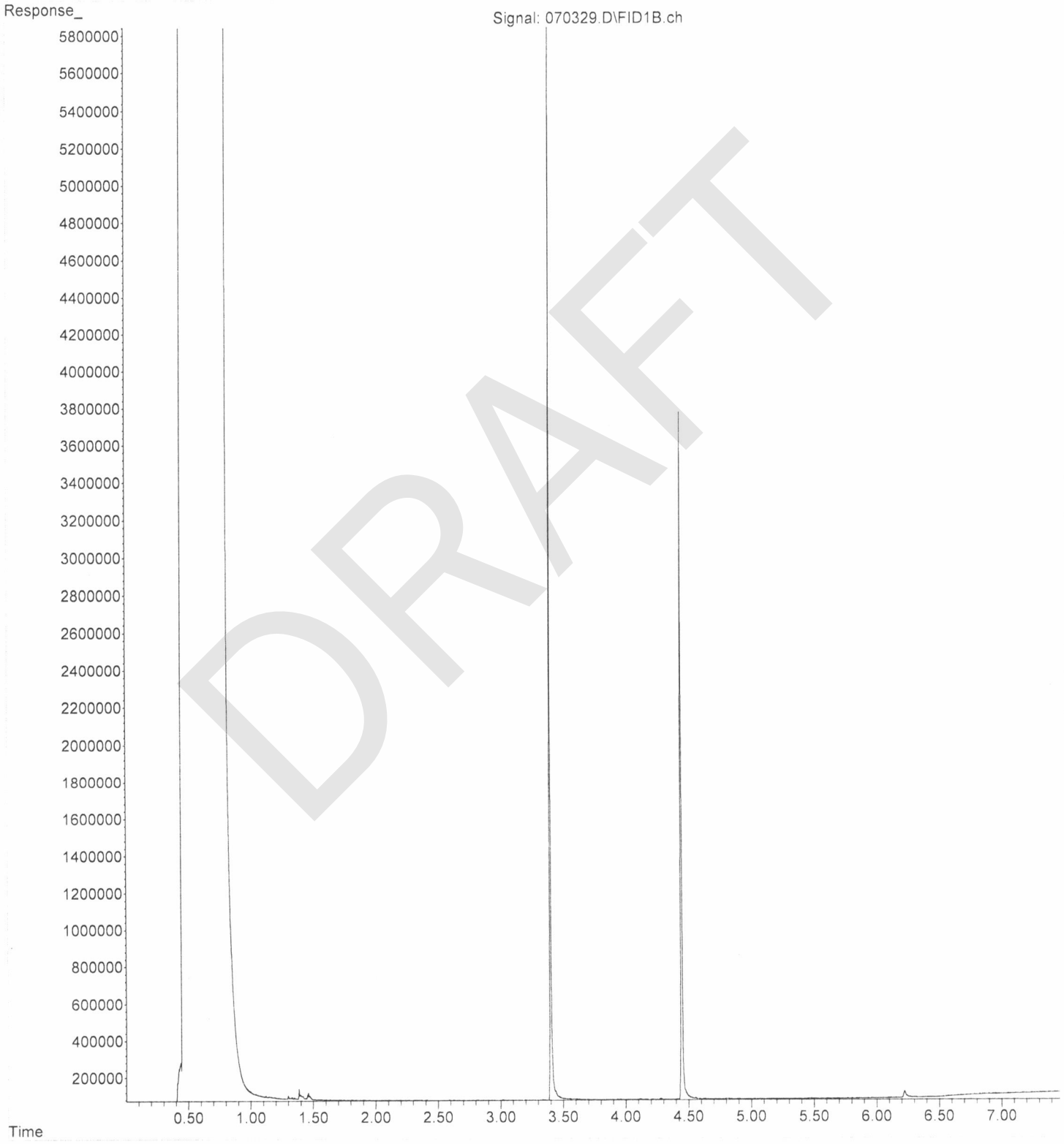
File :P:\Proc_GC10\07-03-24\070327.D
Operator : IJL
Acquired : 03 Jul 2024 02:36 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-10
Misc Info :
Vial Number: 21



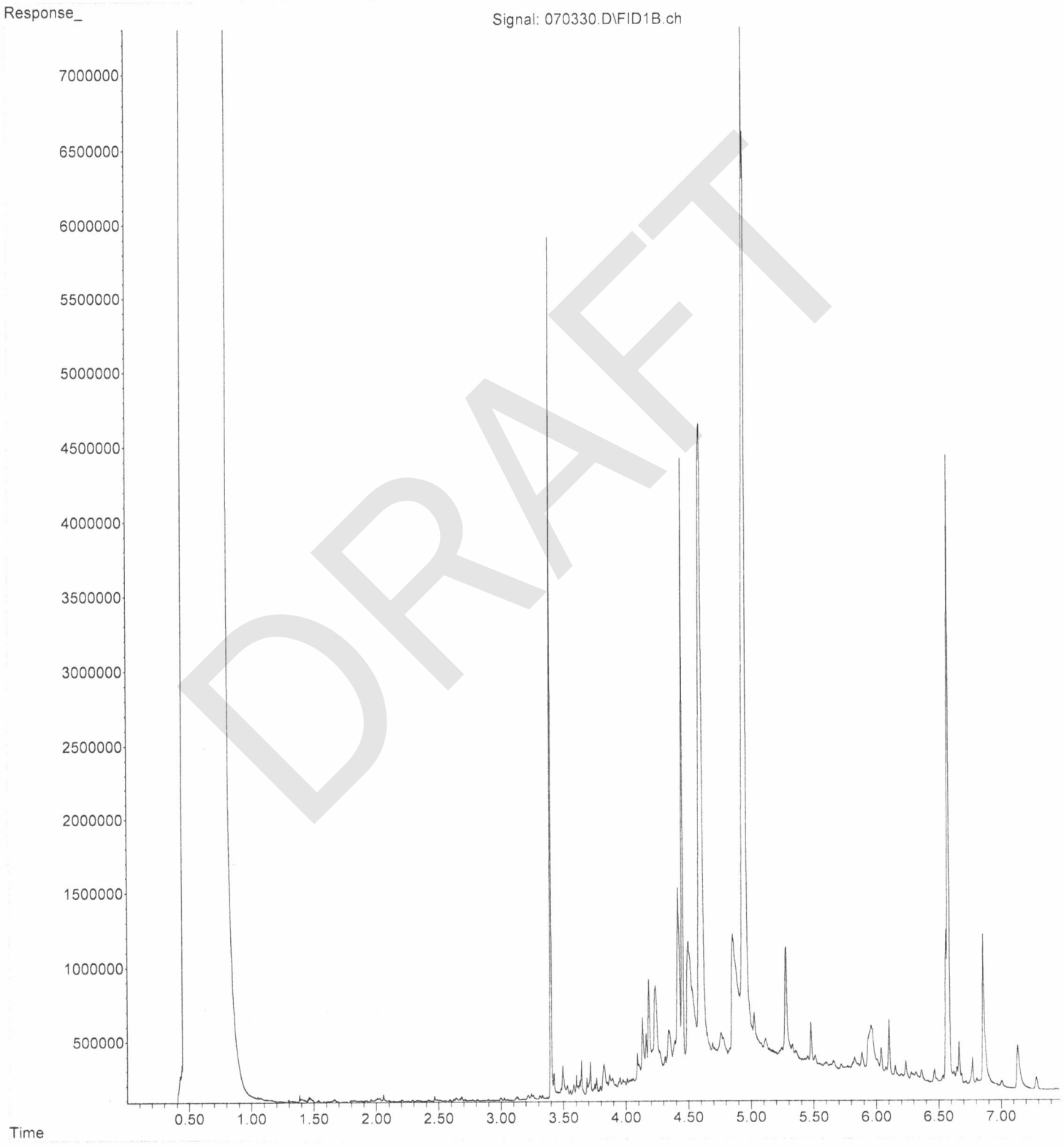
File :P:\Proc_GC10\07-03-24\070328.D
Operator : IJL
Acquired : 03 Jul 2024 02:48 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-11
Misc Info :
Vial Number: 22



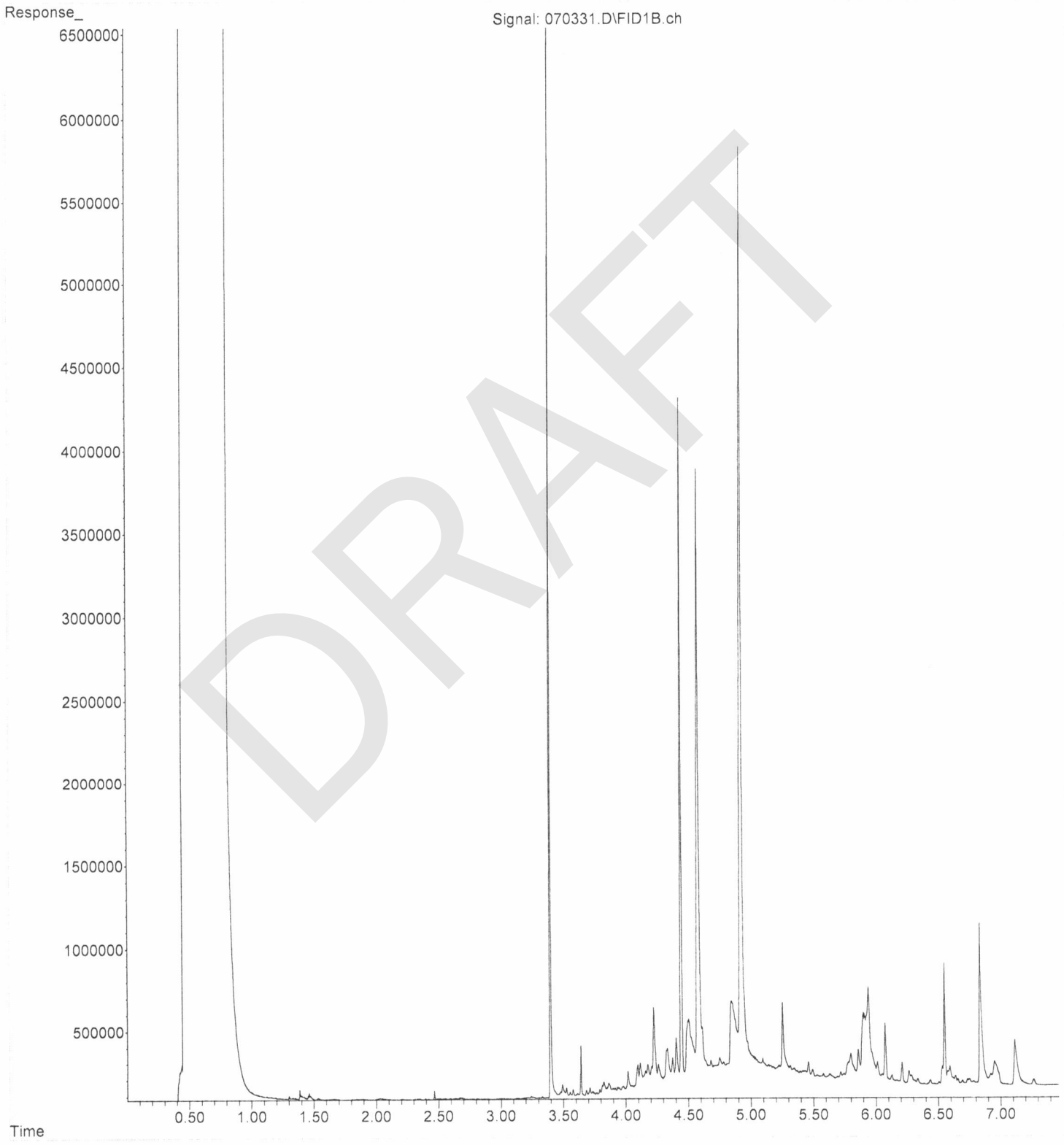
File :P:\Proc_GC10\07-03-24\070329.D
Operator : IJL
Acquired : 03 Jul 2024 03:00 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-12
Misc Info :
Vial Number: 23



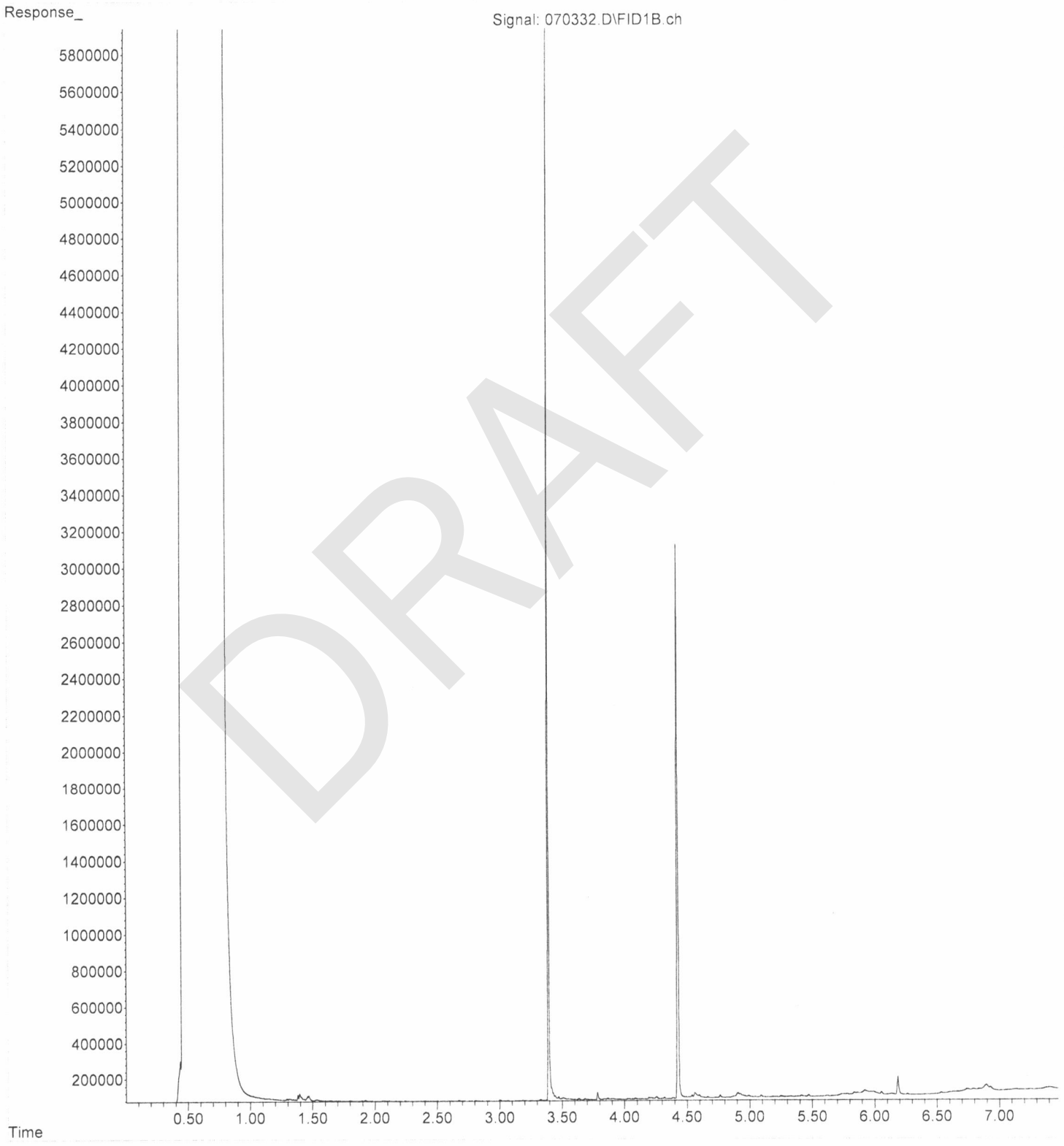
File :P:\Proc_GC10\07-03-24\070330.D
Operator : IJL
Acquired : 03 Jul 2024 03:12 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-13
Misc Info :
Vial Number: 24



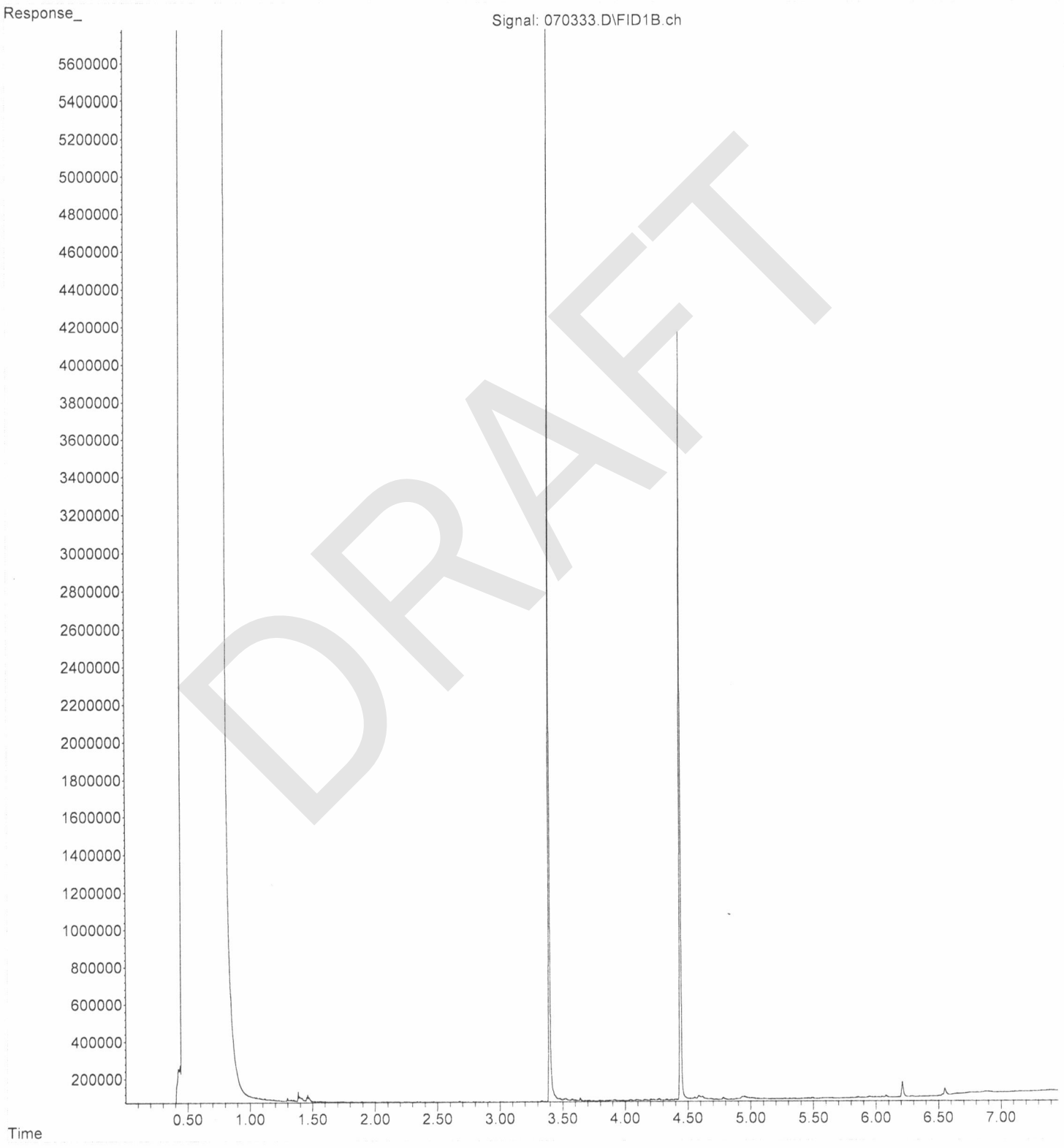
File :P:\Proc_GC10\07-03-24\070331.D
Operator : IJL
Acquired : 03 Jul 2024 03:24 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-14
Misc Info :
Vial Number: 25



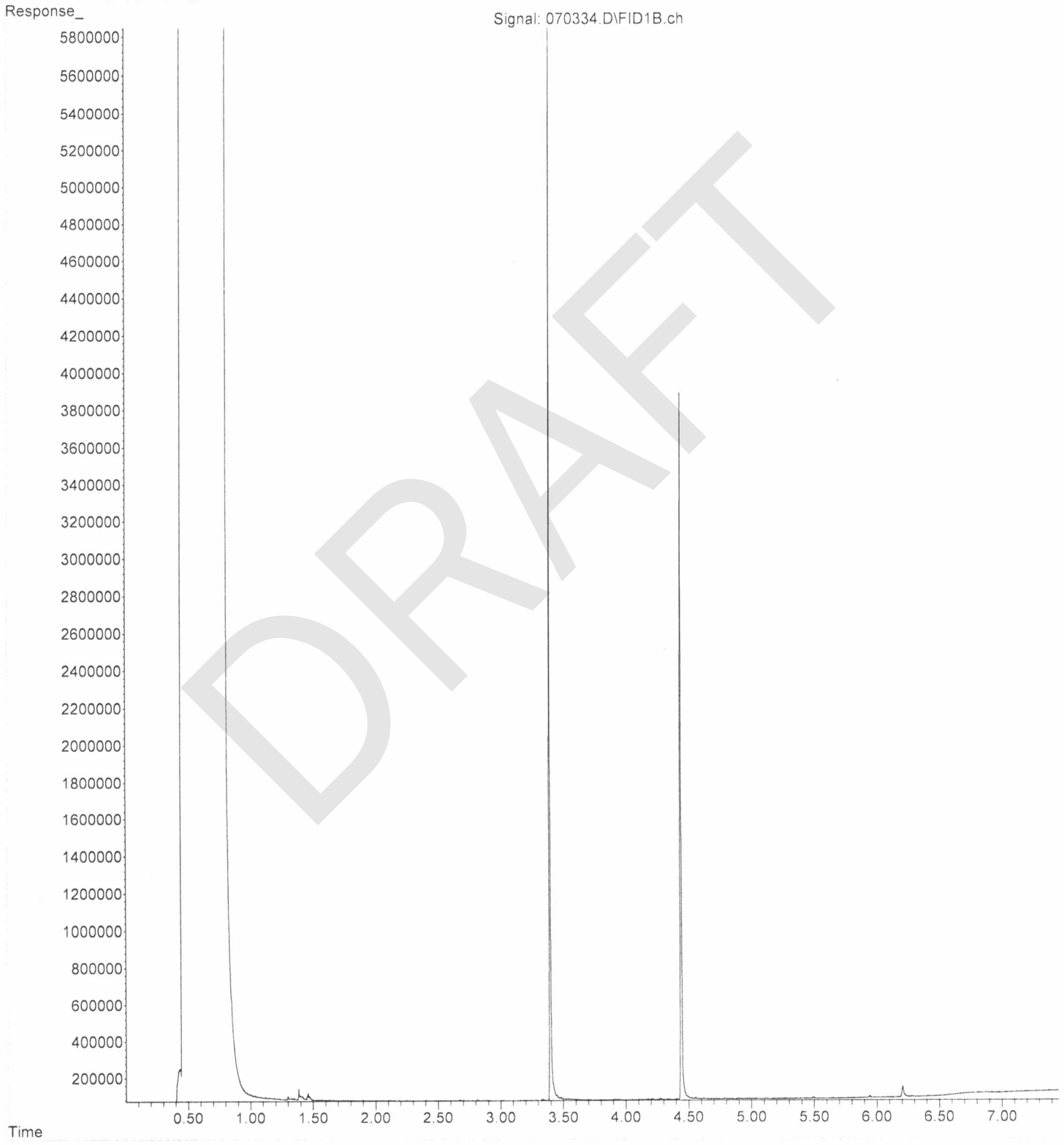
File :P:\Proc_GC10\07-03-24\070332.D
Operator : IJL
Acquired : 03 Jul 2024 03:36 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-15
Misc Info :
Vial Number: 26



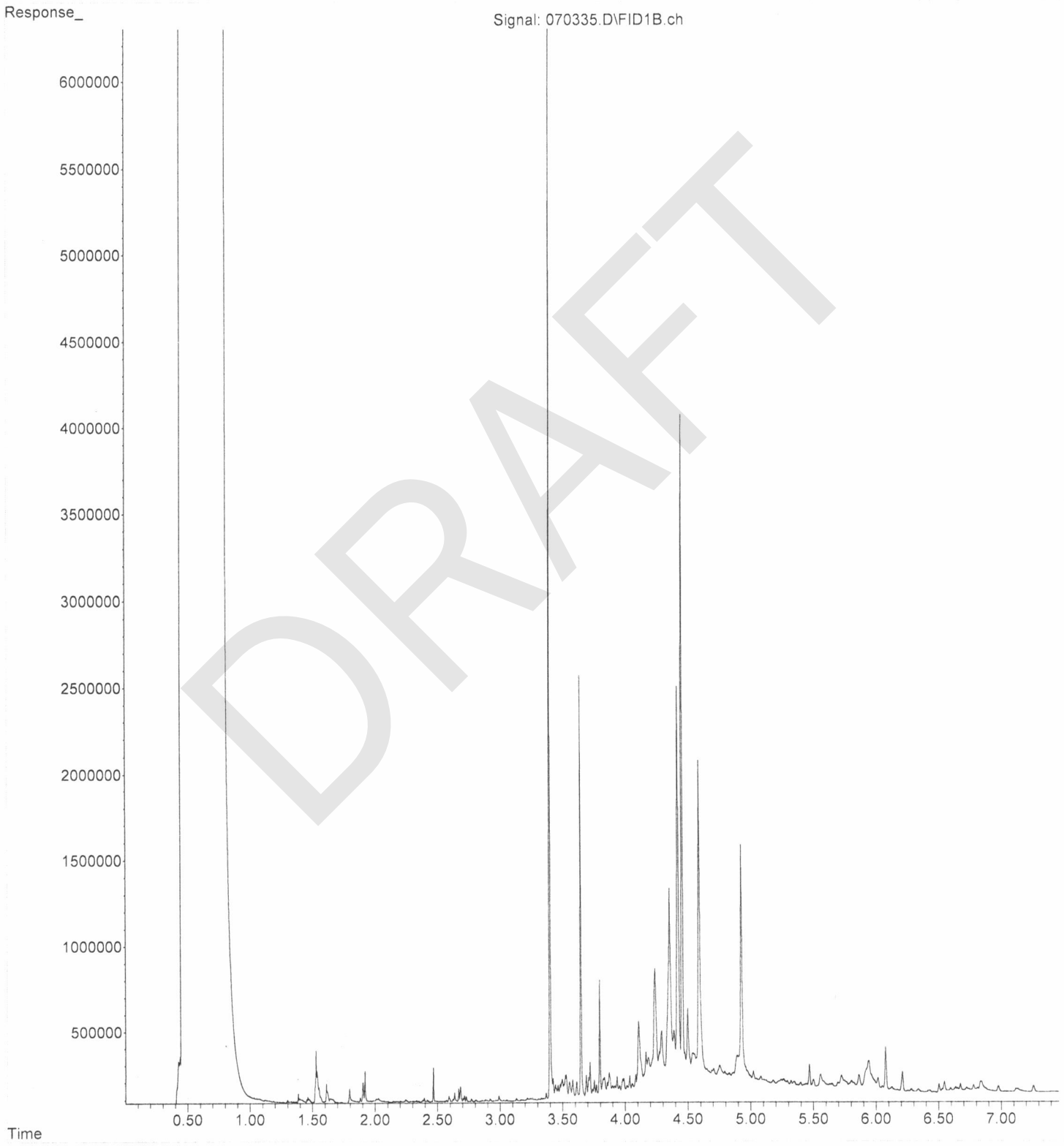
File :P:\Proc_GC10\07-03-24\070333.D
Operator : IJL
Acquired : 03 Jul 2024 03:48 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-16
Misc Info :
Vial Number: 27



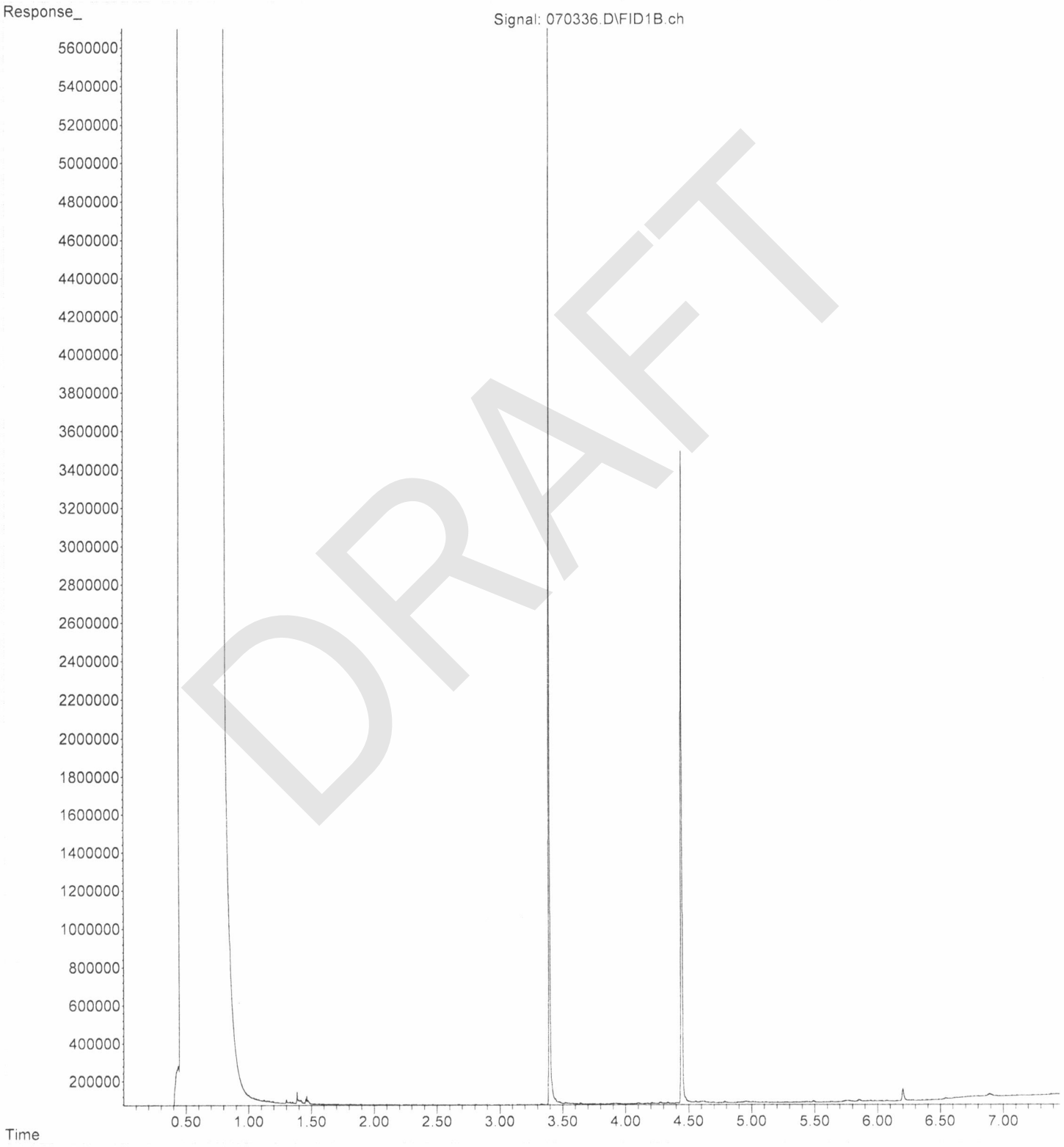
File :P:\Proc_GC10\07-03-24\070334.D
Operator : IJL
Acquired : 03 Jul 2024 04:00 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-17
Misc Info :
Vial Number: 28



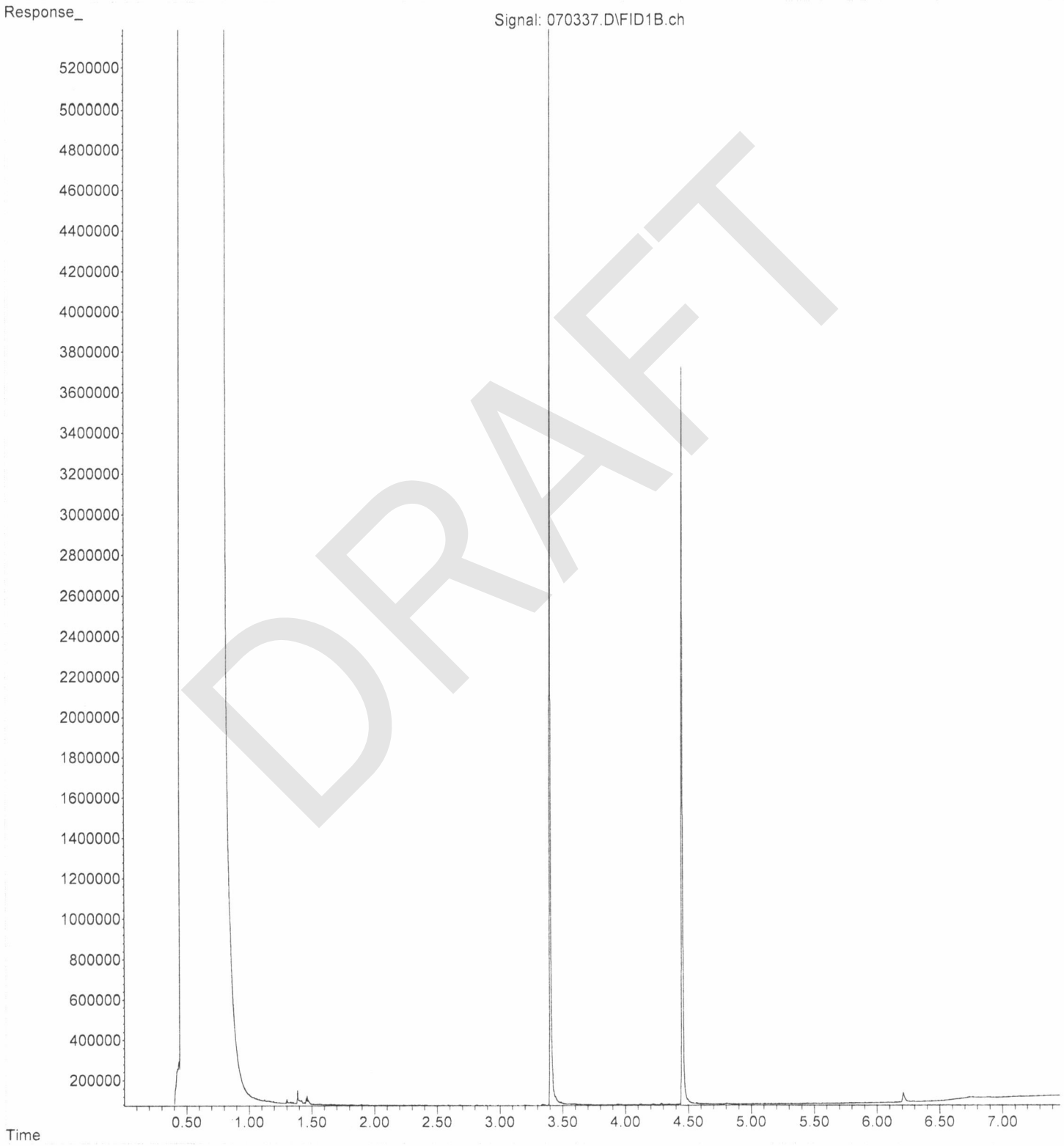
File :P:\Proc_GC10\07-03-24\070335.D
Operator : IJL
Acquired : 03 Jul 2024 04:12 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-18
Misc Info :
Vial Number: 29



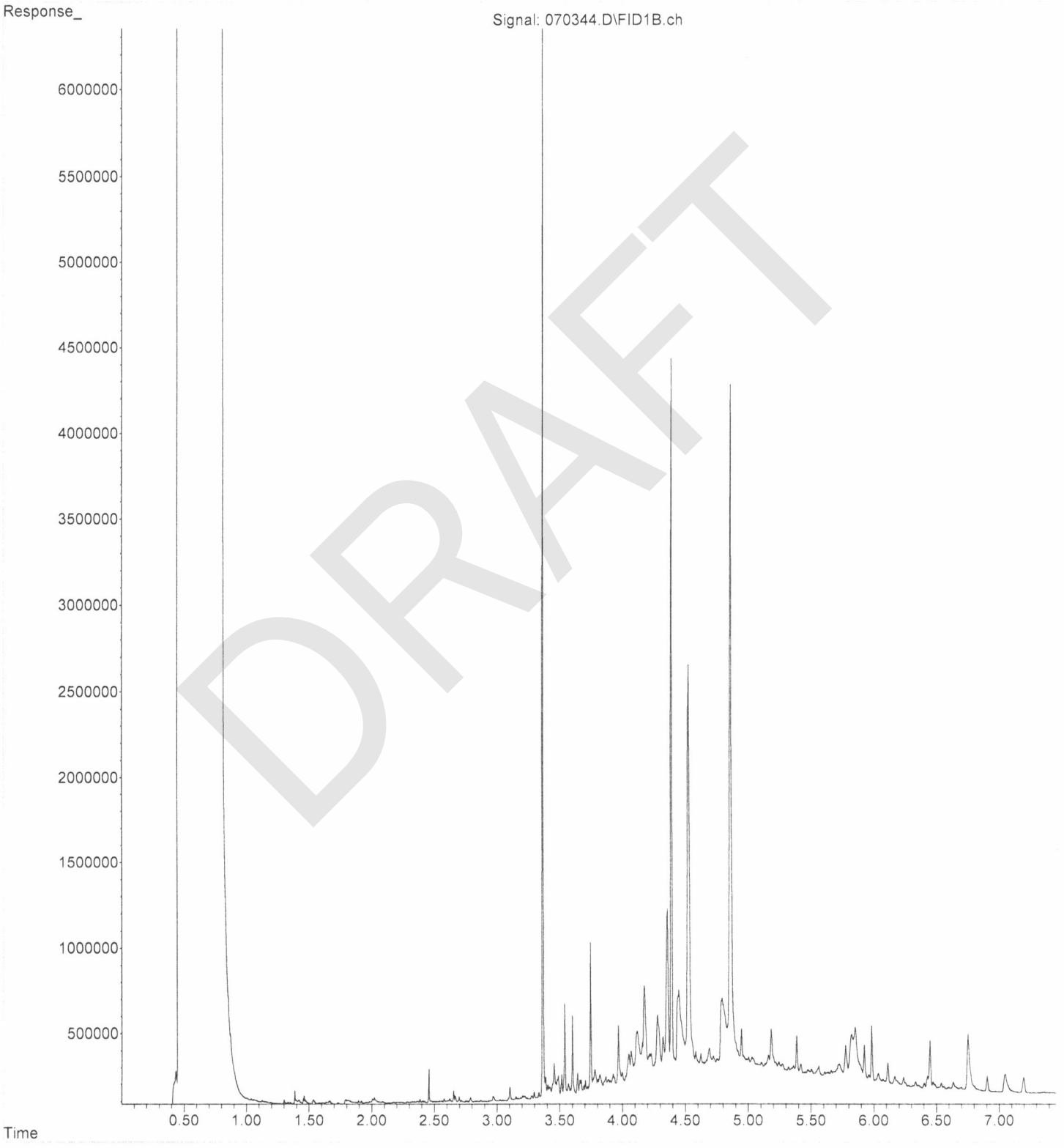
File :P:\Proc_GC10\07-03-24\070336.D
Operator : IJL
Acquired : 03 Jul 2024 04:24 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-19
Misc Info :
Vial Number: 30



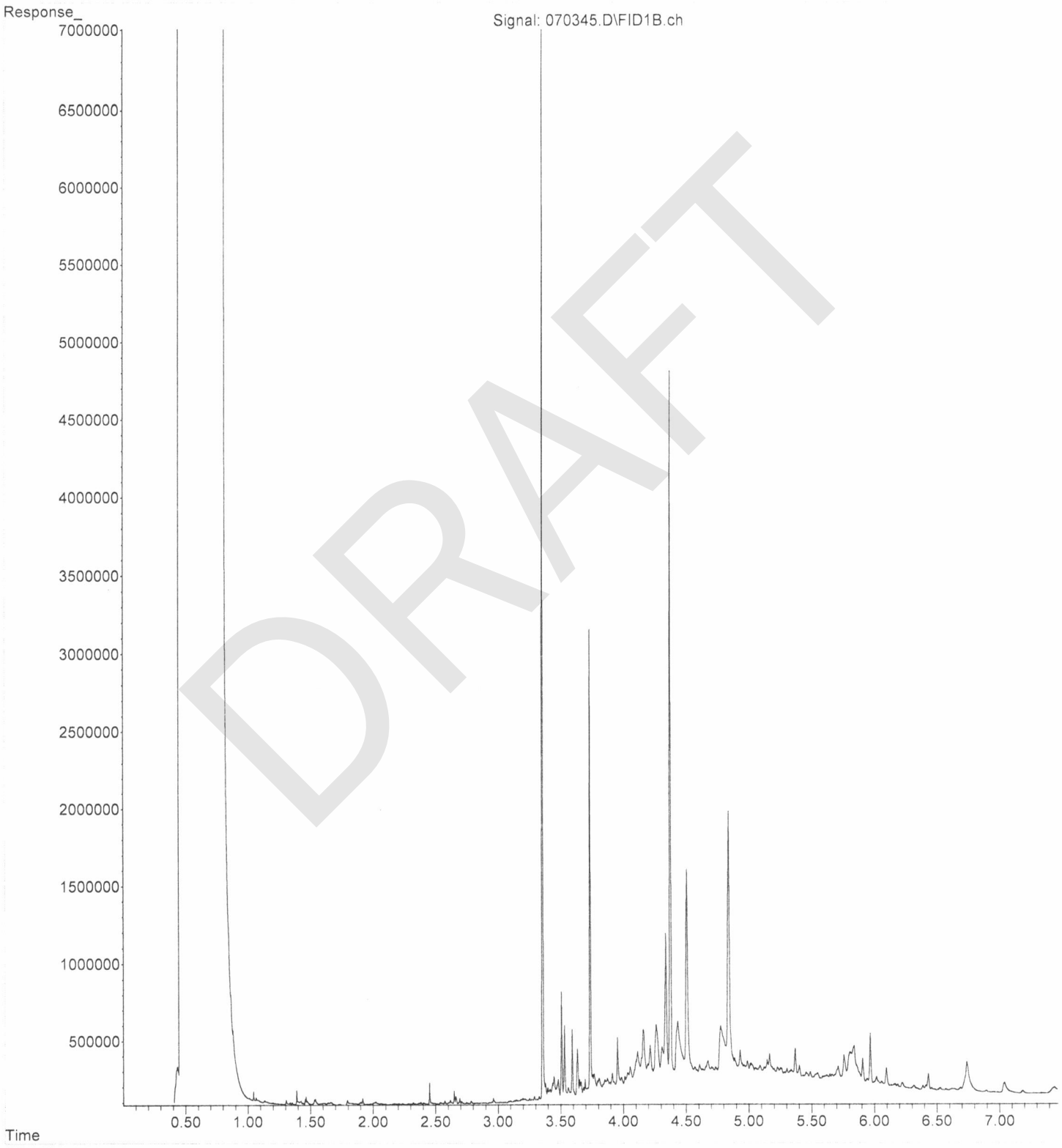
File :P:\Proc_GC10\07-03-24\070337.D
Operator : IJL
Acquired : 03 Jul 2024 04:37 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-20
Misc Info :
Vial Number: 31



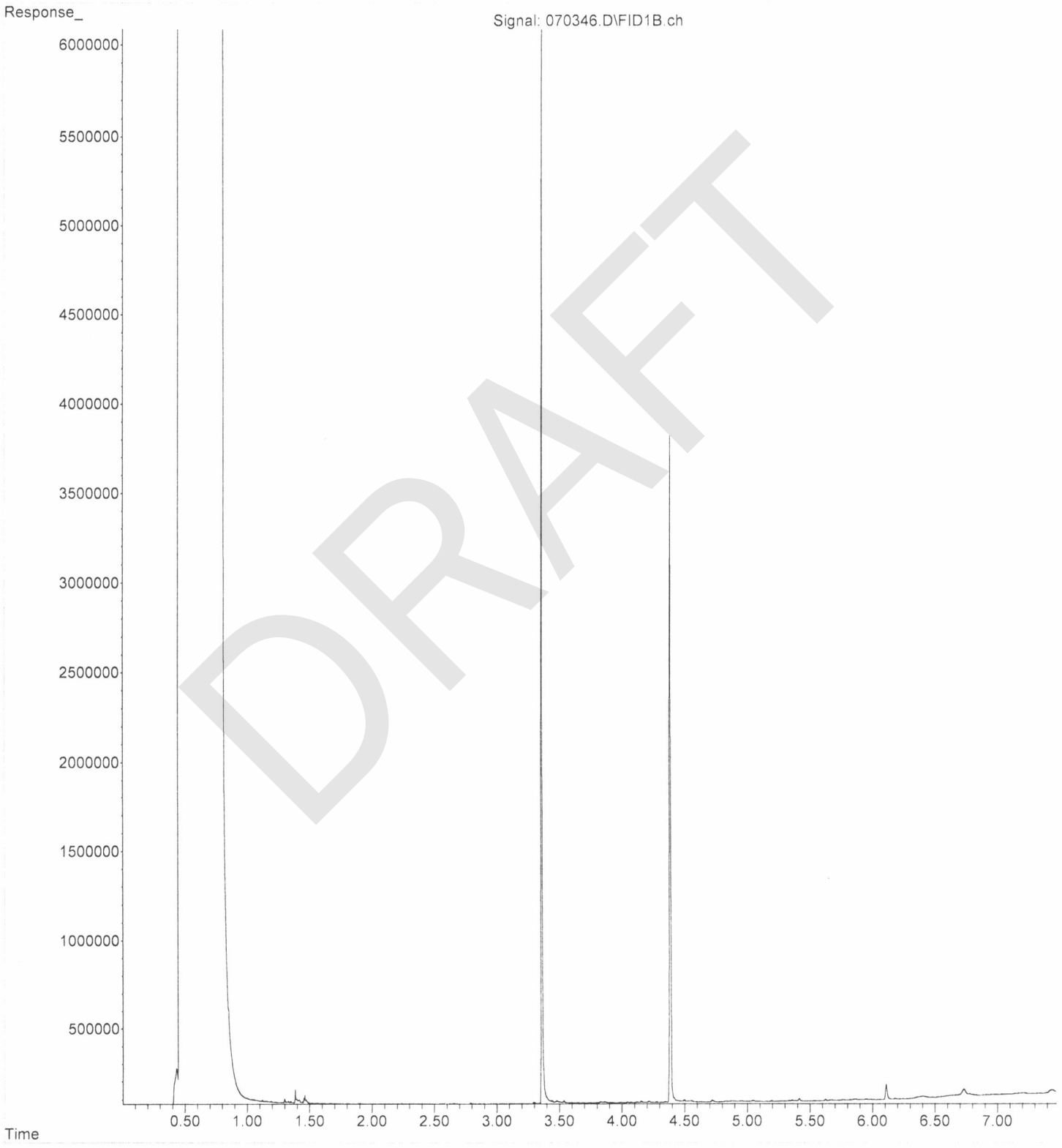
File :P:\Proc_GC10\07-03-24\070344.D
Operator : IJL
Acquired : 03 Jul 2024 06:00 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-21
Misc Info :
Vial Number: 36



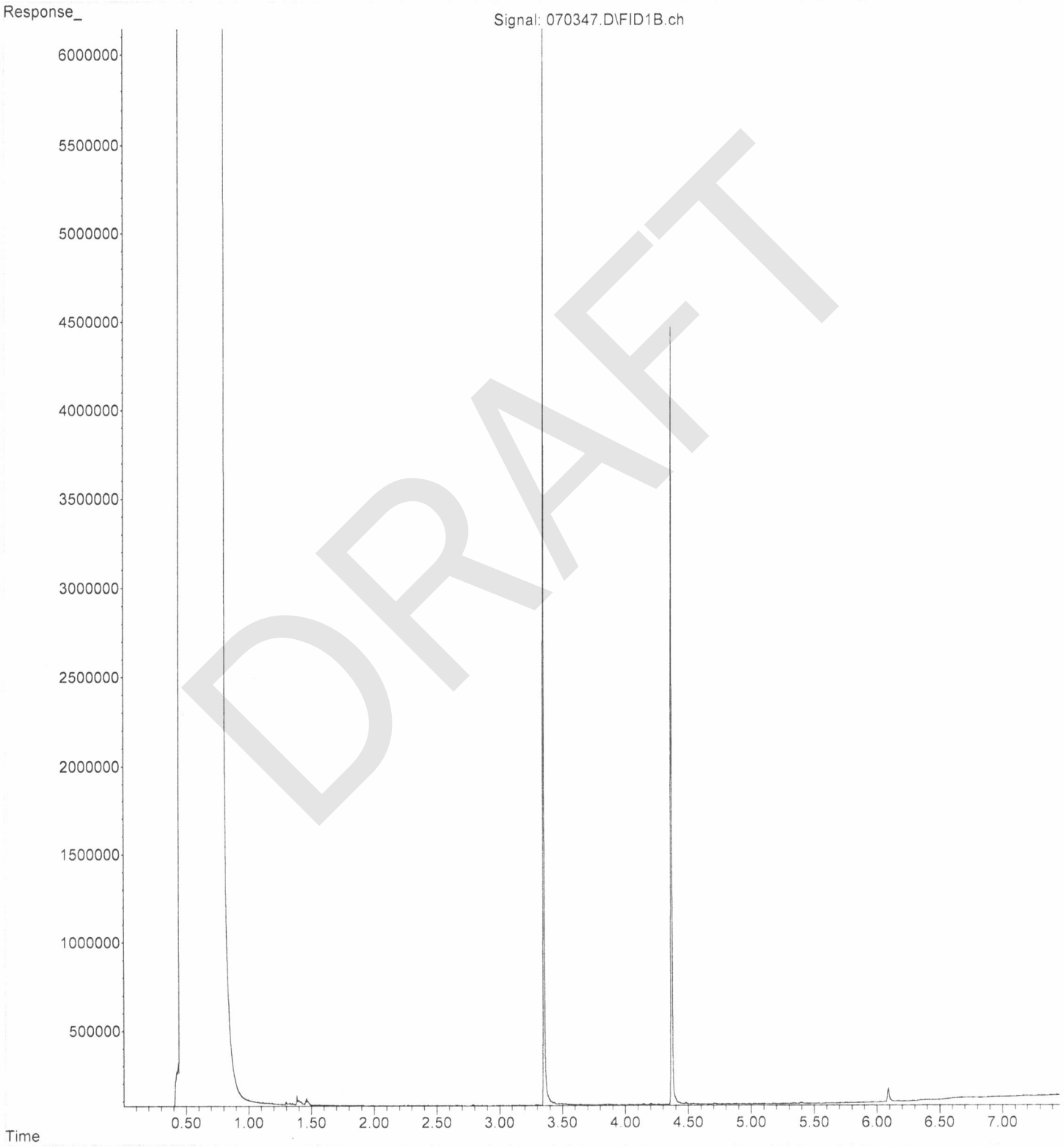
File :P:\Proc_GC10\07-03-24\070345.D
Operator : IJL
Acquired : 03 Jul 2024 06:12 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-22
Misc Info :
Vial Number: 37



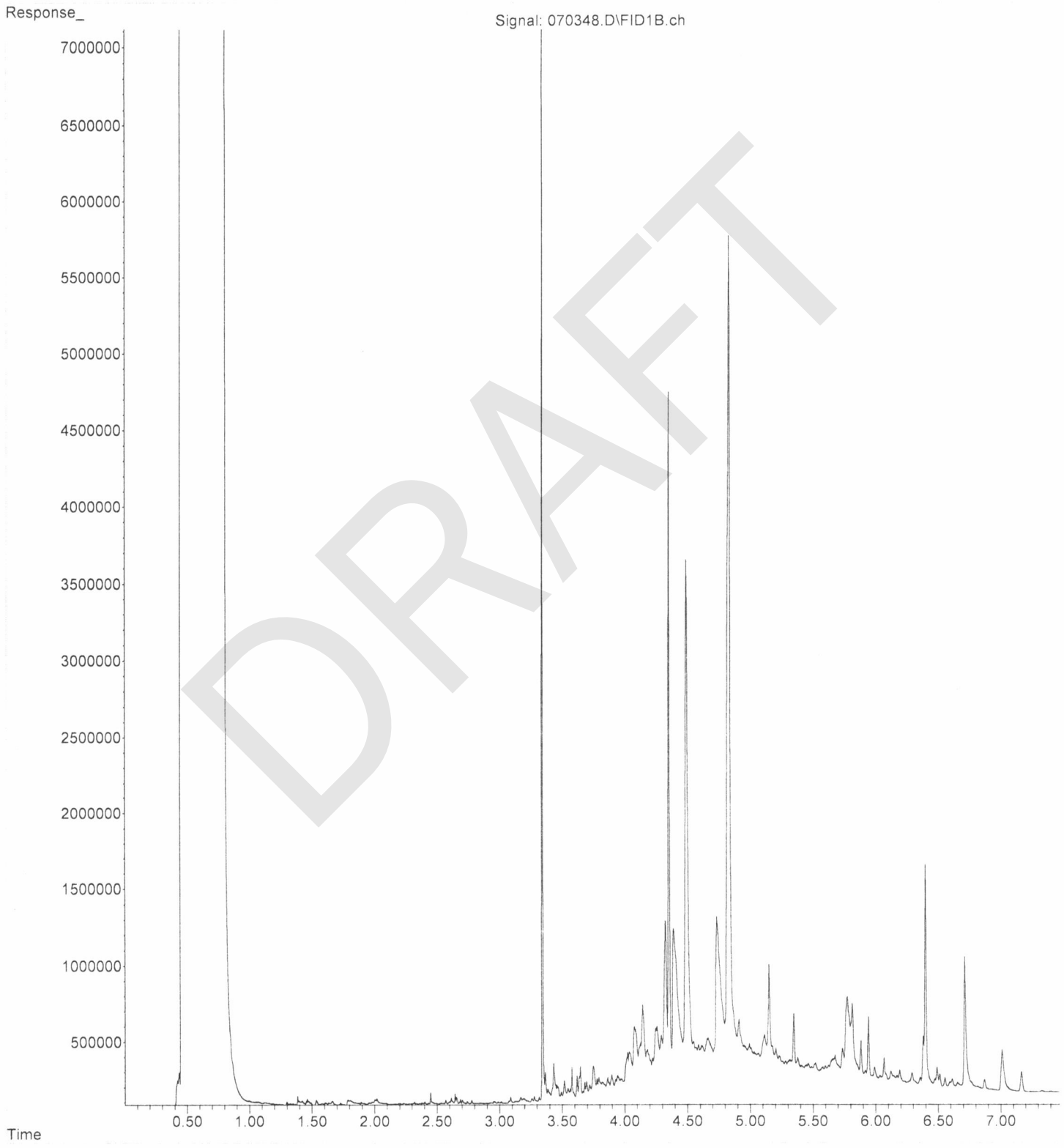
File :P:\Proc_GC10\07-03-24\070346.D
Operator : IJL
Acquired : 03 Jul 2024 06:24 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-23
Misc Info :
Vial Number: 38



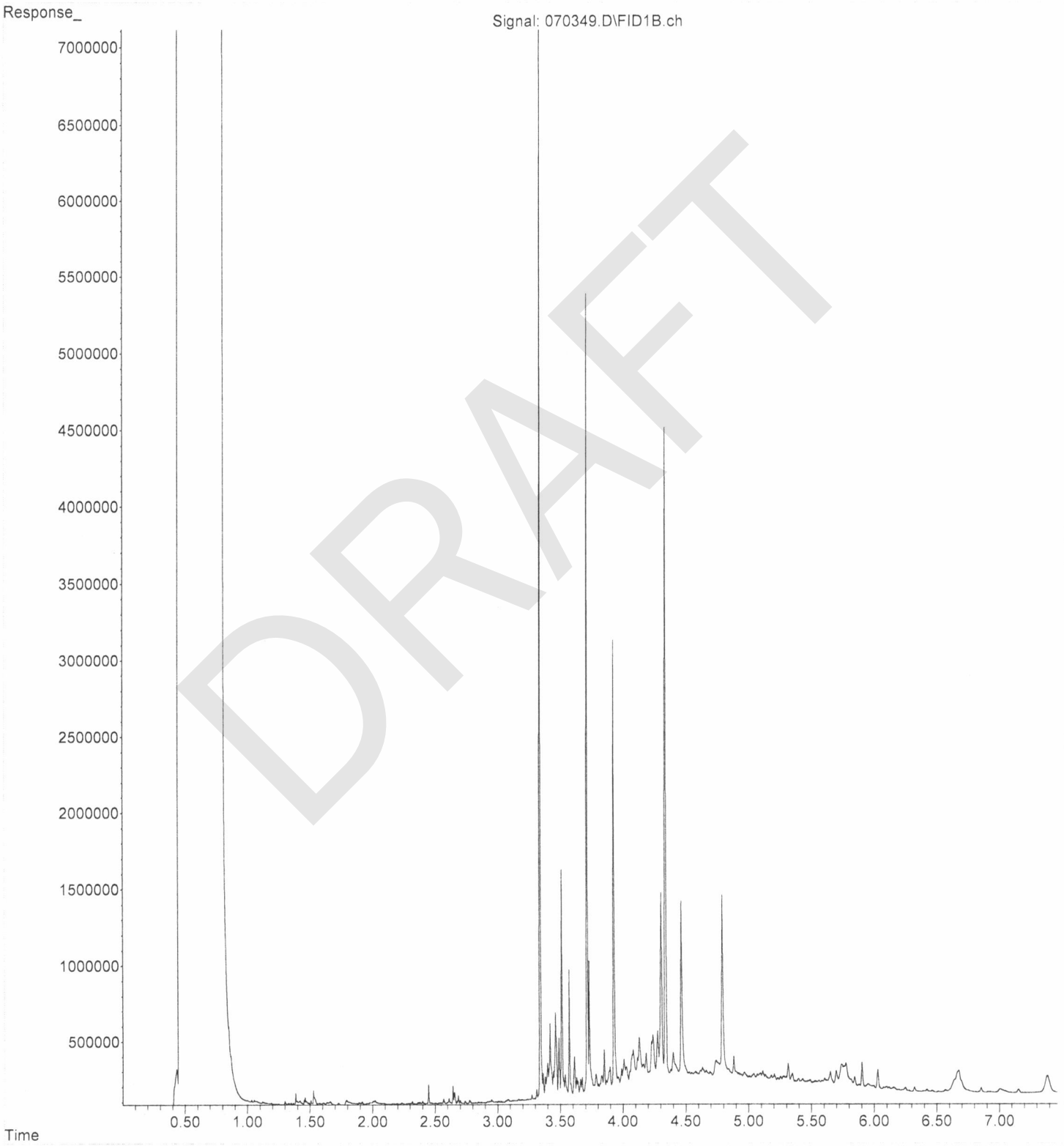
File :P:\Proc_GC10\07-03-24\070347.D
Operator : IJL
Acquired : 03 Jul 2024 06:36 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-24
Misc Info :
Vial Number: 39



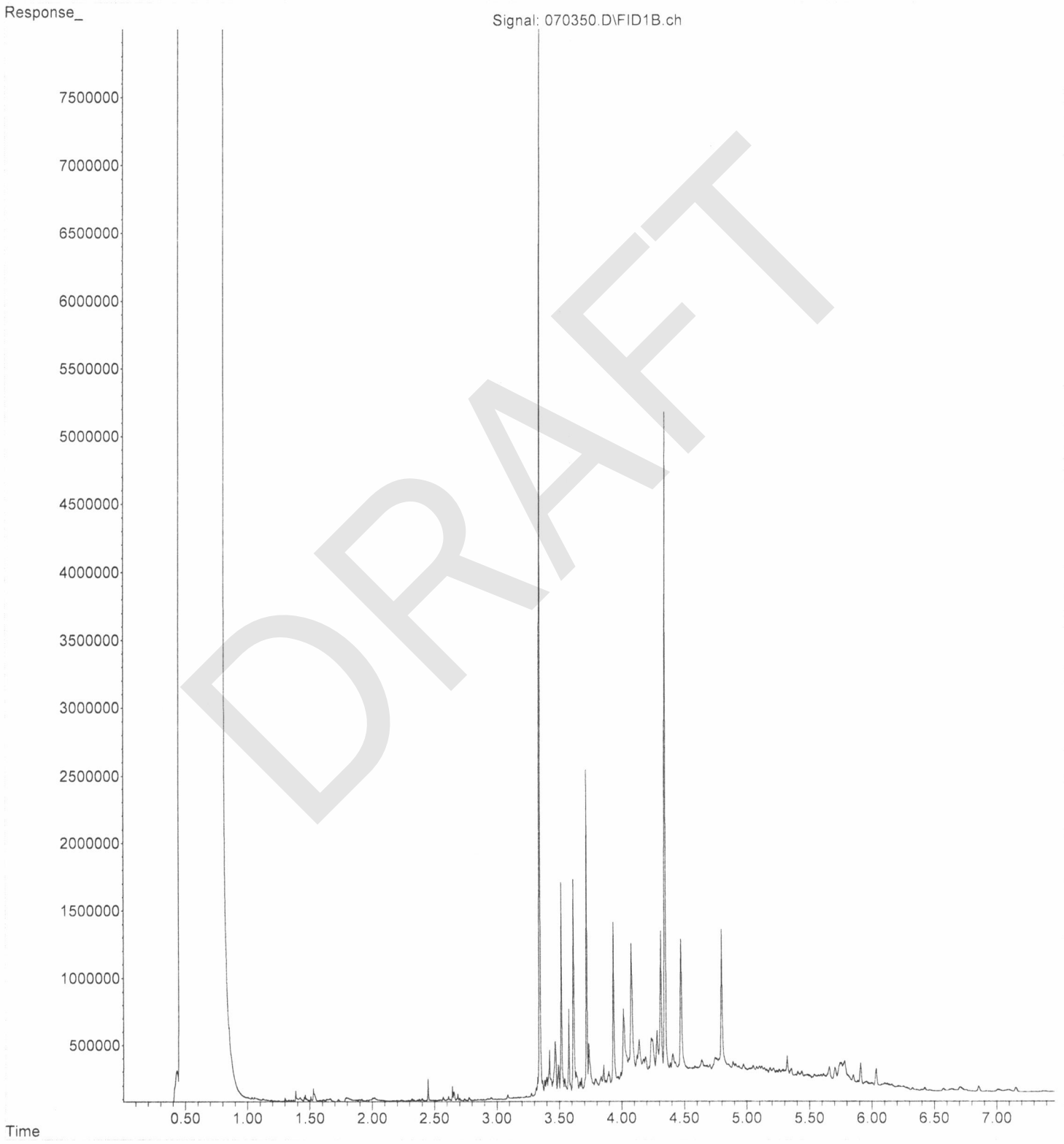
File :P:\Proc_GC10\07-03-24\070348.D
Operator : IJL
Acquired : 03 Jul 2024 06:48 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-25
Misc Info :
Vial Number: 40



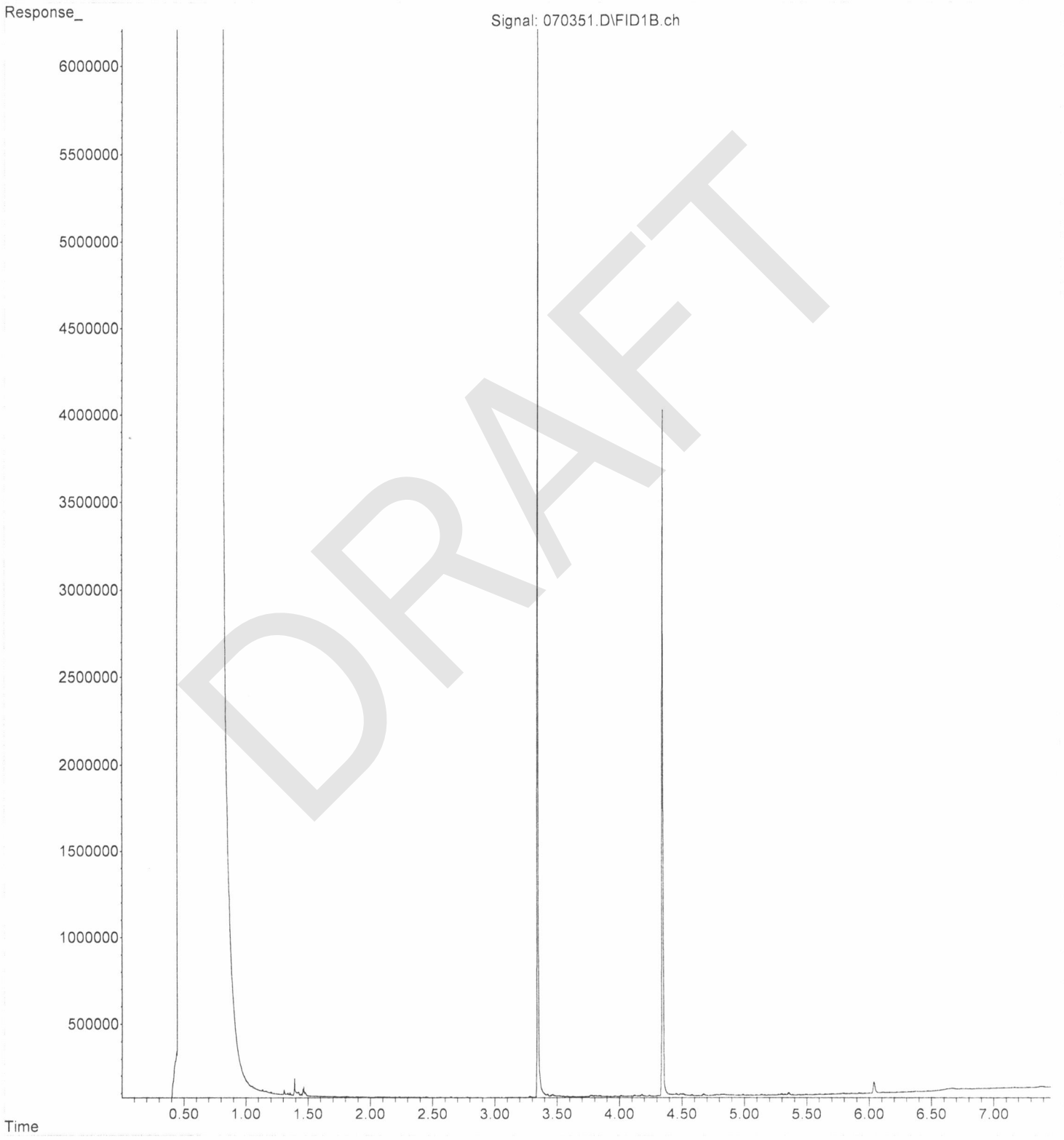
File :P:\Proc_GC10\07-03-24\070349.D
Operator : IJL
Acquired : 03 Jul 2024 07:00 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-26
Misc Info :
Vial Number: 41



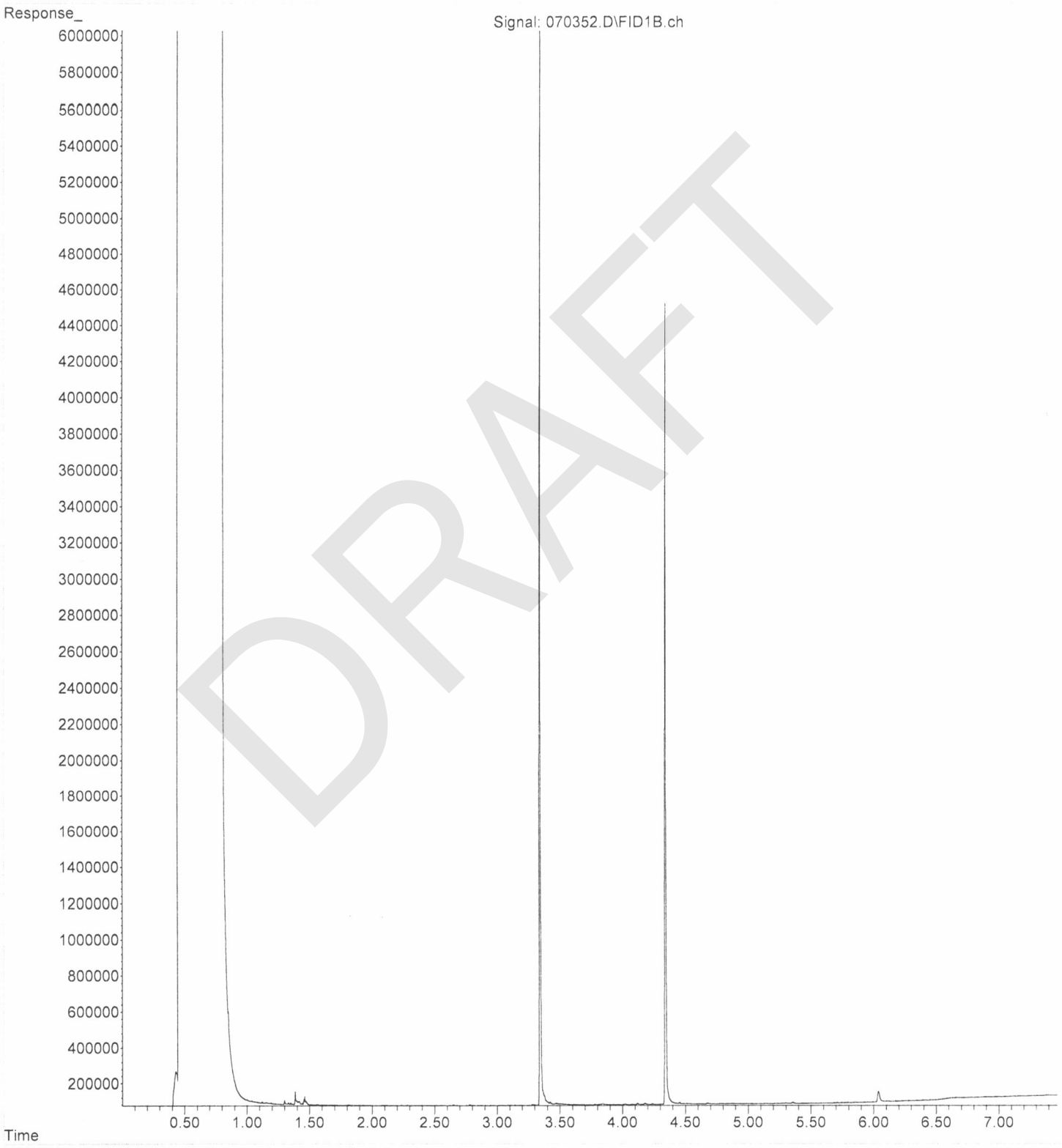
File :P:\Proc_GC10\07-03-24\070350.D
Operator : IJL
Acquired : 03 Jul 2024 07:12 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-27
Misc Info :
Vial Number: 42



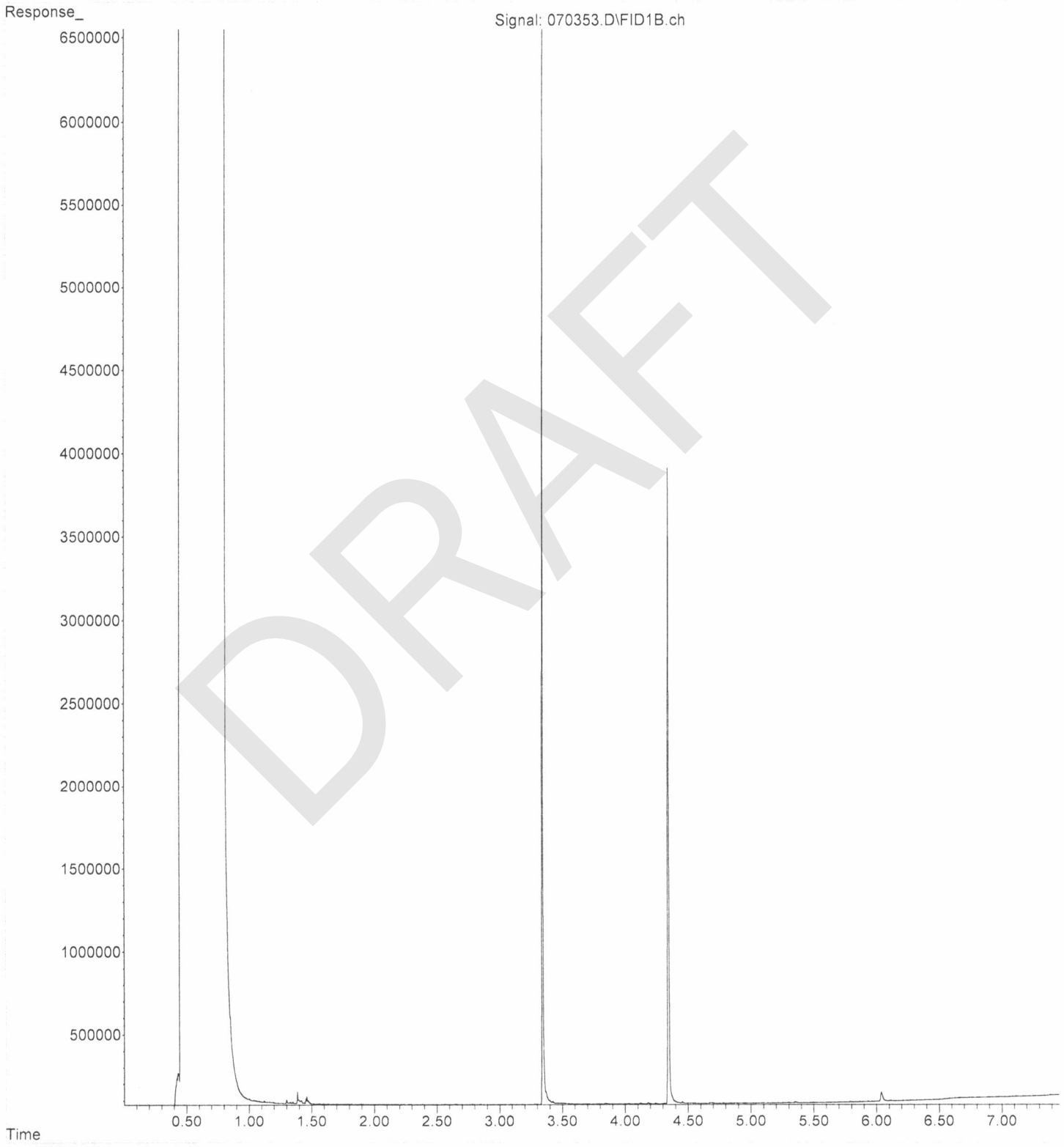
File :P:\Proc_GC10\07-03-24\070351.D
Operator : IJL
Acquired : 03 Jul 2024 07:24 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-28
Misc Info :
Vial Number: 43



