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Memorandum

To: Erin McDonnell, Oregon Department of Environmental Quality

Copies: Tom Graf, MMGL

From: Allison Geiselbrecht, Kristin Anderson, and Sabine Datum, Floyd|Snider

Date: May 15, 2025

Project ID: MMGL-PEO

Re: **Premier Edible Oils Site—Request for Confirmation of Assumptions for Future Ecological Risk Assessment**

This memorandum has been prepared to confirm several assumptions for a future Ecological Risk Assessment (ERA) at the Premier Edible Oils (PEO) Site (Site). The Site is located at 10400 North Burgard Way in Portland, Oregon (Figure 1). Ongoing remedial activities to implement source control measures for petroleum contamination have been performed in accordance with the March 6, 2001, Voluntary Agreement (ECDVC-NWR-01-06) between MMGL LLC (MMGL; formerly Schnitzer Investment Corp.) and the Oregon Department of Environmental Quality (ODEQ). The Site is located adjacent to the River Mile (RM) 3.5 East Project Area, a sediment cleanup site of the Portland Harbor Superfund Site.

Per conversations during a project meeting with Erin McDonnell and David Lacey on February 6, 2025, a future ERA may be necessary for the Site to satisfy cleanup requirements specific to remedial action objectives for terrestrial receptors that may not be considered through the RM3.5 East riverbank remedial actions focused on surface water and sediment protection. Before the process is fully initiated, MMGL would like to provide existing reports and preliminary data interpretation that will aid in the determination of the scope of a future ERA.

In 1998, ODEQ released the Guidance for Ecological Risk Assessment: Levels I, II, III, IV, which was revised in December 2001. In 2020, ODEQ published a new directive, Conducting Ecological Risk Assessments, which explains ODEQ expectations for addressing risk in accordance with ORS 465.315(2)(a) and OAR 340-122-0084(3). The new directive includes a streamlined process for scoping, exclusionary criteria, and the risk calculation process, as well as updates of ecological risk-based concentrations. Previous ERA work for the Site, performed by others, was based on the prior 2001 guidance.

The following sections describe assumptions to be confirmed prior to starting the ERA process:

PREVIOUS BIOLOGICAL ASSESSMENT CAN BE APPLIED

In a 2014 Remedial Investigation Work Plan (2014 RI WP) developed for the Site by Treadwell & Rollo, A Langan Company (T&R; T&R 2014), several elements of an ERA were completed. Per ODEQ's request, T&R requested a data search of rare, threatened and endangered plants and animals in the vicinity of the Site from the Oregon Biodiversity Information Center (ORBIC) in June 2012 (T&R 2014). The results of this search are included as Attachment 1. ORBIC determined that no threatened or endangered species were present at the Site. Results also determined that observations of the painted turtle (*Chrysemys picta*) have been reported at the adjoining Time Oil site pond, located at a distance of approximately 1,000 feet from the northeastern boundary of the Site. Because of the absence of ecological habitat or surface water bodies in this portion of the Site, the potential presence of the painted turtle on the adjoining property was not identified as a concern.

For a future ERA, MMGL proposes to rely on the findings by ORBIC and adopt the ERA screening levels that exclude screening levels for threatened and endangered species.

EXTENTS OF THE ECOLOGICAL RISK GEOGRAPHICAL AREA

Per the 2014 RI WP and previous communications with ODEQ, the ecological risk area is limited to riverbanks extending from the shoreline to the future Willamette Greenway[1] which is anticipated to extend to 25 feet from the top of bank. The ecological risk area also does not include riverbanks along the north shore of the International Terminal Slip cut but is limited to riverbanks along the Willamette River main channel along the western shoreline of the Site. The extent of the ecological risk area is shown on Figure 2. Given the absence of specific definitions of riverbank in the 2014 RI WP, the definition for the RM3.5 East Project Area was adopted, which stipulates that the riverbank area extends from the shoreline (+13 feet North American Vertical Datum of 1988 [NAVD 88]) to the top of the bank.[2]

For a future ERA, MMGL requests that ODEQ confirm this understanding of the extent of the ecological risk area.

[1] In the 2014 RI WP, the area that extends 25 feet from the top of bank was designated as a future Willamette Greenway setback. This designation is based on the Willamette Greenway Plan (Portland Planning Commission 1987), in which a Willamette Greenway setback of a minimum of 25 feet landward from the top of bank was designated to (1) keep waterfront uses back from the river's edge, (2) conserve and enhance the riverbanks' natural vegetation, and (3) provide opportunity for public access.

[2] The riverbank area was reclassified in the RM3.5 East Supplemental Pre-Design Investigation (SPDI) Report, submitted to U.S. Environmental Protection Agency (USEPA) in February 2025 (Floyd|Snider and DOF 2025), from "Mean Low Water (equivalent to +7.3 feet NAVD 88) to top of bank" to "shoreline (+13 feet NAVD 88) to top of bank." The area between +7.3 and +13 feet NAVD 88 was classified as shallow river region sediments.

DATA COVERAGE

Results of the 2014 RI data collection, which were presented in a 2015 Langan Treadwell Rollo letter (Langan Treadwell Rollo 2015), are included as Attachment 2. Additional riverbank data were collected as part of the RM3.5 East Project Area investigations in 2023 and 2024 and were provided in a data report to USEPA (Floyd|Snider 2024).

Attached Tables 1 through 4 summarize all applicable shallow soil data (from 0 to 3 feet bgs) collected in the ecological risk area between 1998 and 2023. Figure 3 shows all riverbank sample locations advanced during this time. Targeted additional soil data will be collected as part of the RM3.5 East SPDI riverbank sampling event planned for summer 2025, which includes four sampling locations at the Site. The planned sampling locations located within the PEO ecological risk area are shown on Figure 4.

For the 2014 RI WP, Site data was screened for ecological risk, based on the previous ODEQ guidance; however, because ODEQ has since published updated guidance and additional data has been collected, a screening per the updated guidance is warranted.

Although chemical analyses performed for the RM3.5 East investigation do not entirely satisfy the requirements of an ERA, the existing dataset is very robust and includes results for most contaminants or contaminant classes relevant to the ERA. Refer to Table 5 for a statistical summary of the number of analytical results available for each chemical and frequencies of detection, as well as exceedances compared to ERA screening levels.

Based on the review of the existing data, there are sufficient representative results for key chemicals or chemical classes for the ERA:

- Metals:
    - For the majority of metals for which risk-based concentrations exist, there is data coverage that includes between 14 and 59 analytical results per metal.
    - For metals that are not likely to be present at the Site, such as antimony, beryllium, molybdenum, thallium, tin, and vanadium, seven samples have been analyzed for each metal.
    - No samples at the Site have been analyzed for boron, chromium VI, cyanide, fluoride, lithium, methyl mercury, perchlorate ion, strontium, titanium, tributyltin oxide, and uranium. Based on the historical and current Site use, there is no indication that these chemicals could represent chemicals of interest (COIs) for the Site, and data collection for these analytes is not needed.

Given the data density, additional metals data collection is not warranted.

- Polychlorinated biphenyls (PCBs):
    - Soil samples collected at the Site were analyzed for PCB Aroclors, but not for PCB congeners. A total of 42 soil results with PCB Aroclor data exist.

  - No soil samples at the Site have been analyzed for dioxin-like PCB congeners, for which risk-based concentrations exist.

Two samples (BANK-07a-R and BANK-07a-S; refer to Figure 4) to be advanced during the RM3.5 East SPDI riverbank sampling event will be analyzed for PCB Aroclors. The 12 dioxin-like PCB congeners have relatively low toxicity (with low toxicity equivalence factors). Given the extensive dioxin/furan data available described below and the data density for PCB Aroclors, additional PCB congener data collection is not warranted.

- Dioxins/furans
  - A total of 34 soil samples collected at the Site were analyzed for dioxins/furans.

Two samples (BANK-07a-R and BANK-07a-S; refer to Figure 4) to be advanced during the RM3.5 East SPDI riverbank sampling event will be analyzed for pentachlorodibenzo-*p*-dioxin. Given the data density, additional dioxin/furan data collection is not warranted.

- Total petroleum hydrocarbons (TPH):
  - Between 16 and 47 soil samples collected at the Site were analyzed for TPH.
    - For gasoline-range organics, 16 total results exist.
    - For diesel-range organics, 47 total results exist.
    - For oil-range organics, 31 total results exist.
    - For residual-range organics, 18 total results exist.

Given the data density for TPH, additional TPH data collection is not warranted.

- Volatile organic compounds (VOCs)
  - Sixteen total soil samples collected at the Site were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds.
  - For other VOCs, nine results exist per VOC, with the exception of carbon disulfide, for which two samples were analyzed.
  - No samples were analyzed for the following VOCs for which risk-based concentrations exist: benzyl alcohol, 4-chloroaniline, 1,2-dichloroethene (*cis*- and *trans*-), 1,4-dioxane, diphenylamine, formaldehyde, hexachlorobenzene, and iodomethane. Because there are no indications that these chemicals were historically used at the Site, the absence of analytical results for these compounds does not represent a data gap.

Limited sample sets at the Site were analyzed for VOCs; however, because the main Site COIs are petroleum-related, BTEX analyses are most relevant and sufficient, based on the number of detections and concentrations detected (refer to Tables 3 and 5).

- Semivolatile organic compounds (SVOCs)
  - For the majority of SVOCs, including polycyclic aromatic hydrocarbons (PAHs), between 92 and 100 soil samples have been analyzed at the Site.
  - For some SVOCs, such as 1-methylnaphtalene, phthalates, and hexachlorobutadiene, seven to nine results per chemical exist.
  - No soil samples were analyzed for the following SVOCs for which risk-based concentrations exist: benzoic acid, carbazole, di-n-hexylphthalate, nitrobenzene, 2-nitroaniline, pentachloronitrobenzene, pentachlorophenol (PCP),[3] and phenols. Because there are no indications of historical use at the Site for these compounds, the absence of analytical results for these compounds does not represent a data gap.

Two additional samples (RA-09AR and BANK-10a-R; refer to Figure 4) to be advanced during the RM3.5 East SPDI riverbank sampling event will be analyzed for PAHs. Given the data density for SVOCs, additional SVOC data collection is not warranted.

- Pesticides
  - A total of 38 soil samples collected at the Site were analyzed for total DDx (the sum of dichlorodiphenyldichloroethane, dichlorodiphenyldichloroethylene, and dichlorodiphenyltrichloroethane) and its isomers, aldrin, dieldrin, chlordanes, and gamma-benzene hexachloride (lindane).
  - For lesser common pesticides, seven results are in the existing data set.
  - No samples were analyzed for endosulfan or kepone.

Given the data density for the more common pesticides and the lack of historical use at the Site, additional pesticide data collection is not warranted.

For a future ERA, MMGL would like to confirm that the data collected to date are sufficient to proceed with the ERA, and no additional data collection is warranted other than the upcoming riverbank sampling planned for RM3.5E.

SAMPLING INTERVALS

Per the Conducting Ecological Risk Assessment directive (ODEQ 2020), soil samples should be collected from the 0 to 3 feet bgs interval. For the RM3.5 East riverbank sample collection, required depths that satisfy the Portland Harbor Riverbank Characterization guidance (USEPA 2019) were

[3] PCP was historically used at the adjoining Time Oil site, but there is no evidence that the PCP plume has migrated from the Time Oil site onto the ecological risk area of the Site.

used, which requires a 0 to 2 feet bgs depth interval. The results of the recent riverbank characterization found maximum contaminant concentrations in the surface (0 to 1 foot bgs) samples and overall lesser concentrations in the 1 to 2 feet bgs samples, as expected in areas where historical industrial impacts may have included surficial sources such as stormwater runoff and localized releases. Therefore, use of these results collected from the top 2 feet is presumed to result in a conservatively biased assessment of ecological risk versus results from the top 3 feet.

For a future ERA, MMGL would like to confirm that data collected as part of RM3.5 East investigations are acceptable, as they represent a conservative assumption of soil conditions. Increase or decrease of concentrations with depth should additionally be considered when evaluating existing data for potential data gaps.

REFERENCES

Floyd|Snider. 2024. River Mile 3.5 East Remedial Design Riverbank Evaluation Data Report. Prepared for Schnitzer Steel Industries, Inc. and MMGL LLC. October.

Floyd|Snider and Dalton, Olmsted & Fuglevand (DOF). 2025. *River Mile 3.5 East Remedial Design Supplemental Pre-Design Investigation Work Plan*. Prepared for Schnitzer Steel Industries, Inc. and MMGL LLC. March.

Langan Treadwell Rollo. 2015. *Data Report, Phase II Remedial Investigation, Premier Edible Oils, 10400 North Burgard Way, Portland Oregon*. Letter from Noel Liner and Patrick Hubbard, Langan Treadwell Rollo, to Ken Novack, MMGL LLC. 4 June.

Oregon Department of Environmental Quality (ODEQ). 2020. *Conducting Ecological Risk Assessments*. Land Quality Division. 14 September.

Portland Planning Commission. 1987. *Willamette Greenway Plan*. Bureau of Planning. 5 November.

Treadwell & Rollo, A Langan Company (T&R). 2014. *Phase II Remedial Investigation Work Plan, Premier Edible Oils, 10400 North Burgard Way, Portland, Oregon*. Prepared for the Oregon Department of Environmental Quality. November.

U.S. Environmental Protection Agency (USEPA). 2019. *Guidance for River Bank Characterizations and Evaluations at the Portland Harbor Superfund Site*. Prepared by USEPA Region 10. 10 September.

LIST OF ATTACHMENTS

Table 1	Riverbank Soil Analytical Data—Metals
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Table 1
Riverbank Soil Analytical Data—Metals

Analyte Class			Metals									
Analyte			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead
CAS No.			7429-90-5	7440-36-0	7440-38-2	7440-39-3	7440-41-7	7440-43-9	7440-47-3	7440-48-4	7440-50-8	7439-89-6	7439-92-1
Ground Feeders Birds NTE			--	--	32	1,200	--	1.6	--	170	43	--	23
Ground Feeders Mammals NTE			--	2.7	31	8,700	42	3.6	--	640	70	--	170
Oregon Natural Backgound			--	0.56	8.8	790	2	0.63	76	--	34	--	79
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date											
2023 FS Sampling													
BANK-04c	BANK-04c-00-01	10/23/2023			3.3			0.12 U			9.9		6.2
BANK-05a	BANK-05a-00-01	7/31/2023			2.4 J			0.14			14 J		**53**
BANK-05b	BANK-05b-00-01	7/31/2023			2.7 J			0.093 J			16 J		**34**
BANK-05c	BANK-05c-00-01	7/31/2023			6.3 J			0.19			26 J		8.6
BANK-06a	BANK-06a-00-01	7/31/2023			2.7 J			0.18			16 J		**43**
BANK-06b	BANK-06b-00-01	7/31/2023			3.6 J			0.19			16 J		**42**
BANK-06c	BANK-06c-00-01	7/31/2023			3.1 J			0.073 J			11 J		18
BANK-07a	BANK-07a-00-01	8/2/2023			3.3			0.74			42		**340**
BANK-07b	BANK-07b-00-01	8/1/2023			4.6 J			0.79			34 J		**210**
BANK-07c	BANK-07c-00-01	8/1/2023			2.9 J			0.064 J			14 J		20
BANK-08a	BANK-08a-00-01	8/2/2023			3.0			0.36			22		**57**
BANK-08b	BANK-08b-00-01	8/1/2023			3.6 J			0.45			26 J		**130**
BANK-08c	BANK-08c-00-01	8/1/2023			2.5 J			0.063 J			14 J		13
BANK-08c	BANK-08c-00-01-AVG	8/1/2023			2.5 J			0.063 J			13 J		13
BANK-08c	BANK-108c-00-01	8/1/2023			2.5 J			0.062 U			13 J		13
BANK-09a	BANK-09a-00-01	8/2/2023			4.7			0.28			25		22
BANK-09b	BANK-09b-00-01	8/3/2023			2.5			0.087 J			16		17 J
BANK-09c	BANK-09c-00-01	8/2/2023			4.5			0.092 J			17		7.8
BANK-10a	BANK-10a-00-01	8/2/2023			2.2			0.14			14		14
BANK-10a	BANK-10a-00-01-AVG	8/2/2023			2.2			0.14			14		14
BANK-10a	BANK-110a-00-01	8/2/2023			2.1			0.15			14		15
BANK-10b	BANK-10b-00-01	8/3/2023			7.6			0.27			20		**28**
BANK-10c	BANK-10c-00-01	8/2/2023			5.1			0.18			28		15
BANK-11a	BANK-11a-00-01	8/3/2023			1.7			0.35			19		16
BANK-11b	BANK-11b-00-01	8/3/2023			1.1			0.24			17		15
BANK-11c	BANK-11c-00-01	8/2/2023			1.1			0.094 J			8.9		8.2
BANK-12a	BANK-12a-00-01	8/3/2023			2.0			0.19			19		15
BANK-12b	BANK-12b-00-01	8/3/2023			1.1			0.22			16		17
BANK-12c	BANK-12c-00-01	8/3/2023			2.2			0.26			19		16
BANK-13a	BANK-13a-00-01	8/3/2023			5.0			0.38			20		18
BANK-13c	BANK-13c-00-01	8/3/2023			2.4			0.39			36		23
BANK-14a	BANK-14a-00-01	8/3/2023			8.5			0.58			33		**28**
BANK-14b	BANK-14b-00-01	8/4/2023			2.0			0.25			19		12
BANK-14b	BANK-14b-00-01-AVG	8/4/2023			2.1			0.25			18		13
BANK-14b	BANK-114b-00-01	8/4/2023			2.1			0.24			18		15
BANK-14c	BANK-14c-00-01	8/8/2023			2.2			0.26			19		13
BANK-15b	BANK-15b-00-01	8/8/2023			2.0			0.34			**57**		20

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Ground Feeders Birds NTE			--	--	**32**	**1,200**	--	**1.6**	--	**170**	**43**	--	**23**
Ground Feeders Mammals NTE			--	**2.7**	**31**	**8,700**	**42**	**3.6**	--	**640**	**70**	--	**170**
Oregon Natural Backgound			--	**0.56**	**8.8**	**790**	**2**	**0.63**	**76**	--	**34**	--	**79**
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	**Sample Name**	**Sample Date**											
Historical PEO Site Sampling													
BZ-01	BZ-01-2.5-3	8/15/2012		0.056	2.9	130	0.38	0.061	16	15	17		5.6
BZ-03	BZ-03-1.5-2	8/15/2012		0.085	2.2	150	0.44	0.099	20	14	22		5.9
BZ-04	BZ-04-1.5-2	8/15/2012		0.059	2.2	95	0.30	0.053	15	14	15		4.5
BZ-05	BZ-05-0.5-1	8/15/2012		0.060	2.2	88	0.29	0.061	13	13	14		4.1
BZ-06	BZ-06-0.5-1	8/16/2012		0.078	1.9	81	0.23	0.060	11	11	13		7.7
BZ-07	BZ-07-2.5-3	8/16/2012		0.14	5.1	160	0.67	0.25	26	21	39		14
BZ-08	BZ-08-1.5-2	8/17/2012		0.13	1.5	130	0.55	0.19	7.7	19	15		11
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001											
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001											
RA-01	RA-01-0.5120414	12/4/2014	9,800		4.2					13		24,000	**96**
RA-01	RA-01-0.5120414-AVG	12/4/2014	9,700		4.3					13		25,000	**84**
RA-01	RA-01-0.5-DUP120414	12/4/2014	9,600		4.4					13		25,000	**72**
RA-01	RA-01-3120414	12/4/2014	9,600		4.3					13		25,000	**130**
RA-02	RA-02-0.5120414	12/4/2014	9,800		4.8					13		27,000	**34**
RA-02	RA-02-3120414	12/4/2014	11,000		4.9					13		27,000	**31**
RA-03	RA-03-0.5120414	12/4/2014	9,800		4.7					13		26,000	17
RA-03	RA-03-3120414	12/4/2014	8,900		3.8					13		24,000	2.6
RA-04	RA-04-0.5120414	12/4/2014	8,200		4.8					11		27,000	**36**
RA-04	RA-04-3120414	12/4/2014	9,300		6.7					12		27,000	**820**
RA-05	RA-05-0.5120414	12/4/2014	12,000		3.7					14		28,000	17
RA-05	RA-05-3120414	12/4/2014	9,800		3.8					13		25,000	**53**
RA-06	RA-06-0.5120414	12/4/2014	10,000		4.0					13		25,000	17
RA-06	RA-06-3120514	12/5/2014	8,900		4.4					12		26,000	**140**
RA-07	RA-07-0.5120414	12/4/2014	9,900		4.3					12		25,000	**66**
RA-07	RA-07-3120414	12/4/2014	11,000		3.4 J					14		25,000	3.2
RA-08	RA-08-1.5-2	12/5/2014											
RA-08	RA-08-2.5-3	12/5/2014											
RA-08A	RA-08A-0-0.5	12/5/2014											
RA-08A	RA-08A-2.5-3	12/5/2014											
RA-08B	RA-08B-0-0.5	12/5/2014											
RA-08B	RA-08B-2.5-3	12/5/2014											
RA-08C	RA-08C-0-0.5	12/5/2014											
RA-08C	RA-08C-2.5-3	12/5/2014											
RA-08D	RA-08D-0-0.5	12/5/2014											
RA-08D	RA-08D-2.5-3	12/5/2014											
RA-09	RA-09-1-1.5	12/5/2014											
RA-09	RA-09-2.5-3	12/5/2014											

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Ground Feeders Birds NTE			--	--	32	1,200	--	1.6	--	170	43	--	23
Ground Feeders Mammals NTE			--	2.7	31	8,700	42	3.6	--	640	70	--	170
Oregon Natural Backgound			--	0.56	8.8	790	2	0.63	76	--	34	--	79
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	**Sample Name**	**Sample Date**											
Historical PEO Site Sampling (cont.)													
RA-09A	RA-09A-0-0.5	12/5/2014											
RA-09A	RA-09A-2.5-3	12/5/2014											
RA-09B	RA-09B-0-0.5	12/5/2014											
RA-09B	RA-09B-2.5-3	12/5/2014											
RA-09C	RA-09C-0-0.5	12/5/2014											
RA-09C	RA-09C-2.5-3	12/5/2014											
RA-09D	RA-09D-0-0.5	12/5/2014											
RA-09D	RA-09D-2.5-3	12/5/2014											
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010			2.7				11 J		15	19,000	**42 J**
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011	8,200			87		0.17 J		13			
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010			4.5				12 J		15	23,000	**27 J**
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011	7,500			230		0.18 J		12			
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010			11				43 J		22	19,000	**54 J**
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011	7,500			140		0.41 J		12			
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010			2.3 J				9.2 J		12	14,000	22 J
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011	7,700			86		0.18 J		12			
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	14,000		0.73 J	140		0.23 J	5.7	40	13	47,000	10
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	12,000		0.55	130		0.20	5.2	39	12	42,000	9.7
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	11,000		0.38 J	110		0.17 J	4.7	38	11	37,000	9.3

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.
All analytical results are rounded to two significant figures.
Italic Result was not detected at a reporting limit greater than applicable criteria.
Underline Result was detected at a concentration greater than Oregon background.
BOLD Result was detected at a concentration greater than the NTE birds.
RED/BOLD Result was detected at a concentration greater than the NTE mammals.
RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
PEO Premier Edible Oils

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 1
Riverbank Soil Analytical Data—Metals

Analyte Class			Metals (cont.)									
Analyte			Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Vanadium	Zinc
CAS No.			7439-96-5	7439-97-6	7439-98-7	7440-02-0	7782-49-2	7440-22-4	7440-28-0	7440-31-5	7440-62-2	7440-66-6
Ground Feeders Birds NTE			2,700	0.13	160	81	1.4	26	45	--	9.5	120
Ground Feeders Mammals NTE			5,400	17	26	21	1	140	4.2	--	610	980
Oregon Natural Backgound			1,800	0.23	--	47	0.71	0.82	5.2	--	180	180
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date										
2023 FS Sampling												
BANK-04c	BANK-04c-00-01	10/23/2023		0.093 J								42
BANK-05a	BANK-05a-00-01	7/31/2023		0.039 J								70 J
BANK-05b	BANK-05b-00-01	7/31/2023		0.064								62 J
BANK-05c	BANK-05c-00-01	7/31/2023		0.052 J								59 J
BANK-06a	BANK-06a-00-01	7/31/2023		0.027 J								91 J
BANK-06b	BANK-06b-00-01	7/31/2023		0.078								100 J
BANK-06c	BANK-06c-00-01	7/31/2023		0.024 U								58 J
BANK-07a	BANK-07a-00-01	8/2/2023		**0.46**								**270**
BANK-07b	BANK-07b-00-01	8/1/2023		**0.22**								**230 J**
BANK-07c	BANK-07c-00-01	8/1/2023		0.10								53 J
BANK-08a	BANK-08a-00-01	8/2/2023		0.12								100 J
BANK-08b	BANK-08b-00-01	8/1/2023		0.092								**140 J**
BANK-08c	BANK-08c-00-01	8/1/2023		0.025 J								52 J
BANK-08c	BANK-08c-00-01-AVG	8/1/2023		0.025 J								50 J
BANK-08c	BANK-108c-00-01	8/1/2023		0.025 U								48 J
BANK-09a	BANK-09a-00-01	8/2/2023		0.056								69
BANK-09b	BANK-09b-00-01	8/3/2023		0.048								56 J
BANK-09c	BANK-09c-00-01	8/2/2023		0.036 J								58
BANK-10a	BANK-10a-00-01	8/2/2023		0.062								62
BANK-10a	BANK-10a-00-01-AVG	8/2/2023		0.050 J								62
BANK-10a	BANK-110a-00-01	8/2/2023		0.038 J								63
BANK-10b	BANK-10b-00-01	8/3/2023		0.038 J								**170 J**
BANK-10c	BANK-10c-00-01	8/2/2023		0.080								79 J
BANK-11a	BANK-11a-00-01	8/3/2023		0.027 J								95 J
BANK-11b	BANK-11b-00-01	8/3/2023		0.025 J								88 J
BANK-11c	BANK-11c-00-01	8/2/2023		0.022 U								52 J
BANK-12a	BANK-12a-00-01	8/3/2023		0.024 J								82 J
BANK-12b	BANK-12b-00-01	8/3/2023		0.022 U								71 J
BANK-12c	BANK-12c-00-01	8/3/2023		0.026 J								**140**
BANK-13a	BANK-13a-00-01	8/3/2023		0.024 U								95 J
BANK-13c	BANK-13c-00-01	8/3/2023		0.032 J								**200**
BANK-14a	BANK-14a-00-01	8/3/2023		0.035 J								**140**
BANK-14b	BANK-14b-00-01	8/4/2023		0.026 J								89
BANK-14b	BANK-14b-00-01-AVG	8/4/2023		0.026 J								88
BANK-14b	BANK-114b-00-01	8/4/2023		0.025 J								87
BANK-14c	BANK-14c-00-01	8/8/2023		0.026 U								110
BANK-15b	BANK-15b-00-01	8/8/2023		0.024 J								**140**

