DRAFT

DRAFT CONTAMINATED MEDIA MANAGEMENT PLAN

FORMER MAIL-WELL ENVELOPE FACILITY
MILWAUKIE, OREGON

Prepared for:

KELLOGG PARK INVESTMENT, LLC

2515 SE Mailwell Drive, Milwaukie, Oregon

JULY 26, 2024

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FORMER MAIL-WELL ENVELOPE FACILITY
2515 SE MAILWELL DRIVE, MILWAUKIE, OREGON

Prepared for:

Kellogg Park Investment, LLC
2515 SE Mailwell Drive, Milwaukie, Oregon

Prepared by:

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July 26, 2024

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Third-party disclaimer

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1 INTRODUCTION

WSP USA Environment & Infrastructure Inc. (WSP) has prepared this Contaminated Media Management Plan (CMMP) on behalf of Kellogg Park Investment, LLC (Kellogg Park), for the Former Mail-Well Envelope Facility located at 2515 SE Mailwell Drive in Milwaukie, Oregon (Site). The Site vicinity is shown on Figure 1.

Soil and groundwater at the Site contain residual impacts from past releases of halogenated volatile organic compounds (HVOCs). A series of investigations (dating back to 1997) were documented in the *Final Remedial Investigation Report* (AMEC Foster Wheeler [now WSP], 2017) and the *Final Focused Feasibility Study* (Wood [now WSP], 2018).

In 2019 and 2023, remediation of soil and groundwater was conducted via a series of injections of an in-situ treatment compound to facilitate contaminant destruction/degradation on Site. The treatment was in accordance with the Oregon Department of Environmental Quality (DEQ) issued *Record of Decision* (ROD) (Oregon DEQ, 2019a). Since 2023, Site quarterly monitoring has been conducted and environmental conditions have been sufficiently characterized and remediated such that no further action is planned.

This CMMP is designed to assist future contractors at the Site with the handling and management of excavated soils and/or encountered groundwater with respect to potential environmental issues.

1.1 SITE LOCATION

The Site is comprised of a 6.6-acre strip of land located approximately 2,000 feet to the north-northeast of the intersection of Oregon State Highway 99E (SE McLoughlin Boulevard) and the Highway 214 (Milwaukie Expressway) in Milwaukie, Oregon. Vicinity property use consists of industrial, manufacturing, and warehousing to the north, south, and west with residential properties located to the east.

The Site is occupied by an approximately 165,000-square-foot building containing manufacturing, storage, and office spaces. Johnson Creek, a tributary to the Willamette River, is located approximately 1,200 feet west of the Site. The Site is situated at an elevation of approximately 50 feet above mean sea level. Railroad spurs serving the subject property and adjacent properties are located along the northern property boundary. The Site and the adjoining properties are shown in Figure 1.

1.2 SITE HISTORY

The Site has been used for manufacturing and printing envelopes, wrapping paper, and/or boxes since 1957, and was undeveloped before then. The Site was previously occupied by various entities known as Mail-Well Envelope Company (now known as Cenveo) or Park-Well Paper Industries.

1.3 SITE ENVIRONMENTAL CONDITIONS

During historical site operations, HVOCs (primarily perchloroethene [PCE]), were used in various processes from the late 1970s until the early 1990s. Although no releases of HVOCs had been reported on the Site or vicinity properties, analytical results from subsurface investigations indicated that undocumented releases occurred in two separate areas of the Site (Appendix A):

- Area 1: the north-central portion and northwest corner of the Site (including the northern portion of the Site building) (Figures 2A and 3A), and
- Area 2: the southwest corner of the Site and adjacent properties to the west and southwest (Figures 2B and 3B).

The releases in these areas have resulted in dissolved phase HVOCs being transported in a westerly to southwesterly direction by shallow groundwater (Figure 4).

The DEQ issued the ROD in January 2019 and Wood submitted a Remedial Action Plan (RAP) for the Site on April 12, 2019 (Wood, 2019). The selected remedial action included treatment of impacted saturated soil and groundwater using BOS 100 in situ remediation technology (activated carbon impregnated with zero-valent iron; Remediation Products Inc., Golden, Colorado) and post-remediation groundwater monitoring. In August 2019, BOS 100 was injected in 43 locations across the approximately 435-square-foot target remediation area (Wood, 2020). In August 2023, a supplemental injection was performed within a subset of the original treatment area (15 locations), using a similar formulation with added HVOC-degrading bacteria (CAT-100, provided by AST/BBA).

Consistent with the ROD, the remedial action addressed Area 2 only. Due to the limited extent of contamination exceeding risk-based screening levels in Area 1, and the low magnitude of exceedances (Appendix A), the Area 1 release was not addressed with remedial action.

1.4 TYPE AND MAGNITUDE OF CONTAMINANTS OF CONCERN

Testing of soils on the Site has indicated that some soils (located in Areas 1 and 2 - see Figures 2A and 2B, respectively) exceed DEQ Human Health Risk-Based Concentrations (RBCs) (Oregon DEQ, 2023). In addition, some soils contain low levels of contaminants that do not meet DEQ "Clean Fill" standards (Oregon DEQ, 2019b). Because there are soils that exceed RBCs and/or Clean Fill standards, if disturbed special handling requirements apply. If soils are excavated and moved offsite, these soils would be considered "Solid Waste" and subject to applicable disposal restrictions.

Maximum levels of Contaminants of Concern (COCs) detected in Site soils (dating back to 1997) and maximum levels of COCs detected in groundwater (post-remediation), with comparisons to Regulatory Screening Levels, are presented below in Tables 1 and 2. The complete set of analytical results is presented in Appendix A:

Table 1 Maximum Soil Concentrations Detected

Contaminants of Concern	RBC (µg/kg)	Clean Fill (µg/kg)	Maximum detected (µg/kg)
PCE	36,000	180	449,000
TCE	2,300	13	3,180
Cis-1,2-Dichloroethene	710,000	630	260
Vinyl chloride	2,200	0.57	19.7

Table 2 Maximum Groundwater Concentrations Detected

Contaminants of Concern	RBC[1] (µg/L)	Maximum detected (µg/L)
PCE	5,600	33,700
TCE	3,000	1,490
Cis-1,2-Dichloroethene	18,000	670
Vinyl chloride	880	36.4

1: RBC for groundwater in excavation only

1.5 CMMP OBJECTIVES

The purpose of this CMMP is to provide Site-specific information and guidance to future contractors that may encounter contaminated media (soils or groundwater). Specifically, this document includes:

- A description of the type and magnitude of contaminants of concern detected in soil at the Site
- Procedures for the management of known "Clean Fill" and "Not Clean Fill"
- Procedures for the management of unanticipated and unknown soil contamination, should any be encountered during redevelopment activities
- Measures to control the Site during redevelopment activities
- Measures to control the offsite migration of contaminated soil via erosion and/or track-off
- Procedures for dewatering.

1.6 SITE RESPONSE REQUIREMENTS

For future construction work at the Site, if the constructors or utility workers encounter soil or groundwater contamination that exceeds DEQ regulatory standards, or unanticipated conditions, then materials management and/or cleanup procedures will be determined by the property owner with their environmental consultant and DEQ.

2 TRAINING REQUIREMENTS FOR CONTAMINATED SOILS

Workers anticipated to handle or encounter contaminated media, except where noted, should meet the following requirements:

- Personnel to be in contact with contaminated media must have either completed the appropriate Hazardous Waste Operations and Emergency Response (HAZWOPER) training requirements specified in Title 29 of the Code of Federal Regulations (29 CFR) Part 1910.120(e) or be under the direct supervision of a HAZWOPER-trained competent person. HAZWOPER training consists of an initial 40-hour training course and subsequent annual 8-hour refresher training courses.
- Contractor/subcontractors/personnel assigned with the task of providing and operating specialized construction equipment in contact with contaminated media will also be required to have HAZWOPER training.
- Each individual expected to be in contact with contaminated media will be trained by their employer on Site-specific management methods for preventing exposure to contaminated soil at the Site during response implementation.
- Each individual expected to be in contact with contaminated media will be required to wear appropriate personal protective equipment to protect against direct exposure to contaminated media during response implementation.
- It is the responsibility of the individual's employer to provide necessary medical surveillance, if required.

3 SOIL MANAGEMENT

Any future contractor performing excavation work will manage soil according to the procedures outlined in this section. The environmental consultant, in consultation with DEQ, will provide guidance on classification in the field when questions arise and will be responsible for determining whether additional soil sampling and analysis are needed to support final classification. The environmental consultant will also be available to assist the construction contractor in determining final soil disposition of excess soil generated during construction activities.

3.1 CLASSIFICATIONS FOR SOIL

This section presents a soil classification system to be used by the excavation contractor during Site activities. Classification of soil into one of the soil classes described below will be based on location, previous characterization, and/or physical characteristics. Soil at the Site will fall into one of the following three classes: 1) Clean Fill; 2) soil with contamination above Clean Fill concentrations (aka "Not Clean Fill"; or 3) Contaminated Soil (soil with contamination above DEQ RBCs) or Unanticipated and/or Unknown Impacted Soil.

3.2 PROCEDURES

3.2.1 CLEAN FILL

Clean Fill requires no special environmental handling requirements and can be moved without restrictions on the Site as well as offsite. Standard erosion control and track-off requirements still apply.

3.2.2 SOIL ABOVE DEQ CLEAN FILL STANDARDS

Soils that do not meet Clean Fill Standards have special environmental handling requirements and cannot be moved offsite without restrictions. Soil should be profiled to determine if transport to a non-hazardous waste (Subtitle D) landfill, such as the Waste Management Hillsboro Landfill, is acceptable, or if disposal at a hazardous waste landfill (Subtitle C), such as in Arlington, Oregon, is required for disposal. Standard erosion control and track-off requirements still apply.

3.2.3 CONTAMINATED SOIL (SOIL ABOVE DEQ RBCS) OR UNANTICIPATED AND/OR UNKNOWN IMPACTED SOIL

If Contaminated Soil (soil above DEQ RBCs) or Unanticipated and/or Unknown Contaminated Soil is encountered – immediately STOP WORK and notify the environmental consultant. The environmental consultant, in consultation with DEQ, will provide direction on how to segregate and manage the contaminated/potentially-contaminated soil. General requirements are as follows:

1. Upon discovery of suspected contaminated soil, immediately suspend all activities in the vicinity and notify the environmental consultant.
2. Within 24 hours of notification (or as soon as reasonably possible), the environmental consultant will evaluate whether contaminated soil has been encountered. The environmental consultant may collect and analyze samples or may direct the collection and analysis of samples to complete this evaluation. The environmental consultant may also direct the continued excavation and placement of excavated soil in temporary stockpiles.
3. Suspected contaminated soils must be stockpiled separately from clean soils. Suspected contaminated soil must be placed atop plastic sheeting (6-mil minimum) and surrounded by a berm. The stockpile must

also be covered with tarps during periods of rain, wind, or inactivity to prevent soil transport. The edges of the tarps must be weighted down, and the stockpile must be marked with a labeled flag or other marker as suspected contaminated soil.

4. The stockpile(s) must be kept neat.
5. The environmental consultant must approve the location of all suspected contaminated soil stockpiles if placement within excavation staging area is not possible.

If the environmental consultant determines that the soil encountered is contaminated, the construction contractor will comply with the following requirements:

1. Secure the area as necessary to restrict and protect workers and the public from exposure.
2. Modify the Site-specific Health and Safety Plan (HASP), as necessary, to address new contaminated soil concerns. The environmental consultant will provide unanticipated and unknown contaminated soil sampling and analysis data to assist in making appropriate document modifications. The environmental consultant will approve all document modifications.
3. Do not excavate, temporarily store, manage, load, haul, or dispose of unanticipated and unknown contaminated soil until directed by the environmental consultant. Once directed, perform all excavation, temporary storage, management, loading, hauling, and disposal of unanticipated and unknown contaminated soil/media in accordance with relevant sections of this CMMP.
4. Until authorized by the environmental consultant, do not transport unanticipated and unknown contaminated soil offsite. The environmental consultant will direct the disposal of the unanticipated and unknown contaminated soil/media. If the contaminated soil is a federal or state hazardous waste, the site owner must properly remove and dispose of the soil within 30 days of being directed by the environmental consultant.