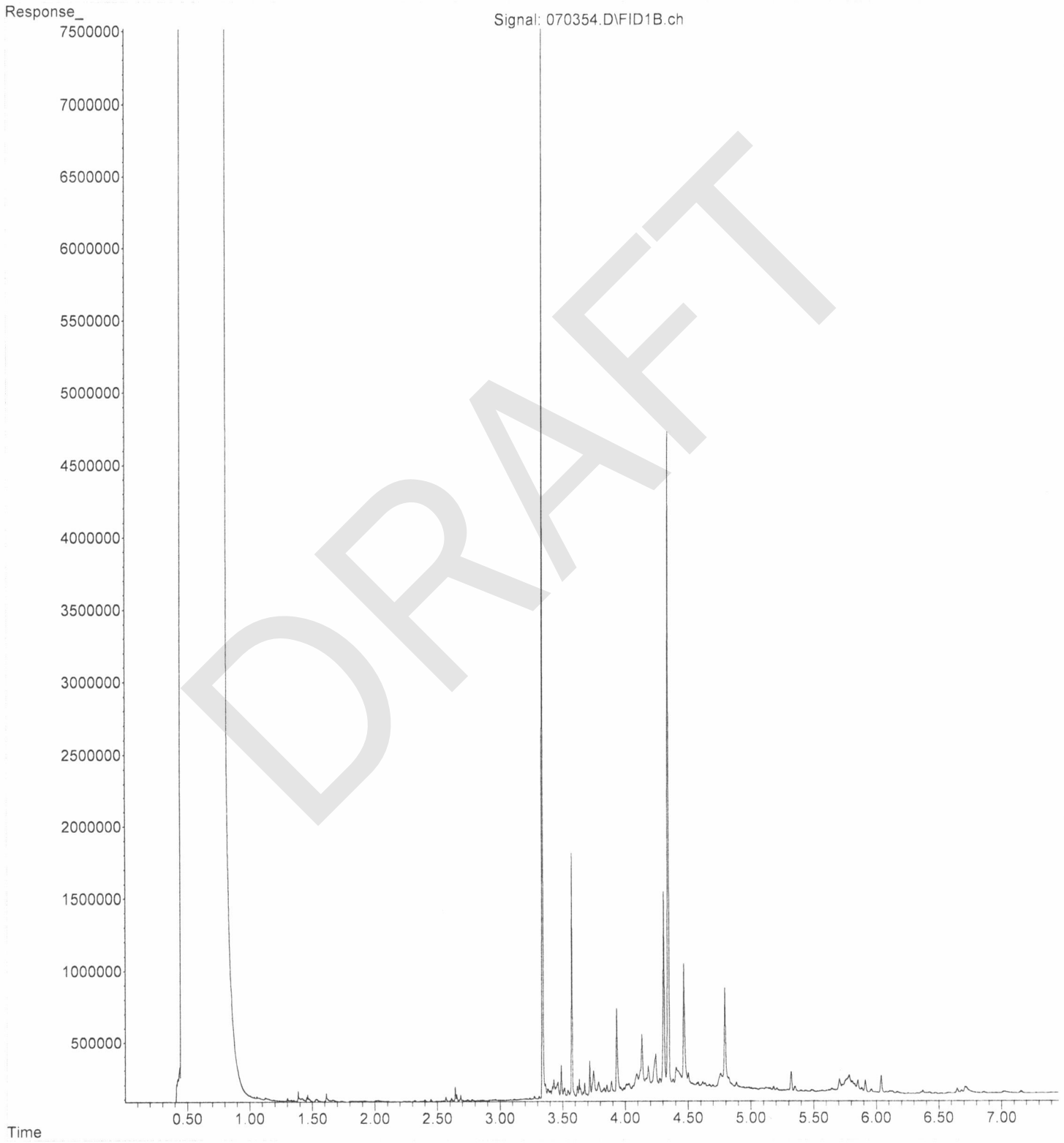
File :P:\Proc_GC10\07-03-24\070352.D
Operator : IJL
Acquired : 03 Jul 2024 07:36 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-29
Misc Info :
Vial Number: 44



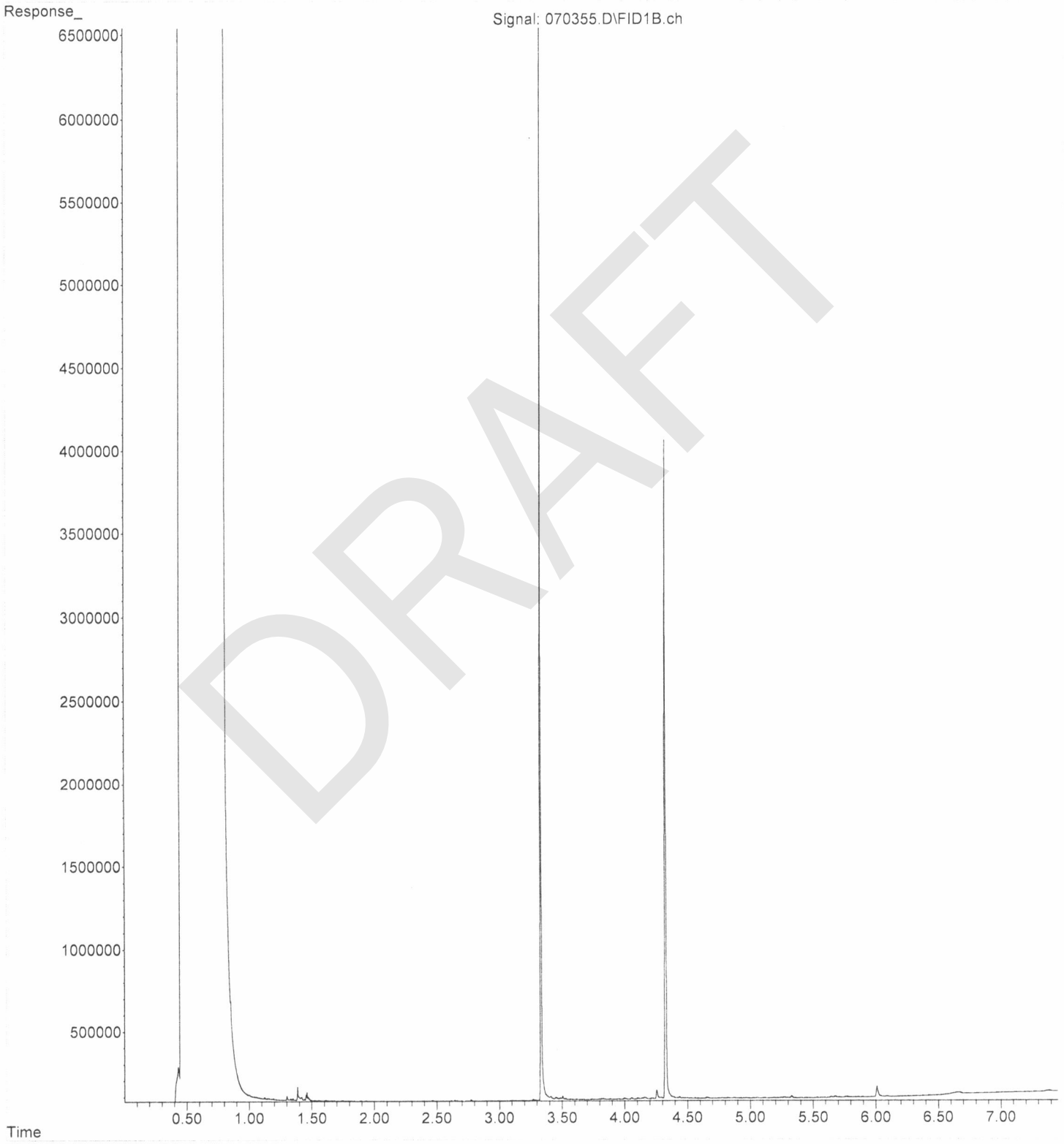
File :P:\Proc_GC10\07-03-24\070353.D
Operator : IJL
Acquired : 03 Jul 2024 07:48 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-30
Misc Info :
Vial Number: 45



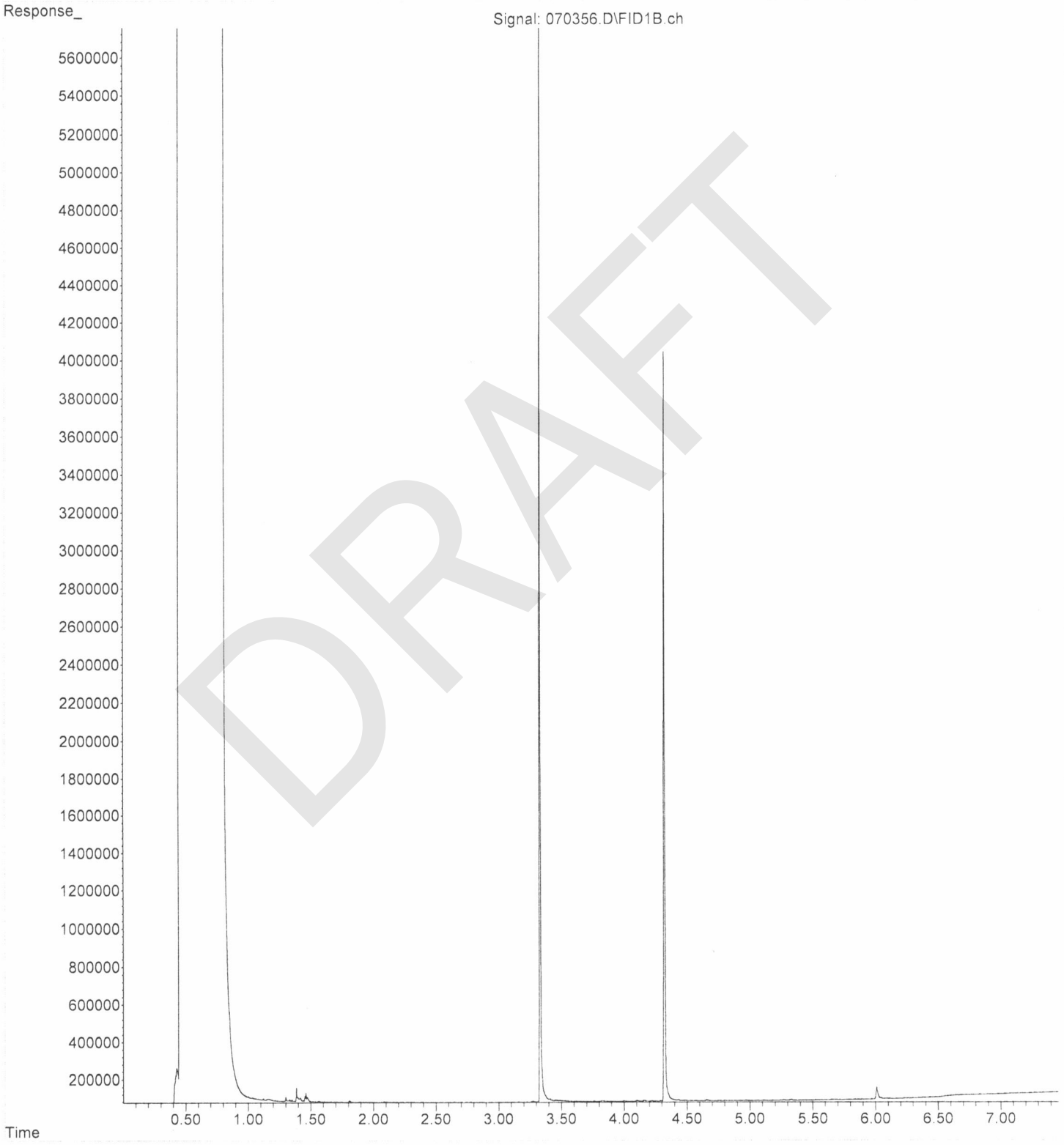
File :P:\Proc_GC10\07-03-24\070354.D
Operator : IJL
Acquired : 03 Jul 2024 08:00 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-31
Misc Info :
Vial Number: 46



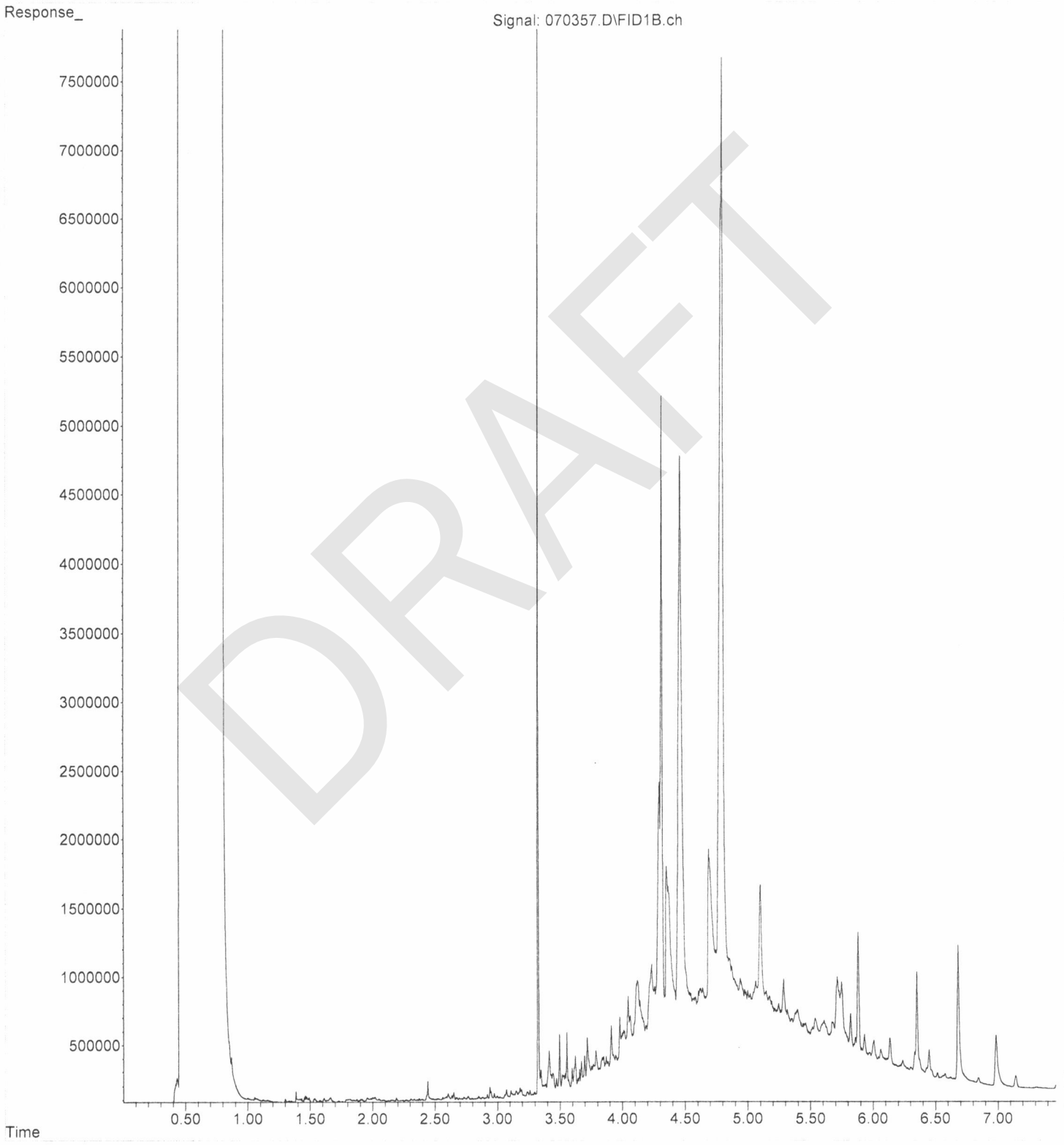
File :P:\Proc_GC10\07-03-24\070355.D
Operator : IJL
Acquired : 03 Jul 2024 08:12 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-32
Misc Info :
Vial Number: 47



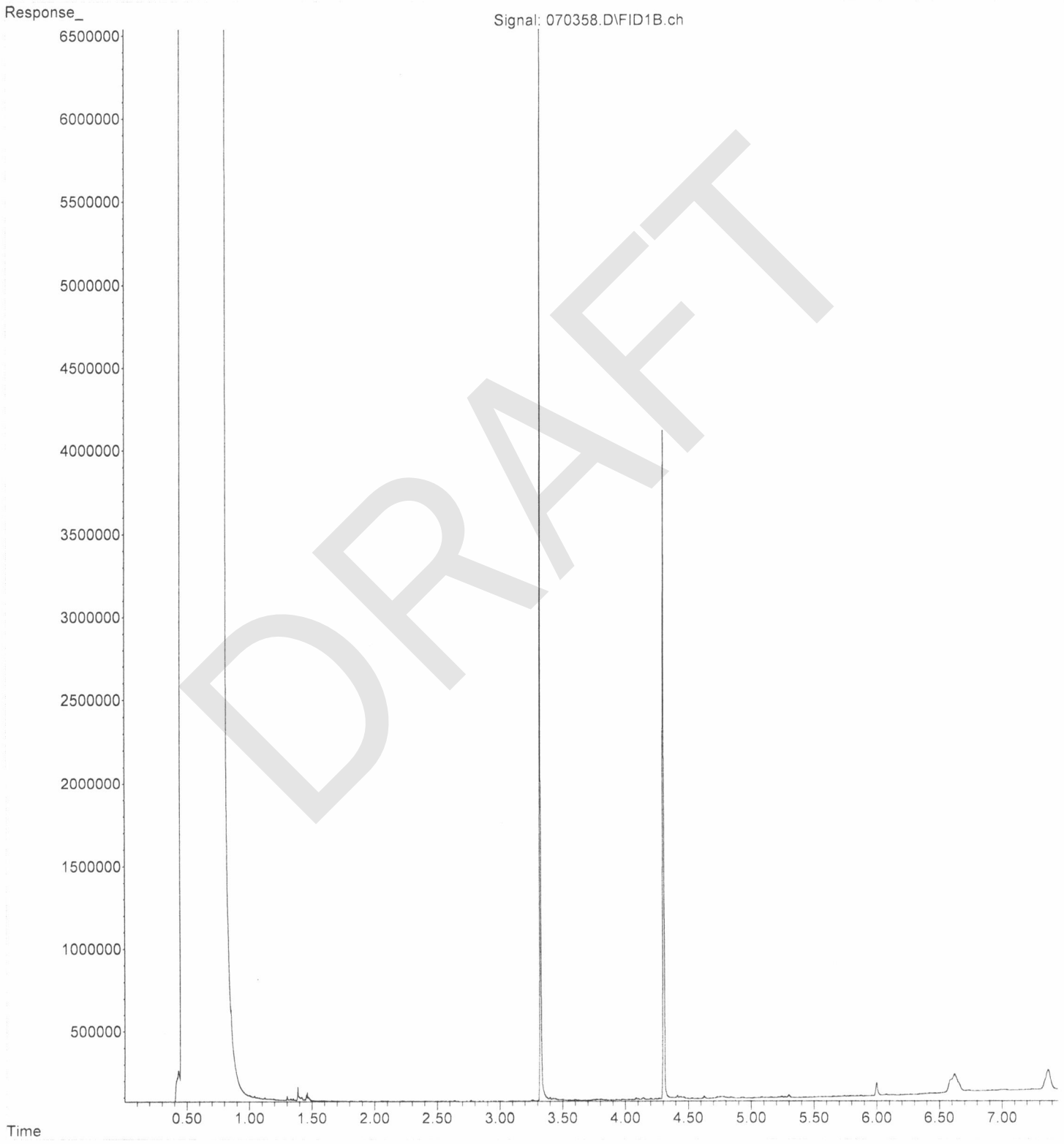
File :P:\Proc_GC10\07-03-24\070356.D
Operator : IJL
Acquired : 03 Jul 2024 08:24 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-33
Misc Info :
Vial Number: 48



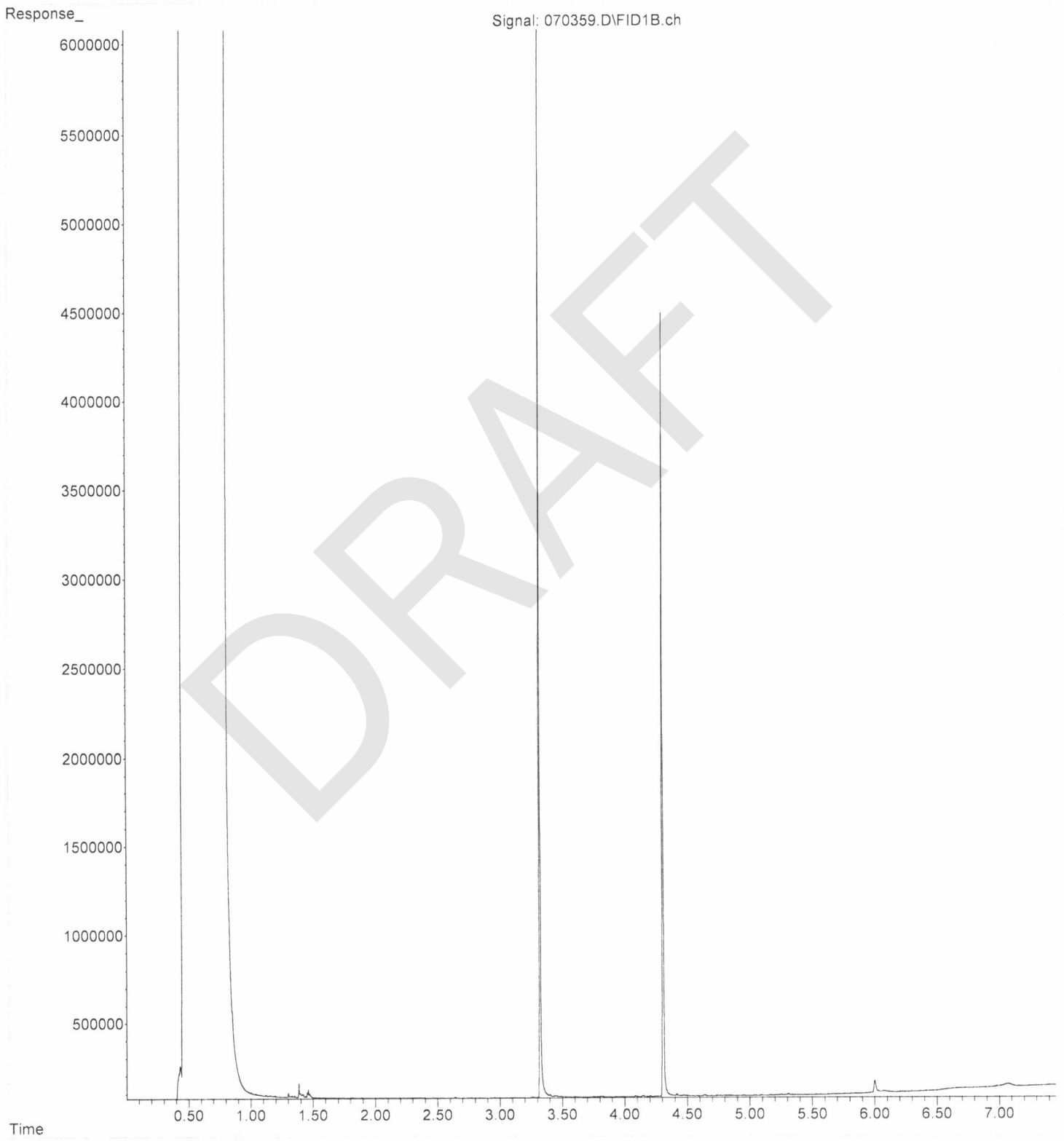
File :P:\Proc_GC10\07-03-24\070357.D
Operator : IJL
Acquired : 03 Jul 2024 08:36 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-34
Misc Info :
Vial Number: 49



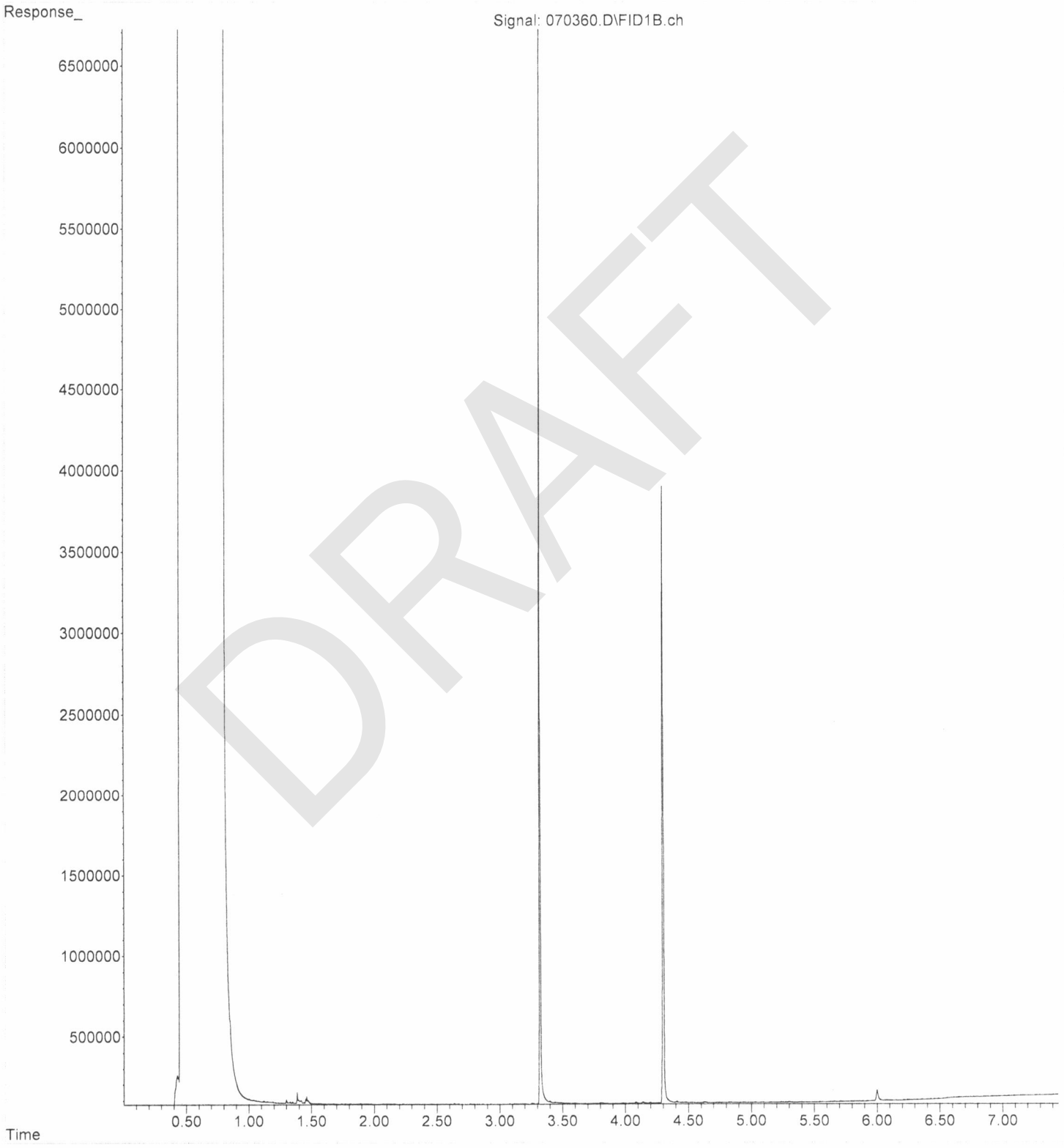
File :P:\Proc_GC10\07-03-24\070358.D
Operator : IJL
Acquired : 03 Jul 2024 08:48 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-35
Misc Info :
Vial Number: 50



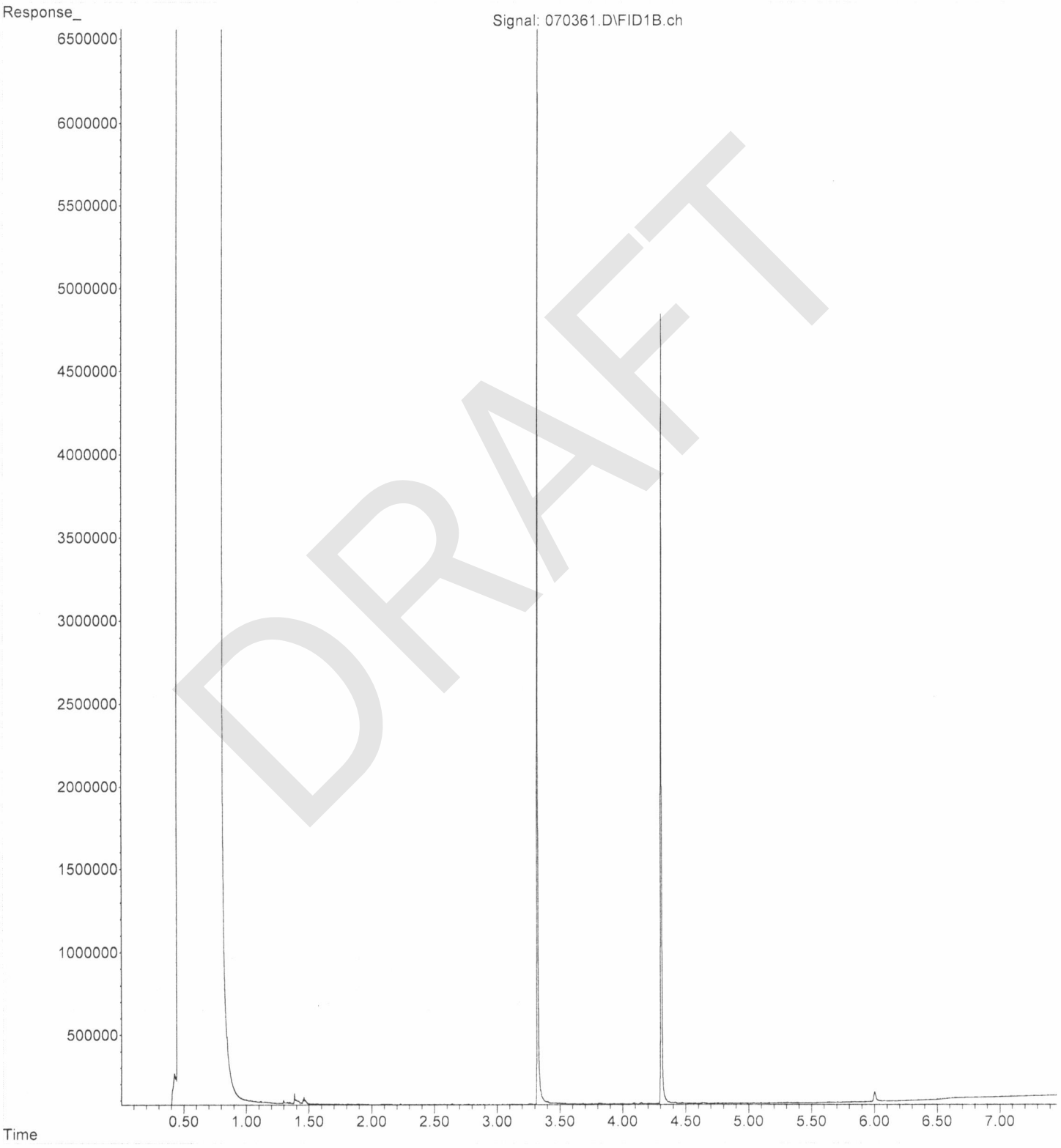
File :P:\Proc_GC10\07-03-24\070359.D
Operator : IJL
Acquired : 03 Jul 2024 09:00 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-36
Misc Info :
Vial Number: 51



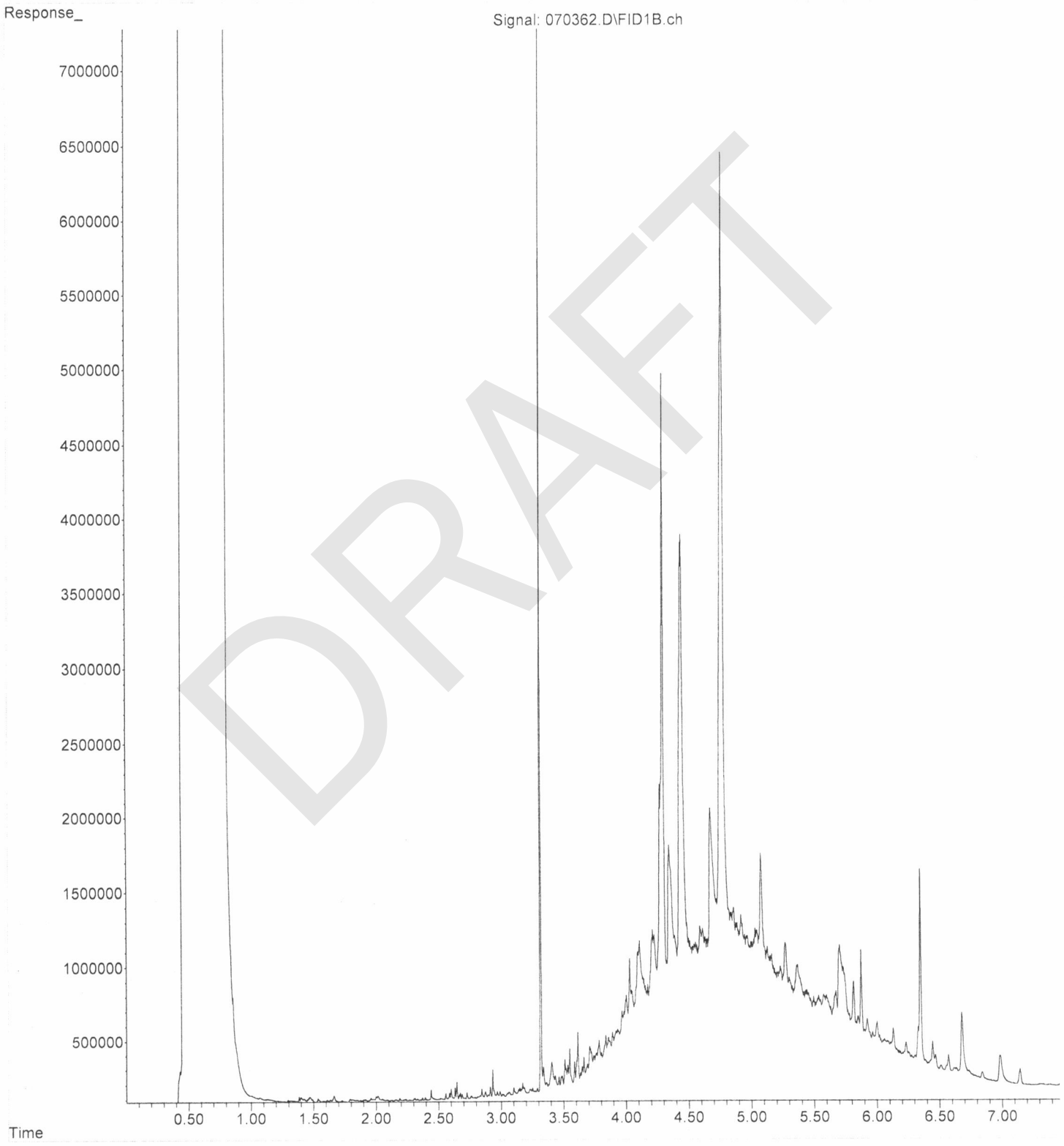
File :P:\Proc_GC10\07-03-24\070360.D
Operator : IJL
Acquired : 03 Jul 2024 09:12 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-37
Misc Info :
Vial Number: 52



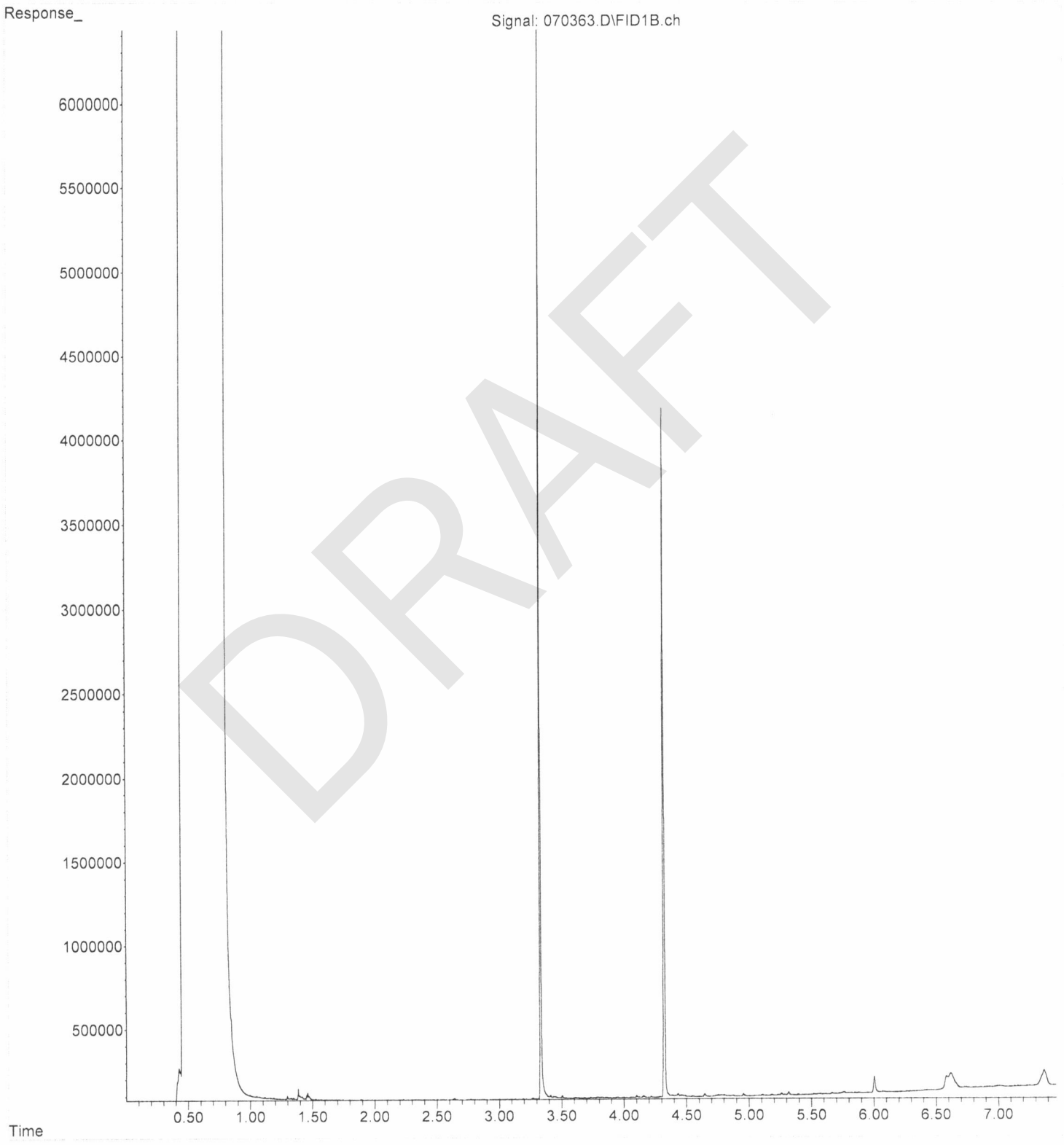
File :P:\Proc_GC10\07-03-24\070361.D
Operator : IJL
Acquired : 03 Jul 2024 09:24 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-38
Misc Info :
Vial Number: 53



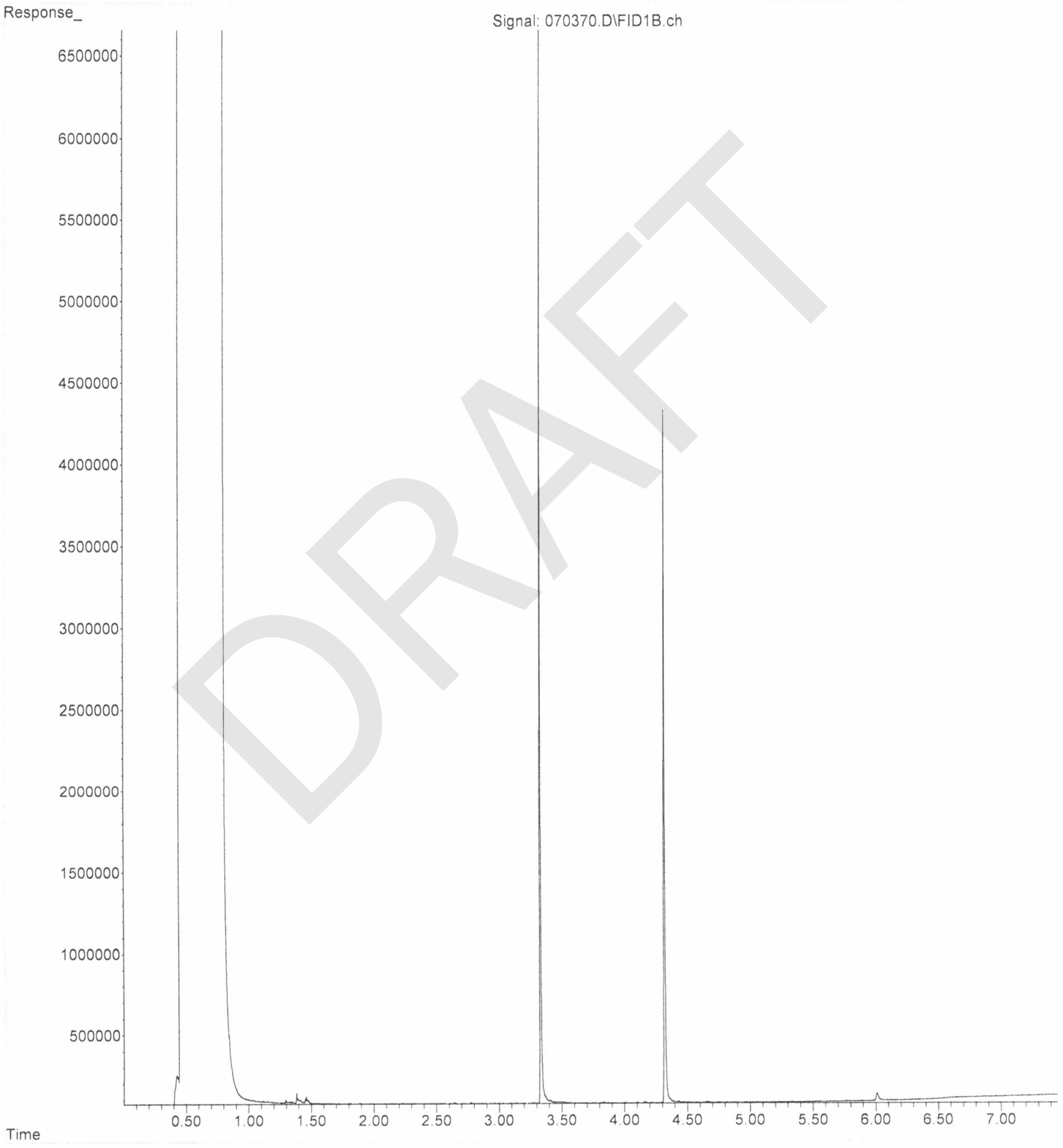
File :P:\Proc_GC10\07-03-24\070362.D
Operator : IJL
Acquired : 03 Jul 2024 09:36 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-39
Misc Info :
Vial Number: 54



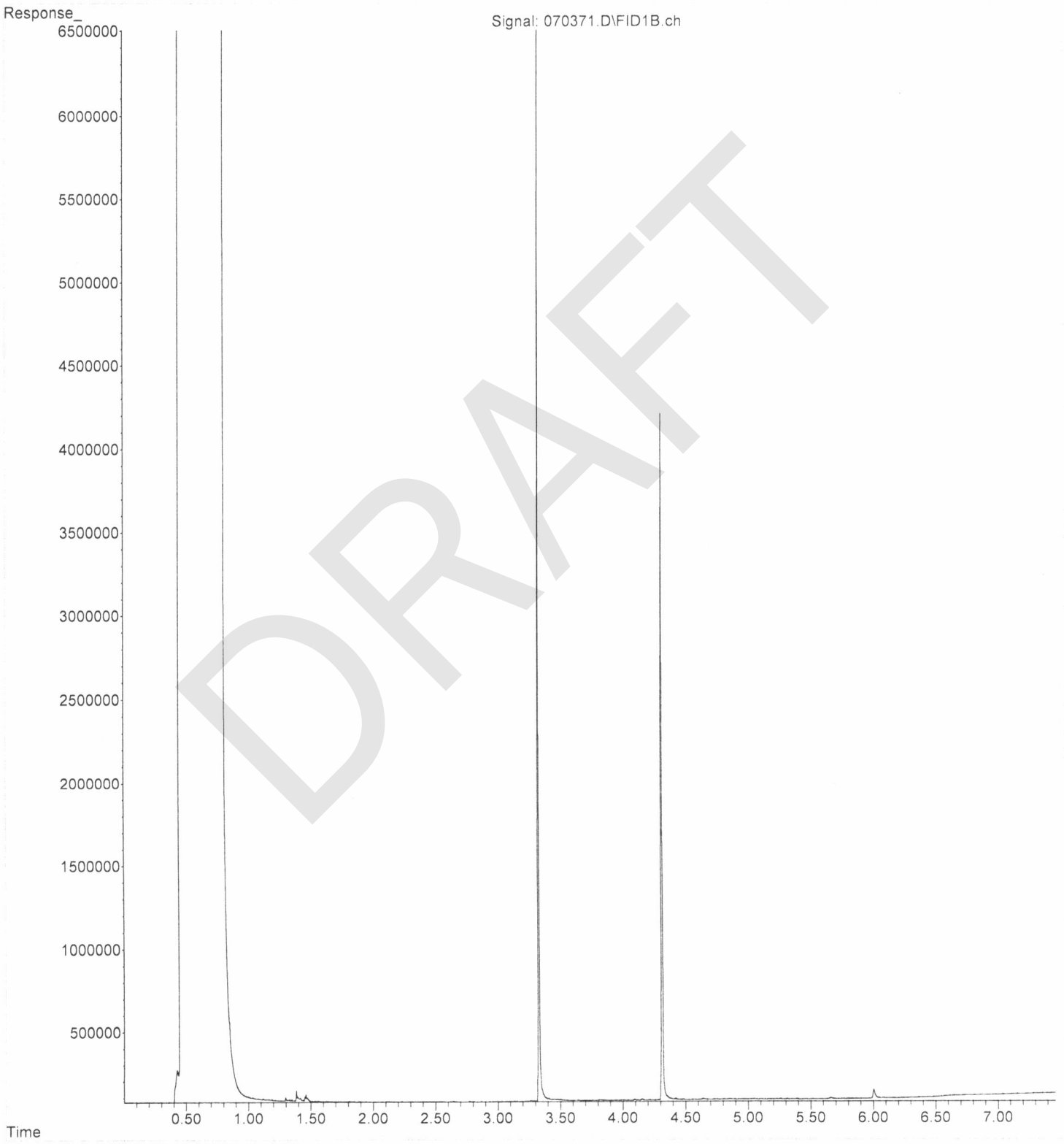
File :P:\Proc_GC10\07-03-24\070363.D
Operator : IJL
Acquired : 03 Jul 2024 09:48 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-40
Misc Info :
Vial Number: 55



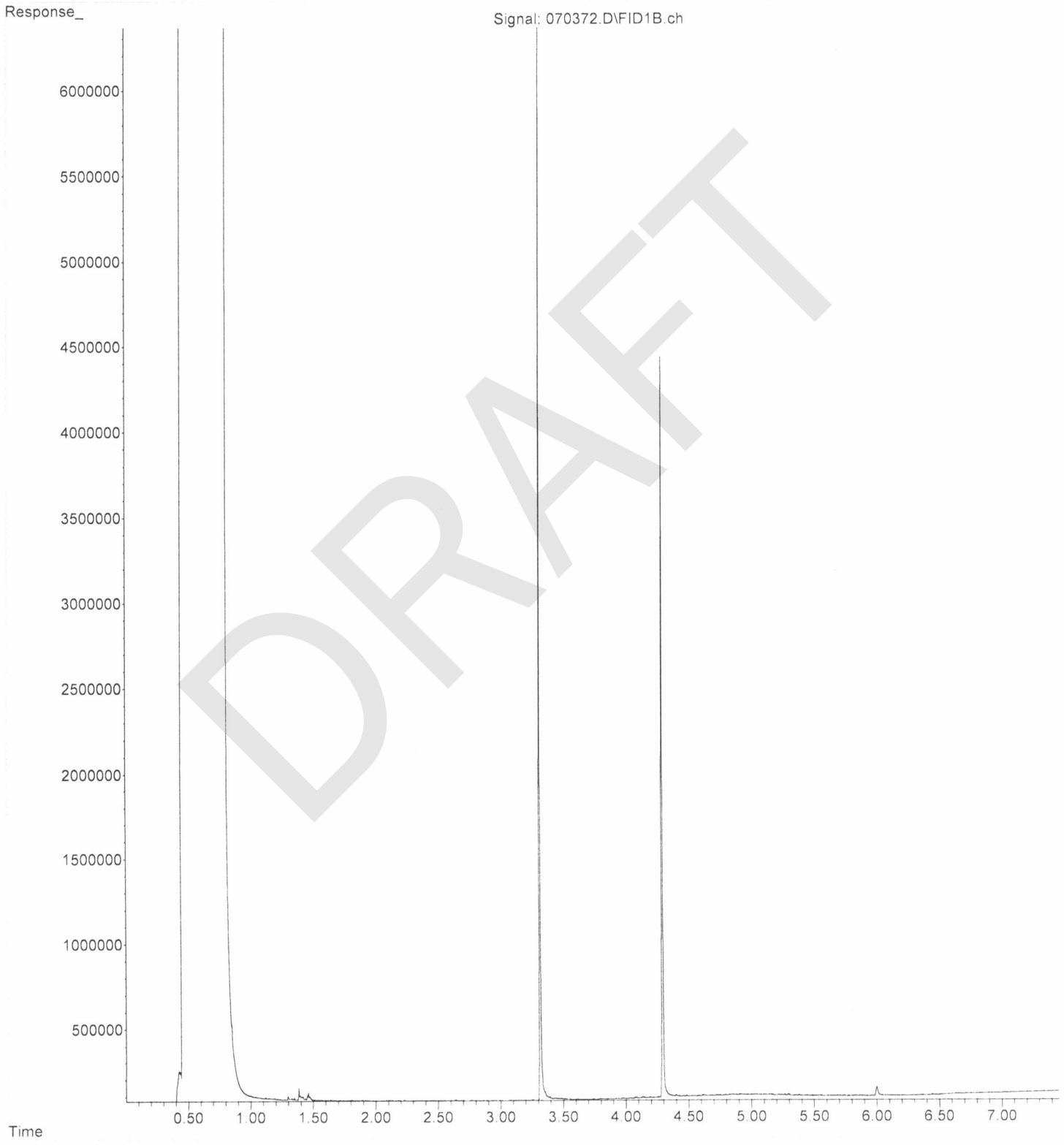
File :P:\Proc_GC10\07-03-24\070370.D
Operator : IJL
Acquired : 03 Jul 2024 11:11 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-41
Misc Info :
Vial Number: 60



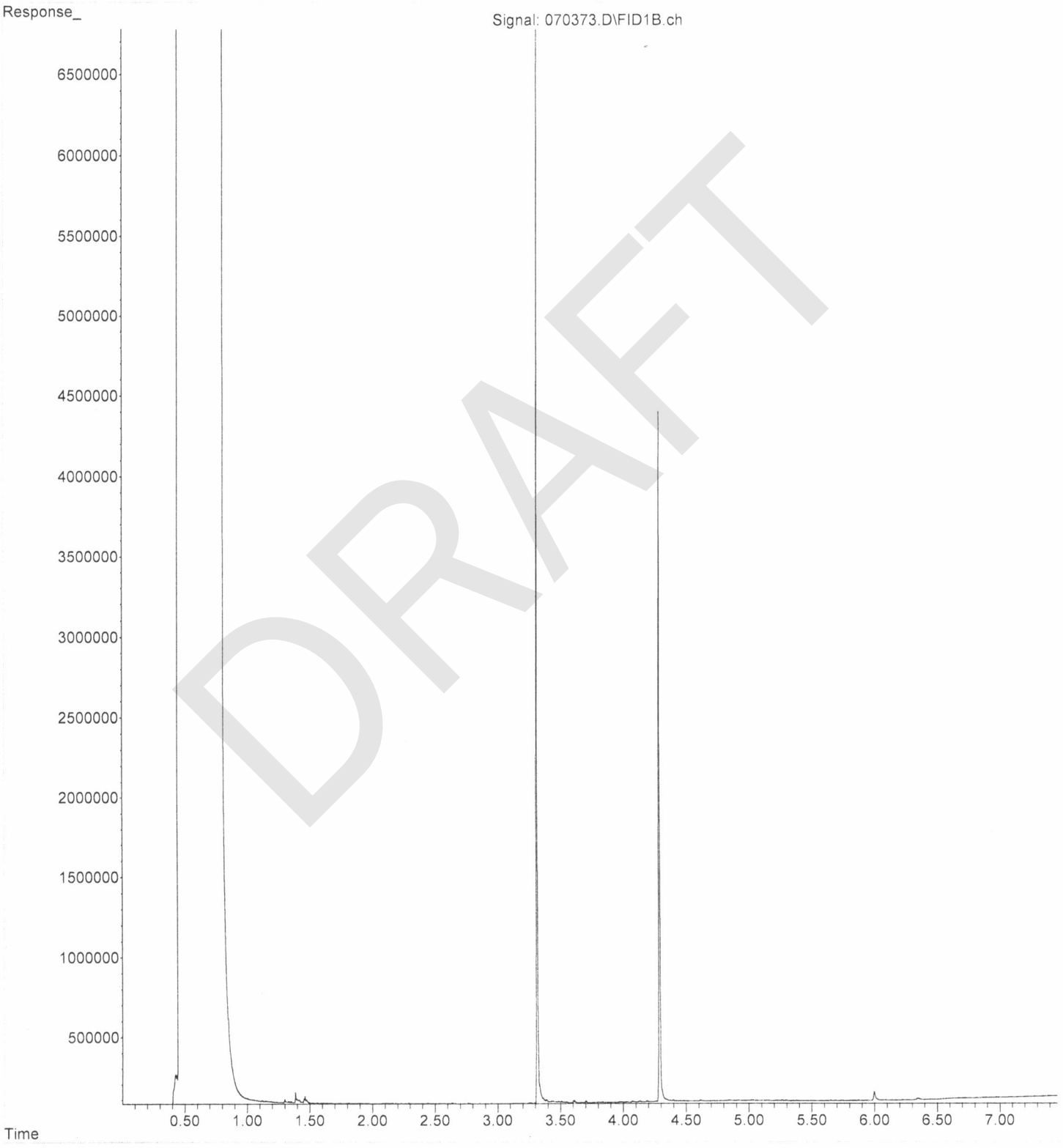
File :P:\Proc_GC10\07-03-24\070371.D
Operator : IJL
Acquired : 03 Jul 2024 11:23 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-42
Misc Info :
Vial Number: 61



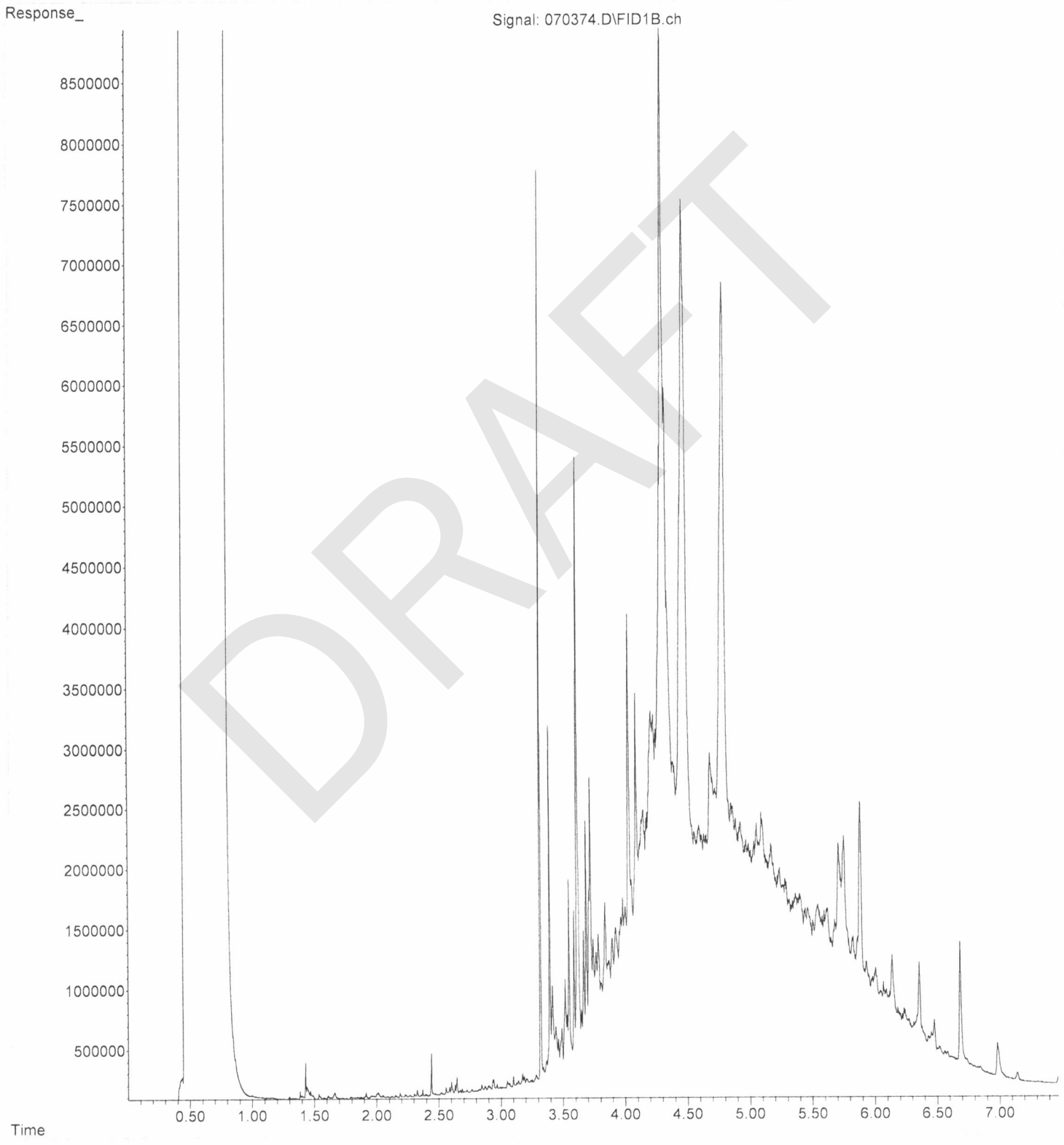
File :P:\Proc_GC10\07-03-24\070372.D
Operator : IJL
Acquired : 03 Jul 2024 11:35 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-43
Misc Info :
Vial Number: 62



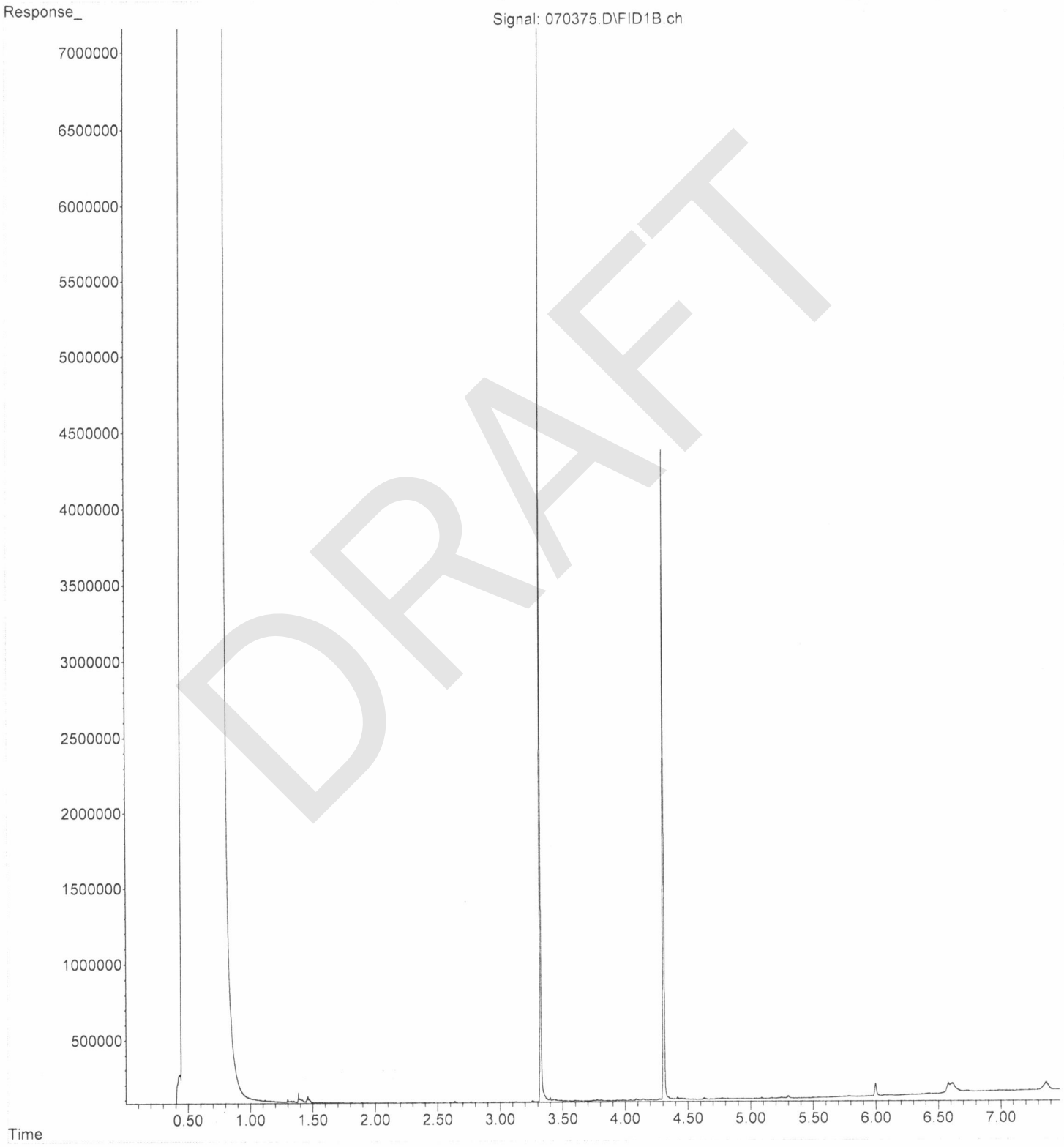
File :P:\Proc_GC10\07-03-24\070373.D
Operator : IJL
Acquired : 03 Jul 2024 11:47 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-44
Misc Info :
Vial Number: 63



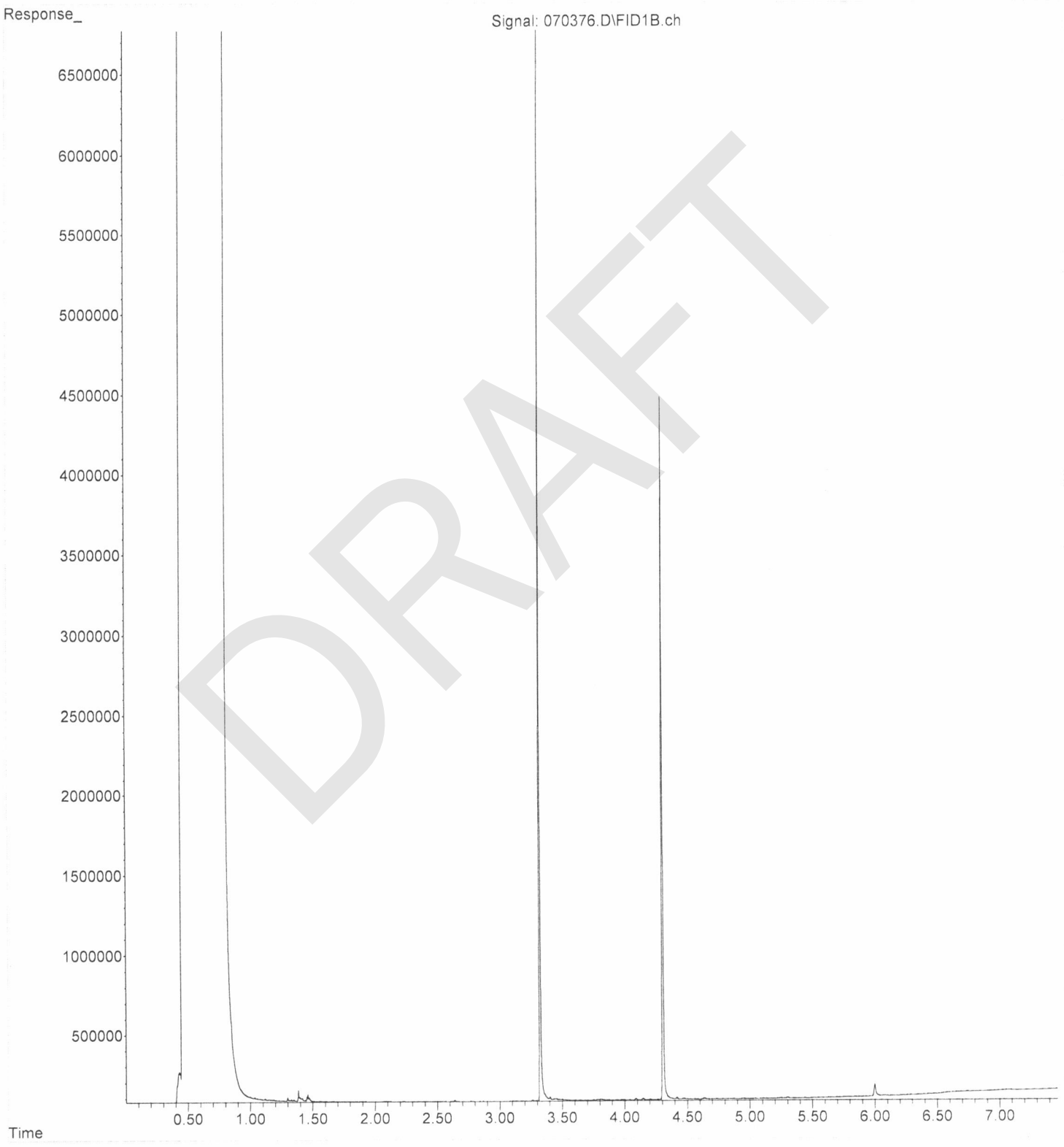
File :P:\Proc_GC10\07-03-24\070374.D
Operator : IJL
Acquired : 03 Jul 2024 11:59 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-45
Misc Info :
Vial Number: 64



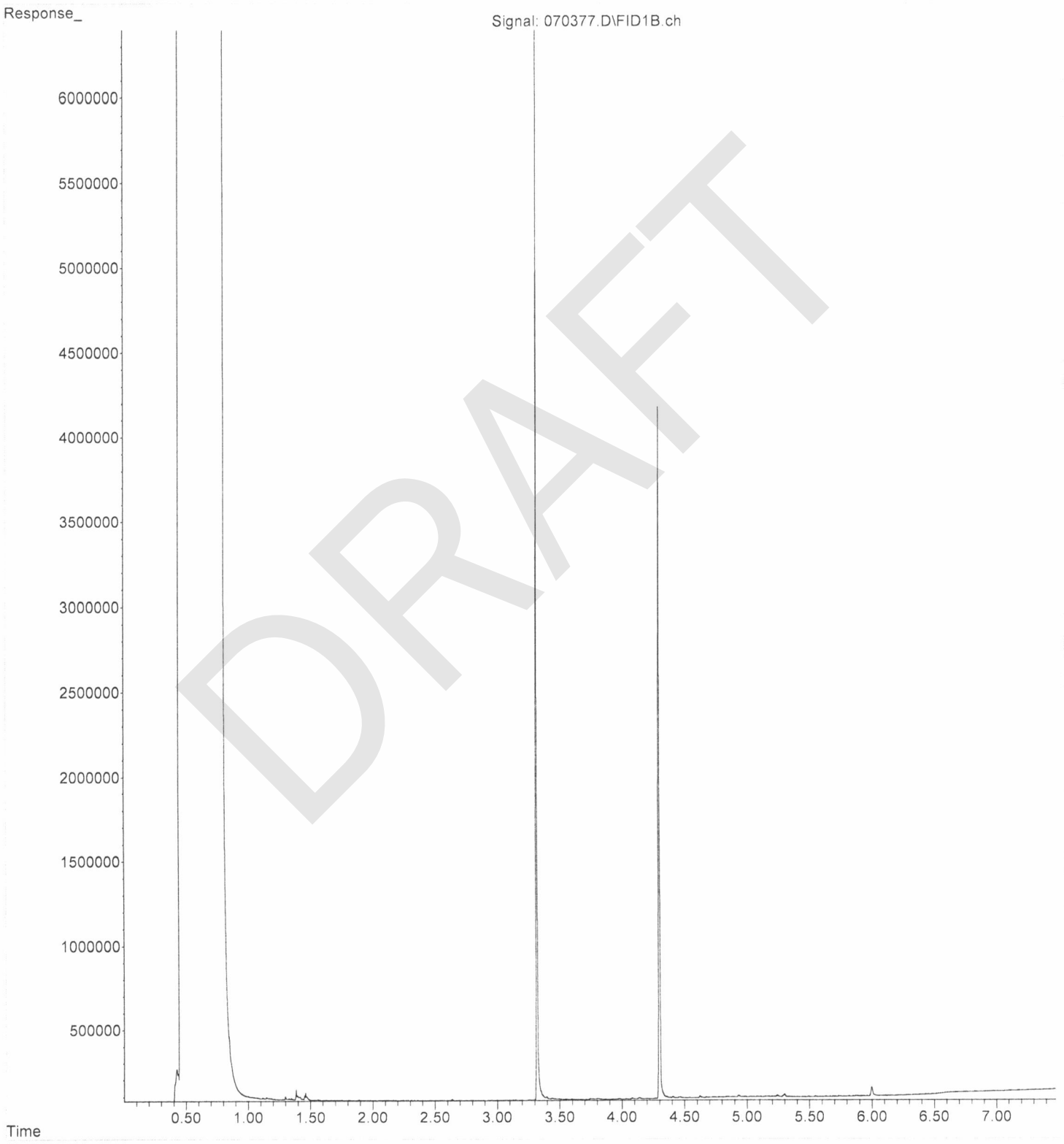
File :P:\Proc_GC10\07-03-24\070375.D
Operator : IJL
Acquired : 04 Jul 2024 12:11 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-46
Misc Info :
Vial Number: 65