Table 1
Riverbank Soil Analytical Data—Metals

Analyte Class			Metals (cont.)									
Analyte			Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Vanadium	Zinc
CAS No.			7439-96-5	7439-97-6	7439-98-7	7440-02-0	7782-49-2	7440-22-4	7440-28-0	7440-31-5	7440-62-2	7440-66-6
Ground Feeders Birds NTE			2,700	0.13	160	81	1.4	26	45	--	9.5	120
Ground Feeders Mammals NTE			5,400	17	26	21	1	140	4.2	--	610	980
Oregon Natural Backgound			1,800	0.23	--	47	0.71	0.82	5.2	--	180	180
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date										
Historical PEO Site Sampling												
BZ-01	BZ-01-2.5-3	8/15/2012	240	0.045	0.16	**23**	*1.0 UJ*	0.018 J	0.046		**77**	51
BZ-03	BZ-03-1.5-2	8/15/2012	310	0.048	0.15	**22**	*1.0 UJ*	0.050	0.063		**84**	58
BZ-04	BZ-04-1.5-2	8/15/2012	330	0.031	0.15	19	0.30 J	0.023	0.042		**62**	46
BZ-05	BZ-05-0.5-1	8/15/2012	220	0.013 J	0.13	18	*1.0 UJ*	0.020	0.054		**66**	45
BZ-06	BZ-06-0.5-1	8/16/2012	320	0.017 J	0.20	16	0.20 J	0.057	0.041		**57**	46
BZ-07	BZ-07-2.5-3	8/16/2012	370	0.11	0.32	**25**	0.40 J	0.17	0.12		**100**	88
BZ-08	BZ-08-1.5-2	8/17/2012	990	0.016 J	0.43	11	*1.0 UJ*	0.036	0.11		**91**	83
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001				**73**						
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001				**65**						
RA-01	RA-01-0.5120414	12/4/2014	320			16						87
RA-01	RA-01-0.5120414-AVG	12/4/2014	320			16						88
RA-01	RA-01-0.5-DUP120414	12/4/2014	320			17						88
RA-01	RA-01-3120414	12/4/2014	310			17						85
RA-02	RA-02-0.5120414	12/4/2014	420			18						79
RA-02	RA-02-3120414	12/4/2014	400			19						74
RA-03	RA-03-0.5120414	12/4/2014	520			18						66
RA-03	RA-03-3120414	12/4/2014	320			17						46
RA-04	RA-04-0.5120414	12/4/2014	840			**27**						**150**
RA-04	RA-04-3120414	12/4/2014	1,400			**22**						**670**
RA-05	RA-05-0.5120414	12/4/2014	370			20						70
RA-05	RA-05-3120414	12/4/2014	290			18						**130**
RA-06	RA-06-0.5120414	12/4/2014	330			18						59
RA-06	RA-06-3120514	12/5/2014	610			18						**180**
RA-07	RA-07-0.5120414	12/4/2014	860			21						120
RA-07	RA-07-3120414	12/4/2014	290			18						47
RA-08	RA-08-1.5-2	12/5/2014				**180**						
RA-08	RA-08-2.5-3	12/5/2014				**83**						
RA-08A	RA-08A-0-0.5	12/5/2014				**42**						
RA-08A	RA-08A-2.5-3	12/5/2014				**25**						
RA-08B	RA-08B-0-0.5	12/5/2014				**23**						
RA-08B	RA-08B-2.5-3	12/5/2014				**330**						
RA-08C	RA-08C-0-0.5	12/5/2014				**44**						
RA-08C	RA-08C-2.5-3	12/5/2014				**24**						
RA-08D	RA-08D-0-0.5	12/5/2014				**330**						
RA-08D	RA-08D-2.5-3	12/5/2014				**29**						
RA-09	RA-09-1-1.5	12/5/2014	500									
RA-09	RA-09-2.5-3	12/5/2014	450									

Table 1
Riverbank Soil Analytical Data—Metals

Analyte Class			Metals (cont.)									
Analyte			Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Vanadium	Zinc
CAS No.			7439-96-5	7439-97-6	7439-98-7	7440-02-0	7782-49-2	7440-22-4	7440-28-0	7440-31-5	7440-62-2	7440-66-6
Ground Feeders Birds NTE			2,700	0.13	160	81	1.4	26	45	--	9.5	120
Ground Feeders Mammals NTE			5,400	17	26	21	1	140	4.2	--	610	980
Oregon Natural Backgound			1,800	0.23	--	47	0.71	0.82	5.2	--	180	180
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date										
Historical PEO Site Sampling (cont.)												
RA-09A	RA-09A-0-0.5	12/5/2014	310									
RA-09A	RA-09A-2.5-3	12/5/2014	600									
RA-09B	RA-09B-0-0.5	12/5/2014	430									
RA-09B	RA-09B-2.5-3	12/5/2014	490									
RA-09C	RA-09C-0-0.5	12/5/2014	940									
RA-09C	RA-09C-2.5-3	12/5/2014	510									
RA-09D	RA-09D-0-0.5	12/5/2014	450									
RA-09D	RA-09D-2.5-3	12/5/2014	520									
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010	270 J			13		0.28 J				69 J
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011		0.058 J			*2.4 U*			0.62 J		
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010	880 J			12		0.38 J				81 J
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011		0.042 J			*2.3 U*			0.63 J		
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010	**11,000 J**			**38**		1.4 J				**130 J**
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011		0.081 J			*2.6 U*			0.79 J		
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010	340 J			11		0.28 J				52 J
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011		0.11 U			*2.6 U*			0.61 J		
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	1,400	0.041 J		7.0	*2.7 U*	*1.3 U*		2.7 U		72
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	1,400	0.041		6.4	*2.5 U*	*1.2 U*		2.5 U		61
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	1,300	0.099 U		5.7	*2.5 U*	*1.2 U*		2.5 U		50

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.
All analytical results are rounded to two significant figures.
Italic Result was not detected at a reporting limit greater than applicable criteria.
Underline Result was detected at a concentration greater than Oregon background.
BOLD Result was detected at a concentration greater than the NTE birds.
RED/BOLD Result was detected at a concentration greater than the NTE mammals.
RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
PEO Premier Edible Oils

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 2
Riverbank Soil Analytical Soil Data—PCBs and Dioxins/Furans

Analyte Class			PCBs									
Analyte			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors (U=1/2)
CAS No.			12674-11-2	11104-28-2	11141-16-5	53469-21-9	12672-29-6	11097-69-1	11096-82-5	37324-23-5	11100-14-4	T_PCB (U=1/2)
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	0.24
Ground Feeders Mammals NTE			--	--	--	--	--	--	--	--	--	0.073
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date										
2023 FS Sampling												
BANK-04c	BANK-04c-00-01	10/23/2023	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U
BANK-05a	BANK-05a-00-01	7/31/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0023 J	0.0045 J	0.0020 U	0.0020 U	0.014 J
BANK-05b	BANK-05b-00-01	7/31/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0041 J	0.0020 U	0.0020 U	0.012 J
BANK-05c	BANK-05c-00-01	7/31/2023	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U
BANK-06a	BANK-06a-00-01	7/31/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0076 J	0.0089 J	0.0020 U	0.0020 U	0.023 J
BANK-06b	BANK-06b-00-01	7/31/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.042 J	0.011 J	0.0020 U	0.0020 U	0.061 J
BANK-06c	BANK-06c-00-01	7/31/2023	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0043 U	0.0093 J	0.0021 U	0.0021 U	0.019 J
BANK-07a	BANK-07a-00-01	8/2/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.12 J	0.24 J	0.0020 U	0.0020 U	**0.36 J**
BANK-07a	BANK-07a-01-1.6	8/2/2023	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.077 J	0.17 J	0.0019 U	0.0019 U	**0.26 J**
BANK-07b	BANK-07b-00-01	8/1/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.085 J	0.13 J	0.0020 U	0.0020 U	**0.22 J**
BANK-07b	BANK-07b-01-02	8/1/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.030 J	0.068 J	0.0020 U	0.0020 U	**0.10 J**
BANK-07c	BANK-07c-00-01	8/1/2023	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0028 J	0.0025 U	0.0025 U	0.013 J
BANK-08a	BANK-08a-00-01	8/2/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.018 J	0.036 J	0.0020 U	0.0020 U	0.060 J
BANK-08b	BANK-08b-00-01	8/1/2023	0.0020 U	0.0020 U	0.0068 U	0.0020 U	0.0043 U	0.0020 U	0.066	0.0020 U	0.0020 U	**0.077**
BANK-08b	BANK-08b-01-02	8/1/2023	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.036	0.0019 U	0.0019 U	0.044
BANK-08c	BANK-08c-00-01	8/1/2023	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U
BANK-08c	BANK-08c-00-01-AVG	8/1/2023	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U
BANK-08c	BANK-108c-00-01	8/1/2023	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U
BANK-09a	BANK-09a-00-01	8/2/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U
BANK-09b	BANK-09b-00-01	8/3/2023	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0051 J	0.0021 U	0.0021 U	0.013 J
BANK-09c	BANK-09c-00-01	8/2/2023	0.0026 U	0.0026 U	0.0026 U	0.0026 U	0.0026 U	0.0026 U	0.0046 J	0.0026 U	0.0026 U	0.015 J
BANK-10a	BANK-10a-00-01	8/2/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.018 J	0.0020 U	0.0020 U	0.026 J
BANK-10a	BANK-10a-00-01-AVG	8/2/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0089 J	0.016 J	0.0020 U	0.0020 U	0.032 J
BANK-10a	BANK-110a-00-01	8/2/2023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0089 J	0.015 J	0.0020 U	0.0020 U	0.031 J
BANK-10b	BANK-10b-00-01	8/3/2023	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.024 J	0.0087 J	0.0019 U	0.0019 U	0.039 J
BANK-10c	BANK-10c-00-01	8/2/2023	0.0027 U	0.0027 U	0.0027 U	0.0027 U	0.0027 U	0.0027 U	0.18	0.0027 U	0.0027 U	**0.19**
BANK-10c	BANK-10c-01-02	8/2/2023	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.022 J	0.0028 U	0.0028 U	0.033 J
BANK-11a	BANK-11a-00-01	8/3/2023	0.0022 U	0.0022 U	0.0043 U	0.0022 U	0.0022 U	0.0069 J	0.0071 J	0.0022 U	0.0022 U	0.023 J
BANK-11b	BANK-11b-00-01	8/3/2023	0.0021 U	0.0021 U	0.0042 U	0.0021 U	0.0021 U	0.0066 J	0.0075 J	0.0021 U	0.0021 U	0.022 J
BANK-11c	BANK-11c-00-01	8/2/2023	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0063 J	0.010 J	0.0022 U	0.0022 U	0.024 J
BANK-12a	BANK-12a-00-01	8/3/2023	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0029 J	0.0054 J	0.0022 U	0.0022 U	0.016 J
BANK-12b	BANK-12b-00-01	8/3/2023	0.0021 U	0.0043 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0090	0.0021 U	0.0021 U	0.019
BANK-12c	BANK-12c-00-01	8/3/2023	0.0024 U	0.0024 U	0.0024 U	0.0036 J	0.0024 U	0.0077 J	0.0089 J	0.0024 U	0.0024 U	0.027 J
BANK-13a	BANK-13a-00-01	8/3/2023	0.0023 U	0.0023 U	0.0023 U	0.0023 U	0.0023 U	0.034 J	0.0023 U	0.0023 U	0.0023 U	0.043 J
BANK-13c	BANK-13c-00-01	8/3/2023	0.0023 U	0.0023 U	0.0023 U	0.0040 J	0.0023 U	0.013 J	0.0063 J	0.0023 U	0.0023 U	0.030 J
BANK-14a	BANK-14a-00-01	8/3/2023	0.0021 U	0.0021 U	0.0021 U	0.0038 J	0.0021 U	0.015 J	0.021 J	0.0021 U	0.0021 U	0.047 J
BANK-14b	BANK-14b-00-01	8/4/2023	0.0021 U	0.0043 U	0.0043 U	0.0021 U	0.0021 U	0.0021 U	0.011 J	0.0021 U	0.0021 U	0.022 J
BANK-14b	BANK-14b-00-01-AVG	8/4/2023	0.0021 U	0.0022 U	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.011 J	0.0021 U	0.0021 U	0.019 J
BANK-14b	BANK-114b-00-01	8/4/2023	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0099	0.0022 U	0.0022 U	0.019
BANK-14c	BANK-14c-00-01	8/8/2023	0.0024 U	0.0024 U	0.0024 U	0.0024 J	0.0024 U	0.0042 J	0.0039 J	0.0024 U	0.0024 U	0.018 J
BANK-15b	BANK-15b-00-01	8/8/2023	0.0020 U	0.0020 U	0.0041 U	0.0020 U	0.0020 U	0.0093 J	0.0073 J	0.0020 U	0.0020 U	0.025 J

Table 2
Riverbank Soil Analytical Soil Data—PCBs and Dioxins/Furans

Analyte Class			PCBs									
Analyte			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCB Aroclors (U=1/2)
CAS No.			12674-11-2	11104-28-2	11141-16-5	53469-21-9	12672-29-6	11097-69-1	11096-82-5	37324-23-5	11100-14-4	T_PCB (U=1/2)
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	0.24
Ground Feeders Mammals NTE			--	--	--	--	--	--	--	--	--	0.073
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date										
Historical PEO Site Sampling												
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.0064 J			0.037
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.016	0.012			0.054
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.13			**0.16**
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.022			0.053
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.013			0.045
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.013			0.046
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.014			0.047

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.

All results are rounded to two significant figures, except dioxin/furan results, which are rounded to three significant figures.

Italic Result was not detected at a reporting limit greater than applicable criteria.

RED/BOLD Result was detected at a concentration greater than the NTE mammals.

RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
HpCDD Heptachlorodibenzo-*p* -dioxin
HpCDF Heptachlorodibenzofuran
HxCDD Hexachlorodibenzo-*p* -dioxin
HxCDF Hexachlorodibenzofuran
mg/kg Milligrams per kilogram
MTCA Model Toxics Control Act
NTE Non-threatenend and -endangered
OCDD Octachlorodibenzodioxin
OCDF Octachlorodibenzofuran
PCB Polychlorinated biphenyl
PeCDD Pentachlorodibenzo-*p* -dioxin
PeCDF Pentachlorodibenzofuran
PEO Premier Edible Oils
TCDD Tetrachlorodibenzo-*p* -dioxin
TCDF Tetrachlorodibenzofuran
TEQ Toxic equivalent

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.

Table 2
Riverbank Soil Analytical Soil Data—PCBs and Dioxins/Furans

Analyte Class			Dioxins/Furans									
Analyte			2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF
CAS No.			1746-01-6	40321-76-4	39227-28-6	57653-85-7	19408-74-3	35822-46-9	3268-87-9	51207-31-9	57117-41-6	57117-31-4
Ground Feeders Birds NTE			0.0000052	0.0000059	0.000051	0.00019	0.000019	0.0015	0.019	0.0000064	0.000041	0.0000041
Ground Feeders Mammals NTE			0.00000025	0.00000028	0.0000012	0.00000089	0.00000089	0.000007	0.0003	0.000003	0.0000065	0.00000065
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date										
2023 FS Sampling												
BANK-04c	BANK-04c-00-01	10/23/2023	0.0000000584 U	0.000000202 U	0.000000196 J	0.000000483 J	0.000000264 U	**0.0000136**	0.000166	0.0000000648 U	0.000000126 U	0.000000109 U
BANK-05a	BANK-05a-00-01	7/31/2023	0.0000000692 U	**0.000000321 J**	0.000000350 J	**0.000000990 J**	0.000000678 J	**0.0000253**	0.000162	0.000000151 J	0.000000118 U	0.000000193 J
BANK-05b	BANK-05b-00-01	7/31/2023	0.0000000572 U	0.000000121 U	0.000000196 J	0.000000553 J	0.000000361 J	**0.0000129**	0.0000990	0.0000000863 U	0.0000000958 U	0.000000589 J
BANK-05c	BANK-05c-00-01	7/31/2023	0.0000000566 U	0.000000119 U	0.000000281 U	0.000000305 U	0.000000285 U	0.00000275	0.0000314	0.0000000602 U	0.0000000546 U	0.0000000612 U
BANK-06a	BANK-06a-00-01	7/31/2023	0.0000000906 U	**0.000000564 J**	0.000000814 J	**0.00000306**	**0.00000168 J**	**0.000108**	**0.00102**	0.000000395 J	0.000000364 J	0.000000581 J
BANK-06b	BANK-06b-00-01	7/31/2023	*0.000000705 U*	**0.000000496 J**	0.000000247 U	0.000000723 U	0.000000453 J	**0.0000347**	0.000269	0.00000102	0.000000687 J	**0.00000344**
BANK-06c	BANK-06c-00-01	7/31/2023	0.000000145 U	0.000000103 U	0.000000157 U	0.000000472 J	0.000000318 J	**0.0000104**	0.0000677	0.0000000735 U	0.000000114 U	0.0000000967 U
BANK-07a	BANK-07a-00-01	8/2/2023	**0.000000844**	**0.00000545**	**0.00000805**	**0.0000269**	**0.0000152**	**0.00178**	**0.0143**	**0.00000348**	0.00000241 J	**0.00000712**
BANK-07a	BANK-07a-01-1.6	8/2/2023	*0.000000558 U*	**0.00000459**	**0.0000109**	**0.0000734**	**0.0000275**	**0.00826**	**0.0570**	**0.00000311**	0.00000183 J	**0.00000661**
BANK-07b	BANK-07b-00-01	8/1/2023	*0.000000689 U*	**0.00000604**	**0.00000778**	**0.0000187**	**0.0000133**	**0.000833**	**0.00545**	0.00000255	0.00000177 J	**0.0000108**
BANK-07b	BANK-07b-01-02	8/1/2023	**0.000000729**	**0.00000540**	**0.00000789**	**0.0000163**	**0.0000145**	**0.000575**	**0.00358**	0.00000179 U	0.000000980 J	**0.00000453**
BANK-07c	BANK-07c-00-01	8/1/2023	0.0000000652 U	0.000000137 U	0.000000173 U	0.000000511 U	0.000000335 J	**0.00000963**	0.0000643	0.000000228 J	0.000000376 J	0.000000391 U
BANK-08a	BANK-08a-00-01	8/2/2023	*0.000000315 U*	**0.00000110 J**	**0.00000122 J**	**0.00000332**	**0.00000199 J**	**0.000106**	**0.000842**	0.000000748	0.000000461 J	**0.00000180 J**
BANK-08b	BANK-08b-00-01	8/1/2023	*0.000000442 U*	**0.00000325**	**0.00000387**	**0.00000962**	**0.00000703**	**0.000346**	**0.00230**	0.00000172	0.000000846 U	**0.00000412**
BANK-08b	BANK-08b-01-02	8/1/2023	0.000000144 U	*0.000000936 U*	0.00000103 J	**0.00000318**	**0.00000222 J**	**0.000129**	**0.000794**	0.000000474 U	0.000000435 J	**0.00000182 J**
BANK-08c	BANK-08c-00-01	8/1/2023	0.0000000646 U	0.000000169 U	0.000000209 U	0.000000525 J	0.000000203 U	**0.0000126**	0.0000988	0.0000000807 U	0.000000107 U	0.000000342 J
BANK-08c	BANK-08c-00-01-AVG	8/1/2023	0.0000000539 U	0.000000116 U	0.000000209 U	0.000000466 J	0.000000325 J	**0.0000111**	0.0000810	0.000000698	0.000000107 U	0.000000364 J
BANK-08c	BANK-108c-00-01	8/1/2023	0.0000000539 U	0.000000116 U	0.000000210 U	0.000000406 J	0.000000325 J	**0.00000957**	0.0000631	0.000000698	0.000000138 U	0.000000385 J
BANK-09a	BANK-09a-00-01	8/2/2023	0.0000000982 U	0.000000101 U	0.000000180 U	0.000000737 J	0.000000371 J	**0.0000122**	0.0000845	0.000000165 U	0.000000134 J	0.000000417 J
BANK-09b	BANK-09b-00-01	8/3/2023	0.0000000838 U	0.000000210 U	0.000000347 U	0.000000360 U	0.000000352 U	0.00000648	0.0000459 J	0.000000138 U	0.000000168 U	*0.00000104 U*
BANK-09c	BANK-09c-00-01	8/2/2023	0.0000000673 U	0.000000112 U	0.000000148 U	0.000000165 U	0.000000163 U	0.00000203 U	0.0000174	0.0000000951 U	0.0000000693 U	0.0000000721 U
BANK-10a	BANK-10a-00-01	8/2/2023	0.0000000810 U	*0.000000467 U*	0.000000572 J	**0.00000189 J**	*0.000000994 U*	**0.0000447**	**0.000391**	0.000000384 J	0.000000356 J	**0.00000121 J**
BANK-10a	BANK-10a-00-01-AVG	8/2/2023	0.0000000768 U	*0.000000393 U*	0.000000572 J	**0.00000184 J**	**0.00000101 J**	**0.0000444**	**0.000376**	0.000000392 J	0.000000356 J	**0.00000121 J**
BANK-10a	BANK-110a-00-01	8/2/2023	0.0000000768 U	*0.000000393 U*	0.000000482 U	**0.00000178 J**	**0.00000101 J**	**0.0000440**	**0.000361**	0.000000399 J	0.000000295 U	*0.000000917 U*
BANK-10b	BANK-10b-00-01	8/3/2023	0.000000107 U	**0.000000805 J**	**0.00000140 J**	**0.00000459**	**0.00000280**	**0.000103**	**0.000751 J**	0.000000316 J	0.000000310 U	**0.00000209 J**
BANK-10c	BANK-10c-00-01	8/2/2023	0.0000000779 U	0.000000186 U	0.000000174 J	0.000000493 J	0.000000276 J	**0.00000844**	0.0000633	0.000000345 J	0.000000229 U	**0.000000761 J**
BANK-10c	BANK-10c-01-02	8/2/2023										
BANK-11a	BANK-11a-00-01	8/3/2023	0.0000000945 U	**0.000000319 J**	0.000000367 J	**0.00000103 J**	0.000000714 J	**0.0000214**	0.000191	0.000000200 U	0.000000189 J	**0.000000807 J**
BANK-11b	BANK-11b-00-01	8/3/2023	0.000000164 U	**0.000000547 J**	0.000000536 J	*0.00000139 U*	**0.000000926 J**	**0.0000508**	**0.000530**	0.000000186 U	0.000000349 U	**0.000000729 J**
BANK-11c	BANK-11c-00-01	8/2/2023	0.0000000711 U	0.000000152 J	0.000000344 J	**0.00000151 J**	0.000000663 J	**0.0000366**	**0.000361**	0.000000147 U	0.000000270 J	**0.00000100 J**
BANK-12a	BANK-12a-00-01	8/3/2023	0.0000000822 U	**0.000000298 J**	0.000000268 J	0.000000701 J	0.000000532 J	**0.0000161**	0.000159	0.000000112 U	0.000000174 U	*0.000000672 U*
BANK-12b	BANK-12b-00-01	8/3/2023	0.0000000644 U	0.000000222 U	0.000000248 U	*0.000000919 U*	0.000000319 J	**0.0000258**	0.000284	0.0000000946 U	0.000000134 U	0.000000233 U
BANK-12c	BANK-12c-00-01	8/3/2023	0.0000000818 U	0.000000229 U	0.000000116 U	**0.00000113 J**	0.000000601 J	**0.0000302**	0.000299	0.000000256 J	0.000000205 U	**0.00000108 J**
BANK-13a	BANK-13a-00-01	8/3/2023	0.0000000401 U	0.0000000884 U	0.000000208 U	**0.000000960 J**	0.000000453 J	**0.0000426**	**0.000802**	0.000000588	0.000000198 J	**0.000000768 J**
BANK-13c	BANK-13c-00-01	8/3/2023	0.000000102 U	**0.000000304 J**	0.000000457 J	**0.00000176 J**	0.000000884 J	**0.0000484**	**0.000429**	0.000000340 U	0.000000361 U	*0.000000811 U*
BANK-14a	BANK-14a-00-01	8/3/2023	0.0000000935 U	*0.000000387 U*	0.000000718 J	**0.00000248 J**	**0.00000148 J**	**0.0000554**	**0.000738**	0.000000374 U	0.000000301 U	**0.00000157 J**
BANK-14b	BANK-14b-00-01	8/4/2023	0.000000120 U	0.000000242 U	0.000000477 U	0.000000748 U	0.000000512 U	**0.0000411**	**0.000780**	0.000000142 U	0.000000127 U	0.000000132 U
BANK-14b	BANK-14b-00-01-AVG	8/4/2023	0.000000120 U	0.000000242 U	0.000000403 U	**0.00000110 J**	0.000000506 J	**0.0000443**	**0.000789**	0.000000120 U	0.000000112 U	0.0000000840 U
BANK-14b	BANK-114b-00-01	8/4/2023	0.000000125 U	0.000000242 U	0.000000403 U	**0.00000110 J**	0.000000506 J	**0.0000475**	**0.000798**	0.000000120 U	0.000000112 U	0.0000000840 U
BANK-14c	BANK-14c-00-01	8/8/2023	0.0000000743 U	0.000000148 J	0.000000222 U	0.000000805 J	0.000000409 U	**0.0000197**	0.000208	0.000000243 U	0.000000198 U	0.000000324 U
BANK-15b	BANK-15b-00-01	8/8/2023	0.000000102 U	0.000000244 U	0.000000387 J	**0.00000140 J**	0.000000769 J	**0.0000368**	**0.000450**	0.000000306 J	0.000000187 U	0.000000474 J

Table 2
Riverbank Soil Analytical Soil Data—PCBs and Dioxins/Furans

Analyte Class			Dioxins/Furans									
Analyte			2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF
CAS No.			1746-01-6	40321-76-4	39227-28-6	57653-85-7	19408-74-3	35822-46-9	3268-87-9	51207-31-9	57117-41-6	57117-31-4
Ground Feeders Birds NTE			0.0000052	0.0000059	0.000051	0.00019	0.000019	0.0015	0.019	0.0000064	0.000041	0.0000041
Ground Feeders Mammals NTE			0.00000025	0.00000028	0.0000012	0.00000089	0.00000089	0.000007	0.0003	0.000003	0.0000065	0.00000065
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date										
Historical PEO Site Sampling												
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011										
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011										
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011										
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011										
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011										
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011										
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011										

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.