3.2.3.1 Exclusion Zone and Decontamination

Before beginning excavation of contaminated soil, the construction contractor must establish an exclusion zone around all excavation work areas, and make sure that only properly trained personnel are involved in the cleanup activities. Activities to occur in the exclusion zone also pertain to the excavation staging area. Personnel and vehicle entry into the exclusion zone must be limited. Equipment may move freely within the exclusion zone. Cleaning of equipment is not required for movement of equipment within the exclusion zone.

Truck loading areas should be located at the boundary of the exclusion zone to minimize the need for entry and subsequent decontamination, if practicable. Trucks or other soil loading/transport vehicles must be cleaned before leaving the loading area. Loose soil will be removed from equipment using a broom, and significant quantities of soil adhered to equipment will be removed with hand tools. Decontamination procedures for personnel and equipment exiting the exclusion zone must be described in the site-specific health and safety plan prepared by the construction contractor.

3.2.3.2 Control of Excess Contaminated Soil

The construction contractor must use best practices to prevent offsite migration (or migration of materials into nearby uncontaminated areas) of visible or measurable soils contained in airborne dust, track out, or stormwater runoff. Example methods include:

1. A water truck to wet dry soils to suppress airborne dust.
2. Broom cleaning of soil from exterior of vehicles before they leave soil loading areas or the Site. These areas will be periodically swept to ensure contaminated soil that falls on the ground as part of truck loading is properly disposed of.
3. Graveled aprons and/or a wheel wash at Site exit point(s).
4. Catch basin sediment filters installed in catch basins located in streets near the Site to prevent Site soils from entering the stormwater management system.

5. Silt fences or other erosion control devices to prevent Site soils suspended in stormwater from migrating offsite. This should be managed in accordance with the Site-specific erosion and sediment control plan 1200-C permit.

3.2.3.3 Soil Excavation Observation and Monitoring

The environmental consultant will oversee the construction contractor during soil excavation and grading activities when managing or evaluating unanticipated and unknown contaminated soil or media. Criteria used in evaluating soils, and the procedures to be followed based on the evaluation, are described below:

1. Criterion: Observation of unusual soil staining or odors.

   Procedure: The environmental consultant will assist the construction contractor in deciding whether to directly load the soil into trucks and transport it to a disposal/treatment facility (if classified as known contaminated soil), or to stockpile the soil onsite so that it can be sampled and profiled for disposal/treatment (if classified as potential unanticipated and unknown contaminated soil).

2. Criterion: Volatile organic compound vapor concentration more than 50 parts per million volume (ppmV) as measured with a photoionization detector (PID) using soil sample head space. All potential unanticipated and unknown contaminated soil will be screened using a PID. PID readings will be collected at a frequency of one reading for each of the following events:

   a. If visual evidence of impacted soil is noted
   b. For each change in soil type
   c. Daily during soil removal activities
   d. For every 250 tons of soil removed

   Procedure: If a volatile organic compound vapor concentration more than 50 ppmV is measured, the environmental consultant will direct the construction contractor to stockpile the soil onsite so that it can be profiled for disposal/treatment.

   [Note: PID measurements of soil for classification will be performed by placing 1-2 cubic inches of soil in a quart-sized air-tight plastic bag, sealing the bag, kneading the soil for approximately 10 seconds, and then inserting the probe-end of the PID into the bag and recording the highest measurement observed.]

Any soil that fails one of the above criteria will be considered an unanticipated and/or unknown contaminated soil and will be handled in accordance with the procedures described in this CMMP.

In areas where unanticipated and unknown contaminated soil is identified, the construction contractor will assist the environmental consultant, as needed, in collecting samples of the soil for laboratory analysis. The environmental consultant will use the analytical data to evaluate whether the soil can remain in place. No excavation shall be backfilled or otherwise made inaccessible until the environmental consultant has completed soil sampling and has directed the construction contractor to initiate backfilling.

3.2.3.4 Staging of Excess Contaminated Soil

During Site activities, it is possible that excess soils will be generated. Temporary staging and or stockpiling of excess contaminated soils by the construction contractor may be permitted in the excavation staging area. Temporary stockpiles of contaminated soil must be placed atop plastic sheeting (6-mil minimum) and surrounded by a berm or other best management practices. Excess contaminated soil temporarily stockpiled onsite must be covered with tarps during periods of rain, wind, or inactivity to prevent soil erosion. The edges of the tarps must be weighted down. Stockpiles must be kept neat. The environmental consultant must approve the location of all excess contaminated soil stockpiles. The contractor must mark each stockpile with a labeled flag or other marking to indicate its classification as known contaminated soil or potentially contaminated soil (if awaiting laboratory analysis).

The environmental consultant will collect samples of stockpiled contaminated (or potentially contaminated) soil for laboratory analysis. Based on laboratory data, and in consultation with DEQ, the environmental consultant will

evaluate whether the soil may remain onsite in accordance with DEQ regulations, or whether the soil must be disposed offsite.

3.2.3.5 Excavation and Loading of Contaminated Soil

Where disposal is required, the construction contractor must load soil using the following procedures:

1. Notify the environmental consultant no less than 24 hours prior to beginning excavation of soil.
2. Use water as necessary to prevent the generation of visible dust during excavation and loading. The contractor will minimize equipment traffic through the exclusion zone to prevent contaminated soils from being transported via track-off to other parts of the Site, or off the Site.
3. Maintain excavation equipment in good working order. The construction contractor must immediately clean up any contaminated soil resulting from spilled hydraulic oils or other hazardous materials from equipment.
4. Locate loading areas for contaminated soil near or outside the edge of the exclusion zone.
5. Wet soils with free water will not be loaded into trucks.
6. Load trucks in a manner that prevents the spilling, tracking or dispersal of contaminated soils. Cover all loads prior to exiting the Site.
7. Remove soil from the exterior of each truck before the truck leaves the loading area. Place any soil collected in the loading area back into the truck.
8. Establish specific truck haul routes before beginning offsite soil transport. Use on-Site truck routes that minimize or prevent movement of trucks over either known or managed-as-contaminated soils.
9. Ensure that loaded truck weights are within acceptable limits.

3.2.3.6 Transportation of Contaminated Material

The construction contractor must comply with all applicable federal, state, or local laws, codes, and ordinances that govern or regulate contaminated soil transportation. Prior to transportation, obtain all required permits and furnish all labor, materials, equipment, and incidentals required for soil transport. Ensure that all drivers hauling contaminated soil have in their possession during hauling all applicable state and local vehicle insurance requirements, valid driver's license, and vehicle registration and license.

Inform all drivers of haul vehicles of the nature of the material being hauled; the route to and from the disposal site and/or disposal staging area; applicable city street regulations and requirements; State of Oregon Department of Transportation codes, regulations and requirements; and the legal maximum load limits per vehicle.

The construction contractor will ensure that the following requirements are met:

- Truck inspections and cleanings will occur in the excavation staging area
- Contaminated soil will not be spilled or tracked offsite.
- No visible or measurable airborne soil (i.e., dust) will leave the Site.
- Each truck load of contaminated soil will be covered with a well-secured tarp prior to the truck leaving the Site.
- Soil on the exterior of trucks and other equipment will be removed using brooms and hand tools prior to the vehicle leaving the exclusion zone.
- Trucks will not exit the Site if liquids are draining from the load.
- The Contractor must be prepared to install a liner in the trucks upon request by the environmental consultant.

- Trucks used for transportation of contaminated soil will be substance-compatible, licensed, insured, and permitted pursuant to federal, state, and local statutes, rules, regulations, and ordinances.
- Provide to the Environmental Consultant all weigh tickets from any local scale and disposal facility within two days of disposal of contaminated soil.
- Inform all drivers of haul vehicles of the following:
  - The nature of the material being hauled.
  - The required route to and from the disposal site and/or disposal staging area
  - Legal maximum load limits per vehicle

3.2.3.7 Disposal of Contaminated Soils or Other Solid Wastes

Contaminated soil will be transported to an appropriate, permitted landfill. Soils classified as solid waste will be permitted for disposal at RCRA Subtitle D permitted landfills such as Hillsboro Landfill. Soils classified as hazardous waste will be permitted for disposal at a RCRA Subtitle C landfill.

Prior to excavation, transportation and disposal of contaminated soil, the Contractor must obtain acceptance from the landfill for disposal of the soil. At least 14 days prior to transport of contaminated soil, the Contractor must provide a contact name and solid waste permit number for each facility that will receive contaminated soil and provide the Environmental Consultant at least 72 hours' notice prior to initial transport of the contaminated soil. The Contractor must properly prepare for bills of lading, or shipping manifests, and other documents required by the disposal facility, and receipts for disposal must be submitted to the Environmental Consultant within 2 days of receipt of the contaminated soil at the landfill.

3.3 IMPORTED SOIL MANAGEMENT

Imported soil is not anticipated at this Site. However, if import of soil is required then the following procedures apply:

- Imported soil to be used as backfill material at the Site will be sourced from soil that meets the DEQ Clean Fill criteria only.
- The source of backfill material must be proposed by the contractor to the Environmental Consultant in writing at least two weeks prior to anticipating import and must include the address of where the material was generated, approximate volume of the material, borrow site contact, and any information related to borrow site history and, potentially, chemical analysis.

If the fill borrow source is determined to be potentially appropriate, the environmental consultant will sample material proposed for import to the Site in accordance with a DEQ-approved evaluation plan. Collected samples will be submitted to the analytical laboratory under standard chain of custody procedures and sample results will be compared to DEQ Clean Fill Standards.

4 GROUNDWATER MANAGEMENT

Based on existing data from the Site, groundwater may be encountered in any future excavations that are deeper than approximately eight (8) feet bgs (Appendix A; Figure 4). The construction contractor shall notify the environmental consultant if groundwater is encountered within any excavations at the Site. If water disposal is necessary, options will be evaluated in consultation with the environmental consultant and DEQ.

5 CONTRACTOR HEALTH AND SAFETY

The Contractor must develop and implement a Site-specific HASP, designed to ensure compliance with all applicable worker protection regulatory requirements, including 29 CFR 1910.120, the Hazardous Waste Operations, and Emergency Response ("HAZWOPER") rule promulgated by the US Occupational Safety and Health Administration (OSHA).

During construction activities, the construction contractor will bear full responsibility for the implementation of its own Site-specific HASP. Neither the Owner nor WSP bear any responsibility whatsoever for implementation and/or monitoring compliance with the HASP.

6 PERMITTING

This section does not present a comprehensive notation of permits required to complete the project but rather the permits that relate to the management of contaminated media. A 1200-C erosion and sediment control permit is required. A waste disposal permit must be obtained from any receiving facility that will be accepting contaminated soil or soil not meeting DEQ clean fill criteria. The environmental consultant will assist the contractor in completing profiles and obtaining permits for facilities receiving waste.

7 REFERENCES

Amec Foster Wheeler, 2017. Final Remedial Investigation Report, Former Mail-Well Envelope Facility. June 30, 2017.

Oregon DEQ, 2019a. Record of Decision for Former Mail-Well Envelope Facility, January 31, 2019.

Oregon DEQ, 2019b. Clean Fill Determinations. June 17, 2019.

Oregon DEQ, 2023. Risk-Based Concentrations for Individual Chemicals. August 2023.

Wood, 2018. Final Focused Feasibility Study, Former Mail-Well Envelope Facility. October 29, 2018.

Wood, 2019. Remedial Action Plan, Former Mail-Well Envelope Facility. April 12, 2019.