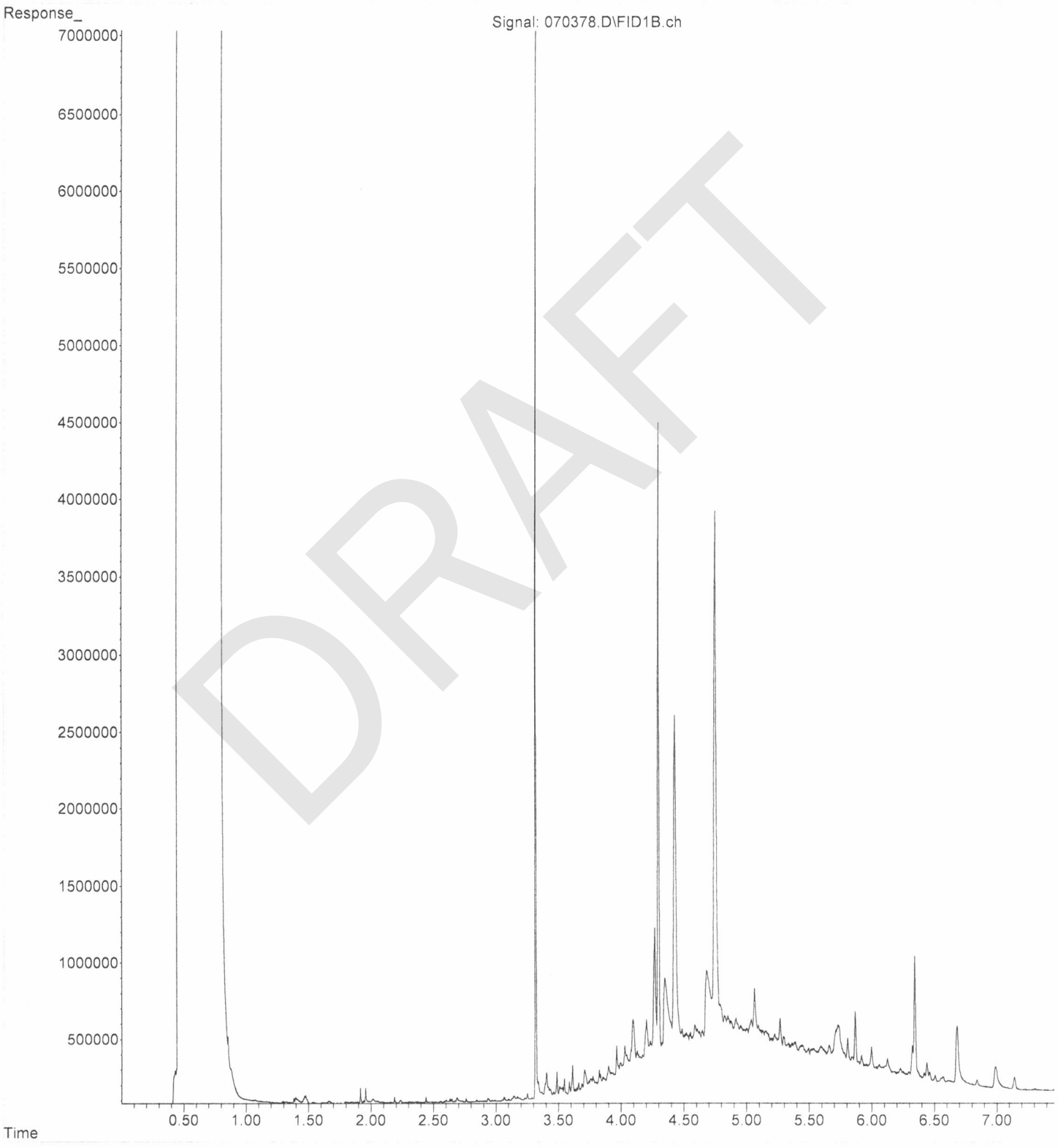
File :P:\Proc_GC10\07-03-24\070376.D
Operator : IJL
Acquired : 04 Jul 2024 12:23 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-47
Misc Info :
Vial Number: 66



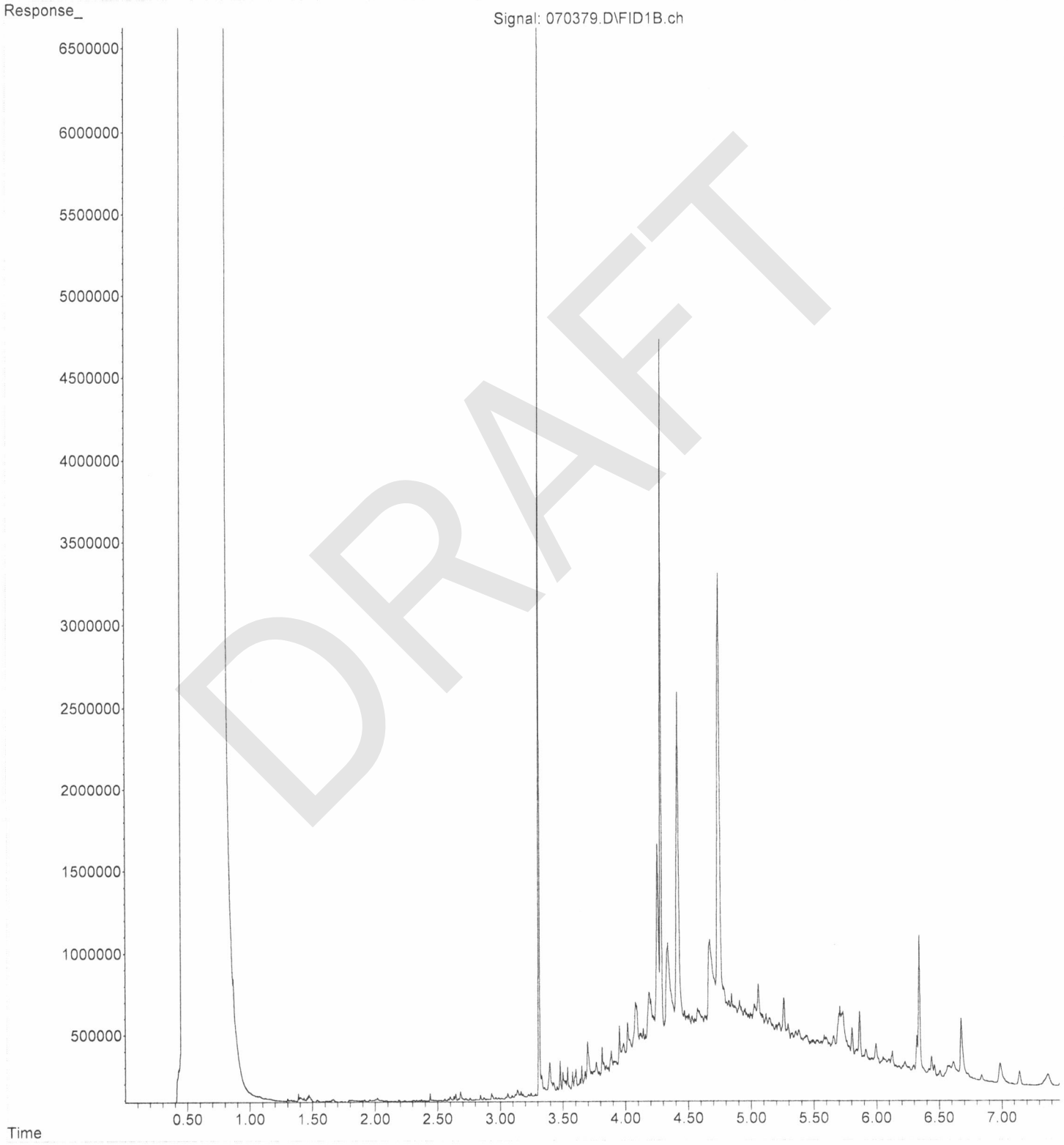
File :P:\Proc_GC10\07-03-24\070377.D
Operator : IJL
Acquired : 04 Jul 2024 12:35 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-48
Misc Info :
Vial Number: 67



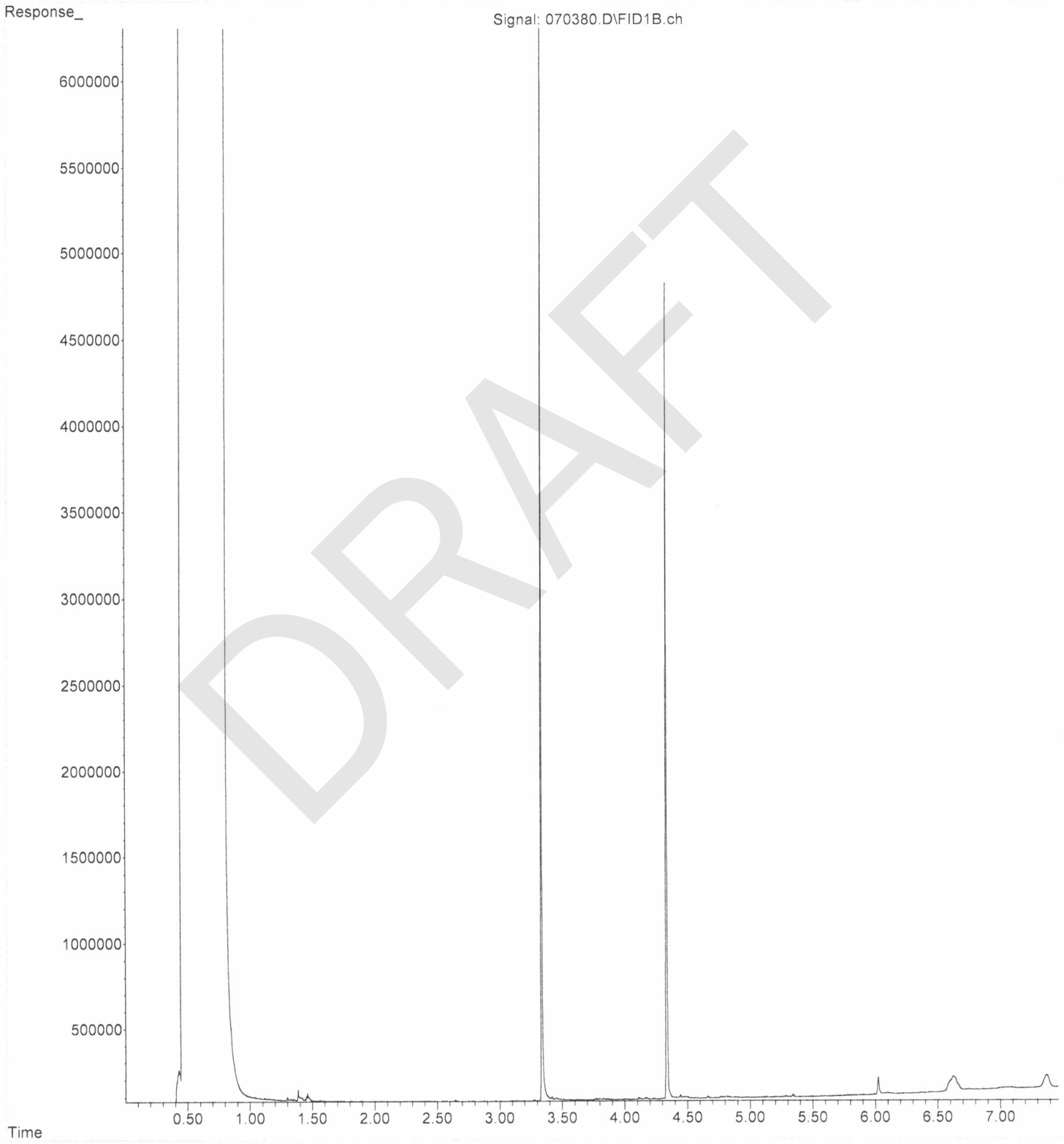
File :P:\Proc_GC10\07-03-24\070378.D
Operator : IJL
Acquired : 04 Jul 2024 12:47 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-49
Misc Info :
Vial Number: 68



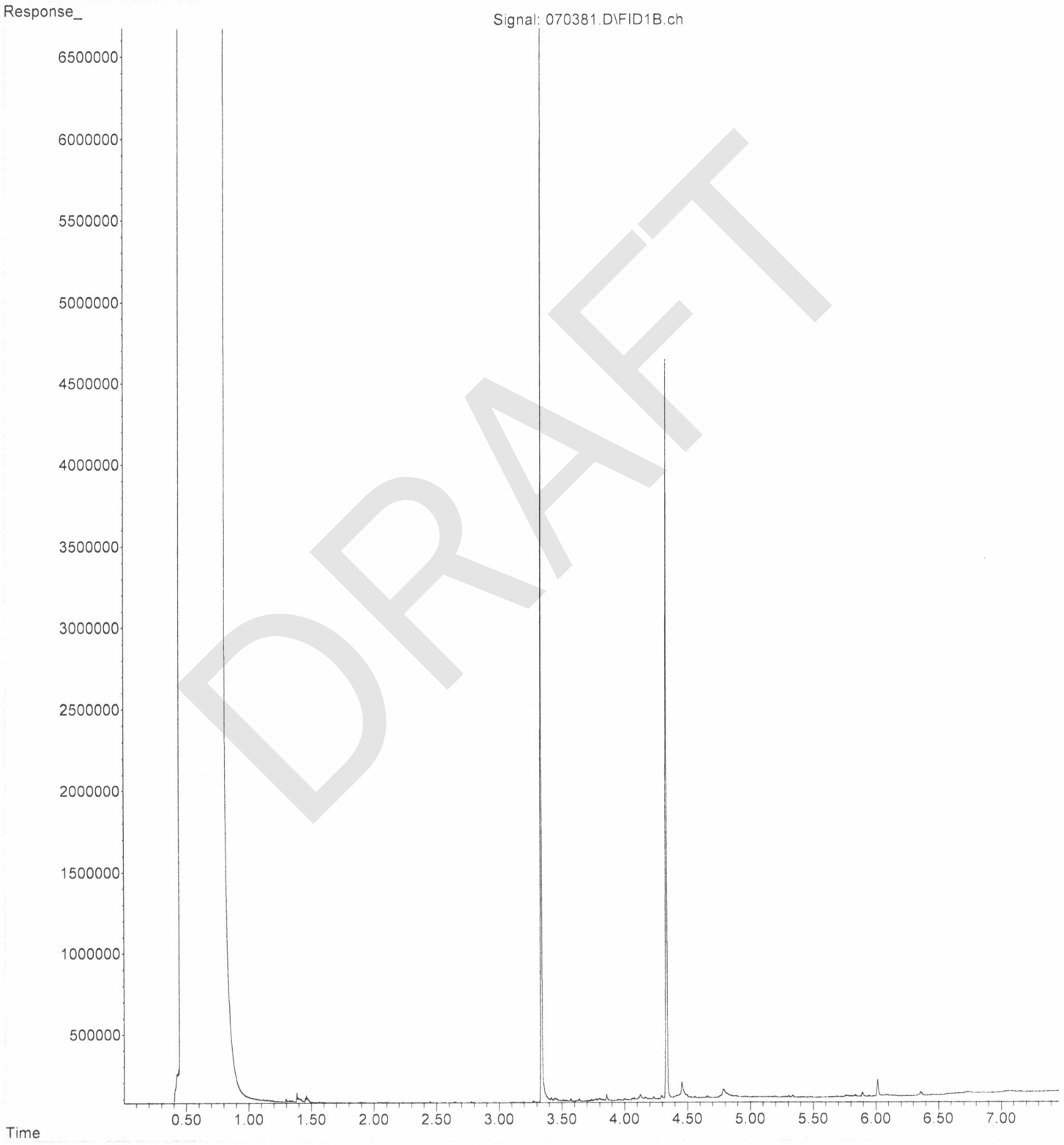
File :P:\Proc_GC10\07-03-24\070379.D
Operator : IJL
Acquired : 04 Jul 2024 12:59 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-50
Misc Info :
Vial Number: 69



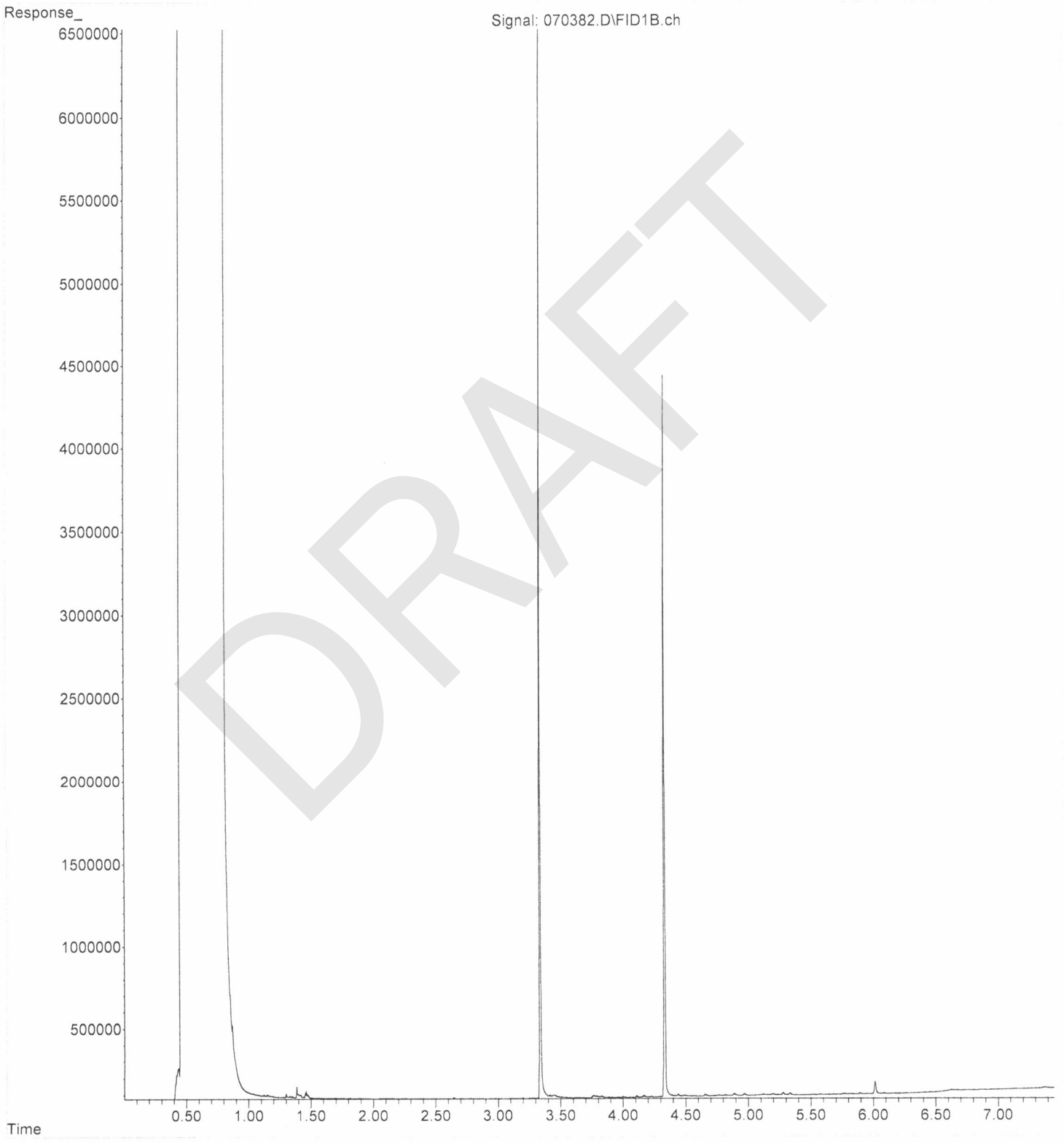
File :P:\Proc_GC10\07-03-24\070380.D
Operator : IJL
Acquired : 04 Jul 2024 01:10 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-51
Misc Info :
Vial Number: 70



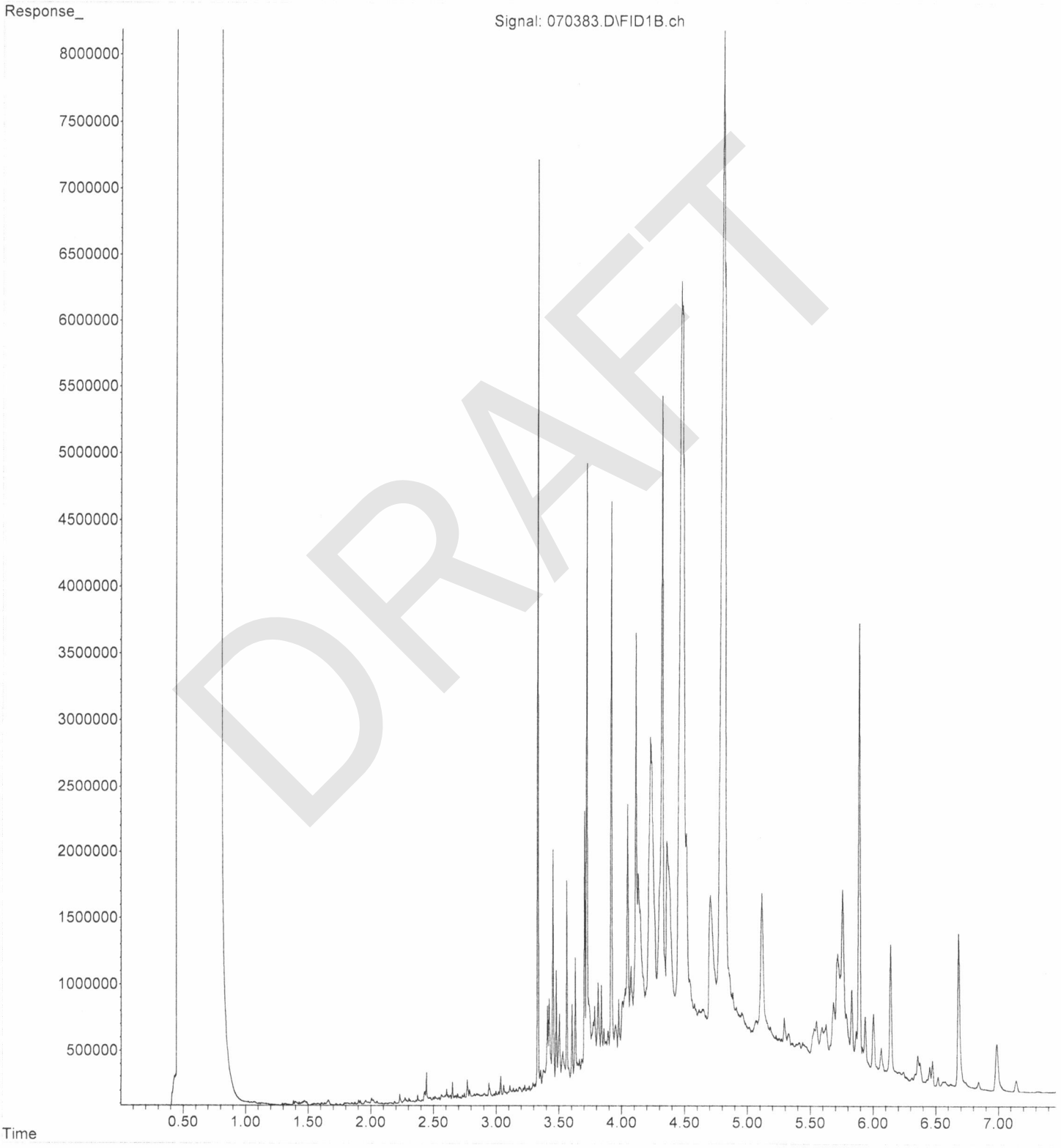
File :P:\Proc_GC10\07-03-24\070381.D
Operator : IJL
Acquired : 04 Jul 2024 01:22 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-52
Misc Info :
Vial Number: 71



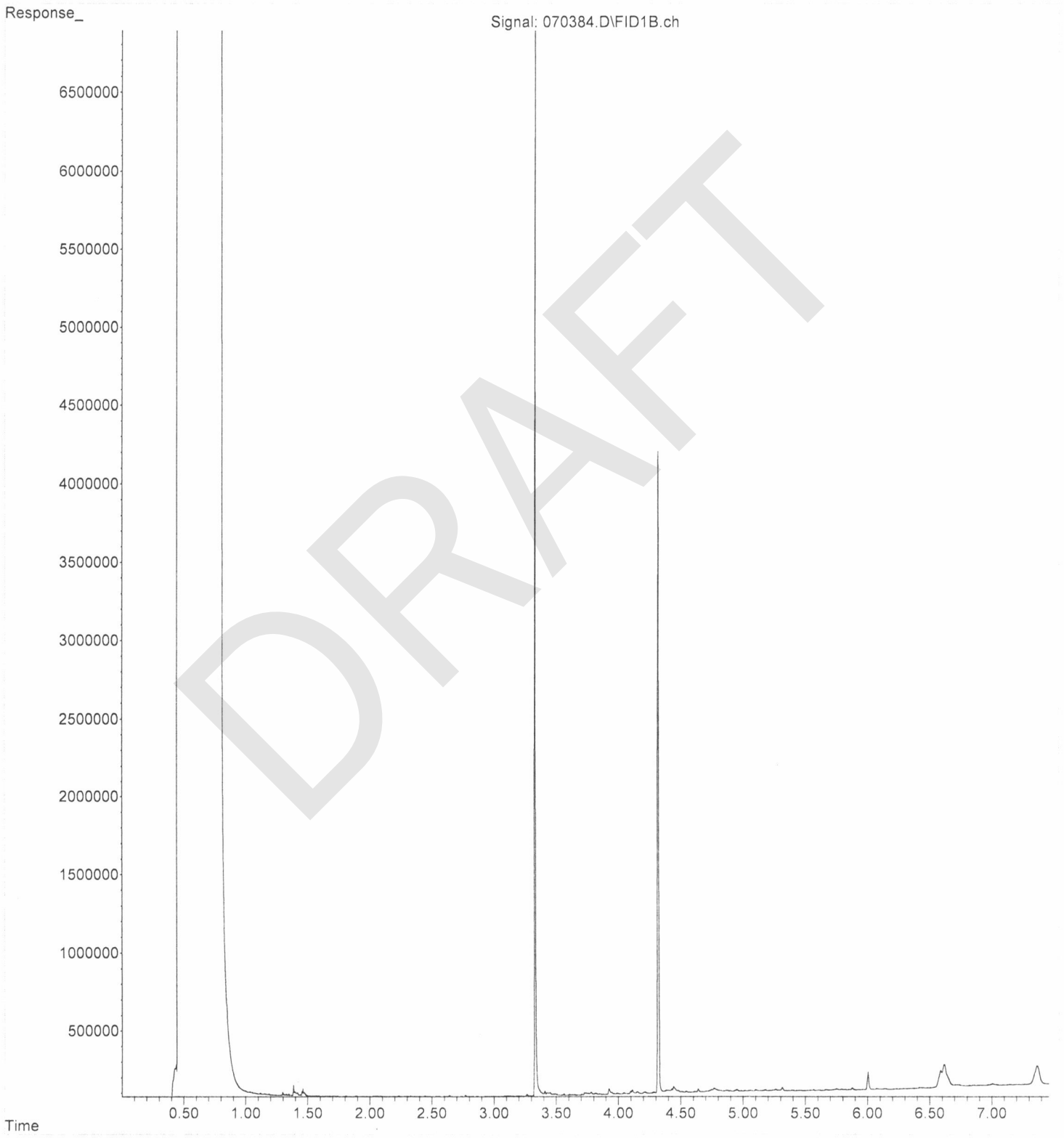
File :P:\Proc_GC10\07-03-24\070382.D
Operator : IJL
Acquired : 04 Jul 2024 01:34 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-53
Misc Info :
Vial Number: 72



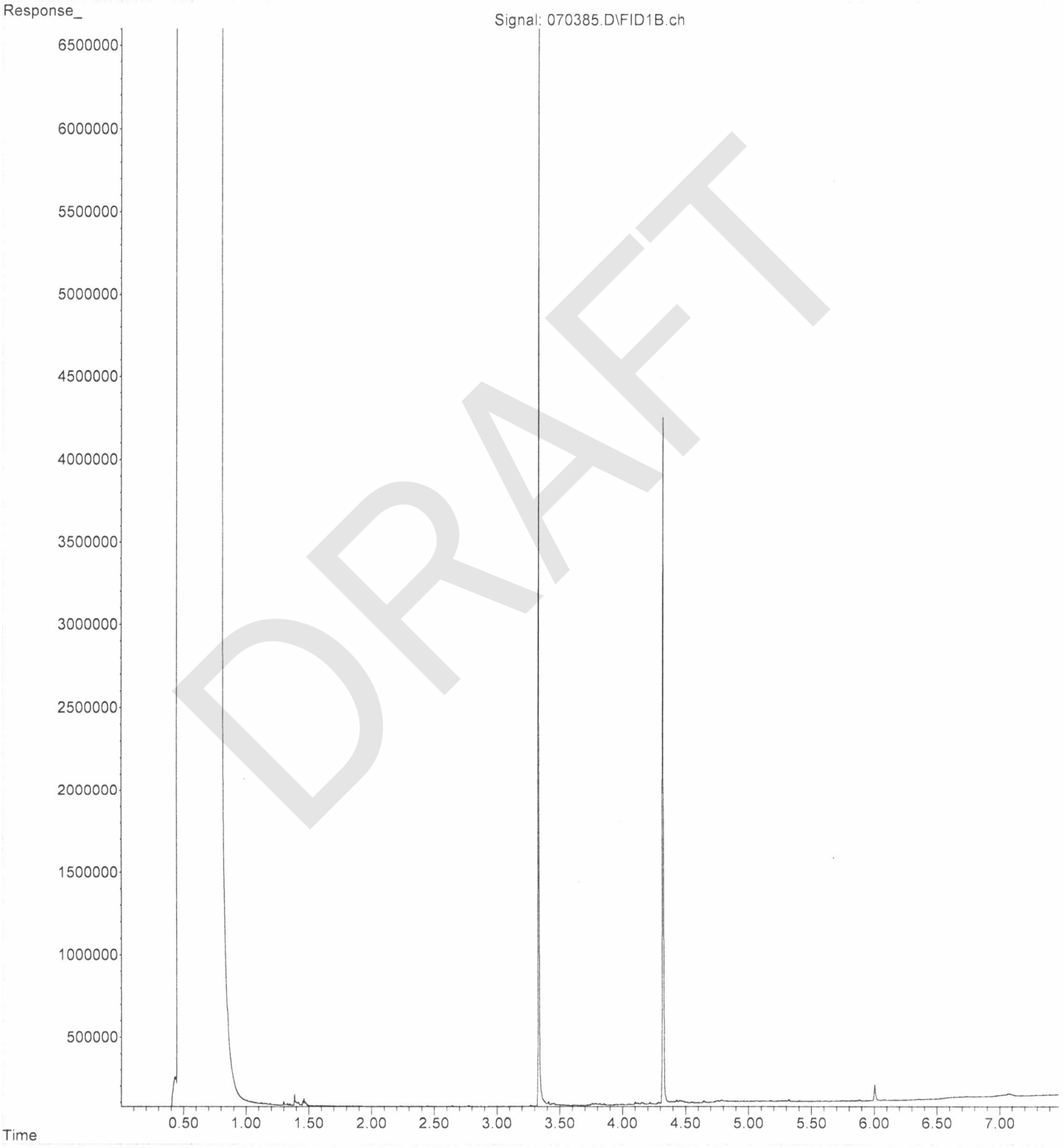
File :P:\Proc_GC10\07-03-24\070383.D
Operator : IJL
Acquired : 04 Jul 2024 01:46 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-54
Misc Info :
Vial Number: 73



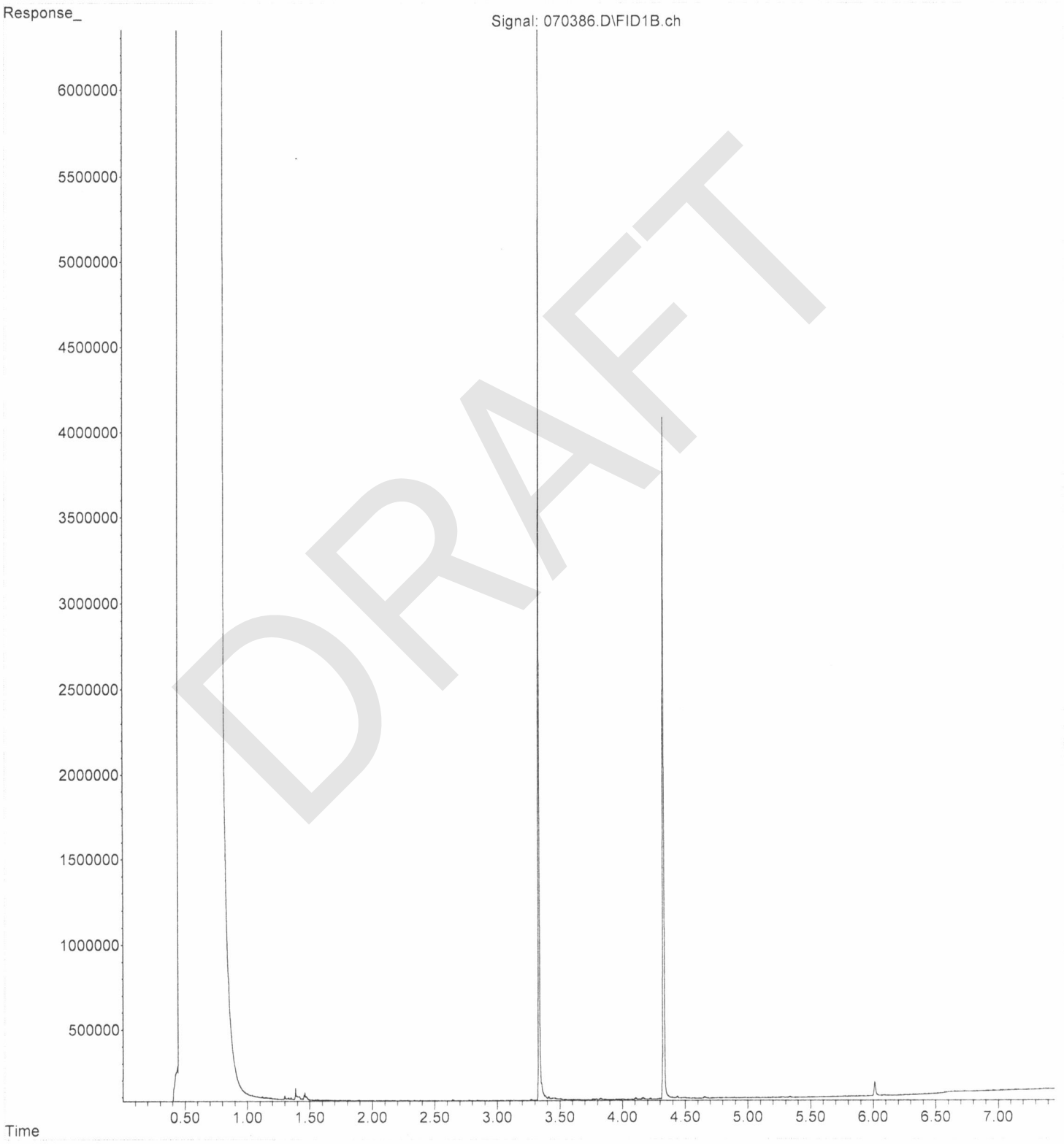
File :P:\Proc_GC10\07-03-24\070384.D
Operator : IJL
Acquired : 04 Jul 2024 01:58 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-55
Misc Info :
Vial Number: 74



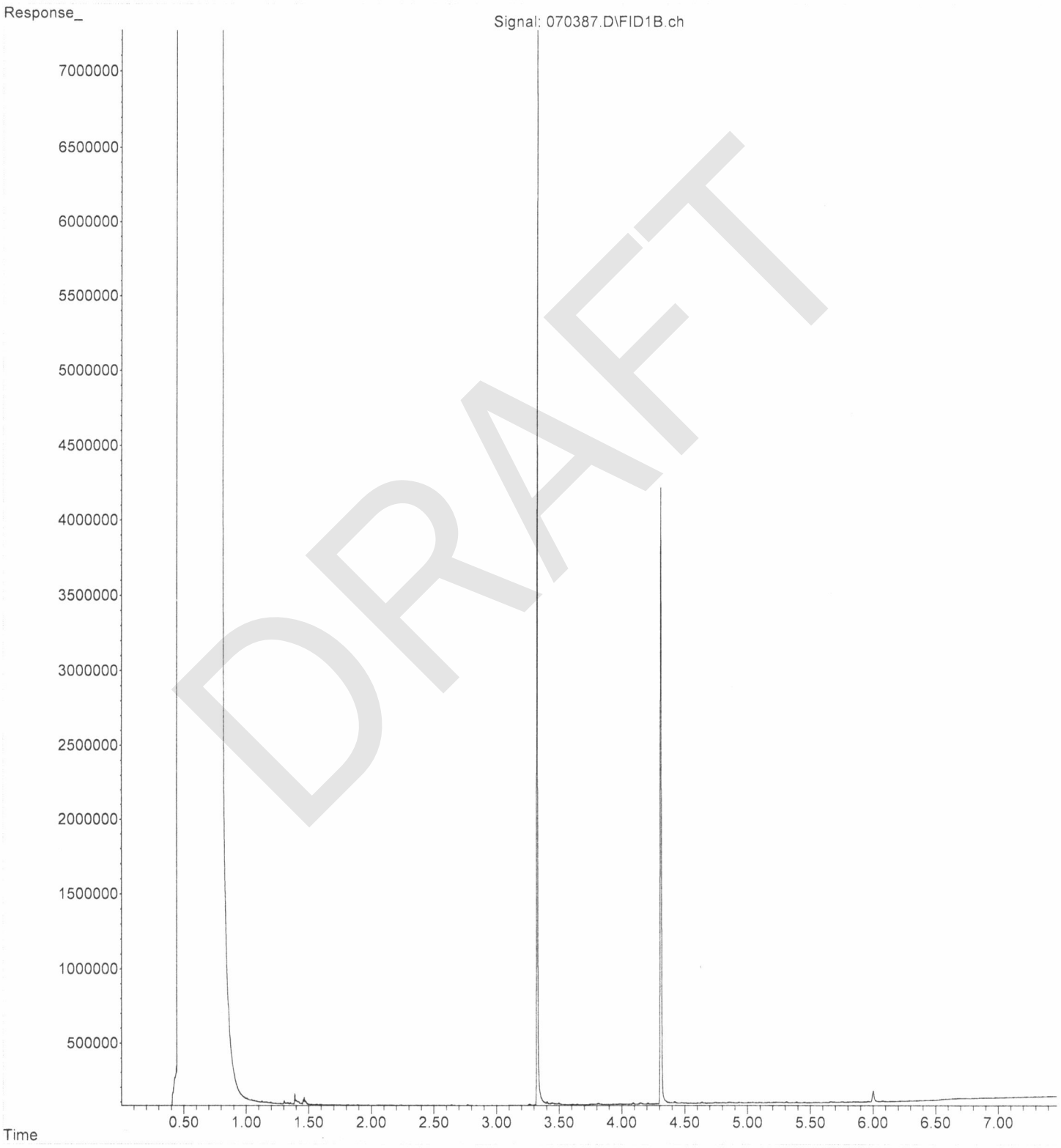
File :P:\Proc_GC10\07-03-24\070385.D
Operator : IJL
Acquired : 04 Jul 2024 02:10 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-56
Misc Info :
Vial Number: 75



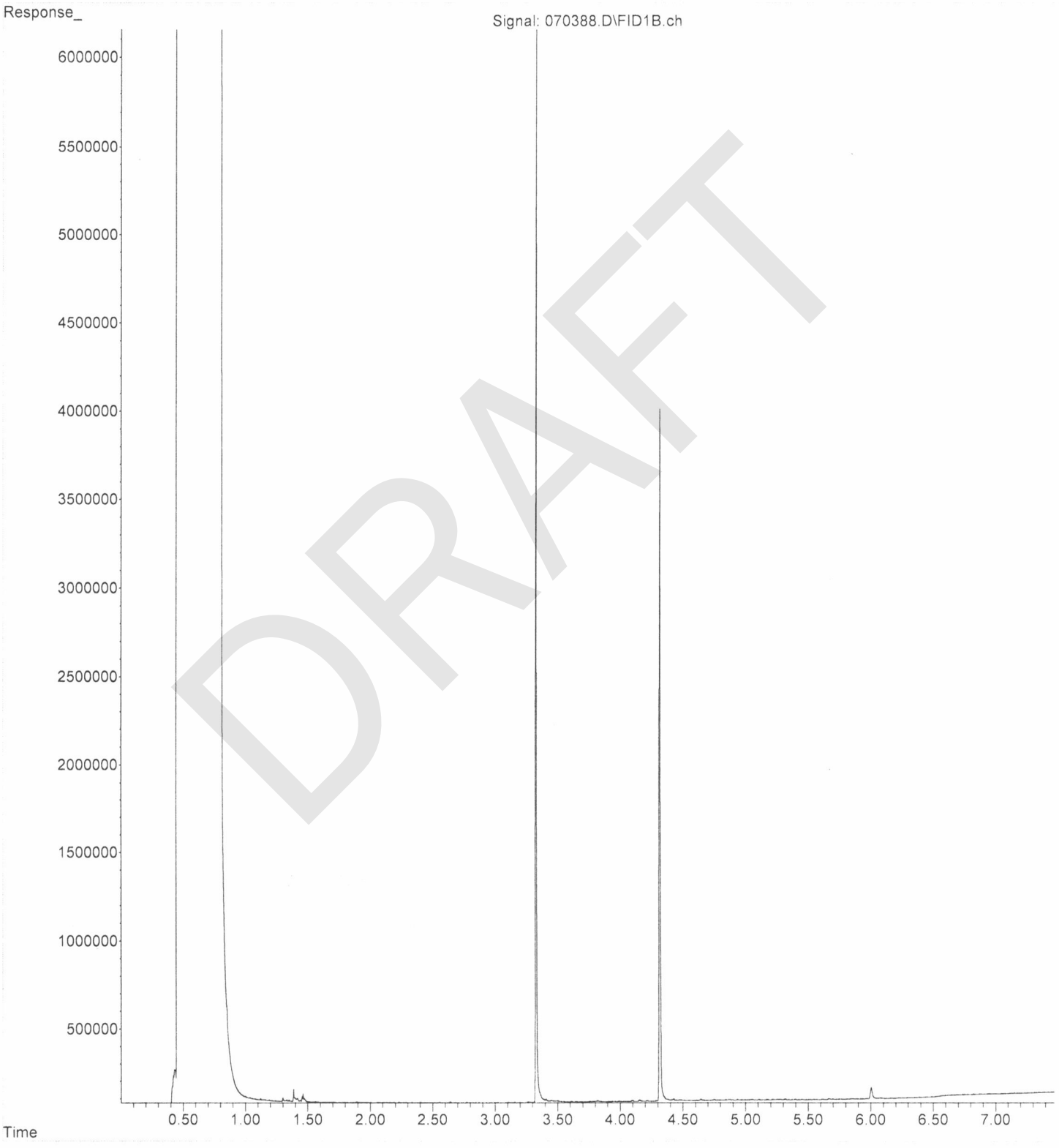
File :P:\Proc_GC10\07-03-24\070386.D
Operator : IJL
Acquired : 04 Jul 2024 02:22 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-57
Misc Info :
Vial Number: 76



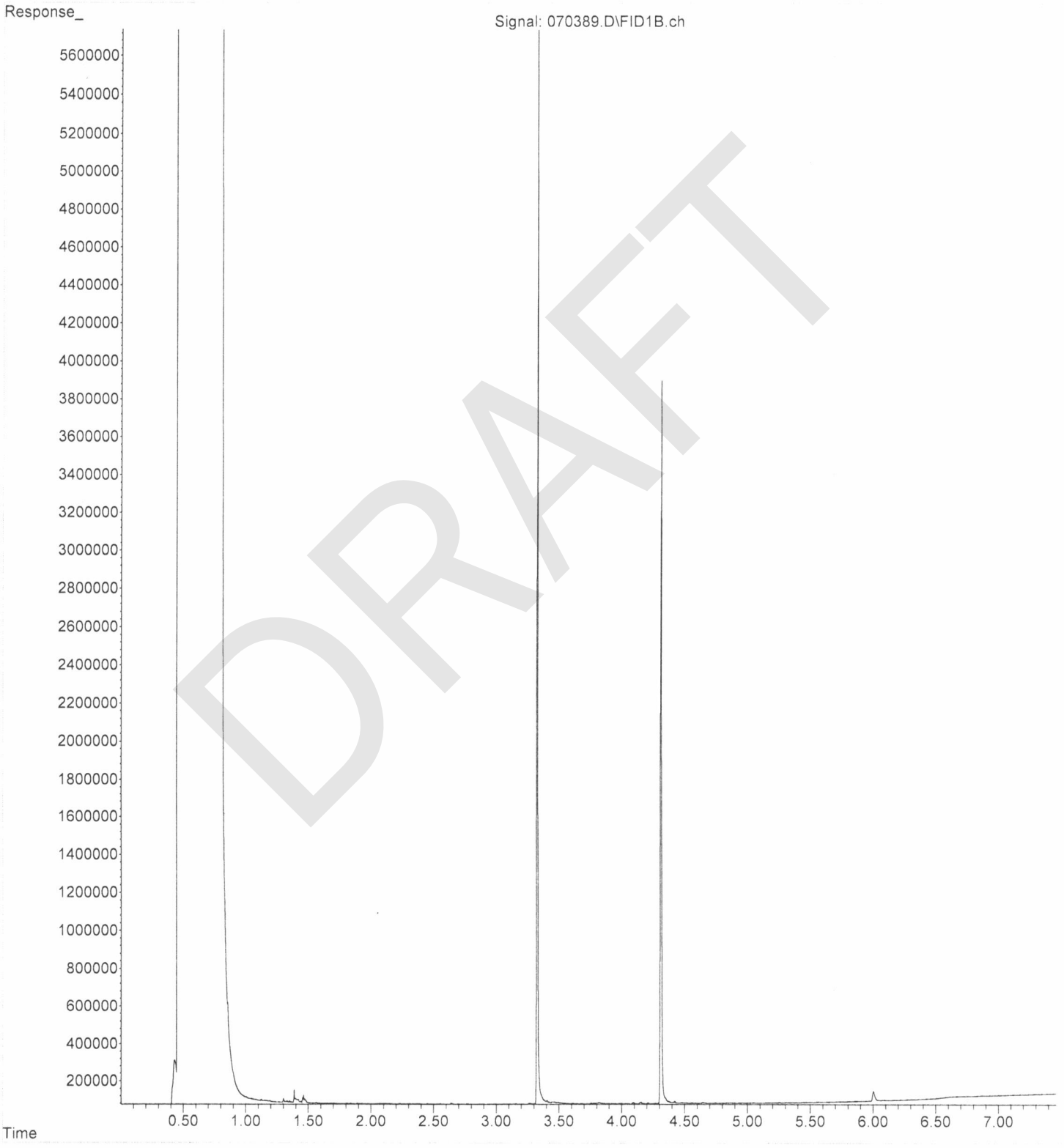
File :P:\Proc_GC10\07-03-24\070387.D
Operator : IJL
Acquired : 04 Jul 2024 02:34 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-58
Misc Info :
Vial Number: 77



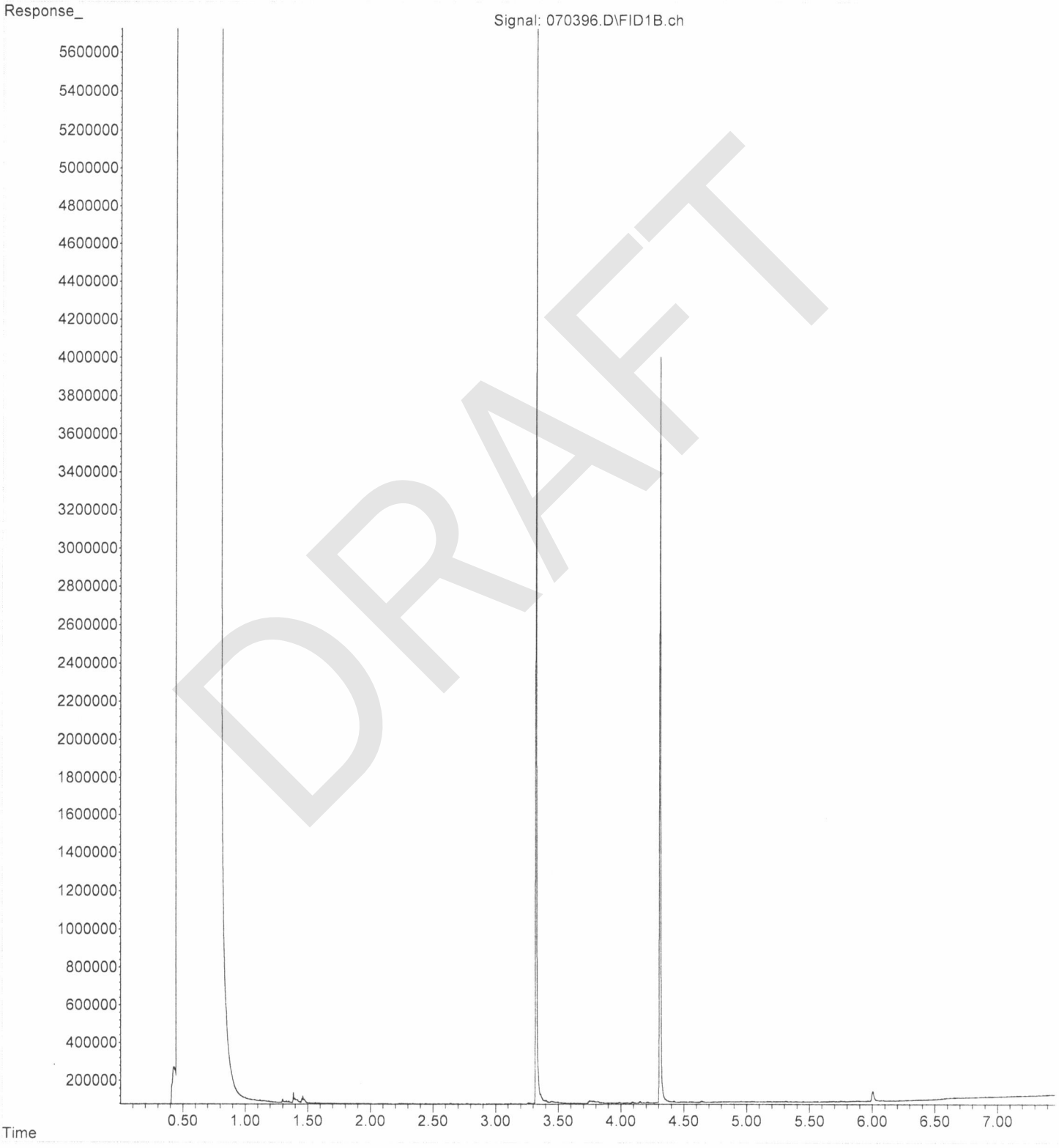
File :P:\Proc_GC10\07-03-24\070388.D
Operator : IJL
Acquired : 04 Jul 2024 02:45 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-59
Misc Info :
Vial Number: 78



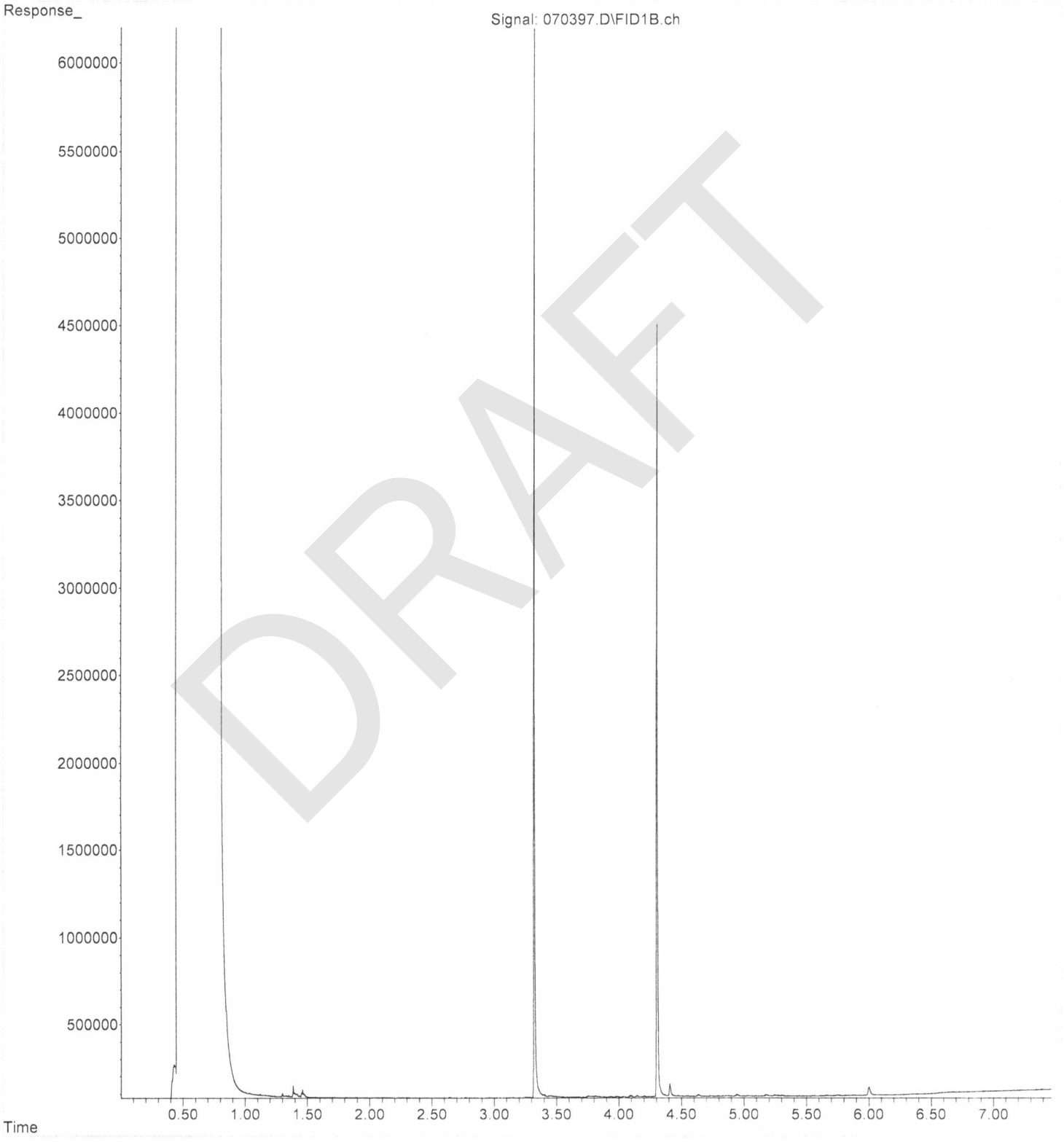
File :P:\Proc_GC10\07-03-24\070389.D
Operator : IJL
Acquired : 04 Jul 2024 02:57 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-60
Misc Info :
Vial Number: 79



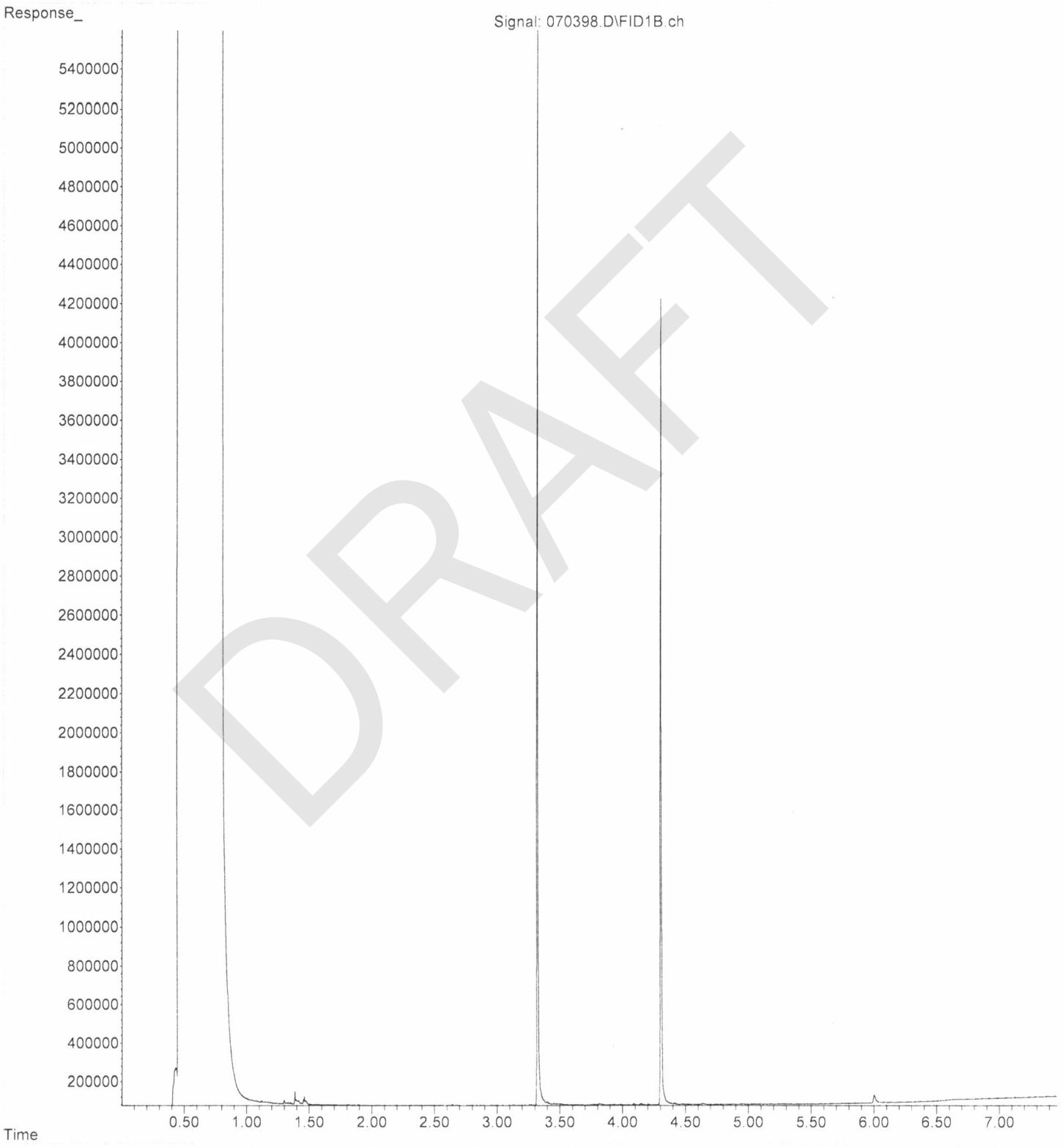
File :P:\Proc_GC10\07-03-24\070396.D
Operator : IJL
Acquired : 04 Jul 2024 04:19 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-61
Misc Info :
Vial Number: 84



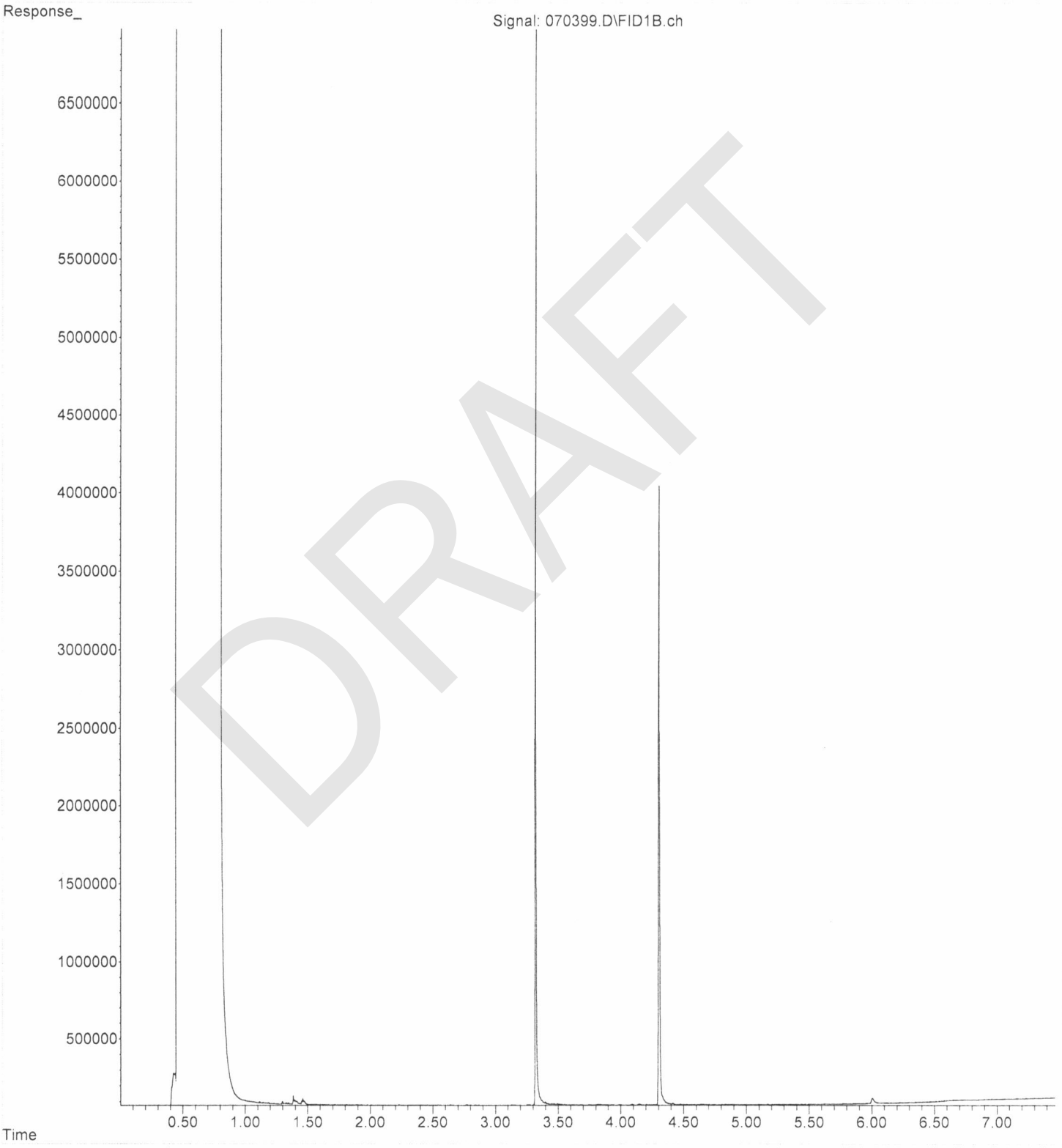
File :P:\Proc_GC10\07-03-24\070397.D
Operator : IJL
Acquired : 04 Jul 2024 04:31 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-62
Misc Info :
Vial Number: 85



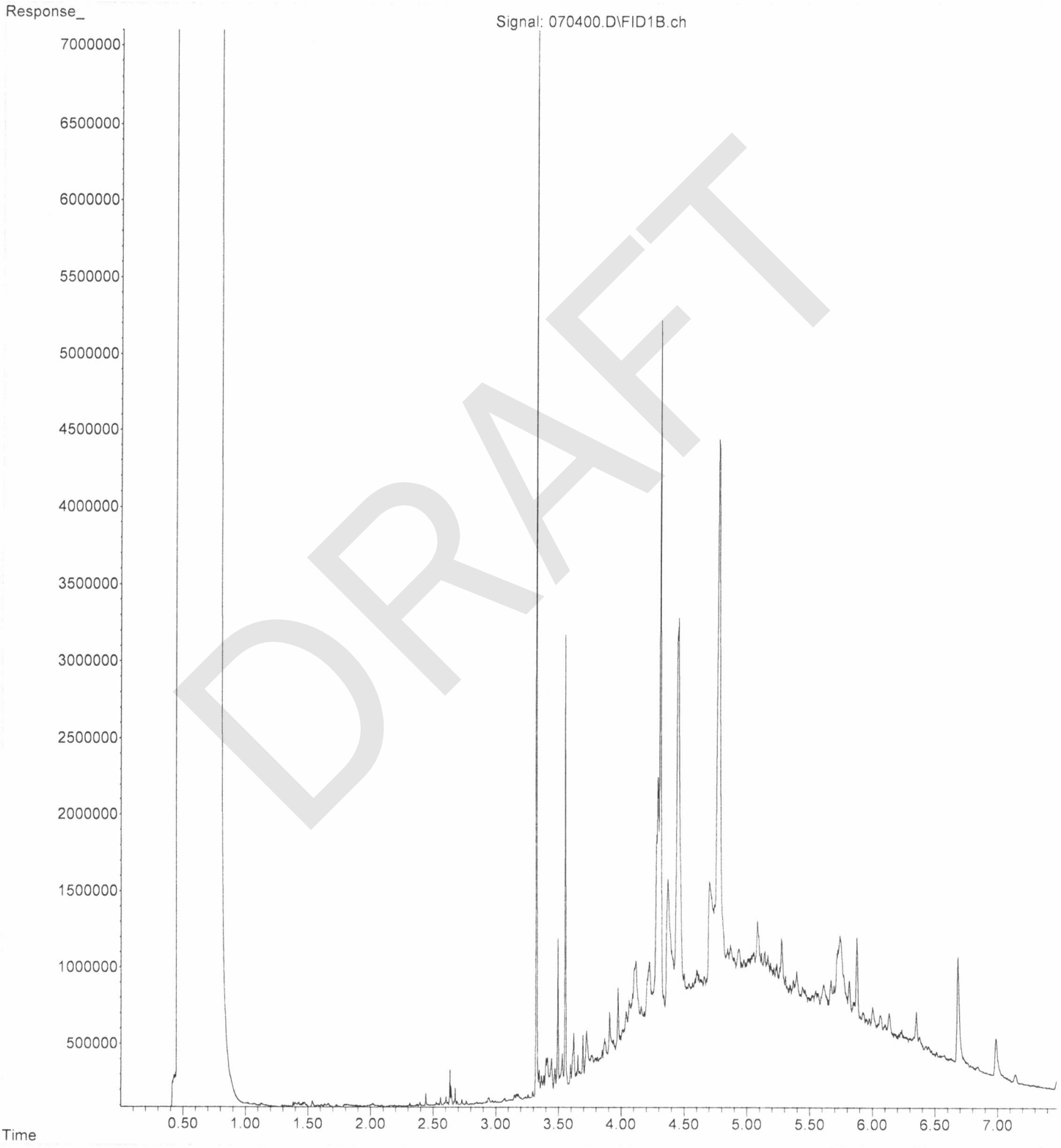
File :P:\Proc_GC10\07-03-24\070398.D
Operator : IJL
Acquired : 04 Jul 2024 04:43 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-63
Misc Info :
Vial Number: 86



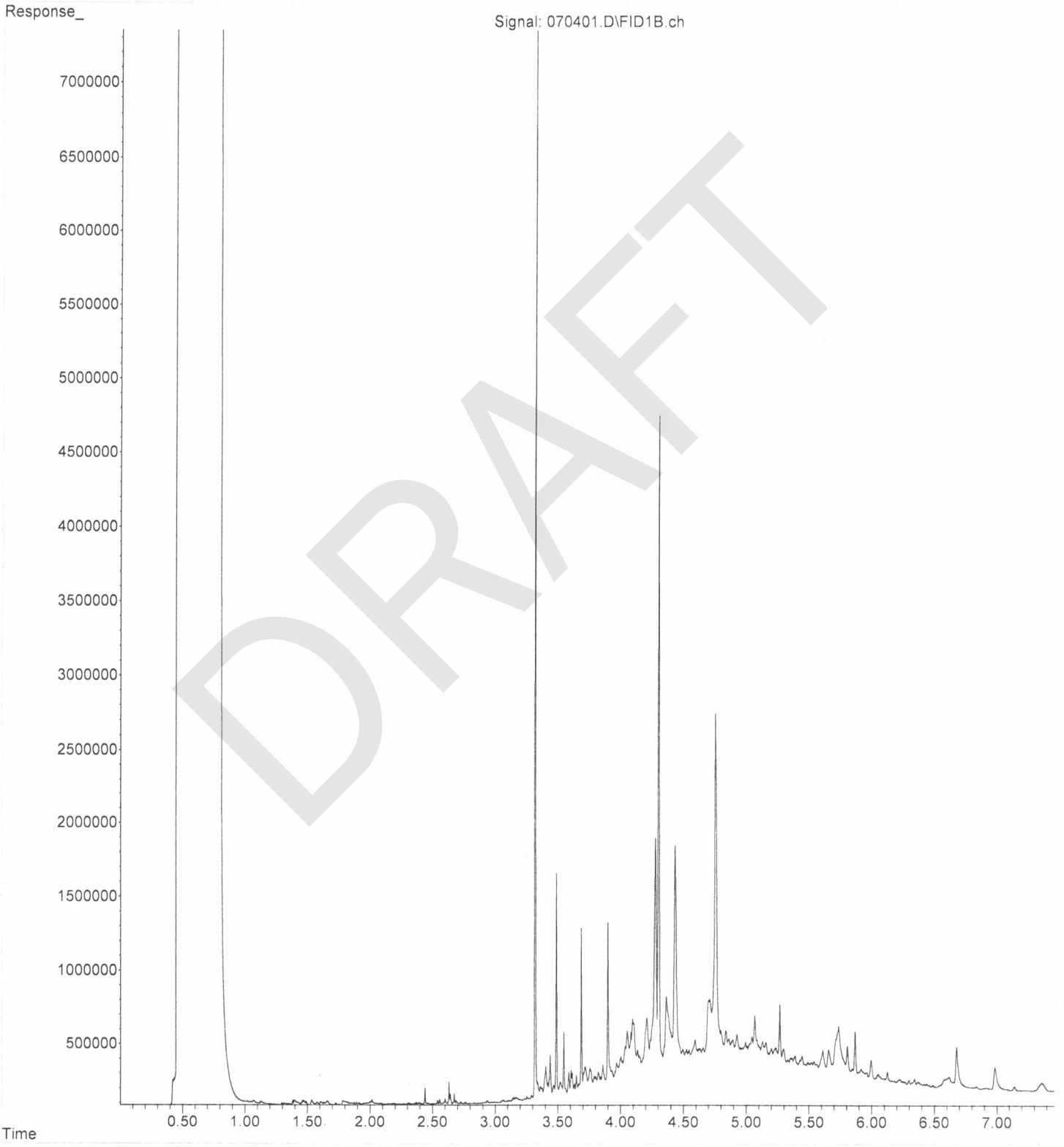
File :P:\Proc_GC10\07-03-24\070399.D
Operator : IJL
Acquired : 04 Jul 2024 04:55 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-64
Misc Info :
Vial Number: 87



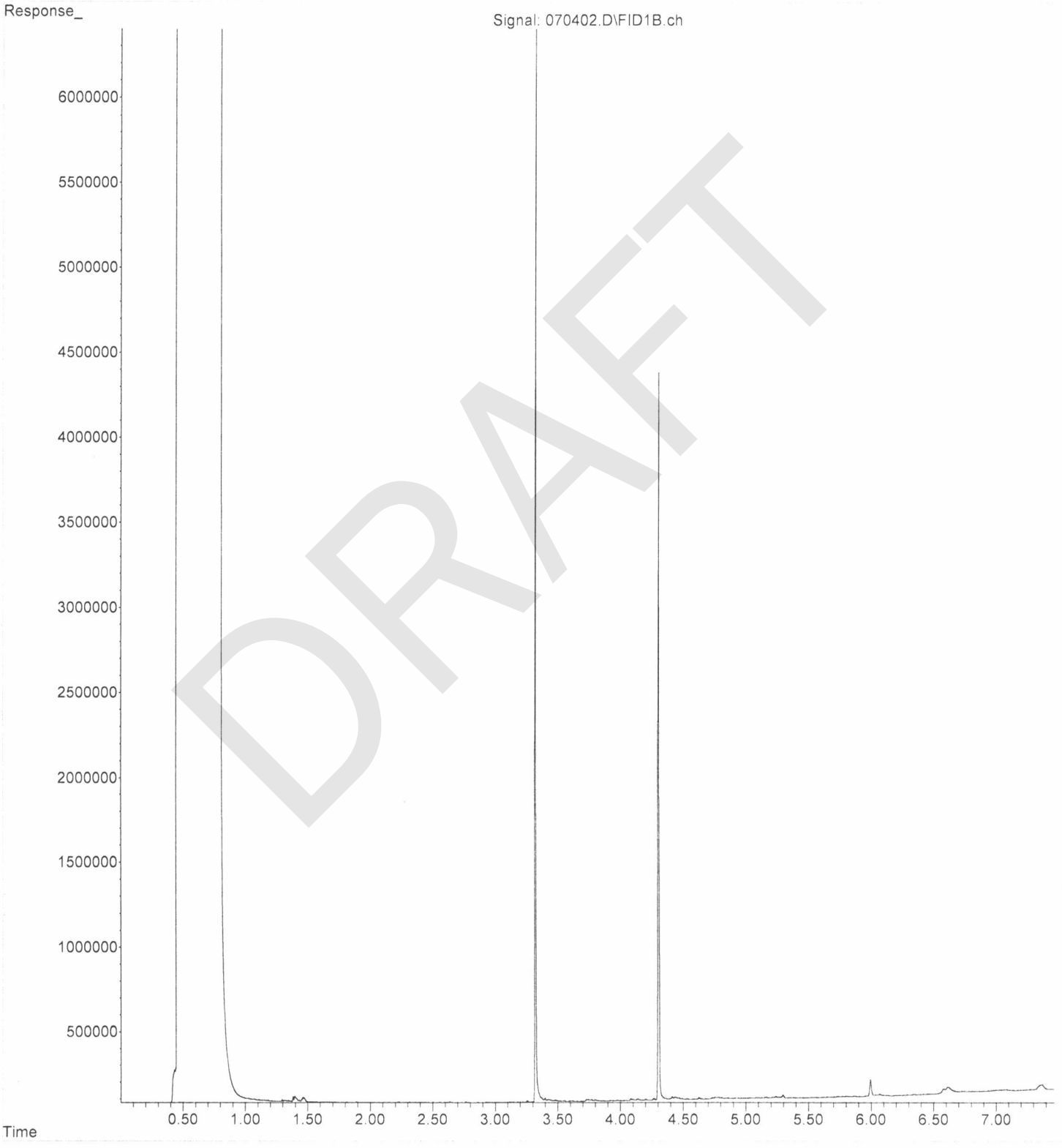
File :P:\Proc_GC10\07-03-24\070400.D
Operator : IJL
Acquired : 04 Jul 2024 05:06 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-65
Misc Info :
Vial Number: 88