All results are rounded to two significant figures, except dioxin/furan results, which are rounded to three significant figures.

Italic Result was not detected at a reporting limit greater than applicable criteria.

RED/BOLD Result was detected at a concentration greater than the NTE mammals.

RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
HpCDD Heptachlorodibenzo-*p* -dioxin
HpCDF Heptachlorodibenzofuran
HxCDD Hexachlorodibenzo-*p* -dioxin
HxCDF Hexachlorodibenzofuran
mg/kg Milligrams per kilogram
MTCA Model Toxics Control Act
NTE Non-threatenend and -endangered
OCDD Octachlorodibenzodioxin
OCDF Octachlorodibenzofuran
PCB Polychlorinated biphenyl
PeCDD Pentachlorodibenzo-*p* -dioxin
PeCDF Pentachlorodibenzofuran
PEO Premier Edible Oils
TCDD Tetrachlorodibenzo-*p* -dioxin
TCDF Tetrachlorodibenzofuran
TEQ Toxic equivalent

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.

Table 2
Riverbank Soil Analytical Soil Data—PCBs and Dioxins/Furans

Analyte Class			Dioxins/Furans (cont.)							
Analyte			1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Dioxins/Furans (MTCA TEQ-HalfND)
CAS No.			70648-26-9	57117-44-9	72918-21-9	60851-34-5	67562-39-4	55673-89-7	39001-02-0	DF_TEQ (U=1/2)
Ground Feeders Birds NTE			0.000023	0.000023	0.00003	0.000023	0.00023	0.00023	0.014	--
Ground Feeders Mammals NTE			0.0000011	0.0000011	0.0000014	0.0000011	0.000011	0.000011	0.00022	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date								
2023 FS Sampling										
BANK-04c	BANK-04c-00-01	10/23/2023	0.000000142 J	0.0000000861 U	0.000000126 U	0.0000000519 U	0.00000160 J	0.000000115 U	0.00000402 J	0.000000464 J
BANK-05a	BANK-05a-00-01	7/31/2023	0.000000621 J	0.000000405 U	0.000000246 U	0.000000386 J	**0.0000164**	0.000000431 J	0.0000153	0.00000124 J
BANK-05b	BANK-05b-00-01	7/31/2023	0.000000461 J	0.000000302 J	0.000000203 J	0.000000455 J	**0.0000114**	0.000000170 U	0.0000112	0.000000802 J
BANK-05c	BANK-05c-00-01	7/31/2023	0.000000111 U	0.000000111 U	0.000000137 U	0.000000135 U	0.000000181 J	0.000000123 U	0.000000390 J	0.000000209 J
BANK-06a	BANK-06a-00-01	7/31/2023	**0.00000148 J**	0.00000107 J	0.000000460 J	**0.00000112 J**	**0.0000171**	0.00000106 J	0.0000419	0.00000338 J
BANK-06b	BANK-06b-00-01	7/31/2023	**0.00000117 J**	0.000000707 J	0.000000106 J	0.000000515 U	0.00000557	0.000000376 J	0.0000119	0.00000281 J
BANK-06c	BANK-06c-00-01	7/31/2023	0.000000214 U	0.000000113 U	0.000000115 U	0.000000122 U	0.00000158 J	0.000000120 U	0.00000270 J	0.000000400 J
BANK-07a	BANK-07a-00-01	8/2/2023	**0.00000927**	**0.00000406**	**0.00000164 J**	**0.00000340**	**0.000197**	0.00000546	**0.000549**	0.0000400 J
BANK-07a	BANK-07a-01-1.6	8/2/2023	**0.0000114**	**0.00000424**	0.000000604 J	**0.00000279**	**0.000365**	**0.0000139**	**0.00215**	0.000124 J
BANK-07b	BANK-07b-00-01	8/1/2023	**0.00000711**	**0.00000349**	0.000000319 U	**0.00000332**	**0.000123**	0.00000409	**0.000246**	0.0000266 J
BANK-07b	BANK-07b-01-02	8/1/2023	**0.00000640**	**0.00000310**	0.000000578 J	**0.00000297**	**0.0000673**	0.00000349	0.000168	0.0000204 J
BANK-07c	BANK-07c-00-01	8/1/2023	0.000000341 U	0.000000132 U	0.000000131 U	0.000000275 U	0.00000307	0.000000168 U	0.00000461 J	0.000000454 J
BANK-08a	BANK-08a-00-01	8/2/2023	**0.00000166 J**	0.00000102 U	0.000000311 J	**0.00000116 J**	**0.0000241**	0.00000108 J	0.0000484	0.00000448 J
BANK-08b	BANK-08b-00-01	8/1/2023	*0.00000270 U*	**0.00000183 J**	0.000000400 U	**0.00000201 J**	**0.0000469**	0.00000233 J	0.000109	0.0000122 J
BANK-08b	BANK-08b-01-02	8/1/2023	**0.00000159 J**	0.000000848 U	0.000000292 U	0.000000982 U	**0.0000190**	0.000000942 J	0.0000431	0.00000377 J
BANK-08c	BANK-08c-00-01	8/1/2023	0.000000290 U	0.000000171 J	0.000000162 U	0.000000151 U	0.00000234 J	0.000000177 U	0.00000492 J	0.000000527 J
BANK-08c	BANK-08c-00-01-AVG	8/1/2023	0.000000322 J	0.000000171 J	0.000000162 U	0.000000197 J	0.00000251 J	0.000000118 U	0.00000466 J	0.000000594 J
BANK-08c	BANK-108c-00-01	8/1/2023	0.000000322 J	0.000000172 U	0.000000181 U	0.000000197 J	0.00000267	0.000000118 U	0.00000440 J	0.000000569 J
BANK-09a	BANK-09a-00-01	8/2/2023	0.000000405 J	0.000000189 U	0.0000000721 J	0.000000151 U	0.00000260	0.0000000990 U	0.00000361 J	0.000000596 J
BANK-09b	BANK-09b-00-01	8/3/2023	0.000000187 U	0.000000194 U	0.000000255 U	0.000000210 U	0.00000295	0.000000266 U	0.00000393 J	0.000000518 J
BANK-09c	BANK-09c-00-01	8/2/2023	0.0000000862 U	0.0000000893 U	0.000000104 U	0.0000000964 U	0.000000388 J	0.000000125 U	0.00000142 J	0.000000169 J
BANK-10a	BANK-10a-00-01	8/2/2023	**0.00000118 J**	0.000000545 J	0.000000159 U	0.000000357 J	0.00000861	0.000000626 J	0.0000234	0.00000186 J
BANK-10a	BANK-10a-00-01-AVG	8/2/2023	0.00000105 J	0.000000543 J	0.000000174 J	0.000000485 J	0.00000851	0.000000592 J	0.0000224	0.00000187 J
BANK-10a	BANK-110a-00-01	8/2/2023	0.000000925 J	0.000000540 J	0.000000174 J	0.000000613 J	0.00000841	0.000000557 J	0.0000214	0.00000159 J
BANK-10b	BANK-10b-00-01	8/3/2023	**0.00000183 J**	**0.00000122 J**	0.000000255 J	0.00000100 J	**0.0000150 J**	0.00000125 J	0.0000349	0.00000426 J
BANK-10c	BANK-10c-00-01	8/2/2023	**0.00000188 J**	0.000000361 U	0.000000124 U	0.000000195 U	0.00000196 J	0.000000678 J	0.00000719	0.000000846 J
BANK-10c	BANK-10c-01-02	8/2/2023								
BANK-11a	BANK-11a-00-01	8/3/2023	0.000000377 J	0.000000288 J	0.000000107 U	0.000000193 U	0.00000330	0.000000237 U	0.00000966	0.00000123 J
BANK-11b	BANK-11b-00-01	8/3/2023	0.000000648 U	0.000000424 U	0.000000525 U	0.000000261 J	0.00000578	0.000000506 J	0.0000272	0.00000192 J
BANK-11c	BANK-11c-00-01	8/2/2023	**0.00000160 J**	0.000000449 U	0.000000329 U	0.000000342 J	0.00000718	0.000000673 J	0.0000260	0.00000155 J
BANK-12a	BANK-12a-00-01	8/3/2023	0.000000268 U	0.000000222 U	0.000000212 U	0.000000176 J	0.00000282	0.000000240 J	0.00000825	0.000000893 J
BANK-12b	BANK-12b-00-01	8/3/2023	0.000000264 U	0.000000220 U	0.000000261 U	0.000000288 U	0.00000387	0.000000233 U	0.0000103	0.000000713 J
BANK-12c	BANK-12c-00-01	8/3/2023	**0.00000127 J**	0.000000357 U	0.000000215 J	0.000000126 U	0.00000779	0.000000580 J	0.0000207	0.00000134 J
BANK-13a	BANK-13a-00-01	8/3/2023	0.000000401 U	0.000000175 J	0.000000202 U	0.000000213 J	0.00000594	0.000000791 J	0.0000462	0.00000133 J
BANK-13c	BANK-13c-00-01	8/3/2023	*0.00000114 U*	0.000000698 J	0.0000000970 U	0.000000454 J	0.00000731	0.000000671 J	0.0000193	0.00000168 J
BANK-14a	BANK-14a-00-01	8/3/2023	0.000000770 J	0.000000582 U	0.000000244 U	0.000000539 U	0.00000842	0.000000567 U	0.0000218	0.00000222 J
BANK-14b	BANK-14b-00-01	8/4/2023	0.000000279 U	0.000000271 U	0.000000368 U	0.000000305 U	0.00000449	0.000000346 U	0.0000182	0.00000105
BANK-14b	BANK-14b-00-01-AVG	8/4/2023	0.000000342 J	0.000000271 U	0.000000328 U	0.000000305 U	0.00000502	0.000000449 J	0.0000238	0.00000120 J
BANK-14b	BANK-114b-00-01	8/4/2023	0.000000342 J	0.000000273 U	0.000000328 U	0.000000322 U	0.00000554	0.000000449 J	0.0000294	0.00000125 J
BANK-14c	BANK-14c-00-01	8/8/2023	0.000000602 J	0.000000244 U	0.000000248 U	0.000000223 J	0.00000423	0.000000334 J	0.0000111	0.000000776 J
BANK-15b	BANK-15b-00-01	8/8/2023	0.000000689 J	0.000000336 J	0.000000177 U	0.000000362 J	0.00000601	0.000000564 J	0.0000184	0.00000133 J

Table 2
Riverbank Soil Analytical Soil Data—PCBs and Dioxins/Furans

Analyte Class			Dioxins/Furans (cont.)							
Analyte			1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Dioxins/Furans (MTCA TEQ-HalfND)
CAS No.			70648-26-9	57117-44-9	72918-21-9	60851-34-5	67562-39-4	55673-89-7	39001-02-0	DF_TEQ (U=1/2)
Ground Feeders Birds NTE			0.000023	0.000023	0.00003	0.000023	0.00023	0.00023	0.014	--
Ground Feeders Mammals NTE			0.0000011	0.0000011	0.0000014	0.0000011	0.000011	0.000011	0.00022	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	**Sample Name**	**Sample Date**								
Historical PEO Site Sampling										
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011								
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011								
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011								
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011								
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011								
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011								
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011								

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.

All results are rounded to two significant figures, except dioxin/furan results, which are rounded to three significant figures.

Italic Result was not detected at a reporting limit greater than applicable criteria.

RED/BOLD Result was detected at a concentration greater than the NTE mammals.

RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
HpCDD Heptachlorodibenzo-*p* -dioxin
HpCDF Heptachlorodibenzofuran
HxCDD Hexachlorodibenzo-*p* -dioxin
HxCDF Hexachlorodibenzofuran
mg/kg Milligrams per kilogram
MTCA Model Toxics Control Act
NTE Non-threatenend and -endangered
OCDD Octachlorodibenzodioxin
OCDF Octachlorodibenzofuran
PCB Polychlorinated biphenyl
PeCDD Pentachlorodibenzo-*p* -dioxin
PeCDF Pentachlorodibenzofuran
PEO Premier Edible Oils
TCDD Tetrachlorodibenzo-*p* -dioxin
TCDF Tetrachlorodibenzofuran
TEQ Toxic equivalent

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.

Table 3
Riverbank Soil Analytical Data—TPH and VOCs

Analyte Class			TPH			VOCs								
Analyte			Gasoline-Range Organics	Diesel-Range Organics	Oil-Range Organics	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane
CAS No.			GRO	DRO	ORO	630-20-6	71-55-6	79-34-5	79-00-5	75-34-3	75-35-4	563-58-6	87-61-6	96-18-4
Ground Feeders Birds NTE			5,000	--	--	--	--	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			5,000	--	--	--	1,300	--	--	2,100	60	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date												
2023 FS Sampling														
BANK-04c	BANK-04c-00-01	10/23/2023		11 U	21 U									
BANK-05a	BANK-05a-00-01	7/31/2023		9.8 U	29 J									
BANK-05b	BANK-05b-00-01	7/31/2023		9.5 U	97									
BANK-05c	BANK-05c-00-01	7/31/2023		14 U	98 (1)									
BANK-06a	BANK-06a-00-01	7/31/2023		10 U	180 (1)									
BANK-06b	BANK-06b-00-01	7/31/2023		9.9 U	75 (1)									
BANK-06c	BANK-06c-00-01	7/31/2023		11 U	35 J									
BANK-07a	BANK-07a-00-01	8/2/2023		9.6 U	150 (1)									
BANK-07b	BANK-07b-00-01	8/1/2023		9.7 U	220 (1)									
BANK-07c	BANK-07c-00-01	8/1/2023		12 U	84									
BANK-08a	BANK-08a-00-01	8/2/2023		9.7 U	89									
BANK-08b	BANK-08b-00-01	8/1/2023		9.5 U	97 (1)									
BANK-08c	BANK-08c-00-01	8/1/2023		12 U	24 U									
BANK-08c	BANK-08c-00-01-AVG	8/1/2023		12 U	24 U									
BANK-08c	BANK-108c-00-01	8/1/2023		12 U	25 U									
BANK-09a	BANK-09a-00-01	8/2/2023		17 J	89 (1)									
BANK-09b	BANK-09b-00-01	8/3/2023		9.6 U	19 U									
BANK-09c	BANK-09c-00-01	8/2/2023		12 U	41 J									
BANK-10a	BANK-10a-00-01	8/2/2023		9.9 U	130 (1)									
BANK-10a	BANK-10a-00-01-AVG	8/2/2023		9.9 U	110									
BANK-10a	BANK-110a-00-01	8/2/2023		9.9 U	82 (1)									
BANK-10b	BANK-10b-00-01	8/3/2023		270 J (2)	390 (2)									
BANK-10c	BANK-10c-00-01	8/2/2023		65 U	590									
BANK-11a	BANK-11a-00-01	8/3/2023		11 U	24 J									
BANK-11b	BANK-11b-00-01	8/3/2023		10 U	21 U									
BANK-11c	BANK-11c-00-01	8/2/2023		11 U	24 J									
BANK-12a	BANK-12a-00-01	8/3/2023		11 U	35 J									
BANK-12b	BANK-12b-00-01	8/3/2023		11 U	96									
BANK-12c	BANK-12c-00-01	8/3/2023		12 U	42 J									
BANK-13a	BANK-13a-00-01	8/3/2023		11 U	69									
BANK-13c	BANK-13c-00-01	8/3/2023		11 U	53									
BANK-14a	BANK-14a-00-01	8/3/2023		11 U	41 J									
BANK-14b	BANK-14b-00-01	8/4/2023		11 U	23 U									
BANK-14b	BANK-14b-00-01-AVG	8/4/2023		10 U	21 U									
BANK-14b	BANK-114b-00-01	8/4/2023		10 U	21 U									
BANK-14c	BANK-14c-00-01	8/8/2023		12 U	39 J									
BANK-15b	BANK-15b-00-01	8/8/2023		10 U	160 (1)									

Table 3
Riverbank Soil Analytical Data—TPH and VOCs

Analyte Class			TPH			VOCs								
Analyte			Gasoline-Range Organics	Diesel-Range Organics	Oil-Range Organics	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane
CAS No.			GRO	DRO	ORO	630-20-6	71-55-6	79-34-5	79-00-5	75-34-3	75-35-4	563-58-6	87-61-6	96-18-4
Ground Feeders Birds NTE			5,000	--	--	--	--	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			5,000	--	--	--	1,300	--	--	2,100	60	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date												
Historical PEO Site Sampling														
BZ-01	BZ-01-2.5-3	8/15/2012	980	5,100	220									
BZ-03	BZ-03-1.5-2	8/15/2012	7.9 UJ	20 J	68 J									
BZ-04	BZ-04-1.5-2	8/15/2012	7.4 J	11 J	29 J									
BZ-05	BZ-05-0.5-1	8/15/2012	9.4	33 U	55 J									
BZ-06	BZ-06-0.5-1	8/16/2012	3.6 J	20 J	150									
BZ-07	BZ-07-2.5-3	8/16/2012	31	65	140 J									
BZ-08	BZ-08-1.5-2	8/17/2012	170	32 J	64 J									
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001	4.0 U	250 U	490	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001	4.0 U	25 U	120	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010	4.5 UJ	22 UJ	49									
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011				0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.059 U	0.30 U	0.059 U
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010	5.4 UJ	23 UJ	58									
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011				0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.056 U	0.28 U	0.056 U
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010	5.7 UJ	14 J	210									
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011				0.032 U	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U	0.063 U	0.32 U	0.063 U
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010	5.1 UJ	24 UJ	49									
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011				0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.030 U	0.061 U	0.30 U	0.061 U
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	6.8 U	26 U	49 J	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.068 U	0.34 U	0.068 U
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	6.7 U	25 U	37	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.067 U	0.34 U	0.067 U
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	6.7 U	25 U	25 J	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.067 U	0.34 U	0.067 U
SS-75	SS-75-0-1	5/22/1998	4.0 U	130 U	390									
SS-75	SS-75-1-2	5/22/1998	4.0 U	130 U	1,700									

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.

All analytical results are rounded to two significant figures.

1 The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of fuel pattern reported.

2 No fuel pattern detected. The diesel result represents carbon range C10 to C25, the oil result represents >C25 to C40.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
PEO Premier Edible Oils
TPH Total petroleum hydrocarbons
VOC Volatile corganic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 3
Riverbank Soil Analytical Data—TPH and VOCs

Analyte Class			VOCs (cont.)											
Analyte			1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene
CAS No.			120-82-1	95-63-6	96-12-8	106-93-4	95-50-1	107-06-2	78-87-5	108-67-8	541-73-1	142-28-9	106-46-7	594-20-7	95-49-8
Ground Feeders Birds NTE			--	--	--	--	--	1.6	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			2.7	--	--	--	9.2	270	--	--	7.4	--	3.5	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date													
2023 FS Sampling															
BANK-04c	BANK-04c-00-01	10/23/2023													
BANK-05a	BANK-05a-00-01	7/31/2023													
BANK-05b	BANK-05b-00-01	7/31/2023													
BANK-05c	BANK-05c-00-01	7/31/2023													
BANK-06a	BANK-06a-00-01	7/31/2023													
BANK-06b	BANK-06b-00-01	7/31/2023													
BANK-06c	BANK-06c-00-01	7/31/2023													
BANK-07a	BANK-07a-00-01	8/2/2023													
BANK-07b	BANK-07b-00-01	8/1/2023													
BANK-07c	BANK-07c-00-01	8/1/2023													
BANK-08a	BANK-08a-00-01	8/2/2023													
BANK-08b	BANK-08b-00-01	8/1/2023													
BANK-08c	BANK-08c-00-01	8/1/2023													
BANK-08c	BANK-08c-00-01-AVG	8/1/2023													
BANK-08c	BANK-108c-00-01	8/1/2023													
BANK-09a	BANK-09a-00-01	8/2/2023													
BANK-09b	BANK-09b-00-01	8/3/2023													
BANK-09c	BANK-09c-00-01	8/2/2023													
BANK-10a	BANK-10a-00-01	8/2/2023													
BANK-10a	BANK-10a-00-01-AVG	8/2/2023													
BANK-10a	BANK-110a-00-01	8/2/2023													
BANK-10b	BANK-10b-00-01	8/3/2023													
BANK-10c	BANK-10c-00-01	8/2/2023													
BANK-11a	BANK-11a-00-01	8/3/2023													
BANK-11b	BANK-11b-00-01	8/3/2023													
BANK-11c	BANK-11c-00-01	8/2/2023													
BANK-12a	BANK-12a-00-01	8/3/2023													
BANK-12b	BANK-12b-00-01	8/3/2023													
BANK-12c	BANK-12c-00-01	8/3/2023													
BANK-13a	BANK-13a-00-01	8/3/2023													
BANK-13c	BANK-13c-00-01	8/3/2023													
BANK-14a	BANK-14a-00-01	8/3/2023													
BANK-14b	BANK-14b-00-01	8/4/2023													
BANK-14b	BANK-14b-00-01-AVG	8/4/2023													
BANK-14b	BANK-114b-00-01	8/4/2023													
BANK-14c	BANK-14c-00-01	8/8/2023													
BANK-15b	BANK-15b-00-01	8/8/2023													

Table 3
Riverbank Soil Analytical Data—TPH and VOCs

Analyte Class			VOCs (cont.)											
Analyte			1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene
CAS No.			120-82-1	95-63-6	96-12-8	106-93-4	95-50-1	107-06-2	78-87-5	108-67-8	541-73-1	142-28-9	106-46-7	594-20-7	95-49-8
Ground Feeders Birds NTE			--	--	--	--	--	1.6	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			2.7	--	--	--	9.2	270	--	--	7.4	--	3.5	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date													
Historical PEO Site Sampling															
BZ-01	BZ-01-2.5-3	8/15/2012													
BZ-03	BZ-03-1.5-2	8/15/2012													
BZ-04	BZ-04-1.5-2	8/15/2012													
BZ-05	BZ-05-0.5-1	8/15/2012													
BZ-06	BZ-06-0.5-1	8/16/2012													
BZ-07	BZ-07-2.5-3	8/16/2012													
BZ-08	BZ-08-1.5-2	8/17/2012													
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001	0.10 U	0.10 U	0.50 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010													
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011	0.30 U	0.059 U	0.30 U	0.030 U	0.030 U	0.030 U	0.030 U	0.059 U	0.030 U	0.030 U	0.030 U	0.059 U	0.059 U
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010													
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011	0.28 U	0.056 U	0.28 U	0.028 U	0.028 U	0.028 U	0.028 U	0.056 U	0.028 U	0.028 U	0.028 U	0.056 U	0.056 U
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010													
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011	0.32 U	0.063 U	0.32 U	0.032 U	0.032 U	0.032 U	0.032 U	0.063 U	0.032 U	0.032 U	0.032 U	0.063 U	0.063 U
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010													
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011	0.30 U	0.061 U	0.30 U	0.030 U	0.030 U	0.030 U	0.030 U	0.061 U	0.030 U	0.030 U	0.030 U	0.061 U	0.061 U
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	0.34 U	0.068 U	0.34 U	0.034 U	0.034 U	0.034 U	0.034 U	0.068 U	0.034 U	0.034 U	0.034 U	0.068 U	0.068 U
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	0.34 U	0.067 U	0.34 U	0.034 U	0.034 U	0.034 U	0.034 U	0.067 U	0.034 U	0.034 U	0.034 U	0.067 U	0.067 U
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	0.34 U	0.067 U	0.34 U	0.034 U	0.034 U	0.034 U	0.034 U	0.067 U	0.034 U	0.034 U	0.034 U	0.067 U	0.067 U
SS-75	SS-75-0-1	5/22/1998													
SS-75	SS-75-1-2	5/22/1998													

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.