Wood, 2020. Remedial Action Interim Status Summary, Former Mail-Well Envelope Facility. March 2, 2020.

8 LIMITATIONS

This report was prepared by WSP exclusively for Kellogg Park. The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in WSP services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This Contaminated Media Management Plan is intended to be used by Kellogg Park for the Site located at the Former Mail-Well Envelope Facility described previously only, subject to the terms and conditions of its contract with WSP. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

The findings contained herein are relevant to the dates of the WSP Site visit and should not be relied upon to represent conditions at later dates. If changes in the nature, usage, or layout of the property or nearby properties are made, the conclusions and recommendations contained in this report may not be valid. If additional information becomes available, it should be provided to WSP so the original conclusions and recommendations can be modified, as necessary.

FIGURES

DRAFT

Americold
9515 SE McLoughlin Blvd.
ECSI #4567

Grand & Benedicts
9304 SE Main St.
ECSI #4447

Former Mailwell
2515 SE Mailwell Dr.
ECSI #1116

Former WW Metal Fab
2200 SE Mailwell Dr.
ECSI #4200

Alpine Foods
2400 SE Mailwell Dr.
ECSI #4513

Area 1

Area 2

MW-01
MW-02
MW-03
MW-04
MW-05
MW-06
MW-07

Approximate Former UST Location

SE Main St.
SE McLoughlin Blvd.
SE Frontage Rd.
SE McBrod Ave.
SE Mailwell Dr.
SE Milport Rd.
SE Omark Dr.
Johnson Creek

ODMH016
ODMH031
ODMH017
21064
21065
21066
21067
36001
Outfall 25226

N

0 75 150
Feet

LEGEND:

- Monitoring Well (Amec Foster Wheeler, August 2016)
- Monitoring Well (AMEC, October 2014)

Subsurface Utilities (approximate):

- Catch Basin
- Manhole (Storm Sewer)
- Manhole (Sanitary Sewer)
- Outfall (Storm Sewer)
- Natural Gas Line
- Sanitary Sewer Line
- Storm Sewer Line
- Telecommunication Line
- Railroad
- Stream/Creek
- Remediation Area
- Site Boundary
- Taxlot
- Area 1 Area of Concern

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KELLOGG PARK INVESTMENT LLC

WSP USA
15862 SW 72nd Ave., Suite 150
Portland, OR 97224

FORMER MAIL-WELL ENVELOPE FACILITY
REMEDIAL ACTION PLAN

SITE VICINITY & REMEDIATION AREA

DATE: OCTOBER 2023
SCALE: 1 " = 150 '
PROJECT NO.: 3-61M-119101
FIGURE: 1

X:\US\USPDX800-POR\ClientData\11000\11900\11910\119101\dwg_Memo_2023\Figure 1 - Site Vicinity.mxd - USSD715014 - 10/18/2023 - 12:11:52 PM

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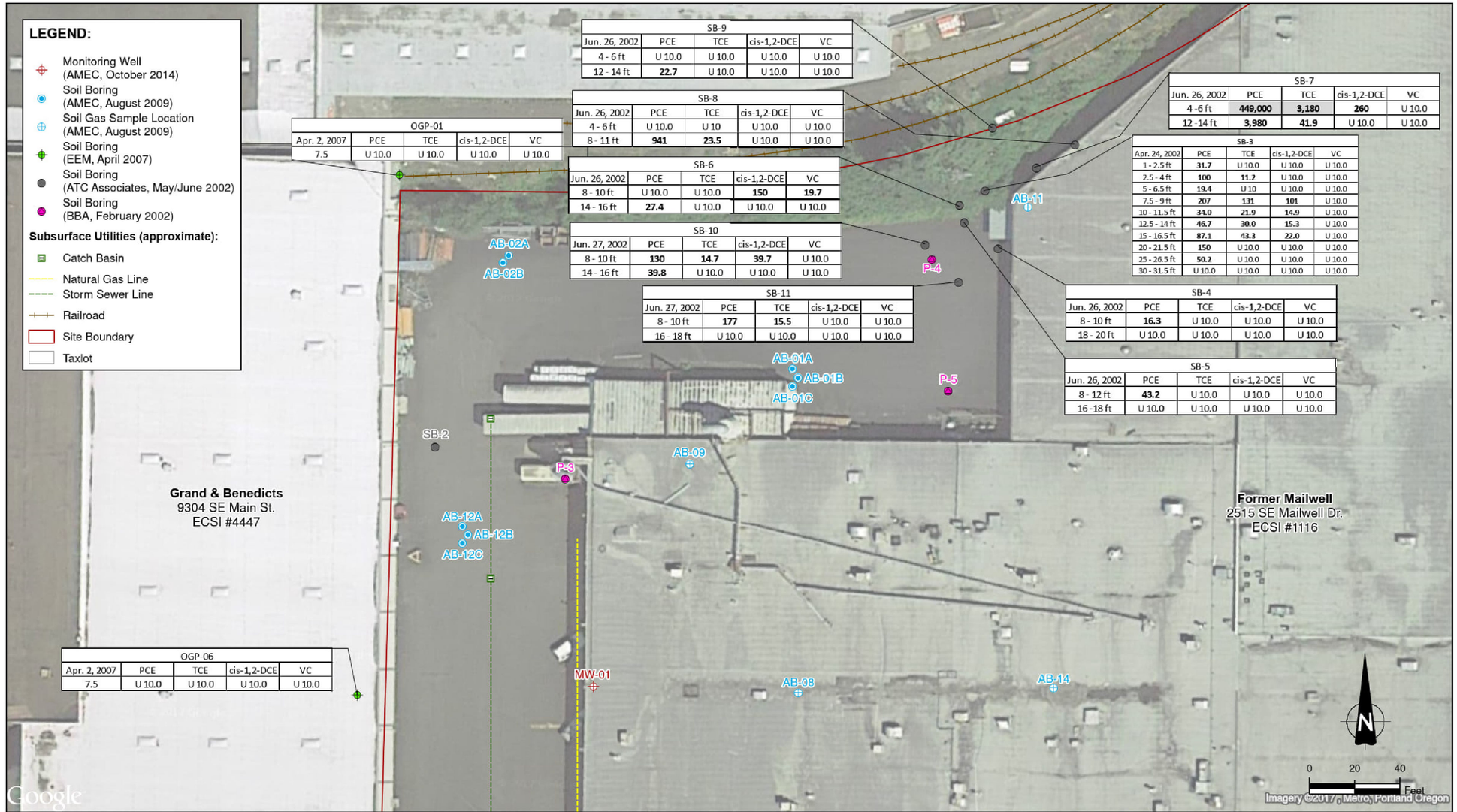

Oregon Department of Environmental Quality Risk-Based Concentrations (µg/kg) [1]

	PCE	TCE	cis-1,2-DCE	VC
Ingestion, Dermal Contact, and Inhalation - Occupational	1,000,000	51,000	2,300,000	4,400
Ingestion, Dermal Contact, and Inhalation - Construction	1,800,000	470,000	710,000	34,000
Ingestion, Dermal Contact, and Inhalation - Excavation	50,000,000	13,000,000	20,000,000	950,000
Vapor Intrusion into Buildings - Occupational	36,000	2,300	> Max	2,200
Volatilization to Outdoor Air - Occupational	> Csat	96,000	> Max	89,000

[1] Oregon Department of Environmental Quality Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites. September 22, 2003. Revision: November 1, 2015.
PCE Tetrachloroethene (µg/kg)
TCE Trichloroethene (µg/kg)
cis- 1,2- DCE cis- 1,2,dichloroethene (µg/kg)
VC Vinyl Chloride (µg/kg)
U Analyte Not Detected At or Above Reporting Limit Shown
Bold Analyte was Detected Above Method Detection Limit
Gray shading Indicates RBC(s) Exceeded in Sample

DRAWN BY: SD CHECKED BY: JE

K:\1100\11900\11910\119101\dwg_RI_Addendum\Figure 6A - Area 1 CVOC Soil Concentrations.mxd - stephane.descombes - 10/18/2017 - 3:04:20 PM

KELLOGG PARK INVESTMENT LLC	amec foster wheeler	FORMER MAIL-WELL ENVELOPE FACILITY REMEDIAL INVESTIGATION	DATE: OCTOBER 2017
Amec Foster Wheeler Environment & Infrastructure, Inc. 7376 S.W. Durham Road Portland, OR 97224		AREA 1 CVOC SOIL CONCENTRATIONS	SCALE: 1 " = 40 '
			PROJECT NO.: 3-61M-119101
			FIGURE: 6A

DRAWN BY: SD CHECKED BY: JK

KELLOGG PARK INVESTMENT LLC	wsp	FORMER MAIL-WELL ENVELOPE FACILITY	DATE: JULY 2024
WSP USA 15862 SW 72nd Ave., Suite 150 Portland, OR 97224		HVOC CONCENTRATIONS IN SOIL (AREA 1)	SCALE: AS SHOWN
			PROJECT NO.: 3-61M-119101
			FIGURE: 2A

X:\US\USPDX800-POR\ClientData\11000\11900\119101\119101 Mailwell\dwg_Closure_Report\Figure 2A - HVOC Concentrations in Soil - Area 1.mxd - USSD715014 - 7/24/2024 - 7:14:22 AM

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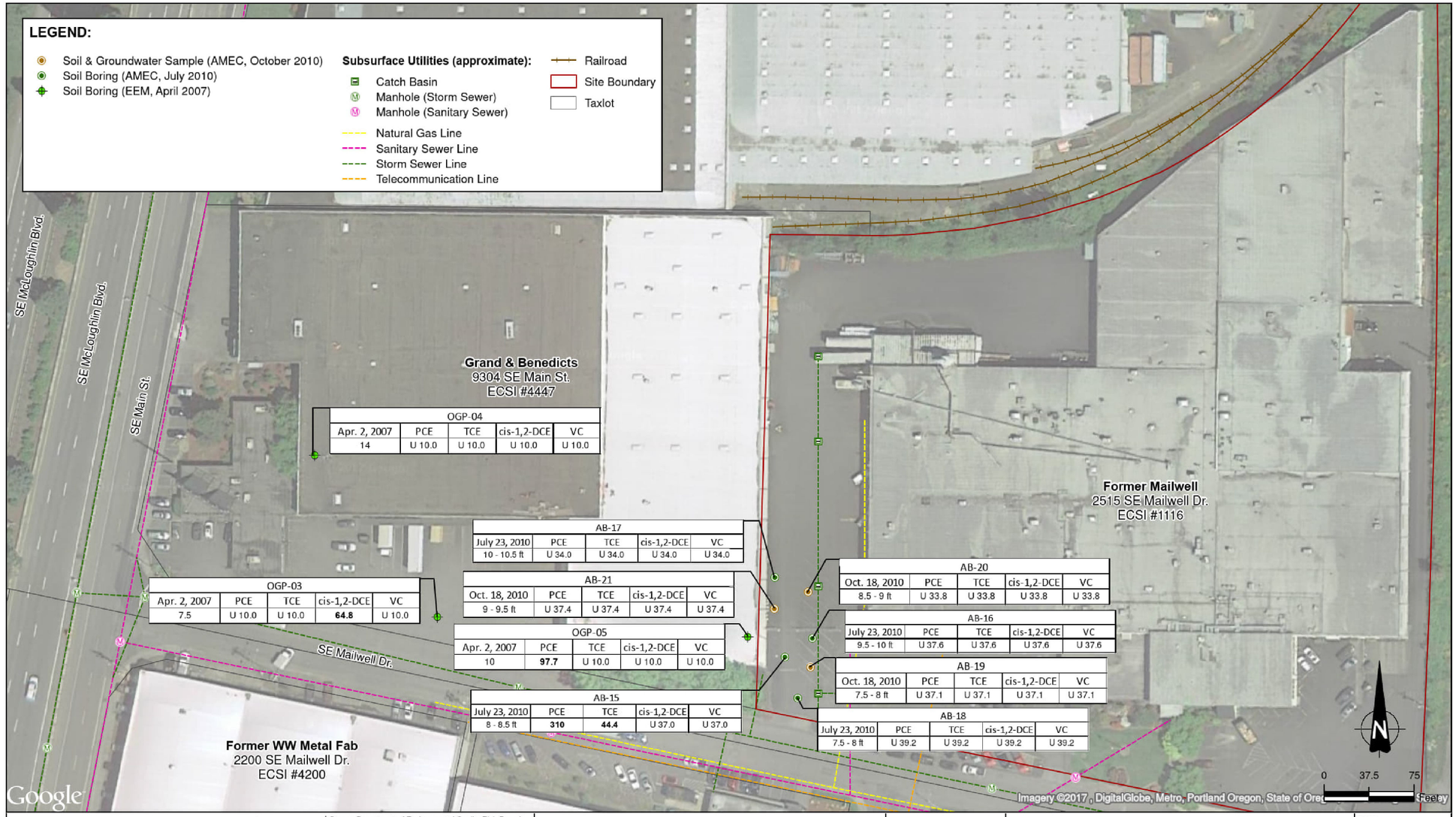