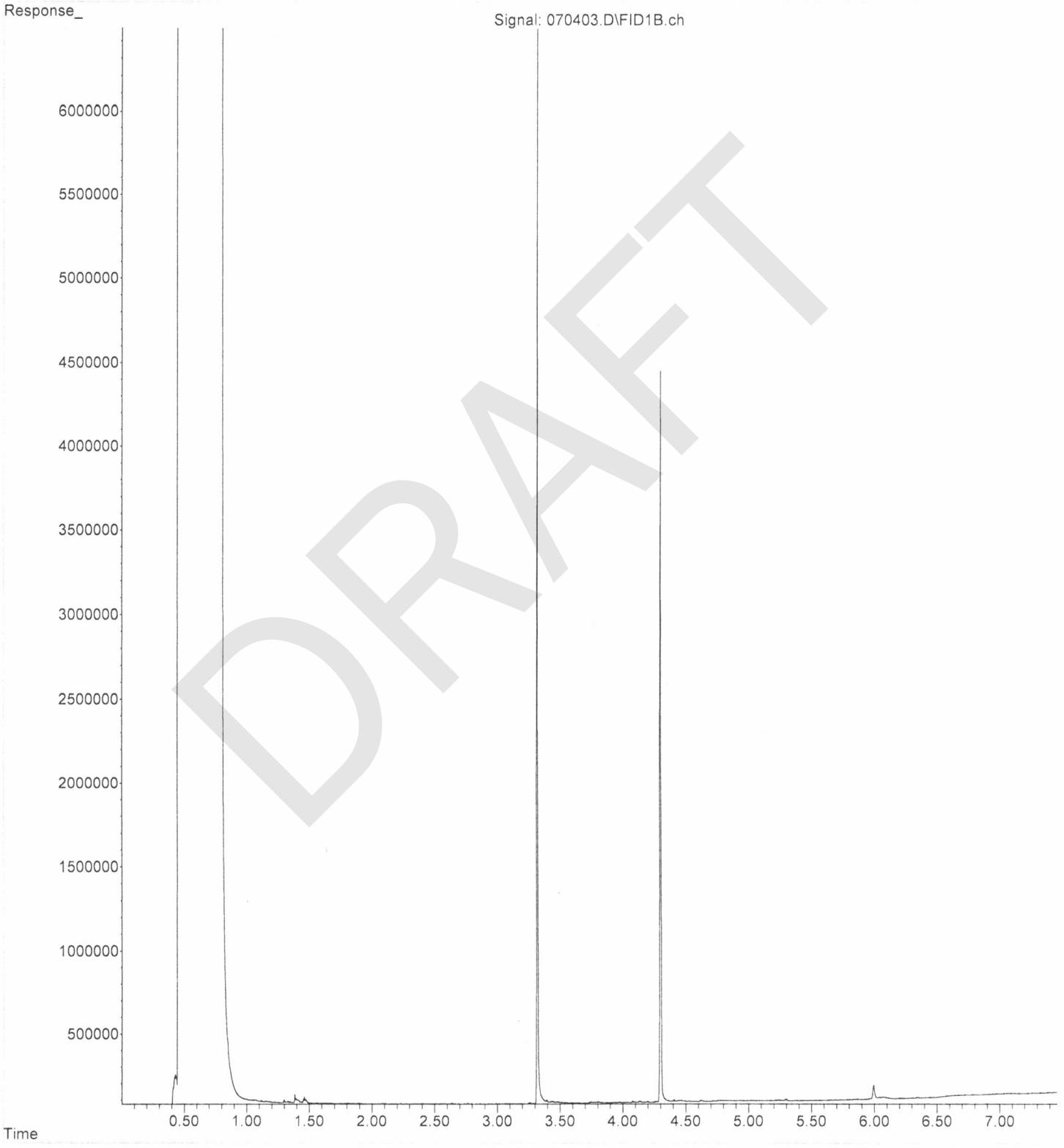
File :P:\Proc_GC10\07-03-24\070401.D
Operator : IJL
Acquired : 04 Jul 2024 05:18 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-66
Misc Info :
Vial Number: 89



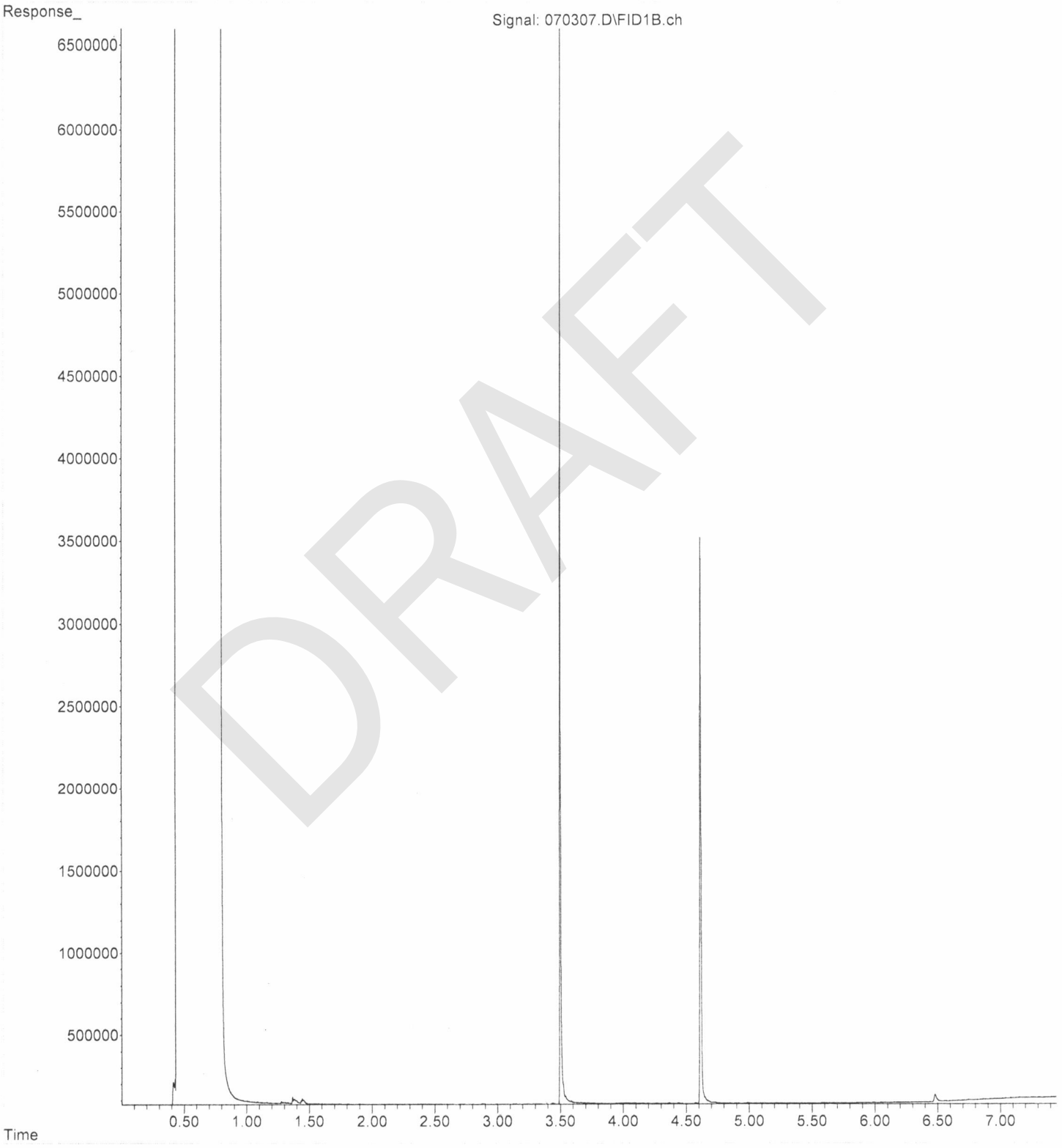
File :P:\Proc_GC10\07-03-24\070402.D
Operator : IJL
Acquired : 04 Jul 2024 05:30 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-67
Misc Info :
Vial Number: 90



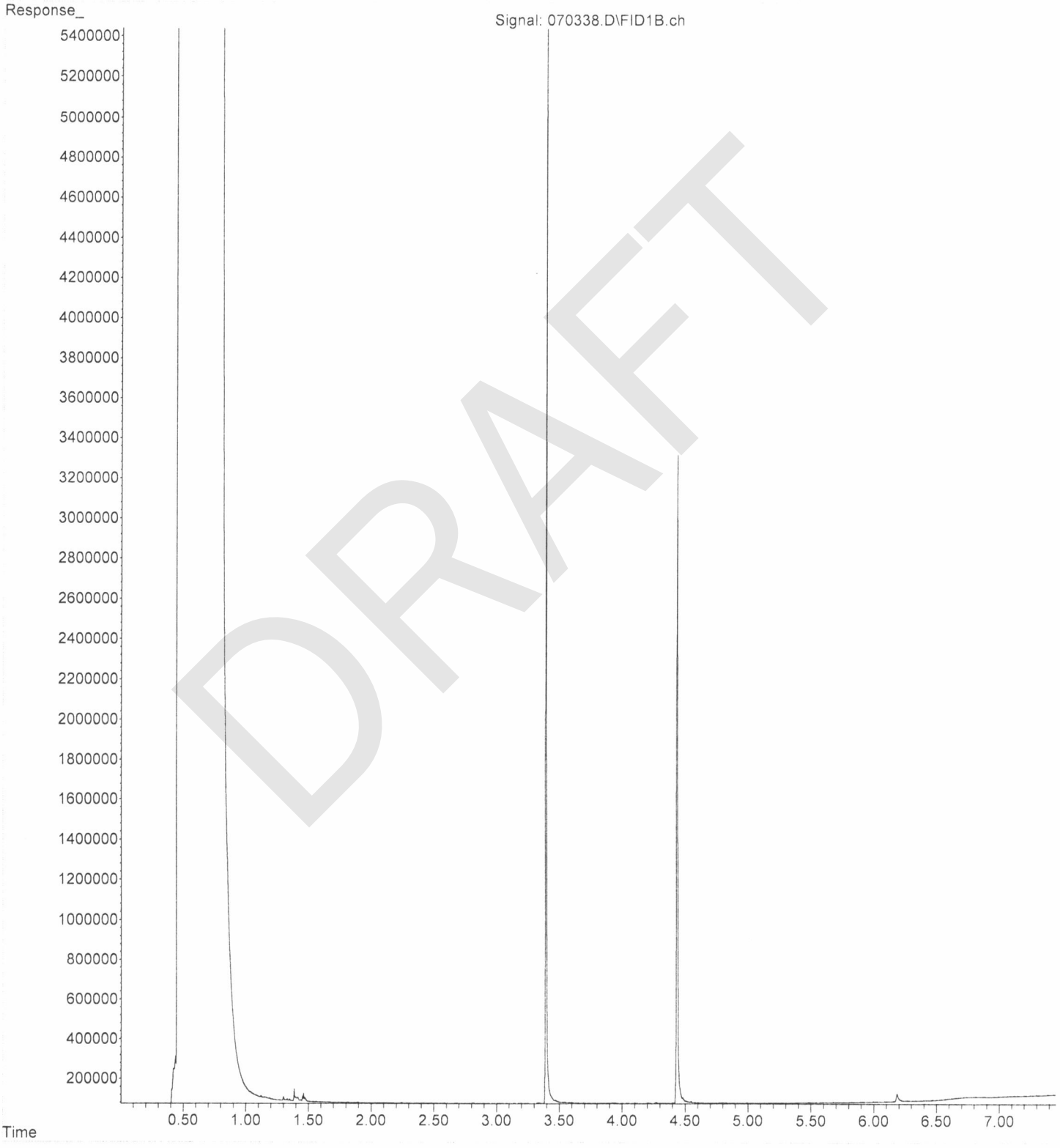
File :P:\Proc_GC10\07-03-24\070403.D
Operator : IJL
Acquired : 04 Jul 2024 05:42 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406447-68
Misc Info :
Vial Number: 91



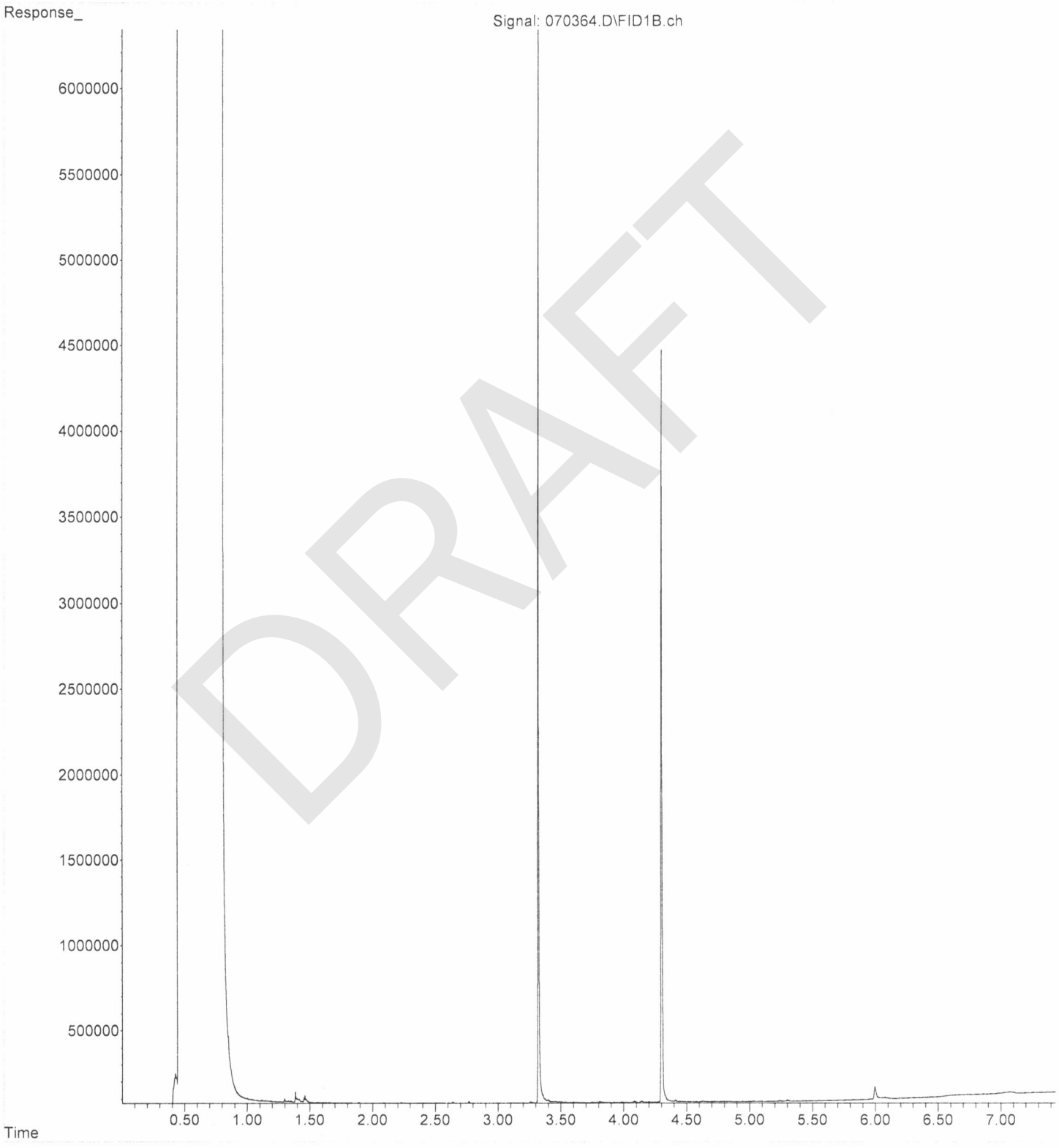
File :P:\Proc_GC10\07-03-24\070307.D
Operator : IJL
Acquired : 03 Jul 2024 10:26 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 04-1554 mb
Misc Info :
Vial Number: 8



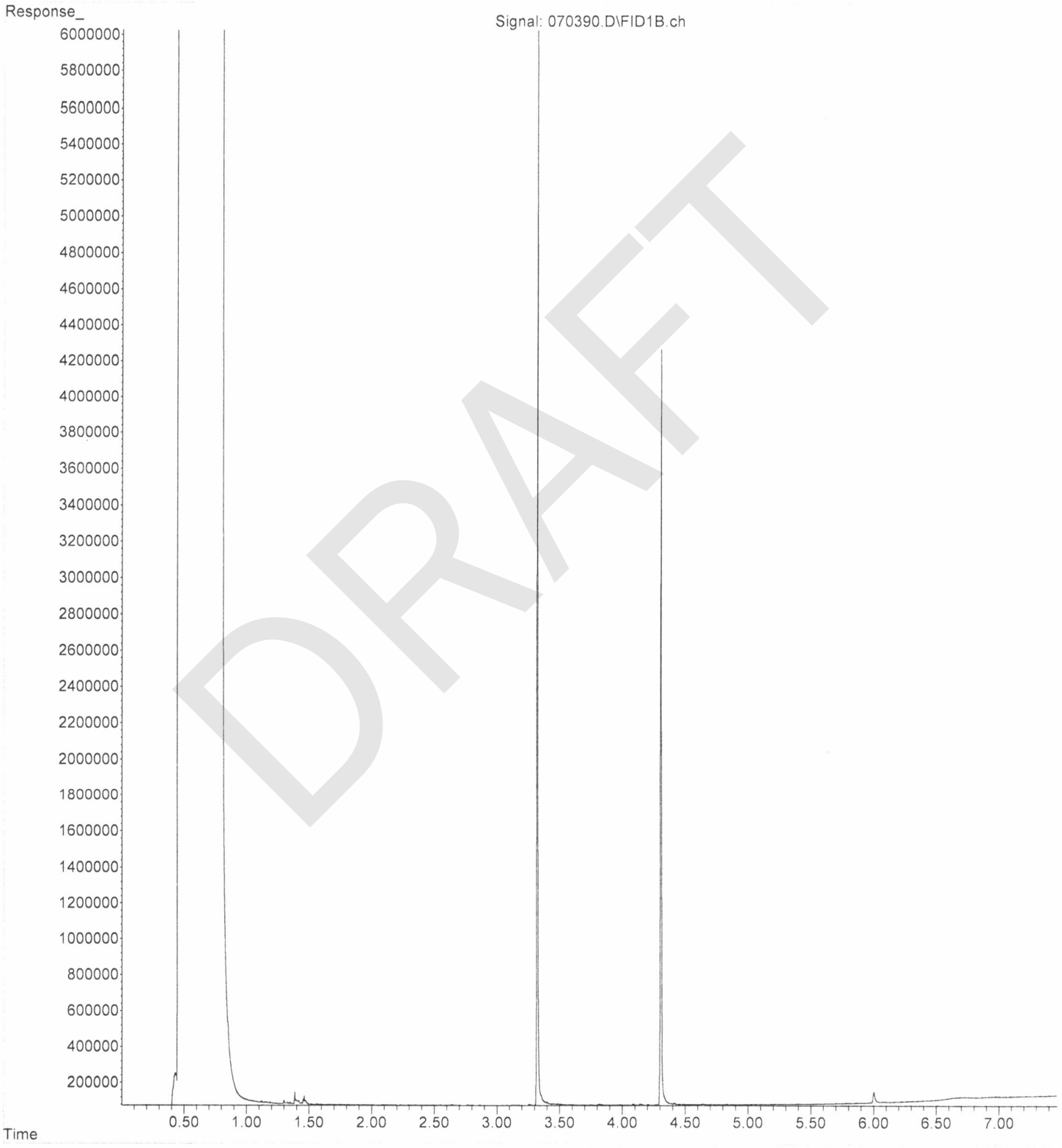
File :P:\Proc_GC10\07-03-24\070338.D
Operator : IJL
Acquired : 03 Jul 2024 04:49 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 04-1555 mb
Misc Info :
Vial Number: 32



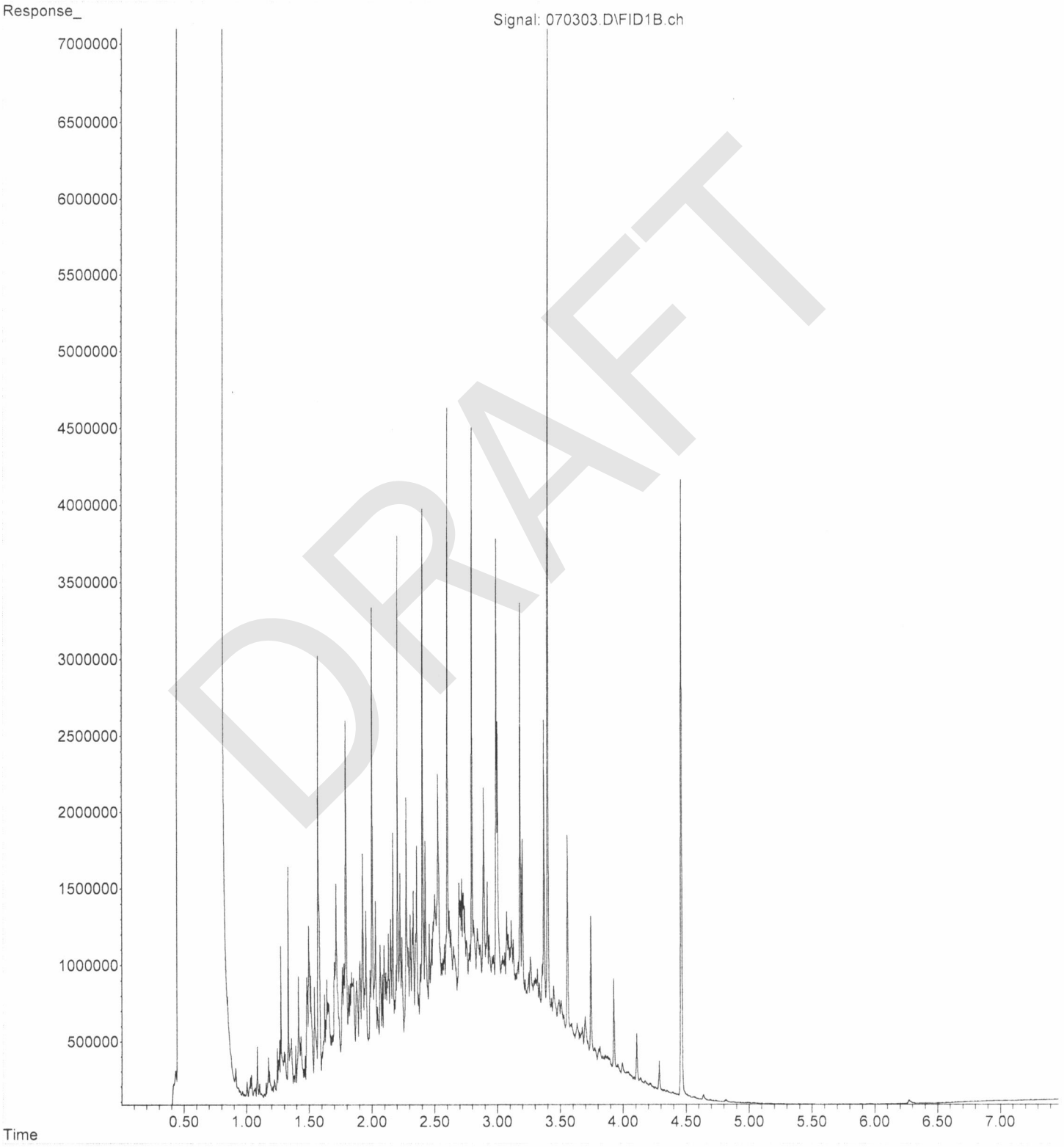
File :P:\Proc_GC10\07-03-24\070364.D
Operator : IJL
Acquired : 03 Jul 2024 10:00 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 04-1556 mb
Misc Info :
Vial Number: 56



File :P:\Proc_GC10\07-03-24\070390.D
Operator : IJL
Acquired : 04 Jul 2024 03:09 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 04-1557 mb
Misc Info :
Vial Number: 80



File :P:\Proc_GC10\07-03-24\070303.D
Operator : IJL
Acquired : 03 Jul 2024 06:44 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 500 Dx 71-152C
Misc Info :
Vial Number: 3



3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 406447,
Work Order Number: 2407022

July 12, 2024

Attention Michael Erdahl:

Fremont Analytical, Inc, an Alliance Technical Group company, received 68 sample(s) on 7/1/2024 for the analyses presented in the following report.

Hexavalent Chromium by EPA 7196A
Sample Moisture (Percent Moisture)
Total Metals by EPA 6020B

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Please note, while the appearance of our logo and branding will update, our commitment to accuracy, speed, and customer service remain values celebrated and shared by Alliance Technical Group. Thank you for the opportunity to serve you.

Sincerely,

Brianna Barnes
Project Manager

Date: *08/12/2024*

CLIENT: Friedman & Bruya
Project: 406447
Work Order: 2407022

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2407022-001	SB1-S-1.0	06/25/2024 1:40 PM	07/01/2024 2:15 PM
2407022-002	SB1-S-5.5	06/25/2024 1:50 PM	07/01/2024 2:15 PM
2407022-003	SB1-S-8.5	06/25/2024 2:00 PM	07/01/2024 2:15 PM
2407022-004	SB1-S-13.5	06/25/2024 2:10 PM	07/01/2024 2:15 PM
2407022-005	SB2-S-1.0	06/25/2024 2:50 PM	07/01/2024 2:15 PM
2407022-006	SB2-S-4.0	06/25/2024 3:00 PM	07/01/2024 2:15 PM
2407022-007	SB2-S-10.5	06/25/2024 3:10 PM	07/01/2024 2:15 PM
2407022-008	SB2-S-13.5	06/25/2024 3:20 PM	07/01/2024 2:15 PM
2407022-009	SB16-S-1.0	06/26/2024 8:20 AM	07/01/2024 2:15 PM
2407022-010	SB16-S-3.5	06/26/2024 8:30 AM	07/01/2024 2:15 PM
2407022-011	SB16-S-7.5	06/26/2024 8:40 AM	07/01/2024 2:15 PM
2407022-012	SB16-S-12.5	06/26/2024 8:50 AM	07/01/2024 2:15 PM
2407022-013	SB5-S-1.0	06/26/2024 10:00 AM	07/01/2024 2:15 PM
2407022-014	SB5-S-2.5	06/26/2024 10:10 AM	07/01/2024 2:15 PM
2407022-015	SB5-S-9.5	06/26/2024 10:20 AM	07/01/2024 2:15 PM
2407022-016	SB5-S-15.7	06/26/2024 10:30 AM	07/01/2024 2:15 PM
2407022-017	SB4-S-1.0	06/26/2024 11:45 AM	07/01/2024 2:15 PM
2407022-018	SB4-S-4.0	06/26/2024 12:00 PM	07/01/2024 2:15 PM
2407022-019	SB4-S-10.5	06/26/2024 12:10 PM	07/01/2024 2:15 PM
2407022-020	SB4-S-13.0	06/26/2024 12:20 PM	07/01/2024 2:15 PM
2407022-021	SB3-S-1.0	06/26/2024 12:55 PM	07/01/2024 2:15 PM
2407022-022	SB3-S-2.5	06/26/2024 1:00 PM	07/01/2024 2:15 PM
2407022-023	SB3-S-7.5	06/26/2024 1:10 PM	07/01/2024 2:15 PM
2407022-024	SB3-S-13.5	06/26/2024 1:20 PM	07/01/2024 2:15 PM
2407022-025	SB6-S-1.0	06/26/2024 1:45 PM	07/01/2024 2:15 PM
2407022-026	SB6-S-3.0	06/26/2024 2:00 PM	07/01/2024 2:15 PM
2407022-027	SBDUP-S-3.0	06/26/2024 2:00 PM	07/01/2024 2:15 PM
2407022-028	SB6-S-10.5	06/26/2024 2:10 PM	07/01/2024 2:15 PM
2407022-029	SB6-S-13.5	06/26/2024 2:20 PM	07/01/2024 2:15 PM
2407022-030	SB7-S-1.0	06/26/2024 3:00 PM	07/01/2024 2:15 PM
2407022-031	SB7-S-4.0	06/26/2024 3:10 PM	07/01/2024 2:15 PM
2407022-032	SB7-S-7.0	06/26/2024 3:20 PM	07/01/2024 2:15 PM
2407022-033	SB7-S-13.5	06/26/2024 3:30 PM	07/01/2024 2:15 PM
2407022-034	SB8-S-0.5	06/27/2024 8:10 AM	07/01/2024 2:15 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Friedman & Bruya
Project: 406447
Work Order: 2407022

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2407022-035	SBDUP2-S-3.0	06/27/2024 8:20 AM	07/01/2024 2:15 PM
2407022-036	SB8-S-3.0	06/27/2024 8:20 AM	07/01/2024 2:15 PM
2407022-037	SB8-S-10.5	06/27/2024 8:30 AM	07/01/2024 2:15 PM
2407022-038	SB8-S-13.5	06/27/2024 8:40 AM	07/01/2024 2:15 PM
2407022-039	SB9-S-1.0	06/27/2024 10:20 AM	07/01/2024 2:15 PM
2407022-040	SB9-S-4.0	06/27/2024 10:30 AM	07/01/2024 2:15 PM
2407022-041	SB9-S-10.5	06/27/2024 10:40 AM	07/01/2024 2:15 PM
2407022-042	SB9-S-13.5	06/27/2024 10:50 AM	07/01/2024 2:15 PM
2407022-043	SBDUP-S-1.0	06/27/2024 12:20 PM	07/01/2024 2:15 PM
2407022-044	SB11-S-1.0	06/27/2024 12:20 PM	07/01/2024 2:15 PM
2407022-045	SB11-S-5.5	06/27/2024 12:30 PM	07/01/2024 2:15 PM
2407022-046	SB11-S-12.0	06/27/2024 12:50 PM	07/01/2024 2:15 PM
2407022-047	SB11-S-8.0	06/27/2024 12:40 PM	07/01/2024 2:15 PM
2407022-048	SB10-S-0.5	06/27/2024 2:20 PM	07/01/2024 2:15 PM
2407022-049	SBDUP-S-5.5	06/27/2024 2:30 PM	07/01/2024 2:15 PM
2407022-050	SB10-S-5.5	06/27/2024 2:30 PM	07/01/2024 2:15 PM
2407022-051	SB10-S-11.0	06/27/2024 2:40 PM	07/01/2024 2:15 PM
2407022-052	SB10-S-15.5	06/27/2024 2:50 PM	07/01/2024 2:15 PM
2407022-053	SB13-S-0.5	06/27/2024 4:10 PM	07/01/2024 2:15 PM
2407022-054	SB13-S-5.5	06/27/2024 4:20 PM	07/01/2024 2:15 PM
2407022-055	SB13-S-7.5	06/27/2024 4:30 PM	07/01/2024 2:15 PM
2407022-056	SB13-S-11.5	06/27/2024 4:40 PM	07/01/2024 2:15 PM
2407022-057	SB12-S-1.0	06/28/2024 8:00 AM	07/01/2024 2:15 PM
2407022-058	SB12-S-5.5	06/28/2024 8:10 AM	07/01/2024 2:15 PM
2407022-059	SBDUP2-S-5.5	06/28/2024 8:10 AM	07/01/2024 2:15 PM
2407022-060	SB12-S-10.5	06/28/2024 8:20 AM	07/01/2024 2:15 PM
2407022-061	SB12-S-16.5	06/28/2024 8:30 AM	07/01/2024 2:15 PM
2407022-062	SB17-S-5.5	06/28/2024 9:15 AM	07/01/2024 2:15 PM
2407022-063	SB17-S-9.0	06/28/2024 9:40 AM	07/01/2024 2:15 PM
2407022-064	SB17-S-13.5	06/28/2024 9:50 AM	07/01/2024 2:15 PM
2407022-065	SB15-S-1.0	06/28/2024 10:40 AM	07/01/2024 2:15 PM
2407022-066	SB15-S-3.0	06/28/2024 10:50 AM	07/01/2024 2:15 PM
2407022-067	SB15-S-10.5	06/28/2024 11:00 AM	07/01/2024 2:15 PM
2407022-068	SB15-S-15.5	06/28/2024 11:10 AM	07/01/2024 2:15 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2407022**
Date: **7/12/2024**

CLIENT: Friedman & Bruya
Project: 406447

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Rev1 includes update to sample names per client request.
Rev2 includes update to sample names and collection times per client request.
Rev3 includes an updated Sample ID per client request.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-001 **Collection Date:** 6/25/2024 1:40:00 PM
Client Sample ID: **SB1-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	23,900	1,330	D	mg/Kg-dry	200	7/8/2024 3:21:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	8.72	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	13.4	D	mg/Kg-dry	25	7/3/2024 4:10:00 PM

Lab ID: 2407022-002 **Collection Date:** 6/25/2024 1:50:00 PM
Client Sample ID: **SB1-S-5.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	28,800	1,390	D	mg/Kg-dry	200	7/8/2024 3:23:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	8.95	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	5.05	D	mg/Kg-dry	10	7/3/2024 4:14:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-003 **Collection Date:** 6/25/2024 2:00:00 PM
Client Sample ID: **SB1-S-8.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	21,300	1,280	D	mg/Kg-dry	200	7/8/2024 3:26:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	1.77	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.497		mg/Kg-dry	1	7/10/2024 2:24:00 PM

Lab ID: 2407022-004 **Collection Date:** 6/25/2024 2:10:00 PM
Client Sample ID: **SB1-S-13.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	21,600	1,240	D	mg/Kg-dry	200	7/8/2024 3:28:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	2.47	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	0.517		mg/Kg-dry	1	7/3/2024 4:18:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-005 **Collection Date:** 6/25/2024 2:50:00 PM
Client Sample ID: **SB2-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	32,700	1,480	D	mg/Kg-dry	200	7/8/2024 3:31:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	13.0	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	13.5	D	mg/Kg-dry	25	7/3/2024 4:21:00 PM

Lab ID: 2407022-006 **Collection Date:** 6/25/2024 3:00:00 PM
Client Sample ID: **SB2-S-4.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	23,000	1,390	D	mg/Kg-dry	200	7/8/2024 3:34:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	8.73	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	0.527		mg/Kg-dry	1	7/3/2024 4:25:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-007 **Collection Date:** 6/25/2024 3:10:00 PM
Client Sample ID: **SB2-S-10.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	30,200	1,320	D	mg/Kg-dry	200	7/8/2024 3:36:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	3.47	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	0.522		mg/Kg-dry	1	7/3/2024 4:29:00 PM

Lab ID: 2407022-008 **Collection Date:** 6/25/2024 3:20:00 PM
Client Sample ID: **SB2-S-13.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	17,400	1,290	D	mg/Kg-dry	200	7/8/2024 3:44:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	4.42	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	0.523		mg/Kg-dry	1	7/3/2024 5:38:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-009 **Collection Date:** 6/26/2024 8:20:00 AM
Client Sample ID: **SB16-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	24,100	1,320	D	mg/Kg-dry	200	7/8/2024 3:46:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	3.71	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.484		mg/Kg-dry	1	7/10/2024 2:28:00 PM

Lab ID: 2407022-010 **Collection Date:** 6/26/2024 8:30:00 AM
Client Sample ID: **SB16-S-3.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	26,500	1,250	D	mg/Kg-dry	200	7/8/2024 3:49:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	1.39	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.495		mg/Kg-dry	1	7/10/2024 2:32:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-011 **Collection Date:** 6/26/2024 8:40:00 AM
Client Sample ID: **SB16-S-7.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	24,100	1,280	D	mg/Kg-dry	200	7/8/2024 3:51:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	3.29	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.517		mg/Kg-dry	1	7/10/2024 5:37:00 PM

Lab ID: 2407022-012 **Collection Date:** 6/26/2024 8:50:00 AM
Client Sample ID: **SB16-S-12.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	22,200	1,350	D	mg/Kg-dry	200	7/8/2024 3:54:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	5.89	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.499		mg/Kg-dry	1	7/10/2024 5:41:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-013 **Collection Date:** 6/26/2024 10:00:00 AM
Client Sample ID: **SB5-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	20,600	1,520	D	mg/Kg-dry	200	7/8/2024 3:56:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	15.7	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	14.8	D	mg/Kg-dry	25	7/3/2024 4:33:00 PM

Lab ID: 2407022-014 **Collection Date:** 6/26/2024 10:10:00 AM
Client Sample ID: **SB5-S-2.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	19,500	2,230	D	mg/Kg-dry	200	7/8/2024 3:59:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	45.2	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	2.50	D	mg/Kg-dry	3	7/10/2024 2:36:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-015 **Collection Date:** 6/26/2024 10:20:00 AM
Client Sample ID: **SB5-S-9.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	25,900	1,320	D	mg/Kg-dry	200	7/8/2024 4:02:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	8.61	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.538		mg/Kg-dry	1	7/10/2024 4:59:00 PM

Lab ID: 2407022-016 **Collection Date:** 6/26/2024 10:30:00 AM
Client Sample ID: **SB5-S-15.7** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44415		Analyst: SLL
Iron	21,800	1,380	D	mg/Kg-dry	200	7/8/2024 4:04:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	9.18	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.502		mg/Kg-dry	1	7/10/2024 5:02:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-017 **Collection Date:** 6/26/2024 11:45:00 AM
Client Sample ID: **SB4-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	41,500	1,540	D	mg/Kg-dry	200	7/8/2024 1:29:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	11.4	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.564		mg/Kg-dry	1	7/10/2024 5:06:00 PM

Lab ID: 2407022-018 **Collection Date:** 6/26/2024 12:00:00 PM
Client Sample ID: **SB4-S-4.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	8,620	3,650	D	mg/Kg-dry	200	7/8/2024 2:19:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	64.7	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44504		Analyst: NR
Chromium, Hexavalent	ND	13.8	D	mg/Kg-dry	10	7/12/2024 3:55:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-019 **Collection Date:** 6/26/2024 12:10:00 PM
Client Sample ID: **SB4-S-10.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	18,300	1,270	D	mg/Kg-dry	200	7/8/2024 2:21:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	5.51	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.483		mg/Kg-dry	1	7/10/2024 5:10:00 PM

Lab ID: 2407022-020 **Collection Date:** 6/26/2024 12:20:00 PM
Client Sample ID: **SB4-S-13.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	25,000	1,360	D	mg/Kg-dry	200	7/8/2024 2:24:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	1.46	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.481		mg/Kg-dry	1	7/10/2024 5:14:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-021 **Collection Date:** 6/26/2024 12:55:00 PM
Client Sample ID: **SB3-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	22,300	1,560	D	mg/Kg-dry	200	7/8/2024 2:30:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	12.7	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44504		Analyst: NR
Chromium, Hexavalent	ND	2.89	D	mg/Kg-dry	5	7/12/2024 3:59:00 PM

Lab ID: 2407022-022 **Collection Date:** 6/26/2024 1:00:00 PM
Client Sample ID: **SB3-S-2.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	14,300	2,580	D	mg/Kg-dry	200	7/8/2024 2:33:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	50.7	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44504		Analyst: NR
Chromium, Hexavalent	ND	10.2	D	mg/Kg-dry	10	7/12/2024 4:03:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-023 **Collection Date:** 6/26/2024 1:10:00 PM
Client Sample ID: **SB3-S-7.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	29,800	1,580	D	mg/Kg-dry	200	7/8/2024 2:35:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	20.1	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.580		mg/Kg-dry	1	7/10/2024 5:44:00 PM

Lab ID: 2407022-024 **Collection Date:** 6/26/2024 1:20:00 PM
Client Sample ID: **SB3-S-13.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	15,200	1,380	D	mg/Kg-dry	200	7/8/2024 2:43:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	4.71	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.475		mg/Kg-dry	1	7/10/2024 5:48:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-025 **Collection Date:** 6/26/2024 1:45:00 PM
Client Sample ID: **SB6-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	23,900	1,550	D	mg/Kg-dry	200	7/8/2024 2:45:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92795		Analyst: GHG
Percent Moisture	15.9	0.500		wt%	1	7/2/2024 10:43:02 AM
Hexavalent Chromium by EPA 7196A				Batch ID: 44504		Analyst: NR
Chromium, Hexavalent	ND	5.90	D	mg/Kg-dry	10	7/12/2024 4:15:00 PM

Lab ID: 2407022-026 **Collection Date:** 6/26/2024 2:00:00 PM
Client Sample ID: **SB6-S-3.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	10,100	3,180	D	mg/Kg-dry	200	7/8/2024 2:48:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	60.6	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44504		Analyst: NR
Chromium, Hexavalent	ND	6.30	D	mg/Kg-dry	5	7/12/2024 4:28:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-027 **Collection Date:** 6/26/2024 2:00:00 PM
Client Sample ID: **SBDUP-S-3.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	10,100	3,220	D	mg/Kg-dry	200	7/8/2024 2:51:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	62.3	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44504		Analyst: NR
Chromium, Hexavalent	ND	6.63	D	mg/Kg-dry	5	7/12/2024 4:32:00 PM

Lab ID: 2407022-028 **Collection Date:** 6/26/2024 2:10:00 PM
Client Sample ID: **SB6-S-10.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	17,500	1,330	D	mg/Kg-dry	200	7/8/2024 2:53:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	3.66	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44460		Analyst: NR
Chromium, Hexavalent	ND	0.488		mg/Kg-dry	1	7/10/2024 5:52:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-029 **Collection Date:** 6/26/2024 2:20:00 PM
Client Sample ID: **SB6-S-13.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	19,900	1,400	D	mg/Kg-dry	200	7/8/2024 2:56:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	7.30	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.523		mg/Kg-dry	1	7/11/2024 2:54:00 PM

Lab ID: 2407022-030 **Collection Date:** 6/26/2024 3:00:00 PM
Client Sample ID: **SB7-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	34,100	1,390	D	mg/Kg-dry	200	7/8/2024 2:58:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	9.87	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.529		mg/Kg-dry	1	7/11/2024 3:14:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-031 **Collection Date:** 6/26/2024 3:10:00 PM
Client Sample ID: **SB7-S-4.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	ND	4,120	D	mg/Kg-dry	200	7/8/2024 3:01:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	68.7	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	1.53		mg/Kg-dry	1	7/11/2024 3:18:00 PM

Lab ID: 2407022-032 **Collection Date:** 6/26/2024 3:20:00 PM
Client Sample ID: **SB7-S-7.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	16,300	1,260	D	mg/Kg-dry	200	7/8/2024 3:04:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	5.07	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.503		mg/Kg-dry	1	7/11/2024 3:22:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-033 **Collection Date:** 6/26/2024 3:30:00 PM
Client Sample ID: **SB7-S-13.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44427		Analyst: SLL
Iron	19,500	1,350	D	mg/Kg-dry	200	7/8/2024 3:06:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	5.17	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.515		mg/Kg-dry	1	7/11/2024 3:34:00 PM

Lab ID: 2407022-034 **Collection Date:** 6/27/2024 8:10:00 AM
Client Sample ID: **SB8-S-0.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	360,000	1,610	D	mg/Kg-dry	200	7/8/2024 4:46:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	16.6	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	8.93	D	mg/Kg-dry	15	7/11/2024 3:37:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-035 **Collection Date:** 6/27/2024 8:20:00 AM
Client Sample ID: **SBDUP2-S-3.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	188,000	1,330	D	mg/Kg-dry	200	7/8/2024 4:56:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	4.36	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.507		mg/Kg-dry	1	7/11/2024 3:41:00 PM

Lab ID: 2407022-036 **Collection Date:** 6/27/2024 8:20:00 AM
Client Sample ID: **SB8-S-3.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	185,000	1,330	D	mg/Kg-dry	200	7/8/2024 5:04:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	4.51	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.519		mg/Kg-dry	1	7/11/2024 3:45:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-037 **Collection Date:** 6/27/2024 8:30:00 AM
Client Sample ID: **SB8-S-10.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	169,000	1,320	D	mg/Kg-dry	200	7/8/2024 5:06:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	3.16	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.489		mg/Kg-dry	1	7/11/2024 4:00:00 PM

Lab ID: 2407022-038 **Collection Date:** 6/27/2024 8:40:00 AM
Client Sample ID: **SB8-S-13.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	160,000	1,260	D	mg/Kg-dry	200	7/8/2024 5:09:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	2.97	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.507		mg/Kg-dry	1	7/11/2024 4:03:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-039 **Collection Date:** 6/27/2024 10:20:00 AM
Client Sample ID: **SB9-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	203,000	1,510	D	mg/Kg-dry	200	7/8/2024 5:11:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	13.9	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	8.19	D	mg/Kg-dry	15	7/11/2024 4:06:00 PM

Lab ID: 2407022-040 **Collection Date:** 6/27/2024 10:30:00 AM
Client Sample ID: **SB9-S-4.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	227,000	1,620	D	mg/Kg-dry	200	7/8/2024 5:14:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	20.4	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.586		mg/Kg-dry	1	7/11/2024 4:11:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-041 **Collection Date:** 6/27/2024 10:40:00 AM
Client Sample ID: **SB9-S-10.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	147,000	1,410	D	mg/Kg-dry	200	7/8/2024 5:17:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	4.77	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.505		mg/Kg-dry	1	7/11/2024 4:15:00 PM

Lab ID: 2407022-042 **Collection Date:** 6/27/2024 10:50:00 AM
Client Sample ID: **SB9-S-13.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	177,000	1,320	D	mg/Kg-dry	200	7/8/2024 5:19:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	5.10	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.527		mg/Kg-dry	1	7/11/2024 4:19:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-043 **Collection Date:** 6/27/2024 12:20:00 PM
Client Sample ID: **SBDUP-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	344,000	1,470	D	mg/Kg-dry	200	7/8/2024 5:22:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	8.47	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	5.75	1.03	D	mg/Kg-dry	2	7/11/2024 5:14:00 PM

NOTES:
Diluted due to matrix.

Lab ID: 2407022-044 **Collection Date:** 6/27/2024 12:20:00 PM
Client Sample ID: **SB11-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	297,000	1,430	D	mg/Kg-dry	200	7/8/2024 5:24:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	8.90	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.508		mg/Kg-dry	1	7/11/2024 4:34:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-045 **Collection Date:** 6/27/2024 12:30:00 PM
Client Sample ID: **SB11-S-5.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	75,300	2,840	D	mg/Kg-dry	200	7/8/2024 5:27:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	52.7	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	14.7	D	mg/Kg-dry	15	7/11/2024 4:38:00 PM

Lab ID: 2407022-046 **Collection Date:** 6/27/2024 12:50:00 PM
Client Sample ID: **SB11-S-12.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	162,000	1,270	D	mg/Kg-dry	200	7/8/2024 5:34:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	3.21	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.493		mg/Kg-dry	1	7/11/2024 4:42:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-047 **Collection Date:** 6/27/2024 12:40:00 PM
Client Sample ID: **SB11-S-8.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	217,000	1,320	D	mg/Kg-dry	200	7/8/2024 5:37:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	4.28	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.495		mg/Kg-dry	1	7/11/2024 4:46:00 PM

Lab ID: 2407022-048 **Collection Date:** 6/27/2024 2:20:00 PM
Client Sample ID: **SB10-S-0.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	456,000	1,290	D	mg/Kg-dry	200	7/8/2024 5:39:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	7.40	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44461		Analyst: SS
Chromium, Hexavalent	ND	0.531		mg/Kg-dry	1	7/11/2024 4:50:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-049 **Collection Date:** 6/27/2024 2:30:00 PM
Client Sample ID: **SBDUP-S-5.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	29,400	1,480	D	mg/Kg-dry	200	7/8/2024 5:42:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	9.19	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	4.95	D	mg/Kg-dry	10	7/12/2024 12:42:00 PM

Lab ID: 2407022-050 **Collection Date:** 6/27/2024 2:30:00 PM
Client Sample ID: **SB10-S-5.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	280,000	1,460	D	mg/Kg-dry	200	7/8/2024 5:45:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92797		Analyst: GHG
Percent Moisture	11.1	0.500		wt%	1	7/2/2024 1:13:13 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	4.92	D	mg/Kg-dry	10	7/12/2024 1:01:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-051 **Collection Date:** 6/27/2024 2:40:00 PM
Client Sample ID: **SB10-S-11.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	170,000	1,330	D	mg/Kg-dry	200	7/8/2024 5:47:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	3.05	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.451		mg/Kg-dry	1	7/12/2024 1:05:00 PM

Lab ID: 2407022-052 **Collection Date:** 6/27/2024 2:50:00 PM
Client Sample ID: **SB10-S-15.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	213,000	1,280	D	mg/Kg-dry	200	7/8/2024 5:50:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	2.90	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.511		mg/Kg-dry	1	7/12/2024 1:17:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-053 **Collection Date:** 6/27/2024 4:10:00 PM
Client Sample ID: **SB13-S-0.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44454		Analyst: ME
Iron	369,000	1,310	D	mg/Kg-dry	200	7/8/2024 5:55:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	6.52	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.484		mg/Kg-dry	1	7/12/2024 1:21:00 PM

Lab ID: 2407022-054 **Collection Date:** 6/27/2024 4:20:00 PM
Client Sample ID: **SB13-S-5.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	12,500	98.1	D	mg/Kg-dry	10	7/9/2024 12:52:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	35.3	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	7.38	D	mg/Kg-dry	10	7/12/2024 1:40:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-055 **Collection Date:** 6/27/2024 4:30:00 PM
Client Sample ID: **SB13-S-7.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	17,700	67.5	D	mg/Kg-dry	10	7/9/2024 1:05:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	6.76	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.508		mg/Kg-dry	1	7/12/2024 1:43:00 PM

Lab ID: 2407022-056 **Collection Date:** 6/27/2024 4:40:00 PM
Client Sample ID: **SB13-S-11.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	22,200	63.3	D	mg/Kg-dry	10	7/9/2024 1:07:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	2.83	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.499		mg/Kg-dry	1	7/12/2024 1:47:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-057 **Collection Date:** 6/28/2024 8:00:00 AM
Client Sample ID: **SB12-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	47,700	76.3	D	mg/Kg-dry	10	7/9/2024 1:10:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	14.8	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.560		mg/Kg-dry	1	7/12/2024 1:50:00 PM

Lab ID: 2407022-058 **Collection Date:** 6/28/2024 8:10:00 AM
Client Sample ID: **SB12-S-5.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	18,400	70.2	D	mg/Kg-dry	10	7/9/2024 1:17:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	9.55	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.523		mg/Kg-dry	1	7/12/2024 1:55:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-059 **Collection Date:** 6/28/2024 8:10:00 AM
Client Sample ID: **SBDUP2-S-5.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	18,300	65.0	D	mg/Kg-dry	10	7/9/2024 1:20:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	7.40	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.507		mg/Kg-dry	1	7/12/2024 1:58:00 PM

Lab ID: 2407022-060 **Collection Date:** 6/28/2024 8:20:00 AM
Client Sample ID: **SB12-S-10.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	22,000	71.4	D	mg/Kg-dry	10	7/9/2024 1:22:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	22.1	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.573		mg/Kg-dry	1	7/12/2024 2:02:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-061 **Collection Date:** 6/28/2024 8:30:00 AM
Client Sample ID: **SB12-S-16.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	21,200	78.5	D	mg/Kg-dry	10	7/9/2024 1:25:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	22.2	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.535		mg/Kg-dry	1	7/12/2024 2:06:00 PM

Lab ID: 2407022-062 **Collection Date:** 6/28/2024 9:15:00 AM
Client Sample ID: **SB17-S-5.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	24,900	65.5	D	mg/Kg-dry	10	7/9/2024 1:27:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	3.03	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.504		mg/Kg-dry	1	7/12/2024 2:15:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-063 **Collection Date:** 6/28/2024 9:40:00 AM
Client Sample ID: **SB17-S-9.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	21,900	60.2	D	mg/Kg-dry	10	7/9/2024 1:30:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	1.47	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.456		mg/Kg-dry	1	7/12/2024 2:19:00 PM

Lab ID: 2407022-064 **Collection Date:** 6/28/2024 9:50:00 AM
Client Sample ID: **SB17-S-13.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	19,800	63.5	D	mg/Kg-dry	10	7/9/2024 1:32:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	2.28	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.481		mg/Kg-dry	1	7/12/2024 2:23:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-065 **Collection Date:** 6/28/2024 10:40:00 AM
Client Sample ID: **SB15-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	16,900	93.1	D	mg/Kg-dry	10	7/9/2024 1:35:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	35.8	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	7.01	D	mg/Kg-dry	10	7/12/2024 2:27:00 PM

Lab ID: 2407022-066 **Collection Date:** 6/28/2024 10:50:00 AM
Client Sample ID: **SB15-S-3.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	7,670	112	D	mg/Kg-dry	10	7/9/2024 1:37:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	43.1	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	8.20	D	mg/Kg-dry	10	7/12/2024 2:31:00 PM

CLIENT: Friedman & Bruya
Project: 406447

Lab ID: 2407022-067 **Collection Date:** 6/28/2024 11:00:00 AM
Client Sample ID: **SB15-S-10.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	18,700	69.2	D	mg/Kg-dry	10	7/9/2024 1:40:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	8.93	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.532		mg/Kg-dry	1	7/12/2024 2:35:00 PM

Lab ID: 2407022-068 **Collection Date:** 6/28/2024 11:10:00 AM
Client Sample ID: **SB15-S-15.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44459		Analyst: ME
Iron	22,600	80.2	D	mg/Kg-dry	10	7/9/2024 1:47:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92807		Analyst: GHG
Percent Moisture	22.1	0.500		wt%	1	7/2/2024 3:31:18 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44484		Analyst: NR
Chromium, Hexavalent	ND	0.637		mg/Kg-dry	1	7/12/2024 3:17:00 PM

Work Order: 2407022
CLIENT: Friedman & Bruya
Project: 406447

QC SUMMARY REPORT

Hexavalent Chromium by EPA 7196A

Sample ID: **MB-44417**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **7/2/2024**	RunNo: **92840**
Client ID: **MBLKS**	Batch ID: **44417**		Analysis Date: **7/3/2024**	SeqNo: **1937775**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-44417**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **7/2/2024**	RunNo: **92840**
Client ID: **LCSS**	Batch ID: **44417**		Analysis Date: **7/3/2024**	SeqNo: **1937776**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	11.1	0.500	12.87	0	86.3	65.3	105.3				

Sample ID: **2406450-021ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **7/2/2024**	RunNo: **92840**
Client ID: **BATCH**	Batch ID: **44417**		Analysis Date: **7/3/2024**	SeqNo: **1937778**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.554						0		30	

Sample ID: **2406450-021AMS1**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **7/2/2024**	RunNo: **92840**
Client ID: **BATCH**	Batch ID: **44417**		Analysis Date: **7/3/2024**	SeqNo: **1937779**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	9.81	0.554	14.26	0	68.8	32	106				

Sample ID: **2406450-021AMS2**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **7/2/2024**	RunNo: **92840**
Client ID: **BATCH**	Batch ID: **44417**		Analysis Date: **7/3/2024**	SeqNo: **1937780**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	7.99	0.554	11.08	0	72.1	32	106				

Work Order: 2407022
CLIENT: Friedman & Bruya
Project: 406447

QC SUMMARY REPORT

Hexavalent Chromium by EPA 7196A

Sample ID: **MB-44460**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **7/8/2024**	RunNo: **92987**
Client ID: **MBLKS**	Batch ID: **44460**		Analysis Date: **7/10/2024**	SeqNo: **1940836**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-44460**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **7/8/2024**	RunNo: **92987**
Client ID: **LCSS**	Batch ID: **44460**		Analysis Date: **7/10/2024**	SeqNo: **1940837**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	10.8	0.500	12.87	0	84.1	65.3	105.3				

Sample ID: **2407022-014ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **7/8/2024**	RunNo: **92987**
Client ID: **SB5-S-2.5**	Batch ID: **44460**		Analysis Date: **7/10/2024**	SeqNo: **1940842**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	2.50						0		30	D

Sample ID: **2407022-014AMS1**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **7/8/2024**	RunNo: **92987**
Client ID: **SB5-S-2.5**	Batch ID: **44460**		Analysis Date: **7/10/2024**	SeqNo: **1940843**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	2.59	22.24	0	0	32	106				DS

NOTES:
S - Spike recovery indicates a possible matrix effect.

Sample ID: **2407022-014AMS2**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **7/8/2024**	RunNo: **92987**
Client ID: **SB5-S-2.5**	Batch ID: **44460**		Analysis Date: **7/10/2024**	SeqNo: **1940844**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	2.57	22.07	0	0	32	106				DS

NOTES:
S - Spike recovery indicates a possible matrix effect.

Work Order: 2407022
CLIENT: Friedman & Bruya
Project: 406447

QC SUMMARY REPORT

Hexavalent Chromium by EPA 7196A

Sample ID: **2407022-014APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **7/8/2024** RunNo: **92987**
Client ID: **SB5-S-2.5** Batch ID: **44460** Analysis Date: **7/10/2024** SeqNo: **1940845**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.291	2.50	10.0	-0.425	109	85	115				D

Sample ID: **MB-44461** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/8/2024** RunNo: **93005**
Client ID: **MBLKS** Batch ID: **44461** Analysis Date: **7/11/2024** SeqNo: **1941166**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-44461** SampType: **LCS** Units: **mg/Kg** Prep Date: **7/8/2024** RunNo: **93005**
Client ID: **LCSS** Batch ID: **44461** Analysis Date: **7/11/2024** SeqNo: **1941167**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	10.1	0.500	12.87	0	78.5	65.3	105.3				

Sample ID: **2407022-029ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/8/2024** RunNo: **93005**
Client ID: **SB6-S-13.5** Batch ID: **44461** Analysis Date: **7/11/2024** SeqNo: **1941169**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.519						0		30	

Sample ID: **2407022-029AMS1** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/8/2024** RunNo: **93005**
Client ID: **SB6-S-13.5** Batch ID: **44461** Analysis Date: **7/11/2024** SeqNo: **1941170**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	8.04	0.531	13.67	0	58.8	32	106				

Work Order: 2407022
CLIENT: Friedman & Bruya
Project: 406447

QC SUMMARY REPORT

Hexavalent Chromium by EPA 7196A

Sample ID: **2407022-029AMS2** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/8/2024** RunNo: **93005**
Client ID: **SB6-S-13.5** Batch ID: **44461** Analysis Date: **7/11/2024** SeqNo: **1941171**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	6.53	0.515	13.25	0	49.3	32	106				

Sample ID: **2407022-029APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **7/8/2024** RunNo: **93005**
Client ID: **SB6-S-13.5** Batch ID: **44461** Analysis Date: **7/11/2024** SeqNo: **1941172**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.221	0.519	10.0	-0.0171	88.4	85	115				

Sample ID: **MB-44484** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/10/2024** RunNo: **93019**
Client ID: **MBLKS** Batch ID: **44484** Analysis Date: **7/12/2024** SeqNo: **1941545**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-44484** SampType: **LCS** Units: **mg/Kg** Prep Date: **7/10/2024** RunNo: **93019**
Client ID: **LCSS** Batch ID: **44484** Analysis Date: **7/12/2024** SeqNo: **1941546**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	10.4	0.500	12.87	0	81.1	65.3	105.3				

Sample ID: **2407022-049ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/10/2024** RunNo: **93019**
Client ID: **SBDUP-S-5.5** Batch ID: **44484** Analysis Date: **7/12/2024** SeqNo: **1941548**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	4.95						0		30	D

Work Order: 2407022
CLIENT: Friedman & Bruya
Project: 406447

QC SUMMARY REPORT

Hexavalent Chromium by EPA 7196A

Sample ID: **2407022-049AMS1** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/10/2024** RunNo: **93019**
Client ID: **SBDUP-S-5.5** Batch ID: **44484** Analysis Date: **7/12/2024** SeqNo: **1941549**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.25	13.53	0	0	32	106				DS

NOTES:
S - Spike recovery indicates a possible matrix effect.

Sample ID: **2407022-049AMS2** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/10/2024** RunNo: **93019**
Client ID: **SBDUP-S-5.5** Batch ID: **44484** Analysis Date: **7/12/2024** SeqNo: **1941550**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.42	13.95	0	0	32	106				DS

NOTES:
S - Spike recovery indicates a possible matrix effect.

Sample ID: **2407022-049APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **7/10/2024** RunNo: **93019**
Client ID: **SBDUP-S-5.5** Batch ID: **44484** Analysis Date: **7/12/2024** SeqNo: **1941551**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.998	4.95	10.0	-1.32	39.9	85	115				DS

NOTES:
S - Spike recovery indicates a possible matrix effect.

Sample ID: **MB-44504** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/11/2024** RunNo: **93024**
Client ID: **MBLKS** Batch ID: **44504** Analysis Date: **7/12/2024** SeqNo: **1941700**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-44504** SampType: **LCS** Units: **mg/Kg** Prep Date: **7/11/2024** RunNo: **93024**
Client ID: **LCSS** Batch ID: **44504** Analysis Date: **7/12/2024** SeqNo: **1941701**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	10.7	0.500	12.87	0	83.1	65.3	105.3				

Work Order: 2407022
CLIENT: Friedman & Bruya
Project: 406447

QC SUMMARY REPORT

Hexavalent Chromium by EPA 7196A

Sample ID: **2407010-012ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **7/11/2024** RunNo: **93024**
Client ID: **BATCH** Batch ID: **44504** Analysis Date: **7/12/2024** SeqNo: **1941703**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.563						0		30	

Sample ID: **2407010-012AMS1** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/11/2024** RunNo: **93024**
Client ID: **BATCH** Batch ID: **44504** Analysis Date: **7/12/2024** SeqNo: **1941704**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	10.9	0.577	14.84	0	73.2	32	106				

Sample ID: **2407010-012AMS2** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/11/2024** RunNo: **93024**
Client ID: **BATCH** Batch ID: **44504** Analysis Date: **7/12/2024** SeqNo: **1941705**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	9.71	0.563	14.50	0	67.0	32	106				

Sample ID: **2407010-012APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **7/11/2024** RunNo: **93024**
Client ID: **BATCH** Batch ID: **44504** Analysis Date: **7/12/2024** SeqNo: **1941706**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	11.2	0.572	11.4	0	97.7	85	115				

Work Order: 2407022
CLIENT: Friedman & Bruya
Project: 406447

QC SUMMARY REPORT

Total Metals by EPA 6020B

Sample ID: **MB-44415**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **7/2/2024**	RunNo: **92884**
Client ID: **MBLKS**	Batch ID: **44415**		Analysis Date: **7/5/2024**	SeqNo: **1938771**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	6.50									

Sample ID: **LCS-44415**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **7/2/2024**	RunNo: **92884**
Client ID: **LCSS**	Batch ID: **44415**		Analysis Date: **7/5/2024**	SeqNo: **1938772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	387	6.50	400.0	0	96.8	80	120				

Sample ID: **2406513-014AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **7/2/2024**	RunNo: **92884**
Client ID: **BATCH**	Batch ID: **44415**		Analysis Date: **7/5/2024**	SeqNo: **1938774**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	11,800	7.77	477.9	12,720	-187	75	125				ES

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: **2406513-014AMSD**	SampType: **MSD**	Units: **mg/Kg-dry**	Prep Date: **7/2/2024**	RunNo: **92884**
Client ID: **BATCH**	Batch ID: **44415**		Analysis Date: **7/5/2024**	SeqNo: **1938775**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	11,500	7.88	485.1	12,720	-255	75	125	11,830	2.95	20	ES

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: **2406513-014APDS**	SampType: **PDS**	Units: **mg/Kg-dry**	Prep Date: **7/2/2024**	RunNo: **92884**
Client ID: **BATCH**	Batch ID: **44415**		Analysis Date: **7/5/2024**	SeqNo: **1938777**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	13,500	7.88	485	12,700	158	75	125				ES

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Work Order: 2407022
CLIENT: Friedman & Bruya
Project: 406447

QC SUMMARY REPORT

Total Metals by EPA 6020B

Sample ID: **MB-44427** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/3/2024** RunNo: **92896**
Client ID: **MBLKS** Batch ID: **44427** Analysis Date: **7/8/2024** SeqNo: **1939122**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	6.50									

Sample ID: **LCS-44427** SampType: **LCS** Units: **mg/Kg** Prep Date: **7/3/2024** RunNo: **92896**
Client ID: **LCSS** Batch ID: **44427** Analysis Date: **7/8/2024** SeqNo: **1939123**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	443	6.50	400.0	0	111	80	120				

Sample ID: **2407022-017AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/3/2024** RunNo: **92896**
Client ID: **SB4-S-1.0** Batch ID: **44427** Analysis Date: **7/8/2024** SeqNo: **1939125**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	37,500	1,570	482.4	41,470	-816	75	125				DS

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: **2407022-017AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **7/3/2024** RunNo: **92896**
Client ID: **SB4-S-1.0** Batch ID: **44427** Analysis Date: **7/8/2024** SeqNo: **1939139**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	30,700	1,500	462.7	41,470	-2,320	75	125	37,530	20.0	20	DS

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: **2407022-017APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **7/3/2024** RunNo: **92896**
Client ID: **SB4-S-1.0** Batch ID: **44427** Analysis Date: **7/8/2024** SeqNo: **1939140**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	103,000	1,540	400	87,400	154	75	125				DS

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Work Order: 2407022
CLIENT: Friedman & Bruya
Project: 406447

QC SUMMARY REPORT

Total Metals by EPA 6020B

Sample ID: **MB-44454** SampType: **MBLK** Units: **mg/Kg** Prep Date: **7/5/2024** RunNo: **92933**
Client ID: **MBLKS** Batch ID: **44454** Analysis Date: **7/8/2024** SeqNo: **1939846**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	6.71									

Sample ID: **LCS-44454** SampType: **LCS** Units: **mg/Kg** Prep Date: **7/5/2024** RunNo: **92933**
Client ID: **LCSS** Batch ID: **44454** Analysis Date: **7/8/2024** SeqNo: **1939847**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	421	6.11	375.9	0	112	80	120				

Sample ID: **2407022-034AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **7/5/2024** RunNo: **92933**
Client ID: **SB8-S-0.5** Batch ID: **44454** Analysis Date: **7/8/2024** SeqNo: **1939849**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	294,000	1,440	444.3	360,300	-14,800	75	125				DS

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: **2407022-034AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **7/5/2024** RunNo: **92933**
Client ID: **SB8-S-0.5** Batch ID: **44454** Analysis Date: **7/8/2024** SeqNo: **1939851**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	328,000	1,530	472.3	360,300	-6,790	75	125	294,400	10.9	20	DS

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: **2407022-034APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **7/5/2024** RunNo: **92933**
Client ID: **SB8-S-0.5** Batch ID: **44454** Analysis Date: **7/8/2024** SeqNo: **1939874**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	660,000	1,610	400	727,000	-6,710	75	125				DS

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Work Order: 2407022
CLIENT: Friedman & Bruya
Project: 406447

QC SUMMARY REPORT

Total Metals by EPA 6020B

Sample ID: **MB-44459**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **7/8/2024**	RunNo: **92924**
Client ID: **MBLKS**	Batch ID: **44459**		Analysis Date: **7/9/2024**	SeqNo: **1939665**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	6.50									

Sample ID: **LCS-44459**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **7/8/2024**	RunNo: **92924**
Client ID: **LCSS**	Batch ID: **44459**		Analysis Date: **7/9/2024**	SeqNo: **1939666**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	420	6.50	400.0	0	105	80	120				

Sample ID: **2407022-054AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **7/8/2024**	RunNo: **92924**
Client ID: **SB13-S-5.5**	Batch ID: **44459**		Analysis Date: **7/9/2024**	SeqNo: **1939668**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	11,500	97.4	599.3	12,470	-168	75	125				DS

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: **2407022-054AMSD**	SampType: **MSD**	Units: **mg/Kg-dry**	Prep Date: **7/8/2024**	RunNo: **92924**
Client ID: **SB13-S-5.5**	Batch ID: **44459**		Analysis Date: **7/9/2024**	SeqNo: **1939669**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	14,700	98.1	604.0	12,470	361	75	125	11,470	24.4	20	DRS

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.
R - High RPD due to high analyte concentration. In this range, high RPD's may be expected.

Sample ID: **2407022-054APDS**	SampType: **PDS**	Units: **mg/Kg-dry**	Prep Date: **7/8/2024**	RunNo: **92924**
Client ID: **SB13-S-5.5**	Batch ID: **44459**		Analysis Date: **7/9/2024**	SeqNo: **1939631**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	31,000	98.1	400	20,700	103	75	125				D

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2407022
Logged by:	Clare Griggs	Date Received:	7/1/2024 2:15:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	5.5

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Fremont

PROJECT NAME/NO.	PO #
406447	E-277mg

REMARKS

Equis 4

TURNAROUND TIME
Standard
☒ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED Cr(VI)	Fe (6020)									Notes
SB1-S-1.0		6/25/2024	13:40	soil	1	x	x									
SB1-S-5.5		6/25/2024	13:50	soil	1	x	x									
SB1-S-8.0		6/25/2024	14:00	soil	1	x	x									
SB1-S-13.5		6/25/2024	14:10	soil	1	x	x									
SB2-S-1.0		6/25/2024	14:50	soil	1	x	x									
SB2-S-4.0		6/25/2024	15:00	soil	1	x	x									
SB2-S-10.5		6/25/2024	15:10	soil	1	x	x									
SB2-S-13.5		6/25/2024	15:20	soil	1	x	x									
SB16-S-1.0		6/26/2024	8:20	soil	1	x	x									
SB16-S-3.5		6/26/2024	8:30	soil	1	x	x									
SB16-S-7.5		6/26/2024	8:40	soil	1	x	x									
SB16-S-12.5		6/26/2024	8:50	soil	1	x	x									
SB5-S-1.0		6/26/2024	10:00	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Kolber	ATG	7/1/24	1415
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

Send Report To Michael Erdahl
Company Friedman & Bruya.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER: Fremont

PROJECT NAME/NO.: 406447

PO #: E-277mg

REMARKS: Equis 4

TURNAROUND TIME: Standard ☒ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL: Dispose after 30 days; Return samples; Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SB5-S-2.5		6/26/2024	10:10	soil	1	x	x									
SB5-S-9.5		6/26/2024	10:20	soil	1	x	x									
SB5-S-15.7		6/26/2024	10:30	soil	1	x	x									
SB4-S-1.0		6/26/2024	11:45	soil	1	x	x									
SB4-S-4.0		6/26/2024	12:00	soil	1	x	x									
SB4-S-10.5		6/26/2024	12:10	soil	1	x	x									
SB4-S-13.0		6/26/2024	12:20	soil	1	x	x									
SB3-S-1.0		6/26/2024	12:55	soil	1	x	x									
SB3-S-2.5		6/26/2024	13:00	soil	1	x	x									
SB3-S-7.5		6/26/2024	13:10	soil	1	x	x									
SB3-S-13.5		6/26/2024	13:20	soil	1	x	x									
SB6-S-1.0		6/26/2024	13:45	soil	1	x	x									
SB6-S-3.0		6/26/2024	14:00	soil	1	x	x									

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Kotila	ATG	7/1/24	1815
Relinquished by:					
Received by:					

2407022

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl
Company Friedman & Bruya.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME
Standard
~~RUSH~~
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SBDUP-S-3.0		6/26/2024	14:00	soil	1	x	x									
SB6-S-10.5		6/26/2024	14:10	soil	1	x	x									
SB6-S-13.5		6/26/2024	14:02	soil	1	x	x									
SB7-S-1.0		6/26/2024	15:00	soil	1	x	x									
SB7-S-4.0		6/26/2024	15:10	soil	1	x	x									
SB7-S-7.0		6/26/2024	15:20	soil	1	x	x									
SB7-S-13.5		6/26/2024	15:30	soil	1	x	x									
SB8-S-0.5		6/27/2024	8:10	soil	1	x	x									
SBDUP-S-3.0		6/27/2024	8:20	soil	1	x	x									
SB8-S-3.0		6/27/2024	8:20	soil	1	x	x									
SB8-S-10.5		6/27/2024	8:30	soil	1	x	x									
SB8-S-13.5		6/27/2024	8:40	soil	1	x	x									
SB9-S-1.0		6/27/2024	10:20	soil	1	x	x									

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Wolfe	ATC	7/1/24	1415
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

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Company Friedman & Bruya.