All analytical results are rounded to two significant figures.

1 The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of fuel pattern reported.

2 No fuel pattern detected. The diesel result represents carbon range C10 to C25, the oil result represents >C25 to C40.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
PEO Premier Edible Oils
TPH Total petroleum hydrocarbons
VOC Volatile corganic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 3
Riverbank Soil Analytical Data—TPH and VOCs

Analyte Class			VOCs (cont.)												
Analyte			2-Hexanone	4-Chlorotoluene	Acetone	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform
CAS No.			591-78-6	106-43-4	67-64-1	71-43-2	108-86-1	74-97-5	75-27-4	75-25-2	74-83-9	75-15-0	56-23-5	108-90-7	75-00-3	67-66-3
Ground Feeders Birds NTE			3.6	--	75	--	--	--	--	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			20	--	6.3	240	--	--	--	--	--	8.1	9.8	430	--	21
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date														
2023 FS Sampling																
BANK-04c	BANK-04c-00-01	10/23/2023														
BANK-05a	BANK-05a-00-01	7/31/2023														
BANK-05b	BANK-05b-00-01	7/31/2023														
BANK-05c	BANK-05c-00-01	7/31/2023														
BANK-06a	BANK-06a-00-01	7/31/2023														
BANK-06b	BANK-06b-00-01	7/31/2023														
BANK-06c	BANK-06c-00-01	7/31/2023														
BANK-07a	BANK-07a-00-01	8/2/2023														
BANK-07b	BANK-07b-00-01	8/1/2023														
BANK-07c	BANK-07c-00-01	8/1/2023														
BANK-08a	BANK-08a-00-01	8/2/2023														
BANK-08b	BANK-08b-00-01	8/1/2023														
BANK-08c	BANK-08c-00-01	8/1/2023														
BANK-08c	BANK-08c-00-01-AVG	8/1/2023														
BANK-08c	BANK-108c-00-01	8/1/2023														
BANK-09a	BANK-09a-00-01	8/2/2023														
BANK-09b	BANK-09b-00-01	8/3/2023														
BANK-09c	BANK-09c-00-01	8/2/2023														
BANK-10a	BANK-10a-00-01	8/2/2023														
BANK-10a	BANK-10a-00-01-AVG	8/2/2023														
BANK-10a	BANK-110a-00-01	8/2/2023														
BANK-10b	BANK-10b-00-01	8/3/2023														
BANK-10c	BANK-10c-00-01	8/2/2023														
BANK-11a	BANK-11a-00-01	8/3/2023														
BANK-11b	BANK-11b-00-01	8/3/2023														
BANK-11c	BANK-11c-00-01	8/2/2023														
BANK-12a	BANK-12a-00-01	8/3/2023														
BANK-12b	BANK-12b-00-01	8/3/2023														
BANK-12c	BANK-12c-00-01	8/3/2023														
BANK-13a	BANK-13a-00-01	8/3/2023														
BANK-13c	BANK-13c-00-01	8/3/2023														
BANK-14a	BANK-14a-00-01	8/3/2023														
BANK-14b	BANK-14b-00-01	8/4/2023														
BANK-14b	BANK-14b-00-01-AVG	8/4/2023														
BANK-14b	BANK-114b-00-01	8/4/2023														
BANK-14c	BANK-14c-00-01	8/8/2023														
BANK-15b	BANK-15b-00-01	8/8/2023														

Table 3
Riverbank Soil Analytical Data—TPH and VOCs

Analyte Class			VOCs (cont.)												
Analyte			2-Hexanone	4-Chlorotoluene	Acetone	Benzene	Bromobenzene	Bromochloro methane	Bromodichloro methane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform
CAS No.			591-78-6	106-43-4	67-64-1	71-43-2	108-86-1	74-97-5	75-27-4	75-25-2	74-83-9	75-15-0	56-23-5	108-90-7	75-00-3	67-66-3
Ground Feeders Birds NTE			3.6	--	75	--	--	--	--	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			20	--	6.3	240	--	--	--	--	--	8.1	9.8	430	--	21
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date														
Historical PEO Site Sampling																
BZ-01	BZ-01-2.5-3	8/15/2012				0.22 U										
BZ-03	BZ-03-1.5-2	8/15/2012				0.0070 U										
BZ-04	BZ-04-1.5-2	8/15/2012				0.00058 J										
BZ-05	BZ-05-0.5-1	8/15/2012				0.00013 J										
BZ-06	BZ-06-0.5-1	8/16/2012				0.0011 J										
BZ-07	BZ-07-2.5-3	8/16/2012				0.049										
BZ-08	BZ-08-1.5-2	8/17/2012				0.0073 U										
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001	1.0 U	0.10 U	1.0 U	0.024 J	0.10 U	0.10 U	0.10 U	0.10 U	0.50 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001	1.0 U	0.10 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.50 U	1.0 U	0.10 U	0.10 U	0.10 U	0.10 U
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010														
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011	0.59 U	0.059 U	1.2 U	0.015 U	0.030 U	0.030 U	0.030 U	0.059 U	0.30 U		0.030 U	0.030 U	0.59 U	0.059 U
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010														
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011	0.56 U	0.056 U	1.1 U	0.014 U	0.028 U	0.028 U	0.028 U	0.056 U	0.28 U		0.028 U	0.028 U	0.56 U	0.056 U
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010														
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011	0.63 U	0.063 U	1.3 U	0.016 U	0.032 U	0.032 U	0.032 U	0.063 U	0.32 U		0.032 U	0.032 U	0.63 U	0.063 U
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010														
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011	0.61 U	0.061 U	1.2 U	0.015 U	0.030 U	0.030 U	0.030 U	0.061 U	0.30 U		0.030 U	0.030 U	0.61 U	0.061 U
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	0.68 U	0.068 U	1.4 U	0.017 U	0.034 U	0.034 U	0.034 U	0.068 U	0.34 U		0.034 U	0.034 U	0.68 U	0.068 U
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	0.67 U	0.067 U	1.4 U	0.017 U	0.034 U	0.034 U	0.034 U	0.067 U	0.34 U		0.034 U	0.034 U	0.67 U	0.067 U
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	0.67 U	0.067 U	1.4 U	0.017 U	0.034 U	0.034 U	0.034 U	0.067 U	0.34 U		0.034 U	0.034 U	0.67 U	0.067 U
SS-75	SS-75-0-1	5/22/1998														
SS-75	SS-75-1-2	5/22/1998														

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.

All analytical results are rounded to two significant figures.

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Abbreviations:

CAS Chemical Abstracts Service

FS Feasibility Study

mg/kg Milligrams per kilogram

NTE Non-threatened and -endangered

PEO Premier Edible Oils

TPH Total petroleum hydrocarbons

VOC Volatile corganic compound

Qualifiers:

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UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 3
Riverbank Soil Analytical Data—TPH and VOCs

Analyte Class			VOCs (cont.)												
Analyte			Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cymene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methyl ethyl ketone	Methyl isobutyl ketone	Methylene chloride	Methyl-tert-butyl ether
CAS No.			74-87-3	156-59-2	10061-01-5	99-87-6	124-48-1	74-95-3	75-71-8	100-41-4	98-82-8	78-93-3	108-10-1	75-09-2	1634-04-4
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--	--	--	920	97	22	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date													
2023 FS Sampling															
BANK-04c	BANK-04c-00-01	10/23/2023													
BANK-05a	BANK-05a-00-01	7/31/2023													
BANK-05b	BANK-05b-00-01	7/31/2023													
BANK-05c	BANK-05c-00-01	7/31/2023													
BANK-06a	BANK-06a-00-01	7/31/2023													
BANK-06b	BANK-06b-00-01	7/31/2023													
BANK-06c	BANK-06c-00-01	7/31/2023													
BANK-07a	BANK-07a-00-01	8/2/2023													
BANK-07b	BANK-07b-00-01	8/1/2023													
BANK-07c	BANK-07c-00-01	8/1/2023													
BANK-08a	BANK-08a-00-01	8/2/2023													
BANK-08b	BANK-08b-00-01	8/1/2023													
BANK-08c	BANK-08c-00-01	8/1/2023													
BANK-08c	BANK-08c-00-01-AVG	8/1/2023													
BANK-08c	BANK-108c-00-01	8/1/2023													
BANK-09a	BANK-09a-00-01	8/2/2023													
BANK-09b	BANK-09b-00-01	8/3/2023													
BANK-09c	BANK-09c-00-01	8/2/2023													
BANK-10a	BANK-10a-00-01	8/2/2023													
BANK-10a	BANK-10a-00-01-AVG	8/2/2023													
BANK-10a	BANK-110a-00-01	8/2/2023													
BANK-10b	BANK-10b-00-01	8/3/2023													
BANK-10c	BANK-10c-00-01	8/2/2023													
BANK-11a	BANK-11a-00-01	8/3/2023													
BANK-11b	BANK-11b-00-01	8/3/2023													
BANK-11c	BANK-11c-00-01	8/2/2023													
BANK-12a	BANK-12a-00-01	8/3/2023													
BANK-12b	BANK-12b-00-01	8/3/2023													
BANK-12c	BANK-12c-00-01	8/3/2023													
BANK-13a	BANK-13a-00-01	8/3/2023													
BANK-13c	BANK-13c-00-01	8/3/2023													
BANK-14a	BANK-14a-00-01	8/3/2023													
BANK-14b	BANK-14b-00-01	8/4/2023													
BANK-14b	BANK-14b-00-01-AVG	8/4/2023													
BANK-14b	BANK-114b-00-01	8/4/2023													
BANK-14c	BANK-14c-00-01	8/8/2023													
BANK-15b	BANK-15b-00-01	8/8/2023													

Table 3
Riverbank Soil Analytical Data—TPH and VOCs

Analyte Class			VOCs (cont.)											
Analyte			Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cymene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methyl ethyl ketone	Methyl isobutyl ketone	Methylene chloride	Methyl-tert-butyl ether
CAS No.			74-87-3	156-59-2	10061-01-5	99-87-6	124-48-1	74-95-3	75-71-8	100-41-4	98-82-8	78-93-3	108-10-1	75-09-2	1634-04-4
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--	--	--	920	97	22	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date													
Historical PEO Site Sampling															
BZ-01	BZ-01-2.5-3	8/15/2012								0.22 U					
BZ-03	BZ-03-1.5-2	8/15/2012								0.0070 U					
BZ-04	BZ-04-1.5-2	8/15/2012								0.00062 J					
BZ-05	BZ-05-0.5-1	8/15/2012								0.0066 U					
BZ-06	BZ-06-0.5-1	8/16/2012								0.00022 J					
BZ-07	BZ-07-2.5-3	8/16/2012								0.0028 J					
BZ-08	BZ-08-1.5-2	8/17/2012								0.0073 U					
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001	0.50 U	0.10 U	0.10 U	0.20 U	0.10 U	0.10 U	0.50 U	0.10 U	0.20 U	1.0 U	0.50 U	0.50 U	0.10 U
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001	0.50 U	0.10 U	0.10 U	0.20 U	0.10 U	0.10 U	0.50 U	0.10 U	0.20 U	1.0 U	0.50 U	0.50 U	0.10 U
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010													
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011	0.30 U	0.030 U	0.030 U	0.059 U	0.12 U	0.059 U	0.12 U	0.030 U	0.059 U	0.59 U	0.59 U	0.30 U	0.059 U
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010													
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011	0.28 U	0.028 U	0.028 U	0.056 U	0.11 U	0.056 U	0.11 U	0.028 U	0.056 U	0.56 U	0.56 U	0.28 U	0.056 U
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010													
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011	0.32 U	0.032 U	0.032 U	0.063 U	0.13 U	0.063 U	0.13 U	0.032 U	0.063 U	0.63 U	0.63 U	0.32 U	0.063 U
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010													
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011	0.30 U	0.030 U	0.030 U	0.061 U	0.12 U	0.061 U	0.12 U	0.030 U	0.061 U	0.61 U	0.61 U	0.30 U	0.061 U
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	0.34 U	0.034 U	0.034 U	0.068 U	0.14 U	0.068 U	0.14 U	0.034 U	0.068 U	0.68 U	0.68 U	0.34 U	0.068 U
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	0.34 U	0.034 U	0.034 U	0.067 U	0.14 U	0.067 U	0.14 U	0.034 U	0.067 U	0.67 U	0.67 U	0.34 U	0.067 U
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	0.34 U	0.034 U	0.034 U	0.067 U	0.14 U	0.067 U	0.14 U	0.034 U	0.067 U	0.67 U	0.67 U	0.34 U	0.067 U
SS-75	SS-75-0-1	5/22/1998													
SS-75	SS-75-1-2	5/22/1998													

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1 The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of fuel pattern reported.
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Abbreviations:

CAS Chemical Abstracts Service
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mg/kg Milligrams per kilogram
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PEO Premier Edible Oils
TPH Total petroleum hydrocarbons
VOC Volatile corganic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
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Table 3
Riverbank Soil Analytical Data—TPH and VOCs

Analyte Class			VOCs (cont.)														
Analyte			n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride	Xylene (meta & para)	Xylene (ortho)	Xylene (total)
CAS No.			104-51-8	103-65-1	135-98-8	100-42-5	98-06-6	127-18-4	108-88-3	156-60-5	10061-02-6	79-01-6	75-69-4	75-01-4	108-38-3/106-42-3	95-47-6	1330-20-7
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	--	--	--	--	--	410
Ground Feeders Mammals NTE			--	--	--	--	--	0.94	230	--	--	420	350	1.2	--	--	1.8
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date															
2023 FS Sampling																	
BANK-04c	BANK-04c-00-01	10/23/2023															
BANK-05a	BANK-05a-00-01	7/31/2023															
BANK-05b	BANK-05b-00-01	7/31/2023															
BANK-05c	BANK-05c-00-01	7/31/2023															
BANK-06a	BANK-06a-00-01	7/31/2023															
BANK-06b	BANK-06b-00-01	7/31/2023															
BANK-06c	BANK-06c-00-01	7/31/2023															
BANK-07a	BANK-07a-00-01	8/2/2023															
BANK-07b	BANK-07b-00-01	8/1/2023															
BANK-07c	BANK-07c-00-01	8/1/2023															
BANK-08a	BANK-08a-00-01	8/2/2023															
BANK-08b	BANK-08b-00-01	8/1/2023															
BANK-08c	BANK-08c-00-01	8/1/2023															
BANK-08c	BANK-08c-00-01-AVG	8/1/2023															
BANK-08c	BANK-108c-00-01	8/1/2023															
BANK-09a	BANK-09a-00-01	8/2/2023															
BANK-09b	BANK-09b-00-01	8/3/2023															
BANK-09c	BANK-09c-00-01	8/2/2023															
BANK-10a	BANK-10a-00-01	8/2/2023															
BANK-10a	BANK-10a-00-01-AVG	8/2/2023															
BANK-10a	BANK-110a-00-01	8/2/2023															
BANK-10b	BANK-10b-00-01	8/3/2023															
BANK-10c	BANK-10c-00-01	8/2/2023															
BANK-11a	BANK-11a-00-01	8/3/2023															
BANK-11b	BANK-11b-00-01	8/3/2023															
BANK-11c	BANK-11c-00-01	8/2/2023															
BANK-12a	BANK-12a-00-01	8/3/2023															
BANK-12b	BANK-12b-00-01	8/3/2023															
BANK-12c	BANK-12c-00-01	8/3/2023															
BANK-13a	BANK-13a-00-01	8/3/2023															
BANK-13c	BANK-13c-00-01	8/3/2023															
BANK-14a	BANK-14a-00-01	8/3/2023															
BANK-14b	BANK-14b-00-01	8/4/2023															
BANK-14b	BANK-14b-00-01-AVG	8/4/2023															
BANK-14b	BANK-114b-00-01	8/4/2023															
BANK-14c	BANK-14c-00-01	8/8/2023															
BANK-15b	BANK-15b-00-01	8/8/2023															

Table 3
Riverbank Soil Analytical Data—TPH and VOCs

Analyte Class			VOCs (cont.)														
Analyte			n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride	Xylene (meta & para)	Xylene (ortho)	Xylene (total)
CAS No.			104-51-8	103-65-1	135-98-8	100-42-5	98-06-6	127-18-4	108-88-3	156-60-5	10061-02-6	79-01-6	75-69-4	75-01-4	108-38-3/106-42-3	95-47-6	1330-20-7
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	--	--	--	--	--	410
Ground Feeders Mammals NTE			--	--	--	--	--	0.94	230	--	--	420	350	1.2	--	--	1.8
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date															
Historical PEO Site Sampling																	
BZ-01	BZ-01-2.5-3	8/15/2012							0.026 J							0.22 U	0.12 J
BZ-03	BZ-03-1.5-2	8/15/2012							0.0070 U							0.0070 U	0.0070 U
BZ-04	BZ-04-1.5-2	8/15/2012							0.00085 J							0.00051 J	0.0028 J
BZ-05	BZ-05-0.5-1	8/15/2012							0.00023 J							0.0066 U	0.00022 J
BZ-06	BZ-06-0.5-1	8/16/2012							0.0013 J							0.00094 J	0.0024 J
BZ-07	BZ-07-2.5-3	8/16/2012							0.024							0.012	0.032
BZ-08	BZ-08-1.5-2	8/17/2012							0.0073 U							0.0073 U	0.0073 U
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001	0.50 U	0.10 U	0.10 U	0.023 J	0.10 U	0.10 U	0.017 J	0.10 U	0.10 U	0.10 U	0.13	0.10 U		0.10 U	0.20 U
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001	0.50 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.012 J	0.10 U	0.10 U	0.10 U	1.1	0.10 U		0.10 U	0.20 U
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010															
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011	0.059 U	0.030 U	0.059 U	0.059 U	0.059 U	0.030 U	0.059 U	0.030 U	0.059 U	0.030 U	0.12 U	0.030 U	0.059 U	0.030 U	0.059 U
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010															
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011	0.056 U	0.028 U	0.056 U	0.056 U	0.056 U	0.028 U	0.056 U	0.028 U	0.056 U	0.028 U	0.11 U	0.028 U	0.056 U	0.028 U	0.056 U
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010															
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011	0.063 U	0.032 U	0.063 U	0.063 U	0.063 U	0.032 U	0.063 U	0.032 U	0.063 U	0.032 U	0.13 U	0.032 U	0.063 U	0.032 U	0.063 U
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010															
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011	0.061 U	0.030 U	0.061 U	0.061 U	0.061 U	0.030 U	0.061 U	0.030 U	0.061 U	0.030 U	0.12 U	0.030 U	0.061 U	0.030 U	0.061 U
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	0.068 U	0.034 U	0.068 U	0.068 U	0.068 U	0.034 U	0.068 U	0.034 U	0.068 U	0.034 U	0.14 U	0.034 U	0.068 U	0.034 U	0.068 U
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	0.067 U	0.034 U	0.067 U	0.067 U	0.067 U	0.034 U	0.067 U	0.034 U	0.067 U	0.034 U	0.14 U	0.034 U	0.067 U	0.034 U	0.067 U
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	0.067 U	0.034 U	0.067 U	0.067 U	0.067 U	0.034 U	0.067 U	0.034 U	0.067 U	0.034 U	0.14 U	0.034 U	0.067 U	0.034 U	0.067 U
SS-75	SS-75-0-1	5/22/1998															
SS-75	SS-75-1-2	5/22/1998															

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.

All analytical results are rounded to two significant figures.

1 The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of fuel pattern reported.

2 No fuel pattern detected. The diesel result represents carbon range C10 to C25, the oil result represents >C25 to C40.

Abbreviations:

CAS Chemical Abstracts Service

FS Feasibility Study

mg/kg Milligrams per kilogram

NTE Non-threatened and -endangered

PEO Premier Edible Oils

TPH Total petroleum hydrocarbons

VOC Volatile corganic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.

U Analyte was not detected at the associated reporting limit.

UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			PAHs										
Analyte			1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzofluoranthenes (total) (U=0)
CAS No.			90-12-0	91-57-6	83-32-9	208-96-8	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	56832-73-6
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--	--	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date											
2023 FS Sampling													
BANK-04c	BANK-04c-00-01	10/23/2023	0.011 U	0.011 U	0.0056 U	0.0056 U	0.0056 U	0.027	0.043	0.040	0.033	0.015 J	
BANK-05a	BANK-05a-00-01	7/31/2023	0.011 U	0.011 U	0.0053 U	0.0062 J	0.0055 J	0.069	0.14	0.13	0.078	0.050 J	
BANK-05b	BANK-05b-00-01	7/31/2023	0.027 U	0.027 U	0.014 U	0.014 U	0.014 U	0.016 J	0.050	0.051	0.054 U	0.025 J	
BANK-05c	BANK-05c-00-01	7/31/2023	0.15 U	0.15 U	0.077 U	0.077 U	0.10 J	0.33	0.50	0.40	0.26	0.21 J	
BANK-06a	BANK-06a-00-01	7/31/2023	0.11 U	0.11 U	0.053 U	0.053 U	0.053 U	0.25	0.52	0.47	0.39	0.22 J	
BANK-06b	BANK-06b-00-01	7/31/2023	0.11 U	0.11 U	0.054 U	0.054 U	0.054 U	0.17	0.36	0.30	0.25	0.15 J	
BANK-06c	BANK-06c-00-01	7/31/2023	0.012 U	0.012 U	0.0058 U	0.0058 U	0.0058 U	0.014	0.034	0.030	0.024	0.015 J	
BANK-07a	BANK-07a-00-01	8/2/2023	0.11 U	0.11 U	0.054 U	0.15	0.14	0.61	1.4	1.4	1.6	0.53 J	
BANK-07b	BANK-07b-00-01	8/1/2023	0.27 U	0.27 U	0.14 U	0.14 U	0.14 U	0.47	1.2	1.2	0.93	0.47 J	
BANK-07c	BANK-07c-00-01	8/1/2023	0.013 U	0.013 U	0.0066 U	0.0066 U	0.0066 U	0.017	0.034	0.031	0.018	0.015 J	
BANK-08a	BANK-08a-00-01	8/2/2023	0.11 U	0.11 U	0.054 U	0.054 U	0.054 U	0.18	0.43	0.41	0.40	0.14 J	
BANK-08b	BANK-08b-00-01	8/1/2023	0.11 U	0.11 U	0.053 U	0.053 U	0.053 U	0.39	0.88	0.80	0.77	0.36 J	
BANK-08c	BANK-08c-00-01	8/1/2023	0.0032 U	0.0032 U	0.0016 U	0.0016 U	0.0016 U	0.0040	0.011	0.010	0.010	0.0046 J	
BANK-08c	BANK-08c-00-01-AVG	8/1/2023	0.0032 U	0.0032 U	0.0016 U	0.0016 U	0.0016 U	0.0058 J	0.016	0.014 J	0.011 J	0.0077 J	
BANK-08c	BANK-108c-00-01	8/1/2023	0.013 U	0.013 U	0.0064 U	0.0064 U	0.0064 U	0.0076 J	0.022	0.018 J	0.012 J	0.011 J	
BANK-09a	BANK-09a-00-01	8/2/2023	0.011 U	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.016	0.031	0.034	0.020	0.014 J	
BANK-09b	BANK-09b-00-01	8/3/2023	0.011 U	0.011 U	0.0053 U	0.0053 U	0.0053 U	0.017	0.031	0.029	0.025	0.014 J	
BANK-09c	BANK-09c-00-01	8/2/2023	0.035 U	0.035 U	0.017 U	0.017 U	0.027 J	0.093	0.13	0.10	0.075	0.049 J	
BANK-10a	BANK-10a-00-01	8/2/2023	0.11 U	0.11 U	0.053 U	0.053 U	0.053 U	0.16	0.38	0.39	0.15	0.16 J	
BANK-10a	BANK-10a-00-01-AVG	8/2/2023	0.11 J	0.11 U	0.13	0.23	0.57	1.3	2.4	2.5	1.2	0.90 J	
BANK-10a	BANK-10a-01-02	8/2/2023	0.55 U	0.55 U	0.27 U	0.81	1.2	4.3 J	8.2 J	7.8 J	8.6 J	2.9 J	
BANK-10a	BANK-110a-00-01	8/2/2023	0.11 J	0.11 U	0.13	0.23	0.57	2.4	4.3	4.7	2.2	1.6 J	
BANK-10b	BANK-10b-00-01	8/3/2023	0.011 U	0.011 U	0.0053 U	0.0084 J	0.0091 J	0.10	0.21	0.21	0.22	0.072 J	
BANK-10c	BANK-10c-00-01	8/2/2023	0.036 U	0.043 J	0.028 J	0.018 U	0.030 J	0.056	0.12	0.10	0.079	0.047 J	
BANK-11a	BANK-11a-00-01	8/3/2023	0.012 U	0.012 U	0.0057 U	0.0057 U	0.0057 U	0.032	0.055	0.076	0.042	0.030 J	
BANK-11b	BANK-11b-00-01	8/3/2023	0.011 U	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.030	0.051	0.070	0.041	0.024 J	
BANK-11c	BANK-11c-00-01	8/2/2023	0.012 U	0.012 U	0.0058 U	0.0058 U	0.0058 U	0.017	0.027	0.035	0.020	0.015 J	
BANK-12a	BANK-12a-00-01	8/3/2023	0.012 U	0.012 U	0.0057 U	0.0057 U	0.0057 U	0.015	0.028	0.035	0.020	0.015 J	
BANK-12b	BANK-12b-00-01	8/3/2023	0.011 U	0.011 U	0.0056 U	0.0056 U	0.0056 U	0.0063 J	0.014 J	0.014 J	0.0098 J	0.0084 U	
BANK-12c	BANK-12c-00-01	8/3/2023	0.013 U	0.013 U	0.0064 U	0.0064 U	0.0064 U	0.012 J	0.014 J	0.018 J	0.013 J	0.0096 U	
BANK-13a	BANK-13a-00-01	8/3/2023	0.0031 U	0.0031 U	0.0016 U	0.0016 U	0.0016 U	0.0058	0.0078	0.014	0.0081	0.0044 J	
BANK-13c	BANK-13c-00-01	8/3/2023	0.031 U	0.031 U	0.015 U	0.015 U	0.015 U	0.030 J	0.050	0.062	0.030 J	0.034 J	
BANK-14a	BANK-14a-00-01	8/3/2023	0.028 U	0.028 U	0.014 U	0.014 U	0.014 U	0.032	0.062	0.069	0.042	0.034 J	
BANK-14b	BANK-14b-00-01	8/4/2023	0.030 U	0.030 U	0.015 U	0.015 U	0.015 U	0.029 J	0.052	0.047	0.027 J	0.025 J	
BANK-14b	BANK-14b-00-01-AVG	8/4/2023	0.0028 U	0.0028 U	0.0014 U	0.0014 U	0.0014 U	0.019 J	0.032	0.031	0.020 J	0.015 J	
BANK-14b	BANK-114b-00-01	8/4/2023	0.0028 U	0.0028 U	0.0014 U	0.0014 U	0.0014 U	0.0079	0.013	0.015	0.012	0.0056 J	
BANK-14c	BANK-14c-00-01	8/8/2023	0.0032 J	0.0061 J	0.0047	0.0016 U	0.0036	0.0086	0.011	0.014	0.0093	0.0056 J	
BANK-15b	BANK-15b-00-01	8/8/2023	0.011 U	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.021	0.028	0.041	0.026	0.015 J	