Oregon Department of Environmental Quality Risk-Based Concentrations (µg/kg) [1]

	PCE	TCE	cis-1,2-DCE	VC
Ingestion, Dermal Contact, and Inhalation - Occupational	1,000,000	51,000	2,300,000	4,400
Ingestion, Dermal Contact, and Inhalation - Construction	1,800,000	470,000	710,000	34,000
Ingestion, Dermal Contact, and Inhalation - Excavation	50,000,000	13,000,000	20,000,000	950,000
Vapor Intrusion into Buildings - Occupational	36,000	2,300	> Max	2,200
Volatilization to Outdoor Air - Occupational	> Csat	96,000	> Max	89,000

[1] Oregon Department of Environmental Quality Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003. Revision: November 1, 2015.

PCE Tetrachloroethene (µg/kg)
TCE Trichloroethene (µg/kg)
cis- 1,2- DCE cis- 1,2,dichloroethene (µg/kg)
VC Vinyl Chloride (µg/kg)
U Analyte Not Detected At or Above Reporting Limit Shown
Bold Analyte was Detected Above Method Detection Limit

DRAWN BY: SD CHECKED BY: JE

K:\1\1000\11900\11910\119101\dwg_RI_Addendum\Figure 7A - Area 2 CVOC Soil Concentrations.mxd - stephane.descombes - 10/18/2017 - 2:51:19 PM

KELLOGG PARK INVESTMENT LLC

Amec Foster Wheeler
Environment & Infrastructure, Inc.
7376 S.W. Durham Road
Portland, OR 97224

amec foster wheeler

FORMER MAIL-WELL ENVELOPE FACILITY
REMEDIAL INVESTIGATION

AREA 2 CVOC SOIL CONCENTRATIONS

DATE: OCTOBER 2017
SCALE: 1 " = 75 '
PROJECT NO.: 3-61M-119101
FIGURE: 7A

DRAWN BY: SD CHECKED BY: JK

KELLOGG PARK INVESTMENT LLC

WSP USA
15862 SW 72nd Ave., Suite 150
Portland, OR 97224

wsp

FORMER MAIL-WELL ENVELOPE FACILITY

HVOC CONCENTRATIONS
IN SOIL (AREA 2)

DATE: JULY 2024
SCALE: AS SHOWN
PROJECT NO.: 3-61M-119101
FIGURE: 2B

X:\US\USPDX800-POR\ClientData\11000\11900\11910\119101 Mailwell\dwg_Closure_Report\Figure 2B - HVOC Concentrations in Soil - Area 2.mxd - USSD715014 - 7/24/2024 - 7:13:34 AM

DRAFT

LEGEND:

- Monitoring Well (AMEC, October 2014)
- Soil Boring (AMEC, August 2009)
- Soil Gas Sample Location (AMEC, August 2009)
- Soil Boring (EEM, April 2007)
- Soil Boring (ATC Associates, May/June 2002)
- Soil Boring (BBA, February 2002)
- Catch Basin
- Natural Gas Line
- Storm Sewer Line
- Site Boundary
- Taxlot
- Railroad

NOTES:
all results shown in micrograms per liter
PCE = Tetrachloroethene
TCE = Trichloroethene
cis-1,2 = cis-1,2-Dichloroethene (cis-1,2-DCE)
trans-1,2 = trans-1,2-Dichloroethene (trans-1,2-DCE)
1,1-Di = 1,1-Dichloroethene
VC = Vinyl Chloride
bold = indicates analyte was detected above method reporting limit
U = analyte was not detected at or above method reporting limit shown
HVOC = Halogenated Volatile Organic Compound

Grand & Benedicts
9304 SE Main St.
ECSI #4447

Former Mailwell
2515 SE Mailwell Dr.
ECSI #1116

OGP-01
Date: 4/2/07
Depth: 21-25 ft. bgs
PCE: **2.46**
TCE: 1.00 U
cis-1,2: 1.00 U
trans-1,2: 1.00 U
1,1-Di: 1.00 U
VC: 1.00 U

AB-02A
AB-02B
Date: 8/25/09
Depth: 21-25 ft. bgs
PCE: **2.79**
TCE: **1.70**
cis-1,2: **1.14**
trans-1,2: 0.500 U
1,1-Di: 0.500 U
VC: 0.500 U

Date: 5/24/02
Depth: 11-15 ft. bgs
PCE: **1,440**
TCE: **519**
cis-1,2: **314**
trans-1,2: **10.6**
1,1-Di: **10.3**
VC: **88.4**

Date: 6/26/02
Depth: 10-14 ft. bgs
PCE: **4,160**
TCE: **250**
cis-1,2: **391**
trans-1,2: **7.96**
1,1-Di: **1.65**
VC: **21.6**

SB-9
SB-8
SB-7
SB-6
SB-3
AB-11
SB-10
SB-5
SB-4
P-4
SB-11

Date: 6/27/02
Depth: 16-20 ft. bgs
PCE: **302**
TCE: **75.3**
cis-1,2: **122**
trans-1,2: **1.60**
1,1-Di: **3.30**
VC: **13.5**

Date: 6/26/02
Depth: 10-14 ft. bgs
PCE: **20,700**
TCE: **394**
cis-1,2: **558**
trans-1,2: **12.8**
1,1-Di: **1.38**
VC: **14.9**

AB-01A
AB-01B
AB-01C
Date: 8/26/09
Depth: 13-17 ft. bgs
PCE: **9.16**
TCE: **38.6**
cis-1,2: **86.8**
trans-1,2: **0.940**
1,1-Di: 0.500 U
VC: **1.60**

P-5
Date: 2/12/02
Depth: 10-15 ft. bgs
PCE: 1.00 U
TCE: 1.00 U
cis-1,2: 1.00 U
trans-1,2: 1.00 U
1,1-Di: 1.00 U
VC: 1.00 U

AB-10

AB-09

SB-2
Date: 5/28/02
Depth: 26-30 ft. bgs
PCE: **4.34**
TCE: **45.8**
cis-1,2: **45.9**
trans-1,2: 1.00 U
1,1-Di: **1.77**
VC: 1.00 U

P-3

AB-12A
AB-12B
AB-12C
Date: 8/25/09
Depth: 11-15 ft. bgs
PCE: **2.37**
TCE: **3.30**
cis-1,2: **2.84**
trans-1,2: 0.500 U
1,1-Di: 0.500 U
VC: **0.540**

Date: 8/7/15
Depth: 10-20 ft. bgs
PCE: **0.510**
TCE: **0.820**
cis-1,2: 0.500 U
trans-1,2: 0.500 U
1,1-Di: 0.500 U
VC: 0.500 U

MW-01

AB-08

AB-14

Date: 4/2/07
Depth: 8-12 ft. bgs
PCE: 1.00 U
TCE: 1.00 U
cis-1,2: 1.00 U
trans-1,2: 1.00 U
1,1-Di: 1.00 U
VC: 1.00 U

OGP-06

Approximate Outer Edges of Historical Trench

N

0 20 40
Feet

	KELLOGG PARK INVESTMENT LLC		FORMER MAIL-WELL ENVELOPE FACILITY
	WSP USA 15862 SW 72nd Ave., Suite 150 Portland, OR 97224		HVOC CONCENTRATIONS IN GROUNDWATER (AREA 1)

DATE: JULY 2024
SCALE: 1 " = 40 '
PROJECT NO.: 3-61M-119101
FIGURE: 3A

DRAWN BY: SD CHECKED BY: JK

X:\US\USPDX800-POR\ClientData\11000\11900\11910\119101 Mailwell\dwg_Closure_Report\Figure 3A - HVOC Concentrations in Groundwater - Area 1.mxd - USSD715014 - 7/22/2024 - 3:01:31 PM

DRAFT

LEGEND:

- Monitoring Well (Wood, August 2019)
- Monitoring Well (AMEC, October 2014)
- BOS Injection Points 44 through 58 (BB&A, August 2023)
- BOS Injection Points 1 through 43 (Wood, August 2019)
- Fence
- Pavement Edge (approximate)
- Groundwater Elevation Contour (feet)

Subsurface Utilities (approximate):

- Catch Basin
- Natural Gas Line
- Sanitary Sewer Line
- Storm Sewer Line
- Approximate Former Trench Location
- Treatment Area
- Site Boundary

NOTES:
all results shown in micrograms per liter
PCE = Tetrachloroethene
TCE = Trichloroethene
cis-1,2 = cis-1,2-Dichloroethene (cis-1,2-DCE)
trans-1,2 = trans-1,2-Dichloroethene (trans-1,2-DCE)
1,1-Di = 1,1-Dichloroethene
VC = Vinyl Chloride
bold = indicates analyte was detected above method reporting limit
U = analyte was not detected at or above method reporting limit shown
HVOC = Halogenated Volatile Organic Compound

Grand & Benedicts
9304 SE Main St.
ECSI #4447

Former Mailwell
2515 SE Mailwell Dr.
ECSI #1116

91.2 91.3 91.4 91.5 91.6 91.7 91.8

Approximate Groundwater Flow Direction

Approximate Outer Edges of Historical Trench

MW-01
91.85'
Date: 6/20/24
Depth: 10-20 ft. bgs
PCE: **0.71**
TCE: 0.400 U
cis-1,2: 0.400 U
trans-1,2: 0.400 U
1,1-Di: 1.00 U
VC: 0.200 U

MW-02
91.62'
Date: 6/20/24
Depth: 10-20 ft. bgs
PCE: **70.5**
TCE: **4.18**
cis-1,2: **26.4**
trans-1,2: 0.400 U
1,1-Di: 1.00 U
VC: **14.1**

MW-03
91.31'
Date: 6/20/24
Depth: 10-20 ft. bgs
PCE: **97.8**
TCE: **11.7**
cis-1,2: **4.94**
trans-1,2: 0.400 U
1,1-Di: 1.00 U
VC: **0.770**

MW-04
91.11'
Date: 6/20/24
Depth: 10-20 ft. bgs
PCE: **222**
TCE: **26.5**
cis-1,2: **5.46**
trans-1,2: 0.800 U
1,1-Di: 2.00 U
VC: **1.44**

MW-05 (~750 feet west/downgradient of MW-4)
Date: 6/20/24
Depth: 6.5-21.5 ft. bgs
PCE: 0.400 U
TCE: 0.400 U
cis-1,2: **16.8**
trans-1,2: 0.400 U
1,1-Di: 1.00 U
VC: **0.350**

MW-06 (~750 feet west/downgradient of MW-4)
Date: 6/20/24
Depth: 4.6-19.6 ft. bgs
PCE: 0.400 U
TCE: 0.400 U
cis-1,2: **3.82**
trans-1,2: 0.400 U
1,1-Di: 1.00 U
VC: **0.230**