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SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME

Standard

☒ ~~RUSH~~

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Cr(VI)	Fe (6020)									Notes
SB9-S-4.0		6/27/2024	10:30	soil	1	x	x									
SB9-S-10.5		6/27/2024	10:40	soil	1	x	x									
SB9-S-13.5		6/27/2024	10:50	soil	1	x	x									
SBDUP-S-1.0		6/27/2024	12:20	soil	1	x	x									
SB11-S-1.0		6/27/2024	12:20	soil	1	x	x									
SB11-S-5.5		6/27/2024	12:30	soil	1	x	x									
SB11-S-12.0		6/27/2024	12:50	soil	1	x	x									
SB11-S-8.0		6/27/2024	12:40	soil	1	x	x									
SB10-S-0.5		6/27/2024	14:20	soil	1	x	x									
SBDUP-S-5.5		6/27/2024	14:30	soil	1	x	x									
SB10-S-5.5		6/27/2024	14:30	soil	1	x	x									
SB10-S-11.0		6/27/2024	14:40	soil	1	x	x									
SB10-S-15.5		6/27/2024	14:50	soil	1	x	x									

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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:	Nathan Wilkes	ATG	7/1/24	1415
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

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City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER Fremont	
PROJECT NAME/NO. 406447	PO # E-277mg
REMARKS Equis 4	

TURNAROUND TIME
Standard
☒ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Cr(VI)	Fe (6020)									Notes
SB13-S-0.5		6/27/2024	16:10	soil	1	x	x									
SB13-S-5.5		6/27/2024	16:20	soil	1	x	x									
SB13-S-7.5		6/27/2024	16:30	soil	1	x	x									
SB13-S-11.5		6/27/2024	16:40	soil	1	x	x									
SB12-S-1.0		6/28/2024	8:00	soil	1	x	x									
SB12-S-5.5		6/28/2024	8:10	soil	1	x	x									
SBDUP-S-5.5		6/28/2024	8:10	soil	1	x	x									
SB12-S-10.5		6/28/2024	8:20	soil	1	x	x									
SB12-S-16.5		6/28/2024	8:30	soil	1	x	x									
SB17-S-5.5		6/28/2024	9:15	soil	1	x	x									
SB17-S-9.0		6/28/2024	9:40	soil	1	x	x									
SB17-S-13.5		6/28/2024	9:50	soil	1	x	x									
SB15-S-1.0		6/28/2024	10:40	soil	1	x	x									

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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:60
Received by:	Nathan Weller	ATG	7/1/24	1715
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

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SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME
Standard
☒ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SB15-S-5.5		6/28/2024	10:50	soil	1	x	x									
SB15-S-10.5		6/28/2024	11:00	soil	1	x	x									
SB15-S-15.5		6/28/2024	11:10	soil	1	x	x									

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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:	Nathan Wolkes	ATG	7/1/24	1415
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

Send Report To Michael Erdahl

Company Friedman & Bruya,

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Fremont

PROJECT NAME/NO.	PO #
406447	E-277mg

REMARKS

Equis 4

Update per ME
LR 7/26/24
updates on pg 3 and 5

TURNAROUND TIME
Standard
☒ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SB1-S-1.0		6/25/2024	13:40	soil	1	x	x									
SB1-S-5.5		6/25/2024	13:50	soil	1	x	x									
SB1-S-8.0		6/25/2024	14:00	soil	1	x	x									
SB1-S-13.5		6/25/2024	14:10	soil	1	x	x									
SB2-S-1.0		6/25/2024	14:50	soil	1	x	x									
SB2-S-4.0		6/25/2024	15:00	soil	1	x	x									
SB2-S-10.5		6/25/2024	15:10	soil	1	x	x									
SB2-S-13.5		6/25/2024	15:20	soil	1	x	x									
SB16-S-1.0		6/26/2024	8:20	soil	1	x	x									
SB16-S-3.5		6/26/2024	8:30	soil	1	x	x									
SB16-S-7.5		6/26/2024	8:40	soil	1	x	x									
SB16-S-12.5		6/26/2024	8:50	soil	1	x	x									
SB5-S-1.0		6/26/2024	10:00	soil	1	x	x									

Friedman & Bruya, Inc.
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Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Kolber	ATG	7/1/24	1415
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME

Standard

☒ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SB5-S-2.5		6/26/2024	10:10	soil	1	x	x									
SB5-S-9.5		6/26/2024	10:20	soil	1	x	x									
SB5-S-15.7		6/26/2024	10:30	soil	1	x	x									
SB4-S-1.0		6/26/2024	11:45	soil	1	x	x									
SB4-S-4.0		6/26/2024	12:00	soil	1	x	x									
SB4-S-10.5		6/26/2024	12:10	soil	1	x	x									
SB4-S-13.0		6/26/2024	12:20	soil	1	x	x									
SB3-S-1.0		6/26/2024	12:55	soil	1	x	x									
SB3-S-2.5		6/26/2024	13:00	soil	1	x	x									
SB3-S-7.5		6/26/2024	13:10	soil	1	x	x									
SB3-S-13.5		6/26/2024	13:20	soil	1	x	x									
SB6-S-1.0		6/26/2024	13:45	soil	1	x	x									
SB6-S-3.0		6/26/2024	14:00	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Kotila	ATG	7/1/24	1815
Relinquished by:					
Received by:					

2407022

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl
Company Friedman & Bruya.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER: Fremont

PROJECT NAME/NO.: 406447

PO #: E-277mg

REMARKS: Equis 4

TURNAROUND TIME: Standard ~~RUSH~~

Rush charges authorized by:

SAMPLE DISPOSAL: Dispose after 30 days; Return samples; Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SBDUP-S-3.0		6/26/2024	14:00	soil	1	x	x									
SB6-S-10.5		6/26/2024	14:10	soil	1	x	x									
SB6-S-13.5		6/26/2024	14:02	soil	1	x	x									
SB7-S-1.0		6/26/2024	15:00	soil	1	x	x									
SB7-S-4.0		6/26/2024	15:10	soil	1	x	x									
SB7-S-7.0		6/26/2024	15:20	soil	1	x	x									
SB7-S-13.5		6/26/2024	15:30	soil	1	x	x									
SB8-S-0.5		6/27/2024	8:10	soil	1	x	x									
~~SBDUP-S-3.0~~		6/27/2024	8:20	soil	1	x	x									SBDUP2-S-3.0
SB8-S-3.0		6/27/2024	8:20	soil	1	x	x									
SB8-S-10.5		6/27/2024	8:30	soil	1	x	x									
SB8-S-13.5		6/27/2024	8:40	soil	1	x	x									
SB9-S-1.0		6/27/2024	10:20	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
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Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Wolfe	ATC	7/1/24	1415
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

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Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME

Standard

☒ ~~RUSH~~

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Cr(VI)	Fe (6020)									Notes
SB9-S-4.0		6/27/2024	10:30	soil	1	x	x									
SB9-S-10.5		6/27/2024	10:40	soil	1	x	x									
SB9-S-13.5		6/27/2024	10:50	soil	1	x	x									
SBDUP-S-1.0		6/27/2024	12:20	soil	1	x	x									
SB11-S-1.0		6/27/2024	12:20	soil	1	x	x									
SB11-S-5.5		6/27/2024	12:30	soil	1	x	x									
SB11-S-12.0		6/27/2024	12:50	soil	1	x	x									
SB11-S-8.0		6/27/2024	12:40	soil	1	x	x									
SB10-S-0.5		6/27/2024	14:20	soil	1	x	x									
SBDUP-S-5.5		6/27/2024	14:30	soil	1	x	x									
SB10-S-5.5		6/27/2024	14:30	soil	1	x	x									
SB10-S-11.0		6/27/2024	14:40	soil	1	x	x									
SB10-S-15.5		6/27/2024	14:50	soil	1	x	x									

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3012 16th Avenue West
Seattle, WA 98119-2029
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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:	Nathan Wilkes	ATG	7/1/24	1415
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

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Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Fremont

PROJECT NAME/NO.	PO #
406447	E-277mg

REMARKS

Equis 4

TURNAROUND TIME
Standard
☒ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SB13-S-0.5		6/27/2024	16:10	soil	1	x	x									
SB13-S-5.5		6/27/2024	16:20	soil	1	x	x									
SB13-S-7.5		6/27/2024	16:30	soil	1	x	x									
SB13-S-11.5		6/27/2024	16:40	soil	1	x	x									
SB12-S-1.0		6/28/2024	8:00	soil	1	x	x									
SB12-S-5.5		6/28/2024	8:10	soil	1	x	x									
SBDUP-S-5.5		6/28/2024	8:10	soil	1	x	x									SBDUP2-S-5.5
SB12-S-10.5		6/28/2024	8:20	soil	1	x	x									
SB12-S-16.5		6/28/2024	8:30	soil	1	x	x									
SB17-S-5.5		6/28/2024	9:15	soil	1	x	x									
SB17-S-9.0		6/28/2024	9:40	soil	1	x	x									
SB17-S-13.5		6/28/2024	9:50	soil	1	x	x									
SB15-S-1.0		6/28/2024	10:40	soil	1	x	x									

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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:60
Received by:	Nathan Weller	ATG	7/1/24	1715
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

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Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME
Standard
☒ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED Cr(VI)	Fe (6020)									Notes
SB15-S-5.5		6/28/2024	10:50	soil	1	x	x									
SB15-S-10.5		6/28/2024	11:00	soil	1	x	x									
SB15-S-15.5		6/28/2024	11:10	soil	1	x	x									

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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:	Nathan Wolters	ATG	7/1/24	1415
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

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Send Report To Michael Erdahl

Company Friedman & Bruya,

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER Fremont	
PROJECT NAME/NO. 406447	PO # E-277mg
REMARKS Equis 4	Update per ME LR 7/26/24 updates on pg 3 and 5

TURNAROUND TIME

Standard

~~RUSH~~

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED Cr(VI)	Fe (6020)								Notes
SB1-S-1.0		6/25/2024	13:40	soil	1	x	x								
SB1-S-5.5		6/25/2024	13:50	soil	1	x	x								
~~SB1-S-8.0~~		6/25/2024	14:00	soil	1	x	x								SB1-S-8.5
SB1-S-13.5		6/25/2024	14:10	soil	1	x	x								
SB2-S-1.0		6/25/2024	14:50	soil	1	x	x								
SB2-S-4.0		6/25/2024	15:00	soil	1	x	x								
SB2-S-10.5		6/25/2024	15:10	soil	1	x	x								
SB2-S-13.5		6/25/2024	15:20	soil	1	x	x								
SB16-S-1.0		6/26/2024	8:20	soil	1	x	x								
SB16-S-3.5		6/26/2024	8:30	soil	1	x	x								
SB16-S-7.5		6/26/2024	8:40	soil	1	x	x								
SB16-S-12.5		6/26/2024	8:50	soil	1	x	x								
SB5-S-1.0		6/26/2024	10:00	soil	1	x	x								

Update per ME
LR 7/29/24
updates on pg 1 and 3

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Kolber	ATG	7/1/24	1415
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

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Send Report To Michael Erdahl
Company Friedman & Bruya.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER: Fremont

PROJECT NAME/NO.: 406447

PO #: E-277mg

REMARKS: Equis 4

TURNAROUND TIME: Standard ☒ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL: Dispose after 30 days; Return samples; Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SB5-S-2.5		6/26/2024	10:10	soil	1	x	x									
SB5-S-9.5		6/26/2024	10:20	soil	1	x	x									
SB5-S-15.7		6/26/2024	10:30	soil	1	x	x									
SB4-S-1.0		6/26/2024	11:45	soil	1	x	x									
SB4-S-4.0		6/26/2024	12:00	soil	1	x	x									
SB4-S-10.5		6/26/2024	12:10	soil	1	x	x									
SB4-S-13.0		6/26/2024	12:20	soil	1	x	x									
SB3-S-1.0		6/26/2024	12:55	soil	1	x	x									
SB3-S-2.5		6/26/2024	13:00	soil	1	x	x									
SB3-S-7.5		6/26/2024	13:10	soil	1	x	x									
SB3-S-13.5		6/26/2024	13:20	soil	1	x	x									
SB6-S-1.0		6/26/2024	13:45	soil	1	x	x									
SB6-S-3.0		6/26/2024	14:00	soil	1	x	x									

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Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Kotila	ATG	7/1/24	1815
Relinquished by:					
Received by:					

2407022

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME
Standard
~~RUSH~~
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED Cr(VI)	Fe (6020)									Notes
SBDUP-S-3.0		6/26/2024	14:00	soil	1	x	x									
SB6-S-10.5		6/26/2024	14:10	soil	1	x	x									
SB6-S-13.5		6/26/2024	~~14:0~~	soil	1	x	x									14.20
SB7-S-1.0		6/26/2024	15:00	soil	1	x	x									
SB7-S-4.0		6/26/2024	15:10	soil	1	x	x									
SB7-S-7.0		6/26/2024	15:20	soil	1	x	x									
SB7-S-13.5		6/26/2024	15:30	soil	1	x	x									
SB8-S-0.5		6/27/2024	8:10	soil	1	x	x									
~~SBDUP-S-3.0~~		6/27/2024	8:20	soil	1	x	x									SBDUP2-S-3.0
SB8-S-3.0		6/27/2024	8:20	soil	1	x	x									
SB8-S-10.5		6/27/2024	8:30	soil	1	x	x									
SB8-S-13.5		6/27/2024	8:40	soil	1	x	x									
SB9-S-1.0		6/27/2024	10:20	soil	1	x	x									

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	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Wolfe	ATC	7/1/24	1415
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

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Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME

Standard

~~RUSH~~

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Cr(VI)	Fe (6020)									Notes
SB9-S-4.0		6/27/2024	10:30	soil	1	x	x									
SB9-S-10.5		6/27/2024	10:40	soil	1	x	x									
SB9-S-13.5		6/27/2024	10:50	soil	1	x	x									
SBDUP-S-1.0		6/27/2024	12:20	soil	1	x	x									
SB11-S-1.0		6/27/2024	12:20	soil	1	x	x									
SB11-S-5.5		6/27/2024	12:30	soil	1	x	x									
SB11-S-12.0		6/27/2024	12:50	soil	1	x	x									
SB11-S-8.0		6/27/2024	12:40	soil	1	x	x									
SB10-S-0.5		6/27/2024	14:20	soil	1	x	x									
SBDUP-S-5.5		6/27/2024	14:30	soil	1	x	x									
SB10-S-5.5		6/27/2024	14:30	soil	1	x	x									
SB10-S-11.0		6/27/2024	14:40	soil	1	x	x									
SB10-S-15.5		6/27/2024	14:50	soil	1	x	x									

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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:	Nathan Wilkes	ATG	7/1/24	1415
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

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Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Fremont

PROJECT NAME/NO.	PO #
406447	E-277mg

REMARKS

Equis 4

TURNAROUND TIME
Standard
☒ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SB13-S-0.5		6/27/2024	16:10	soil	1	x	x									
SB13-S-5.5		6/27/2024	16:20	soil	1	x	x									
SB13-S-7.5		6/27/2024	16:30	soil	1	x	x									
SB13-S-11.5		6/27/2024	16:40	soil	1	x	x									
SB12-S-1.0		6/28/2024	8:00	soil	1	x	x									
SB12-S-5.5		6/28/2024	8:10	soil	1	x	x									
SBDUP-S-5.5		6/28/2024	8:10	soil	1	x	x									SBDUP2-S-5.5
SB12-S-10.5		6/28/2024	8:20	soil	1	x	x									
SB12-S-16.5		6/28/2024	8:30	soil	1	x	x									
SB17-S-5.5		6/28/2024	9:15	soil	1	x	x									
SB17-S-9.0		6/28/2024	9:40	soil	1	x	x									
SB17-S-13.5		6/28/2024	9:50	soil	1	x	x									
SB15-S-1.0		6/28/2024	10:40	soil	1	x	x									

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Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:60
Received by:	Nathan Weller	ATG	7/1/24	1715
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

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Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

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Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME
Standard
☒ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED Cr(VI)	Fe (6020)									Notes
SB15-S-5.5		6/28/2024	10:50	soil	1	x	x									
SB15-S-10.5		6/28/2024	11:00	soil	1	x	x									
SB15-S-15.5		6/28/2024	11:10	soil	1	x	x									

Friedman & Bruya, Inc.
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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:	Nathan Wolkes	ATG	7/1/24	1415
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

Send Report To Michael Erdahl

Company Friedman & Bruya,

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Fremont

PROJECT NAME/NO.	PO #
406447	E-277mg

REMARKS
Sample ID updated per ME
KL 8/12/2024 Equis 4

Update per ME
LR 7/26/24
updates on pg 3 and 5

TURNAROUND TIME
3
Standard
~~RUSH~~
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)								Notes
SB1-S-1.0		6/25/2024	13:40	soil	1	x	x								
SB1-S-5.5		6/25/2024	13:50	soil	1	x	x								
~~SB1-S-8.0~~		6/25/2024	14:00	soil	1	x	x								SB1-S-8.5
SB1-S-13.5		6/25/2024	14:10	soil	1	x	x								
SB2-S-1.0		6/25/2024	14:50	soil	1	x	x								
SB2-S-4.0		6/25/2024	15:00	soil	1	x	x								
SB2-S-10.5		6/25/2024	15:10	soil	1	x	x								
SB2-S-13.5		6/25/2024	15:20	soil	1	x	x								
SB16-S-1.0		6/26/2024	8:20	soil	1	x	x								
SB16-S-3.5		6/26/2024	8:30	soil	1	x	x								
SB16-S-7.5		6/26/2024	8:40	soil	1	x	x								
SB16-S-12.5		6/26/2024	8:50	soil	1	x	x								
SB5-S-1.0		6/26/2024	10:00	soil	1	x	x								

Update per ME
LR 7/29/24
updates on pg 1 and 3

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Kolber	ATG	7/1/24	1415
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

Send Report To Michael Erdahl
Company Friedman & Bruya.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER: Fremont

PROJECT NAME/NO.: 406447

PO #: E-277mg

REMARKS: Equis 4

TURNAROUND TIME: Standard ☒ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL: Dispose after 30 days; Return samples; Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SB5-S-2.5		6/26/2024	10:10	soil	1	x	x									
SB5-S-9.5		6/26/2024	10:20	soil	1	x	x									
SB5-S-15.7		6/26/2024	10:30	soil	1	x	x									
SB4-S-1.0		6/26/2024	11:45	soil	1	x	x									
SB4-S-4.0		6/26/2024	12:00	soil	1	x	x									
SB4-S-10.5		6/26/2024	12:10	soil	1	x	x									
SB4-S-13.0		6/26/2024	12:20	soil	1	x	x									
SB3-S-1.0		6/26/2024	12:55	soil	1	x	x									
SB3-S-2.5		6/26/2024	13:00	soil	1	x	x									
SB3-S-7.5		6/26/2024	13:10	soil	1	x	x									
SB3-S-13.5		6/26/2024	13:20	soil	1	x	x									
SB6-S-1.0		6/26/2024	13:45	soil	1	x	x									
SB6-S-3.0		6/26/2024	14:00	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Kotila	ATG	7/1/24	1815
Relinquished by:					
Received by:					

2407022

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl
Company Friedman & Bruya.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER: Fremont

PROJECT NAME/NO.: 406447

PO #: E-277mg

REMARKS: Equis 4

TURNAROUND TIME: Standard ~~RUSH~~

Rush charges authorized by:

SAMPLE DISPOSAL: Dispose after 30 days; Return samples; Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Cr(VI)	Fe (6020)									Notes
SBDUP-S-3.0		6/26/2024	14:00	soil	1	x	x									
SB6-S-10.5		6/26/2024	14:10	soil	1	x	x									
SB6-S-13.5		6/26/2024	~~14:0~~ 14.20	soil	1	x	x									14.20
SB7-S-1.0		6/26/2024	15:00	soil	1	x	x									
SB7-S-4.0		6/26/2024	15:10	soil	1	x	x									
SB7-S-7.0		6/26/2024	15:20	soil	1	x	x									
SB7-S-13.5		6/26/2024	15:30	soil	1	x	x									
SB8-S-0.5		6/27/2024	8:10	soil	1	x	x									
~~SBDUP-S-3.0~~		6/27/2024	8:20	soil	1	x	x									SBDUP2-S-3.0
SB8-S-3.0		6/27/2024	8:20	soil	1	x	x									
SB8-S-10.5		6/27/2024	8:30	soil	1	x	x									
SB8-S-13.5		6/27/2024	8:40	soil	1	x	x									
SB9-S-1.0		6/27/2024	10:20	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:		Nathan Hoffer	ATC	7/1/24	1415
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME

Standard

~~RUSH~~

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Cr(VI)	Fe (6020)									Notes
SB9-S-4.0		6/27/2024	10:30	soil	1	x	x									
SB9-S-10.5		6/27/2024	10:40	soil	1	x	x									
SB9-S-13.5		6/27/2024	10:50	soil	1	x	x									
SBDUP-S-1.0		6/27/2024	12:20	soil	1	x	x									
SB11-S-1.0		6/27/2024	12:20	soil	1	x	x									
SB11-S-5.5		6/27/2024	12:30	soil	1	x	x									
SB11-S-12.0		6/27/2024	12:50	soil	1	x	x									
SB11-S-8.0		6/27/2024	12:40	soil	1	x	x									
SB10-S-0.5		6/27/2024	14:20	soil	1	x	x									
SBDUP-S-5.5		6/27/2024	14:30	soil	1	x	x									
SB10-S-5.5		6/27/2024	14:30	soil	1	x	x									
SB10-S-11.0		6/27/2024	14:40	soil	1	x	x									
SB10-S-15.5		6/27/2024	14:50	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:	Nathan Wilkes	ATG	7/1/24	1415
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Fremont

PROJECT NAME/NO.	PO #
406447	E-277mg

REMARKS

Equis 4

TURNAROUND TIME
Standard
☒ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SB13-S-0.5		6/27/2024	16:10	soil	1	x	x									
SB13-S-5.5		6/27/2024	16:20	soil	1	x	x									
SB13-S-7.5		6/27/2024	16:30	soil	1	x	x									
SB13-S-11.5		6/27/2024	16:40	soil	1	x	x									
SB12-S-1.0		6/28/2024	8:00	soil	1	x	x									
SB12-S-5.5		6/28/2024	8:10	soil	1	x	x									
SBDUP-S-5.5		6/28/2024	8:10	soil	1	x	x									SBDUP2-S-5.5
SB12-S-10.5		6/28/2024	8:20	soil	1	x	x									
SB12-S-16.5		6/28/2024	8:30	soil	1	x	x									
SB17-S-5.5		6/28/2024	9:15	soil	1	x	x									
SB17-S-9.0		6/28/2024	9:40	soil	1	x	x									
SB17-S-13.5		6/28/2024	9:50	soil	1	x	x									
SB15-S-1.0		6/28/2024	10:40	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:60
Received by:	Nathan Weller	ATG	7/1/24	1715
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2407022

Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406447	E-277mg
REMARKS	
Equis 4	

TURNAROUND TIME
Standard
☒ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI)	Fe (6020)									Notes
SB15-S-~~5.5~~ 3.0		6/28/2024	10:50	soil	1	x	x									
SB15-S-10.5		6/28/2024	11:00	soil	1	x	x									
SB15-S-15.5		6/28/2024	11:10	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	7/1	9:00
Received by:	Nathan Wolkes	ATG	7/1/24	1415
Relinquished by:				
Received 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 Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

August 8, 2024

Josh Elliott, Project Manager
Maul Foster Alongi
6 Centerpointe Dr, Suite 360
Lake Oswego, OR 97035

Dear Mr Elliott:

Included are the additional results from the testing of material submitted on June 26, 2024 from the Yakima East-West Corridor M2703.01.001, F&BI 406362 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: csifford@maulfoster.com, Fiona BellowsMFA0808R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 26, 2024 by Friedman & Bruya, Inc. from the Maul Foster Alongi Yakima East-West Corridor M2703.01.001, F&BI 406362 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
406362 -01	SB18-S-1.0
406362 -02	SB18-S-4.0
406362 -03	SB18-S-11.0
406362 -04	SB18-S-13.0
406362 -05	SB14-S-0.5
406362 -06	SB14-S-3.0
406362 -07	SB14-S-7.0
406362 -08	SB14-S-13.5
406362 -09	MWEC04-S-0.5
406362 -10	MWEC04-S-2.5
406362 -11	MWEC04-S-8.0
406362 -12	MWEC04-S-12.5
406362 -13	MWEC03-S-1.0
406362 -14	MWEC03-S-5.5
406362 -15	MWEC03-S-7.0
406362 -16	MWEC03-S-11.0
406362 -17	TripBlank1
406362 -18	MWEC02-S-1.0
406362 -19	MWEC02-S-3.0
406362 -20	MWEC02-S-8.0
406362 -21	MWEC02-S-13.0
406362 -22	MWEC01-S-1.0
406362 -23	MWEC01-S-3.0
406362 -24	MWEC01-S-8.0
406362 -25	MWEC01-S-11.3

All quality control requirements were acceptable.

Date of Report: 08/08/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 07/01/24
Date Analyzed: 08/07/24 and 08/08/24

RESULTS FROM THE ANALYSIS OF SOIL 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 on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
SB14-S-3.0 406362-06 1/10	<500	31,000	ip
SB14-S-7.0 406362-07	170 x	1,300	127
MWEC02-S-1.0 406362-18	64 x	330	127
Method Blank 04-1522 MB	<50	<250	104

Date of Report: 08/08/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362

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

Laboratory Code: 406362-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	2,500	<25	124	134	63-146	8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	2,500	117	77-123

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 low; 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.

406362

SAMPLE CHAIN OF CUSTODY 06/26/24 VW1/N4/M4

Report To Josh Elliott
Company Maul Foster Alongi
Address 6 Centerpointe Dr, Ste 360
City, State, ZIP Lake Oswego, OR 97035
Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*)

PROJECT NAME: Yakima East-West Corridor

PO #: M2703.01.001

REMARKS: please email results to ~~Eh~~ csifford@maulfoster.com as well
Project specific RLs? - Yes / No

INVOICE TO: accounting@maulfoster.com

TURNAROUND TIME
- [x] 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	*Metals EPA 6020 BTEX EPA 8021	Cr (SIM) 7196 NWTPH HCID	*VOCs EPA 8260 SIM	PAHs EPA 8270	Total Aroclors PCBs EPA 8082	Hg EPA 1631	*SVOCs EPA 8270	4,4'-DDD, 4,4'-DDT EPA 8081	Analyze	Dx with SG
SB18-S-1.0	01 A-F	6/24/24	9:50	SOIL	6	X	X	X	X	X	X	X	X	X	X	X	
SB18-S-4.0	02		9:55		6	X	X	X	X	X	X	X	X	X	X	X	
SB18-S-11.0	03		10:20		6	X	X	X	X	X	X	X	X	X	X	X	
SB18-S-13.0	04		10:30		6	X	X	X	X	X	X	X	X	X	X	X	**
SB14-S-0.5	05		11:05		6	X**	X	X**	X**	X	X**	X**	X**	X**	X**	X	Insufficient volume call Carolyn Wise
SB14-S-3.0	06		11:20		6	X	X	X	X	X	X	X	X	X	X	X	A
SB14-S-7.0	07		11:50		6	X	X	X	X	X	X	X	X	X	X	X	A
SB14-S-13.5	08		12:00		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC04-S-0.5	09		13:05		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC04-S-2.5	10		13:15		6	X	X	X	X	X	X	X	X	X	X	X	

ANALYSES REQUESTED

A-per FB 08/06/24 ME

Notes
*please see emailed analyte list

360-690-5982

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Brenden Murphy	MFA	6/25/24	12:45
Received by:	ANH PHAN	FBI	06/26/24	08:52
Relinquished by:		Samples received at 3 °C		
Received by:				

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

406362

SAMPLE CHAIN OF CUSTODY

06/26/24 VW1/N4/M4 BM

Page # 2 of 3

Report To Josh Elliott

Company Maul Foster Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*)

PROJECT NAME: Yakima East-West Corridor

PO #: M2703.01.001

REMARKS: please email results to csifford@maulfoster.com as well

Project specific RLs? - Yes / No

INVOICE TO: accounting@maulfoster.com

TURNAROUND TIME
- [X] 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	*Metals EPA 6020 BTEX EPA 8021	CVOC EPA 7196 NWTPH-HCID	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Aroclors PCBs EPA 8082	Hg EPA 1631	*SVOCs EPA 8270	4,4'-DDD/4,4'-DDT EPA 8081	Analyze	*Dx with SG Notes
BM SB MWEC04-S-8.0	11 A-F	6/24/24	13:20	SOIL	6	X	X	X	X	X	X	X	X	X	X	X	
MWEC04-S-12.5	12	6/24/24	13:40		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC03-S-1.0	13	6/24/24	15:10		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC03-S-5.5	14	6/24/24	15:20		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC03-S-7.0	15	6/24/24	15:30		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC03-S-11.0	16	6/24/24	15:40		6	X	X	X	X	X	X	X	X	X	X	X	
TripBlank 1	17 A-B	6/25/24	NA	WATER	2		X			X*						X	* see email for analyte list
MWEC02-S-1.0	18 A-F	6/25/24	8:45	SOIL	6	X	X	X	X	X	X	X	X	X	X	X	A
MWEC02-S-3.0	19	6/25/24	8:55		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC02-S-8.0	20	6/25/24	9:15		6	X	X	X	X	X	X	X	X	X	X	X	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Brenden Murphy	Maul Foster Alongi	6/25/24	12:45
Received by:	ANH PHAN	FBI	06/26/24	08:52
Relinquished by:		Samples received at 3 °C		
Received by:				

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

406362

SAMPLE CHAIN OF CUSTODY

06/26/24 VW1/N4/M4

Page # 3 of 3

Report To Josh Elliott

Company Maul Foster Alongi

Address 62 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*) Brenden Murphy

PROJECT NAME: Yakima East-West Corridor

PO #: M2703.01.001

REMARKS: please email results to csifford@maulfoster.com as well

Project specific RLs? - Yes / No

INVOICE TO: accounting@maulfoster.com

TURNAROUND TIME
- [x] 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	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	*Metals 6020C BTEX EPA 8021	Cr(VI) 7196 NWTPH-HCID	*VOCs EPA 8260	SIM PAHs EPA 8270	Total Arochlors PCBs EPA 8082	Hg EPA 1631	*SVOCs EPA 8270	4-4'DDD, 4-4'DDT EPA 8081	Analyze	Notes
MWEC02-S-13.0	21 A-F	6/25/24	9:30	SOIL	6	X	X	X	X	X	X	X	X	X	X	X	*please see emailed analyte list
MWEC01-S-1.0	22	6/25/24	10:30		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC01-S-3.0	23	6/25/24	10:40		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC01-S-8.0	24	6/25/24	10:50		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC01-S-11.3	25	6/25/24	11:00		6	X	X	X	X	X	X	X	X	X	X	X	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Brenden Murphy	Brenden Murphy	Maul Foster Alongi	6/25/24	12:45
Received by:	ANH PHAN	FBI	06/26/24	08:52
Relinquished by:		Samples received at 3 °C		
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 406362 CLIENT MFA INITIALS/ DATE: AP 06/26/24

If custody seals are present on cooler, are they intact? ☒ NA ☐ YES ☐ NO

Cooler/Sample temperature 3 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☒ YES ☐ NO

How did samples arrive?
☐ Over the Counter ☐ Picked up by F&BI ☒ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☒ YES ☐ NO Initials/ AP Date: 06/26/24
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 1-2 days

Are the samples clearly identified? (explain "no" answer below) ☒ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☒ YES ☐ NO

Were appropriate sample containers used? ☒ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☒ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☒ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☒ Yes ☐ No	☐ Not on COC/label
Date Sampled	☒ Yes ☐ No	☐ Not on COC/label
Time Sampled	☒ Yes ☐ No	☐ Not on COC/label
# of Containers	☒ Yes ☐ No	
Relinquished	☒ Yes ☐ No	
Requested analysis	☒ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☒ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ **Number of unused TO17 tubes** _____

ORIGIN ID:YKMA (000) 000-0000

MAUL FOSTER & ALONGI
330 E MILL PLAIN BLVD STE 405

VANCOUVER, WA 98660
UNITED STATES US

SHIP DATE: 25JUN24
ACTWGT: 55.65 LB
CAD: 6995176/SSFE2521
DIMS: 24x14x13 IN

BILL THIRD PARTY

Part # 156297-435 RRDB2 EXP 02/25

TO **M2703.01.001**
FRIEDMAN & BRUYA
5500 4TH AVE S

SEATTLE WA 98108

(206) 285-8282 REF:
INV:
PO: DEPT:

FedEx Express

1 of 3

TRK# 0201 **2763 4203 2618**

MASTER

85 BFIA

WED - 26 JUN 10:30A
PRIORITY OVERNIGHT
AHS
98108
WA-US **SEA**

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 Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

August 8, 2024

Josh Elliott, Project Manager
Maul Foster Alongi
6 Centerpointe Dr, Suite 360
Lake Oswego, OR 97035

Dear Mr Elliott:

Included is the amended report from the testing of material submitted on June 26, 2024 from the Yakima East-West Corridor M2703.01.001, F&BI 406362 project. The duplicate manganese result for the dilution of sample SB18-S-1.0 has been removed, N-nitrosodiphenylamine was added to the SVOC results, and a note regarding the co-elution of benzo(j)fluoranthene was added to the case narrative.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: JElliott@MaulFoster.com, Christian Sifford, Carolyn Wise. Fiona Bellows
MFA0710R.DOC

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 Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

July 10, 2024

Josh Elliott, Project Manager
Maul Foster Alongi
6 Centerpointe Dr, Suite 360
Lake Oswego, OR 97035

Dear Mr Elliott:

Included are the results from the testing of material submitted on June 26, 2024 from the Yakima East-West Corridor M2703.01.001, F&BI 406362 project. There are 193 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: JElliott@MaulFoster.com, Christian Sifford, Carolyn Wise
MFA0710R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 26, 2024 by Friedman & Bruya, Inc. from the Maul Foster Alongi Yakima East-West Corridor M2703.01.001, F&BI 406362 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
406362 -01	SB18-S-1.0
406362 -02	SB18-S-4.0
406362 -03	SB18-S-11.0
406362 -04	SB18-S-13.0
406362 -05	SB14-S-0.5
406362 -06	SB14-S-3.0
406362 -07	SB14-S-7.0
406362 -08	SB14-S-13.5
406362 -09	MWEC04-S-0.5
406362 -10	MWEC04-S-2.5
406362 -11	MWEC04-S-8.0
406362 -12	MWEC04-S-12.5
406362 -13	MWEC03-S-1.0
406362 -14	MWEC03-S-5.5
406362 -15	MWEC03-S-7.0
406362 -16	MWEC03-S-11.0
406362 -17	TripBlank1
406362 -18	MWEC02-S-1.0
406362 -19	MWEC02-S-3.0
406362 -20	MWEC02-S-8.0
406362 -21	MWEC02-S-13.0
406362 -22	MWEC01-S-1.0
406362 -23	MWEC01-S-3.0
406362 -24	MWEC01-S-8.0
406362 -25	MWEC01-S-11.3

The soil samples were sent to Alliance Technical Group for total iron and hexavalent chromium analyses. The report is enclosed.

The reporting limits for samples SB14-S-3.0 and MWEC04-S-2.5 were raised due to high percent moisture present in the samples.

The NWTPH-Gx reporting limits for samples MWEC03-S-1.0, MWEC03-S-5.5, and MWEC02-S-1.0 were raised due to extract foaming. In addition, several reporting limits were raised due to low 5035 sample sample mass.

CASE NARRATIVE (continued)

The 8260D matrix spike and matrix spike duplicate exceeded the acceptance criteria for vinyl chloride. The compound was not detected, therefore the data were acceptable.

The 8270E calibration standard did not meet the acceptance criteria for 3,3'-dichlorobenzidine. The data were flagged accordingly.

The 8270E matrix spike and matrix spike duplicate did not meet the relative percent difference for several compounds. The laboratory contol sample passed the acceptance criteria, therefore the results were likely due to matrix effect.

The 8081B matrix spike and matrix spike duplicate failed the relative percent difference for several pesticides. The laboratory control sample passed the acceptance criteria, therefore the results were due to matrix effect.

A 6020B internal standard associated with copper did not meet the acceptance criteria for samples SB18-S-1.0, SB18-S-4.0, SB18-S-11.0, SB18-S-13.0, SB14-S-0.5, MWEC04-S-12.5, MWEC02-S-8.0, MWEC01-S-1.0, MWEC01-S-3.0, and MWEC01-S-8.0. The samples were diluted and reanalyzed with acceptable results. Both data sets were reported.

A 1631E matrix spike duplicate exceeded the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were due to matrix effect.

The 8270E benzo(b)fluoranthene concentrations reported include the coelution isomer benzo(j)fluoranthene. The reported results are representative of both concentrations.

All other quality control requirements were acceptable.

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: NA
Date Analyzed: 07/02/24

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR PERCENT MOISTURE USING ASTM D2216-98

Sample ID Laboratory ID	% Moisture
SB18-S-1.0 406362-01	5
SB18-S-4.0 406362-02	6
SB18-S-11.0 406362-03	2
SB18-S-13.0 406362-04	3
SB14-S-0.5 406362-05	8
SB14-S-3.0 406362-06	53
SB14-S-7.0 406362-07	38
SB14-S-13.5 406362-08	7
MWEC04-S-0.5 406362-09	16
MWEC04-S-2.5 406362-10	66
MWEC04-S-8.0 406362-11	3
MWEC04-S-12.5 406362-12	3

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: NA
Date Analyzed: 07/02/24

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR PERCENT MOISTURE USING ASTM D2216-98

Sample ID Laboratory ID	% Moisture
MWEC03-S-1.0 406362-13	12
MWEC03-S-5.5 406362-14	6
MWEC03-S-7.0 406362-15	3
MWEC03-S-11.0 406362-16	6
MWEC02-S-1.0 406362-18	9
MWEC02-S-3.0 406362-19	7
MWEC02-S-8.0 406362-20	2
MWEC02-S-13.0 406362-21	8
MWEC01-S-1.0 406362-22	10
MWEC01-S-3.0 406362-23	4
MWEC01-S-8.0 406362-24	3
MWEC01-S-11.3 406362-25	3

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 06/27/24
Date Analyzed: 06/28/24

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)
TripBlank1 406362-17	<100	85
Method Blank 04-1368 MB	<100	88

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 06/28/24
Date Analyzed: 06/28/24, 07/02/24 and 07/05/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
SB18-S-1.0 406362-01	<5	121
SB18-S-4.0 406362-02	<5	113
SB18-S-11.0 406362-03	<5	113
SB18-S-13.0 406362-04	<5	108
SB14-S-0.5 406362-05	79	112
SB14-S-3.0 406362-06	<20	89
SB14-S-7.0 406362-07	<5	123
SB14-S-13.5 406362-08	<5	119
MWEC04-S-0.5 406362-09	<10	115
MWEC04-S-2.5 406362-10	19	108
MWEC04-S-8.0 406362-11	<5	87

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 06/28/24
Date Analyzed: 06/28/24, 07/02/24 and 07/05/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
MWEC04-S-12.5 406362-12	<5	91
MWEC03-S-1.0 406362-13 1/10	<30 j	90
MWEC03-S-5.5 406362-14 1/10	<30 j	87
MWEC03-S-7.0 406362-15	<5	85
MWEC03-S-11.0 406362-16	<5	87
MWEC02-S-1.0 406362-18 1/10	<30 j	89
MWEC02-S-3.0 406362-19	<5	87
MWEC02-S-8.0 406362-20	<5	87
MWEC02-S-13.0 406362-21	<5	101
MWEC01-S-1.0 406362-22	<5	104
MWEC01-S-3.0 406362-23	<5	86

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 06/28/24
Date Analyzed: 06/28/24, 07/02/24 and 07/05/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
MWEC01-S-8.0 406362-24	<5	90
MWEC01-S-11.3 406362-25	<5	89
Method Blank 04-1372 MB	<3 j	119
Method Blank 04-1373 MB	<3 j	118

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 07/01/24
Date Analyzed: 07/01/24 and 07/02/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
SB18-S-1.0 406362-01	<25	<125	106
SB18-S-4.0 406362-02	<25	<125	113
SB18-S-11.0 406362-03	<25	<125	104
SB18-S-13.0 406362-04	<25	<125	107
SB14-S-0.5 406362-05	94 x	510 x	109
SB14-S-3.0 406362-06	790 x	28,000	ip
SB14-S-7.0 406362-07	100 x	680	108
SB14-S-13.5 406362-08	<25	<125	112
MWEC04-S-0.5 406362-09	81 x	1,200	116
MWEC04-S-2.5 406362-10	530 x	2,100	117
MWEC04-S-8.0 406362-11	<25	<125	111

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 07/01/24
Date Analyzed: 07/01/24 and 07/02/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MWEC04-S-12.5 406362-12	<25	<125	107
MWEC03-S-1.0 406362-13	140 x	1,200	114
MWEC03-S-5.5 406362-14	34 x	500	111
MWEC03-S-7.0 406362-15	<25	<125	114
MWEC03-S-11.0 406362-16	<25	<125	109
MWEC02-S-1.0 406362-18	77 x	600	115
MWEC02-S-3.0 406362-19	<25	<125	106
MWEC02-S-8.0 406362-20	<25	<125	105
MWEC02-S-13.0 406362-21	<25	<125	109
MWEC01-S-1.0 406362-22	<25	<125	113
MWEC01-S-3.0 406362-23	<25	<125	108

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 07/01/24
Date Analyzed: 07/01/24 and 07/02/24

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MWEC01-S-8.0 406362-24	<25	<125	107
MWEC01-S-11.3 406362-25	<25	<125	111
Method Blank 04-1522 MB	<25	<125	106
Method Blank 04-1523 MB	<25	<125	110

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TripBlank1	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/28/24	Lab ID:	406362-17
Date Analyzed:	06/28/24	Data File:	062816.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	78	126
Toluene-d8	96	84	115
4-Bromofluorobenzene	104	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	06/28/24	Lab ID:	04-1464 mb
Date Analyzed:	06/28/24	Data File:	062809.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	98	72	130

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB18-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-01 1/0.5
Date Analyzed:	07/01/24	Data File:	070111.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	84	120
Toluene-d8	101	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB18-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-02 1/0.5
Date Analyzed:	07/01/24	Data File:	070112.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB18-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-03 1/0.5
Date Analyzed:	07/01/24	Data File:	070113.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	92	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	0.0082
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0072
o-Xylene	0.0022

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB18-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-04 1/0.5
Date Analyzed:	07/01/24	Data File:	070114.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	84	120
Toluene-d8	104	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB14-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-05 1/0.5
Date Analyzed:	07/01/24	Data File:	070121.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	84	120
Toluene-d8	95	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	0.0022
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB14-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-06
Date Analyzed:	07/01/24	Data File:	070122.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	84	120
Toluene-d8	104	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.008
Chloroform	<0.02 j
Benzene	<0.008
Toluene	0.034
Tetrachloroethene	<0.008
Chlorobenzene	<0.2
Ethylbenzene	<0.008
m,p-Xylene	<0.016
o-Xylene	<0.008

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB14-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-07 1/0.5
Date Analyzed:	07/01/24	Data File:	070123.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	0.061
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.0030
m,p-Xylene	<0.004
o-Xylene	0.0021

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	SB14-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-08 1/0.5
Date Analyzed:	07/01/24	Data File:	070124.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC04-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-09 1/0.5
Date Analyzed:	07/01/24	Data File:	070125.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	91	73	128
4-Bromofluorobenzene	96	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	0.012
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0084
o-Xylene	0.0020

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC04-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-10
Date Analyzed:	07/01/24	Data File:	070126.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	84	120
Toluene-d8	104	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.008
Chloroform	<0.02 j
Benzene	<0.008
Toluene	0.012
Tetrachloroethene	<0.008
Chlorobenzene	<0.2
Ethylbenzene	<0.008
m,p-Xylene	<0.016
o-Xylene	<0.008

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC04-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-11 1/0.5
Date Analyzed:	07/01/24	Data File:	070127.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	0.0024
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC04-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-12 1/0.5
Date Analyzed:	07/01/24	Data File:	070128.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	92	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0055
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC03-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-13 1/0.5
Date Analyzed:	07/01/24	Data File:	070129.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	84	120
Toluene-d8	102	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	0.014
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.0034
m,p-Xylene	0.015
o-Xylene	0.0040

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC03-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-14 1/0.5
Date Analyzed:	07/01/24	Data File:	070130.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	84	120
Toluene-d8	98	73	128
4-Bromofluorobenzene	96	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	0.011
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.019
m,p-Xylene	0.084
o-Xylene	0.022

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC03-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-15 1/0.5
Date Analyzed:	07/01/24	Data File:	070131.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC03-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-16 1/0.5
Date Analyzed:	07/01/24	Data File:	070132.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	0.0022
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC02-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-18 1/0.5
Date Analyzed:	07/01/24	Data File:	070133.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	102	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	0.013
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	0.0046
m,p-Xylene	0.014
o-Xylene	0.0061

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC02-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-19 1/0.5
Date Analyzed:	07/01/24	Data File:	070134.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	84	120
Toluene-d8	93	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	0.0048
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	0.0080
o-Xylene	0.0065

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC02-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-20 1/0.5
Date Analyzed:	07/01/24	Data File:	070135.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	84	120
Toluene-d8	96	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC02-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-21 1/0.5
Date Analyzed:	07/01/24	Data File:	070136.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	84	120
Toluene-d8	107	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	0.0025
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC01-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-22 1/0.5
Date Analyzed:	07/01/24	Data File:	070137.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	102	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC01-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-23 1/0.5
Date Analyzed:	07/01/24	Data File:	070138.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	84	120
Toluene-d8	103	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC01-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-24 1/0.5
Date Analyzed:	07/01/24	Data File:	070139.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	84	120
Toluene-d8	105	73	128
4-Bromofluorobenzene	102	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	MWEC01-S-11.3	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-25 1/0.5
Date Analyzed:	07/01/24	Data File:	070140.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	84	120
Toluene-d8	103	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	04-1463 mb 1/0.5
Date Analyzed:	07/01/24	Data File:	070106.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	84	120
Toluene-d8	103	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	04-1469 mb 1/0.5
Date Analyzed:	07/01/24	Data File:	070120.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	84	84	120
Toluene-d8	94	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.002
Chloroform	<0.0048 j
Benzene	<0.002
Toluene	<0.002
Tetrachloroethene	<0.002
Chlorobenzene	<0.05
Ethylbenzene	<0.002
m,p-Xylene	<0.004
o-Xylene	<0.002

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB18-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-01
Date Analyzed:	07/01/24	Data File:	070120.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	71	16	137
2-Fluorobiphenyl	76	46	122
2,4,6-Tribromophenol	81	17	154
Terphenyl-d14	77	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.00091
1-Methylnaphthalene	0.00070
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	0.0017
Anthracene	<0.0005
Fluoranthene	0.0025
N-Nitrosodiphenylamine	<0.01
Pyrene	0.0020
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	0.0011
Chrysene	0.0023
Benzo(a)pyrene	0.0015
Benzo(b)fluoranthene	0.0033
Benzo(k)fluoranthene	0.00074
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	0.0015
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	0.22

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB18-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-02
Date Analyzed:	07/01/24	Data File:	070121.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	55	16	137
2-Fluorobiphenyl	62	46	122
2,4,6-Tribromophenol	71	17	154
Terphenyl-d14	71	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
N-Nitrosodiphenylamine	<0.01
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	0.00067
Benzo(b)fluoranthene	0.00085
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB18-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-03
Date Analyzed:	07/01/24	Data File:	070122.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	67	16	137
2-Fluorobiphenyl	77	46	122
2,4,6-Tribromophenol	82	17	154
Terphenyl-d14	82	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.00058
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	0.0011
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	0.015
Anthracene	0.0022
Fluoranthene	0.049
N-Nitrosodiphenylamine	<0.01
Pyrene	0.043
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	0.027
Chrysene	0.032
Benzo(a)pyrene	0.034
Benzo(b)fluoranthene	0.048
Benzo(k)fluoranthene	0.016
Indeno(1,2,3-cd)pyrene	0.018
Dibenz(a,h)anthracene	0.0047
Benzo(g,h,i)perylene	0.020
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB18-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-04
Date Analyzed:	07/01/24	Data File:	070123.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	58	16	137
2-Fluorobiphenyl	72	46	122
2,4,6-Tribromophenol	78	17	154
Terphenyl-d14	78	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.0010
1-Methylnaphthalene	0.00096
Acenaphthylene	<0.0005
Acenaphthene	0.0056
Dibenzofuran	0.00062
Fluorene	0.0020
Phenanthrene	0.073
Anthracene	0.012
Fluoranthene	0.25
N-Nitrosodiphenylamine	<0.01
Pyrene	0.22
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	0.15
Chrysene	0.17
Benzo(a)pyrene	0.19
Benzo(b)fluoranthene	0.26
Benzo(k)fluoranthene	0.079
Indeno(1,2,3-cd)pyrene	0.11
Dibenz(a,h)anthracene	0.027
Benzo(g,h,i)perylene	0.11
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB14-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-05
Date Analyzed:	07/02/24	Data File:	070213.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	70	16	137
2-Fluorobiphenyl	78	46	122
2,4,6-Tribromophenol	95	17	154
Terphenyl-d14	90	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0011
2-Methylnaphthalene	0.00090
1-Methylnaphthalene	0.00072
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.0023
Fluorene	<0.0005
Phenanthrene	0.0025
Anthracene	0.0044
Fluoranthene	0.0027
N-Nitrosodiphenylamine	<0.01
Pyrene	0.0024
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	0.0010
Chrysene	0.0013
Benzo(a)pyrene	0.0014
Benzo(b)fluoranthene	0.0022
Benzo(k)fluoranthene	0.0027
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	0.020 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB14-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-06 1/10
Date Analyzed:	07/02/24	Data File:	070223.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	71 d	16	137
2-Fluorobiphenyl	82 d	46	122
2,4,6-Tribromophenol	85 d	17	154
Terphenyl-d14	106 d	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<2
1,2,4-Trichlorobenzene	<0.2
Naphthalene	<0.02
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Dibenzofuran	<0.01
Fluorene	<0.01
Phenanthrene	0.026
Anthracene	<0.01
Fluoranthene	0.013
N-Nitrosodiphenylamine	<0.2
Pyrene	0.028
3,3'-Dichlorobenzidine	<2
Benz(a)anthracene	<0.02
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02
Pentachlorophenol	<0.2 j
Benzyl butyl phthalate	<0.3 j
Bis(2-ethylhexyl) phthalate	<0.4 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB14-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-07
Date Analyzed:	07/02/24	Data File:	070225.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64	16	137
2-Fluorobiphenyl	69	46	122
2,4,6-Tribromophenol	85	17	154
Terphenyl-d14	87	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.033
2-Methylnaphthalene	0.0094
1-Methylnaphthalene	0.0074
Acenaphthylene	0.0057
Acenaphthene	0.0022
Dibenzofuran	0.0033
Fluorene	0.0036
Phenanthrene	0.032
Anthracene	0.0033
Fluoranthene	0.035
N-Nitrosodiphenylamine	<0.01
Pyrene	0.040
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	0.0083
Chrysene	0.014
Benzo(a)pyrene	0.012
Benzo(b)fluoranthene	0.025
Benzo(k)fluoranthene	0.0057
Indeno(1,2,3-cd)pyrene	0.0088
Dibenz(a,h)anthracene	0.0016
Benzo(g,h,i)perylene	0.011
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	0.042 j
Bis(2-ethylhexyl) phthalate	0.069 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB14-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-08
Date Analyzed:	07/01/24	Data File:	070126.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	60	16	137
2-Fluorobiphenyl	73	46	122
2,4,6-Tribromophenol	90	17	154
Terphenyl-d14	79	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	0.00050
Anthracene	<0.0005
Fluoranthene	<0.0005
N-Nitrosodiphenylamine	<0.01
Pyrene	0.00057
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC04-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-09 1/10
Date Analyzed:	07/02/24	Data File:	070226.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	51 d	16	137
2-Fluorobiphenyl	58 d	46	122
2,4,6-Tribromophenol	66 d	17	154
Terphenyl-d14	68 d	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	0.0055
N-Nitrosodiphenylamine	<0.1
Pyrene	<0.005
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	0.0059
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC04-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-10 1/10
Date Analyzed:	07/02/24	Data File:	070224.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	55 d	16	137
2-Fluorobiphenyl	68 d	46	122
2,4,6-Tribromophenol	79 d	17	154
Terphenyl-d14	80 d	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<2
1,2,4-Trichlorobenzene	<0.2
Naphthalene	<0.02
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Dibenzofuran	<0.01
Fluorene	<0.01
Phenanthrene	0.33
Anthracene	0.049
Fluoranthene	0.65
N-Nitrosodiphenylamine	<0.2
Pyrene	0.60
3,3'-Dichlorobenzidine	<2
Benz(a)anthracene	0.14
Chrysene	0.20
Benzo(a)pyrene	0.078
Benzo(b)fluoranthene	0.23
Benzo(k)fluoranthene	0.066
Indeno(1,2,3-cd)pyrene	0.035
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	0.023
Pentachlorophenol	<0.2 j
Benzyl butyl phthalate	<0.3 j
Bis(2-ethylhexyl) phthalate	<0.4 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC04-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-11
Date Analyzed:	07/01/24	Data File:	070124.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	68	16	137
2-Fluorobiphenyl	78	46	122
2,4,6-Tribromophenol	92	17	154
Terphenyl-d14	86	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	0.00055
Anthracene	<0.0005
Fluoranthene	<0.0005
N-Nitrosodiphenylamine	<0.01
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC04-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-12
Date Analyzed:	07/01/24	Data File:	070125.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	55	16	137
2-Fluorobiphenyl	65	46	122
2,4,6-Tribromophenol	78	17	154
Terphenyl-d14	81	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	0.00089
Anthracene	<0.0005
Fluoranthene	<0.0005
N-Nitrosodiphenylamine	<0.01
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC03-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-13 1/10
Date Analyzed:	07/02/24	Data File:	070227.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	49 d	16	137
2-Fluorobiphenyl	56 d	46	122
2,4,6-Tribromophenol	63 d	17	154
Terphenyl-d14	67 d	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
Phenanthrene	0.0072
Anthracene	<0.005
Fluoranthene	0.0057
N-Nitrosodiphenylamine	<0.1
Pyrene	0.0061
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	0.0072
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC03-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-14 1/10
Date Analyzed:	07/02/24	Data File:	070228.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	55 d	16	137
2-Fluorobiphenyl	62 d	46	122
2,4,6-Tribromophenol	70 d	17	154
Terphenyl-d14	70 d	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	0.0053
N-Nitrosodiphenylamine	<0.1
Pyrene	<0.005
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	0.0053
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC03-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-15
Date Analyzed:	07/01/24	Data File:	070127.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	67	16	137
2-Fluorobiphenyl	76	46	122
2,4,6-Tribromophenol	84	17	154
Terphenyl-d14	83	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
N-Nitrosodiphenylamine	<0.01
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC03-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-16
Date Analyzed:	07/01/24	Data File:	070128.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	62	16	137
2-Fluorobiphenyl	71	46	122
2,4,6-Tribromophenol	83	17	154
Terphenyl-d14	75	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
N-Nitrosodiphenylamine	<0.01
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC02-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-18 1/10
Date Analyzed:	07/02/24	Data File:	070229.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	51 d	16	137
2-Fluorobiphenyl	61 d	46	122
2,4,6-Tribromophenol	74 d	17	154
Terphenyl-d14	69 d	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
Naphthalene	<0.01
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Dibenzofuran	<0.005
Fluorene	<0.005
Phenanthrene	0.0051
Anthracene	<0.005
Fluoranthene	0.0073
N-Nitrosodiphenylamine	<0.1
Pyrene	0.0059
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.01
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	0.0070
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
Pentachlorophenol	<0.1 j
Benzyl butyl phthalate	<0.15 j
Bis(2-ethylhexyl) phthalate	<0.2 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC02-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-19
Date Analyzed:	07/01/24	Data File:	070129.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	65	16	137
2-Fluorobiphenyl	74	46	122
2,4,6-Tribromophenol	80	17	154
Terphenyl-d14	76	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0043
2-Methylnaphthalene	0.0087
1-Methylnaphthalene	0.0071
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.0017
Fluorene	<0.0005
Phenanthrene	0.0043
Anthracene	0.00072
Fluoranthene	0.0077
N-Nitrosodiphenylamine	<0.01
Pyrene	0.0071
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	0.0038
Chrysene	0.0044
Benzo(a)pyrene	0.0040
Benzo(b)fluoranthene	0.0051
Benzo(k)fluoranthene	0.0016
Indeno(1,2,3-cd)pyrene	0.0023
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	0.0026
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC02-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-20
Date Analyzed:	07/01/24	Data File:	070130.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64	16	137
2-Fluorobiphenyl	70	46	122
2,4,6-Tribromophenol	78	17	154
Terphenyl-d14	73	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0010
2-Methylnaphthalene	0.0018
1-Methylnaphthalene	0.0014
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	0.0013
Anthracene	<0.0005
Fluoranthene	0.0012
N-Nitrosodiphenylamine	<0.01
Pyrene	0.00092
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	<0.001
Chrysene	0.00054
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.00065
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC02-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-21
Date Analyzed:	07/01/24	Data File:	070131.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64	16	137
2-Fluorobiphenyl	73	46	122
2,4,6-Tribromophenol	85	17	154
Terphenyl-d14	77	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	0.0021
2-Methylnaphthalene	0.0042
1-Methylnaphthalene	0.0034
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	0.00083
Fluorene	<0.0005
Phenanthrene	0.0021
Anthracene	<0.0005
Fluoranthene	0.0019
N-Nitrosodiphenylamine	<0.01
Pyrene	0.0017
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	0.0012
Chrysene	0.0012
Benzo(a)pyrene	0.0011
Benzo(b)fluoranthene	0.0016
Benzo(k)fluoranthene	0.00051
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC01-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-22
Date Analyzed:	07/02/24	Data File:	070132.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	55	16	137
2-Fluorobiphenyl	68	46	122
2,4,6-Tribromophenol	80	17	154
Terphenyl-d14	79	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.00056
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	0.0015
Anthracene	<0.0005
Fluoranthene	0.0022
N-Nitrosodiphenylamine	<0.01
Pyrene	0.0016
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	<0.001
Chrysene	0.0010
Benzo(a)pyrene	0.00078
Benzo(b)fluoranthene	0.0016
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	0.0013
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC01-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-23
Date Analyzed:	07/02/24	Data File:	070210.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	67	16	137
2-Fluorobiphenyl	73	46	122
2,4,6-Tribromophenol	84	17	154
Terphenyl-d14	78	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.00076
1-Methylnaphthalene	0.00059
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	0.0011
Anthracene	<0.0005
Fluoranthene	<0.0005
N-Nitrosodiphenylamine	<0.01
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC01-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-24
Date Analyzed:	07/02/24	Data File:	070211.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	62	16	137
2-Fluorobiphenyl	70	46	122
2,4,6-Tribromophenol	85	17	154
Terphenyl-d14	79	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	0.00076
Anthracene	<0.0005
Fluoranthene	<0.0005
N-Nitrosodiphenylamine	<0.01
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC01-S-11.3	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406362-25
Date Analyzed:	07/02/24	Data File:	070212.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	63	16	137
2-Fluorobiphenyl	72	46	122
2,4,6-Tribromophenol	86	17	154
Terphenyl-d14	75	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	0.00062
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	0.0012
Anthracene	<0.0005
Fluoranthene	0.00072
N-Nitrosodiphenylamine	<0.01
Pyrene	0.00058
3,3'-Dichlorobenzidine	<0.1
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	0.00062
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	04-1519 mb
Date Analyzed:	07/01/24	Data File:	070118.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	72	16	137
2-Fluorobiphenyl	82	46	122
2,4,6-Tribromophenol	75	17	154
Terphenyl-d14	84	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
N-Nitrosodiphenylamine	<0.01
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	04-1524 mb2
Date Analyzed:	07/01/24	Data File:	070119.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	73	16	137
2-Fluorobiphenyl	81	46	122
2,4,6-Tribromophenol	81	17	154
Terphenyl-d14	84	31	167

Compounds:	Concentration mg/kg (ppm)
2,4-Dichlorophenol	<0.1
1,2,4-Trichlorobenzene	<0.01
Naphthalene	<0.001
2-Methylnaphthalene	<0.0005
1-Methylnaphthalene	<0.0005
Acenaphthylene	<0.0005
Acenaphthene	<0.0005
Dibenzofuran	<0.0005
Fluorene	<0.0005
Phenanthrene	<0.0005
Anthracene	<0.0005
Fluoranthene	<0.0005
N-Nitrosodiphenylamine	<0.01
Pyrene	<0.0005
3,3'-Dichlorobenzidine	<0.1 ca
Benz(a)anthracene	<0.001
Chrysene	<0.0005
Benzo(a)pyrene	<0.0005
Benzo(b)fluoranthene	<0.0005
Benzo(k)fluoranthene	<0.0005
Indeno(1,2,3-cd)pyrene	<0.001
Dibenz(a,h)anthracene	<0.001
Benzo(g,h,i)perylene	<0.001
Pentachlorophenol	<0.01 j
Benzyl butyl phthalate	<0.015 j
Bis(2-ethylhexyl) phthalate	<0.02 j

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB18-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-01
Date Analyzed:	06/28/24	Data File:	406362-01.258
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.7
Barium	52
Cadmium	<0.5
Copper	11 J
Lead	7.3
Manganese	340

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB18-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-01 x5
Date Analyzed:	06/28/24	Data File:	406362-01 x5.261
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	8.5
Copper	<25
Zinc	39

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB18-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-02
Date Analyzed:	06/28/24	Data File:	406362-02.064
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.9
Barium	44
Cadmium	<0.5
Copper	15 J
Lead	3.0

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB18-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-02 x5
Date Analyzed:	07/05/24	Data File:	406362-02 x5.077
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	11
Copper	<25
Manganese	270
Zinc	42

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB18-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-03
Date Analyzed:	06/28/24	Data File:	406362-03.065
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.1
Barium	50
Cadmium	<0.5
Copper	13 J
Lead	2.4

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB18-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-03 x5
Date Analyzed:	07/03/24	Data File:	406362-03 x5.112
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	7.2
Copper	<25
Manganese	290
Zinc	30

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB18-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-04
Date Analyzed:	06/28/24	Data File:	406362-04.066
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.8
Barium	57
Cadmium	<0.5
Copper	14 J
Lead	3.2

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB18-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-04 x5
Date Analyzed:	07/03/24	Data File:	406362-04 x5.113
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	8.4
Copper	<25
Manganese	330
Zinc	41

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB14-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-05
Date Analyzed:	06/28/24	Data File:	406362-05.067
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.4
Barium	54
Cadmium	<0.5
Copper	14 J
Lead	6.7

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB14-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-05 x5
Date Analyzed:	07/03/24	Data File:	406362-05 x5.114
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	6.5
Copper	<25
Manganese	430
Zinc	47

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB14-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-06
Date Analyzed:	06/28/24	Data File:	406362-06.068
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.1
Barium	67
Cadmium	<1
Chromium	4.0
Copper	12
Lead	7.1
Zinc	50

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB14-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-06 x10
Date Analyzed:	07/03/24	Data File:	406362-06 x10.115
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	260

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB14-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-07
Date Analyzed:	06/28/24	Data File:	406362-07.069
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.4
Barium	130
Cadmium	0.62
Chromium	13
Copper	30
Lead	47
Zinc	81

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB14-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-07 x10
Date Analyzed:	07/03/24	Data File:	406362-07 x10.116
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	290

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB14-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-08
Date Analyzed:	06/28/24	Data File:	406362-08.070
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.4
Barium	35
Cadmium	<0.5
Lead	2.0

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB14-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-08 x2
Date Analyzed:	07/01/24	Data File:	406362-08 x2.245
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	10
Copper	13
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB14-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-08 x5
Date Analyzed:	07/03/24	Data File:	406362-08 x5.117
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	170

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC04-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-09
Date Analyzed:	06/28/24	Data File:	406362-09.071
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.3
Barium	120
Cadmium	0.61
Chromium	9.0
Copper	18
Lead	13
Zinc	55

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC04-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-09 x10
Date Analyzed:	07/03/24	Data File:	406362-09 x10.118
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	820

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC04-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-10
Date Analyzed:	06/28/24	Data File:	406362-10.072
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<2
Barium	190
Cadmium	<1
Chromium	2.8
Copper	8.0
Lead	6.4
Manganese	350
Zinc	120

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC04-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-11
Date Analyzed:	06/28/24	Data File:	406362-11.073
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.6
Barium	32
Cadmium	<0.5
Lead	2.2

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC04-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-11 x2
Date Analyzed:	07/01/24	Data File:	406362-11 x2.247
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	6.9
Copper	10
Zinc	26

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC04-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-11 x5
Date Analyzed:	07/03/24	Data File:	406362-11 x5.121
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	170

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC04-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-12
Date Analyzed:	06/28/24	Data File:	406362-12.083
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	43
Cadmium	<0.5
Copper	13 J
Lead	2.0

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC04-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-12 x5
Date Analyzed:	07/03/24	Data File:	406362-12 x5.122
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	11
Copper	<25
Manganese	190
Zinc	40

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC03-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-13
Date Analyzed:	06/28/24	Data File:	406362-13.084
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.5
Barium	120
Cadmium	<0.5
Chromium	5.4
Copper	13
Lead	11
Zinc	41

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC03-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-13 x10
Date Analyzed:	07/08/24	Data File:	406362-13 x10.127
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	260

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC03-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-14
Date Analyzed:	06/28/24	Data File:	406362-14.087
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.6
Barium	83
Cadmium	<0.5
Chromium	7.3
Copper	12
Lead	11
Zinc	34

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC03-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-14 x10
Date Analyzed:	07/08/24	Data File:	406362-14 x10.128
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	570

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC03-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-15
Date Analyzed:	06/28/24	Data File:	406362-15.088
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.6
Barium	32
Cadmium	<0.5
Chromium	7.4
Copper	11
Lead	2.0
Zinc	22

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC03-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-15 x10
Date Analyzed:	07/08/24	Data File:	406362-15 x10.129
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	250

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC03-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-16
Date Analyzed:	06/28/24	Data File:	406362-16.089
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.7
Barium	26
Cadmium	<0.5
Chromium	6.5
Copper	9.4
Lead	1.8
Zinc	19

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC03-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-16 x10
Date Analyzed:	07/08/24	Data File:	406362-16 x10.130
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	240

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-18
Date Analyzed:	06/28/24	Data File:	406362-18.090
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.4
Barium	67
Cadmium	<0.5
Chromium	5.6
Copper	10
Lead	6.4
Zinc	30

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-18 x10
Date Analyzed:	07/08/24	Data File:	406362-18 x10.131
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	470

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-19
Date Analyzed:	06/28/24	Data File:	406362-19.091
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.9
Barium	54
Cadmium	<0.5
Lead	3.9

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-19 x2
Date Analyzed:	07/01/24	Data File:	406362-19 x2.249
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	9.2
Copper	11
Zinc	32

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-19 x5
Date Analyzed:	07/03/24	Data File:	406362-19 x5.123
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	350

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-20
Date Analyzed:	06/28/24	Data File:	406362-20.092
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.7
Barium	42
Cadmium	<0.5
Copper	12 J
Lead	2.4

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-20 x5
Date Analyzed:	07/03/24	Data File:	406362-20 x5.124
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	8.8
Copper	<25
Manganese	260
Zinc	35

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-21
Date Analyzed:	06/28/24	Data File:	406362-21.093
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.7
Barium	51
Cadmium	<0.5
Lead	3.4

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-21 x2
Date Analyzed:	07/01/24	Data File:	406362-21 x2.254
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	11
Copper	11
Zinc	30

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-21 x5
Date Analyzed:	07/03/24	Data File:	406362-21 x5.125
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	1,100

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-22
Date Analyzed:	06/28/24	Data File:	406362-22.270
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.9
Barium	95
Cadmium	0.9
Copper	17 J
Lead	7.2

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-22 x5
Date Analyzed:	07/03/24	Data File:	406362-22 x5.126
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	18
Copper	<25
Manganese	910
Zinc	52

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-23
Date Analyzed:	06/28/24	Data File:	406362-23.094
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.8
Barium	48
Cadmium	<0.5
Copper	13 J
Lead	3.5

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-23 x5
Date Analyzed:	07/03/24	Data File:	406362-23 x5.127
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	11
Copper	<25
Manganese	320
Zinc	41

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-24
Date Analyzed:	06/28/24	Data File:	406362-24.095
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.7
Barium	46
Cadmium	<0.5
Copper	12 J
Lead	2.0

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-24 x5
Date Analyzed:	07/03/24	Data File:	406362-24 x5.131
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	10
Copper	<25
Manganese	290
Zinc	34

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-S-11.3	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-25
Date Analyzed:	06/28/24	Data File:	406362-25.096
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.3
Barium	43
Cadmium	<0.5
Lead	2.4

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-S-11.3	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-25 x2
Date Analyzed:	07/02/24	Data File:	406362-25 x2.274
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	9.7
Copper	15
Zinc	28

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC01-S-11.3	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	406362-25 x5
Date Analyzed:	07/03/24	Data File:	406362-25 x5.137
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Manganese	240

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	I4-533 mb
Date Analyzed:	06/28/24	Data File:	I4-533 mb.256
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Yakima East-West Corridor
Date Extracted:	06/27/24	Lab ID:	I4-534 mb
Date Analyzed:	06/28/24	Data File:	I4-534 mb.268
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Zinc	<5

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 06/27/24
Date Analyzed: 06/28/24 and 07/01/24

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
SB18-S-1.0 406362-01	0.039
SB18-S-4.0 406362-02	0.035
SB18-S-11.0 406362-03	<0.02
SB18-S-13.0 406362-04	0.036
SB14-S-0.5 406362-05	0.025
SB14-S-3.0 406362-06	0.066
SB14-S-7.0 406362-07	0.56
SB14-S-13.5 406362-08	0.056
MWEC04-S-0.5 406362-09	0.078
MWEC04-S-2.5 406362-10	0.073
MWEC04-S-8.0 406362-11	0.034

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 06/27/24
Date Analyzed: 06/28/24 and 07/01/24

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
MWEC04-S-12.5 406362-12	0.040
MWEC03-S-1.0 406362-13	0.066
MWEC03-S-5.5 406362-14	0.052
MWEC03-S-7.0 406362-15	0.034
MWEC03-S-11.0 406362-16	<0.02
MWEC02-S-1.0 406362-18	0.046
MWEC02-S-3.0 406362-19	0.027
MWEC02-S-8.0 406362-20	0.028
MWEC02-S-13.0 406362-21	0.084
MWEC01-S-1.0 406362-22	0.074
MWEC01-S-3.0 406362-23	0.079

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362
Date Extracted: 06/27/24
Date Analyzed: 06/28/24 and 07/01/24

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
MWEC01-S-8.0 406362-24	<0.02
MWEC01-S-11.3 406362-25	<0.02
Method Blank i4-533 mb	<0.02
Method Blank i4-534 mb	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB18-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-01 1/5
Date Analyzed:	07/03/24	Data File:	07310.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	94	11	184
Decachlorobiphenyl	83 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	0.0088
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB18-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-02 1/5
Date Analyzed:	07/03/24	Data File:	07309.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	73	11	184
Decachlorobiphenyl	73 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB18-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-03 1/5
Date Analyzed:	07/03/24	Data File:	07311.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	97	11	184
Decachlorobiphenyl	86 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB18-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-04 1/5
Date Analyzed:	07/03/24	Data File:	07312.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72	11	184
Decachlorobiphenyl	67 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB14-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-05 1/5
Date Analyzed:	07/03/24	Data File:	07313.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	88	11	184
Decachlorobiphenyl	79 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB14-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-06 1/5
Date Analyzed:	07/03/24	Data File:	07314.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53	11	184
Decachlorobiphenyl	27 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004 j
Aroclor 1232	<0.004 j
Aroclor 1016	<0.004 j
Aroclor 1242	<0.004 j
Aroclor 1248	<0.004 j
Aroclor 1254	<0.004 j
Aroclor 1260	<0.004 j
Aroclor 1262	<0.004 j
Aroclor 1268	<0.004 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB14-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-07 1/5
Date Analyzed:	07/06/24	Data File:	070539.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	95	11	184
Decachlorobiphenyl	75 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	0.0086
Aroclor 1260	0.0057
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB14-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-08 1/5
Date Analyzed:	07/06/24	Data File:	070540.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	69	11	184
Decachlorobiphenyl	90 ca	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC04-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-09 1/5
Date Analyzed:	07/03/24	Data File:	070305.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	57	41	139
Decachlorobiphenyl	49	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC04-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-10 1/5
Date Analyzed:	07/03/24	Data File:	070306.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	97	41	139
Decachlorobiphenyl	97	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004 j
Aroclor 1232	<0.004 j
Aroclor 1016	<0.004 j
Aroclor 1242	<0.004 j
Aroclor 1248	<0.004 j
Aroclor 1254	<0.004 j
Aroclor 1260	<0.004 j
Aroclor 1262	<0.004 j
Aroclor 1268	<0.004 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC04-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-11 1/5
Date Analyzed:	07/03/24	Data File:	070307.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	75	41	139
Decachlorobiphenyl	82	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC04-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-12 1/5
Date Analyzed:	07/03/24	Data File:	070308.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72	41	139
Decachlorobiphenyl	82	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC03-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-13 1/5
Date Analyzed:	07/03/24	Data File:	070309.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	41	139
Decachlorobiphenyl	52	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC03-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-14 1/5
Date Analyzed:	07/03/24	Data File:	070310.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	74	41	139
Decachlorobiphenyl	68	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC03-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-15 1/5
Date Analyzed:	07/03/24	Data File:	070311.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	78	41	139
Decachlorobiphenyl	87	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC03-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-16 1/5
Date Analyzed:	07/03/24	Data File:	070312.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	64	41	139
Decachlorobiphenyl	86	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC02-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-18 1/5
Date Analyzed:	07/03/24	Data File:	070313.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	76	41	139
Decachlorobiphenyl	69	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC02-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-19 1/5
Date Analyzed:	07/03/24	Data File:	070314.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	55	41	139
Decachlorobiphenyl	87	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC02-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-20 1/5
Date Analyzed:	07/03/24	Data File:	070315.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	61	41	139
Decachlorobiphenyl	69	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC02-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-21 1/5
Date Analyzed:	07/03/24	Data File:	070316.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	46	41	139
Decachlorobiphenyl	75	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC01-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-22 1/5
Date Analyzed:	07/03/24	Data File:	070317.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	64	41	139
Decachlorobiphenyl	68	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC01-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-23 1/5
Date Analyzed:	07/03/24	Data File:	070318.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	70	41	139
Decachlorobiphenyl	80	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC01-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-24 1/5
Date Analyzed:	07/03/24	Data File:	070319.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66	41	139
Decachlorobiphenyl	77	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC01-S-11.3	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-25 1/5
Date Analyzed:	07/03/24	Data File:	070320.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	79	41	139
Decachlorobiphenyl	83	48	145