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			PAHs									
Analyte			1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzofluoranthenes (total) (U=0)
CAS No.			90-12-0	91-57-6	83-32-9	208-96-8	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	56832-73-6
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--	--	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date											
Historical PEO Site Sampling													
BZ-01	BZ-01-2.5-3	8/15/2012		0.050	0.17	0.055 U	0.063	0.053	0.049	0.048	0.043	0.019	
BZ-03	BZ-03-1.5-2	8/15/2012		0.0022 J	0.00097 J	0.0055	0.0051	0.014	0.019	0.017	0.020	0.0075	
BZ-04	BZ-04-1.5-2	8/15/2012		0.0039	0.0042	0.0096	0.018	0.066	0.077	0.062	0.047	0.027	
BZ-05	BZ-05-0.5-1	8/15/2012		0.0021 J	0.0011 J	0.0041	0.0042	0.016	0.025	0.024	0.030	0.010	
BZ-06	BZ-06-0.5-1	8/16/2012		0.016	0.0050	0.0034	0.0055	0.010	0.012	0.012	0.013	0.0049	
BZ-07	BZ-07-2.5-3	8/16/2012		0.0061	0.019	0.0076	0.014	0.040	0.055	0.049	0.059	0.019	
BZ-08	BZ-08-1.5-2	8/17/2012		0.0011 J	0.0011 J	0.0012 J	0.0034 J	0.011	0.014	0.019	0.021	0.0075	
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001			0.27 U	0.11 J	0.10 J	0.53	0.79	0.81	0.93	0.52	
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001			0.13 U	0.086 J	0.055 J	0.16	0.28	0.27	0.54	0.19	
RA-01	RA-01-0.5120414	12/4/2014		0.00069 J	0.0028 U	0.0091	0.0044	0.012	0.031	0.039	0.061	0.011	
RA-01	RA-01-0.5120414-AVG	12/4/2014		0.00064 J	0.00082 J	0.0068	0.0038	0.012	0.027	0.035	0.049	0.0091	
RA-01	RA-01-0.5-DUP120414	12/4/2014		0.00059 J	0.00082 J	0.0044	0.0031	0.012	0.022	0.031	0.036	0.0072	
RA-01	RA-01-3120414	12/4/2014		0.0021 J	0.0023 J	0.011	0.0067	0.016	0.039	0.044	0.077	0.011	
RA-02	RA-02-0.5120414	12/4/2014		0.0027 J	0.0065	0.062	0.051	0.37	0.57	0.63	0.62	0.20	
RA-02	RA-02-3120414	12/4/2014		0.0019 J	0.00084 J	0.0094	0.016	0.046	0.075	0.081	0.093	0.026	
RA-03	RA-03-0.5120414	12/4/2014		0.00089 J	0.00081 J	0.0060	0.0042	0.022	0.038	0.050	0.053	0.015	
RA-03	RA-03-3120414	12/4/2014		0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	
RA-04	RA-04-0.5120414	12/4/2014		0.0030 J	0.013	0.0085	0.020	0.18	0.28	0.36	0.24	0.11	
RA-04	RA-04-3120414	12/4/2014		0.26	0.084	0.14	1.0	2.3	1.4	2.0	1.5	0.64	
RA-05	RA-05-0.5120414	12/4/2014		0.0020 J	0.0066	0.13	0.090	0.65	0.98	1.0	1.0	0.34	
RA-05	RA-05-3120414	12/4/2014		0.039	0.031	0.49	0.45	3.0	4.4	4.2	4.2	1.5	
RA-06	RA-06-0.5120414	12/4/2014		0.0014 J	0.0012 J	0.014	0.013	0.084	0.12	0.14	0.13	0.047	
RA-06	RA-06-3120514	12/5/2014		0.0086	0.019	0.18	0.11	0.75	1.2	1.3	1.4	0.43	
RA-07	RA-07-0.5120414	12/4/2014		0.0063	0.035	0.24	0.13	0.77	1.1	1.2	1.2	0.39	
RA-07	RA-07-3120414	12/4/2014		0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	
RA-08	RA-08-1.5-2	12/5/2014		0.0078	0.0050	0.11	0.086	0.23	0.38	0.67	0.75	0.20	
RA-08	RA-08-2.5-3	12/5/2014		0.0044	0.0096	0.13	0.10	0.90	1.1	1.1	1.1	0.43	
RA-08A	RA-08A-0-0.5	12/5/2014		0.0065	0.022	0.12	0.14	0.93	1.0	1.1	0.99	0.43	
RA-08A	RA-08A-2.5-3	12/5/2014		0.0022 J	0.0058	0.040	0.036	0.18	0.30	0.31	0.31	0.10	
RA-08B	RA-08B-0-0.5	12/5/2014		0.0050	0.013	0.14	0.13	0.79	0.90	1.0	0.83	0.36	
RA-08B	RA-08B-2.5-3	12/5/2014		0.0066	0.0048	0.044	0.056	0.39	0.53	0.69	0.58	0.20	
RA-08C	RA-08C-0-0.5	12/5/2014		0.0061	0.0066	0.097	0.083	0.68	1.1	1.0	1.1	0.31	
RA-08C	RA-08C-2.5-3	12/5/2014		0.0029	0.0029	0.0029	0.00086 J	0.0028 J	0.0048	0.0062	0.0066	0.0021 J	
RA-08D	RA-08D-0-0.5	12/5/2014		0.032	0.034	0.34	0.31	1.1	1.9	2.0	2.3	0.65	
RA-08D	RA-08D-2.5-3	12/5/2014		0.00095 J	0.0028	0.014	0.011	0.063	0.10	0.13	0.18	0.048	
RA-09	RA-09-1-1.5	12/5/2014		0.0046	0.0032	0.034	0.041	0.25	0.42	0.46	0.43	0.13	
RA-09	RA-09-2.5-3	12/5/2014		0.0087	0.0087	0.082	0.086	0.30	0.52	0.53	0.72	0.13	
RA-09A	RA-09A-0-0.5	12/5/2014		0.0018 J	0.0027 J	0.015	0.022	0.15	0.22	0.23	0.23	0.071	
RA-09A	RA-09A-2.5-3	12/5/2014		0.12	0.013 J	0.47	0.27	2.7	4.4	4.0	4.4	0.95	

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			PAHs									
Analyte			1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzofluoranthenes (total) (U=0)
CAS No.			90-12-0	91-57-6	83-32-9	208-96-8	120-12-7	56-55-3	50-32-8	205-99-2	191-24-2	207-08-9	56832-73-6
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--	--	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date											
Historical PEO Site Sampling (cont.)													
RA-09B	RA-09B-0-0.5	12/5/2014		0.00086 J	0.0014 J	0.0049	0.0073	0.054	0.093	0.11	0.10	0.029	
RA-09B	RA-09B-2.5-3	12/5/2014		0.0077	0.0046	0.069	0.060	0.21	0.34	0.35	0.57	0.089	
RA-09C	RA-09C-0-0.5	12/5/2014		0.0053	0.014	0.079	0.11	0.65	1.1	0.90	1.0	0.28	
RA-09C	RA-09C-2.5-3	12/5/2014		0.0065	0.0071	0.067	0.056	0.30	0.49	0.47	0.58	0.13	
RA-09D	RA-09D-0-0.5	12/5/2014		0.0059	0.0089	0.073	0.081	0.61	0.90	0.86	0.90	0.26	
RA-09D	RA-09D-2.5-3	12/5/2014		0.018	0.014	0.088	0.12	0.29	0.35	0.39	0.54	0.11	
RA-10	RA-10-0-0.5	12/3/2014		0.0025 J	0.0042	0.013	0.017	0.12	0.21	0.24	0.23	0.072	
RA-10	RA-10-0-0.5-AVG	12/3/2014		0.026 J	0.072	0.25	0.56	2.3	3.1	3.1	0.53	1.1	
RA-10	RA-10-0-0.5-D	12/3/2014		0.049	0.14	0.49	1.1	4.5	5.9	6.0	0.82	2.2	
RA-10	RA-10-2.5-3	12/3/2014		0.018	0.047	0.41	0.41	1.7	2.5	2.4	3.1	0.69	
RA-11	RA-11-0-0.5	12/4/2014		0.0033	0.0033	0.0035	0.0049	0.035	0.060	0.066	0.052	0.024	
RA-11	RA-11-2.5-3	12/4/2014		0.0010 J	0.0028	0.0073	0.0076	0.060	0.095	0.093	0.11	0.037	
RA-12	RA-12-0-0.5	12/4/2014		0.00054 J	0.0029	0.0031	0.0022 J	0.020	0.029	0.036	0.034	0.012	
RA-12	RA-12-2.5-3	12/4/2014		0.10	0.12	0.16	0.40	1.5	1.9	2.0	1.7	0.50	
RA-13	RA-13-0-0.5	12/4/2014		0.00066 J	0.0011 J	0.010	0.0088	0.069	0.10	0.11	0.11	0.035	
RA-13	RA-13-2.5-3	12/4/2014		0.00043 J	0.0032	0.0012 J	0.0025 J	0.0099	0.010	0.013	0.010	0.0044	
RA-14	RA-14-0-0.5	12/4/2014		0.0029	0.0028	0.036	0.024 J	0.087	0.18	0.22	0.34	0.051	
RA-14	RA-14-2.5-3	12/4/2014		0.0019 J	0.0027 J	0.019	0.020	0.10	0.16	0.17	0.18	0.053	
RA-15	RA-15-0-0.5	12/4/2014		0.0048	0.0010 J	0.010	0.013	0.15	0.17	0.30	0.27	0.10	
RA-15	RA-15-2.5-3	12/4/2014		0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	
RA-16	RA-16-0-0.5	12/4/2014		0.0018 J	0.0016 J	0.015	0.015	0.070	0.12	0.14	0.15	0.033	
RA-16	RA-16-2.5-3	12/4/2014		0.00042 J	0.0031	0.0039	0.0053	0.032	0.032	0.033	0.023	0.011	
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010			0.0076 UJ	0.0088	0.0078	0.035	0.071		0.082		0.11
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011											
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010			0.0078 UJ	0.027	0.025	0.087	0.18		0.19		0.26
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011											
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010			0.0096 J	0.046	0.049	0.23	0.40		0.36		0.61
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011											
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010			0.0078 UJ	0.038	0.039	0.19	0.32		0.34		0.50
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011											
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0042 J	0.018	0.024		0.025		0.042
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0042	0.017	0.023		0.025		0.040
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.016	0.022		0.024		0.037
SS-75	SS-75-0-1	5/22/1998			0.17 U	0.17 U	0.17 U	0.65	0.70	0.76	0.49	0.46	
SS-75	SS-75-1-2	5/22/1998			0.067 U	0.067 U	0.067 U	0.18	0.17	0.22	0.18	0.17 U	

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.

All analytical results are rounded to two significant figures.

Italic Result was not detected at a reporting limit greater than applicable criteria.

BOLD Result was detected at a concentration greater than the NTE birds.

RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
PAH Polycyclic aromatic hydrocarbon
PEO Premier Edible Oils
SVOC Semivolatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			PAHs (cont.)											
Analyte			Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	cPAHs (MTCA TEQ-HalfND)	Total HPAH (U=1/2)	Total LPAH (U=1/2)	Total PAH (U=1/2)
CAS No.			218-01-9	53-70-3	206-44-0	86-73-7	193-39-5	91-20-3	85-01-8	129-00-0	BaPEq (U=1/2)	T_HPAH (U=1/2)	T_LPAH (U=1/2)	T_PAH (U=1/2)
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	0.55	67	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--	--	--	5.9	540	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date												
2023 FS Sampling														
BANK-04c	BANK-04c-00-01	10/23/2023	0.035	0.0056 U	0.059	0.0056 U	0.028	0.011 U	0.0090 J	0.078	0.055 J	0.36 J	0.032 J	0.39 J
BANK-05a	BANK-05a-00-01	7/31/2023	0.090	0.011	0.15	0.0053 U	0.075	0.011 U	0.032	0.18	0.18 J	**0.98 J**	0.060 J	1.0 J
BANK-05b	BANK-05b-00-01	7/31/2023	0.021 J	0.054 U	0.019 J	0.014 U	0.054 U	0.027 U	0.014 U	0.026 J	0.087 J	0.29 J	0.027 U	0.35 J
BANK-05c	BANK-05c-00-01	7/31/2023	0.36	0.077 U	0.87 J	0.077 U	0.23	0.15 U	0.44	1.0 J	0.63 J	**4.2 J**	0.81 J	5.0 J
BANK-06a	BANK-06a-00-01	7/31/2023	0.32	0.053 U	0.65	0.053 U	0.31	0.11 U	0.19	0.82	0.65 J	**4.0 J**	0.40	4.4 J
BANK-06b	BANK-06b-00-01	7/31/2023	0.21	0.054 U	0.43	0.054 U	0.19	0.11 U	0.19	0.57	0.46 J	**2.7 J**	0.41	3.1 J
BANK-06c	BANK-06c-00-01	7/31/2023	0.019	0.0058 U	0.025	0.0058 U	0.018	0.012 U	0.0058 U	0.037	0.043 J	0.22 J	0.012 U	0.25 J
BANK-07a	BANK-07a-00-01	8/2/2023	0.96	0.15	1.5	0.054 U	1.1	0.11 U	0.46	2.0	1.8 J	**11 J**	0.91	12 J
BANK-07b	BANK-07b-00-01	8/1/2023	0.68	0.14 U	1.1	0.14 U	0.72	0.27 U	0.38	1.3	1.5 J	**8.1 J**	0.92	9.0 J
BANK-07c	BANK-07c-00-01	8/1/2023	0.020	0.0066 U	0.027	0.0066 U	0.013 J	0.013 U	0.012 J	0.037	0.043 J	0.21 J	0.038 J	0.25 J
BANK-08a	BANK-08a-00-01	8/2/2023	0.27	0.054 U	0.40	0.054 U	0.31	0.11 U	0.11 J	0.56	0.55 J	**3.1 J**	0.32 J	3.4 J
BANK-08b	BANK-08b-00-01	8/1/2023	0.60	0.063 J	1.2	0.053 U	0.57	0.11 U	0.39	1.5	1.1 J	**7.1 J**	0.60	7.7 J
BANK-08c	BANK-08c-00-01	8/1/2023	0.0059	0.0016 U	0.0050	0.0016 U	0.0072	0.0032 U	0.0033	0.0077	0.014 J	0.066 J	0.0096	0.076 J
BANK-08c	BANK-08c-00-01-AVG	8/1/2023	0.0065 J	0.0016 U	0.0050	0.0016 U	0.0086 J	0.0032 U	0.0033	0.0090 J	0.020 J	0.085 J	0.0096	0.094 J
BANK-08c	BANK-108c-00-01	8/1/2023	0.0070 J	0.0064 U	0.0064 U	0.0064 U	0.010 J	0.013 U	0.0064 U	0.010 J	0.028 J	0.10 J	0.013 U	0.13 J
BANK-09a	BANK-09a-00-01	8/2/2023	0.021	0.0055 U	0.023	0.0055 U	0.018	0.011 U	0.0096 J	0.024	0.041 J	0.20 J	0.031 J	0.23 J
BANK-09b	BANK-09b-00-01	8/3/2023	0.021	0.0053 U	0.034	0.0053 U	0.020	0.011 U	0.017	0.045	0.040 J	0.24 J	0.038	0.28 J
BANK-09c	BANK-09c-00-01	8/2/2023	0.096	0.017 U	0.15	0.017 U	0.063	0.035 U	0.090	0.21	0.16 J	**0.98 J**	0.18 J	1.2 J
BANK-10a	BANK-10a-00-01	8/2/2023	0.20	0.053 U	0.32	0.053 U	0.16	0.11 U	0.10 J	0.38	0.47 J	**2.3 J**	0.32 J	2.6 J
BANK-10a	BANK-10a-00-01-AVG	8/2/2023	1.8	0.29	4.7	0.27	1.2	0.30	3.6 J	5.4	3.1 J	**22 J**	5.1 J	27 J
BANK-10a	BANK-10a-01-02	8/2/2023	6.5 J	0.79	16 J	0.27 U	6.1 J	0.55 U	10 J	19 J	11 J	**80 J**	13 J	93 J
BANK-10a	BANK-110a-00-01	8/2/2023	3.4	0.29	9.0	0.27	2.2	0.30	7.0	10	5.6 J	**40 J**	8.6	49 J
BANK-10b	BANK-10b-00-01	8/3/2023	0.16	0.020	0.26	0.0053 U	0.16	0.011 U	0.071	0.34	0.28 J	**1.7 J**	0.10 J	1.8 J
BANK-10c	BANK-10c-00-01	8/2/2023	0.074	0.018 U	0.15	0.020 J	0.058	0.12	0.15	0.20	0.15 J	**0.89 J**	0.39 J	1.3 J
BANK-11a	BANK-11a-00-01	8/3/2023	0.044	0.0084 J	0.058	0.0057 U	0.038	0.012 U	0.018	0.055	0.078 J	0.44 J	0.041	0.48 J
BANK-11b	BANK-11b-00-01	8/3/2023	0.039	0.0075 J	0.053	0.0055 U	0.038	0.011 U	0.019	0.050	0.073 J	0.40 J	0.041	0.44 J
BANK-11c	BANK-11c-00-01	8/2/2023	0.027	0.0058 U	0.038	0.0058 U	0.017	0.012 U	0.011 J	0.041	0.037 J	0.24 J	0.034 J	0.27 J
BANK-12a	BANK-12a-00-01	8/3/2023	0.019	0.0057 U	0.023	0.0057 U	0.017	0.012 U	0.0085 J	0.022	0.038 J	0.20 J	0.032 J	0.23 J
BANK-12b	BANK-12b-00-01	8/3/2023	0.0065 J	0.0056 U	0.0066 J	0.0056 U	0.0070 J	0.011 U	0.0056 U	0.0074 J	0.019 J	0.079 J	0.011 U	0.10 J
BANK-12c	BANK-12c-00-01	8/3/2023	0.014	0.0064 U	0.020	0.0064 U	0.010 J	0.013 U	0.013	0.018	0.021 J	0.13 J	0.039	0.17 J
BANK-13a	BANK-13a-00-01	8/3/2023	0.010	0.0016 U	0.012	0.0016 U	0.0067	0.0031 U	0.0045	0.012	0.011 J	0.081 J	0.011	0.092 J
BANK-13c	BANK-13c-00-01	8/3/2023	0.035	0.015 U	0.048	0.015 U	0.028 J	0.031 U	0.021 J	0.045	0.070 J	0.37 J	0.083 J	0.45 J
BANK-14a	BANK-14a-00-01	8/3/2023	0.039	0.014 U	0.054	0.014 U	0.037	0.028 U	0.021 J	0.056	0.083 J	0.43 J	0.077 J	0.51 J
BANK-14b	BANK-14b-00-01	8/4/2023	0.030	0.015 U	0.025 J	0.015 U	0.025 J	0.030 U	0.015 U	0.049	0.069 J	0.32 J	0.030 U	0.38 J
BANK-14b	BANK-14b-00-01-AVG	8/4/2023	0.020	0.0022 J	0.019 J	0.0014 U	0.017 J	0.0028 U	0.0049	0.031	0.041 J	0.21 J	0.011	0.22 J
BANK-14b	BANK-114b-00-01	8/4/2023	0.010	0.0022 J	0.013	0.0014 U	0.010	0.0028 U	0.0049	0.014	0.018 J	0.10 J	0.011	0.11 J
BANK-14c	BANK-14c-00-01	8/8/2023	0.020	0.0017 J	0.021	0.0024 J	0.0079	0.025	0.017	0.020	0.016 J	0.12 J	0.059 J	0.18 J
BANK-15b	BANK-15b-00-01	8/8/2023	0.025	0.0054 U	0.033	0.0054 U	0.023	0.011 U	0.013	0.031	0.039 J	0.24 J	0.035	0.28 J