MW-07
91.22'
Date: 6/20/24
Depth: 10-20 ft. bgs
PCE: **759**
TCE: **846**
cis-1,2: **929**
trans-1,2: 4.00 U
1,1-Di: 4.00 U
VC: **8.20**

N

0 10 20
Feet

	KELLOGG PARK INVESTMENT LLC		FORMER MAIL-WELL ENVELOPE FACILITY
	WSP USA 15862 SW 72nd Ave., Suite 150 Portland, OR 97224		HVOC CONCENTRATIONS IN GROUNDWATER (AREA 2)

DATE: JULY 2024
SCALE: 1 " = 20 '
PROJECT NO.: 3-61M-119101
FIGURE: 3B

DRAWN BY: SD CHECKED BY: JK

X:\US\USPDX800-POR\ClientData\111000\11900\11910\119101 Mailwell\dwg_Closure_Report\Figure 3B - HVOC Concentrations in Groundwater - Area 2.mxd - USSD715014 - 7/22/2024 - 3:03:53 PM

DRAFT

LEGEND:

- Monitoring Well (Wood, August 2019)
- Monitoring Well (AMEC, October 2014)
- BOS Injection Points 44 through 58 (BB&A, August 2023)
- BOS Injection Points 1 through 43 (Wood, August 2019)
- Fence
- Pavement Edge (approximate)
- Groundwater Elevation Contour (feet)

Subsurface Utilities (approximate):

- Catch Basin
- Manhole (Storm Sewer)
- Natural Gas Line
- Sanitary Sewer Line
- Storm Sewer Line
- Telecommunication Line
- Approximate Former Trench Location
- Treatment Area
- Site Boundary

Grand & Benedicts
9304 SE Main St.
ECSI #4447

Former Mailwell
2515 SE Mailwell Dr.
ECSI #1116

Area 1

Area 2

Approximate Outer Edges of Historical Trench

Approximate Groundwater Flow Direction

MW-01 91.85'
MW-02 91.62'
MW-03 91.31'
MW-04 91.11'
MW-07 91.22'

91.8
91.7
91.6
91.5
91.4
91.3
91.2
91.3

N

0 25 50 Feet

	KELLOGG PARK INVESTMENT LLC		FORMER MAIL-WELL ENVELOPE FACILITY
	WSP USA 15862 SW 72nd Ave., Suite 150 Portland, OR 97224		POTENTIOMETRIC GROUNDWATER SURFACE & GROUNDWATER SAMPLING LOCATIONS JUNE 20, 2024

DATE: JULY 2024
SCALE: 1 " = 50 '
PROJECT NO.: 3-61M-119101
FIGURE: 4

DRAWN BY: SD CHECKED BY: JK

X:\US\USPDX800-POR\ClientData\11000\11900\11910\119101 Mailwell\dwg_Closure_Report\Figure 4 - Potentiometric Groundwater Surface.mxd - USSD715014 - 7/24/2024 - 7:14:37 AM

APPENDIX A

TABLE OF SAMPLING RESULTS

TABLE A-1
Groundwater Elevation Measurements
Former Mail-Well Envelope Facility
Milwaukie, Oregon

Well ID	Screen Interval (feet bgs)	Top of Casing (feet[a])	Measurement Date	Depth to Water (feet, btoc)	Water Level Elevation (feet, relative to MW-01 Top of Casing = 100 ft)
MW-01	10 - 20	100.00	10/31/2014	7.72	92.28
			2/10/2015	7.55	92.45
			5/5/2015	8.32	91.68
			8/7/2015	9.05	90.95
			9/29/2015	NM	NM
			12/18/2015	NM	NM
			1/25/2016	NM	NM
			4/1/2016	NM	NM
			7/22/2016	NM	NM
			9/9/2016	NM	NM
			12/19/2016	NM	NM
			12/27/2016	NM	NM
			5/4/2017	NM	NM
			9/12/2017	NM	NM
			9/29/2023	NM	NM
			12/20/2023	8.30	91.70
			3/21/2024	8.30	91.70
			6/20/2024	8.15	91.85
MW-02	10 - 20	99.07	10/31/2014	6.91	92.16
			2/10/2015	6.86	92.21
			5/5/2015	7.52	91.55
			8/7/2015	8.21	90.86
			9/29/2015	8.25	90.82
			12/18/2015	6.62	92.45
			1/25/2016	7.11	91.96
			4/1/2016	7.13	91.94
			7/22/2016	NM	NM
			9/9/2016	NM	NM
			12/19/2016	6.92	92.15
			12/27/2016	NM	NM
			5/4/2017	NM	NM
			9/12/2017	8.01	91.06
			7/2/2018	7.08	91.99
			7/6/2018	7.74	91.33
			11/4/2019	7.18	91.89
			12/16/2019	8.40	90.67
			3/26/2020	7.64	91.43
			6/19/2020	7.68	91.39
			1/29/2021	7.10	91.97
			7/16/2021	8.29	90.78
			1/28/2022	7.31	91.76
			7/21/2022	7.39	91.68
			9/13/2023	8.05	91.02
			9/29/2023	7.83	91.24
			12/20/2023	7.08	91.99
			3/21/2024	7.40	91.67
			6/20/2024	7.45	91.62

TABLE A-1
Groundwater Elevation Measurements
Former Mail-Well Envelope Facility
Milwaukie, Oregon

Well ID	Screen Interval (feet bgs)	Top of Casing (feet[a])	Measurement Date	Depth to Water (feet, btoc)	Water Level Elevation (feet, relative to MW-01 Top of Casing = 100 ft)
MW-03	10 - 20	97.26	10/31/2014	5.29	91.97
			2/10/2015	5.16	92.10
			5/5/2015	6.03	91.23
			8/7/2015	6.70	90.56
			9/29/2015	6.72	90.54
			12/18/2015	5.70	91.56
			1/25/2016	5.55	91.71
			4/1/2016	5.62	91.64
			7/22/2016	6.38	90.88
			9/9/2016	NM	NM
			12/19/2016	5.38	91.88
			12/27/2016	NM	NM
MW-03 (cont.)	10 - 20	97.26	5/4/2017	NM	NM
			11/4/2019	6.70	90.56
			12/16/2019	6.85	90.41
			3/26/2020	6.17	91.09
			6/19/2020	6.26	91.00
			1/29/2021	5.67	91.59
			7/16/2021	6.77	90.49
			1/28/2022	5.74	91.52
			7/21/2022	5.40	91.86
			9/13/2023	6.50	90.76
			9/29/2023	6.16	91.10
			12/20/2023	5.70	91.56
			3/21/2024	5.80	91.46
			6/20/2024	5.95	91.31
MW-04	10 - 20	94.06	10/31/2014	2.46	91.60
			2/10/2015	2.24	91.82
			5/5/2015	3.00	91.06
			8/7/2015	3.62	90.44
			9/29/2015	3.71	90.35
			12/18/2015	2.19	91.87
			1/25/2016	2.68	91.38
			4/1/2016	2.66	91.40
			7/22/2016	3.35	90.71
			9/9/2016	NM	NM
			5/4/2017	NM	NM
			9/12/2017	NM	NM
			9/29/2023	3.16	90.90
			12/20/2023	2.85	91.21
			3/21/2024	2.90	91.16
			6/20/2024	2.95	91.11
MW-05	6.5 - 21.5	85.46	9/9/2016	9.33	76.13
			12/27/2016	8.75	76.71
			5/4/2017	8.75	76.71
			9/12/2017	9.24	76.22
			9/29/2023	9.43	76.03
			12/20/2023	9.10	76.36
			3/21/2024	9.30	76.16
			6/20/2024	9.55	75.91

TABLE A-1
Groundwater Elevation Measurements
Former Mail-Well Envelope Facility
Milwaukie, Oregon

Well ID	Screen Interval (feet bgs)	Top of Casing (feet[a])	Measurement Date	Depth to Water (feet, btoc)	Water Level Elevation (feet, relative to MW-01 Top of Casing = 100 ft)
MW-06	4.5 - 19.5	85.40	9/9/2016	8.30	77.10
			12/27/2016	7.72	77.68
			5/4/2017	7.71	77.69
			9/12/2017	8.23	77.17
			9/29/2023	8.41	76.99
			12/20/2023	8.10	77.30
			3/21/2024	8.40	77.00
			6/20/2024	8.51	76.89
MW-07	10 - 19.48	99.02	11/4/2019	7.71	91.31
			12/16/2019	8.42	90.60
			3/26/2020	7.63	91.39
			6/19/2020	7.63	91.39
			1/29/2021	7.11	91.91
			7/16/2021	8.28	90.74
			1/28/2022	7.16	91.86
			7/21/2022	7.43	91.59
			9/13/2023	8.25	90.77
			9/29/2023	7.80	91.22
			12/20/2023	7.40	91.62
			3/21/2024	7.20	91.82
			6/20/2024	7.80	91.22

Notes:
bgs = below ground surface
btoc = below top-of-casing

TABLE A-2
Summary of Monitoring Data In Treatment Area
Former Mail-Well Envelope Facility
Milwaukie, Oregon