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.004
Aroclor 1232	<0.004
Aroclor 1016	<0.004
Aroclor 1242	<0.004
Aroclor 1248	<0.004
Aroclor 1254	<0.004
Aroclor 1260	<0.004
Aroclor 1262	<0.004
Aroclor 1268	<0.004

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	04-1535 mb 1/5
Date Analyzed:	07/03/24	Data File:	07308.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	99	11	184
Decachlorobiphenyl	90	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.002 j
Aroclor 1232	<0.002 j
Aroclor 1016	<0.002 j
Aroclor 1242	<0.002 j
Aroclor 1248	<0.002 j
Aroclor 1254	<0.002 j
Aroclor 1260	<0.002 j
Aroclor 1262	<0.002 j
Aroclor 1268	<0.002 j

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	04-1536 mb2 1/5
Date Analyzed:	07/03/24	Data File:	070315.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72	11	162
Decachlorobiphenyl	71	11	152

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.002 j
Aroclor 1232	<0.002 j
Aroclor 1016	<0.002 j
Aroclor 1242	<0.002 j
Aroclor 1248	<0.002 j
Aroclor 1254	<0.002 j
Aroclor 1260	<0.002 j
Aroclor 1262	<0.002 j
Aroclor 1268	<0.002 j

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB18-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-01 1/5
Date Analyzed:	07/02/24	Data File:	070209.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	82 ca	20	157
Decachlorobiphenyl	101 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	0.0021

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB18-S-4.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-02 1/5
Date Analyzed:	07/02/24	Data File:	070210.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	66 ca	20	157
Decachlorobiphenyl	83 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB18-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-03 1/5
Date Analyzed:	07/02/24	Data File:	070211.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	83 ca	20	157
Decachlorobiphenyl	105 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB18-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-04 1/5
Date Analyzed:	07/02/24	Data File:	070212.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	61 ca	20	157
Decachlorobiphenyl	82 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB14-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-05 1/5
Date Analyzed:	07/02/24	Data File:	070213.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	80 ca	20	157
Decachlorobiphenyl	103 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	0.012

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB14-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-06 1/5
Date Analyzed:	07/02/24	Data File:	070214.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	46 ca	20	157
Decachlorobiphenyl	46 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002 j
4,4'-DDT	<0.002 j

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB14-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-07 1/5
Date Analyzed:	07/02/24	Data File:	070215.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	80 ca	20	157
Decachlorobiphenyl	107 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	0.0033
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	SB14-S-13.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-08 1/5
Date Analyzed:	07/02/24	Data File:	070216.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72 ca	20	157
Decachlorobiphenyl	105 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC04-S-0.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-09 1/5
Date Analyzed:	07/02/24	Data File:	070217.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	57 ca	20	157
Decachlorobiphenyl	71 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC04-S-2.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-10 1/5
Date Analyzed:	07/02/24	Data File:	070218.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	70 ca	20	157
Decachlorobiphenyl	108 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002 j
4,4'-DDT	<0.002 j

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC04-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-11 1/5
Date Analyzed:	07/02/24	Data File:	070218.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	74	32	117
Decachlorobiphenyl	71	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC04-S-12.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-12 1/5
Date Analyzed:	07/03/24	Data File:	070219.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72	32	117
Decachlorobiphenyl	64	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC03-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-13 1/5
Date Analyzed:	07/03/24	Data File:	070219.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59 ca	20	157
Decachlorobiphenyl	86 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC03-S-5.5	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-14 1/5
Date Analyzed:	07/03/24	Data File:	070220.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	70 ca	20	157
Decachlorobiphenyl	105 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC03-S-7.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-15 1/5
Date Analyzed:	07/03/24	Data File:	070220.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	78	32	117
Decachlorobiphenyl	80	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC03-S-11.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-16 1/5
Date Analyzed:	07/03/24	Data File:	070221.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	58	32	117
Decachlorobiphenyl	72	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC02-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-18 1/5
Date Analyzed:	07/03/24	Data File:	070221.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	81 ca	20	157
Decachlorobiphenyl	110 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC02-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-19 1/5
Date Analyzed:	07/02/24	Data File:	070215.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	46	32	117
Decachlorobiphenyl	56	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC02-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-20 1/5
Date Analyzed:	07/02/24	Data File:	070216.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	53	32	117
Decachlorobiphenyl	54	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC02-S-13.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-21 1/5
Date Analyzed:	07/02/24	Data File:	070217.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	40	32	117
Decachlorobiphenyl	60	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC01-S-1.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-22 1/5
Date Analyzed:	07/02/24	Data File:	070211.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	32	117
Decachlorobiphenyl	61	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC01-S-3.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-23 1/5
Date Analyzed:	07/02/24	Data File:	070212.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	67	32	117
Decachlorobiphenyl	61	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC01-S-8.0	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-24 1/5
Date Analyzed:	07/02/24	Data File:	070213.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	61	32	117
Decachlorobiphenyl	61	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC01-S-11.3	Client:	Maul Foster Alongi
Date Received:	06/26/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406362-25 1/5
Date Analyzed:	07/02/24	Data File:	070214.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72	32	117
Decachlorobiphenyl	71	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	04-1537 mb2 1/5
Date Analyzed:	07/02/24	Data File:	070207.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	121 vo	32	117
Decachlorobiphenyl	118	32	150

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.001 j
4,4'-DDT	<0.001 j

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	04-1538 mb 1/5
Date Analyzed:	07/02/24	Data File:	070206.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	97 ca	20	157
Decachlorobiphenyl	129 ca	28	158

Compounds:	Concentration mg/kg (ppm)
4,4'-DDD	<0.001 j
4,4'-DDT	<0.001 j

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362

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

Laboratory Code: 406359-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	<100	108	107	50-150	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	100	70-130

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362

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

Laboratory Code: 406362-21 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	110	61-153

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362

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

Laboratory Code: 406362-22 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	112	61-153

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362

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

Laboratory Code: 406362-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	2,500	<50	115	58	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	2,500	119	77-123

Date of Report: 07/10/24
Date Received: 06/26/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406362

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

Laboratory Code: 406362-22 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	2,500	<50	123	124	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	2,500	121	77-123

Date of Report: 07/10/24
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Project: Yakima East-West Corridor M2703.01.001, F&BI 406362

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 406387-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.02	110	50-150
Chloroform	ug/L (ppb)	10	<1	114	50-150
Chlorobenzene	ug/L (ppb)	10	<1	96	50-150
m,p-Xylene	ug/L (ppb)	20	<2	104	50-150
o-Xylene	ug/L (ppb)	10	<1	106	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	10	86	99	64-142	14
Chloroform	ug/L (ppb)	10	85	93	70-130	9
Chlorobenzene	ug/L (ppb)	10	94	93	70-130	1
m,p-Xylene	ug/L (ppb)	20	99	100	70-130	1
o-Xylene	ug/L (ppb)	10	98	99	70-130	1

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 406412-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2	<0.05	77	84	10-138	9
Chloroform	mg/kg (ppm)	2	<0.05	79	90	21-145	13
Benzene	mg/kg (ppm)	2	<0.03	77	87	29-129	12
Toluene	mg/kg (ppm)	2	<0.05	83	84	35-130	1
Tetrachloroethene	mg/kg (ppm)	2	<0.025	84	89	20-133	6
Chlorobenzene	mg/kg (ppm)	2	<0.05	81	95	32-129	16
Ethylbenzene	mg/kg (ppm)	2	<0.05	83	92	32-137	10
m,p-Xylene	mg/kg (ppm)	4	<0.1	85	89	34-136	5
o-Xylene	mg/kg (ppm)	2	<0.05	82	90	33-134	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2	91	22-139
Chloroform	mg/kg (ppm)	2	93	61-139
Benzene	mg/kg (ppm)	2	88	65-136
Toluene	mg/kg (ppm)	2	91	66-126
Tetrachloroethene	mg/kg (ppm)	2	88	68-128
Chlorobenzene	mg/kg (ppm)	2	92	67-128
Ethylbenzene	mg/kg (ppm)	2	92	64-123
m,p-Xylene	mg/kg (ppm)	4	93	68-128
o-Xylene	mg/kg (ppm)	2	94	67-129

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 406362-19 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	2	<0.004	87 vo	82 vo	10-79	6
Chloroform	mg/kg (ppm)	2	<0.1	91	87	18-126	4
Benzene	mg/kg (ppm)	2	<0.004	104	98	15-129	6
Toluene	mg/kg (ppm)	2	<0.004	97	101	15-129	4
Tetrachloroethene	mg/kg (ppm)	2	<0.004	97	99	20-121	2
Chlorobenzene	mg/kg (ppm)	2	<0.1	91	95	19-129	4
Ethylbenzene	mg/kg (ppm)	2	<0.004	98	101	23-133	3
m,p-Xylene	mg/kg (ppm)	4	<0.008	98	100	19-134	2
o-Xylene	mg/kg (ppm)	2	<0.004	93	96	20-132	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	2	79	47-106
Chloroform	mg/kg (ppm)	2	82	70-130
Benzene	mg/kg (ppm)	2	93	70-130
Toluene	mg/kg (ppm)	2	96	63-127
Tetrachloroethene	mg/kg (ppm)	2	97	59-138
Chlorobenzene	mg/kg (ppm)	2	92	65-133
Ethylbenzene	mg/kg (ppm)	2	98	60-140
m,p-Xylene	mg/kg (ppm)	4	97	56-145
o-Xylene	mg/kg (ppm)	2	92	61-137

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

Laboratory Code: 406362-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
2,4-Dichlorophenol	mg/kg (ppm)	0.83	<0.1	75	75	50-150	0
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	<0.01	74	75	50-150	1
Naphthalene	mg/kg (ppm)	0.83	<0.001	75	74	50-150	1
2-Methylnaphthalene	mg/kg (ppm)	0.83	0.00087	83	82	50-150	1
1-Methylnaphthalene	mg/kg (ppm)	0.83	0.00067	82	81	50-150	1
Acenaphthylene	mg/kg (ppm)	0.83	<0.0005	83	84	50-150	1
Acenaphthene	mg/kg (ppm)	0.83	<0.0005	80	83	50-150	4
Dibenzofuran	mg/kg (ppm)	0.83	<0.0005	83	83	50-150	0
Fluorene	mg/kg (ppm)	0.83	<0.0005	86	86	50-150	0
Phenanthrene	mg/kg (ppm)	0.83	0.0016	82	82	10-170	0
Anthracene	mg/kg (ppm)	0.83	<0.0005	83	83	37-139	0
Fluoranthene	mg/kg (ppm)	0.83	0.0023	88	85	10-203	3
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	<0.01	77	79	50-150	3
Pyrene	mg/kg (ppm)	0.83	0.0019	84	82	10-208	2
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	<0.1	49	50	10-119	2
Benz(a)anthracene	mg/kg (ppm)	0.83	0.0010	85	85	37-146	0
Chrysene	mg/kg (ppm)	0.83	0.0022	84	82	36-144	2
Benzo(a)pyrene	mg/kg (ppm)	0.83	0.0014	90	88	40-150	2
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	0.0031	94	91	45-157	3
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	0.00070	89	88	50-150	1
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	<0.001	77	75	24-145	3
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	<0.001	75	74	31-137	1
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	<0.03	66	64	14-141	3
Pentachlorophenol	mg/kg (ppm)	0.83	<0.01	72	72	15-159	0
Benzyl butyl phthalate	mg/kg (ppm)	0.83	<0.015	85	88	50-150	3
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	0.21	0 b	0 b	50-150	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
2,4-Dichlorophenol	mg/kg (ppm)	0.83	85	62-112
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	78	59-105
Naphthalene	mg/kg (ppm)	0.83	80	59-105
2-Methylnaphthalene	mg/kg (ppm)	0.83	88	62-108
1-Methylnaphthalene	mg/kg (ppm)	0.83	88	62-108
Acenaphthylene	mg/kg (ppm)	0.83	89	61-111
Acenaphthene	mg/kg (ppm)	0.83	89	61-110
Dibenzofuran	mg/kg (ppm)	0.83	90	65-118
Fluorene	mg/kg (ppm)	0.83	91	62-114
Phenanthrene	mg/kg (ppm)	0.83	89	64-112
Anthracene	mg/kg (ppm)	0.83	88	63-111
Fluoranthene	mg/kg (ppm)	0.83	97	66-115
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	82	64-116
Pyrene	mg/kg (ppm)	0.83	90	65-112
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	48	10-100
Benz(a)anthracene	mg/kg (ppm)	0.83	89	64-116
Chrysene	mg/kg (ppm)	0.83	90	66-119
Benzo(a)pyrene	mg/kg (ppm)	0.83	90	62-116
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	98	61-118
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	91	65-119
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	97	64-130
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	93	67-131
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	89	67-126
Pentachlorophenol	mg/kg (ppm)	0.83	109	56-130
Benzyl butyl phthalate	mg/kg (ppm)	0.83	101	56-131
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	100	30-165

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

Laboratory Code: 406323-03 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
2,4-Dichlorophenol	mg/kg (ppm)	0.83	<0.5	80	86	50-150	7
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	<0.05	79	81	50-150	2
Naphthalene	mg/kg (ppm)	0.83	<0.005	79	81	50-150	2
2-Methylnaphthalene	mg/kg (ppm)	0.83	<0.0025	85	89	50-150	5
1-Methylnaphthalene	mg/kg (ppm)	0.83	<0.0025	85	88	50-150	3
Acenaphthylene	mg/kg (ppm)	0.83	<0.0025	86	88	50-150	2
Acenaphthene	mg/kg (ppm)	0.83	<0.0025	82	85	50-150	4
Dibenzofuran	mg/kg (ppm)	0.83	<0.0025	85	88	50-150	3
Fluorene	mg/kg (ppm)	0.83	<0.0025	86	87	50-150	1
Phenanthrene	mg/kg (ppm)	0.83	<0.0025	83	86	10-170	4
Anthracene	mg/kg (ppm)	0.83	<0.0025	84	85	37-139	1
Fluoranthene	mg/kg (ppm)	0.83	<0.0025	85	91	10-203	7
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	<0.05	82	84	50-150	2
Pyrene	mg/kg (ppm)	0.83	<0.0025	77	78	10-208	1
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	<0.5	78	85	10-119	9
Benz(a)anthracene	mg/kg (ppm)	0.83	<0.005	86	89	37-146	3
Chrysene	mg/kg (ppm)	0.83	<0.0025	84	88	36-144	5
Benzo(a)pyrene	mg/kg (ppm)	0.83	<0.0025	89	92	40-150	3
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	<0.0025	89	92	45-157	3
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	<0.0025	85	90	50-150	6
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	<0.005	71	90	24-145	24 vo
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	<0.005	70	87	31-137	22 vo
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	<0.03	59	80	14-141	30 vo
Pentachlorophenol	mg/kg (ppm)	0.83	<0.25	84	95	15-159	12
Benzyl butyl phthalate	mg/kg (ppm)	0.83	<0.5	90	97	50-150	7
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	<0.8	83	99	50-150	18

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
2,4-Dichlorophenol	mg/kg (ppm)	0.83	89	62-112
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	87	59-105
Naphthalene	mg/kg (ppm)	0.83	86	59-105
2-Methylnaphthalene	mg/kg (ppm)	0.83	94	62-108
1-Methylnaphthalene	mg/kg (ppm)	0.83	93	62-108
Acenaphthylene	mg/kg (ppm)	0.83	91	61-111
Acenaphthene	mg/kg (ppm)	0.83	91	61-110
Dibenzofuran	mg/kg (ppm)	0.83	92	65-118
Fluorene	mg/kg (ppm)	0.83	95	62-114
Phenanthrene	mg/kg (ppm)	0.83	90	64-112
Anthracene	mg/kg (ppm)	0.83	92	63-111
Fluoranthene	mg/kg (ppm)	0.83	96	66-115
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	88	64-116
Pyrene	mg/kg (ppm)	0.83	91	65-112
3,3'-Dichlorobenzidine	mg/kg (ppm)	1.3	69	10-100
Benz(a)anthracene	mg/kg (ppm)	0.83	93	64-116
Chrysene	mg/kg (ppm)	0.83	92	66-119
Benzo(a)pyrene	mg/kg (ppm)	0.83	93	62-116
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	92	61-118
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	90	65-119
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	106	64-130
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	105	67-131
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	101	67-126
Pentachlorophenol	mg/kg (ppm)	0.83	95	56-130
Benzyl butyl phthalate	mg/kg (ppm)	0.83	100	56-131
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	92	30-165

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 406362-01 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<5	101	110	75-125	9
Barium	mg/kg (ppm)	50	60.3	105 b	127 b	75-125	19 b
Cadmium	mg/kg (ppm)	10	<5	106	112	75-125	6
Chromium	mg/kg (ppm)	50	8.32	99	109	75-125	10
Copper	mg/kg (ppm)	50	<25	104	113	75-125	8
Lead	mg/kg (ppm)	50	7.63	105	116	75-125	10
Manganese	mg/kg (ppm	20	468	60 b	662 b	75-125	167 b
Zinc	mg/kg (ppm)	50	42.9	95 b	114 b	75-125	18 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	108	80-120
Barium	mg/kg (ppm)	50	92	80-120
Cadmium	mg/kg (ppm)	10	95	80-120
Chromium	mg/kg (ppm)	50	102	80-120
Copper	mg/kg (ppm)	50	102	80-120
Lead	mg/kg (ppm)	50	92	80-120
Manganese	mg/kg (ppm)	20	112	80-120
Zinc	mg/kg (ppm)	50	104	80-120

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Project: Yakima East-West Corridor M2703.01.001, F&BI 406362

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 406362-22 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<5	83	82	75-125	1
Barium	mg/kg (ppm)	50	91.8	89 b	90 b	75-125	1 b
Cadmium	mg/kg (ppm)	10	<5	95	94	75-125	1
Chromium	mg/kg (ppm)	50	16.4	91 b	89 b	75-125	2 b
Copper	mg/kg (ppm)	50	<25	87	85	75-125	2
Lead	mg/kg (ppm)	50	6.51	97	93	75-125	4
Manganese	mg/kg (ppm	20	828	0 b	85 b	75-125	200 b
Zinc	mg/kg (ppm)	50	46.2	91 b	84 b	75-125	8 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	105	80-120
Barium	mg/kg (ppm)	50	93	80-120
Cadmium	mg/kg (ppm)	10	95	80-120
Chromium	mg/kg (ppm)	50	102	80-120
Copper	mg/kg (ppm)	50	102	80-120
Lead	mg/kg (ppm)	50	94	80-120
Manganese	mg/kg (ppm)	20	112	80-120
Zinc	mg/kg (ppm)	50	101	80-120

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

Laboratory Code: 406362-01 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	5	<0.25	122	144 vo	71-125	17

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	5	89	68-143

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

Laboratory Code: 406362-22 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	5	<0.25	115	118	71-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	5	109	68-143

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Project: Yakima East-West Corridor M2703.01.001, F&BI 406362

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

Laboratory Code: 406362-02 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.004	96	87	24-163	10
Aroclor 1260	mg/kg (ppm)	0.25	<0.004	86	79	10-194	8

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	103	47-158
Aroclor 1260	mg/kg (ppm)	0.25	96	69-141

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

Laboratory Code: 406427-01 1/30 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.02	93	96	29-125	3
Aroclor 1260	mg/kg (ppm)	0.25	<0.02	91	93	12-177	2

Laboratory Code: Laboratory Control Sample 1/30

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	102	55-137
Aroclor 1260	mg/kg (ppm)	0.25	101	51-150

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Project: Yakima East-West Corridor M2703.01.001, F&BI 406362

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR ORGANOCHLORINE PESTICIDES BY EPA METHOD 8081B

Laboratory Code: 406427-01 1/30 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
4,4'-DDD	mg/kg (ppm)	0.1	<0.002	66	66	10-171	0
4,4'-DDT	mg/kg (ppm)	0.1	<0.002	72	70	10-146	3

Laboratory Code: Laboratory Control Sample 1/30

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
4,4'-DDD	mg/kg (ppm)	0.1	86	54-137
4,4'-DDT	mg/kg (ppm)	0.1	93	25-169

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR ORGANOCHLORINE PESTICIDES BY EPA METHOD 8081B

Laboratory Code: 406362-02 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
4,4'-DDD	mg/kg (ppm)	0.1	<0.002	83	103	20-143	22 vo
4,4'-DDT	mg/kg (ppm)	0.1	<0.002	8 vo	21	10-385	90 vo

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
4,4'-DDD	mg/kg (ppm)	0.1	81	70-130
4,4'-DDT	mg/kg (ppm)	0.1	87	57-135

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 low; 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.

406362

SAMPLE CHAIN OF CUSTODY 06/26/24 VW1/N4/M4

Report To Josh Elliott
Company Maul Foster Alongi
Address 6 Centerpointe Dr, Ste 360
City, State, ZIP Lake Oswego, OR 97035
Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*)

PROJECT NAME: Yakima East-West Corridor

PO #: M2703.01.001

REMARKS: please email results to ~~Eh~~ csifford@maulfoster.com as well
Project specific RLs? - Yes / No

INVOICE TO: accounting@maulfoster.com

TURNAROUND TIME
- [x] 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	*Metals EPA 6020 BTEX EPA 8021	Cr (SIM) 7196 NWTPH HCID	*VOCs EPA 8260 SIM	PAHs EPA 8270	Total Aroclors PCBs EPA 8082	Hg EPA 1631	*SVOCs EPA 8270	4,4'-DDD, 4,4'-DDT EPA 8081	Analyze	Dx with SG
SB18-S-1.0	01 A-F	6/24/24	9:50	SOIL	6	X	X	X	X	X	X	X	X	X	X	X	
SB18-S-4.0	02		9:55		6	X	X	X	X	X	X	X	X	X	X	X	
SB18-S-11.0	03		10:20		6	X	X	X	X	X	X	X	X	X	X	X	
SB18-S-13.0	04		10:30		6	X	X	X	X	X	X	X	X	X	X	X	**
SB14-S-0.5	05		11:05		6	X**	X	X**	X**	X	X**	X**	X**	X**	X**	X	Insufficient volume call Carolyn Wise
SB14-S-3.0	06		11:20		6	X	X	X	X	X	X	X	X	X	X	X	A
SB14-S-7.0	07		11:50		6	X	X	X	X	X	X	X	X	X	X	X	A
SB14-S-13.5	08		12:00		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC04-S-0.5	09		13:05		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC04-S-2.5	10		13:15		6	X	X	X	X	X	X	X	X	X	X	X	

ANALYSES REQUESTED

A-per FB 08/06/24 ME

Notes
*please see emailed analyte list

360-690-5982

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Brenden Murphy	MFA	6/25/24	12:45
Received by:	ANH PHAN	FBI	06/26/24	08:52
Relinquished by:		Samples received at 3 °C		
Received by:				

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

406362

SAMPLE CHAIN OF CUSTODY

06/26/24 VW1/N4/M4 BM

Page # 2 of 3

Report To Josh Elliott

Company Maul Foster Alongi

Address 6 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*)

PROJECT NAME: Yakima East-West Corridor

PO #: M2703.01.001

REMARKS: please email results to csifford@maulfoster.com as well

Project specific RLs? - Yes / No

INVOICE TO: accounting@maulfoster.com

TURNAROUND TIME
- [X] 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	*Metals EPA 6020 BTEX EPA 8021	CVOC EPA 7196 NWTPH-HCID	*VOCs EPA 8260	PAHs EPA 8270 SIM	Total Aroclors PCBs EPA 8082	Hg EPA 1631	*SVOCs EPA 8270	4,4'-DDD/4,4'-DDT EPA 8081	Analyze	*Dx with SG Notes
BM SB MWEC04-S-8.0	11 A-F	6/24/24	13:20	SOIL	6	X	X	X	X	X	X	X	X	X	X	X	
MWEC04-S-12.5	12	6/24/24	13:40		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC03-S-1.0	13	6/24/24	15:10		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC03-S-5.5	14	6/24/24	15:20		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC03-S-7.0	15	6/24/24	15:30		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC03-S-11.0	16	6/24/24	15:40		6	X	X	X	X	X	X	X	X	X	X	X	
TripBlank 1	17 A-B	6/25/24	NA	WATER	2		X			X*						X	* see email for analyte list
MWEC02-S-1.0	18 A-F	6/25/24	8:45	SOIL	6	X	X	X	X	X	X	X	X	X	X	X	A
MWEC02-S-3.0	19	6/25/24	8:55		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC02-S-8.0	20	6/25/24	9:15		6	X	X	X	X	X	X	X	X	X	X	X	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Brenden Murphy	Maul Foster Alongi	6/25/24	12:45
Received by:	ANH PHAN	FBI	06/26/24	08:52
Relinquished by:		Samples received at 3 °C		
Received by:				

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

406362

SAMPLE CHAIN OF CUSTODY

06/26/24 VW1/N4/M4

Page # 3 of 3

Report To Josh Elliott

Company Maul Foster Alongi

Address 62 Centerpointe Dr, Ste 360

City, State, ZIP Lake Oswego, OR 97035

Phone 503-501-5236 Email jelliott@maulfoster.com

SAMPLERS (*signature*) Brenden Murphy

PROJECT NAME: Yakima East-West Corridor

PO #: M2703.01.001

REMARKS: please email results to csifford@maulfoster.com as well

Project specific RLs? - Yes / No

INVOICE TO: accounting@maulfoster.com

TURNAROUND TIME
- [x] 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	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	*Metals 6020C BTEX EPA 8021	Cr(VI) 7196 NWTPH-HCID	*VOCs EPA 8260	SIM PAHs EPA 8270	Total Arochlors PCBs EPA 8082	Hg EPA 1631	*SVOCs EPA 8270	4-4'DDD, 4-4'DDT EPA 8081	Analyze	Notes
MWEC02-S-13.0	21 A-F	6/25/24	9:30	SOIL	6	X	X	X	X	X	X	X	X	X	X	X	*please see emailed analyte list
MWEC01-S-1.0	22	6/25/24	10:30		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC01-S-3.0	23	6/25/24	10:40		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC01-S-8.0	24	6/25/24	10:50		6	X	X	X	X	X	X	X	X	X	X	X	
MWEC01-S-11.3	25	6/25/24	11:00		6	X	X	X	X	X	X	X	X	X	X	X	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Brenden Murphy	Brenden Murphy	Maul Foster Alongi	6/25/24	12:45
Received by:	ANH PHAN	FBI	06/26/24	08:52
Relinquished by:		Samples received at 3 °C		
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 406362 CLIENT MFA INITIALS/ DATE: AP 06/26/24

If custody seals are present on cooler, are they intact? ☒ NA ☐ YES ☐ NO

Cooler/Sample temperature 3 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☒ YES ☐ NO

How did samples arrive?
☐ Over the Counter ☐ Picked up by F&BI ☒ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☒ YES ☐ NO Initials/ AP Date: 06/26/24
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 1-2 days

Are the samples clearly identified? (explain "no" answer below) ☒ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☒ YES ☐ NO

Were appropriate sample containers used? ☒ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☒ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☒ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☒ Yes ☐ No	☐ Not on COC/label
Date Sampled	☒ Yes ☐ No	☐ Not on COC/label
Time Sampled	☒ Yes ☐ No	☐ Not on COC/label
# of Containers	☒ Yes ☐ No	
Relinquished	☒ Yes ☐ No	
Requested analysis	☒ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☒ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ **Number of unused TO17 tubes** _____

ORIGIN ID:YKMA (000) 000-0000

MAUL FOSTER & ALONGI
330 E MILL PLAIN BLVD STE 405

VANCOUVER, WA 98660
UNITED STATES US

SHIP DATE: 25JUN24
ACTWGT: 55.65 LB
CAD: 6995176/SSFE2521
DIMS: 24x14x13 IN

BILL THIRD PARTY

Part # 156297-435 RRDB2 EXP 02/25

TO **M2703.01.001**
FRIEDMAN & BRUYA
5500 4TH AVE S

SEATTLE WA 98108

(206) 285-8282 REF:
INV:
PO: DEPT:

FedEx Express

1 of 3

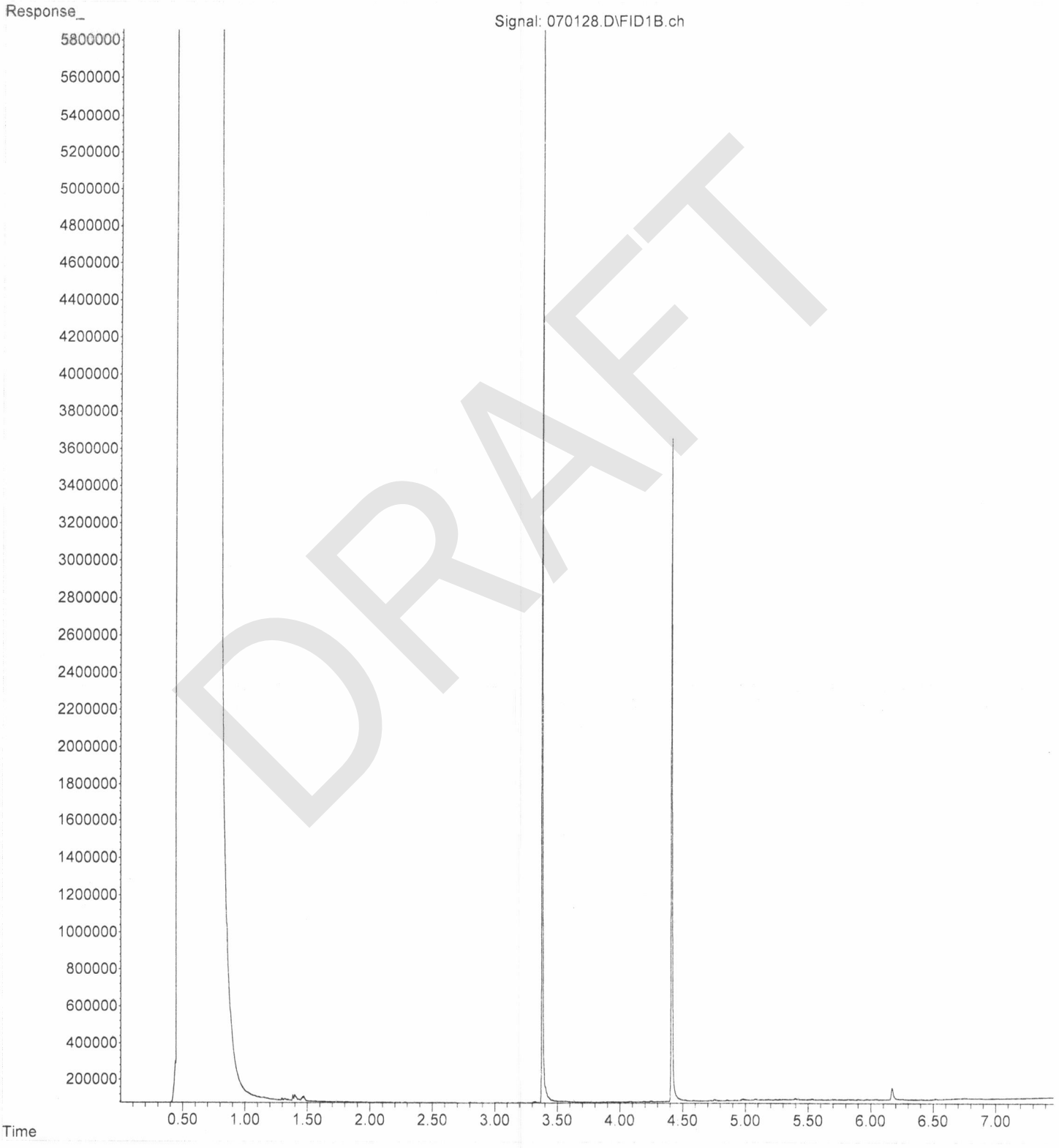
TRK# 0201 **2763 4203 2618**

MASTER

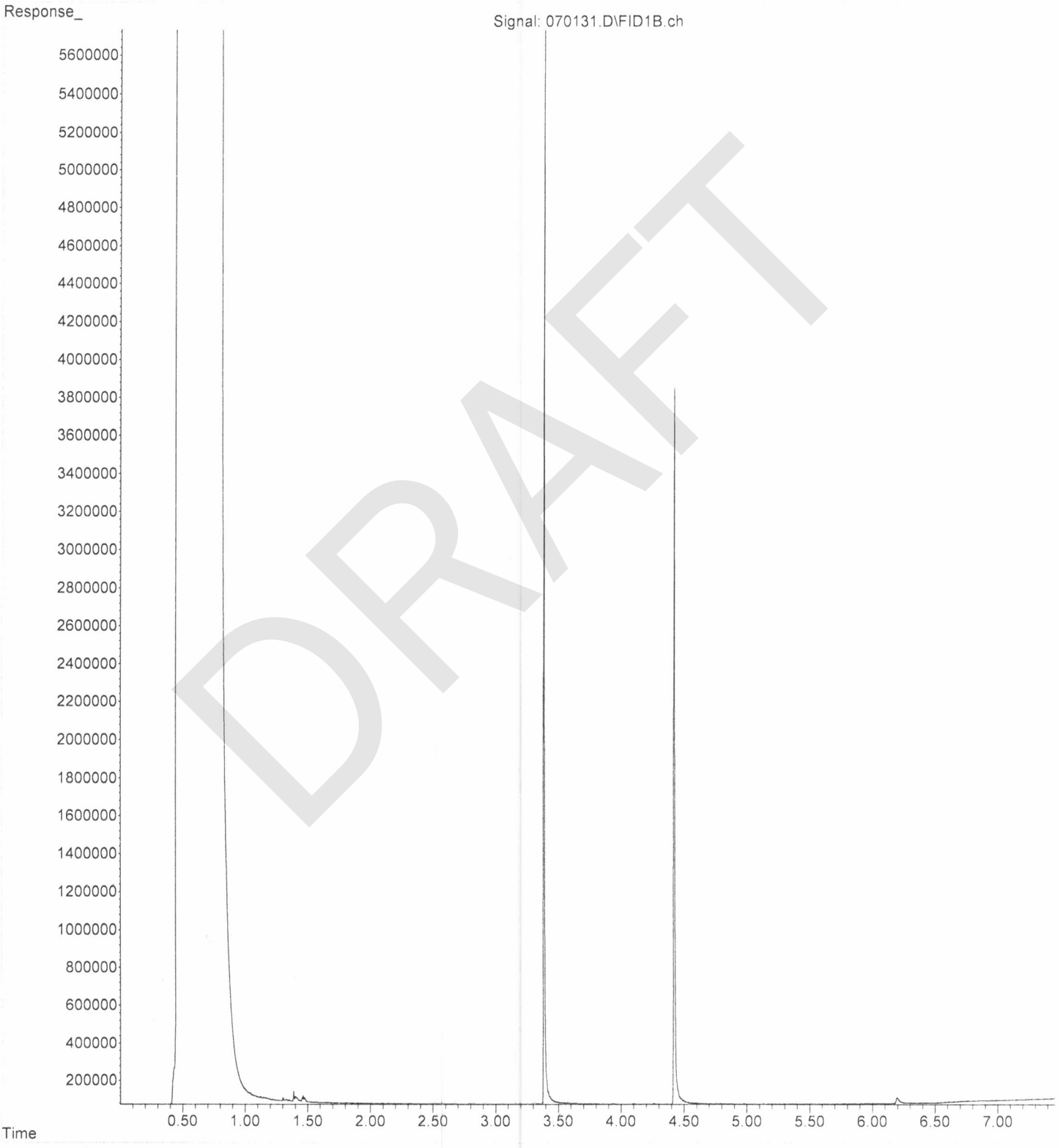
85 BFIA

WED - 26 JUN 10:30A
PRIORITY OVERNIGHT
AHS
98108
WA-US **SEA**

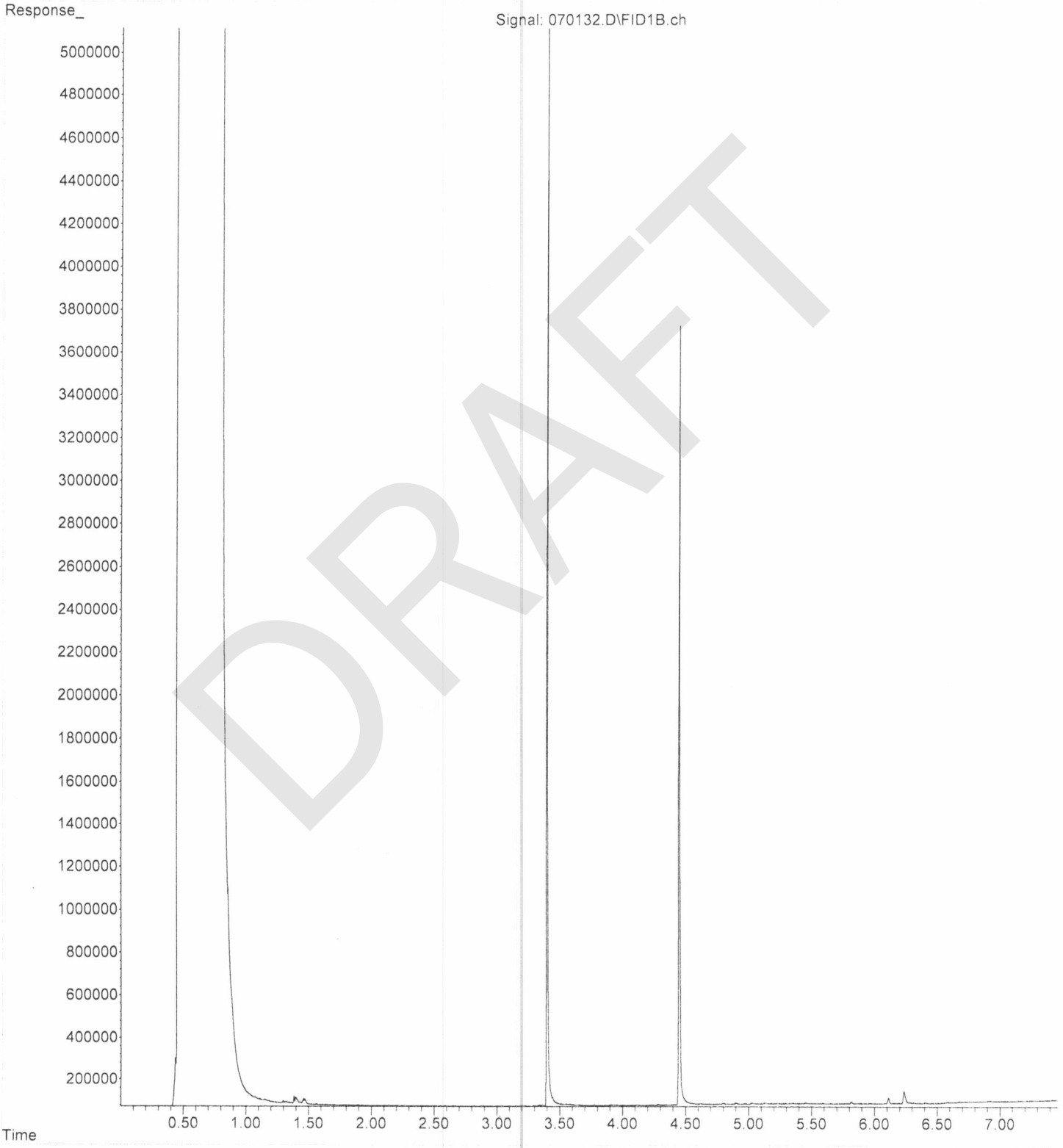
File :P:\Proc_GC10\07-01-24\070128.D
Operator : TL
Acquired : 01 Jul 2024 01:30 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-01
Misc Info :
Vial Number: 29



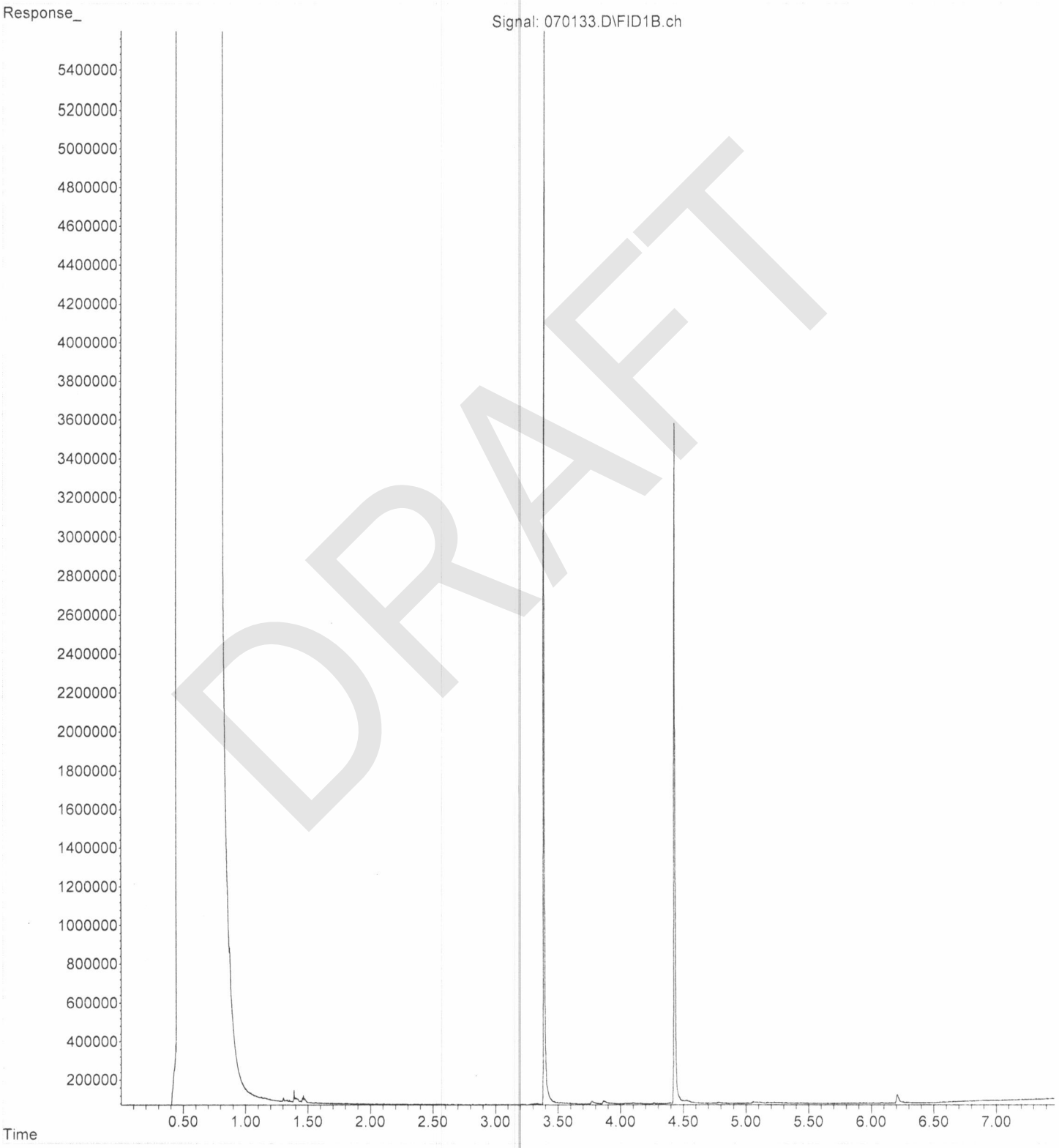
File :P:\Proc_GC10\07-01-24\070131.D
Operator : TL
Acquired : 01 Jul 2024 02:06 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-02
Misc Info :
Vial Number: 30



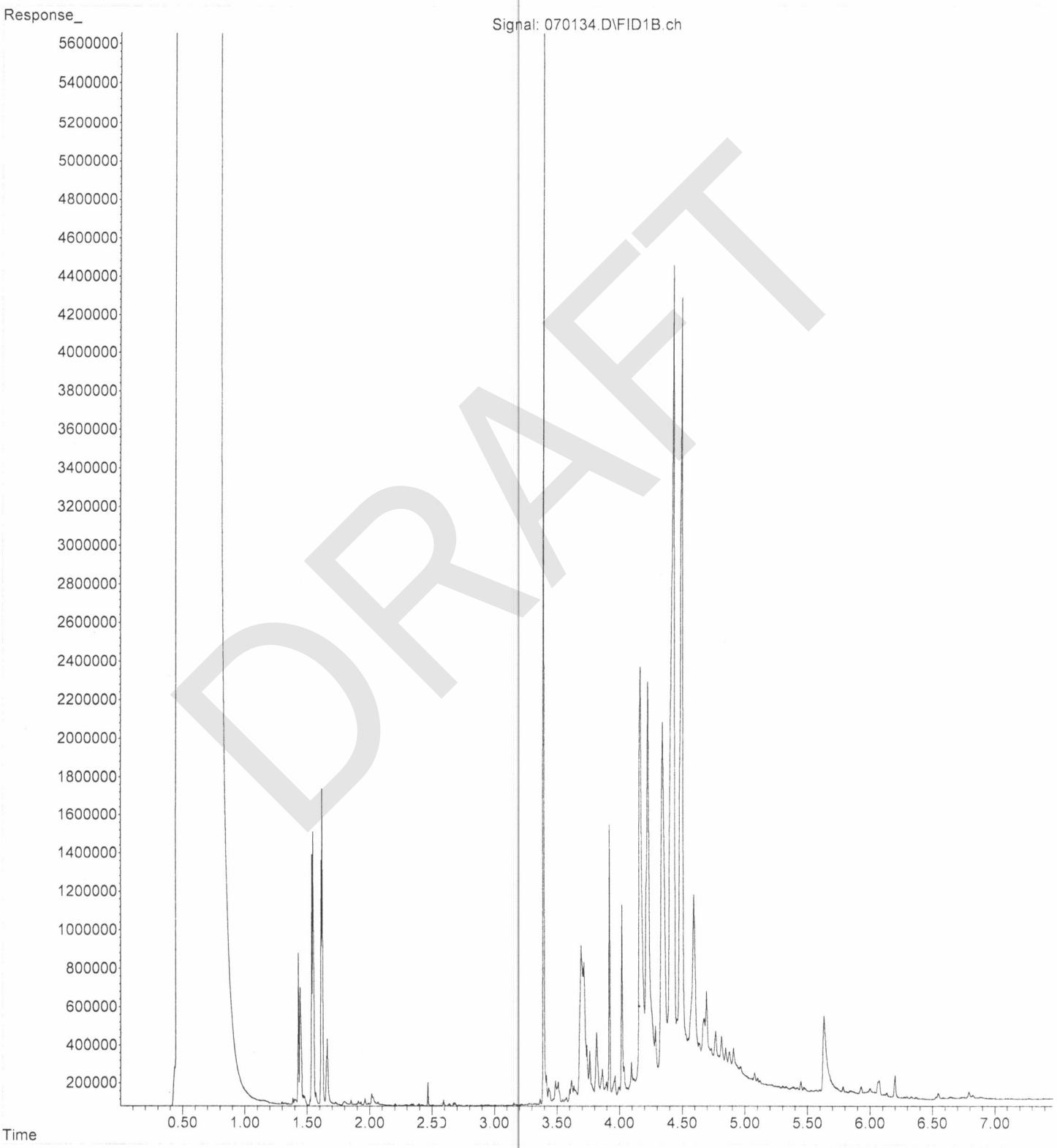
File :P:\Proc_GC10\07-01-24\070132.D
Operator : TL
Acquired : 01 Jul 2024 02:19 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-03
Misc Info :
Vial Number: 31



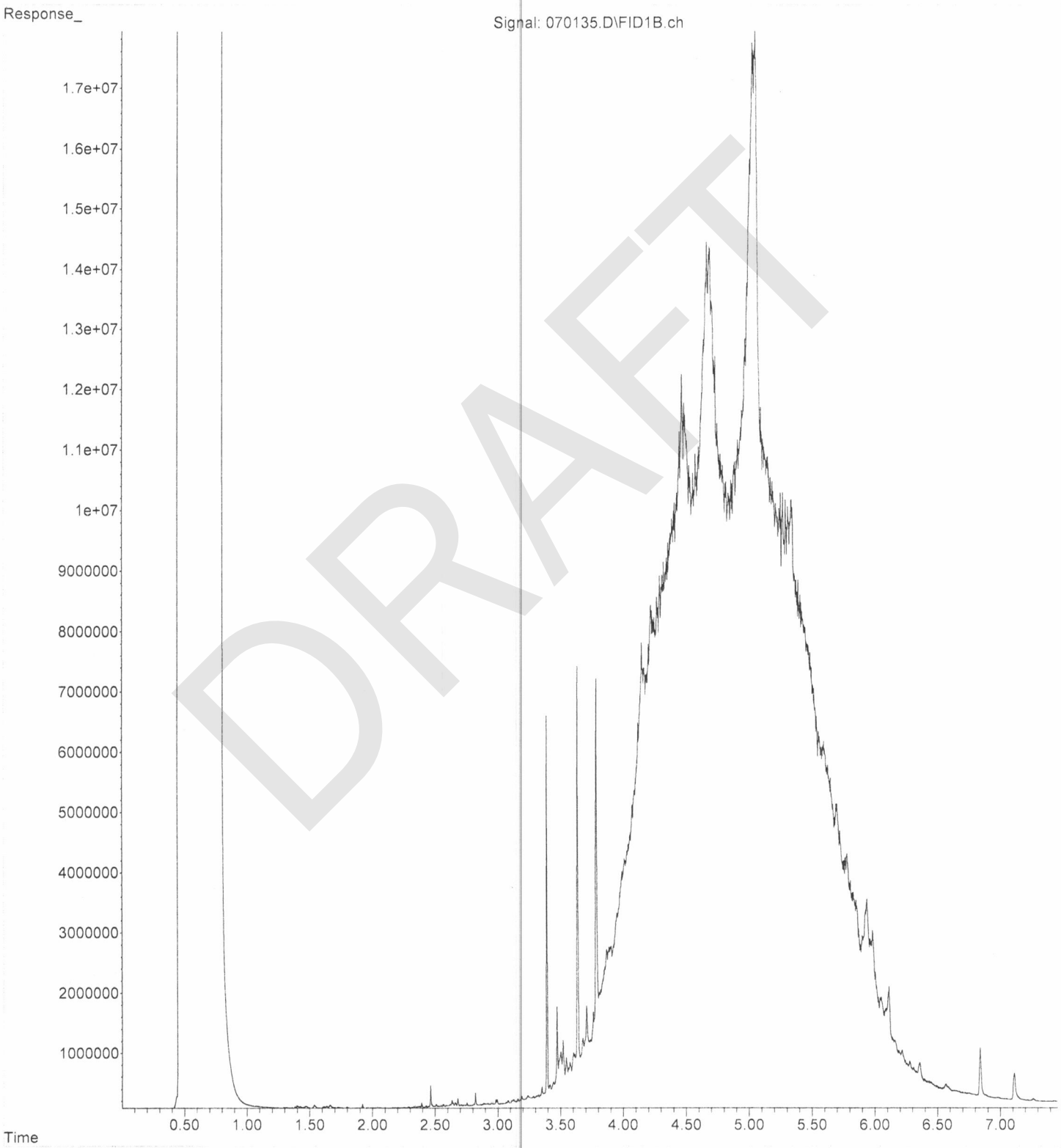
File :P:\Proc_GC10\07-01-24\070133.D
Operator : TL
Acquired : 01 Jul 2024 02:31 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-04
Misc Info :
Vial Number: 32



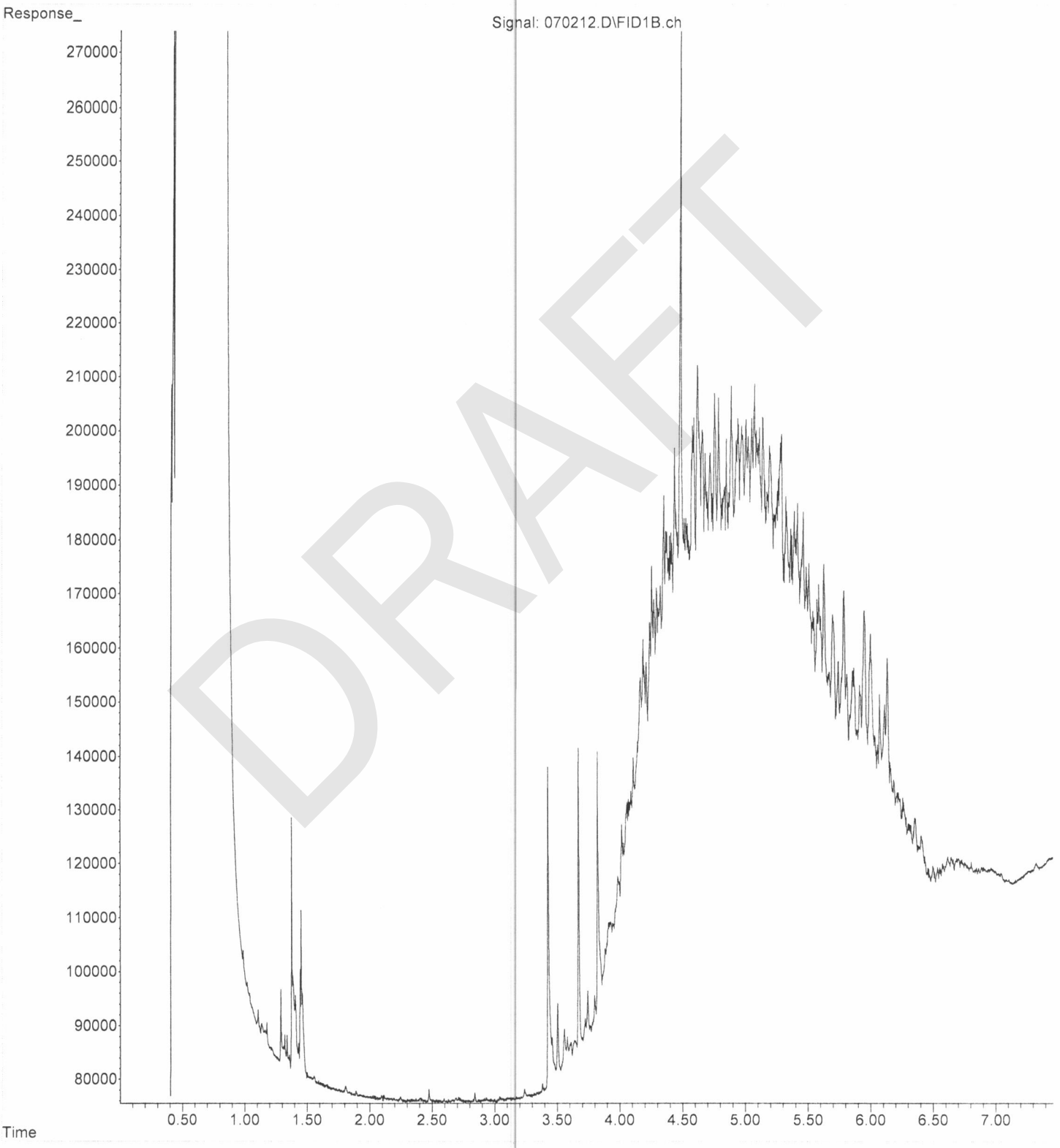
File :P:\Proc_GC10\07-01-24\070134.D
Operator : TL
Acquired : 01 Jul 2024 02:43 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-05
Misc Info :
Vial Number: 33



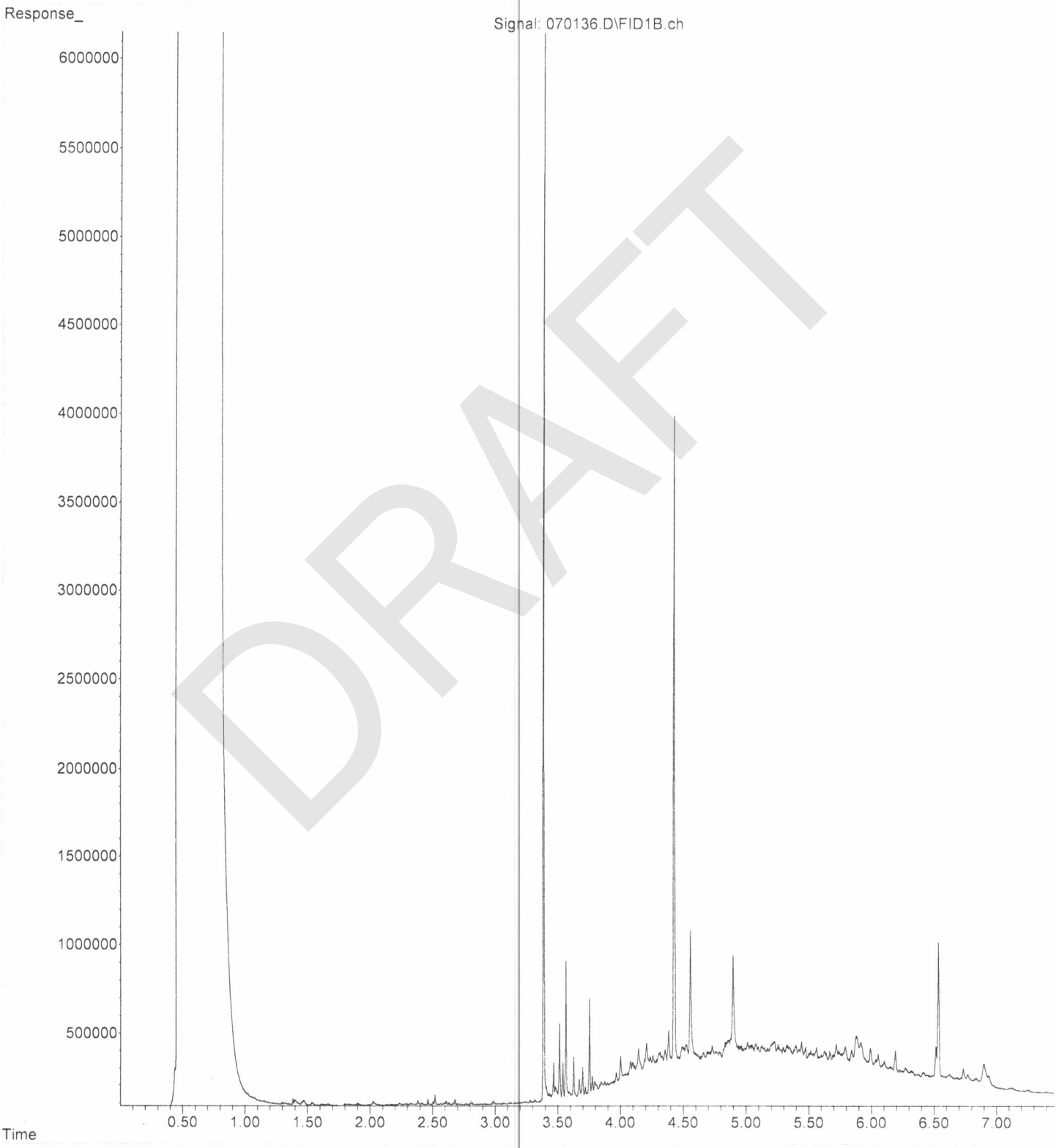
File :P:\Proc_GC10\07-01-24\070135.D
Operator : TL
Acquired : 01 Jul 2024 02:55 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-06
Misc Info :
Vial Number: 34



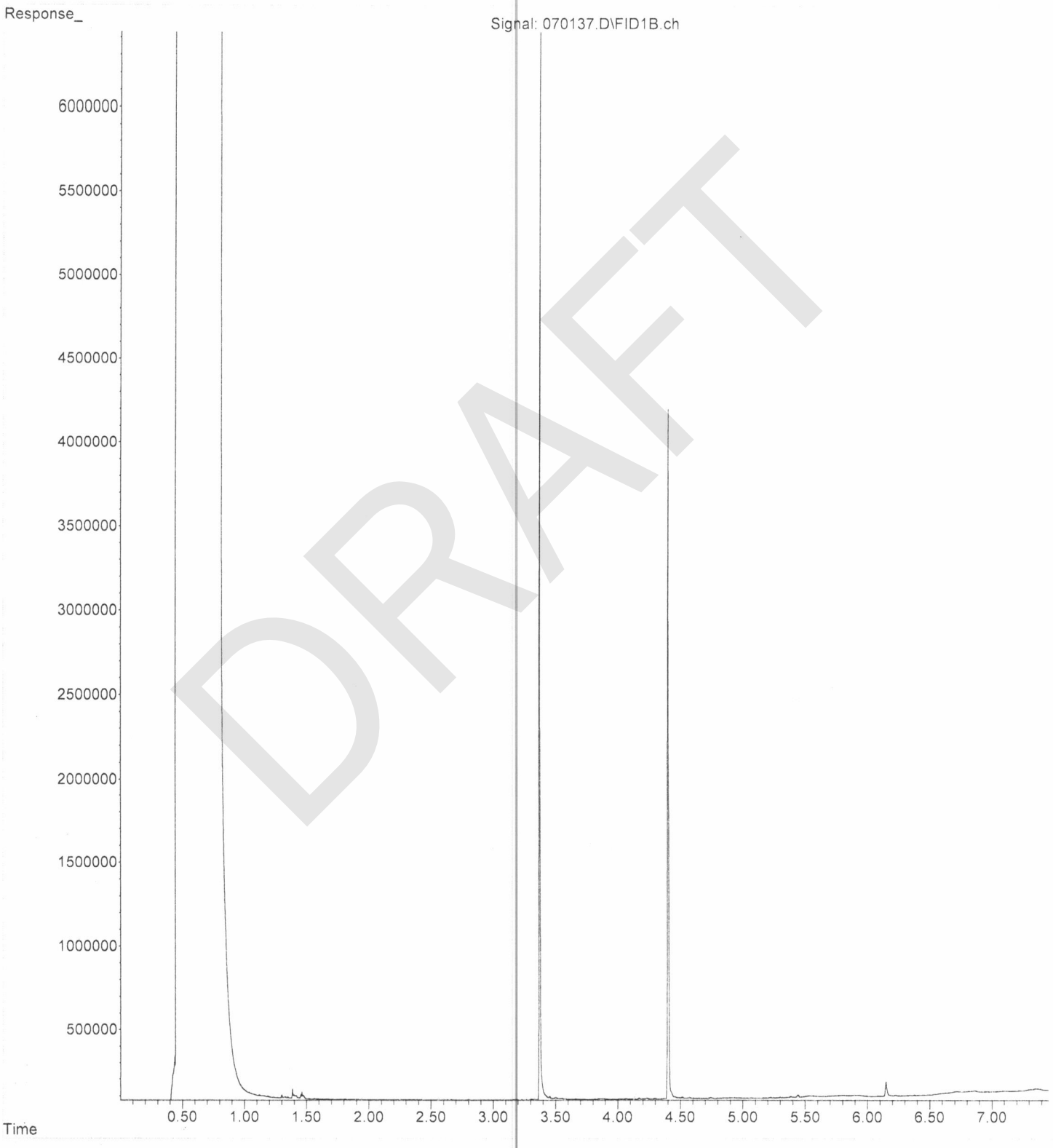
File :P:\Proc_GC10\07-02-24\070212.D
Operator : IJL
Acquired : 02 Jul 2024 03:38 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-06 1/100
Misc Info :
Vial Number: 11



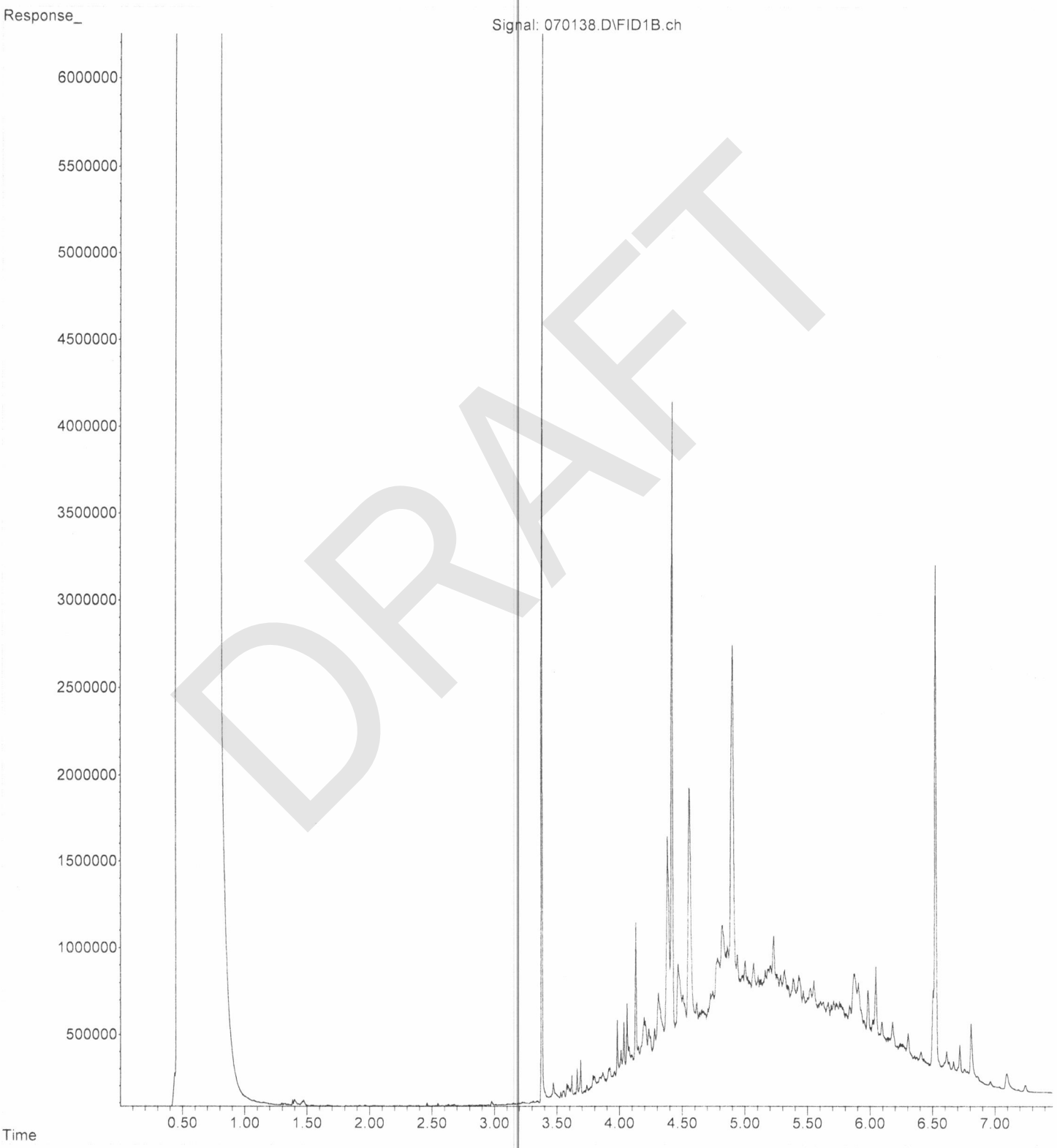
File :P:\Proc_GC10\07-01-24\070136.D
Operator : TL
Acquired : 01 Jul 2024 03:07 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-07
Misc Info :
Vial Number: 35



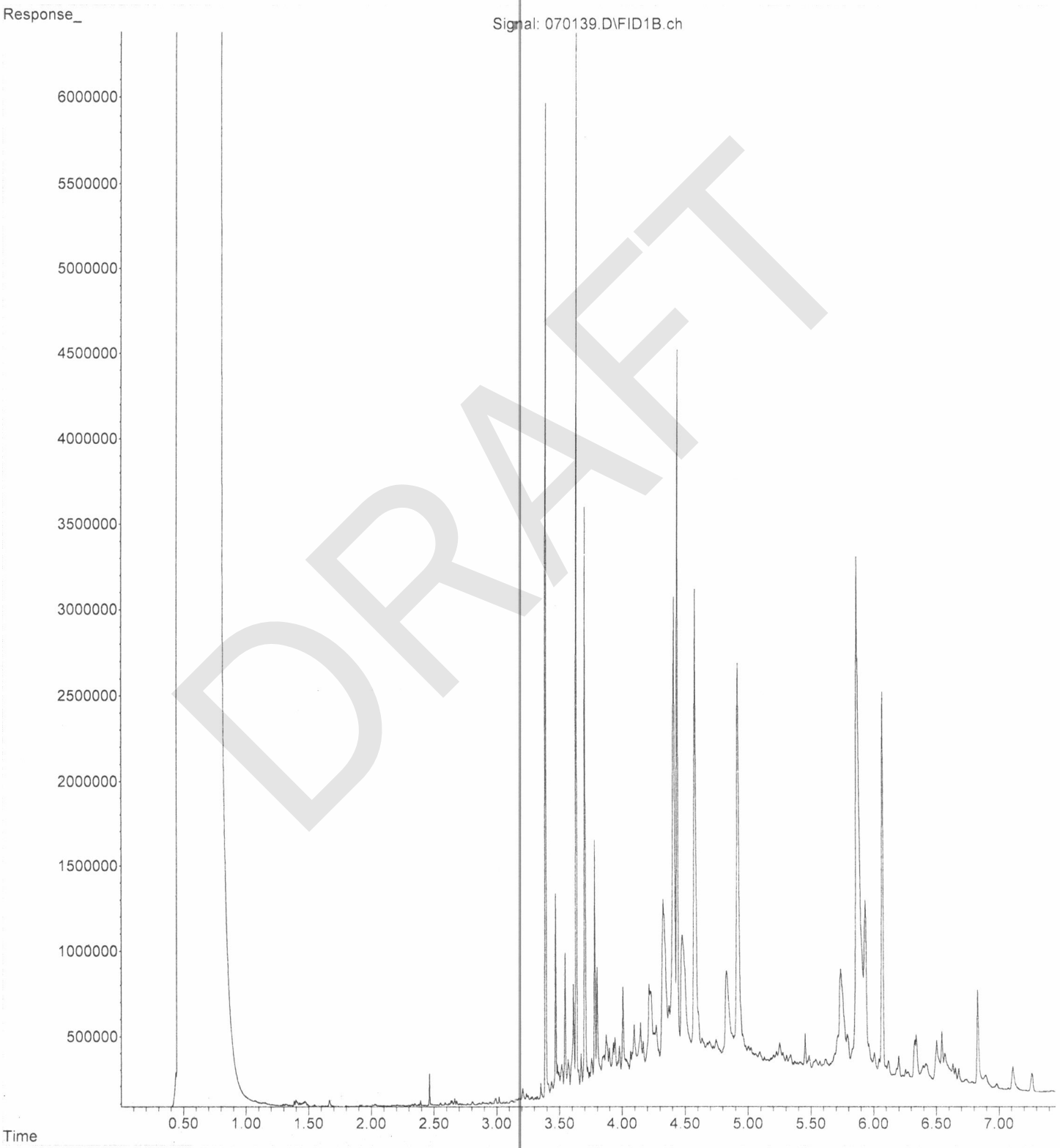
File :P:\Proc_GC10\07-01-24\070137.D
Operator : TL
Acquired : 01 Jul 2024 03:19 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-08
Misc Info :
Vial Number: 36



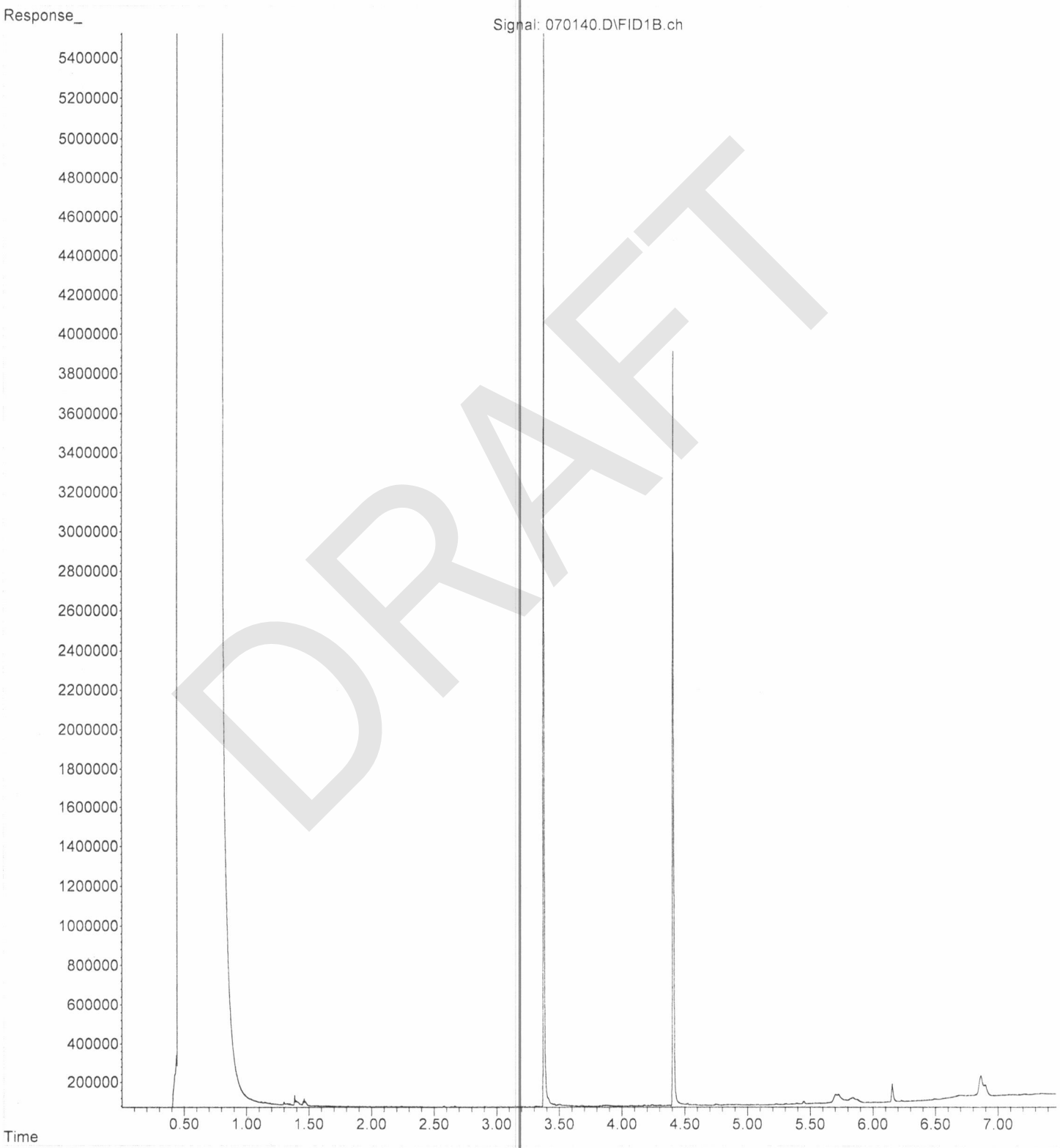
File :P:\Proc_GC10\07-01-24\070138.D
Operator : TL
Acquired : 01 Jul 2024 03:31 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-09
Misc Info :
Vial Number: 37