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			PAHs (cont.)											
Analyte			Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	cPAHs (MTCA TEQ-HalfND)	Total HPAH (U=1/2)	Total LPAH (U=1/2)	Total PAH (U=1/2)
CAS No.			218-01-9	53-70-3	206-44-0	86-73-7	193-39-5	91-20-3	85-01-8	129-00-0	BaPEq (U=1/2)	T_HPAH (U=1/2)	T_LPAH (U=1/2)	T_PAH (U=1/2)
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	0.55	67	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--	--	--	5.9	540	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date												
Historical PEO Site Sampling														
BZ-01	BZ-01-2.5-3	8/15/2012	0.065	0.0053 J	0.13	0.39	0.037	0.099	0.72	0.22	0.068 J	**0.67 J**	1.5	2.2 J
BZ-03	BZ-03-1.5-2	8/15/2012	0.017	0.0017 J	0.029	0.0021 J	0.015	0.011	0.017	0.057	0.025 J	0.20 J	0.044 J	0.24 J
BZ-04	BZ-04-1.5-2	8/15/2012	0.074	0.0073	0.11	0.0084	0.044	0.010	0.047	0.16	0.10	**0.67**	0.10	0.78
BZ-05	BZ-05-0.5-1	8/15/2012	0.023	0.0029 J	0.044	0.0028 J	0.023	0.0026 J	0.023	0.060	0.034 J	0.26 J	0.040 J	0.30 J
BZ-06	BZ-06-0.5-1	8/16/2012	0.014	0.0027 J	0.027	0.014	0.011	0.012	0.022	0.035	0.018 J	0.14 J	0.078	0.22 J
BZ-07	BZ-07-2.5-3	8/16/2012	0.053	0.0071	0.11	0.017	0.043	0.020	0.034	0.15	0.076	**0.59**	0.12	0.70
BZ-08	BZ-08-1.5-2	8/17/2012	0.016	0.0040	0.018	0.0021 J	0.018	0.0016 J	0.010	0.020	0.023	0.15	0.021 J	0.17 J
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001	0.73	0.16 J	1.2	0.27 U	0.72	0.27 U	0.61	1.4	1.2 J	**7.8 J**	1.2 J	9.0 J
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001	0.22	0.071 J	0.29	0.13 U	0.36	0.13 U	0.11 J	0.33	0.43 J	**2.7 J**	0.45 J	3.2 J
RA-01	RA-01-0.5120414	12/4/2014	0.017	0.0071	0.014	0.0028 U	0.045	0.0015 J	0.0049	0.024	0.048	0.26	0.023 J	0.28 J
RA-01	RA-01-0.5120414-AVG	12/4/2014	0.031	0.0068	0.016	0.0028 U	0.036	0.0013 J	0.0064	0.026	0.042	0.25	0.021 J	0.27 J
RA-01	RA-01-0.5-DUP120414	12/4/2014	0.044	0.0065	0.018	0.0028 U	0.026	0.0011 J	0.0078	0.028	0.036	0.23	0.019 J	0.25 J
RA-01	RA-01-3120414	12/4/2014	0.028	0.011	0.019	0.0011 J	0.053	0.0022 J	0.013	0.030	0.061	0.33	0.038 J	0.37 J
RA-02	RA-02-0.5120414	12/4/2014	0.59	0.070	0.98	0.0080	0.55	0.0076	0.38	1.5	0.80	**6.1**	0.52 J	6.6 J
RA-02	RA-02-3120414	12/4/2014	0.072	0.011	0.099	0.0014 J	0.077	0.0046	0.041	0.14	0.11	**0.72**	0.075 J	0.80 J
RA-03	RA-03-0.5120414	12/4/2014	0.038	0.0062	0.052	0.00083 J	0.046	0.0028 J	0.018	0.074	0.056	0.39	0.034 J	0.43 J
RA-03	RA-03-3120414	12/4/2014	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U	0.0029 U
RA-04	RA-04-0.5120414	12/4/2014	0.27	0.050	0.32	0.0058	0.24	0.0046	0.12	0.33	0.41	**2.4**	0.17 J	2.6 J
RA-04	RA-04-3120414	12/4/2014	3.2	0.18	15	0.078	1.3	0.63	8.3	11	2.1	**39**	10	49
RA-05	RA-05-0.5120414	12/4/2014	0.95	0.11	1.5	0.0075	0.93	0.0055 J	0.24	2.0	1.4	**9.5**	0.48 J	9.9 J
RA-05	RA-05-3120414	12/4/2014	4.0	0.46	11	0.045	3.8	0.18	1.5	15	6.0	**52**	2.7	54
RA-06	RA-06-0.5120414	12/4/2014	0.12	0.014	0.19	0.0019 J	0.12	0.0046	0.068	0.23	0.17	**1.2**	0.10 J	1.3 J
RA-06	RA-06-3120514	12/5/2014	1.1	0.13	2.1	0.031	1.2	0.048	0.90	2.6	1.7	**12**	1.3	14
RA-07	RA-07-0.5120414	12/4/2014	1.2	0.14	2.2	0.039	1.1	0.012	1.2	2.6	1.6	**12**	1.7	14
RA-07	RA-07-3120414	12/4/2014	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.00063 J	0.0028 U	0.00099 J	0.0028 U	0.014 J	0.0090 J	0.023 J
RA-08	RA-08-1.5-2	12/5/2014	0.43	0.10	0.42	0.0087	0.72	0.031	0.16	0.54	0.64	**4.4**	0.41	4.8
RA-08	RA-08-2.5-3	12/5/2014	1.1	0.17	1.7	0.016	1.0	0.017	0.60	2.2	1.6	**11**	0.88	12
RA-08A	RA-08A-0-0.5	12/5/2014	1.2	0.19	2.2	0.042	1.1	0.015	1.3	2.6	1.5	**12**	1.6	13
RA-08A	RA-08A-2.5-3	12/5/2014	0.28	0.038	0.43	0.0074	0.27	0.0055	0.22	0.55	0.42	**2.8**	0.32 J	3.1 J
RA-08B	RA-08B-0-0.5	12/5/2014	1.0	0.12	1.7	0.020	0.81	0.014	0.70	1.8	1.3	**9.3**	1.0	10
RA-08B	RA-08B-2.5-3	12/5/2014	0.73	0.075	0.62	0.0087	0.54	0.011	0.31	1.2	0.77	**5.6**	0.44	6.0
RA-08C	RA-08C-0-0.5	12/5/2014	0.94	0.12	1.3	0.011	0.98	0.019	0.40	2.3	1.5	**9.8**	0.62	10
RA-08C	RA-08C-2.5-3	12/5/2014	0.0041	0.0029	0.0025 J	0.0029	0.0056	0.0029	0.0015 J	0.0055	0.0092 J	0.043 J	0.017 J	0.060 J
RA-08D	RA-08D-0-0.5	12/5/2014	1.7	0.28	1.7	0.037	2.1	0.039	0.97	3.2	2.7	**17**	1.8	19
RA-08D	RA-08D-2.5-3	12/5/2014	0.095	0.015	0.074	0.00094 J	0.15	0.0021 J	0.019	0.14	0.15	**1.0**	0.051 J	1.0 J
RA-09	RA-09-1-1.5	12/5/2014	0.40	0.044	0.53	0.0067	0.36	0.011	0.23	0.97	0.57	**4.0**	0.33	4.3
RA-09	RA-09-2.5-3	12/5/2014	0.45	0.079	0.60	0.011	0.57	0.031	0.28	1.1	0.74	**5.0**	0.51	5.5
RA-09A	RA-09A-0-0.5	12/5/2014	0.22	0.025	0.28	0.0032	0.20	0.0040	0.12	0.57	0.30	**2.2**	0.17 J	2.4 J
RA-09A	RA-09A-2.5-3	12/5/2014	3.5	0.65	4.3	0.043	3.8	0.42	0.66	8.3	6.1	**37**	2.0 J	39 J

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			PAHs (cont.)											
Analyte			Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	cPAHs (MTCA TEQ-HalfND)	Total HPAH (U=1/2)	Total LPAH (U=1/2)	Total PAH (U=1/2)
CAS No.			218-01-9	53-70-3	206-44-0	86-73-7	193-39-5	91-20-3	85-01-8	129-00-0	BaPEq (U=1/2)	T_HPAH (U=1/2)	T_LPAH (U=1/2)	T_PAH (U=1/2)
Ground Feeders Birds NTE			--	--	--	--	--	--	--	--	--	**0.55**	**67**	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--	--	--	**5.9**	**540**	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date												
Historical PEO Site Sampling (cont.)														
RA-09B	RA-09B-0-0.5	12/5/2014	0.084	0.013	0.079	0.0011 J	0.088	0.0018 J	0.028	0.14	0.13	**0.79**	0.045 J	0.84 J
RA-09B	RA-09B-2.5-3	12/5/2014	0.33	0.086	0.38	0.0058	0.43	0.018	0.15	0.69	0.53	**3.5**	0.32	3.8
RA-09C	RA-09C-0-0.5	12/5/2014	0.85	0.19	1.2	0.025	0.94	0.010	0.74	2.5	1.5	**9.6**	0.98	11
RA-09C	RA-09C-2.5-3	12/5/2014	0.36	0.062	0.62	0.0086	0.48	0.017	0.24	0.82	0.68	**4.3**	0.40	4.7
RA-09D	RA-09D-0-0.5	12/5/2014	0.83	0.10	1.2	0.017	0.78	0.015	0.71	2.2	1.2	**8.6**	0.91	9.6
RA-09D	RA-09D-2.5-3	12/5/2014	0.34	0.10	0.51	0.034	0.43	0.034	0.33	0.71	0.56	**3.8**	0.64	4.4
RA-10	RA-10-0-0.5	12/3/2014	0.19	0.031	0.17	0.0029 J	0.19	0.0049	0.064	0.32	0.30	**1.8**	0.11 J	1.9 J
RA-10	RA-10-0-0.5-AVG	12/3/2014	3.2	0.37	7.1	0.20 J	2.3	0.028	6.0	9.7	4.2	**33**	7.2 J	40 J
RA-10	RA-10-0-0.5-D	12/3/2014	6.3	0.71	14	0.40	4.4	0.052	12	19	8.1	**64**	14	78
RA-10	RA-10-2.5-3	12/3/2014	2.1	0.32	4.2	0.077	2.7	0.027	2.6	7.0	3.5	**27**	3.6	30
RA-11	RA-11-0-0.5	12/4/2014	0.058	0.0053	0.075	0.0033	0.047	0.00089 J	0.015	0.12	0.080	0.54	0.034 J	0.58 J
RA-11	RA-11-2.5-3	12/4/2014	0.084	0.011	0.12	0.0016 J	0.091	0.0027 J	0.044	0.21	0.13	**0.91**	0.067 J	0.98 J
RA-12	RA-12-0-0.5	12/4/2014	0.034	0.0048	0.043	0.0029	0.027	0.00095 J	0.016	0.055	0.042	0.29	0.029 J	0.32 J
RA-12	RA-12-2.5-3	12/4/2014	2.1	0.19	4.6	0.33	1.6	0.12	4.9	5.5	2.6	**22**	6.1	28
RA-13	RA-13-0-0.5	12/4/2014	0.11	0.012	0.17	0.0014 J	0.096	0.0024 J	0.063	0.23	0.14	**1.0**	0.087 J	1.1 J
RA-13	RA-13-2.5-3	12/4/2014	0.013	0.0015 J	0.019	0.0032	0.0093	0.0011 J	0.011	0.024	0.015 J	0.11 J	0.023 J	0.14 J
RA-14	RA-14-0-0.5	12/4/2014	0.10	0.067	0.19	0.0032	0.21	0.0051	0.094	0.27	0.30	**1.7**	0.17 J	1.9 J
RA-14	RA-14-2.5-3	12/4/2014	0.19	0.027	0.29	0.0034	0.14	0.0047	0.14	0.37	0.23	**1.7**	0.19 J	1.9 J
RA-15	RA-15-0-0.5	12/4/2014	0.25	0.052	0.21	0.0019 J	0.22	0.0094	0.079	0.21	0.29	**1.9**	0.12 J	2.1 J
RA-15	RA-15-2.5-3	12/4/2014	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0081	0.035	0.025	0.060
RA-16	RA-16-0-0.5	12/4/2014	0.095	0.024	0.20	0.0033	0.12	0.0029 J	0.061	0.24	0.18	**1.2**	0.10 J	1.3 J
RA-16	RA-16-2.5-3	12/4/2014	0.039	0.0046	0.053	0.0031	0.022	0.0011 J	0.024	0.073	0.045	0.32	0.041 J	0.36 J
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010	0.051	0.011	0.063	0.0076 UJ	0.064	0.015 UJ	0.017 J	0.077	0.10	**0.57**	0.048 J	0.61 J
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011						0.12 U						
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010	0.13	0.022	0.20	0.0078 UJ	0.15	0.016 UJ	0.038 J	0.27	0.25	**1.5**	0.11 J	1.6 J
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011						0.11 U						
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010	0.33	0.053	0.51	0.017 UJ	0.31	0.018 J	0.15 J	0.63	0.57	**3.4**	0.28 J	3.7 J
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011						0.13 U						
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010	0.27	0.042	0.49	0.0078 UJ	0.28	0.016 UJ	0.15 J	0.63	0.46	**3.1**	0.25 J	3.3 J
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011						0.12 U						
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	0.023	0.0050 J	0.031	0.0077 U	0.024	0.0077 U	0.0096	0.033	0.037	0.22	0.033	0.26
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	0.021	0.0045	0.028	0.0073 U	0.022	0.0073 U	0.0094	0.030	0.035	0.21	0.032	0.24
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	0.020	0.0041 J	0.026	0.0073 U	0.020	0.0073 U	0.0093	0.028	0.033	0.20	0.031	0.23
SS-75	SS-75-0-1	5/22/1998	0.96	0.34 U	1.1	0.17 U	0.55	0.17 U	0.57	1.1	1.1	**6.9**	0.99	7.9
SS-75	SS-75-1-2	5/22/1998	0.30	0.17 U	0.34	0.067 U	0.18	0.067 U	0.20	0.39	0.32	**2.1**	0.36	2.5

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.

All analytical results are rounded to two significant figures.

Italic Result was not detected at a reporting limit greater than applicable criteria.

BOLD Result was detected at a concentration greater than the NTE birds.

RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
PAH Polycyclic aromatic hydrocarbon
PEO Premier Edible Oils
SVOC Semivolatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			SVOCs							
Analyte			Bis(2-ethylhexyl)phthalate	Butyl benzyl phthalate	Dibenzofuran	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Hexachlorobutadiene
CAS No.			117-81-7	85-68-7	132-64-9	84-66-2	131-11-3	84-74-2	117-84-0	87-68-3
Ground Feeders Birds NTE			0.2	--	--	--	--	0.11	--	--
Ground Feeders Mammals NTE			6	900	--	18,000	400	450	4.6	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date								
2023 FS Sampling										
BANK-04c	BANK-04c-00-01	10/23/2023	0.084 U							
BANK-05a	BANK-05a-00-01	7/31/2023	0.080 U							
BANK-05b	BANK-05b-00-01	7/31/2023	0.20 U							
BANK-05c	BANK-05c-00-01	7/31/2023	*1.2 U*							
BANK-06a	BANK-06a-00-01	7/31/2023	*0.79 U*							
BANK-06b	BANK-06b-00-01	7/31/2023	*0.82 U*							
BANK-06c	BANK-06c-00-01	7/31/2023	0.088 U							
BANK-07a	BANK-07a-00-01	8/2/2023	*0.81 U*							
BANK-07b	BANK-07b-00-01	8/1/2023	*2.1 U*							
BANK-07c	BANK-07c-00-01	8/1/2023	0.099 U							
BANK-08a	BANK-08a-00-01	8/2/2023	*0.82 U*							
BANK-08b	BANK-08b-00-01	8/1/2023	*0.79 U*							
BANK-08c	BANK-08c-00-01	8/1/2023	0.024 U							
BANK-08c	BANK-08c-00-01-AVG	8/1/2023	0.024 U							
BANK-08c	BANK-108c-00-01	8/1/2023	0.097 U							
BANK-09a	BANK-09a-00-01	8/2/2023	0.082 U							
BANK-09b	BANK-09b-00-01	8/3/2023	0.080 U							
BANK-09c	BANK-09c-00-01	8/2/2023	*0.26 U*							
BANK-10a	BANK-10a-00-01	8/2/2023	*0.80 U*							
BANK-10a	BANK-10a-00-01-AVG	8/2/2023	*0.80 U*							
BANK-10a	BANK-10a-01-02	8/2/2023	*4.1 U*							
BANK-10a	BANK-110a-00-01	8/2/2023	*0.80 U*							
BANK-10b	BANK-10b-00-01	8/3/2023	0.080 U							
BANK-10c	BANK-10c-00-01	8/2/2023	*0.27 U*							
BANK-11a	BANK-11a-00-01	8/3/2023	0.086 U							
BANK-11b	BANK-11b-00-01	8/3/2023	0.083 U							
BANK-11c	BANK-11c-00-01	8/2/2023	0.17 J							
BANK-12a	BANK-12a-00-01	8/3/2023	0.086 U							
BANK-12b	BANK-12b-00-01	8/3/2023	0.084 U							
BANK-12c	BANK-12c-00-01	8/3/2023	0.096 U							
BANK-13a	BANK-13a-00-01	8/3/2023	0.023 U							
BANK-13c	BANK-13c-00-01	8/3/2023	*0.23 U*							
BANK-14a	BANK-14a-00-01	8/3/2023	*0.21 U*							
BANK-14b	BANK-14b-00-01	8/4/2023	*0.22 U*							
BANK-14b	BANK-14b-00-01-AVG	8/4/2023	0.021 U							
BANK-14b	BANK-114b-00-01	8/4/2023	0.021 U							
BANK-14c	BANK-14c-00-01	8/8/2023	0.024 U							
BANK-15b	BANK-15b-00-01	8/8/2023	0.082 U							

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			SVOCs							
Analyte			Bis(2-ethylhexyl)phthalate	Butyl benzyl phthalate	Dibenzofuran	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Hexachlorobutadiene
CAS No.			117-81-7	85-68-7	132-64-9	84-66-2	131-11-3	84-74-2	117-84-0	87-68-3
Ground Feeders Birds NTE			0.2	--	--	--	--	0.11	--	--
Ground Feeders Mammals NTE			6	900	--	18,000	400	450	4.6	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date								
Historical PEO Site Sampling										
BZ-01	BZ-01-2.5-3	8/15/2012			0.12 U					
BZ-03	BZ-03-1.5-2	8/15/2012			0.0015 J					
BZ-04	BZ-04-1.5-2	8/15/2012			0.0025 J					
BZ-05	BZ-05-0.5-1	8/15/2012			0.00074 J					
BZ-06	BZ-06-0.5-1	8/16/2012			0.0034					
BZ-07	BZ-07-2.5-3	8/16/2012			0.0040					
BZ-08	BZ-08-1.5-2	8/17/2012			0.00091 J					
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001								0.20 U
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001								0.20 U
RA-01	RA-01-0.5120414	12/4/2014			0.0028 U					
RA-01	RA-01-0.5120414-AVG	12/4/2014			0.0028 U					
RA-01	RA-01-0.5-DUP120414	12/4/2014			0.0028 U					
RA-01	RA-01-3120414	12/4/2014			0.0028 U					
RA-02	RA-02-0.5120414	12/4/2014			0.0017 J					
RA-02	RA-02-3120414	12/4/2014			0.00068 J					
RA-03	RA-03-0.5120414	12/4/2014			0.0028 U					
RA-03	RA-03-3120414	12/4/2014			0.0029 U					
RA-04	RA-04-0.5120414	12/4/2014			0.0043					
RA-04	RA-04-3120414	12/4/2014			0.60					
RA-05	RA-05-0.5120414	12/4/2014			0.0014 J					
RA-05	RA-05-3120414	12/4/2014			0.012 J					
RA-06	RA-06-0.5120414	12/4/2014			0.0035 U					
RA-06	RA-06-3120514	12/5/2014			0.0061					
RA-07	RA-07-0.5120414	12/4/2014			0.0063					
RA-07	RA-07-3120414	12/4/2014			0.0028 U					
RA-08	RA-08-1.5-2	12/5/2014			0.012					
RA-08	RA-08-2.5-3	12/5/2014			0.0045					
RA-08A	RA-08A-0-0.5	12/5/2014			0.0079					
RA-08A	RA-08A-2.5-3	12/5/2014			0.0028 J					
RA-08B	RA-08B-0-0.5	12/5/2014			0.014					
RA-08B	RA-08B-2.5-3	12/5/2014			0.027					
RA-08C	RA-08C-0-0.5	12/5/2014			0.0044					
RA-08C	RA-08C-2.5-3	12/5/2014			0.0029					
RA-08D	RA-08D-0-0.5	12/5/2014			0.12					
RA-08D	RA-08D-2.5-3	12/5/2014			0.0025 J					
RA-09	RA-09-1-1.5	12/5/2014			0.0045					
RA-09	RA-09-2.5-3	12/5/2014			0.0049					
RA-09A	RA-09A-0-0.5	12/5/2014			0.0018 J					
RA-09A	RA-09A-2.5-3	12/5/2014			0.018					

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			SVOCs							
Analyte			Bis(2-ethylhexyl)phthalate	Butyl benzyl phthalate	Dibenzofuran	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Hexachlorobutadiene
CAS No.			117-81-7	85-68-7	132-64-9	84-66-2	131-11-3	84-74-2	117-84-0	87-68-3
Ground Feeders Birds NTE			0.2	--	--	--	--	0.11	--	--
Ground Feeders Mammals NTE			6	900	--	18,000	400	450	4.6	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date								
Historical PEO Site Sampling (cont.)										
RA-09B	RA-09B-0-0.5	12/5/2014			0.00081 J					
RA-09B	RA-09B-2.5-3	12/5/2014			0.0022 J					
RA-09C	RA-09C-0-0.5	12/5/2014			0.0063					
RA-09C	RA-09C-2.5-3	12/5/2014			0.0035					
RA-09D	RA-09D-0-0.5	12/5/2014			0.0036					
RA-09D	RA-09D-2.5-3	12/5/2014			0.017					
RA-10	RA-10-0-0.5	12/3/2014			0.0026 J					
RA-10	RA-10-0-0.5-AVG	12/3/2014			0.033 J					
RA-10	RA-10-0-0.5-D	12/3/2014			0.063					
RA-10	RA-10-2.5-3	12/3/2014			0.015					
RA-11	RA-11-0-0.5	12/4/2014			0.0033					
RA-11	RA-11-2.5-3	12/4/2014			0.0010 J					
RA-12	RA-12-0-0.5	12/4/2014			0.0029					
RA-12	RA-12-2.5-3	12/4/2014			0.050					
RA-13	RA-13-0-0.5	12/4/2014			0.0032					
RA-13	RA-13-2.5-3	12/4/2014			0.0032					
RA-14	RA-14-0-0.5	12/4/2014			0.0027					
RA-14	RA-14-2.5-3	12/4/2014			0.00092 J					
RA-15	RA-15-0-0.5	12/4/2014			0.0035					
RA-15	RA-15-2.5-3	12/4/2014			0.0035					
RA-16	RA-16-0-0.5	12/4/2014			0.00066 J					
RA-16	RA-16-2.5-3	12/4/2014			0.0031					
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010								
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011	0.17	0.27 U		0.13 U	0.13 U	*0.13 U*	0.27 U	0.12 U
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010								
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011	0.15 J	0.55 U		0.27 U	0.27 U	*0.27 U*	0.55 U	0.11 U
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010								
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011	0.17 J	0.59 U		0.30 U	0.30 U	*0.30 U*	0.59 U	0.13 U
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010								
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011	0.15 J	0.54 U		0.27 U	0.27 U	*0.27 U*	0.54 U	0.12 U
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	0.093 J	0.31 U		0.15 U	0.15 U	*0.15 U*	0.31 U	0.14 U
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	0.093	0.31 U		0.15 U	0.15 U	*0.15 U*	0.31 U	0.14 U
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	*0.29 U*	0.59 U		0.29 U	0.29 U	*0.29 U*	0.59 U	0.14 U
SS-75	SS-75-0-1	5/22/1998								
SS-75	SS-75-1-2	5/22/1998								

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.
All analytical results are rounded to two significant figures.
Italic Result was not detected at a reporting limit greater than applicable criteria.
BOLD Result was detected at a concentration greater than the NTE birds.
RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
PAH Polycyclic aromatic hydrocarbon
PEO Premier Edible Oils
SVOC Semivolatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			Pesticides													
Analyte			2,4'-DDD	2,4'-DDE	2,4'-DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Endosulfan	beta-BHC	beta-Endosulfan	Chlordane (technical)	cis-Chlordane	cis-Nonachlor
CAS No.			53-19-0	3424-82-6	789-02-6	72-54-8	72-55-9	50-29-3	309-00-2	319-84-6	959-98-8	319-85-7	33213-65-9	12789-03-6	5103-71-9	5103-73-1
Ground Feeders Birds NTE			--	--	--	--	--	0.41	0.0043	0.85	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	0.24	0.18	0.096	--	--	--	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date														
2023 FS Sampling																
BANK-04c	BANK-04c-00-01	10/23/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U					0.031 U	0.0010 U	0.0010 U
BANK-05a	BANK-05a-00-01	7/31/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U					0.031 U	0.0010 U	0.0010 U
BANK-05b	BANK-05b-00-01	7/31/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0013 J	0.0010 U					0.030 U	0.0010 U	0.0010 U
BANK-05c	BANK-05c-00-01	7/31/2023	0.0014 U	0.0014 U	0.0014 U	0.0014 U	0.0014 U	0.0014 U	0.0014 U					0.043 U	0.0014 U	0.0014 U
BANK-06a	BANK-06a-00-01	7/31/2023	0.0048 U	0.0010 U	0.0022 U	0.0021 U	0.0010 U	0.011	0.0010 U					0.031 U	0.0010 U	0.0010 U
BANK-06b	BANK-06b-00-01	7/31/2023	0.0020 U	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0078 U	0.0010 U					0.030 U	0.0010 U	0.0010 U
BANK-06c	BANK-06c-00-01	7/31/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U					0.032 U	0.0011 U	0.0011 U
BANK-07a	BANK-07a-00-01	8/2/2023	0.0064 U	0.0040 U	0.0040 U	0.0020 U	0.0040 U	0.046 U	0.0020 U					0.060 U	0.0020 U	0.0020 U
BANK-07b	BANK-07b-00-01	8/1/2023	0.0040 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.028 U	0.0010 U					0.031 U	0.0021 U	0.0021 U
BANK-07c	BANK-07c-00-01	8/1/2023	0.0023 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U					0.034 U	0.0011 U	0.0011 U
BANK-08a	BANK-08a-00-01	8/2/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0098 U	0.0010 U					0.030 U	0.0010 U	0.0010 U
BANK-08b	BANK-08b-00-01	8/1/2023	0.0034 U	0.0020 U	0.0036 U	0.0026 U	0.0038 U	0.027	0.00099 U					0.030 U	0.0022 U	0.0020 U
BANK-08c	BANK-08c-00-01	8/1/2023	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U					0.036 U	0.0012 U	0.0012 U
BANK-08c	BANK-08c-00-01-AVG	8/1/2023	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U					0.035 U	0.0012 U	0.0012 U
BANK-08c	BANK-108c-00-01	8/1/2023	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U					0.035 U	0.0012 U	0.0012 U
BANK-09a	BANK-09a-00-01	8/2/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.013	0.0098	0.0010 U					0.031 U	0.0010 U	0.0010 U
BANK-09b	BANK-09b-00-01	8/3/2023	0.00098 U	0.00098 U	0.00098 U	0.00098 U	0.00098 U	0.0020 U	0.00098 U					0.029 U	0.00098 U	0.00098 U
BANK-09c	BANK-09c-00-01	8/2/2023	0.0026 U	0.0013 U	0.0013 U	0.0013 U	0.0013 U	0.0013 U	0.0013 U					0.038 U	0.0013 U	0.0013 U
BANK-10a	BANK-10a-00-01	8/2/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0025 U	0.0010 U					0.030 U	0.0010 U	0.0010 U
BANK-10a	BANK-10a-00-01-AVG	8/2/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0025 U	0.0010 U					0.030 U	0.0010 U	0.0010 U
BANK-10a	BANK-10a-01-02	8/2/2023														
BANK-10a	BANK-110a-00-01	8/2/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0044 U	0.0010 U					0.030 U	0.0010 U	0.0010 U
BANK-10b	BANK-10b-00-01	8/3/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0030 U	0.0010 U					0.030 U	0.0010 U	0.0010 U
BANK-10c	BANK-10c-00-01	8/2/2023	0.011 U	0.0027 U	0.0027 U	0.0027 U	0.0014 U	0.025 U	0.0014 U					0.041 U	0.0014 U	0.0027 U
BANK-11a	BANK-11a-00-01	8/3/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U					0.033 U	0.0011 U	0.0011 U
BANK-11b	BANK-11b-00-01	8/3/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U					0.030 U	0.0010 U	0.0010 U
BANK-11c	BANK-11c-00-01	8/2/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U					0.033 U	0.0011 U	0.0011 U
BANK-12a	BANK-12a-00-01	8/3/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U					0.032 U	0.0011 U	0.0011 U
BANK-12b	BANK-12b-00-01	8/3/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U					0.030 U	0.0010 U	0.0010 U
BANK-12c	BANK-12c-00-01	8/3/2023	0.0024 U	0.0012 U	0.0012 U	0.0024 U	0.0012 U	0.0031 U	0.0012 U					0.036 U	0.0012 U	0.0024 U
BANK-13a	BANK-13a-00-01	8/3/2023	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0030 U	0.0012 U					0.035 U	0.0012 U	0.0012 U
BANK-13c	BANK-13c-00-01	8/3/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0022 U	0.0011 U					0.033 U	0.0011 U	0.0011 U
BANK-14a	BANK-14a-00-01	8/3/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0021 U	0.0011 U					0.032 U	0.0011 U	0.0011 U
BANK-14b	BANK-14b-00-01	8/4/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U					0.033 U	0.0011 U	0.0011 U
BANK-14b	BANK-14b-00-01-AVG	8/4/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U					0.031 U	0.0010 U	0.0010 U
BANK-14b	BANK-114b-00-01	8/4/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U					0.031 U	0.0010 U	0.0010 U
BANK-14c	BANK-14c-00-01	8/8/2023	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U					0.036 U	0.0012 U	0.0012 U
BANK-15b	BANK-15b-00-01	8/8/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0027 U	0.0010 U					0.030 U	0.0010 U	0.0010 U