Location	Date	Depth (ft. bgs)	Tetra-chloroethene (PCE) (µg/L)		Tri-chloroethene (TCE) (µg/L)		cis-1,2-Di-chloroethene (cis-1,2-DCE) (µg/L)		trans-1,2-Di-chloroethene (trans-1,2-DCE) (µg/L)		1,1-Di-chloroethene (µg/L)		Vinyl chloride (µg/L)		Ethene (µg/L)		Ethane (µg/L)		Acetylene (µg/L)		Chloride (mg/L)		Dissolved Oxygen [1] (mg/L)	ORP [1] (mV)	Nitrate (mg/L)		Sulfate (mg/L)		Methane (µg/L)	
MW-01	10/31/2014	10 - 20	U 0.500		**0.770**		U 0.500		U 0.500		U 0.500		U 0.500		NA		NA		NA		NA		NA	NA	NA		NA		NA	
	2/10/2015	10 - 20	**1.21**		**1.02**		U 0.500		U 0.500		U 0.500		U 0.500		NA		NA		NA		NA		NA	NA	NA		NA		NA	
	5/5/2015	10 - 20	**0.750**		**0.950**		U 0.500		U 0.500		U 0.500		U 0.500		NA		NA		NA		NA		NA	NA	NA		NA		NA	
	8/7/2015	10 - 20	**0.510**		**0.820**		U 0.500		U 0.500		U 0.500		U 0.500		NA		NA		NA		NA		NA	NA	NA		NA		NA	
	9/29/2023	10 - 20	**0.650**		**0.450**		U 0.400		U 0.400		U 0.400		U 0.200		NA		NA		NA		NA		**0.99**	**1838**	NA		NA		NA	
	9/29/2023 (dup)	10 - 20	**0.690**		U 0.400		U 0.400		U 0.400		U 0.400		U 0.200		NA		NA		NA		NA		**0.99**	**1838**	NA		NA		NA	
	12/20/2023	10 - 20	**0.960**		U 0.400		U 0.400		U 0.400		U 0.400		U 0.200		NA		NA		NA		NA		**0.81**	**-10.6**	NA		NA		NA	
	12/20/2023 (dup)	10 - 20	**0.890**		U 0.400		U 0.400		U 0.400		U 0.400		U 0.200		NA		NA		NA		NA		**0.81**	**-10.6**	NA		NA		NA	
	3/21/2024	10 - 20	**0.740**		U 0.400		U 0.400		U 0.400		U 0.400		U 0.200		NA		NA		NA		NA		**0.63**	**116.4**	NA		NA		NA	
	3/21/2024 (dup)	10 - 20	**0.740**		U 0.400		U 0.400		U 0.400		U 0.400		U 0.200		NA		NA		NA		NA		**0.63**	**116.4**	NA		NA		NA	
	6/20/2024	10 - 20	**0.710**		U 0.400		U 0.400		U 0.400		U 0.400		U 0.200		NA		NA		NA		NA		**0.62**	**70.7**	NA		NA		NA	
	6/20/24 (dup)	10 - 20	**0.710**		U 0.400		U 0.400		U 0.400		U 0.400		U 0.200		NA		NA		NA		NA		**0.62**	**70.7**	NA		NA		NA	
MW-02	12/18/2015	10 - 20	**21,700**		**755**		**463**		U 125		U 125		U 125		NA		NA		NA		NA		**0.33**	**-27.0**	NA		NA		NA	
	8/7/2019	10 - 20	**52,700**	*	**1,120**	*	**345**	*	U 50.0	*	U 50.0	*	U 50.0	*	**5.63**	*	**2.76**	*	U 2.00	*	**5.49**	*	NA	NA	**0.40**	*	**6.85**	*	**377**	*
	11/4/2019	10 - 20	**7,650**		**117**		**11.8**		U 4.00		U 4.00		U 4.00		NA		NA		NA		NA		**0.51**	**6.8**	NA		NA		NA	
	12/16/2019	10 - 20	**5,550**	*	**101**	*	U 10.0	*	U 10.0	*	U 10.0	*	U 10.0	*	U 2.00	*	**12.5**	*	U 2.00	*	**3.07**	*	**0.15**	**-8.3**	U 0.20	*	**1.26**	*	**233**	*
	3/26/2020	10 - 20	**2,600**		U 40.0		U 40.0		U 40.0		U 40.0		U 40.0		U 1.00		**5.10**		U 1.00		**2.52**		**0.31**	**-3.3**	NA		NA		**75**	
	6/19/2020	10 - 20	**2,550**		**68.5**		U 20.0		U 20.0		U 20.0		U 20.0		NA		NA		NA		NA		**0.53**	**-3.4**	NA		NA		NA	
	1/29/2021	10 - 20	**5,840**		**561**		**22.0**		U 20.0		U 20.0		U 20.0		NA		NA		NA		NA		**0.40**	**-5.2**	NA		NA		NA	
	7/16/2021	10 - 20	**10,800**		**508**		U 20.0		U 20.0		U 20.0		U 20.0		NA		NA		NA		NA		**0.59**	**-27.6**	NA		NA		NA	
	1/28/2022	10 - 20	**7,750**		**254**		U 40.0		U 40.0		U 40.0		U 40.0		U 1.00		**5.3**		**2.8**		**5.19**		**0.26**	**54.6**	NA		NA		**83**	
	1/28/2022 (Dup)	10 - 20	**7,370**		**238**		U 40.0		U 40.0		U 40.0		U 40.0		NA		NA		NA		NA		NA	NA	NA		NA		NA	
	7/21/2022	10 - 20	**5,460**		**87.0**		**21.0**		U 20.0		U 20.0		U 20.0		NA		NA		NA		NA		**0.68**	**164.4**	NA		NA		NA	
	7/21/2022 (Dup)	10 - 20	**6,010**		**85.0**		U 20		U 20.0		U 20.0		U 20.0		NA		NA		NA		NA		NA	NA	NA		NA		NA	
	1/20/2023	10 - 20	**7,230**		**186**		U 20.0		U 20.0		U 20.0		U 20.0		NA		NA		NA		NA		**6.11**	**54.5**	NA		NA		NA	
	1/20/23 (Dup)	10 - 20	**7,280**		**182**		U 20.0		U 20.0		U 20.0		U 20.0		NA		NA		NA		NA		**6.11**	**54.5**	NA		NA		NA	
	3/3/2023**	10 - 20	**14,700**		**146**		**38.0**		U 20.0		U 20.0		U 20.0		NA		NA		NA		NA		**5.2**	**-29.4**	NA		NA		NA	
	9/13/2023	10 - 20	**796**		**71.0**		**12,700**		**37.5**		**20.0**		U 10.0		**4.70**		**8.70**		U 2.00		**7.80**		**2.27**	**-89.1**	U 2.00		U 2.00		**930**	
	9/29/2023	10 - 20	**1,750**		**473**		**4,130**		**10.2**		**9.60**		U 4.00		NA		NA		NA		NA		**2.92**	**-44.4**	NA		NA		NA	
	12/20/2023	10 - 20	**140**		**4.55**		**78.0**		U .400		**0.470**		**29.5**		**9.30**		U 2.00		U 2.00		**5.00**		**0.23**	**-74.5**	U 2.00		U 2.00		**8,800**	
	3/21/2024	10 - 20	**97.2**		**3.03**		**40.4**		U .400		U .400		**23.4**		U 2.00		U 2.00		U 2.00		**2.90**		**0.30**	**-81.5**	U 2.00		U 2.00		**14,100**	
	6/20/2024	10 - 20	**70.5**		**4.18**		**26.4**		U .400		U .400		**14.1**		NA		NA		NA		NA		**0.65**	**-54**	NA		NA		NA	
MW-03	2/10/2015	10 - 20	**500**		**17.7**		**20.9**		U 0.500		U 0.500		**0.960**		NA		NA		NA		NA		**0.96**	**40.9**	NA		NA		NA	
	5/5/2015	10 - 20	**16.7**		**0.710**		**0.600**		U 0.500		U 0.500		**0.590**		NA		NA		NA		NA		**0.99**	**84.8**	NA		NA		NA	
	8/7/2015	10 - 20	**2.50**		U 0.500		U 0.500		U 0.500		U 0.500		U 0.500		NA		NA		NA		NA		**0.23**	**27.0**	NA		NA		NA	
	11/4/2019	10 - 20	**25.3**		**0.907**		**0.993**		U 0.400		U 0.400		U 0.400		NA		NA		NA		NA		**1.04**	**69.1**	NA		NA		NA	
	12/16/2019	10 - 20	**82.6**	*	U 0.500	*	**2.01**	*	U 0.500	*	U 0.500	*	U 0.500	*	U 2.00	*	U 2.00	*	U 2.00	*	**5.64**	*	**7.06**	**-2.40**	U 0.20	*	**5.67**	*	U 20.0	*
	3/26/2020	10 - 20	**266**		**2.71**		**2.60**		U 0.400		U 0.400		**0.574**		U 1.00		U 1.00		U 1.00		**7.00**		**0.38**	**14.0**	NA		NA		**4.00**	
	6/19/2020	10 - 20	**50.3**		**0.740**		**1.39**		U 0.400		U 0.400		**0.530**		NA		NA		NA		NA		**0.88**	**47.1**	NA		NA		NA	
	1/29/2021	10 - 20	**239**		**3.62**		**1.38**		U 0.800		U 0.800		U 0.800		NA		NA		NA		NA		**0.51**	**3.90**	NA		NA		NA	
	7/16/2021	10 - 20	**41.4**		**0.640**		**1.28**		U 0.400		U 0.400		**0.610**		NA		NA		NA		NA		**0.50**	**-30.6**	NA		NA		NA	
	1/28/2022	10 - 20	**1,380**		**19.9**		**8.90**		U 0.800		U 0.800		U 0.800		NA		NA		NA		NA		**1.67**	**167.6**	NA		NA		NA	
	7/21/2022	10 - 20	**167**		**4.05**		**1.90**		U 0.400		U 0.400		**0.750**		NA		NA		NA		NA		**0.22**	**160.2**	NA		NA		NA	
	1/20/2023	10 - 20	**1,370**		**46.4**		**21.2**		U 8.00		U 8.00		U 8.00		NA		NA		NA		NA		**0.57**	**117.0**	NA		NA		NA	
	9/13/2023	10 - 20	**140**		**8.35**		**2.96**		U 0.400		U 0.400		**0.790**		NA		NA		NA		NA		**3.20**	**63.0**	NA		NA		NA	
	9/29/2023	10 - 20	**93.2**		**8.12**		**2.60**		U 0.400		U 0.400		U 0.780		NA		NA		NA		NA		**4.71**	**57.0**	NA		NA		NA	
	12/20/2023	10 - 20	**417**		**24.8**		**9.42**		U 0.400		U 0.400		**0.560**		NA		NA		NA		NA		**0.22**	**8.6**	NA		NA		NA	
	3/21/2024	10 - 20	**480**		**45.6**		**37.9**		U 0.400		U 0.400		U 1.00		NA		NA		NA		NA		**0.06**	**96.0**	NA		NA		NA	
	6/20/2024	10 - 20	**97.8**		**11.7**		**4.94**		U 0.400		U 0.400		**0.770**		NA		NA		NA		NA		**0.72**	**58.0**	NA		NA		NA	

TABLE A-2
Summary of Monitoring Data In Treatment Area
Former Mail-Well Envelope Facility
Milwaukie, Oregon