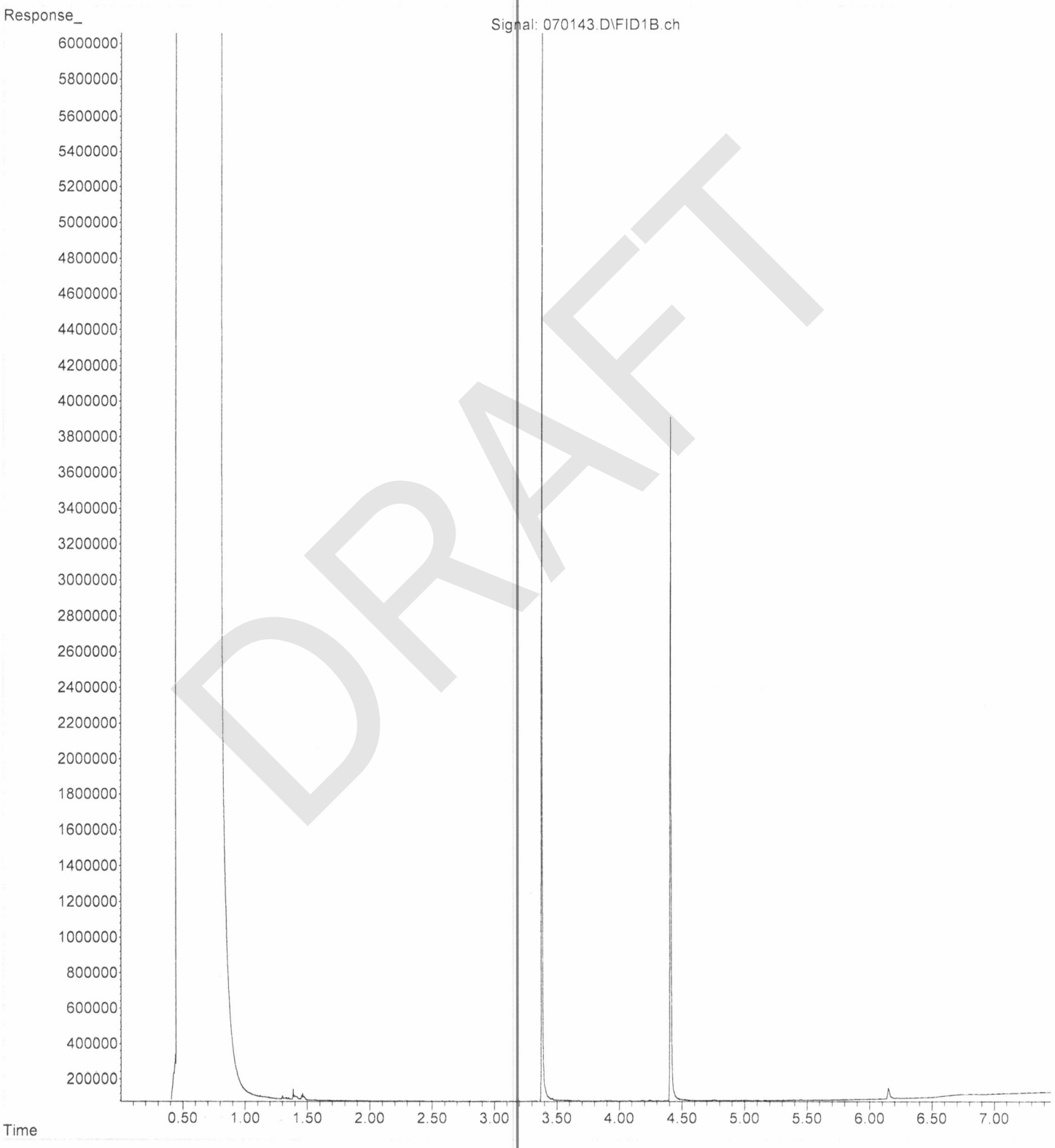
File :P:\Proc_GC10\07-01-24\070139.D
Operator : TL
Acquired : 01 Jul 2024 03:43 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-10
Misc Info :
Vial Number: 38



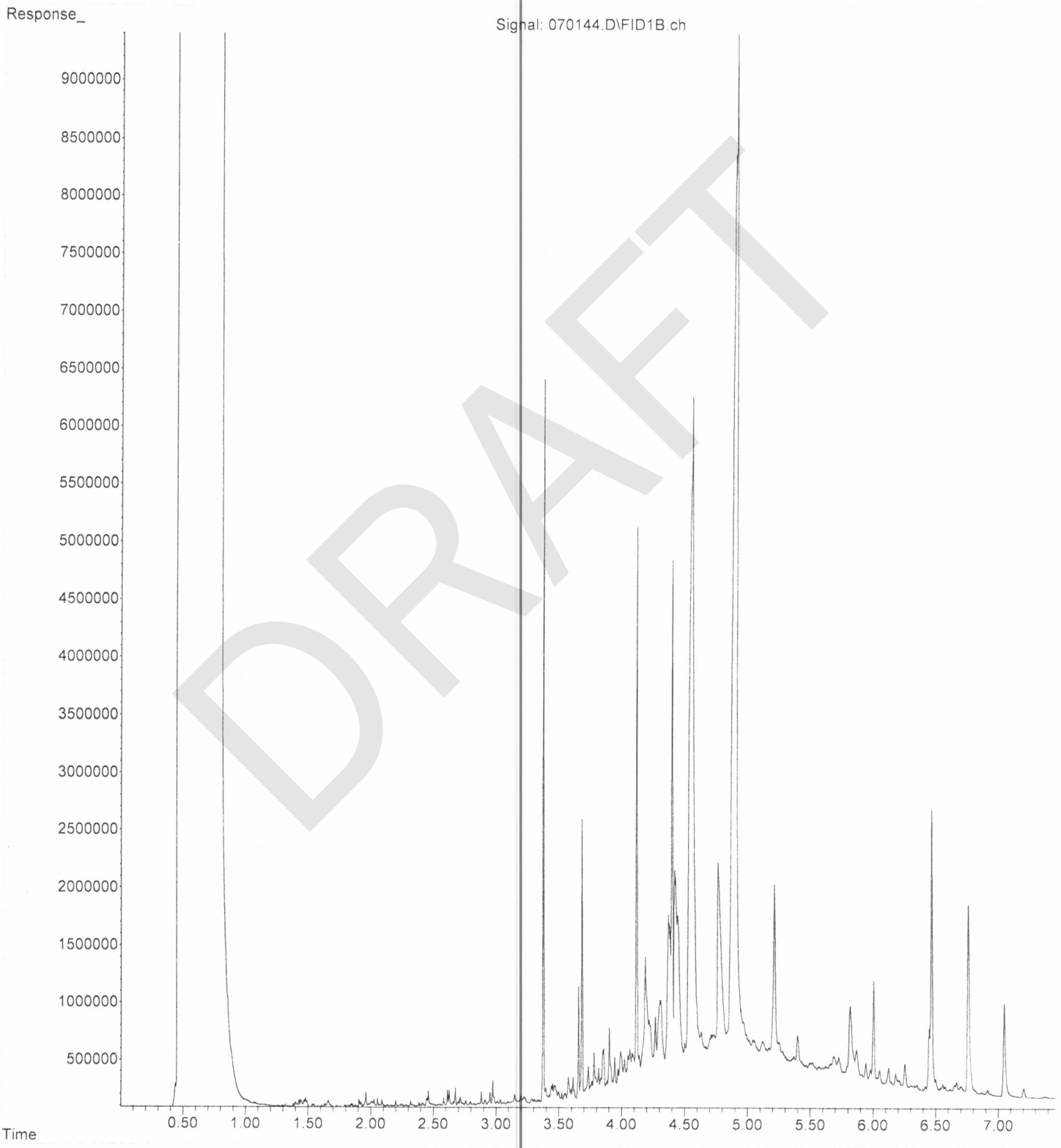
File :P:\Proc_GC10\07-01-24\070140.D
Operator : TL
Acquired : 01 Jul 2024 03:55 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-11
Misc Info :
Vial Number: 39



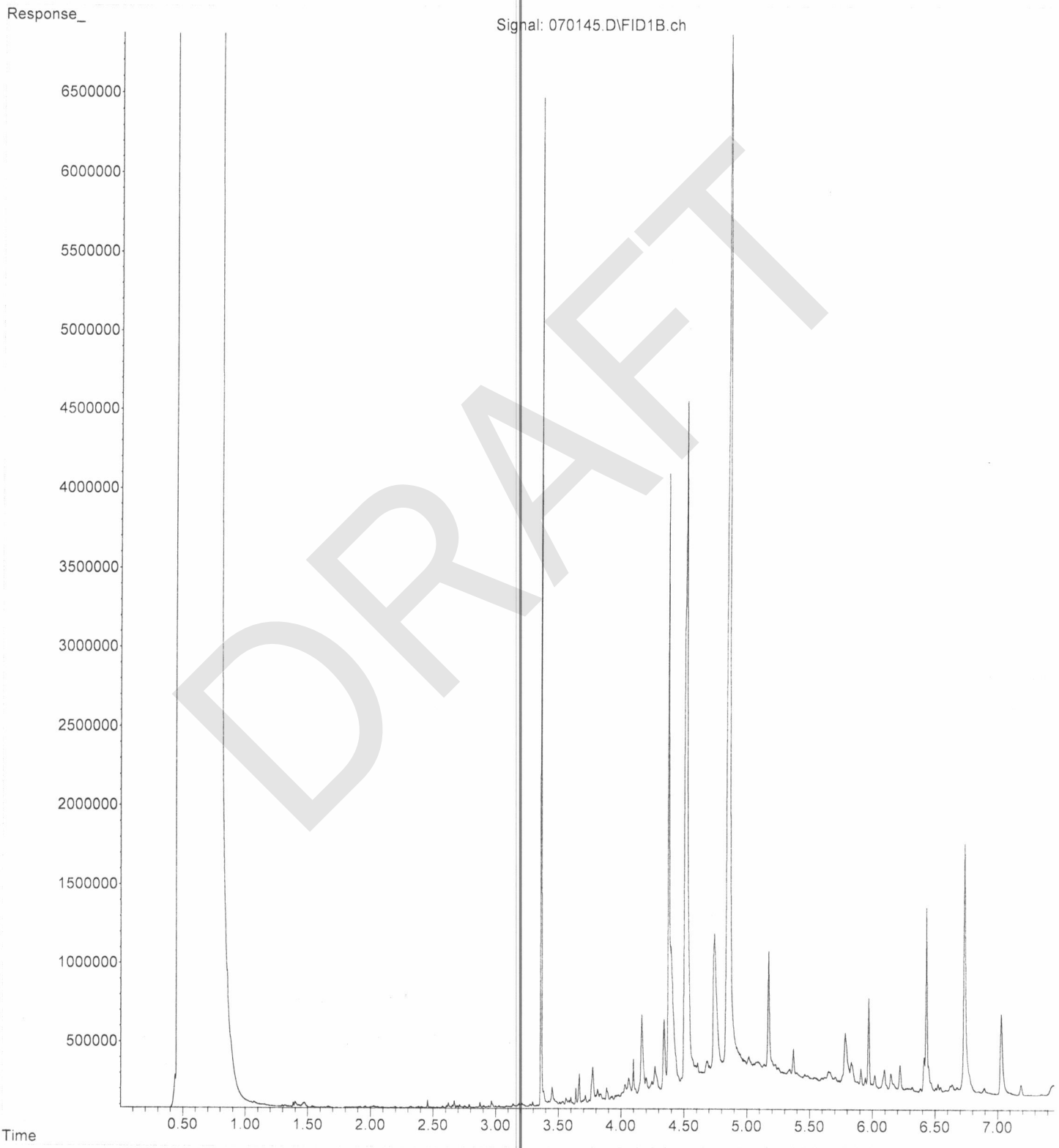
File :P:\Proc_GC10\07-01-24\070143.D
Operator : TL
Acquired : 01 Jul 2024 04:32 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-12
Misc Info :
Vial Number: 40



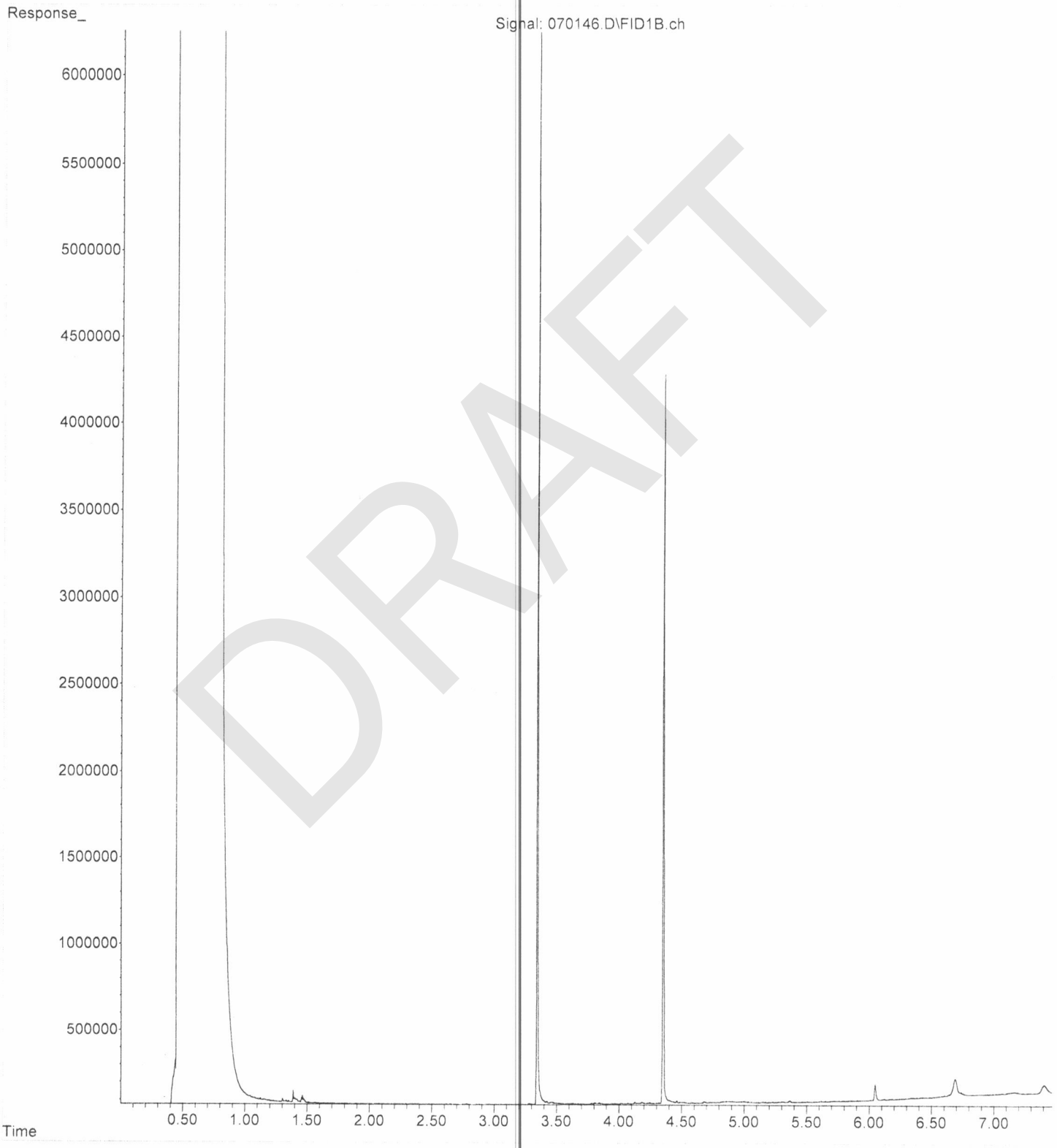
File :P:\Proc_GC10\07-01-24\070144.D
Operator : TL
Acquired : 01 Jul 2024 04:44 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-13
Misc Info :
Vial Number: 41



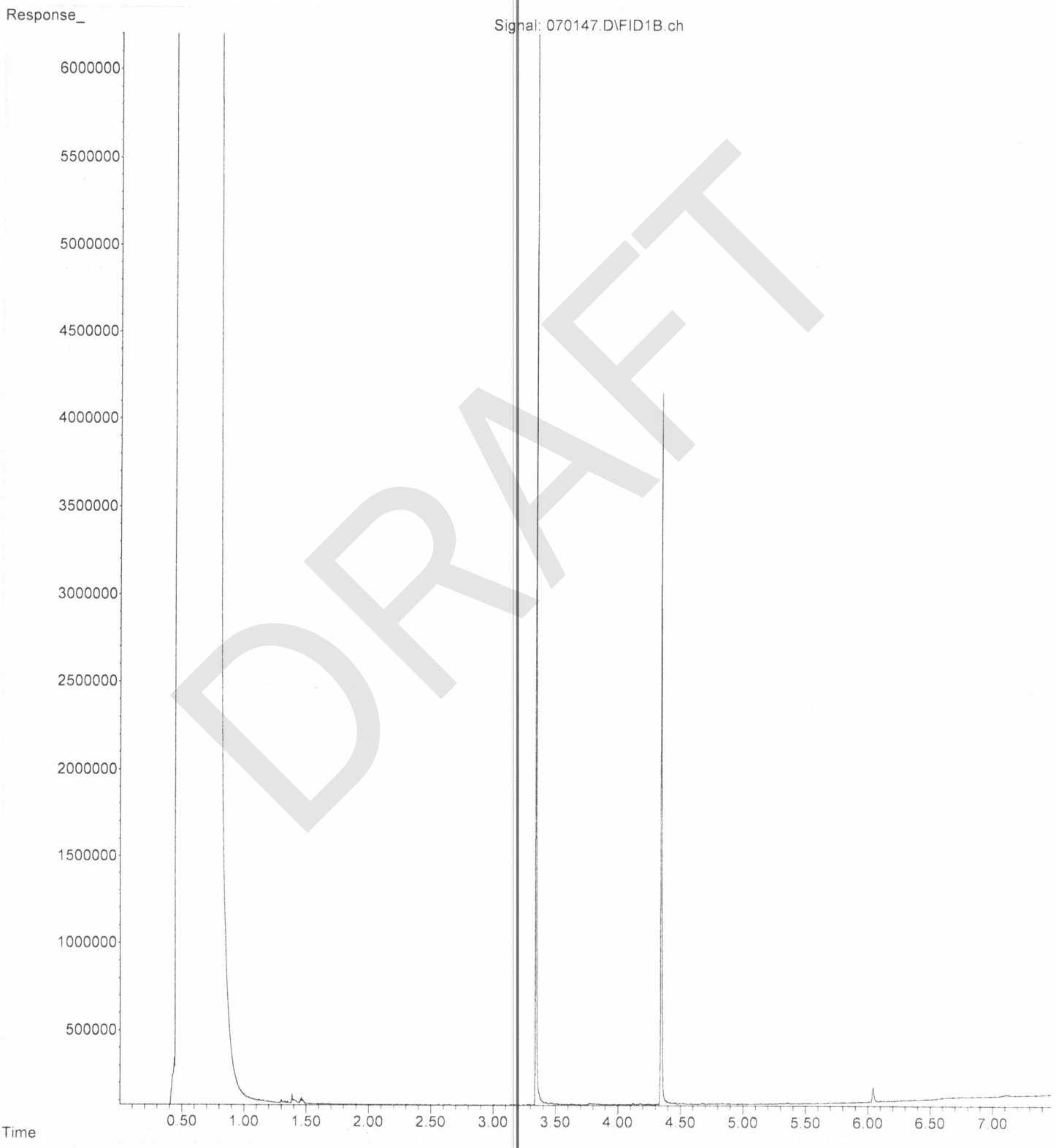
File :P:\Proc_GC10\07-01-24\070145.D
Operator : TL
Acquired : 01 Jul 2024 04:56 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-14
Misc Info :
Vial Number: 42



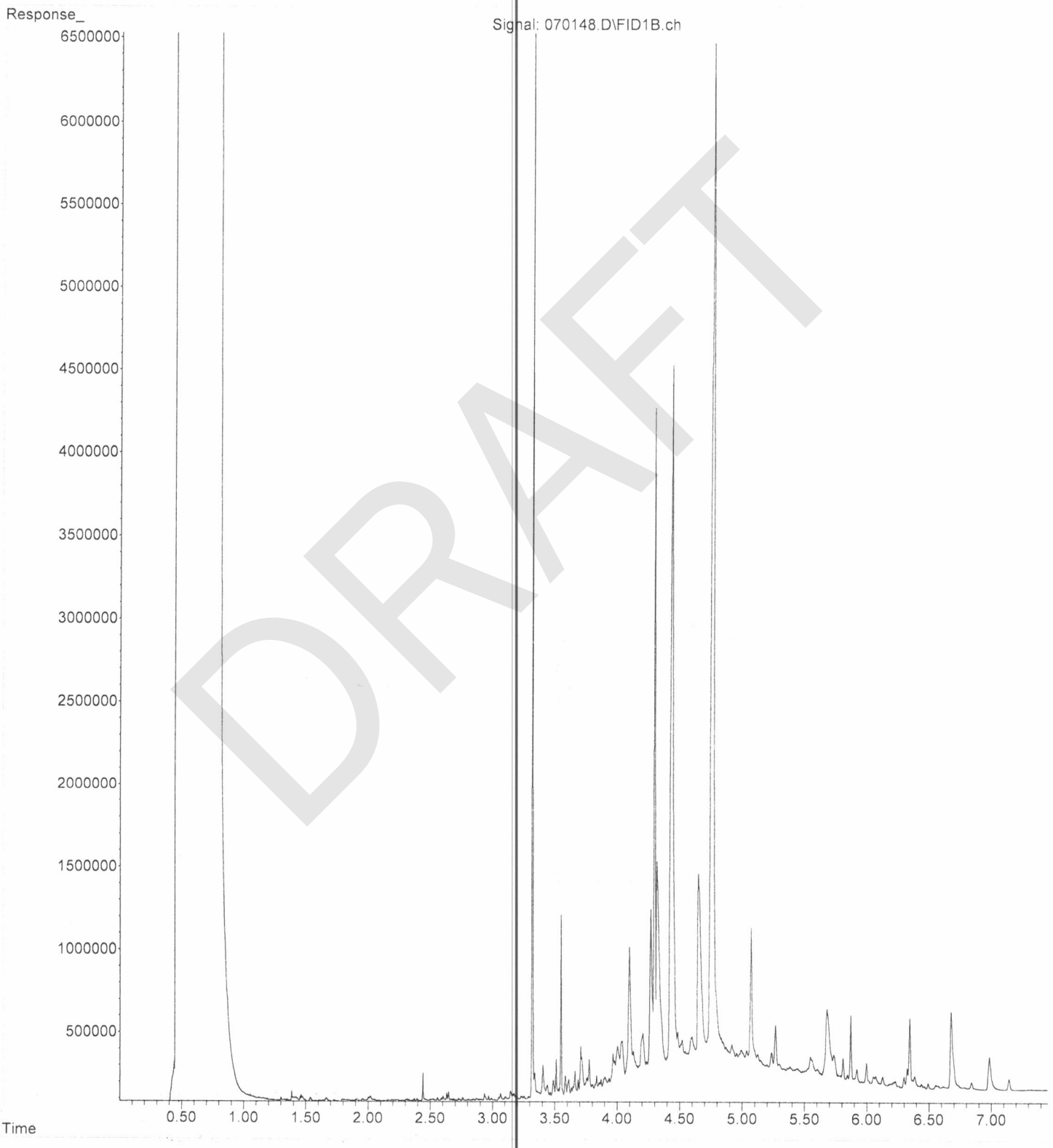
File :P:\Proc_GC10\07-01-24\070146.D
Operator : TL
Acquired : 01 Jul 2024 05:08 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-15
Misc Info :
Vial Number: 43



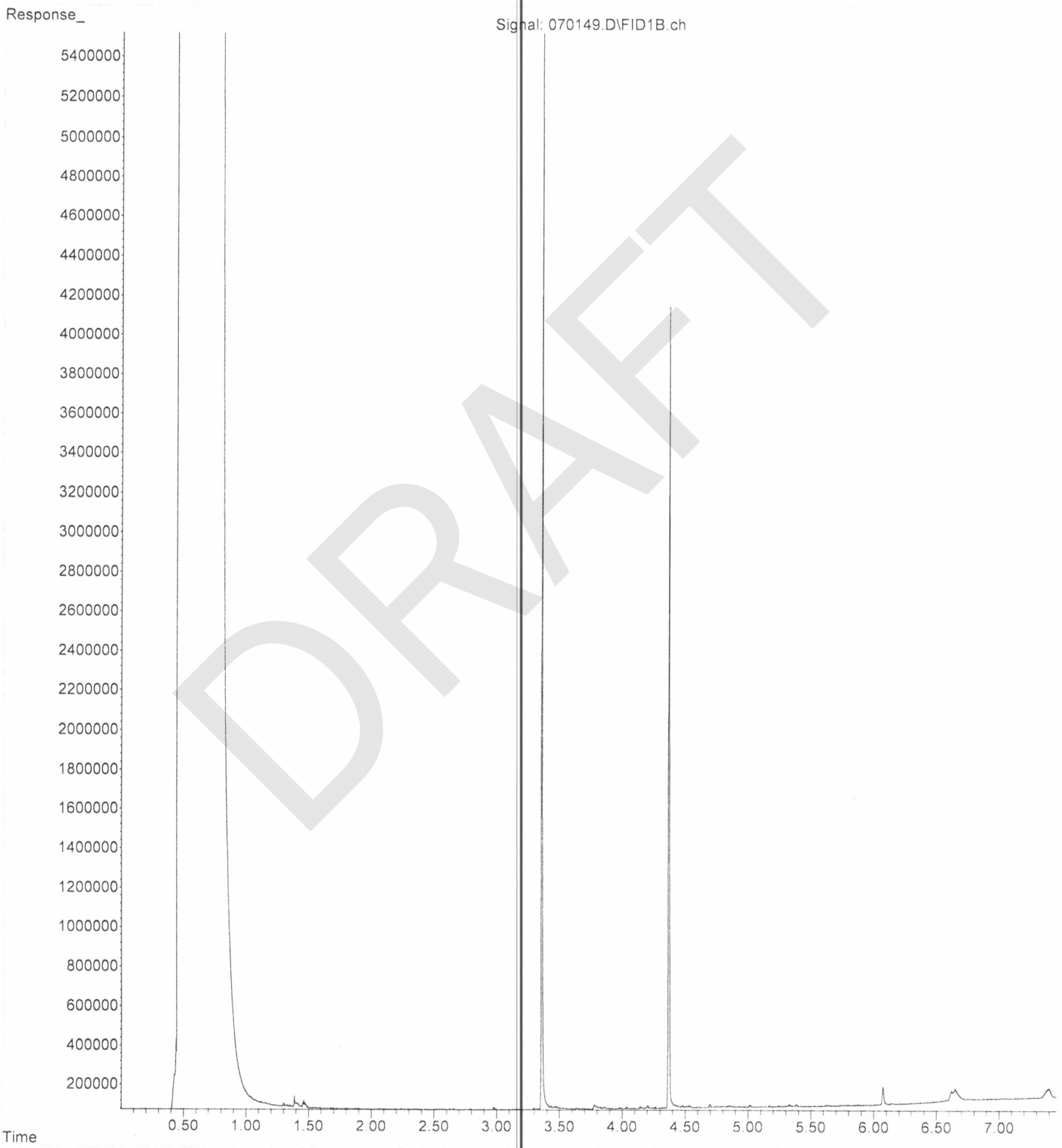
File :P:\Proc_GC10\07-01-24\070147.D
Operator : TL
Acquired : 01 Jul 2024 05:20 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-16
Misc Info :
Vial Number: 44



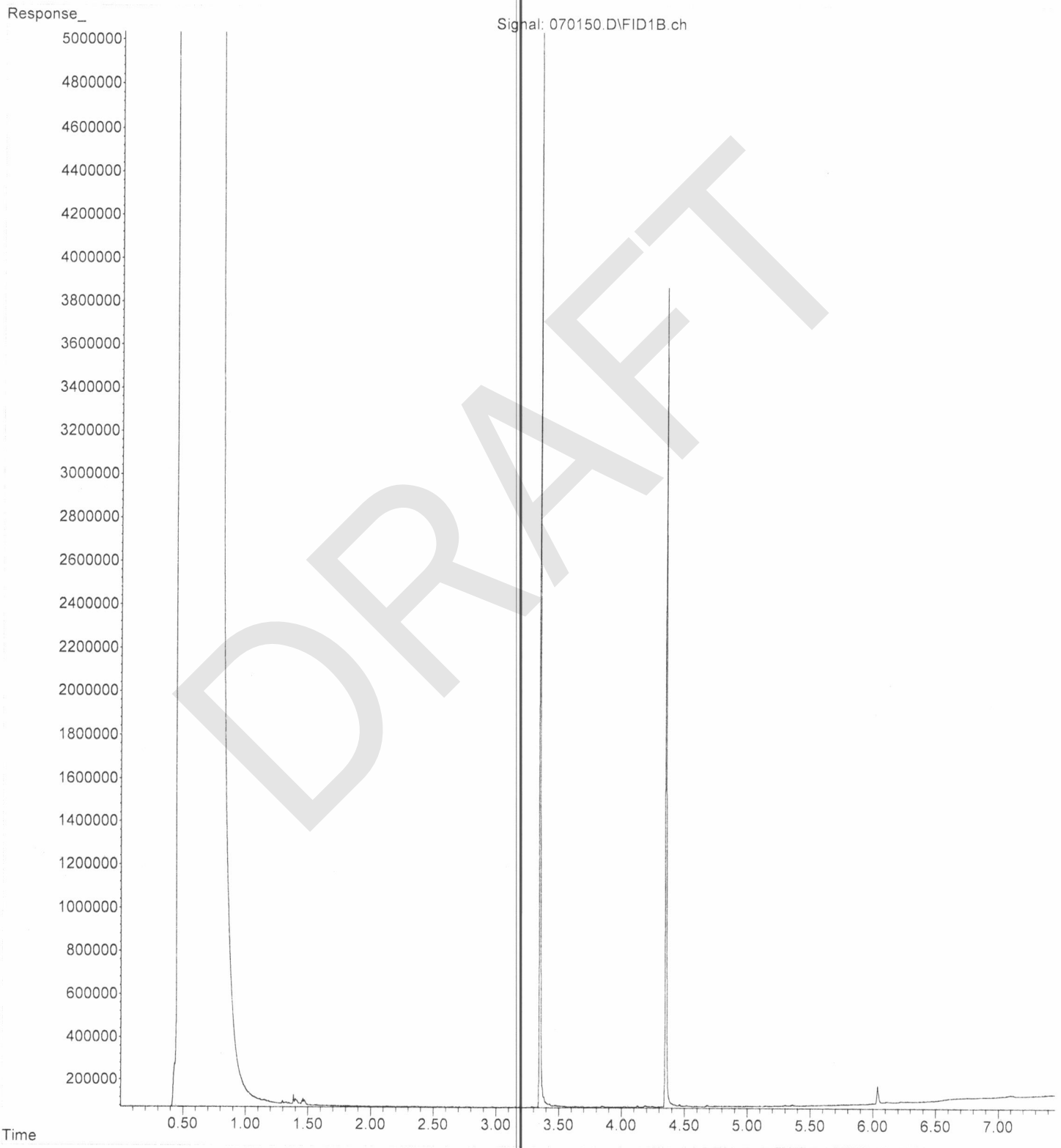
File :P:\Proc_GC10\07-01-24\070148.D
Operator : TL
Acquired : 01 Jul 2024 05:32 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-1 1820102
Misc Info :
Vial Number: 45



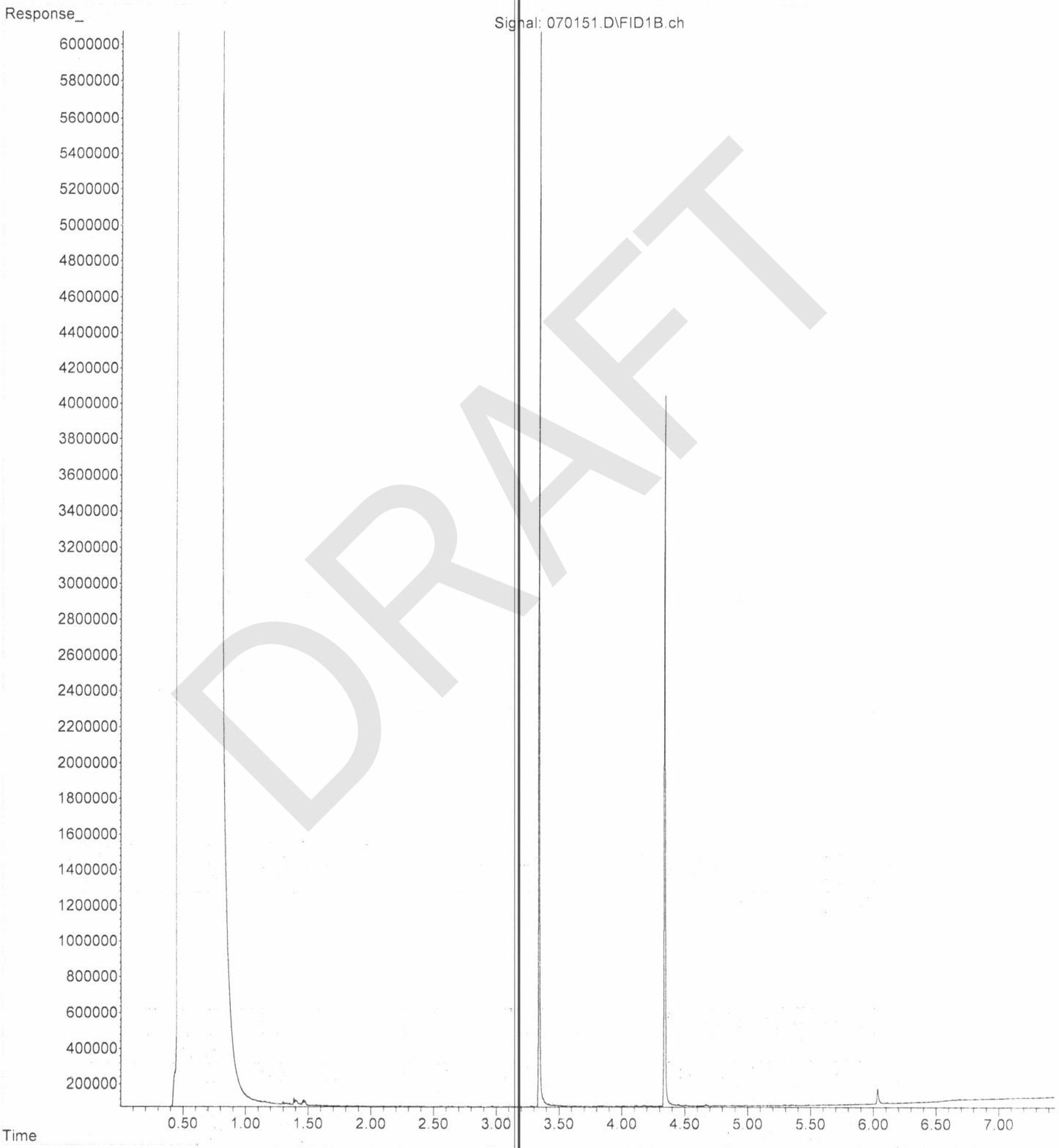
File :P:\Proc_GC10\07-01-24\070149.D
Operator : TL
Acquired : 01 Jul 2024 05:44 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-~~18~~ 19 7207.02
Misc Info :
Vial Number: 46



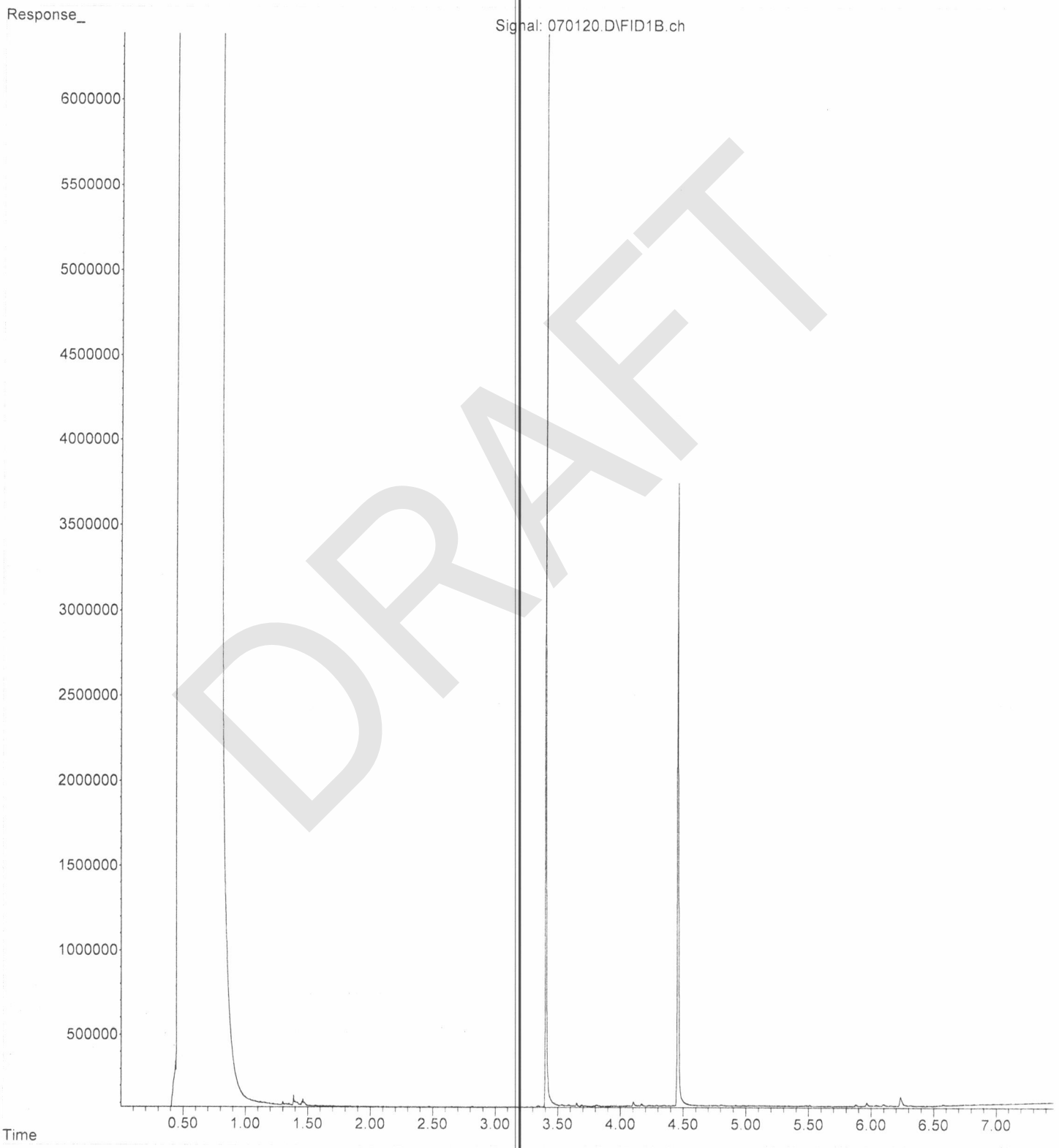
File :P:\Proc_GC10\07-01-24\070150.D
Operator : TL
Acquired : 01 Jul 2024 05:56 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-10
Misc Info : 20 FID1.02
Vial Number: 47



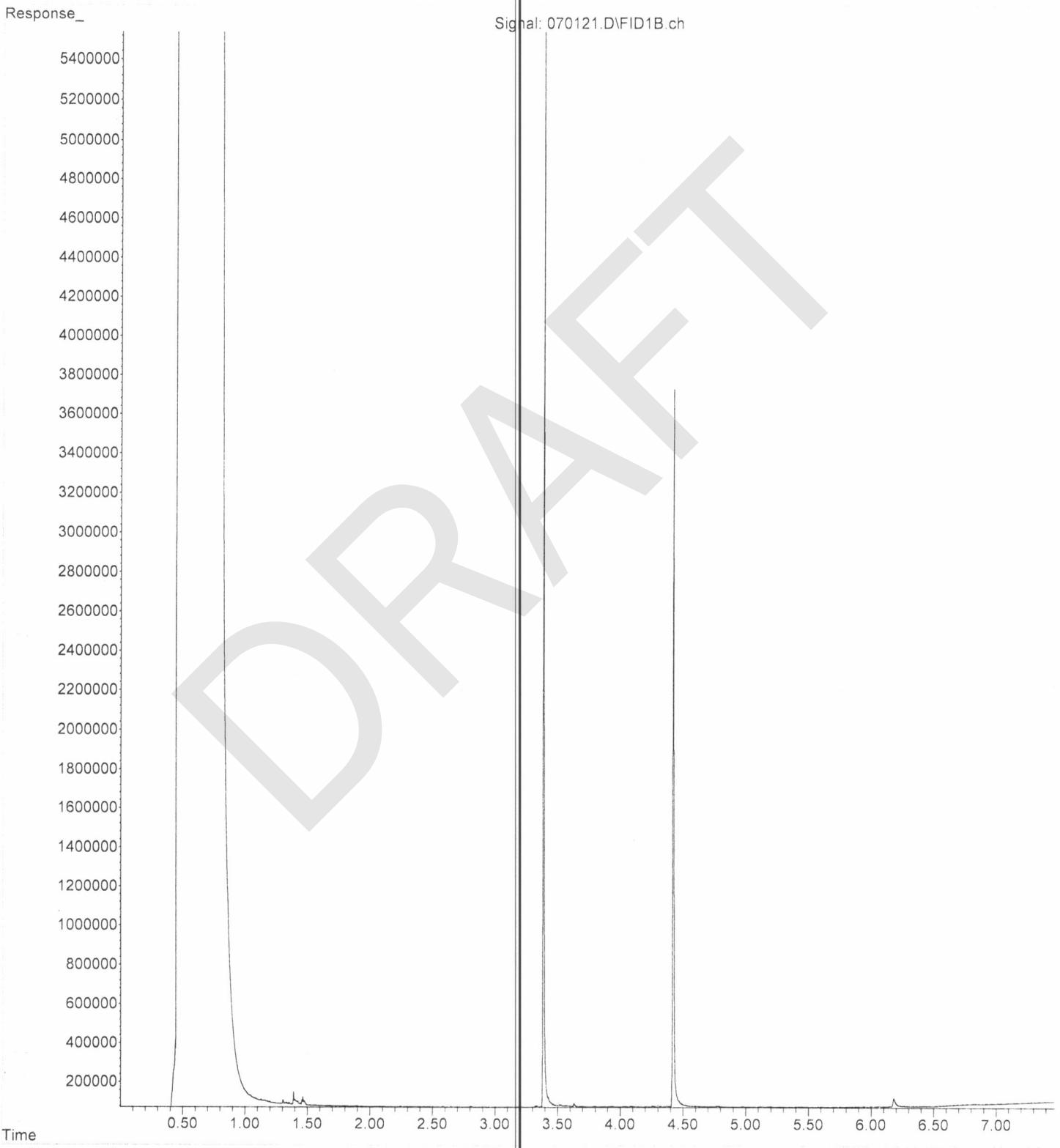
File :P:\Proc_GC10\07-01-24\070151.D
Operator : TL
Acquired : 01 Jul 2024 06:09 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-~~20~~ 21 Jul 07-02
Misc Info :
Vial Number: 48



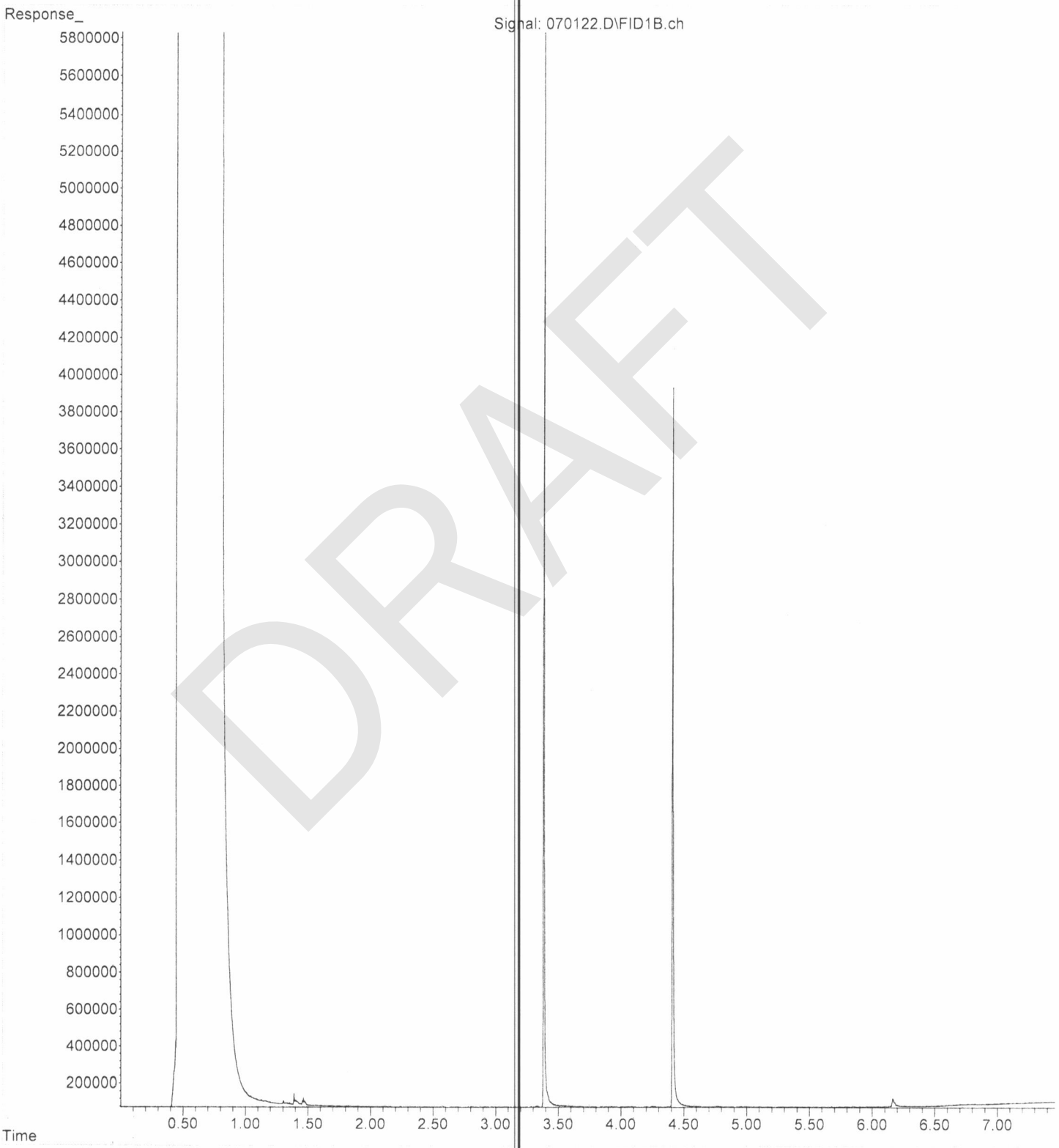
File :P:\Proc_GC10\07-01-24\070120.D
Operator : TL
Acquired : 01 Jul 2024 11:53 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-22
Misc Info :
Vial Number: 21



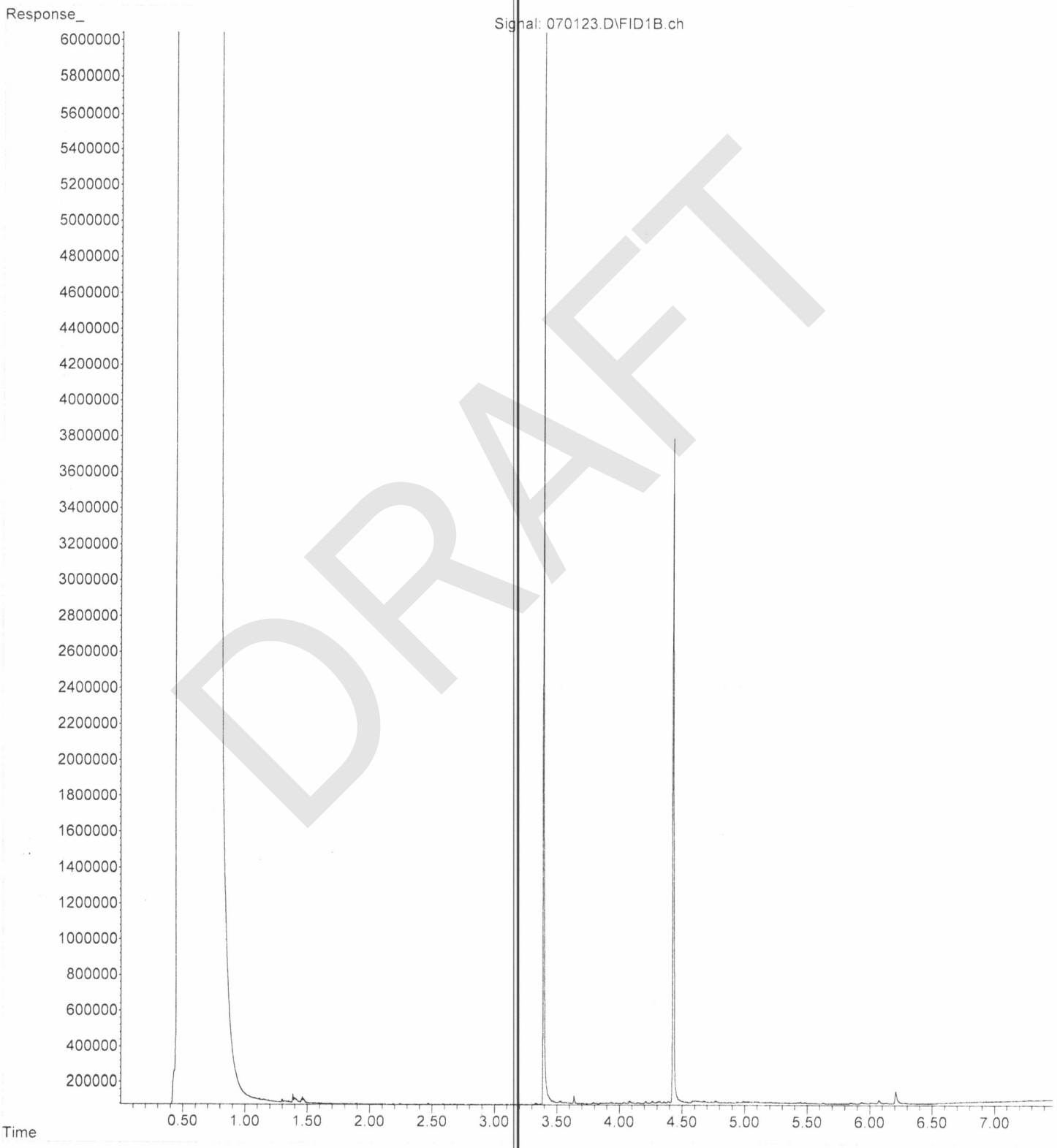
File :P:\Proc_GC10\07-01-24\070121.D
Operator : TL
Acquired : 01 Jul 2024 12:05 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-23
Misc Info :
Vial Number: 22



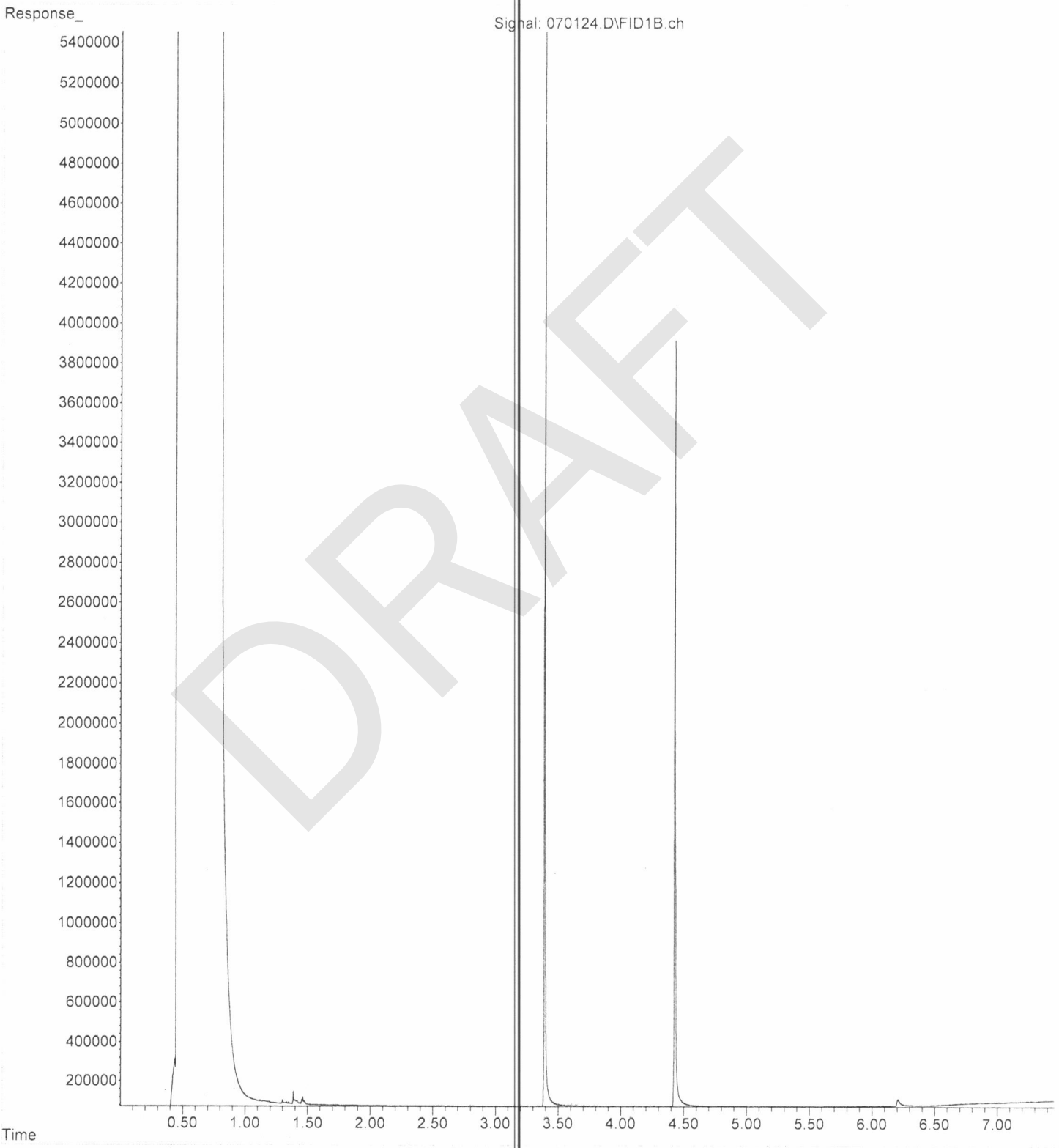
File :P:\Proc_GC10\07-01-24\070122.D
Operator : TL
Acquired : 01 Jul 2024 12:18 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-24
Misc Info :
Vial Number: 23



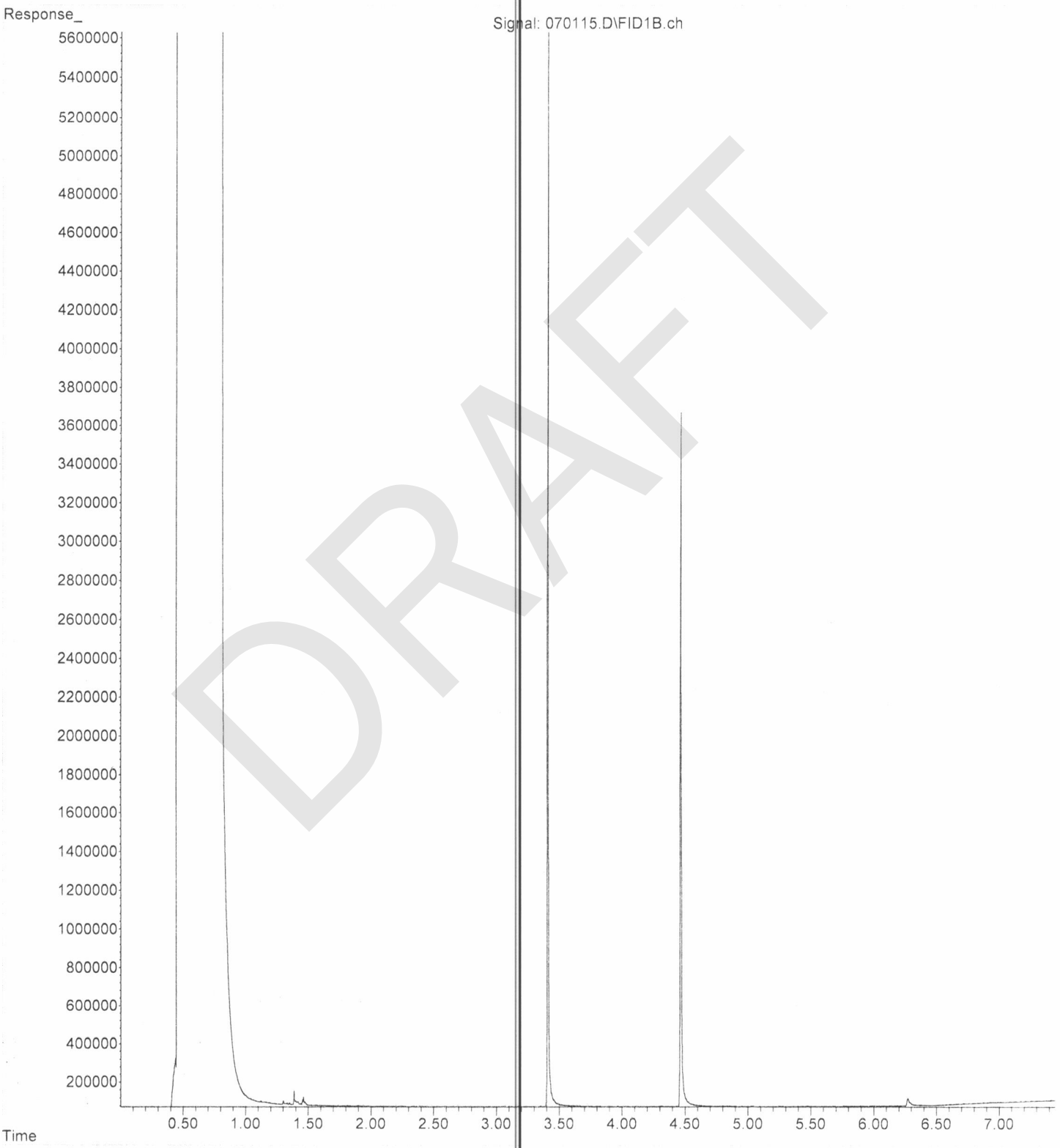
File :P:\Proc_GC10\07-01-24\070123.D
Operator : TL
Acquired : 01 Jul 2024 12:30 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 406362-25
Misc Info :
Vial Number: 24



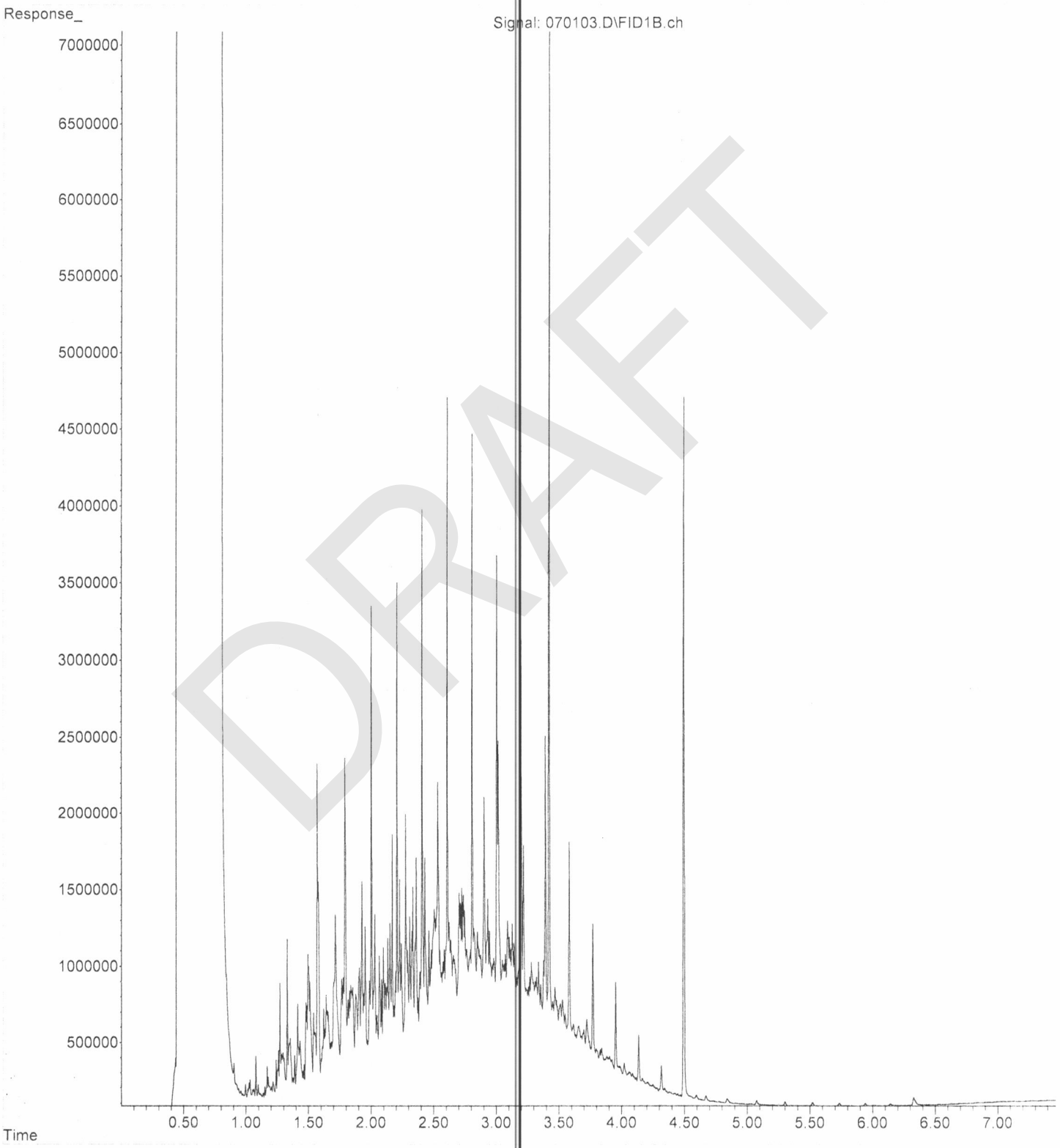
File :P:\Proc_GC10\07-01-24\070124.D
Operator : TL
Acquired : 01 Jul 2024 12:42 pm using AcqMethod DX.M
Instrument : GC10
Sample Name: 04-1522 mb
Misc Info :
Vial Number: 25



File :P:\Proc_GC10\07-01-24\070115.D
Operator : TL
Acquired : 01 Jul 2024 10:54 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 04-1523 mb
Misc Info :
Vial Number: 17



File :P:\Proc_GC10\07-01-24\070103.D
Operator : TL
Acquired : 01 Jul 2024 08:23 am using AcqMethod DX.M
Instrument : GC10
Sample Name: 500 Dx 71-152C
Misc Info :
Vial Number: 3



3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 406362, E-259mg
Work Order Number: 2406450

July 19, 2024

Attention Michael Erdahl:

Fremont Analytical, Inc, an Alliance Technical Group company, received 24 sample(s) on 6/26/2024 for the analyses presented in the following report.

Hexavalent Chromium by EPA 7196A
Sample Moisture (Percent Moisture)
Total Metals by EPA 6020B

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Please note, while the appearance of our logo and branding will update, our commitment to accuracy, speed, and customer service remain values celebrated and shared by Alliance Technical Group. Thank you for the opportunity to serve you.

Sincerely,

Brianna Barnes
Project Manager

Date: *07/22/2024*

CLIENT: Friedman & Bruya
Project: 406362
Work Order: 2406450

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2406450-001	SB18-S-1.0	06/24/2024 9:50 AM	06/26/2024 12:16 PM
2406450-002	SB18-S-4.0	06/24/2024 9:55 AM	06/26/2024 12:16 PM
2406450-003	SB18-S-11.0	06/24/2024 10:20 AM	06/26/2024 12:16 PM
2406450-004	SB18-S-13.0	06/24/2024 10:30 AM	06/26/2024 12:16 PM
2406450-005	SB14-S-0.5	06/24/2024 11:05 AM	06/26/2024 12:16 PM
2406450-006	SB14-S-3.0	06/24/2024 11:20 AM	06/26/2024 12:16 PM
2406450-007	SB14-S-7.0	06/24/2024 11:50 AM	06/26/2024 12:16 PM
2406450-008	SB14-S-13.5	06/24/2024 12:00 PM	06/26/2024 12:16 PM
2406450-009	MWEC04-S-0.5	06/24/2024 1:05 PM	06/26/2024 12:16 PM
2406450-010	MWEC04-S-2.5	06/24/2024 1:15 PM	06/26/2024 12:16 PM
2406450-011	MWEC04-S-8.0	06/24/2024 1:20 PM	06/26/2024 12:16 PM
2406450-012	MWEC04-S-12.5	06/24/2024 1:40 PM	06/26/2024 12:16 PM
2406450-013	MWEC03-S-1.0	06/24/2024 3:10 PM	06/26/2024 12:16 PM
2406450-014	MWEC03-S-5.5	06/24/2024 3:20 PM	06/26/2024 12:16 PM
2406450-015	MWEC03-S-7.0	06/24/2024 3:30 PM	06/26/2024 12:16 PM
2406450-016	MWEC03-S-11.0	06/24/2024 3:40 PM	06/26/2024 12:16 PM
2406450-017	MWEC02-S-1.0	06/25/2024 8:45 AM	06/26/2024 12:16 PM
2406450-018	MWEC02-S-3.0	06/25/2024 8:55 AM	06/26/2024 12:16 PM
2406450-019	MWEC02-S-8.0	06/25/2024 9:15 AM	06/26/2024 12:16 PM
2406450-020	MWEC02-S-13.0	06/25/2024 9:30 AM	06/26/2024 12:16 PM
2406450-021	MWEC01-S-1.0	06/25/2024 10:30 AM	06/26/2024 12:16 PM
2406450-022	MWEC01-S-3.0	06/25/2024 10:40 AM	06/26/2024 12:16 PM
2406450-023	MWEC01-S-8.0	06/25/2024 10:50 AM	06/26/2024 12:16 PM
2406450-024	MWEC01-S-11.3	06/25/2024 11:00 AM	06/26/2024 12:16 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2406450**

Date: **7/19/2024**

CLIENT: Friedman & Bruya
Project: 406362

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Rev1 includes updates to sample names and times.
Rev2 includes an additional sampling time correction.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-001 **Collection Date:** 6/24/2024 9:50:00 AM
Client Sample ID: **SB18-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	36,400	67.4	D	mg/Kg-dry	10	7/2/2024 4:38:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	6.53	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.531		mg/Kg-dry	1	7/5/2024 11:39:00 AM

Lab ID: 2406450-002 **Collection Date:** 6/24/2024 9:55:00 AM
Client Sample ID: **SB18-S-4.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	23,700	66.7	D	mg/Kg-dry	10	7/2/2024 4:40:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	4.85	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.525		mg/Kg-dry	1	7/5/2024 11:58:00 AM

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-003 **Collection Date:** 6/24/2024 10:20:00 AM
Client Sample ID: **SB18-S-11.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	32,000	66.4	D	mg/Kg-dry	10	7/2/2024 4:43:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	2.84	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.515		mg/Kg-dry	1	7/5/2024 12:02:00 PM

Lab ID: 2406450-004 **Collection Date:** 6/24/2024 10:30:00 AM
Client Sample ID: **SB18-S-13.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	29,500	65.5	D	mg/Kg-dry	10	7/2/2024 4:45:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	3.05	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.516		mg/Kg-dry	1	7/5/2024 12:06:00 PM

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-005 **Collection Date:** 6/24/2024 11:05:00 AM
Client Sample ID: **SB14-S-0.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	25,900	71.1	D	mg/Kg-dry	10	7/2/2024 4:48:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	9.25	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.551		mg/Kg-dry	1	7/5/2024 1:06:00 PM

Lab ID: 2406450-006 **Collection Date:** 6/24/2024 11:20:00 AM
Client Sample ID: **SB14-S-3.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	11,400	147	D	mg/Kg-dry	10	7/2/2024 4:51:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	56.1	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	22.6	D	mg/Kg-dry	20	7/5/2024 1:09:00 PM

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-007 **Collection Date:** 6/24/2024 11:50:00 AM
Client Sample ID: **SB14-S-7.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	24,200	101	D	mg/Kg-dry	10	7/2/2024 4:54:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	36.3	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	7.78	D	mg/Kg-dry	10	7/5/2024 1:13:00 PM

Lab ID: 2406450-008 **Collection Date:** 6/24/2024 12:00:00 PM
Client Sample ID: **SB14-S-13.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	21,000	67.5	D	mg/Kg-dry	10	7/2/2024 4:57:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	5.93	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.532		mg/Kg-dry	1	7/5/2024 1:17:00 PM

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-009 **Collection Date:** 6/24/2024 1:05:00 PM
Client Sample ID: **MWEC04-S-0.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	36,300	79.5	D	mg/Kg-dry	10	7/2/2024 5:04:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	21.3	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44513		Analyst: NR
Chromium, Hexavalent	ND	6.31	D	mg/Kg-dry	10	7/18/2024 5:34:00 PM

NOTES:
Diluted due to matrix.

Lab ID: 2406450-010 **Collection Date:** 6/24/2024 1:15:00 PM
Client Sample ID: **MWEC04-S-2.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	3,970	17.6		mg/Kg-dry	1	6/28/2024 1:32:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	63.9	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44513		Analyst: NR
Chromium, Hexavalent	ND	13.7	D	mg/Kg-dry	10	7/18/2024 5:37:00 PM

NOTES:
Diluted due to matrix.