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			Pesticides													
Analyte			2,4'-DDD	2,4'-DDE	2,4'-DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Endosulfan	beta-BHC	beta-Endosulfan	Chlordane (technical)	cis-Chlordane	cis-Nonachlor
CAS No.			53-19-0	3424-82-6	789-02-6	72-54-8	72-55-9	50-29-3	309-00-2	319-84-6	959-98-8	319-85-7	33213-65-9	12789-03-6	5103-71-9	5103-73-1
Ground Feeders Birds NTE			--	--	--	--	--	0.41	0.0043	0.85	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	0.24	0.18	0.096	--	--	--	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date														
Historical PEO Site Sampling																
BZ-01	BZ-01-2.5-3	8/15/2012														
BZ-03	BZ-03-1.5-2	8/15/2012														
BZ-04	BZ-04-1.5-2	8/15/2012														
BZ-05	BZ-05-0.5-1	8/15/2012														
BZ-06	BZ-06-0.5-1	8/16/2012														
BZ-07	BZ-07-2.5-3	8/16/2012														
BZ-08	BZ-08-1.5-2	8/17/2012														
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001														
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001														
RA-01	RA-01-0.5120414	12/4/2014														
RA-01	RA-01-0.5120414-AVG	12/4/2014														
RA-01	RA-01-0.5-DUP120414	12/4/2014														
RA-01	RA-01-3120414	12/4/2014														
RA-02	RA-02-0.5120414	12/4/2014														
RA-02	RA-02-3120414	12/4/2014														
RA-03	RA-03-0.5120414	12/4/2014														
RA-03	RA-03-3120414	12/4/2014														
RA-04	RA-04-0.5120414	12/4/2014														
RA-04	RA-04-3120414	12/4/2014														
RA-05	RA-05-0.5120414	12/4/2014														
RA-05	RA-05-3120414	12/4/2014														
RA-06	RA-06-0.5120414	12/4/2014														
RA-06	RA-06-3120514	12/5/2014														
RA-07	RA-07-0.5120414	12/4/2014														
RA-07	RA-07-3120414	12/4/2014														
RA-08	RA-08-1.5-2	12/5/2014														
RA-08	RA-08-2.5-3	12/5/2014														
RA-08A	RA-08A-0-0.5	12/5/2014														
RA-08A	RA-08A-2.5-3	12/5/2014														
RA-08B	RA-08B-0-0.5	12/5/2014														
RA-08B	RA-08B-2.5-3	12/5/2014														
RA-08C	RA-08C-0-0.5	12/5/2014														
RA-08C	RA-08C-2.5-3	12/5/2014														
RA-08D	RA-08D-0-0.5	12/5/2014														
RA-08D	RA-08D-2.5-3	12/5/2014														
RA-09	RA-09-1-1.5	12/5/2014														
RA-09	RA-09-2.5-3	12/5/2014														
RA-09A	RA-09A-0-0.5	12/5/2014														
RA-09A	RA-09A-2.5-3	12/5/2014														

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			Pesticides													
Analyte			2,4'-DDD	2,4'-DDE	2,4'-DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Endosulfan	beta-BHC	beta-Endosulfan	Chlordane (technical)	cis-Chlordane	cis-Nonachlor
CAS No.			53-19-0	3424-82-6	789-02-6	72-54-8	72-55-9	50-29-3	309-00-2	319-84-6	959-98-8	319-85-7	33213-65-9	12789-03-6	5103-71-9	5103-73-1
Ground Feeders Birds NTE			--	--	--	--	--	0.41	0.0043	0.85	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	0.24	0.18	0.096	--	--	--	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date														
Historical PEO Site Sampling (cont.)																
RA-09B	RA-09B-0-0.5	12/5/2014														
RA-09B	RA-09B-2.5-3	12/5/2014														
RA-09C	RA-09C-0-0.5	12/5/2014														
RA-09C	RA-09C-2.5-3	12/5/2014														
RA-09D	RA-09D-0-0.5	12/5/2014														
RA-09D	RA-09D-2.5-3	12/5/2014														
RA-10	RA-10-0-0.5	12/3/2014														
RA-10	RA-10-0-0.5-AVG	12/3/2014														
RA-10	RA-10-0-0.5-D	12/3/2014														
RA-10	RA-10-2.5-3	12/3/2014														
RA-11	RA-11-0-0.5	12/4/2014														
RA-11	RA-11-2.5-3	12/4/2014														
RA-12	RA-12-0-0.5	12/4/2014														
RA-12	RA-12-2.5-3	12/4/2014														
RA-13	RA-13-0-0.5	12/4/2014														
RA-13	RA-13-2.5-3	12/4/2014														
RA-14	RA-14-0-0.5	12/4/2014														
RA-14	RA-14-2.5-3	12/4/2014														
RA-15	RA-15-0-0.5	12/4/2014														
RA-15	RA-15-2.5-3	12/4/2014														
RA-16	RA-16-0-0.5	12/4/2014														
RA-16	RA-16-2.5-3	12/4/2014														
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010														
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011	0.0094 U	0.0094 U	0.019 U	0.0094 U	0.0094 U	0.0094 U	*0.0094 U*	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.11 U		0.0094 U
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010														
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011	0.0095 U	0.0095 U	0.019 U	0.0095 U	0.0095 U	0.0095 U	*0.0095 U*	0.0095 U	0.0095 U	0.0095 U	0.0095 U	0.11 U		0.0095 U
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010														
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011	0.0096 U	0.0096 U	0.019 U	0.0096 U	0.0096 U	0.032 U	*0.0096 U*	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.11 U		0.0096 U
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010														
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011	0.0099 U	0.0099 U	0.020 U	0.0099 U	0.0099 U	0.0099 U	*0.0099 U*	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.12 U		0.0099 U
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	0.0041 U	0.0041 U	0.0082 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.048 U		0.0041 U
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	0.0041 U	0.0041 U	0.0082 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.048 U		0.0041 U
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	0.0041 U	0.0041 U	0.0082 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.048 U		0.0041 U
SS-75	SS-75-0-1	5/22/1998														
SS-75	SS-75-1-2	5/22/1998														

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.
All analytical results are rounded to two significant figures.
Italic Result was not detected at a reporting limit greater than applicable criteria.
BOLD Result was detected at a concentration greater than the NTE birds.
RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
PAH Polycyclic aromatic hydrocarbon
PEO Premier Edible Oils
SVOC Semivolatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			Pesticides (cont.)												
Analyte			delta-BHC	Dieldrin	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	Heptachlor	Heptachlor epoxide	Methoxychlor	Mirex	Oxychlordane	Toxaphene
CAS No.			319-86-8	60-57-1	1031-07-8	72-20-8	7421-93-4	53494-70-5	58-89-9	76-44-8	1024-57-3	72-43-5	2385-85-5	27304-13-8	8001-35-2
Ground Feeders Birds NTE			--	0.64	--	0.014	--	--	--	--	--	92	--	--	21
Ground Feeders Mammals NTE			--	0.009	--	0.23	--	--	--	--	--	10	--	--	30
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date													
2023 FS Sampling															
BANK-04c	BANK-04c-00-01	10/23/2023		0.000029 U					0.0010 U					0.0010 U	
BANK-05a	BANK-05a-00-01	7/31/2023		0.000030 U					0.0010 U					0.0010 U	
BANK-05b	BANK-05b-00-01	7/31/2023		0.000030 J					0.0010 U					0.0010 U	
BANK-05c	BANK-05c-00-01	7/31/2023		0.000036 U					0.0014 U					0.0014 U	
BANK-06a	BANK-06a-00-01	7/31/2023		0.00014 U					0.0010 U					0.0010 U	
BANK-06b	BANK-06b-00-01	7/31/2023		0.000030 U					0.0010 U					0.0010 U	
BANK-06c	BANK-06c-00-01	7/31/2023		0.000030 U					0.0011 U					0.0011 U	
BANK-07a	BANK-07a-00-01	8/2/2023		0.00020					0.0020 U					0.0040 U	
BANK-07b	BANK-07b-00-01	8/1/2023		0.00014					0.0010 U					0.0021 U	
BANK-07c	BANK-07c-00-01	8/1/2023		0.000030 U					0.0011 U					0.0011 U	
BANK-08a	BANK-08a-00-01	8/2/2023		0.000068 J					0.0010 U					0.0010 U	
BANK-08b	BANK-08b-00-01	8/1/2023		0.00021					0.00099 U					0.0020 U	
BANK-08c	BANK-08c-00-01	8/1/2023		0.000030 U					0.0012 U					0.0012 U	
BANK-08c	BANK-08c-00-01-AVG	8/1/2023		0.000030 U					0.0012 U					0.0012 U	
BANK-08c	BANK-108c-00-01	8/1/2023		0.000030 U					0.0012 U					0.0012 U	
BANK-09a	BANK-09a-00-01	8/2/2023		0.000075					0.0010 U					0.0010 U	
BANK-09b	BANK-09b-00-01	8/3/2023		0.000030 UJ					0.00098 U					0.00098 U	
BANK-09c	BANK-09c-00-01	8/2/2023		0.000030 U					0.0013 U					0.0013 U	
BANK-10a	BANK-10a-00-01	8/2/2023		0.00021 U					0.0010 U					0.0010 U	
BANK-10a	BANK-10a-00-01-AVG	8/2/2023		0.000060 U					0.0010 U					0.0010 U	
BANK-10a	BANK-10a-01-02	8/2/2023													
BANK-10a	BANK-110a-00-01	8/2/2023		0.000060 U					0.0010 U					0.0010 U	
BANK-10b	BANK-10b-00-01	8/3/2023		0.000060 U					0.0010 U					0.0010 U	
BANK-10c	BANK-10c-00-01	8/2/2023		0.000079 U					0.0014 U					0.0014 U	
BANK-11a	BANK-11a-00-01	8/3/2023		0.000060 U					0.0011 U					0.0011 U	
BANK-11b	BANK-11b-00-01	8/3/2023		0.000060 U					0.0010 U					0.0010 U	
BANK-11c	BANK-11c-00-01	8/2/2023		0.000060 U					0.0011 U					0.0011 U	
BANK-12a	BANK-12a-00-01	8/3/2023		0.000029 U					0.0011 U					0.0011 U	
BANK-12b	BANK-12b-00-01	8/3/2023		0.000059 UJ					0.0010 U					0.0010 U	
BANK-12c	BANK-12c-00-01	8/3/2023		0.000050 U					0.0012 U					0.0012 U	
BANK-13a	BANK-13a-00-01	8/3/2023		0.000030 U					0.0012 U					0.0012 U	
BANK-13c	BANK-13c-00-01	8/3/2023		0.000029 U					0.0011 U					0.0011 U	
BANK-14a	BANK-14a-00-01	8/3/2023		0.000030 U					0.0011 U					0.0011 U	
BANK-14b	BANK-14b-00-01	8/4/2023		0.000030 U					0.0011 U					0.0011 U	
BANK-14b	BANK-14b-00-01-AVG	8/4/2023		0.000030 U					0.0010 U					0.0010 U	
BANK-14b	BANK-114b-00-01	8/4/2023		0.000031 U					0.0010 U					0.0010 U	
BANK-14c	BANK-14c-00-01	8/8/2023		0.000030 U					0.0012 U					0.0012 U	
BANK-15b	BANK-15b-00-01	8/8/2023		0.000030 U					0.0010 U					0.0010 U	

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			Pesticides (cont.)												
Analyte			delta-BHC	Dieldrin	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	Heptachlor	Heptachlor epoxide	Methoxychlor	Mirex	Oxychlordane	Toxaphene
CAS No.			319-86-8	60-57-1	1031-07-8	72-20-8	7421-93-4	53494-70-5	58-89-9	76-44-8	1024-57-3	72-43-5	2385-85-5	27304-13-8	8001-35-2
Ground Feeders Birds NTE			--	0.64	--	0.014	--	--	--	--	--	92	--	--	21
Ground Feeders Mammals NTE			--	0.009	--	0.23	--	--	--	--	--	10	--	--	30
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date													
Historical PEO Site Sampling															
BZ-01	BZ-01-2.5-3	8/15/2012													
BZ-03	BZ-03-1.5-2	8/15/2012													
BZ-04	BZ-04-1.5-2	8/15/2012													
BZ-05	BZ-05-0.5-1	8/15/2012													
BZ-06	BZ-06-0.5-1	8/16/2012													
BZ-07	BZ-07-2.5-3	8/16/2012													
BZ-08	BZ-08-1.5-2	8/17/2012													
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001													
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001													
RA-01	RA-01-0.5120414	12/4/2014													
RA-01	RA-01-0.5120414-AVG	12/4/2014													
RA-01	RA-01-0.5-DUP120414	12/4/2014													
RA-01	RA-01-3120414	12/4/2014													
RA-02	RA-02-0.5120414	12/4/2014													
RA-02	RA-02-3120414	12/4/2014													
RA-02	RA-02-3120414	12/4/2014													
RA-03	RA-03-0.5120414	12/4/2014													
RA-03	RA-03-3120414	12/4/2014													
RA-04	RA-04-0.5120414	12/4/2014													
RA-04	RA-04-3120414	12/4/2014													
RA-05	RA-05-0.5120414	12/4/2014													
RA-05	RA-05-3120414	12/4/2014													
RA-06	RA-06-0.5120414	12/4/2014													
RA-06	RA-06-3120514	12/5/2014													
RA-07	RA-07-0.5120414	12/4/2014													
RA-07	RA-07-3120414	12/4/2014													
RA-08	RA-08-1.5-2	12/5/2014													
RA-08	RA-08-2.5-3	12/5/2014													
RA-08A	RA-08A-0-0.5	12/5/2014													
RA-08A	RA-08A-2.5-3	12/5/2014													
RA-08B	RA-08B-0-0.5	12/5/2014													
RA-08B	RA-08B-2.5-3	12/5/2014													
RA-08C	RA-08C-0-0.5	12/5/2014													
RA-08C	RA-08C-2.5-3	12/5/2014													
RA-08D	RA-08D-0-0.5	12/5/2014													
RA-08D	RA-08D-2.5-3	12/5/2014													
RA-09	RA-09-1-1.5	12/5/2014													
RA-09	RA-09-2.5-3	12/5/2014													
RA-09A	RA-09A-0-0.5	12/5/2014													
RA-09A	RA-09A-2.5-3	12/5/2014													

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			Pesticides (cont.)												
Analyte			delta-BHC	Dieldrin	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	Heptachlor	Heptachlor epoxide	Methoxychlor	Mirex	Oxychlordane	Toxaphene
CAS No.			319-86-8	60-57-1	1031-07-8	72-20-8	7421-93-4	53494-70-5	58-89-9	76-44-8	1024-57-3	72-43-5	2385-85-5	27304-13-8	8001-35-2
Ground Feeders Birds NTE			--	0.64	--	0.014	--	--	--	--	--	92	--	--	21
Ground Feeders Mammals NTE			--	0.009	--	0.23	--	--	--	--	--	10	--	--	30
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date													
Historical PEO Site Sampling (cont.)															
RA-09B	RA-09B-0-0.5	12/5/2014													
RA-09B	RA-09B-2.5-3	12/5/2014													
RA-09C	RA-09C-0-0.5	12/5/2014													
RA-09C	RA-09C-2.5-3	12/5/2014													
RA-09D	RA-09D-0-0.5	12/5/2014													
RA-09D	RA-09D-2.5-3	12/5/2014													
RA-10	RA-10-0-0.5	12/3/2014													
RA-10	RA-10-0-0.5-AVG	12/3/2014													
RA-10	RA-10-0-0.5-D	12/3/2014													
RA-10	RA-10-2.5-3	12/3/2014													
RA-11	RA-11-0-0.5	12/4/2014													
RA-11	RA-11-2.5-3	12/4/2014													
RA-12	RA-12-0-0.5	12/4/2014													
RA-12	RA-12-2.5-3	12/4/2014													
RA-13	RA-13-0-0.5	12/4/2014													
RA-13	RA-13-2.5-3	12/4/2014													
RA-14	RA-14-0-0.5	12/4/2014													
RA-14	RA-14-2.5-3	12/4/2014													
RA-15	RA-15-0-0.5	12/4/2014													
RA-15	RA-15-2.5-3	12/4/2014													
RA-16	RA-16-0-0.5	12/4/2014													
RA-16	RA-16-2.5-3	12/4/2014													
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010													
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011	0.0094 U	*0.0094 U*	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.019 U	0.0094 U	0.0094 U	0.11 U
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010													
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011	0.0095 U	*0.0095 U*	0.0095 U	0.0095 U	0.0095 U	0.0095 U	0.0095 U	0.0095 U	0.0095 U	0.019 U	0.0095 U	0.0095 U	0.11 U
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010													
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011	0.0096 U	*0.0096 U*	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.019 U	0.0096 U	0.0096 U	0.11 U
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010													
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011	0.0099 U	*0.0099 U*	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.020 U	0.0099 U	0.0099 U	0.12 U
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0082 U	0.0041 U	0.0041 U	0.048 U
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0082 U	0.0041 U	0.0041 U	0.048 U
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0082 U	0.0041 U	0.0041 U	0.048 U
SS-75	SS-75-0-1	5/22/1998													
SS-75	SS-75-1-2	5/22/1998													

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.
All analytical results are rounded to two significant figures.
Italic Result was not detected at a reporting limit greater than applicable criteria.
BOLD Result was detected at a concentration greater than the NTE birds.
RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
PAH Polycyclic aromatic hydrocarbon
PEO Premier Edible Oils
SVOC Semivolatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			Pesticides (cont.)						
Analyte			trans-Chlordane	trans-Nonachlor	Total Chlordanes (U=1/2)	Total DDD (U=1/2)	Total DDE (U=1/2)	Total DDT (U=1/2)	Total DDx (U=1/2)
CAS No.			5103-74-2	39765-80-5	T_Clrdn (U=1/2)	T_DDD (U=1/2)	T_DDE (U=1/2)	T_DDT (U=1/2)	T_DDx (U=1/2)
Ground Feeders Birds NTE			--	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date							
2023 FS Sampling									
BANK-04c	BANK-04c-00-01	10/23/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
BANK-05a	BANK-05a-00-01	7/31/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
BANK-05b	BANK-05b-00-01	7/31/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0018 J	0.0038 J
BANK-05c	BANK-05c-00-01	7/31/2023	0.0014 U	0.0014 U	0.0014 U	0.0014 U	0.0014 U	0.0014 U	0.0014 U
BANK-06a	BANK-06a-00-01	7/31/2023	0.0010 U	0.0021 U	0.0021 U	0.0048 U	0.0010 U	0.012	0.017
BANK-06b	BANK-06b-00-01	7/31/2023	0.0010 U	0.0010 U	0.0010 U	0.0020 U	0.0010 U	0.0078 U	0.0078 U
BANK-06c	BANK-06c-00-01	7/31/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
BANK-07a	BANK-07a-00-01	8/2/2023	0.0020 U	0.0040 U	0.0040 U	0.0064 U	0.0040 U	0.046 U	0.046 U
BANK-07b	BANK-07b-00-01	8/1/2023	0.0021 U	0.0024 U	0.0024 U	0.0040 U	0.0021 U	0.028 U	0.028 U
BANK-07c	BANK-07c-00-01	8/1/2023	0.0011 U	0.0011 U	0.0011 U	0.0023 U	0.0011 U	0.0011 U	0.0023 U
BANK-08a	BANK-08a-00-01	8/2/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0098 U	0.0098 U
BANK-08b	BANK-08b-00-01	8/1/2023	0.0030 U	0.0040 U	0.0040 U	0.0034 U	0.0038 U	0.029	0.035
BANK-08c	BANK-08c-00-01	8/1/2023	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
BANK-08c	BANK-08c-00-01-AVG	8/1/2023	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
BANK-08c	BANK-108c-00-01	8/1/2023	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
BANK-09a	BANK-09a-00-01	8/2/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.014	0.010	0.025
BANK-09b	BANK-09b-00-01	8/3/2023	0.00098 U	0.00098 U	0.00098 U	0.00098 U	0.00098 U	0.0020 U	0.0020 U
BANK-09c	BANK-09c-00-01	8/2/2023	0.0013 U	0.0013 U	0.0013 U	0.0026 U	0.0013 U	0.0013 U	0.0026 U
BANK-10a	BANK-10a-00-01	8/2/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0025 U	0.0025 U
BANK-10a	BANK-10a-00-01-AVG	8/2/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0025 U	0.0025 U
BANK-10a	BANK-10a-01-02	8/2/2023							
BANK-10a	BANK-110a-00-01	8/2/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0044 U	0.0044 U
BANK-10b	BANK-10b-00-01	8/3/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0030 U	0.0030 U
BANK-10c	BANK-10c-00-01	8/2/2023	0.0014 U	0.0014 U	0.0027 U	0.011 U	0.0027 U	0.025 U	0.025 U
BANK-11a	BANK-11a-00-01	8/3/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
BANK-11b	BANK-11b-00-01	8/3/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
BANK-11c	BANK-11c-00-01	8/2/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
BANK-12a	BANK-12a-00-01	8/3/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
BANK-12b	BANK-12b-00-01	8/3/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
BANK-12c	BANK-12c-00-01	8/3/2023	0.0012 U	0.0012 U	0.0024 U	0.0024 U	0.0012 U	0.0031 U	0.0031 U
BANK-13a	BANK-13a-00-01	8/3/2023	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0030 U	0.0030 U
BANK-13c	BANK-13c-00-01	8/3/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0022 U	0.0022 U
BANK-14a	BANK-14a-00-01	8/3/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0021 U	0.0021 U
BANK-14b	BANK-14b-00-01	8/4/2023	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
BANK-14b	BANK-14b-00-01-AVG	8/4/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
BANK-14b	BANK-114b-00-01	8/4/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
BANK-14c	BANK-14c-00-01	8/8/2023	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
BANK-15b	BANK-15b-00-01	8/8/2023	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0027 U	0.0027 U

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			Pesticides (cont.)						
Analyte			trans-Chlordane	trans-Nonachlor	Total Chlordanes (U=1/2)	Total DDD (U=1/2)	Total DDE (U=1/2)	Total DDT (U=1/2)	Total DDx (U=1/2)
CAS No.			5103-74-2	39765-80-5	T_Clrdn (U=1/2)	T_DDD (U=1/2)	T_DDE (U=1/2)	T_DDT (U=1/2)	T_DDx (U=1/2)
Ground Feeders Birds NTE			--	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date							
Historical PEO Site Sampling									
BZ-01	BZ-01-2.5-3	8/15/2012							
BZ-03	BZ-03-1.5-2	8/15/2012							
BZ-04	BZ-04-1.5-2	8/15/2012							
BZ-05	BZ-05-0.5-1	8/15/2012							
BZ-06	BZ-06-0.5-1	8/16/2012							
BZ-07	BZ-07-2.5-3	8/16/2012							
BZ-08	BZ-08-1.5-2	8/17/2012							
HA-OT-1-39	HA-OT-1-39-0-1	5/8/2001							
HA-OT-1-39	HA-OT-1-39-1-2	5/8/2001							
RA-01	RA-01-0.5120414	12/4/2014							
RA-01	RA-01-0.5120414-AVG	12/4/2014							
RA-01	RA-01-0.5-DUP120414	12/4/2014							
RA-01	RA-01-3120414	12/4/2014							
RA-02	RA-02-0.5120414	12/4/2014							
RA-02	RA-02-3120414	12/4/2014							
RA-03	RA-03-0.5120414	12/4/2014							
RA-03	RA-03-3120414	12/4/2014							
RA-04	RA-04-0.5120414	12/4/2014							
RA-04	RA-04-3120414	12/4/2014							
RA-05	RA-05-0.5120414	12/4/2014							
RA-05	RA-05-3120414	12/4/2014							
RA-06	RA-06-0.5120414	12/4/2014							
RA-06	RA-06-3120514	12/5/2014							
RA-07	RA-07-0.5120414	12/4/2014							
RA-07	RA-07-3120414	12/4/2014							
RA-08	RA-08-1.5-2	12/5/2014							
RA-08	RA-08-2.5-3	12/5/2014							
RA-08A	RA-08A-0-0.5	12/5/2014							
RA-08A	RA-08A-2.5-3	12/5/2014							
RA-08B	RA-08B-0-0.5	12/5/2014							
RA-08B	RA-08B-2.5-3	12/5/2014							
RA-08C	RA-08C-0-0.5	12/5/2014							
RA-08C	RA-08C-2.5-3	12/5/2014							
RA-08D	RA-08D-0-0.5	12/5/2014							
RA-08D	RA-08D-2.5-3	12/5/2014							
RA-09	RA-09-1-1.5	12/5/2014							
RA-09	RA-09-2.5-3	12/5/2014							
RA-09A	RA-09A-0-0.5	12/5/2014							
RA-09A	RA-09A-2.5-3	12/5/2014							