Location	Date	Depth (ft. bgs)	Tetra-chloroethene (PCE) (µg/L)	Tri-chloroethene (TCE) (µg/L)	cis-1,2-Di-chloroethene (cis-1,2-DCE) (µg/L)	trans-1,2-Di-chloroethene (trans-1,2-DCE) (µg/L)	1,1-Di-chloroethene (µg/L)	Vinyl chloride (µg/L)	Ethene (µg/L)	Ethane (µg/L)	Acetylene (µg/L)	Chloride (mg/L)	Dissolved Oxygen [1] (mg/L)	ORP [1] (mV)	Nitrate (mg/L)	Sulfate (mg/L)	Methane (µg/L)
MW-04	10/31/2014	10 - 20	**156**	**32.5**	**6.40**	U 5.00	U 5.00	U 5.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/10/2015	10 - 20	**20.5**	**15.5**	**5.42**	U 0.500	U 0.500	**1.48**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/5/2015	10 - 20	**79.4**	**34.9**	**5.25**	U 0.500	U 0.500	**1.08**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/7/2015	10 - 20	**63.4**	**25.6**	**3.68**	U 0.500	U 0.500	**0.800**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/29/2023	10 - 20	**239**	**31.2**	**2.60**	U 0.400	U 0.400	**0.380**	NA	NA	NA	NA	**0.59**	**71.3**	NA	NA	NA
	12/20/2023	10 - 20	**368**	**31.4**	U 2.00	U 2.00	U 2.00	U 1.00	NA	NA	NA	NA	**0.26**	**8.6**	NA	NA	NA
	3/21/2024	10 - 20	**397**	**38.0**	**3.30**	U 2.00	U 2.00	U 1.00	NA	NA	NA	NA	**0.14**	**54.4**	NA	NA	NA
	6/20/2024	10 - 20	**222**	**26.5**	**5.46**	U 0.800	U 0.800	**1.44**	NA	NA	NA	NA	**0.30**	**46.8**	NA	NA	NA
MW-05	9/9/2016	6.5 - 21.5	U 0.500	U 0.500	**32.5**	U 0.500	U 0.500	U 0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/27/2016	6.5 - 21.5	U 0.500	U 0.500	**27.0**	U 0.500	U 0.500	U 0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/4/2017	6.5 - 21.5	U 0.500	U 0.500	**32.6**	**0.610**	U 0.500	U 0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/12/2017	6.5 - 21.5	U 0.500	U 0.500	**27.0**	U 0.500	U 0.500	U 0.400	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/29/2023	6.5 - 21.5	U 0.400	U 0.400	**16.9**	U 0.400	U 0.400	U 0.200	NA	NA	NA	NA	**0.69**	**-29.4**	NA	NA	NA
	12/20/2023	6.5 - 21.5	U 0.400	U 0.400	**12.0**	U 0.400	U 0.400	**0.450**	NA	NA	NA	NA	**0.34**	**11.3**	NA	NA	NA
	3/21/2024	6.5 - 21.5	U 0.400	U 0.400	**25.3**	U 0.400	U 0.400	**0.850**	NA	NA	NA	NA	**0.24**	**-30.2**	NA	NA	NA
	6/20/2024	6.5 - 21.5	U 0.400	U 0.400	**16.8**	U 0.400	U 0.400	**0.350**	NA	NA	NA	NA	**1.23**	**50.3**	NA	NA	NA
MW-06	9/9/2016	4.6 - 19.6	U 0.500	U 0.500	**3.92**	U 0.500	U 0.500	U 0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/27/2016	4.6 - 19.6	U 0.500	U 0.500	**3.27**	U 0.500	U 0.500	U 0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/4/2017	4.6 - 19.6	U 0.500	U 0.500	**4.33**	U 0.500	U 0.500	U 0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/12/2017	4.6 - 19.6	U 0.500	U 0.500	**3.62**	U 0.500	U 0.500	U 0.400	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/29/2023	4.6 - 19.5	U 0.400	U 0.400	**2.62**	U 0.400	U 0.400	**0.220**	NA	NA	NA	NA	**0.79**	**-61.0**	NA	NA	NA
	12/20/2023	4.6 - 19.5	U 0.400	U 0.400	**1.87**	U 0.400	U 0.400	U 0.200	NA	NA	NA	NA	**0.39**	**-14.2**	NA	NA	NA
	3/21/2024	4.6 - 19.5	U 0.400	U 0.400	**2.36**	U 0.400	U 0.400	U 0.200	NA	NA	NA	NA	**0.35**	**-27.1**	NA	NA	NA
	6/20/2024	4.6 - 19.5	U 0.400	U 0.400	**3.82**	U 0.400	U 0.400	**0.230**	NA	NA	NA	NA	**0.19**	**-73.9**	NA	NA	NA
MW-07	8/5/2019	10 - 19.7	**98.1**	**4.47**	**3.13**	U 0.400	U 0.400	U 0.400	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/7/2019	10 - 19.7	**1,240** *	U 5.00 *	U 5.00 *	U 5.00 *	U 5.00 *	U 5.00 *	U 2.00 *	U 2.00 *	U 2.00 *	**7.19** *	NA	NA	**0.33** *	**7.19** *	U 20.0 *
	11/4/2019	10 - 19.7	**1,320**	**37.3**	**12.8**	U 8.00	U 8.00	U 8.00	NA	NA	NA	NA	**0.15**	**-27.3**	NA	NA	NA
	12/16/2019	10 - 19.7	**3,340** *	**78.0** *	**24.8** *	U 5.00 *	U 5.00 *	U 8.00 *	**12.4** *	**3.71** *	U 2.00 *	**13.3** *	**3.25**	**-24.8**	U 0.20 *	**8.57** *	**103** *
	3/26/2020	10 - 19.7	**11,100**	**92.4**	**17.5**	U 8.00	U 8.00	U 8.00	**2.70**	**9.40**	**1.20**	**10.0**	**0.17**	**-29.9**	NA	NA	**260**
	6/19/2020	10 - 19.7	**16,800**	**255**	**70.0**	U 40.0	U 40.0	U 40.0	NA	NA	NA	NA	**1.03**	**-49.6**	NA	NA	NA
	1/29/2021	10 - 19.7	**5,600**	**58.0**	U 40.0	U 40.0	U 40.0	U 40.0	NA	NA	NA	NA	**0.44**	**-19.4**	NA	NA	NA
	7/16/2021	10 - 19.7	**2,510**	**59.5**	**10.5**	U 10.0	U 10.0	U 10.0	NA	NA	NA	NA	**0.43**	**-81.2**	NA	NA	NA
	1/28/2022	10 - 19.7	**2,600**	**110**	U 10.0	U 10.0	U 10.0	U 10.0	U 1.00	**2.80**	U 1.00	**6.81**	**1.75**	**56.5**	NA	NA	**69.0**
	7/21/2022	10 - 19.7	**4,750**	U 40.0	U 40.0	U 40.0	U 40.0	U 40.0	NA	NA	NA	NA	**0.32**	**151.4**	NA	NA	NA
	1/20/2023	10 - 19.7	**5,050**	U 40.0	U 40.0	U 40.0	U 40.0	U 40.0	NA	NA	NA	NA	**0.51**	**53.4**	NA	NA	NA
	9/13/2023	10 - 19.7	**168**	**73.8**	**3,930**	**13.6**	U 8.00	U 4.00	**2.70**	**3.70**	U 2.00	**6.60**	**2.68**	**-139.9**	NA	**24**	**400**
	9/29/2023	10 - 19.7	**478**	**149**	**1,490**	U 8.00	U 8.00	U 4.00	NA	NA	NA	NA	**2.46**	**-90.8**	NA	NA	NA
	12/20/2023	10 - 19.7	**45.6**	**18.1**	**615**	U 2.00	**3.05**	**72.0**	U 2.00	U 2.00	**2.20**	**13.0**	**0.04**	**-102.1**	NA	U 2.00	**10,400**
	3/21/2024	10 - 19.7	**898**	**220**	**1,290**	U 2.00	**4.80**	**22.6**	**23.0**	U 2.00	U 2.00	**19.0**	**0.05**	**-86.8**	NA	U 2.00	**26,400**
	6/20/2024	10 - 19.7	**759**	**846**	**929**	U 4.00	U 4.00	**8.20**	NA	NA	NA	NA	**0.05**	**-51.7**	NA	NA	NA

TABLE A-2
Summary of Monitoring Data In Treatment Area
Former Mail-Well Envelope Facility
Milwaukie, Oregon

Location	Date	Depth (ft. bgs)	Tetra-chloroethene (PCE) (µg/L)	Tri-chloroethene (TCE) (µg/L)	cis-1,2-Di-chloroethene (cis-1,2-DCE) (µg/L)	trans-1,2-Di-chloroethene (trans-1,2-DCE) (µg/L)	1,1-Di-chloroethene (µg/L)	Vinyl chloride (µg/L)	Ethene (µg/L)	Ethane (µg/L)	Acetylene (µg/L)	Chloride (mg/L)	Dissolved Oxygen [1] (mg/L)	ORP [1] (mV)	Nitrate (mg/L)	Sulfate (mg/L)	Methane (µg/L)
Oregon Department of Environmental Quality Risk-Based Concentrations [2]																	
Vapor Intrusion into Buildings—Occupational			48,000	3,700	> S	> S	360,000	880	NL	NL	NL	NL	NL	NL	NL	NL	NL
Volatilization to Outdoor Air—Occupational			> S	20,000	> S	> S	2,400,000	5,900	NL	NL	NL	NL	NL	NL	NL	NL	NL
Groundwater in an Excavation			5,600	430	18,000	180,000	44,000	960	NL	NL	NL	NL	NL	NL	NL	NL	NL
Commercial Chronic Vapor Intrusion RBCwi			130	13	1,800	750	1,300	3.3	NL	NL	NL	NL	NL	NL	NL	NL	NL
Commercial Acute Vapor Intrusion RBCwi			330	27	NL	10,000	890	4,600	NL	NL	NL	NL	NL	NL	NL	NL	NL

Notes:
Bold = Indicates analyte was detected above method reporting limit.
* = Results from uncertified vendor laboratory (RPI Lab)
** = sample was collected two days after rehabilitation/redevelopment of the monitoring well
[1] = Parameter measured with field instrument
[2] = Oregon Department of Environmental Quality Risk-Based Concentrations for Individual Chemicals, May 2018.
Blue Shading = post second round of injection (2,035 pounds [plus water] distributed among 15 injection boreholes 8/10/23-8/11/23)
Green Shading = post BOS 100 injection (2,600 pounds [plus water] distributed among 43 injection boreholes 8/5/19 - 8/7/19)
Shaded Bold = Indicates analyte was detected at concentration above Cleanup Goal (DEQ Risk-Based Concentration [RBC] for Excavation worker as specified in the DEQ Record of Decision (ROD)
Red Text = Updated Vapor Intrusion Screening Level Guidance (DEQ, 2023)

Abbreviations:
µg/L = Micrograms per liter
mg/L = Milligrams per liter
mV = millivolts
NA = Parameter not analyzed in sample
NL = No Risk-Based Concentration listed by DEQ
ORP = Oxidation-reduction potential
RBC = DEQ Risk-Based Concentration
U = Analyte was not detected at or above method reporting limit shown.

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TABLE A-3
Volatile Organic Compounds Detected In Soil
Former Mail-Well Envelope Facility
Milwaukie, Oregon

Location	Sample ID	Consultant	Date	Depth (ft. bgs)	Analytical Result (µg/kg)						
					Tetra-chloroethene	Trichloro-ethene	cis-1,2-Dichloroethene	Vinyl chloride	Methylene chloride	Ethlybenzene	Xylenes
Mail-Well Envelope - Area 1											
SB-3	SB-3 1-2.5	ATC Associates	5/24/2002	1 - 2.5	**31.7**	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-3	SB-3 2.5-4	ATC Associates	5/24/2002	2.5 - 4	**100**	**11.2**	U 10	U 10.0	U 50.0	U 10.0	U 20.0
SB-3	SB-3 5-6.5	ATC Associates	5/24/2002	5 - 6.5	**19.4**	U 10	U 10	U 10.0	U 50.0	U 10.0	U 20.0
SB-3	SB-3 7.5-9	ATC Associates	5/24/2002	7.5 - 9	**207**	**131**	**101**	U 10.0	U 50.0	U 10.0	U 20.0
SB-3	SB-3 10-11.5	ATC Associates	5/24/2002	10 - 11.5	**34.0**	**21.9**	**14.9**	U 10.0	U 50.0	U 10.0	U 20.0
SB-3	SB-3 12.5-14	ATC Associates	5/24/2002	12.5 - 14	**46.7**	**30.0**	**15.3**	U 10.0	U 50.0	U 10.0	U 20.0
SB-3	SB-3 15-16.5	ATC Associates	5/24/2002	15 - 16.5	**87.1**	**43.3**	**22.0**	U 10.0	U 50.0	U 10.0	U 20.0
SB-3	SB-3 20-21.5	ATC Associates	5/24/2002	20 - 21.5	**150**	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-3	SB-3 25-26.5	ATC Associates	5/24/2002	25 - 26.5	**50.2**	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-3	SB-3 30-31.5	ATC Associates	5/24/2002	30 - 31.5	U 10.0	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-4	SB-4 8-10'	ATC Associates	6/26/2002	8 - 10	**16.3**	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-4	SB-4 18-20'	ATC Associates	6/26/2002	18 - 20	U 10.0	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-5	SB-5 8-12'	ATC Associates	6/26/2002	8 - 12	**43.2**	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-5	SB-5 16-18'	ATC Associates	6/26/2002	16 -18	U 10.0	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-6	SB-6 8-10'	ATC Associates	6/26/2002	8 - 10	U 10.0	U 10.0	**150**	**19.7**	U 50.0	U 10.0	U 20.0
SB-6	SB-6 14-16'	ATC Associates	6/26/2002	14 - 16	**27.4**	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-7	SB-7 4-6'	ATC Associates	6/26/2002	4 -6	**449,000**	**3,180**	**260**	U 10.0	U 50.0	**12.2**	**86.2**
SB-7	SB-7 12-14'	ATC Associates	6/26/2002	12 -14	**3,980**	**41.9**	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-8	SB-8 4-6'	ATC Associates	6/26/2002	4 - 6	U 10.0	U 10	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-8	SB-8 8-11'	ATC Associates	6/26/2002	8 - 11	**941**	**23.5**	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-9	SB-9 4-6'	ATC Associates	6/26/2002	4 - 6	U 10.0	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-9	SB-9 12-14'	ATC Associates	6/26/2002	12 - 14	**22.7**	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-10	SB-10 8-10'	ATC Associates	6/27/2002	8 - 10	**130**	**14.7**	**39.7**	U 10.0	U 50.0	U 10.0	U 20.0
SB-10	SB-10 14-16'	ATC Associates	6/27/2002	14 - 16	**39.8**	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-11	SB-11 8-10'	ATC Associates	6/27/2002	8 - 10	**177**	**15.5**	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
SB-11	SB-11 16-18'	ATC Associates	6/27/2002	16 - 18	U 10.0	U 10.0	U 10.0	U 10.0	U 50.0	U 10.0	U 20.0
9304 SE Main Street - Area 1											
OGP-1	GP-1 5-10	EEM	4/2/2007	7.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 20.0
OGP-2	GP-2 5-10	EEM	4/2/2007	7.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 20.0
OGP-6	GP-6 8-12	EEM	4/2/2007	10	U 10.0	U 10.0	U 10.0	U 10.0	**149 P**	U 10.0	U 20.0
Oregon Department of Environmental Quality Risk-Based Concentrations [1]											
Ingestion, Dermal Contact, and Inhalation - Occupational					1,000,000	51,000	2,300,000	4,400	1,600,000	150,000	25,000,000
Ingestion, Dermal Contact, and Inhalation - Construction Worker					1,800,000	470,000	710,000	34,000	2,100,000	1,700,000	20,000,000
Ingestion, Dermal Contact, and Inhalation - Excavation Worker					50,000,000	13,000,000	20,000,000	950,000	58,000,000	49,000,000	560,000,000
Vapor Intrusion into Buildings - Occupational					36,000	2,300	> Max	2,200	950,000	17,000	> Csat
Volatilization to Outdoor Air - Occupational					> Csat	96,000	> Max	89,000	> Csat	160,000	> Csat