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-011 **Collection Date:** 6/24/2024 1:20:00 PM
Client Sample ID: **MWEC04-S-8.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	23,200	67.1	D	mg/Kg-dry	10	7/2/2024 5:06:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	3.89	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.520		mg/Kg-dry	1	7/5/2024 1:29:00 PM

Lab ID: 2406450-012 **Collection Date:** 6/24/2024 1:40:00 PM
Client Sample ID: **MWEC04-S-12.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	27,700	65.2	D	mg/Kg-dry	10	7/2/2024 5:09:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	4.85	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.525		mg/Kg-dry	1	7/5/2024 1:32:00 PM

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-013 **Collection Date:** 6/24/2024 3:10:00 PM
Client Sample ID: **MWEC03-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	20,300	74.8	D	mg/Kg-dry	10	7/2/2024 5:11:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	13.8	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	11.7	D	mg/Kg-dry	20	7/5/2024 1:36:00 PM

Lab ID: 2406450-014 **Collection Date:** 6/24/2024 3:20:00 PM
Client Sample ID: **MWEC03-S-5.5** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44369		Analyst: ME
Iron	28,800	70.2	D	mg/Kg-dry	10	7/2/2024 5:14:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	11.7	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	5.62	D	mg/Kg-dry	10	7/5/2024 1:40:00 PM

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-015 **Collection Date:** 6/24/2024 3:30:00 PM
Client Sample ID: **MWEC03-S-7.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44382		Analyst: ME
Iron	25,000	63.7	D	mg/Kg-dry	10	7/2/2024 5:23:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	2.58	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.517		mg/Kg-dry	1	7/5/2024 1:52:00 PM

Lab ID: 2406450-016 **Collection Date:** 6/24/2024 3:40:00 PM
Client Sample ID: **MWEC03-S-11.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44382		Analyst: ME
Iron	25,800	68.5	D	mg/Kg-dry	10	7/2/2024 5:26:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	5.14	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.503		mg/Kg-dry	1	7/5/2024 1:56:00 PM

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-017 **Collection Date:** 6/25/2024 8:45:00 AM
Client Sample ID: **MWEC02-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44382		Analyst: ME
Iron	22,000	69.6	D	mg/Kg-dry	10	7/2/2024 5:33:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	6.67	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	5.07	D	mg/Kg-dry	10	7/5/2024 2:00:00 PM

Lab ID: 2406450-018 **Collection Date:** 6/25/2024 8:55:00 AM
Client Sample ID: **MWEC02-S-3.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44382		Analyst: ME
Iron	22,100	68.7	D	mg/Kg-dry	10	7/2/2024 5:36:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	5.44	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.501		mg/Kg-dry	1	7/5/2024 2:04:00 PM

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-019 **Collection Date:** 6/25/2024 9:15:00 AM
Client Sample ID: **MWEC02-S-8.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44382		Analyst: ME
Iron	20,100	66.2	D	mg/Kg-dry	10	7/2/2024 5:38:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	2.54	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.479		mg/Kg-dry	1	7/5/2024 3:48:00 PM

Lab ID: 2406450-020 **Collection Date:** 6/25/2024 9:30:00 AM
Client Sample ID: **MWEC02-S-13.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44382		Analyst: ME
Iron	17,200	68.1	D	mg/Kg-dry	10	7/2/2024 5:41:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	8.17	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44416		Analyst: NR
Chromium, Hexavalent	ND	0.516		mg/Kg-dry	1	7/5/2024 3:52:00 PM

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-021 **Collection Date:** 6/25/2024 10:30:00 AM
Client Sample ID: **MWEC01-S-1.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44382		Analyst: ME
Iron	32,400	72.6	D	mg/Kg-dry	10	7/2/2024 5:43:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	10.5	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	0.554		mg/Kg-dry	1	7/3/2024 12:42:00 PM

Lab ID: 2406450-022 **Collection Date:** 6/25/2024 10:40:00 AM
Client Sample ID: **MWEC01-S-3.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44382		Analyst: ME
Iron	23,600	66.8	D	mg/Kg-dry	10	7/2/2024 5:46:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	4.27	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	0.522		mg/Kg-dry	1	7/3/2024 1:02:00 PM

CLIENT: Friedman & Bruya
Project: 406362

Lab ID: 2406450-023 **Collection Date:** 6/25/2024 10:50:00 AM
Client Sample ID: **MWEC01-S-8.0** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44382		Analyst: ME
Iron	19,400	63.9	D	mg/Kg-dry	10	7/2/2024 5:48:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	2.26	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	0.512		mg/Kg-dry	1	7/3/2024 3:59:00 PM

Lab ID: 2406450-024 **Collection Date:** 6/25/2024 11:00:00 AM
Client Sample ID: **MWEC01-S-11.3** **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA 6020B				Batch ID: 44382		Analyst: ME
Iron	21,800	66.8	D	mg/Kg-dry	10	7/2/2024 5:50:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R92695		Analyst: GHG
Percent Moisture	2.68	0.500		wt%	1	6/27/2024 12:07:19 PM
Hexavalent Chromium by EPA 7196A				Batch ID: 44417		Analyst: SLL
Chromium, Hexavalent	ND	0.443		mg/Kg-dry	1	7/3/2024 4:02:00 PM

Work Order: 2406450
CLIENT: Friedman & Bruya
Project: 406362

QC SUMMARY REPORT

Hexavalent Chromium by EPA 7196A

Sample ID: **MB-44417**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **7/2/2024**		RunNo: **92840**		
Client ID: **MBLKS**	Batch ID: **44417**					Analysis Date: **7/3/2024**		SeqNo: **1937775**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-44417**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **7/2/2024**		RunNo: **92840**		
Client ID: **LCSS**	Batch ID: **44417**					Analysis Date: **7/3/2024**		SeqNo: **1937776**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	11.1	0.500	12.87	0	86.3	65.3	105.3				

Sample ID: **2406450-021ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **7/2/2024**		RunNo: **92840**		
Client ID: **MWEC01-S-1.0**	Batch ID: **44417**					Analysis Date: **7/3/2024**		SeqNo: **1937778**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.554						0		30	

Sample ID: **2406450-021AMS1**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **7/2/2024**		RunNo: **92840**		
Client ID: **MWEC01-S-1.0**	Batch ID: **44417**					Analysis Date: **7/3/2024**		SeqNo: **1937779**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	9.81	0.554	14.26	0	68.8	32	106				

Sample ID: **2406450-021AMS2**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **7/2/2024**		RunNo: **92840**		
Client ID: **MWEC01-S-1.0**	Batch ID: **44417**					Analysis Date: **7/3/2024**		SeqNo: **1937780**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	7.99	0.554	11.08	0	72.1	32	106				

Work Order: 2406450
CLIENT: Friedman & Bruya
Project: 406362

QC SUMMARY REPORT

Hexavalent Chromium by EPA 7196A

Sample ID: **MB-44416**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **7/2/2024**	RunNo: **92878**
Client ID: **MBLKS**	Batch ID: **44416**		Analysis Date: **7/5/2024**	SeqNo: **1938593**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-44416**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **7/2/2024**	RunNo: **92878**
Client ID: **LCSS**	Batch ID: **44416**		Analysis Date: **7/5/2024**	SeqNo: **1938594**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	11.6	0.500	12.87	0	90.3	65.3	105.3				

Sample ID: **2406450-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **7/2/2024**	RunNo: **92878**
Client ID: **SB18-S-1.0**	Batch ID: **44416**		Analysis Date: **7/5/2024**	SeqNo: **1938596**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.535						0		30	

Sample ID: **2406450-001AMS1**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **7/2/2024**	RunNo: **92878**
Client ID: **SB18-S-1.0**	Batch ID: **44416**		Analysis Date: **7/5/2024**	SeqNo: **1938597**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	9.16	0.531	13.66	0	67.1	32	106				

Sample ID: **2406450-001AMS2**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **7/2/2024**	RunNo: **92878**
Client ID: **SB18-S-1.0**	Batch ID: **44416**		Analysis Date: **7/5/2024**	SeqNo: **1938598**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	6.03	0.535	13.77	0	43.8	32	106				

Work Order: 2406450
CLIENT: Friedman & Bruya
Project: 406362

QC SUMMARY REPORT

Hexavalent Chromium by EPA 7196A

Sample ID: **MB-44513**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **7/17/2024**		RunNo: **93122**		
Client ID: **MBLKS**	Batch ID: **44513**					Analysis Date: **7/18/2024**		SeqNo: **1943851**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.500									

Sample ID: **LCS-44513**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **7/17/2024**		RunNo: **93122**		
Client ID: **LCSS**	Batch ID: **44513**					Analysis Date: **7/18/2024**		SeqNo: **1943852**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	11.0	0.500	12.87	0	85.5	65.3	105.3				

Sample ID: **2407153-001ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **7/17/2024**		RunNo: **93122**		
Client ID: **BATCH**	Batch ID: **44513**					Analysis Date: **7/18/2024**		SeqNo: **1943854**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.614						0		30	

Sample ID: **2407153-001AMS1**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **7/17/2024**		RunNo: **93122**		
Client ID: **BATCH**	Batch ID: **44513**					Analysis Date: **7/18/2024**		SeqNo: **1943855**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	9.70	0.600	15.43	0	62.8	32	106				

Sample ID: **2407153-001AMS2**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **7/17/2024**		RunNo: **93122**		
Client ID: **BATCH**	Batch ID: **44513**					Analysis Date: **7/18/2024**		SeqNo: **1943856**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	7.52	0.590	15.19	0	49.5	32	106				

Work Order: 2406450
CLIENT: Friedman & Bruya
Project: 406362

QC SUMMARY REPORT

Total Metals by EPA 6020B

Sample ID: **MB-44369** SampType: **MBLK** Units: **mg/Kg** Prep Date: **6/27/2024** RunNo: **92735**
Client ID: **MBLKS** Batch ID: **44369** Analysis Date: **6/28/2024** SeqNo: **1935447**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	6.50									

Sample ID: **LCS-44369** SampType: **LCS** Units: **mg/Kg** Prep Date: **6/27/2024** RunNo: **92735**
Client ID: **LCSS** Batch ID: **44369** Analysis Date: **6/28/2024** SeqNo: **1935449**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	405	6.50	400.0	0	101	80	120				

Sample ID: **2405024-018AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **6/27/2024** RunNo: **92735**
Client ID: **BATCH** Batch ID: **44369** Analysis Date: **6/28/2024** SeqNo: **1935451**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	18,300	8.29	509.9	16,120	431	75	125				ES

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: **2405024-018AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **6/27/2024** RunNo: **92735**
Client ID: **BATCH** Batch ID: **44369** Analysis Date: **6/28/2024** SeqNo: **1935452**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	19,700	8.35	513.8	16,120	689	75	125	18,320	7.08	20	ES

NOTES:
S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: **MB-44382** SampType: **MBLK** Units: **mg/Kg** Prep Date: **6/28/2024** RunNo: **92783**
Client ID: **MBLKS** Batch ID: **44382** Analysis Date: **6/28/2024** SeqNo: **1936312**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	8.87	6.50									

Work Order: 2406450
CLIENT: Friedman & Bruya
Project: 406362

QC SUMMARY REPORT

Total Metals by EPA 6020B

Sample ID: **LCS-44382**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **6/28/2024**	RunNo: **92783**
Client ID: **LCSS**	Batch ID: **44382**		Analysis Date: **6/28/2024**	SeqNo: **1936313**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	432	6.50	400.0	0	108	80	120				

Sample ID: **2405060-007AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **6/28/2024**	RunNo: **92783**
Client ID: **BATCH**	Batch ID: **44382**		Analysis Date: **6/28/2024**	SeqNo: **1936315**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	22,300	8.92	548.7	20,920	257	75	125				ES

NOTES:
S - Spiked amount was low relative to sample concentration (Fe). Outlying spike recoveries may be expected.

Sample ID: **2405060-007AMSD**	SampType: **MSD**	Units: **mg/Kg-dry**	Prep Date: **6/28/2024**	RunNo: **92783**
Client ID: **BATCH**	Batch ID: **44382**		Analysis Date: **6/28/2024**	SeqNo: **1936316**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	22,800	8.99	553.2	20,920	342	75	125	22,330	2.14	20	ES

NOTES:
S - Spiked amount was low relative to sample concentration (Fe). Outlying spike recoveries may be expected.

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2406450
Logged by:	Clare Griggs	Date Received:	6/26/2024 12:16:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	2.0

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2406450

Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Fremont

PROJECT NAME/NO.
406362

PO #
E-269ng

REMARKS
Equis 4

TURNAROUND TIME
☒ Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Cr(VI) 7196	Total Fe									Notes
SB18-S-1.0		6/24/2024	9:50	soil	1	x	x									
SB18-S-4.0		6/24/2024	9:55	soil	1	x	x									
SB18-S-11.0		6/24/2024	10:20	soil	1	x	x									
SB18-S-13.0		6/24/2024	10:30	soil	1	x	x									
SB14-S-0.5		6/24/2024	11:05	soil	1	x	x									
SB14-S-3.0		6/24/2024	11:20	soil	1	x	x									
SB14-S-7.0		6/24/2024	11:50	soil	1	x	x									
SB14-S-13.5		6/24/2024	12:00	soil	1	x	x									
MWECO4-S-0.5		6/24/2024	13:05	soil	1	x	x									
MWECO4-S-2.5		6/24/2024	13:15	soil	1	x	x									
MWECO4-S-8.0		6/24/2024	13:30	soil	1	x	x									
MWECO4-S-12.5		6/24/2024	13:40	soil	1	x	x									
MWECO3-S-1.0		6/24/2024	15:10	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	6/26	10:00
Received by:		Nathan Walker	ATG	6/26/24	1216
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2406450

Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
Fremont	
PROJECT NAME/NO.	PO #
406362	E-26949
REMARKS	
Equis 4	

TURNAROUND TIME
☒ Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Cr(VI) 7196	Total Fe									Notes
MWECO3-S-5.5		6/24/2024	15:20	soil	1	x	x									
MWECO3-S-7.0		6/24/2024	15:30	soil	1	x	x									
MWECO3-S-11.0		6/24/2024	15:30	soil	1	x	x									
MWECO2-S-1.0		6/25/2024	8:45	soil	1	x	x									
MWECO2-S-3.0		6/25/2024	8:55	soil	1	x	x									
MWECO2-S-8.0		6/25/2024	9:15	soil	1	x	x									
MWECO2-S-13.0		6/25/2024	9:30	soil	1	x	x									
MWECO1-S-1.0		6/25/2024	10:30	soil	1	x	x									
MWECO1-S-3.0		6/25/2024	10:40	soil	1	x	x									
MWECO1-S-8.0		6/25/2024	10:50	soil	1	x	x									
MWECO1-S-11.3		6/25/2024	11:00	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	6/26	16:00
Received by:	Nathan Walker	ATG	6/26/24	1216
Relinquished by:				
Received by:				

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2406450

Page # 1 of 2

Send Report To Michael Erdahl
Company Friedman & Bruya.
Address 5500 4th Ave S
City, State, ZIP Seattle, WA 98108
Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Fremont

PROJECT NAME/NO.
406362

PO #
E-269mg

REMARKS
Equis 4

Update per ME
LR 7/17/24

TURNAROUND TIME
☒ Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI) 7196	Total Fe									Notes
SB18-S-1.0		6/24/2024	9:50	soil	1	x	x									
SB18-S-4.0		6/24/2024	9:55	soil	1	x	x									
SB18-S-11.0		6/24/2024	10:20	soil	1	x	x									
SB18-S-13.0		6/24/2024	10:30	soil	1	x	x									
SB14-S-0.5		6/24/2024	11:05	soil	1	x	x									
SB14-S-3.0		6/24/2024	11:20	soil	1	x	x									
SB14-S-7.0		6/24/2024	11:50	soil	1	x	x									
SB14-S-13.5		6/24/2024	12:00	soil	1	x	x									
MWECØ4-S-0.5		6/24/2024	13:05	soil	1	x	x									MWEC0*
MWECØ4-S-2.5		6/24/2024	13:15	soil	1	x	x									
MWECØ4-S-8.0		6/24/2024	13:20 ~~13:30~~	soil	1	x	x									
MWECØ4-S-12.5		6/24/2024	13:40	soil	1	x	x									
MWECØ3-S-1.0		6/24/2024	15:10	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mac Goldman	Friedman and Bruya	6/26	10:00
Received by:		Nathan Walker	ATG	6/26/24	1216
Relinquished by:					
Received by:					

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2406450

Send Report To Michael Erdahl

Company Friedman & Bruya.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Fremont

PROJECT NAME/NO.
406362

PO #
E-26949

REMARKS
Equis 4

TURNAROUND TIME
☒ Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr(VI) 7196	Total Fe									Notes
MWEC03-S-5.5		6/24/2024	15:20	soil	1	x	x									MWEC0
MWEC03-S-7.0		6/24/2024	15:30	soil	1	x	x									
MWEC03-S-11.0		6/24/2024	15:40 ~~15:30~~	soil	1	x	x									
MWEC02-S-1.0		6/25/2024	8:45	soil	1	x	x									
MWEC02-S-3.0		6/25/2024	8:55	soil	1	x	x									
MWEC02-S-8.0		6/25/2024	9:15	soil	1	x	x									
MWEC02-S-13.0		6/25/2024	9:30	soil	1	x	x									
MWEC01-S-1.0		6/25/2024	10:30	soil	1	x	x									
MWEC01-S-3.0		6/25/2024	10:40	soil	1	x	x									
MWEC01-S-8.0		6/25/2024	10:50	soil	1	x	x									
MWEC01-S-11.3		6/25/2024	11:00	soil	1	x	x									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	6/26	16:00
Received by:	Nathan Walker	ATG	6/26/24	1216
Relinquished by:				
Received 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 Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

July 30, 2024

Josh Elliott, Project Manager
Maul Foster Alongi
6 Centerpointe Dr, Suite 360
Lake Oswego, OR 97035

Dear Mr Elliott:

Included is the amended report from the testing of material submitted on June 28, 2024 from the Yakima East-West Corridor M2703.01.001, F&BI 406430 project. Per your request, benz(a)anthracene was added to the reported semi-volatile compounds.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: JElliott@MaulFoster.com, Christian Sifford, Carolyn Wise
MFA0710R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
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www.friedmanandbruya.com

July 10, 2024

Josh Elliott, Project Manager
Maul Foster Alongi
6 Centerpointe Dr, Suite 360
Lake Oswego, OR 97035

Dear Mr Elliott:

Included are the results from the testing of material submitted on June 28, 2024 from the Yakima East-West Corridor M2703.01.001, F&BI 406430 project. There are 32 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: JElliott@MaulFoster.com, Christian Sifford, Carolyn Wise
MFA0710R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 28, 2024 by Friedman & Bruya, Inc. from the Maul Foster Alongi Yakima East-West Corridor M2703.01.001, F&BI 406430 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
406430 -01	MWEC02-GW-21.0
406430 -02	Trip Blank 2

Sample MWEC02-GW-21.0 was sent to Alliance Technical Group for hexavalent chromium analysis. The report is enclosed.

The 8082A calibration standard exceeded the acceptance criteria. PCBs were not detected, therefore this did not represent an out of control condition, and the results are not considered estimates.

The 8270E laboratory control sample and laboratory control sample duplicate did not meet the relative percent difference for pentachlorophenol. The analyte was not detected therefore the data were acceptable.

The 8082 laboratory control sample and laboratory control sample duplicate did not meet the relative percent. PCBs were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430
Date Extracted: 07/05/24
Date Analyzed: 07/05/24

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)
MWEC02-GW-21.0 406430-01	<100	106
Trip Blank 2 406430-02	<100	107
Method Blank 04-1379 MB	<100	100

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430
Date Extracted: 07/02/24
Date Analyzed: 07/02/24

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)
MWEC02-GW-21.0 406430-01	<50	<250	53
Method Blank 04-1530 MB	<50	<250	74

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MWEC02-GW-21.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East-West Corridor
Date Extracted:	07/03/24	Lab ID:	406430-01
Date Analyzed:	07/03/24	Data File:	070340.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	71	132
Toluene-d8	91	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank 2	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East-West Corridor
Date Extracted:	07/03/24	Lab ID:	406430-02
Date Analyzed:	07/03/24	Data File:	070335.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/03/24	Lab ID:	04-1481 mb
Date Analyzed:	07/03/24	Data File:	070334.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroform	<1
Chlorobenzene	<1
m,p-Xylene	<2
o-Xylene	<1

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MWEC02-GW-21.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East-West Corridor
Date Extracted:	07/03/24	Lab ID:	406430-01 1/0.25
Date Analyzed:	07/05/24	Data File:	070510.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	87	11	173
2-Fluorobiphenyl	94	25	128
2,4,6-Tribromophenol	115	10	140
Terphenyl-d14	104	50	150

Compounds:	Concentration ug/L (ppb)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
2-Methylnaphthalene	<0.05
1-Methylnaphthalene	<0.05
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
N-Nitrosodiphenylamine	<0.1
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.005
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.005
Dibenz(a,h)anthracene	<0.005
Pentachlorophenol	<0.1 j
Bis(2-ethylhexyl) phthalate	<0.5 j

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/03/24	Lab ID:	04-1526 mb2 1/0.25
Date Analyzed:	07/05/24	Data File:	070507.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	93	11	173
2-Fluorobiphenyl	87	25	128
2,4,6-Tribromophenol	100	10	140
Terphenyl-d14	102	50	150

Compounds:	Concentration ug/L (ppb)
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<0.1
2-Methylnaphthalene	<0.05
1-Methylnaphthalene	<0.05
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
N-Nitrosodiphenylamine	<0.1
3,3'-Dichlorobenzidine	<1
Benz(a)anthracene	<0.005
Chrysene	<0.005
Benzo(a)pyrene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Indeno(1,2,3-cd)pyrene	<0.005
Dibenz(a,h)anthracene	<0.005
Pentachlorophenol	<0.1 j
Bis(2-ethylhexyl) phthalate	<0.5 j

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-GW-21.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406430-01
Date Analyzed:	07/01/24	Data File:	406430-01.265
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.2
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	MWEC02-GW-21.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	406430-01 x10
Date Analyzed:	07/03/24	Data File:	406430-01 x10.149
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	1,900
Manganese	1,900

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Yakima East-West Corridor
Date Extracted:	07/01/24	Lab ID:	I4-541 mb
Date Analyzed:	07/01/24	Data File:	I4-541 mb.217
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<0.5
Chromium	<1
Copper	<5
Iron	<50
Lead	<1
Manganese	<1
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MWEC02-GW-21.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406430-01
Date Analyzed:	07/03/24	Data File:	406430-01.397
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.5
Barium	17
Cadmium	<0.5
Chromium	<1
Copper	<5
Lead	<1
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MWEC02-GW-21.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	406430-01 x10
Date Analyzed:	07/08/24	Data File:	406430-01 x10.132
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	1,800
Manganese	1,800

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Yakima East-West Corridor
Date Extracted:	07/02/24	Lab ID:	I4-546 mb
Date Analyzed:	07/02/24	Data File:	I4-546 mb.258
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<0.5
Chromium	<1
Copper	<5
Iron	<50
Lead	<1
Manganese	<1
Zinc	<5

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430
Date Extracted: 06/28/24
Date Analyzed: 07/01/24

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
MWEC02-GW-21.0 406430-01	<0.01
Method Blank i4-537 mb	<0.01

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430
Date Extracted: 06/28/24
Date Analyzed: 07/01/24

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Dissolved Mercury
MWEC02-GW-21.0 406430-01	<0.01
Method Blank i4-539 mb	<0.01

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MWEC02-GW-21.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East-West Corridor
Date Extracted:	06/28/24	Lab ID:	406430-01
Date Analyzed:	06/29/24	Data File:	062825.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	51	11	96
Decachlorobiphenyl	47	13	65

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

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	06/28/24	Lab ID:	04-1496 mb3
Date Analyzed:	06/28/24	Data File:	062812.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	42	11	96
Decachlorobiphenyl	26	13	65

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

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	MWEC02-GW-21.0	Client:	Maul Foster Alongi
Date Received:	06/28/24	Project:	Yakima East-West Corridor
Date Extracted:	07/03/24	Lab ID:	406430-01
Date Analyzed:	07/05/24	Data File:	070511.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	48	20	121
Decachlorobiphenyl	87	20	89

Compounds:	Concentration ug/L
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Yakima East-West Corridor
Date Extracted:	07/03/24	Lab ID:	04-1533 mb
Date Analyzed:	07/05/24	Data File:	070508.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	63	20	121
Decachlorobiphenyl	60	20	89

Compounds:	Concentration ug/L
4,4'-DDD	<0.002
4,4'-DDT	<0.002

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

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

Laboratory Code: 406443-01 (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	100	70-130

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

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	88	96	65-151	9

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 407011-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	4.5	113 b	16-176
Chloroform	ug/L (ppb)	10	<1	98	50-150
Chlorobenzene	ug/L (ppb)	10	<1	105	50-150
m,p-Xylene	ug/L (ppb)	20	<2	112	50-150
o-Xylene	ug/L (ppb)	10	<1	106	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	10	107	111	43-149	4
Chloroform	ug/L (ppb)	10	94	102	70-130	8
Chlorobenzene	ug/L (ppb)	10	104	103	70-130	1
m,p-Xylene	ug/L (ppb)	20	110	111	70-130	1
o-Xylene	ug/L (ppb)	10	104	104	70-130	0

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

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)
Pentachlorophenol	ug/L (ppb)	10	57	108	10-144	62 vo
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	10	97	99	44-140	2

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

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)
2,4-Dichlorophenol	ug/L (ppb)	10	64	87	23-116	30 vo
1,2,4-Trichlorobenzene	ug/L (ppb)	10	74	64	53-95	14
2-Methylnaphthalene	ug/L (ppb)	10	81	77	63-97	5
1-Methylnaphthalene	ug/L (ppb)	10	83	78	62-99	6
Acenaphthene	ug/L (ppb)	10	96	94	67-104	2
Fluorene	ug/L (ppb)	10	98	97	70-130	1
N-Nitrosodiphenylamine	ug/L (ppb)	10	90	95	70-130	5
Phenanthrene	ug/L (ppb)	10	95	96	70-130	1
Anthracene	ug/L (ppb)	10	95	98	70-130	3
Fluoranthene	ug/L (ppb)	10	100	102	70-130	2
3,3'-Dichlorobenzidine	ug/L (ppb)	15	95	101	38-129	6
Benz(a)anthracene	ug/L (ppb)	10	97	99	70-130	2
Chrysene	ug/L (ppb)	10	96	98	70-130	2
Benzo(a)pyrene	ug/L (ppb)	10	100	102	70-130	2
Benzo(b)fluoranthene	ug/L (ppb)	10	99	103	70-130	4
Benzo(k)fluoranthene	ug/L (ppb)	10	97	100	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	10	104	109	70-130	5
Dibenz(a,h)anthracene	ug/L (ppb)	10	104	106	70-130	2
Pentachlorophenol	ug/L (ppb)	10	57	108	10-144	62 vo
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	10	97	99	44-140	2

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 406430-01 (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	1.25	88	86	75-125	2
Cadmium	ug/L (ppb)	5	<1	99	99	75-125	0
Chromium	ug/L (ppb)	20	<1	89	88	75-125	1
Copper	ug/L (ppb)	20	<5	87	86	75-125	1
Iron	ug/L (ppb)	100	1,480	169 b	72 b	75-125	80 b
Lead	ug/L (ppb)	10	<1	96	96	75-125	0
Manganese	ug/L (ppb)	20	1,510	651 b	50 b	75-125	171 b
Zinc	ug/L (ppb)	50	<5	91	90	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	90	80-120
Cadmium	ug/L (ppb)	5	93	80-120
Chromium	ug/L (ppb)	20	96	80-120
Copper	ug/L (ppb)	20	93	80-120
Iron	ug/L (ppb)	100	106	80-120
Lead	ug/L (ppb)	10	92	80-120
Manganese	ug/L (ppb)	20	111	80-120
Zinc	ug/L (ppb)	50	97	80-120

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 406392-01 (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	107	107	75-125	0
Barium	ug/L (ppb)	50	52.6	105 b	106 b	75-125	1 b
Cadmium	ug/L (ppb)	5	<1	105	105	75-125	0
Chromium	ug/L (ppb)	20	<1	97	96	75-125	1
Copper	ug/L (ppb)	20	<5	89	90	75-125	1
Iron	ug/L (ppb)	100	95.1	94 b	89 b	75-125	5 b
Lead	ug/L (ppb)	10	<1	101	103	75-125	2
Manganese	ug/L (ppb)	20	56.2	40 b	42 b	75-125	5 b
Zinc	ug/L (ppb)	50	9.85	85	85	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	99	80-120
Barium	ug/L (ppb)	50	100	80-120
Cadmium	ug/L (ppb)	5	100	80-120
Chromium	ug/L (ppb)	20	98	80-120
Copper	ug/L (ppb)	20	98	80-120
Iron	ug/L (ppb)	100	89	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	101	80-120

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

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

Laboratory Code: 406430-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.02	<0.01	107	109	71-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	114	66-126

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

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

Laboratory Code: 406430-01 (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	<0.01	102	104	71-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	107	66-126

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

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	63	45	10-119	33 vo
Aroclor 1260	ug/L (ppb)	0.25	62	43	10-144	36 vo

Date of Report: 07/10/24
Date Received: 06/28/24
Project: Yakima East-West Corridor M2703.01.001, F&BI 406430

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR ORGANOCHLORINE PESTICIDES BY EPA METHOD 8081B

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
4,4'-DDD	ug/L (ppb)	0.25	81	81	41-134	0
4,4'-DDT	ug/L (ppb)	0.25	88	87	19-154	1

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 low; 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.

406430

SAMPLE CHAIN OF CUSTODY

06/28/24 L2/I3/VW2

Page # 1 of 1

Report To Josh Elliott
Company Maul Foster Alongi
Address 62 Centerpointe Dr. Ste. 360
City, State, ZIP Lake Oswego, OR 97035
Phone 503-953-6067 Email jelliott@maulfoster.com

SAMPLERS (*signature*) Brenden Murphy

PROJECT NAME: Yakima East-West Corridor
PO #: M2703.01.001

REMARKS: Email results to csifford@maulfoster.com too
Project specific RLs? - Yes / No

INVOICE TO: accounting@maulfoster.com

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	*Metals EPA 6020 BTEX EPA 8021	Dis. Cr (VI) 218.6 NWTPH-HCID	*VOCs EPA 8260	SIM PAHs EPA 8270	PCBs EPA 8082	Hg EPA 1631	*SVOCs EPA 8270	4,4'-DDD + 4,4'-DDT EPA 8081	Analyze	Notes
MWEC02-GW-21.0	01A-0	6/27/24	1415	Water	15	X	X	X	X**	X	X	X	X	X	X	X	*see email for analyte list ** 24hr hold time, RUSH
Trip Blank 2	02A-B	6/27/24	N/A	Water	1		X			X						X	
								Samples received at 4 °C									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Brenden Murphy	Brenden Murphy	MFA	6/27/24	16:00
Received by:	ANH PHAN	FBI	06/28/24	08:57
Relinquished by:				
Received by:				

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

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 406430 CLIENT MFA INITIALS/ DATE: AP 06/28/24

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 4 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☐ Over the Counter ☐ Picked up by F&BI ☑ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: AP 06/28/24
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes ☐ No		☐ Not on COC/label
Date Sampled	☑ Yes ☐ No		☐ Not on COC/label
Time Sampled	☑ Yes ☐ No		☐ Not on COC/label
# of Containers	~~☐ Yes~~ AP ☑ No	Received 2 VOAs for Triplblank at lab.	
Relinquished	☑ Yes ☐ No		
Requested analysis	☑ Yes ☐ On Hold		

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ **Number of unused TO17 tubes** _____


ORIGIN ID:YKMA (000) 000-0000

MAUL FOSTER & ALONGI
330 E MILL PLAIN BLVD STE 405

VANCOUVER, WA 98660
UNITED STATES US

SHIP DATE: 27JUN24
ACTWGT: 35.45 LB
CAD: 6995176/SSFE2521
DIMS: 18x10x13 IN

BILL THIRD PARTY

Part # 156297-435 RRD82 EXP 0225

TO FRIEDMAN & BRUYA INC
REF #M2703.01.001
5500 4TH AVE S

SEATTLE WA 98108
(000) 000-0000 REF:
INV:
PO: DEPT:

FedEx Express

TRK# 0201 2764 4392 3000

FRI - 28 JUN 10:30A
PRIORITY OVERNIGHT

AHS
98108
WA-US SEA

85 BFIA

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 406430,
Work Order Number: 2406518

July 02, 2024

Attention Michael Erdahl:

Fremont Analytical, Inc, an Alliance Technical Group company, received 1 sample(s) on 6/28/2024 for the analyses presented in the following report.

Hexavalent Chromium by SM 3500 Cr B

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Please note, while the appearance of our logo and branding will update, our commitment to accuracy, speed, and customer service remain values celebrated and shared by Alliance Technical Group. Thank you for the opportunity to serve you.

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *07/02/2024*

CLIENT: Friedman & Bruya
Project: 406430
Work Order: 2406518

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2406518-001	MWEC02-GW-21.0	06/27/2024 2:15 PM	06/28/2024 10:58 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2406518**

Date: **7/2/2024**

CLIENT: Friedman & Bruya

Project: 406430

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2406518**
Date Reported: **7/2/2024**

CLIENT: Friedman & Bruya
Project: 406430

Lab ID: 2406518-001 **Collection Date:** 6/27/2024 2:15:00 PM
Client Sample ID: **MWEC02-GW-21.0** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Hexavalent Chromium by SM 3500 Cr B				Batch ID: R92794		Analyst: NR
Chromium, Hexavalent	ND	0.0500		mg/L	1	6/28/2024 11:50:00 AM

Work Order: 2406518
CLIENT: Friedman & Bruya
Project: 406430

QC SUMMARY REPORT

Hexavalent Chromium by SM 3500 Cr B

Sample ID: **MB-92794**	SampType: **MBLK**			Units: **mg/L**		Prep Date: **6/28/2024**		RunNo: **92794**		
Client ID: **MBLKW**	Batch ID: **R92794**					Analysis Date: **6/28/2024**		SeqNo: **1936593**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	0.0500									

Sample ID: **LCS-92794**	SampType: **LCS**			Units: **mg/L**		Prep Date: **6/28/2024**		RunNo: **92794**		
Client ID: **LCSW**	Batch ID: **R92794**					Analysis Date: **6/28/2024**		SeqNo: **1936594**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.266	0.0500	0.2500	0	107	88.1	108.1				

Sample ID: **2406505-001CDUP**	SampType: **DUP**			Units: **mg/L**		Prep Date: **6/28/2024**		RunNo: **92794**		
Client ID: **BATCH**	Batch ID: **R92794**					Analysis Date: **6/28/2024**		SeqNo: **1936596**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.0680	0.0500						0.06470	4.97	20	H

Sample ID: **2406505-001CMS**	SampType: **MS**			Units: **mg/L**		Prep Date: **6/28/2024**		RunNo: **92794**		
Client ID: **BATCH**	Batch ID: **R92794**					Analysis Date: **6/28/2024**		SeqNo: **1936597**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.314	0.0500	0.2500	0.06470	99.9	75.2	115				H

Sample ID: **2406505-001CMSD**	SampType: **MSD**			Units: **mg/L**		Prep Date: **6/28/2024**		RunNo: **92794**		
Client ID: **BATCH**	Batch ID: **R92794**					Analysis Date: **6/28/2024**		SeqNo: **1936598**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.316	0.0500	0.2500	0.06470	100	75.2	115	0.3145	0.444	20	H

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2406518
Logged by:	Morgan Wilson	Date Received:	6/28/2024 10:58:00 AM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	2.5

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2406518

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER
Alliance Technical Group

PROJECT NAME/NO.	PO #
406430	E-273

REMARKS

EQuIS 4

TURNAROUND TIME
☒ Standard TAT
☐ RUSH____
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Cr VI										Notes
MWEC02-GW-21.0		6/27/2024	1415	water	1	x										

Short Hold

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	6/28/24	0936
Received by:		Zach Hawthorne	ATG	6/28/24	1058
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

Appendix G

Data Validation Memorandum

MAUL FOSTER ALONGI

Data Validation Memorandum

Project No. M2703.01.001 | August 15, 2024 | Yakima County

Maul Foster & Alongi, Inc. (MFA), conducted an independent Stage 2A review of the quality of analytical results for groundwater, soil, and associated quality control samples collected in June 2024 from portions of Yakima County parcels 191318-11002 and 191318-41002.

Friedman & Bruya, Inc. (F&B), and Alliance Technical Group dba Fremont Analytical, Inc. (Fremont), performed the analyses. MFA reviewed F&B report numbers 406362, 406362-additional, 406430, 406447, 406447-additional, and 406448. F&B subcontracted hexavalent chromium analysis for all matrices and iron analysis for soil samples to Fremont. The subcontracted reports are included with each respective F&B report. The reviewer confirmed that F&B subcontracted U.S. Environmental Protection Agency (EPA) Method 6020B iron analysis for soil samples in 406362 and 406447 to Fremont since F&B is not accredited for iron analysis in soil matrices; Fremont holds this accreditation. F&B is accredited for EPA Method 6020B iron analysis for water matrices for reports 406430 or 406448. The analyses performed and the samples analyzed are listed in the following tables. Not all analyses were performed on all samples.

Analysis	Reference
Gasoline-range hydrocarbons	NWTPH-Gx
Diesel- and motor-oil-range hydrocarbons	NWTPH-Dx
Diesel- and motor-oil-range hydrocarbons with silica gel cleanup	NWTPH-Dx/SG
Dissolved hexavalent chromium (groundwater)	SM 3500-Cr B
Hexavalent chromium (soil)	EPA 7196A
Organochlorine pesticides	EPA 8081B
Percent moisture	ASTM D2216-98
Polychlorinated biphenyls as Aroclors	EPA 8082A
Semivolatile organic compounds	EPA 8270E
Total and dissolved mercury	EPA 1631E
Total and dissolved metals	EPA 6020B
Volatile organic compounds	EPA 8260D

Notes
ASTM = ASTM International.
EPA = U.S. Environmental Protection Agency.
NWTPH = Northwest Total Petroleum Hydrocarbons.
SG = silica gel cleanup.
SM = Standard Methods for the Examination of Water and Wastewater.

Samples Analyzed		
Reports 406362/406362-additional		
SB18-S-1.0	MWEC04-S-2.5	MWEC02-S-3.0
SB18-S-4.0	MWEC04-S-8.0	MWEC02-S-8.0
SB18-S-11.0	MWEC04-S-12.5	MWEC02-S-13.0
SB18-S-13.0	MWEC03-S-1.0	MWEC01-S-1.0
SB14-S-0.5	MWEC03-S-5.5	MWEC01-S-3.0
SB14-S-3.0[(a)]	MWEC03-S-7.0	MWEC01-S-8.0
SB14-S-7.0[(a)]	MWEC03-S-11.0	MWEC01-S-11.3

Samples Analyzed		
Report 406362 (cont.)		
SB14-S-13.5	TripBlank1	--
MWEC04-S-0.5	MWEC02-S-1.0[a]	--
Report 406430		
MWEC02-GW-21.0	Trip Blank 2	--
Reports 406447/406447-additional		
SB1-S-1.0	SB3-S-13.5	SB11-S-8.0
SB1-S-5.5	SB6-S-1.0	SB10-S-0.5
SB1-S-8.5	SB6-S-3.0	SBDUP-S-5.5
SB1-S-13.5	SBDUP-S-3.0	SB10-S-5.5
SB2-S-1.0	SB6-S-10.5	SB10-S-11.0
SB2-S-4.0	SB6-S-13.5	SB10-S-15.5
SB2-S-10.5	SB7-S-1.0	SB13-S-0.5
SB2-S-13.5	SB7-S-4.0	SB13-S-5.5
SB16-S-1.0	SB7-S-7.0	SB13-S-7.5
SB16-S-3.5	SB7-S-13.5	SB13-S-11.5
SB16-S-7.5	SB8-S-0.5[b]	SB12-S-1.0
SB16-S-12.5	SBDUP2-S-3.0	SB12-S-5.5
SB5-S-1.0	SB8-S-3.0	SBDUP2-S-5.5
SB5-S-2.5	SB8-S-10.5	SB12-S-10.5
SB5-S-9.5	SB8-S-13.5	SB12-S-16.5
SB5-S-15.7	SB9-S-1.0	SB17-S-5.5
SB4-S-1.0	SB9-S-4.0	SB17-S-9.0
SB4-S-4.0	SB9-S-10.5	SB17-S-13.5
SB4-S-10.5	SB9-S-13.5	SB15-S-1.0
SB4-S-13.0	SBDUP-S-1.0	SB15-S-3.0
SB3-S-1.0	SB11-S-1.0	SB15-S-10.5
SB3-S-2.5	SB11-S-5.5	SB15-S-15.5
SB3-S-7.5	SB11-S-12.0	Trip Blank3
Report 406448		
MWEC01-GW-20.0	MW15-GW-16.0-M	MW15-GW-16.0
MWEC03-GW-20.0-M	MWEC03-GW-20.0	Trip Blank4
MWDUP-GW-20.0-M	MWDUP-GW-20.0	--
MWEC04-GW-20.0-M	MWEC04-GW-20.0	--

Notes
[a]Sample also analyzed in report 406362-additional.
[b]Sample also analyzed in report 406447-additional.

Data Validation Procedures

Analytical results were evaluated according to applicable sections of EPA guidelines for data review (EPA 2020a, 2020b) and appropriate laboratory- and method-specific guidelines (EPA 1986, F&B 2022, Fremont 2023).

Data validation procedures were modified, as appropriate, to accommodate quality control requirements for methods that EPA data review guidelines do not specifically address (e.g., Northwest Total Petroleum Hydrocarbons [NWTPH]-Dx).

ASTM D2216-98 percent moisture results reported by the laboratory for dry-weight correction were reviewed for completeness but were not included in Stage 2A data validation.

Based on the data quality assurance/quality control review described herein, the data, with the appropriate final data qualifiers assigned, are considered acceptable for their intended use. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, and data qualifiers assigned by the reviewer during validation.

Final data qualifiers:

- J = result is estimated.
- J+ = result is estimated, but the result may be biased high.
- J- = result is estimated, but the result may be biased low.
- R = result is rejected. The analyte may or may not be present in the sample.
- U = result is non-detect at the method reporting limit (MRL).
- UJ = result is non-detect with an estimated MRL.

General Qualifications

According to the case narratives accompanying reports 406362 and 406447, the EPA Method 8270E benzo(b)fluoranthene results are representative of both benzo(b)fluoranthene and benzo(j)fluoranthene as the two isomers coelude. The reviewer will include these notes with the final results.

Total Petroleum Hydrocarbon Results

In reports 406362, 406362-additional, 406447, and 406447-additional, F&B noted that all detected NWTPH-Dx and NWTPH-Dx/SG diesel-range hydrocarbons results, and the motor-oil-range hydrocarbons results for SB14-S-0.5, SB4-S-4.0, SB6-S-3.0, SBDUP-S-3.0, and SB7-S-4.0 had chromatographic patterns that did not resemble the fuel standards used for quantitation. Results are reported as diesel- or motor-oil-range hydrocarbons rather than specific fuel products; thus, qualification by the reviewer was not required.

Calibration

According to report 406362, the EPA Method 8270E 3,3'-dichlorobenzidine calibration standard was below the acceptance criteria. The laboratory appropriately flagged results associated with the low calibration standard, including the laboratory method blank. All associated sample results were qualified by the reviewer with UJ, as shown in the following table. The laboratory method blank did not require qualification.

Report	Sample	Analyte	Original Result (mg/kg)	Qualified Result (mg/kg)
406362	SB18-S-1.0	3,3'-Dichlorobenzidine	0.1 U	0.1 UJ
	SB18-S-4.0		0.1 U	0.1 UJ
	SB18-S-11.0		0.1 U	0.1 UJ

Report	Sample	Analyte	Original Result (mg/kg)	Qualified Result (mg/kg)
	SB18-S-13.0		0.1 U	0.1 UJ
	SB14-S-13.5		0.1 U	0.1 UJ
	MWEC04-S-8.0		0.1 U	0.1 UJ
	MWEC04-S-12.5		0.1 U	0.1 UJ
	MWEC03-S-7.0		0.1 U	0.1 UJ
	MWEC03-S-11.0		0.1 U	0.1 UJ
	MWEC02-S-3.0		0.1 U	0.1 UJ
	MWEC02-S-8.0		0.1 U	0.1 UJ
	MWEC02-S-13.0		0.1 U	0.1 UJ
	MWEC01-S-1.0		0.1 U	0.1 UJ

Notes
mg/kg = milligrams per kilogram.
U = result is non-detect at the method reporting limit.
UJ = result is non-detect with an estimated method reporting limit.

According to reports 406430 and 406447, the EPA Method 8082A calibration standard exceeded the acceptance criteria for some analytes. The laboratory appropriately flagged results associated with the high calibration standards. All associated sample results were non-detect and thus did not require qualification.

According to report 406447, the EPA Method 8270E bis(2-ethylhexyl) phthalate result for sample SB17-S-5.5 exceeded the calibration range of the instrument and is considered estimated. The laboratory reanalyzed the sample at a higher dilution and reported both sets of results. The secondary result is within the calibration range of the instrument and is considered the result of record, as shown in the following table.

Report	Sample	Analyte	Primary Analysis (mg/kg)	Secondary Analysis (mg/kg)	Result of Record (mg/kg)
406447	SB17-S-5.5	Bis(2-ethylhexyl) phthalate	2.3	3.2	3.2

Note
mg/kg = milligrams per kilogram.

According to report 406448, the EPA Method 6020B total zinc calibration standard exceeded acceptance criteria. The laboratory appropriately flagged results associated with the high calibration standard. All associated sample results were non-detect and thus did not require qualification.

Internal Standards

According to report 406362, some EPA Method 602B internal standard results for copper were outside control limits. The laboratory appropriately flagged results associated with the internal standard issue and noted that the results are considered estimates; the reviewer qualified the associated sample results with J. F&B reanalyzed the affected samples at higher dilutions and reported both sets of results. In order to meet project data quality objectives, the initial results, with qualification from the reviewer, are considered the results of record.

Report	Sample	Analyte	Primary Analysis (mg/kg)	Secondary Analysis (mg/kg)	Result of Record—with Qualification (mg/kg)
406362	SB18-S-1.0	Copper	11	25 U	11 J
	SB18-S-4.0		15	25 U	15 J
	SB18-S-11.0		13	25 U	13 J
	SB18-S-13.0		14	25 U	14 J
	SB14-S-0.5		14	25 U	14 J
	MWEC04-S-12.5		13	25 U	13 J
	MWEC02-S-8.0		12	25 U	12 J
	MWEC01-S-1.0		17	25 U	17 J
	MWEC01-S-3.0		13	25 U	13 J
	MWEC01-S-8.0		12	25 U	12 J

Notes
J = result is estimated.
mg/kg = milligrams per kilogram.
U = result is non-detect at the method reporting limit.

Total and Dissolved Compounds

For reports 406430 and 406448, total and dissolved EPA Method 6020B and EPA Method 1631E metals results were compared. MFA uses acceptance criterion of 20 percent RPD where dissolved metals results were greater than their associated total metals results; RPD evaluations where dissolved results are greater than total results are shown in the following table. RPD was not evaluated when both total and dissolved results for a sample were non-detect.

Report	Sample	Analyte	Total Result (ug/L)	Dissolved Result (ug/L)	Total ≥ Dissolved?	RPD (%)
406430	MWEC02-GW-21.0	Arsenic	1.2	1.5	No	22
		Barium	16	17	No	6.1
406448	MW15-GW-16.0-M	Arsenic	1.8	2.2	No	20
	MWEC03-GW-20.0-M	Barium	5.7	5.8	No	1.7
		Manganese	91	98	No	7.4
	MWDUP-GW-20.0-M	Manganese	94	95	No	1.1
	MWEC04-GW-20.0-M	Arsenic	2.7	3.1	No	14

Notes
RPD = relative percent difference
ug/L = micrograms per liter.

Total and dissolved results that exceeded the acceptance criterion were qualified by the reviewer, as shown in the following table.

Report	Sample	Analyte	RPD (%)	Original Result (ug/L)	Qualified Result (ug/L)
406430	MWEC02-GW-21.0	Total arsenic	22	1.2	1.2 J
		Dissolved arsenic		1.5	1.5 J

Report	Sample	Analyte	RPD (%)	Original Result (ug/L)	Qualified Result (ug/L)

Notes
J = result is estimated.
RPD = relative percent difference
ug/L = micrograms per liter.

All remaining total metals results were greater than their associated dissolved metals results or met the RPD acceptance criterion.

Sample Conditions

Sample Custody

Sample custody was appropriately documented on the chain-of-custody (COC) forms accompanying the reports, with exceptions listed below.

The reviewer confirmed that the gaps in custody between MFA and F&B on the original COC forms accompanying reports 406362 and 406430 are due to shipment via a third-party service.

On the subcontract COC forms accompanying reports 406362, 406430, 406447, and 406448, there are gaps in custody of approximately one to seven hours between relinquishment by F&B and receipt by Fremont. The reviewer confirmed with the laboratory that the samples in each sample delivery group were relinquished by the F&B project manager and the COC forms were sealed in the cooler(s), then samples were couriered to Fremont. The reviewer confirmed that sample custody was not compromised and the gaps are erroneous, but that internal relinquishment between F&B project managers and couriers will be noted for future sample delivery groups or custody seals will be used.

Holding Times

Extractions and analyses were performed within the recommended holding times.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

Reporting Limits

The laboratory evaluated results to MRLs. Samples that required dilutions because of high analyte concentrations, matrix interferences, and/or dilutions necessary for preparation and/or analysis were reported with raised MRLs.

The reviewer confirmed that when samples were diluted for analysis or when a higher sample volume was used for the extraction, F&B provided the preparation or dilution factor after the laboratory sample identification number.

The reviewer confirmed with the laboratory that Fremont reported some EPA Method 7196A non-detect results at high dilutions due to extract hues that would impact the colorimetric results at lower dilutions.

F&B noted that several MRLs were raised due to low sample mass and/or high percent moisture in the samples; qualification by the reviewer was not required.

According to reports 406362 and 406447, the NWTPH-Gx MRLs for samples MWEC03-S-1.0, MWEC03-S-5.5, MWEC02-S-1.0, SB5-S-1.0, SB5-S-2.5, SB7-S-4.0, SB8-S-0.5, SB11-S-5.5, SBDUP-S-5.5, SB10-S-5.5, and SB15-S-3.0, and the EPA Method 8260D MRLs for samples SB9-S-1.0, SB11-S-5.5, SBDUP-S-5.5, and SB10-S-5.5 were raised due to foaming during extraction. Qualification by the reviewer was not required.

According to all reports, F&B reported some analytes below MRLs and qualified the associated non-detect results as estimated. The reviewer confirmed this was done to meet project data quality objectives. The reviewer accepted the laboratory qualification, and final qualification for these results is UJ.

Blank Results

Method Blanks

Laboratory method blanks are used to evaluate whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies, in accordance with laboratory- and method-specific requirements.

According to the subcontracted Fremont results accompanying 406362, the EPA Method 6020B batch 44382 laboratory method blank had an iron detection above the MRL, at a concentration of 8.87 milligrams per kilogram. All associated sample results were greater than ten times the concentration detected in the laboratory method blank; thus, qualification by the reviewer was not required.

All remaining laboratory method blank results were non-detect to MRLs.

Equipment Rinsate Blanks

Equipment rinsate blanks are used to evaluate the adequacy of the field equipment decontamination process when decontaminated sampling equipment is used to collect samples.

These blanks were not required for this sampling event, as all samples were collected using dedicated or single-use equipment.

Trip Blanks

Trip blanks are used to evaluate whether volatile organic compound contamination was introduced during shipping and field handling procedures.

Trip blanks were submitted with all sample delivery groups for NWTPH-Gx and EPA Method 8260D analysis, as shown in the following table.

Report	Trip Blank Sample
406360	TripBlank1
406430	Trip Blank 2
406447	Trip Blank3
406448	Trip Blank4

The trip blanks were non-detect to MRLs for all target analytes.

Laboratory Control Sample and Laboratory Control Sample Duplicate Results

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results are used to evaluate laboratory precision and accuracy. Where LCSDs were not reported, laboratory precision was evaluated using laboratory duplicate and/or matrix spike (MS) and matrix spike duplicate (MSD) results. All LCSs and remaining LCSDs were prepared and analyzed at the required frequency, in accordance with laboratory- and method-specific requirements.

According to report 406430, the EPA Method 8270E LCS and LCSD results for pentachlorophenol had an RPD above the 20 percent control limit, at 62 percent. The LCS and LCSD were within percent recovery acceptance limits. All associated sample results were non-detect and thus did not require qualification.

According to report 406430, the EPA Method 8082A LCS and LCSD results for Aroclor 1016 and Aroclor 1260 had RPDs above the 20 percent control limit, at 33 percent and 36 percent, respectively. All associated sample results were non-detect and thus did not require qualification.

According to report 406447, the EPA Method 8270E LCS result for bis(2-ethylhexyl) phthalate was above the upper percent recovery control limit of 116 percent, at 121 percent. The reviewer qualified the associated detected sample result with J, as shown in the following table. The laboratory noted that the sample result was reported below the MRL and is considered estimated; thus, qualification with directional bias could not be applied by the reviewer. All remaining associated sample results were non-detect and thus did not require qualification.

Report	Sample	Analyte	Original Result (mg/kg)	Qualified Result (mg/kg)
406447	SB10-S-0.5	Bis(2-ethylhexyl) phthalate	0.028	0.028 J

Notes
J = result is estimated.
mg/kg = milligrams per kilogram.

All remaining LCS and LCSD results were within acceptance limits for percent recovery and relative percent difference (RPD).

Laboratory Duplicate Results

Laboratory duplicate results are used to evaluate laboratory precision and sample homogeneity. Where laboratory duplicate results were not reported, laboratory precision was evaluated using LCS and LCSD or MS and MSD results. All remaining laboratory duplicate samples were prepared and analyzed at the required frequency, in accordance with laboratory- and method-specific requirements.

Laboratory duplicate results greater than five times the MRL were evaluated using laboratory RPD control limits. A secondary criterion was used when laboratory duplicate results were non-detect or less than five times the MRL. Results meet the secondary criterion if the absolute difference of the laboratory duplicate sample result and the parent sample result, or the MRL for non-detects, is equal to or less than the MRL value of the parent sample.

All laboratory duplicate results met the acceptance criteria.

Matrix Spike and Matrix Spike Duplicate Results

Matrix spike (MS) and matrix spike duplicate (MSD) results are used to evaluate laboratory precision, accuracy, and the effect of the sample matrix on sample preparation and target analyte recovery. Where MS or MSD results were not reported, laboratory precision and accuracy were evaluated using LCS, LCSD, and/or laboratory duplicate results. All remaining MS and MSD samples were prepared and analyzed at the required frequency, in accordance with laboratory- and method-specific requirements.

In report 406447, Fremont analyzed some post-digestion spikes (PDS). PDS results are used to further evaluate matrix effects when MS results are outside acceptance limits.

For reports 406362 and 406447, the reviewer confirmed with the laboratory that the EPA Method 7196A MSs, with sample IDs ending in MS1 and MS2, are spiked with soluble and insoluble forms of hexavalent chromium, respectively. The LCS is spiked with soluble hexavalent chromium.

When MS, MSD, or PDSs were prepared from samples with high concentrations of target analytes, associated percent recovery and/or RPD control limit exceedances did not require qualification because spike concentrations could not be accurately quantified. High concentrations of target analytes are defined as four times the spike amount for all analyses.

When MS, MSD, or PDSs were prepared with samples from unrelated projects, percent recovery and/or RPD control limit exceedances did not require qualification because these sample matrices were not representative of project sample matrices.

According to report 406362, the EPA Method 8260D MS and MSD prepared with sample MWEC02-S-3.0 (406362-19) had vinyl chloride results above the upper percent control limit of 79 percent, at 87 percent and 82 percent, respectively. The associated sample result was non-detect; thus, qualification by the reviewer was not required.

According to report 406362, the EPA Method 8270E MS and MSD prepared with sample SB18-S-1.0 (406362-01) had bis(2-ethylhexyl) phthalate results below the lower percent control limit of 50 percent, both at zero percent. The reviewer qualified the associated sample result with J, as shown in the table at the end of this section.

According to report 406362, the EPA Method 6020B MSD prepared with sample SB18-S-1.0 (406362-01) had a barium result above the upper percent control limit of 125 percent, at 127 percent. The reviewer qualified the associated sample result with J, as shown in the table at the end of this section.

According to report 406362, the EPA Method 1631E MSD prepared with sample SB18-S-1.0 (406362-01) had a mercury result above the upper percent control limit of 125 percent, at 144 percent. The MS and MSD were reported from an analysis with a dilution factor of 10 and the sample result was reported undiluted. Matrix effects should be reduced at higher dilutions, so the reviewer qualified the associated sample result with J, as shown in the table at the end of this section.

According to report 406362, the EPA Method 8081B MS and MSD prepared with sample SB18-S-4.0 (406362-02) had a 4,4'-DDD RPD result above the 20 percent control limit, at 22 percent. The associated sample result was non-detect; thus, qualification by the reviewer was not required. Additionally, the 4,4'-DDT MS result was below the lower percent recovery control limit of 10 percent, at 8 percent, and the MS and MSD RPD result was above the 20 percent control limit, at 90 percent. The reviewer qualified the associated sample result with UJ, as shown in the table at the end of this section.

According to report 406447, the EPA Method 8270E MS and MSD prepared with sample SB3-S-13.5 (406447-24) had 1,2,4-trichlorobenzene and naphthalene results below the lower percent recovery control limit of 50 percent, ranging from 36 percent to 47 percent. The reviewer qualified the associated sample result with UJ, as shown in the table at the end of this section.

According to report 406447, the EPA Method 8270E MS and MSD prepared with sample SB12-S-16.5 (406447-61) had 1,2,4-trichlorobenzene and naphthalene RPD results above the 20 percent control limit, at 23 percent and 21 percent, respectively. The associated sample result was non-detect; thus, qualification by the reviewer was not required.

According to report 406447, the EPA Method 6020B MS and MSD prepared with sample SB3-S-1.0 (406447-21) had several results outside the percent recovery control limits of 75 percent to 125 percent. Chromium recovered at 130 percent and 127 percent in the MS and MSD, respectively; copper recovered at 72 percent in the MSD; and manganese recovered at 37 percent in the MSD with an associated RPD for the MS and MSD above the 20 percent control limit, at 71 percent. The reviewer qualified the associated chromium and copper sample results, as shown in the table at the end of this section. The reviewer did not qualify the associated manganese results since the MS and MSD were reported from an undiluted analysis with a manganese result greater as four times the spike amount, and the manganese result for SB3-S-1.0 was reported from an analysis with a dilution factor of 5.

According to report 406447, the EPA Method 6020B MS and MSD prepared with sample SB9-S-10.5 (406447-41) had several results outside the percent recovery control limits of 75 percent to 125 percent. Chromium recovered at 244 percent and 247 percent in the MS and MSD, respectively; copper recovered at 67 percent and 66 percent in the MS and MSD, respectively; and manganese recovered at 67 percent and 49 percent in the MS and MSD, respectively, with an associated RPD above the 20 percent control limit, at 31 percent. The reviewer qualified the associated chromium and copper sample results, as shown in the table at the end of this section. The reviewer did not qualify the associated manganese results since the MS and MSD were reported from an undiluted analysis with a manganese result greater as four times the spike amount, and the manganese result for SB9-S-10.5 was reported from an analysis with a dilution factor of 5.

According to report 406447, the EPA Method 6020B MS and MSD prepared with sample SB12-S-16.5 (406447-61) had several results outside the percent recovery control limits of 75 percent to 125 percent. Chromium recovered at 234 percent in the MS, with an associated RPD for the MS and MSD above the 20 percent limit, at 102 percent; copper recovered at 71 percent and 72 percent in the MS and MSD, respectively; and manganese recovered at 47 percent in both the MS and MSD. The reviewer qualified the associated chromium and copper sample results, as shown in the table at the end of this section. The reviewer did not qualify the associated manganese results since the MS and MSD were reported from an undiluted analysis with a manganese result greater as four times the spike amount, and the manganese result for SB12-S-16.5 was reported from an analysis with a dilution factor of 10.

According to report 406447, the EPA Method 1631E MSD prepared with sample SB9-S-10.5 (406447-41) had a mercury result below the lower percent control limit of 71 percent, at 54 percent. The associated MS and MSD RPD was above the 20 percent limit, at 44 percent. The MS and MSD were reported from an analysis with a dilution factor of 10 and the sample result was reported undiluted. Matrix effects should be reduced at higher dilutions, so the reviewer qualified the associated sample result with J, as shown in the table at the end of this section.

According to report 406447, the EPA Method 1631E MS and MSD prepared with sample SB12-S-16.5 (406447-61) had a mercury RPD result above the 20 percent control limit, at 36 percent. The MS and MSD were reported from an analysis with a dilution factor of 10 and the sample result was reported undiluted. Matrix effects should be reduced at higher dilutions, so the reviewer qualified the associated sample result with J, as shown in the table at the end of this section.

According to report 406447, the EPA Method 8082A MS and MSD prepared with sample SB1-S-8.5 (406447-03) had Aroclor 1016 and Aroclor 1260 RPD results above the 20 percent control limit, at 25 percent and 21 percent, respectively. The associated sample results were non-detect; thus, qualification by the reviewer was not required.

According to report 406447, the EPA Method 8082A MS and MSD prepared with sample SB3-S-13.5 (406447-24) had an Aroclor 1016 RPD result above the 20 percent control limit, at 24 percent. The associated sample result was non-detect; thus, qualification by the reviewer was not required.

According to report 406447, the EPA Method 8081B MS and MSD prepared with sample SB3-S-13.5 (406447-24) had 4,4'-DDT results below the lower percent recovery control limit of 10 percent, both at 3 percent. The reviewer qualified the associated sample result with UJ, as shown in the table at the end of this section.

According to report 406447, the EPA Method 8081B MS and MSD prepared with sample SB12-S-16.5 (406447-61) had 4,4'-DDD and 4,4'-DDT RPD results above the 20 percent control limit, at 21 percent and 45 percent, respectively. The associated sample results were non-detect; thus, qualification by the reviewer was not required.

According to report 406447, the EPA Method 7196A batch 44460 MS1 and MS2 prepared with sample SB5-S-2.5 had hexavalent chromium results below the lower percent recovery control limit of 32 percent, both at zero percent. Fremont analyzed a PDS on the sample extract and the results were within percent recovery control limits; due to the passing PDS results, the reviewer did not reject the sample results. The reviewer qualified the associated sample results with UJ, as shown in the table at the end of this section. Low or no recovery of soluble and insoluble forms of hexavalent chromium may indicate a reducing matrix which can occur in soils.

According to report 406447, the EPA Method 7196A batch 44484 MS1 and MS2 prepared with sample SBDUP-S-5.5 had hexavalent chromium results below the lower percent recovery control limit of 32 percent, both at zero percent. Fremont analyzed a PDS on the sample extract and the results were below the lower percent recovery control limit of 85 percent, at 39.9 percent. Since the PDS results were low, the reviewer qualified the associated sample results with R, as shown in the table at the end of this section. Low or no recovery of soluble and insoluble forms of hexavalent chromium may indicate a reducing matrix which can occur in soils. Sample SBDUP-S-5.5 is a field duplicate sample, so the reviewer also applied the R qualification to the parent sample, SB12-S-5.5.

Table: Qualifications based on MS and MSD Results.

Report	Sample	Method	Analyte	Original Result (mg/kg)	Qualified Result (mg/kg)
406362	SB18-S-1.0	EPA 8270E	Bis(2-ethylhexyl) phthalate	0.22	0.22 J
		EPA 6020B	Barium	52	52 J
		EPA 1631E	Mercury	0.039	0.039 J
	SB18-S-4.0	EPA 8081B	4,4'-DDT	0.002 U	0.002 UJ

Report	Sample	Method	Analyte	Original Result (mg/kg)	Qualified Result (mg/kg)
406447	SB3-S-13.5	EPA 8270E	1,2,4-Trichlorobenzene	0.01 U	0.01 UJ
			Naphthalene	0.001 U	0.001 UJ
		EPA 8081B	4,4'-DDT	0.002 U	0.002 UJ
	SB3-S-1.0	EPA 6020B	Chromium	7.3	7.3 J+
			Copper	13	13 J
	SB9-S-10.5	EPA 6020B	Chromium	9.9	9.9 J+
			Copper	12	12 J-
		EPA 1631E	Mercury	0.029	0.029 J
	SB12-S-16.5	EPA 6020B	Chromium	7.7	7.7 J
			Copper	11	11 J-
		EPA 1631E	Mercury	0.037	0.037 J
	SB5-S-2.5	EPA 7196A	Hexavalent chromium	2.50 U	2.50 UJ
	SB12-S-5.5	EPA 7196A	Hexavalent chromium	0.523 U	R
	SBDUP-S-5.5	EPA 7196A	Hexavalent chromium	0.507 U	R

Notes
EPA = U.S. Environmental Protection Agency.
J = result is estimated.
J- = result is estimated, but the result may be biased low.
J+ = result is estimated, but the result may be biased high.
mg/kg = milligrams per kilogram.
R = result is rejected. The analyte may or may not be present in the sample.
U = result is non-detect at the method reporting limit.
UJ = result is non-detect with an estimated method reporting limit.

All remaining MS, MSD, and PDS results were within acceptance limits for percent recovery and RPD.

Surrogate Results

Surrogate results are used to evaluate laboratory performance of target organic compounds for individual samples.

When surrogate results were outside percent recovery acceptance limits because of dilutions necessary to quantify high concentrations of target analytes, qualification by the reviewer was not required because surrogate concentrations could not be accurately quantified.

When surrogate results are reported as estimates due to associated calibration standards outside acceptance limits, qualification by the reviewer was not required when the surrogate results were within acceptance limits.

According to report 406362, the NWTPH-Dx surrogate result for sample SB14-S-3.0 was outside control limits due to sample matrix effects. The reviewer confirmed using the electronic data deliverable that the o-terphenyl surrogate result was above the upper percent control limit of 150 percent, at 154 percent. The reviewer qualified the associated sample results with J+, as shown in the following table.

Report	Sample	Analyte	Original Result (mg/kg)	Qualified Result (mg/kg)
406362	SB14-S-3.0	Diesel-range hydrocarbons	790	790 J+
		Motor-oil-range hydrocarbons	28,000	28,000 J+

Report	Sample	Analyte	Original Result (mg/kg)	Qualified Result (mg/kg)

Notes
J+ = result is estimated, but the result may be biased high.
mg/kg = milligrams per kilogram.

According to report 406362, the EPA Method 8081B tetrachlorometaxylene surrogate result for the method blank (04-1537 mb2) was above the upper percent control limit of 117 percent, at 121 percent. The reviewer confirmed that the method blank was non-detect for all target analytes and the associated field samples had passing surrogate recoveries. The high surrogate recovery in the method blank was likely an isolated incident. Qualification by the reviewer was not required.

According to report 406448, the EPA Method 8082A decachlorobiphenyl surrogate for all samples was associated with a calibration standard above acceptance criteria, and reported surrogate values are considered estimates. The decachlorobiphenyl surrogate results for samples MWEC01-GW-20.0, MWEC03-GW-20.0, MWDUP-GW-20.0, and MWEC04-GW-20.0 were above the upper acceptance limit of 65 percent, ranging from 73 percent to 83 percent. All associated samples were non-detect for all EPA Method 8082A target analytes and thus did not require qualification.

According to report 406448, the EPA Method 8081B decachlorobiphenyl surrogate results for samples MWEC01-GW-20.0, MWEC03-GW-20.0, MWDUP-GW-20.0, and MWEC04-GW-20.0 were above the upper acceptance limit of 89 percent, ranging from 96 percent to 114 percent. All associated samples were non-detect for all EPA Method 8081B target analytes and thus did not require qualification.

All remaining surrogate results were within percent recovery acceptance limits.

Field Duplicate Results

Field duplicate results are used to evaluate field precision and sample homogeneity. The following field duplicate and parent sample pairs were submitted for analysis:

Report	Parent Sample	Field Duplicate Sample
406447	SB6-S-3.0	SBDUP-S-3.0
	SB8-S-3.0	SBDUP2-S-3.0
	SB11-S-1.0	SBDUP-S-1.0
	SB10-S-5.5	SBDUP-S-5.5
	SB12-S-5.5	SBDUP2-S-5.5
406448	MWEC03-GW-20.0-M	MWDUP-GW-20.0-M
	MWEC03-GW-20.0	MWDUP-GW-20.0

MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL or 50 percent RPD for results that are greater than five times the MRL. RPD was not evaluated when both results in the sample pair were non-detect. When only one result in the sample pair was non-detect, RPD was evaluated using the MRL of the non-detect result.

Field duplicate results that exceeded the acceptance criteria were qualified by the reviewer, as shown in the following table. The reviewer confirmed with the laboratory that field duplicate sample SBDUP-S-1.0 was significantly more heterogenous than the parent sample, SB11-S-1.0, and that the field duplicate exhibited matrix interference. The reviewer confirmed with the laboratory that there

were no data quality issues shown for SB10-S-5.5 or SBDUP-S-5.5 and the samples appeared relatively homogenous. MFA did not request reextraction or reanalysis.

Report	Sample	Analyte	RPD (%)	Original Result (mg/kg)	Qualified Result (mg/kg)
406447	SB11-S-1.0	Hexavalent chromium	168	0.508 U	0.508 UJ
	SBDUP-S-1.0			5.75	5.75 J
	SB10-S-5.5	Iron	162	280,000	280,000 J
	SBDUP-S-5.5			29,400	29,400 J

Notes
J = result is estimated.
mg/kg = milligrams per kilogram.
RPD = relative percent difference
U = result is non-detect at the method reporting limit.
UJ = result is non-detect with an estimated method reporting limit.

All remaining field duplicate results met the RPD acceptance criteria.

Data Package

The data packages were reviewed for transcription errors, omissions, and anomalies. Project-specific analytical suites were requested on COC forms and provided to the laboratory; the reviewer confirmed that the reported analytical suites matched the project work plan (MFA 2024).

On the COC forms accompanying all reports, MFA requested semivolatile organic compound analysis by EPA Method 8270E with selected ion monitoring (SIM). F&B analyzed samples by EPA Method 8270E without SIM. The reviewer confirmed that the latter method is suitable to meet data quality objectives for the project.

Report 406362

There are several NWTPH-Dx chromatograms accompanying report 406362. Review of instrument outputs is not required by Stage 2A data validation.

On the subcontract COC forms accompanying report 406362, F&B lists a relinquishment date of June 26 with no year listed. The reviewer confirmed that the relinquishment date is June 26, 2024.

Report 406362 was revised on July 23, 2024, to correct sample collection times and sample nomenclature in the subcontracted Fremont report to match the information provided on the original COC form. The revision includes a revised subcontract COC form that has the corrected information. At MFA's request, report 406362 was further revised on August 8, 2024, to include EPA Method 8270E benz(a)anthracene results for groundwater samples and n-nitrosodiphenylamine results for soil samples. Additionally, the diluted manganese EPA Method 6020B reanalysis result for sample SB18-S-1.0 result was removed and only the undiluted dissolved manganese result is included in the revised report.

At MFA's request, F&B analyzed samples SB14-S-3.0, SB14-S-7.0, MWEC02-S-1.0 by NWTPH-Dx/SG after the initial report was released. The laboratory performed the silica gel cleanup on the original NWTPH-Dx extracts to meet the analytical holding time. F&B reported the results in a separate report, 406362-additional. Some NWTPH-Dx/SG results were higher than the original NWTPH-Dx results; the reviewer confirmed with the laboratory that this may be due to solvent contacting the soil in the extract and pulling additional material over time, even with sonication performed during the

NWTPH-Dx extraction. The laboratory followed all method requirements and qualification by the reviewer was not required.

Report 406430

According to the cooler receipt checklist accompanying report 406430, two volatile organic analysis vials were received for the Trip Blank 2 sample. The reviewer confirmed that only one vial was erroneously indicated on the COC form.

On the COC form accompanying report 406430, MFA requested dissolved hexavalent chromium analysis for groundwater by EPA Method 218.6. Fremont analyzed samples by SM 3500-Cr B. The reviewer confirmed that the latter method is suitable to meet data quality objectives for the project.

Report 406430 was revised on July 16, 2024, to include total barium EPA Method 6020B results for sample MWEC02-GW-21.0 that were missing from the original report. At MFA's request, report 406430 was further revised on July 30, 2024, to include EPA Method 8270E benz(a)anthracene results for groundwater samples.

Report 406447

There are several NWTPH-Dx chromatograms accompanying report 406447. Review of instrument outputs is not required by Stage 2A data validation.

According to the cooler receipt checklist accompanying report 406447, there were several sample container labels with nomenclature that did not match the COC form. The reviewer confirmed that the laboratory was able to correctly identify all samples and reported the sample names provided on the COC form.

On the subcontract COC form accompanying report 406447, F&B lists a relinquishment date of July 1 with no year listed. The reviewer confirmed that the relinquishment date is July 1, 2024.

Report 406447 was revised on August 12, 2024, to correct sample collection times and sample nomenclature in the subcontracted Fremont report to match the information provided on the original COC form. The revision includes a revised subcontract COC form that has the corrected information. The revision also removed extraneous EPA Method 8260D results for Trip Blank3 that were not requested on the COC form. Additionally, at MFA's request, the laboratory updated sample names for field duplicates SBDUP2-S-3.0 and SBDUP2-S-5.5 that originally had the same sample names as field duplicates SBDUP-S-3.0 and SBDUP-S-5.5, respectively. The reviewer confirmed that the laboratory was able to correctly identify the field duplicate samples during sample receipt using the unique sample collection dates and times. Further, at MFA's request, the laboratory updated the sample name for SB15-S-5.5 to SB15-S-3.0 as the former sample name was erroneous.

At MFA's request, F&B analyzed sample SB8-S-0.5 by NWTPH-Dx/SG after the initial report was released. The laboratory performed the silica gel cleanup on the original NWTPH-Dx extract to meet the analytical holding time. F&B reported the results in a separate report, 406447-additional. The NWTPH-Dx/SG results were higher than the original NWTPH-Dx results; the reviewer confirmed with the laboratory that this may be due to solvent contacting the soil in the extract and pulling additional material over time, even with sonication performed during the NWTPH-Dx extraction. The laboratory followed all method requirements and qualification by the reviewer was not required.

Report 406448

On the COC form accompanying report 406448, MFA requested dissolved hexavalent chromium analysis for groundwater by EPA Method 218.6. Fremont analyzed samples by SM 3500-Cr B. The reviewer confirmed that the latter method is suitable to meet data quality objectives for the project.

There are two subcontract COC forms accompanying report 406448. The reviewer confirmed that the original subcontract COC form was revised to correct the referenced F&B report number.

Report 406448 was revised on July 15, 2024. F&B removed undiluted dissolved manganese EPA Method 6020B results for samples MWEC03-GW-20.0-M and MWDUP-GW-20.0-M which did not pass laboratory quality control criteria; only the diluted dissolved manganese reanalysis results are included in the revised report. Additionally, the project number was updated from M2701.01.001 to M2703.01.001 at MFA's request; the former was erroneously written on the COC form accompanying this report. At MFA's request, report 406448 was further revised on July 30, 2024, to include EPA Method 8270E benz(a)anthracene results for groundwater samples.

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