TABLE A-3
Volatile Organic Compounds Detected In Soil
Former Mail-Well Envelope Facility
Milwaukie, Oregon

Location	Sample ID	Consultant	Date	Depth (ft. bgs)	Analytical Result (µg/kg)						
					Tetra-chloroethene	Trichloro-ethene	cis-1,2-Dichloroethene	Vinyl chloride	Methylene chloride	Ethlybenzene	Xylenes
Mail-Well Envelope - Area 2											
AB-15	AB-15, 8-8.5 ft	Amec Foster Wheeler	7/23/2010	8 - 8.5	**310**	**44.4**	U 37.0	U 37.0	U 370	NA	NA
AB-16	AB-16,9.5-10 ft	Amec Foster Wheeler	7/23/2010	9.5 - 10	U 37.6	U 37.6	U 37.6	U 37.6	U 376	NA	NA
AB-17	AB-17,10ft	Amec Foster Wheeler	7/23/2010	10 - 10.5	U 34.0	U 34.0	U 34.0	U 34.0	U 340	NA	NA
AB-18	AB-18,7.5-8 ft	Amec Foster Wheeler	7/23/2010	7.5 - 8	U 39.2	U 39.2	U 39.2	U 39.2	U 392	NA	NA
AB-19	AB-19 7.5-8 ft	Amec Foster Wheeler	10/18/2010	7.5 - 8	U 37.1	U 37.1	U 37.1	U 37.1	U 371	NA	NA
AB-20	AB-20 8.5-9 ft	Amec Foster Wheeler	10/18/2010	8.5 - 9	U 33.8	U 33.8	U 33.8	U 33.8	U 338	NA	NA
AB-21	AB-21 9-9.5 ft	Amec Foster Wheeler	10/18/2010	9 - 9.5	U 37.4	U 37.4	U 37.4	U 37.4	U 374	NA	NA
9304 SE Main Street - Area 2											
OGP-3	GP-3 5-10	EEM	4/2/2007	7.5	U 10.0	U 10.0	**64.8**	U 10.0	**69.6 P**	U 10.0	U 10.0
OGP-4	GP-4 12-16	EEM	4/2/2007	14	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
OGP-5	GP-5 8-12	EEM	4/2/2007	10	**97.7**	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
Investigation Derived Wasted											
IDW	IDW	Wood	9/23/2019	-	**472**	U 34.5	**59.2**	U 34.5	U 345	NA	NA
Oregon Department of Environmental Quality Risk-Based Concentrations [1]											
Ingestion, Dermal Contact, and Inhalation - Occupational					1,000,000	51,000	2,300,000	4,400	1,600,000	150,000	25,000,000
Ingestion, Dermal Contact, and Inhalation - Construction Worker					1,800,000	470,000	710,000	34,000	2,100,000	1,700,000	20,000,000
Ingestion, Dermal Contact, and Inhalation - Excavation Worker					50,000,000	13,000,000	20,000,000	950,000	58,000,000	49,000,000	560,000,000
Vapor Intrusion into Buildings - Occupational					36,000	2,300	> Max	2,200	950,000	17,000	> Csat
Volatilization to Outdoor Air - Occupational					> Csat	96,000	> Max	89,000	> Csat	160,000	> Csat

TABLE A-3
Volatile Organic Compounds Detected In Soil
Former Mail-Well Envelope Facility
Milwaukie, Oregon

Location	Sample ID	Consultant	Date	Depth (ft. bgs)	Analytical Result (µg/kg)							
					4-Isopropyl-toluene	n-Butyl-benzene	Isopropyl-benzene	n-Propyl-benzene	sec-Butylbenzene	Naphthalene	1,2,4-trimethyl-benzene	1,3,5-trimethyl-benzene
Mail-Well Envelope - Area 1												
SB-3	SB-3 1-2.5	ATC Associates	5/24/2002	1 - 2.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-3	SB-3 2.5-4	ATC Associates	5/24/2002	2.5 - 4	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-3	SB-3 5-6.5	ATC Associates	5/24/2002	5 - 6.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-3	SB-3 7.5-9	ATC Associates	5/24/2002	7.5 - 9	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-3	SB-3 10-11.5	ATC Associates	5/24/2002	10 - 11.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-3	SB-3 12.5-14	ATC Associates	5/24/2002	12.5 - 14	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-3	SB-3 15-16.5	ATC Associates	5/24/2002	15 - 16.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-3	SB-3 20-21.5	ATC Associates	5/24/2002	20 - 21.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-3	SB-3 25-26.5	ATC Associates	5/24/2002	25 - 26.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-3	SB-3 30-31.5	ATC Associates	5/24/2002	30 - 31.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-4	SB-4 8-10'	ATC Associates	6/26/2002	8 - 10	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-4	SB-4 18-20'	ATC Associates	6/26/2002	18 - 20	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-5	SB-5 8-12'	ATC Associates	6/26/2002	8 - 12	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-5	SB-5 16-18'	ATC Associates	6/26/2002	16 -18	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-6	SB-6 8-10'	ATC Associates	6/26/2002	8 - 10	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-6	SB-6 14-16'	ATC Associates	6/26/2002	14 - 16	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-7	SB-7 4-6'	ATC Associates	6/26/2002	4 -6	**35.5**	**35.2**	**52.9**	**65.0**	**30.7**	**27.4**	**2,570**	**138**
SB-7	SB-7 12-14'	ATC Associates	6/26/2002	12 -14	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-8	SB-8 4-6'	ATC Associates	6/26/2002	4 - 6	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-8	SB-8 8-11'	ATC Associates	6/26/2002	8 - 11	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-9	SB-9 4-6'	ATC Associates	6/26/2002	4 - 6	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-9	SB-9 12-14'	ATC Associates	6/26/2002	12 - 14	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-10	SB-10 8-10'	ATC Associates	6/27/2002	8 - 10	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-10	SB-10 14-16'	ATC Associates	6/27/2002	14 - 16	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-11	SB-11 8-10'	ATC Associates	6/27/2002	8 - 10	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
SB-11	SB-11 16-18'	ATC Associates	6/27/2002	16 - 18	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
9304 SE Main Street - Area 1												
OGP-1	GP-1 5-10	EEM	4/2/2007	7.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
OGP-2	GP-2 5-10	EEM	4/2/2007	7.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
OGP-6	GP-6 8-12	EEM	4/2/2007	10	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
Oregon Department of Environmental Quality Risk-Based Concentrations [1]												
Ingestion, Dermal Contact, and Inhalation - Occupational					NL	NL	57,000,000	NL	NL	23,000	2,000,000	12,000,000
Ingestion, Dermal Contact, and Inhalation - Construction Worker					NL	NL	27,000,000	NL	NL	580,000	2,000,000	3,500,000
Ingestion, Dermal Contact, and Inhalation - Excavation Worker					NL	NL	750,000,000	NL	NL	16,000,000	54,000,000	98,000,000
Vapor Intrusion into Buildings - Occupational					NL	NL	> Csat	NL	NL	83,000	210,000	> Max
Volatilization to Outdoor Air - Occupational					NL	NL	> Csat	NL	NL	83,000	980,000	> Max

TABLE A-3
Volatile Organic Compounds Detected In Soil
Former Mail-Well Envelope Facility
Milwaukie, Oregon

Location	Sample ID	Consultant	Date	Depth (ft. bgs)	Analytical Result (µg/kg)							
					4-Isopropyl-toluene	n-Butyl-benzene	Isopropyl-benzene	n-Propyl-benzene	sec-Butylbenzene	Naphthalene	1,2,4-trimethyl-benzene	1,3,5-trimethyl-benzene
Mail-Well Envelope - Area 2												
AB-15	AB-15, 8-8.5 ft	Amec Foster Wheeler	7/23/2010	8 - 8.5	NA	NA	NA	NA	NA	NA	NA	NA
AB-16	AB-16,9.5-10 ft	Amec Foster Wheeler	7/23/2010	9.5 - 10	NA	NA	NA	NA	NA	NA	NA	NA
AB-17	AB-17,10ft	Amec Foster Wheeler	7/23/2010	10 - 10.5	NA	NA	NA	NA	NA	NA	NA	NA
AB-18	AB-18,7.5-8 ft	Amec Foster Wheeler	7/23/2010	7.5 - 8	NA	NA	NA	NA	NA	NA	NA	NA
AB-19	AB-19 7.5-8 ft	Amec Foster Wheeler	10/18/2010	7.5 - 8	NA	NA	NA	NA	NA	NA	NA	NA
AB-20	AB-20 8.5-9 ft	Amec Foster Wheeler	10/18/2010	8.5 - 9	NA	NA	NA	NA	NA	NA	NA	NA
AB-21	AB-21 9-9.5 ft	Amec Foster Wheeler	10/18/2010	9 - 9.5	NA	NA	NA	NA	NA	NA	NA	NA
9304 SE Main Street - Area 2												
OGP-3	GP-3 5-10	EEM	4/2/2007	7.5	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
OGP-4	GP-4 12-16	EEM	4/2/2007	14	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
OGP-5	GP-5 8-12	EEM	4/2/2007	10	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
Investigation Derived Wasted												
IDW	IDW	Wood	9/23/2019	-	NA	NA	NA	NA	NA	NA	NA	NA
Oregon Department of Environmental Quality Risk-Based Concentrations [1]												
Ingestion, Dermal Contact, and Inhalation - Occupational					NL	NL	57,000,000	NL	NL	23,000	2,000,000	12,000,000
Ingestion, Dermal Contact, and Inhalation - Construction Worker					NL	NL	27,000,000	NL	NL	580,000	2,000,000	3,500,000
Ingestion, Dermal Contact, and Inhalation - Excavation Worker					NL	NL	750,000,000	NL	NL	16,000,000	54,000,000	98,000,000
Vapor Intrusion into Buildings - Occupational					NL	NL	> Csat	NL	NL	83,000	210,000	> Max
Volatilization to Outdoor Air - Occupational					NL	NL	> Csat	NL	NL	83,000	980,000	> Max

Notes:

µg/kg = micrograms per kilogram.

U = Indicates analyte was not detected at or above method reporting limit shown.

P = Indicates that laboratory noted that detections may be laboratory contamination due to previous analysis or background levels.

Bold = Indicates analyte was detected above method detection limit.

[1] = Oregon Department of Environmental Quality Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites, September 22, 2003. Revision: November 1, 2015.

NL = No Risk-Based Concentration (RBC) listed by DEQ.

> Csat = The calculated RBC exceeds the limit of three-phase equilibrium partitioning.

Shaded indicates RBC(s) exceeded in sample.