Table 4
Riverbank Soil Analytical Data—SVOCs and Pesticides

Analyte Class			Pesticides (cont.)						
Analyte			trans-Chlordane	trans-Nonachlor	Total Chlordanes (U=1/2)	Total DDD (U=1/2)	Total DDE (U=1/2)	Total DDT (U=1/2)	Total DDx (U=1/2)
CAS No.			5103-74-2	39765-80-5	T_Clrdn (U=1/2)	T_DDD (U=1/2)	T_DDE (U=1/2)	T_DDT (U=1/2)	T_DDx (U=1/2)
Ground Feeders Birds NTE			--	--	--	--	--	--	--
Ground Feeders Mammals NTE			--	--	--	--	--	--	--
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location Name	Sample Name	Sample Date							
Historical PEO Site Sampling (cont.)									
RA-09B	RA-09B-0-0.5	12/5/2014							
RA-09B	RA-09B-2.5-3	12/5/2014							
RA-09C	RA-09C-0-0.5	12/5/2014							
RA-09C	RA-09C-2.5-3	12/5/2014							
RA-09D	RA-09D-0-0.5	12/5/2014							
RA-09D	RA-09D-2.5-3	12/5/2014							
RA-10	RA-10-0-0.5	12/3/2014							
RA-10	RA-10-0-0.5-AVG	12/3/2014							
RA-10	RA-10-0-0.5-D	12/3/2014							
RA-10	RA-10-2.5-3	12/3/2014							
RA-11	RA-11-0-0.5	12/4/2014							
RA-11	RA-11-2.5-3	12/4/2014							
RA-12	RA-12-0-0.5	12/4/2014							
RA-12	RA-12-2.5-3	12/4/2014							
RA-13	RA-13-0-0.5	12/4/2014							
RA-13	RA-13-2.5-3	12/4/2014							
RA-14	RA-14-0-0.5	12/4/2014							
RA-14	RA-14-2.5-3	12/4/2014							
RA-15	RA-15-0-0.5	12/4/2014							
RA-15	RA-15-2.5-3	12/4/2014							
RA-16	RA-16-0-0.5	12/4/2014							
RA-16	RA-16-2.5-3	12/4/2014							
SI-EB-01	SI-EB-01-0-0.5-A	11/4/2010							
SI-EB-01	SI-EB-01-0-0.5-B	4/6/2011		0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.019 U	0.019 U
SI-EB-02	SI-EB-02-0-0.5-A	11/4/2010							
SI-EB-02	SI-EB-02-0-0.5-B	4/6/2011		0.0095 U	0.0095 U	0.0095 U	0.0095 U	0.019 U	0.019 U
SI-EB-03	SI-EB-03-0-0.5-A	11/4/2010							
SI-EB-03	SI-EB-03-0-0.5-B	4/6/2011		0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.032 U	0.032 U
SI-EB-04	SI-EB-04-0-0.5-A	11/4/2010							
SI-EB-04	SI-EB-04-0-0.5-B	4/6/2011		0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.020 U	0.020 U
SI-EB-05	SI-EB-05-0-0.5-A	4/6/2011		0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0082 U	0.0082 U
SI-EB-05	SI-EB-05-0-0.5-AVG	4/6/2011		0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0082 U	0.0082 U
SI-EB-05	SI-EB-05-0-0.5-A-D	4/6/2011		0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0082 U	0.0082 U
SS-75	SS-75-0-1	5/22/1998							
SS-75	SS-75-1-2	5/22/1998							

Notes:

Blank cells indicate that no analysis was performed for a chemical in the sample.
All analytical results are rounded to two significant figures.
Italic Result was not detected at a reporting limit greater than applicable criteria.
BOLD Result was detected at a concentration greater than the NTE birds.
RED/BOLD Result was detected at a concentration greater than the NTE birds and NTE mammals.

Abbreviations:

CAS Chemical Abstracts Service
FS Feasibility Study
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
PAH Polycyclic aromatic hydrocarbon
PEO Premier Edible Oils
SVOC Semivolatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 5
Riverbank Soil Data Statistical Summary

Analyte	Unit	Ecological Risk-Based Concentrations				Oregon Soil Background	Number of Results	Number of Detects	Detect Percentage	Minimum Detect Value	Maximum Detect Value	Location of Maximum Detect	Date of Maximum Detect	Depth of Maximum Detect
		Direct Toxicity		Ground Feeding										
		Plants	Inverts	Birds NTE	Mammals NTE									
Total Metals														
Aluminum	mg/kg	--	--	--	--	--	21	21	100%	7,500	14,000	SI-EB-05	04/06/2011	0.5
Antimony	mg/kg	11	78	--	2.7	0.56	7	7	100%	0.056	0.14	BZ-07	08/16/2012	3
Arsenic	mg/kg	18	6.8	32	31	8.8	59	59	100%	0.38	11	SI-EB-03	11/04/2010	0.5
Barium	mg/kg	110	330	1,200	8,700	790	14	14	100%	81	230	SI-EB-02	04/06/2011	0.5
Beryllium	mg/kg	2.5	40	--	42	2	7	7	100%	0.23	0.67	BZ-07	08/16/2012	3
Cadmium	mg/kg	32	140	1.6	3.6	0.63	45	44	98%	0.053	0.79	BANK-07b	08/01/2023	1
Chromium	mg/kg	--	--	--	--	76	14	14	100%	4.7	43	SI-EB-03	11/04/2010	0.5
Cobalt	mg/kg	13	--	170	640	--	28	28	100%	11	40	SI-EB-05	04/06/2011	0.5
Copper	mg/kg	70	80	43	70	34	45	45	100%	8.9	57	BANK-15b	08/08/2023	1
Iron	mg/kg	--	--	--	--	--	21	21	100%	14,000	47,000	SI-EB-05	04/06/2011	0.5
Lead	mg/kg	120	1,700	23	170	79	59	59	100%	2.6	820	RA-04	12/04/2014	3
Manganese	mg/kg	220	450	2,700	5,400	1,800	38	38	100%	220	11,000	SI-EB-03	11/04/2010	0.5
Mercury	mg/kg	34	0.05	0.13	17	0.23	45	38	84%	0.013	0.46	BANK-07a	08/02/2023	1
Molybdenum	mg/kg	--	--	160	26	--	7	7	100%	0.13	0.43	BZ-08	08/17/2012	2
Nickel	mg/kg	38	280	81	21	47	40	40	100%	5.7	330	RA-08B	12/05/2014	3
Selenium	mg/kg	0.52	4.1	1.4	1	0.71	14	3	21%	0.20	0.40	BZ-07	08/16/2012	3
Silver	mg/kg	560	--	26	140	0.82	14	11	79%	0.018	1.4	SI-EB-03	11/04/2010	0.5
Thallium	mg/kg	0.05	--	45	4.2	5.2	7	7	100%	0.041	0.12	BZ-07	08/16/2012	3
Tin	mg/kg	--	--	--	--	--	7	4	57%	0.61	0.79	SI-EB-03	04/06/2011	0.5
Vanadium	mg/kg	60	--	9.5	610	180	7	7	100%	57	100	BZ-07	08/16/2012	3
Zinc	mg/kg	160	120	120	980	180	59	59	100%	42	670	RA-04	12/04/2014	3
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	mg/kg	--	--	--	--	--	42	--	--	--	--	--	--	--
Aroclor 1221	mg/kg	--	--	--	--	--	42	--	--	--	--	--	--	--
Aroclor 1232	mg/kg	--	--	--	--	--	42	--	--	--	--	--	--	--
Aroclor 1242	mg/kg	--	--	--	--	--	42	4	9.5%	0.0024	0.004	BANK-13c	08/03/2023	1
Aroclor 1248	mg/kg	--	--	--	--	--	42	--	--	--	--	--	--	--
Aroclor 1254	mg/kg	--	--	--	--	--	42	21	50%	0.0023	0.12	BANK-07a	08/02/2023	1
Aroclor 1260	mg/kg	--	--	--	--	--	42	37	88%	0.0028	0.24	BANK-07a	08/02/2023	1
Aroclor 1262	mg/kg	--	--	--	--	--	35	--	--	--	--	--	--	--
Aroclor 1268	mg/kg	--	--	--	--	--	35	--	--	--	--	--	--	--
Total PCB Aroclors (U=1/2)	mg/kg	160	--	0.24	0.073	--	42	38	90%	0.012	0.36	BANK-07a	08/02/2023	1
Dioxins/Furans														
1,2,3,4,6,7,8-HpCDD	mg/kg	--	--	0.0015	0.0000070	--	34	33	97%	0.00000275	0.00826	BANK-07a	08/02/2023	1.6
1,2,3,4,6,7,8-HpCDF	mg/kg	--	--	0.00023	0.000011	--	34	34	100%	0.000000181	0.000365	BANK-07a	08/02/2023	1.6
1,2,3,4,7,8-HxCDD	mg/kg	--	--	0.0000510	0.0000012	--	34	21	62%	0.000000174	0.0000109	BANK-07a	08/02/2023	1.6
1,2,3,4,7,8-HxCDF	mg/kg	--	--	0.0000230	0.00000110	--	34	23	68%	0.000000142	0.0000114	BANK-07a	08/02/2023	1.6
1,2,3,4,7,8,9-HpCDF	mg/kg	--	--	0.00023	0.0000110	--	34	22	65%	0.000000240	0.0000139	BANK-07a	08/02/2023	1.6
1,2,3,6,7,8-HxCDD	mg/kg	--	--	0.00019	0.000000890	--	34	27	79%	0.000000466	0.0000734	BANK-07a	08/02/2023	1.6
1,2,3,6,7,8-HxCDF	mg/kg	--	--	0.0000230	0.00000110	--	34	15	44%	0.000000171	0.00000424	BANK-07a	08/02/2023	1.6
1,2,3,7,8-PeCDD	mg/kg	--	--	0.00000590	0.000000280	--	34	16	47%	0.000000148	0.00000604	BANK-07b	08/01/2023	1
1,2,3,7,8-PeCDF	mg/kg	--	--	0.0000410	0.00000650	--	34	14	41%	0.000000134	0.00000241	BANK-07a	08/02/2023	1
1,2,3,7,8,9-HxCDD	mg/kg	--	--	0.0000190	0.000000890	--	34	29	85%	0.000000276	0.0000275	BANK-07a	08/02/2023	1.6
1,2,3,7,8,9-HxCDF	mg/kg	--	--	0.0000300	0.00000140	--	34	11	32%	0.0000000721	0.00000164	BANK-07a	08/02/2023	1
2,3,4,6,7,8-HxCDF	mg/kg	--	--	0.0000230	0.00000110	--	34	19	56%	0.000000176	0.00000340	BANK-07a	08/02/2023	1
2,3,4,7,8-PeCDF	mg/kg	--	--	0.00000410	0.000000650	--	34	23	68%	0.000000193	0.0000108	BANK-07b	08/01/2023	1

Table 5
Riverbank Soil Data Statistical Summary

Analyte	Unit	Ecological Risk-Based Concentrations				Oregon Soil Background	Number of Results	Number of Detects	Detect Percentage	Minimum Detect Value	Maximum Detect Value	Location of Maximum Detect	Date of Maximum Detect	Depth of Maximum Detect
		Direct Toxicity		Ground Feeding										
		Plants	Inverts	Birds NTE	Mammals NTE									
Dioxins/Furans (cont.)														
2,3,7,8-TCDD	mg/kg	--	5	0.00000520	0.000000250	--	34	2	5.9%	0.000000729	0.000000844	BANK-07a	08/02/2023	1
2,3,7,8-TCDF	mg/kg	--	--	0.00000640	0.00000300	--	34	16	47%	0.000000151	0.00000348	BANK-07a	08/02/2023	1
OCDD	mg/kg	--	--	0.019	0.00030	--	34	34	100%	0.0000174	0.0570	BANK-07a	08/02/2023	1.6
OCDF	mg/kg	--	--	0.014	0.00022	--	34	34	100%	0.000000390	0.00215	BANK-07a	08/02/2023	1.6
Dioxin/Furans (TEQ-HalfND)	mg/kg	--	--	--	--	--	34	34	100%	0.000000169	0.000124	BANK-07a	08/02/2023	1.6
Pesticides														
2,4'-DDD	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--
2,4'-DDE	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--
2,4'-DDT	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--
4,4'-DDD	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--
4,4'-DDE	mg/kg	--	--	--	--	--	38	1	2.6%	0.013	0.013	BANK-09a	08/02/2023	1
4,4'-DDT	mg/kg	4.1	--	0.41	0.24	--	38	4	11%	0.0013	0.027	BANK-08b	08/01/2023	1
Aldrin	mg/kg	--	--	0.0043	0.18	--	38	--	--	--	--	--	--	--
alpha-BHC	mg/kg	--	--	0.85	0.096	--	7	--	--	--	--	--	--	--
alpha-Endosulfan	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
beta-BHC	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
beta-Endosulfan	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
Chlordane (technical)	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--
cis-Chlordane	mg/kg	--	--	--	--	--	31	--	--	--	--	--	--	--
cis-Nonachlor	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--
delta-BHC	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
Dieldrin	mg/kg	10	--	0.64	0.009	--	38	6	16%	0.000030	0.00021	BANK-08b	08/01/2023	1
Endosulfan sulfate	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
Endrin	mg/kg	0.0034	--	0.014	0.23	--	7	--	--	--	--	--	--	--
Endrin aldehyde	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
Endrin ketone	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
gamma-BHC	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--
Heptachlor	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
Heptachlor epoxide	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
Methoxychlor	mg/kg	--	--	92	10	--	7	--	--	--	--	--	--	--
Mirex	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
Oxychlordane	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--
Total Chlordanes (U=1/2)	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--
Total DDD (U=1/2)	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--
Total DDE (U=1/2)	mg/kg	--	--	--	--	--	38	1	2.6%	0.014	0.014	BANK-09a	08/02/2023	1
Total DDT (U=1/2)	mg/kg	--	--	--	--	--	38	4	11%	0.0018	0.029	BANK-08b	08/01/2023	1
Total DDx (U=1/2)	mg/kg	--	--	--	--	--	38	4	11%	0.0038	0.035	BANK-08b	08/01/2023	1
Toxaphene	mg/kg	--	--	21	30	--	7	--	--	--	--	--	--	--
trans-Chlordane	mg/kg	--	--	--	--	--	31	--	--	--	--	--	--	--
trans-Nonachlor	mg/kg	--	--	--	--	--	38	--	--	--	--	--	--	--

Table 5
Riverbank Soil Data Statistical Summary

Analyte	Unit	Ecological Risk-Based Concentrations				Oregon Soil Background	Number of Results	Number of Detects	Detect Percentage	Minimum Detect Value	Maximum Detect Value	Location of Maximum Detect	Date of Maximum Detect	Depth of Maximum Detect
		Direct Toxicity		Ground Feeding										
		Plants	Inverts	Birds NTE	Mammals NTE									
Semivolatile Organic Compounds (SVOCs)														
1-Methylnaphthalene	mg/kg	--	--	--	--	--	35	2	5.7%	0.0032	0.11	BANK-10a	08/02/2023	1
2-Methylnaphthalene	mg/kg	--	--	--	--	--	92	57	62%	0.00042	0.26	RA-04	12/04/2014	3
Acenaphthene	mg/kg	0.25	--	--	--	--	100	59	59%	0.00081	0.17	BZ-01	08/15/2012	3
Acenaphthylene	mg/kg	--	--	--	--	--	100	65	65%	0.0012	0.81	BANK-10a	08/02/2023	2
Anthracene	mg/kg	6.8	--	--	--	--	100	72	72%	0.00086	1.2	BANK-10a	08/02/2023	2
Benzo(a)anthracene	mg/kg	18	--	--	--	--	100	98	98%	0.0028	4.5	RA-10	12/03/2014	0.5
Benzo(a)pyrene	mg/kg	--	--	--	--	--	100	98	98%	0.0035	8.2	BANK-10a	08/02/2023	2
Benzo(b)fluoranthene	mg/kg	18	--	--	--	--	93	91	98%	0.0035	7.8	BANK-10a	08/02/2023	2
Benzo(g,h,i)perylene	mg/kg	--	--	--	--	--	100	97	97%	0.0035	8.6	BANK-10a	08/02/2023	2
Benzo(k)fluoranthene	mg/kg	--	--	--	--	--	93	88	95%	0.0021	2.9	BANK-10a	08/02/2023	2
Benzofluoranthenes (total) (U=0)	mg/kg	--	--	--	--	--	7	7	100%	0.037	0.61	SI-EB-03	11/04/2010	0.5
Benzofluoranthenes (total) (U=1/2)	mg/kg	--	--	--	--	--	46	44	96%	0.018	11	BANK-10a	08/02/2023	2
Bis(2-ethylhexyl)phthalate	mg/kg	--	--	0.2	6	--	39	7	18%	0.093	0.17	SI-EB-03	04/06/2011	0.5
Butyl benzyl phthalate	mg/kg	--	--	--	900	--	7	--	--	--	--	--	--	--
Chrysene	mg/kg	--	--	--	--	--	100	98	98%	0.0035	6.5	BANK-10a	08/02/2023	2
cPAHs (TEQ-HalfND)	mg/kg	--	--	--	--	--	100	98	98%	0.0081	11	BANK-10a	08/02/2023	2
cPAHs (TEQ-ZeroND)	mg/kg	--	--	--	--	--	66	64	97%	0.0081	8.1	RA-10	12/03/2014	0.5
Di-n-butyl phthalate	mg/kg	160	--	0.11	450	--	7	--	--	--	--	--	--	--
Di-n-octyl phthalate	mg/kg	--	--	--	4.6	--	7	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	mg/kg	--	--	--	--	--	100	74	74%	0.0015	0.79	BANK-10a	08/02/2023	2
Dibenzofuran	mg/kg	6.1	--	--	--	--	57	50	88%	0.00066	0.60	RA-04	12/04/2014	3
Diethylphthalate	mg/kg	100	--	--	18,000	--	7	--	--	--	--	--	--	--
Dimethyl phthalate	mg/kg	--	10	--	400	--	7	--	--	--	--	--	--	--
Fluoranthene	mg/kg	--	--	--	--	--	100	98	98%	0.0025	16	BANK-10a	08/02/2023	2
Fluorene	mg/kg	--	--	--	--	--	100	57	57%	0.00083	0.40	RA-10	12/03/2014	0.5
Hexachlorobutadiene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	mg/kg	--	--	--	--	--	100	97	97%	0.0035	6.1	BANK-10a	08/02/2023	2
Naphthalene	mg/kg	1	--	--	--	--	104	60	58%	0.00063	0.63	RA-04	12/04/2014	3
Phenanthrene	mg/kg	--	--	--	--	--	100	95	95%	0.0015	12	RA-10	12/03/2014	0.5
Pyrene	mg/kg	--	--	--	--	--	100	99	99%	0.00099	19	RA-10	12/03/2014	0.5
Total HPAH (U=1/2)	mg/kg	--	18	0.55	5.9	--	100	99	99%	0.014	80	BANK-10a	08/02/2023	2
Total LPAH (U=1/2)	mg/kg	--	29	67	540	--	100	96	96%	0.0090	14	RA-10	12/03/2014	0.5
Total PAH (U=1/2)	mg/kg	--	--	--	--		100	99	99%	0.023	93	BANK-10a	08/02/2023	2
Total Petroleum Hydrocarbons (TPH)														
Gasoline-range organics	mg/kg	120	120	5,000	5,000	--	16	6	38%	3.6	980	BZ-01	08/15/2012	3
Diesel-range organics	mg/kg	--	--	--	--	--	47	9	19%	11	5,100	BZ-01	08/15/2012	3
Oil-range organics	mg/kg	--	--	--	--	--	31	26	84%	24	590	BANK-10c	08/02/2023	1
Residual-range organics	mg/kg	--	--	--	--	--	18	18	100%	25	1,700	SS-75	05/22/1998	2

Table 5
Riverbank Soil Data Statistical Summary

Analyte	Unit	Ecological Risk-Based Concentrations				Oregon Soil Background	Number of Results	Number of Detects	Detect Percentage	Minimum Detect Value	Maximum Detect Value	Location of Maximum Detect	Date of Maximum Detect	Depth of Maximum Detect
		Direct Toxicity		Ground Feeding										
		Plants	Inverts	Birds NTE	Mammals NTE									
Volatile Organic Compounds (VOCs)														
1,1-Dichloroethane	mg/kg	--	--	--	2,100	--	9	--	--	--	--	--	--	--
1,1-Dichloroethene	mg/kg	--	--	--	60	--	9	--	--	--	--	--	--	--
1,1-Dichloropropene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,1,1-Trichloroethane	mg/kg	--	--	--	1,300	--	9	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,2-Dibromoethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,2-Dichlorobenzene	mg/kg	--	--	--	9.2	--	9	--	--	--	--	--	--	--
1,2-Dichloroethane	mg/kg	--	--	1.6	270	--	9	--	--	--	--	--	--	--
1,2-Dichloropropane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,2,3-Trichloropropane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/kg	--	1.2	--	2.7	--	9	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,3-Dichlorobenzene	mg/kg	--	--	--	7.4	--	9	--	--	--	--	--	--	--
1,3-Dichloropropane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/kg	--	1.2	--	3.5	--	9	--	--	--	--	--	--	--
2-Chlorotoluene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
2-Hexanone	mg/kg	--	--	3.6	20	--	9	--	--	--	--	--	--	--
2,2-Dichloropropane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
4-Chlorotoluene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Acetone	mg/kg	--	--	75	6.3	--	9	--	--	--	--	--	--	--
Benzene	mg/kg	--	--	--	240	--	16	5	31%	0.00013	0.049	BZ-07	08/16/2012	3
Bromobenzene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Bromochloromethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Bromodichloromethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Bromoform	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Bromomethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Carbon disulfide	mg/kg	--	--	--	8.1	--	2	--	--	--	--	--	--	--
Carbon tetrachloride	mg/kg	--	--	--	9.8	--	9	--	--	--	--	--	--	--
Chlorobenzene	mg/kg	--	2.4	--	430	--	9	--	--	--	--	--	--	--
Chloroethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Chloroform	mg/kg	--	--	--	21	--	9	--	--	--	--	--	--	--
Chloromethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Cymene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Dibromochloromethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Dibromomethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Dichlorodifluoromethane	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--

Table 5
Riverbank Soil Data Statistical Summary

Analyte	Unit	Ecological Risk-Based Concentrations				Oregon Soil Background	Number of Results	Number of Detects	Detect Percentage	Minimum Detect Value	Maximum Detect Value	Location of Maximum Detect	Date of Maximum Detect	Depth of Maximum Detect
		Direct Toxicity		Ground Feeding										
		Plants	Inverts	Birds NTE	Mammals NTE									
VOCs (cont.)														
Ethylbenzene	mg/kg	--	--	--	--	--	16	3	19%	0.00022	0.0028	BZ-07	08/16/2012	3
Isopropylbenzene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Methyl-tert-butyl ether	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Methyl ethyl ketone	mg/kg	--	--	--	920	--	9	--	--	--	--	--	--	--
Methyl isobutyl ketone	mg/kg	--	--	--	97	--	9	--	--	--	--	--	--	--
Methylene chloride	mg/kg	1,600	--	--	22	--	9	--	--	--	--	--	--	--
n-Butylbenzene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
n-Propylbenzene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
sec-Butylbenzene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Styrene	mg/kg	3.2	1.2	--	--	--	9	1	11%	0.023	0.023	HA-OT-1-39	05/08/2001	1
tert-Butylbenzene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Tetrachloroethene	mg/kg	10	--	--	0.94	--	9	--	--	--	--	--	--	--
Toluene	mg/kg	200	--	--	230	--	16	7	44%	0.00023	0.026	BZ-01	08/15/2012	3
Total Xylene (U=1/2)	mg/kg	--	--	--	--	--	16	3	19%	0.00051	0.012	BZ-07	08/16/2012	3
trans-1,2-Dichloroethene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	mg/kg	--	--	--	--	--	9	--	--	--	--	--	--	--
Trichloroethene	mg/kg	--	--	--	420	--	9	--	--	--	--	--	--	--
Trichlorofluoromethane	mg/kg	--	--	--	350	--	9	2	22%	0.13	1.1	HA-OT-1-39	05/08/2001	2
Vinyl chloride	mg/kg	--	--	--	1.2	--	9	--	--	--	--	--	--	--
Xylene (meta & para)	mg/kg	--	--	--	--	--	7	--	--	--	--	--	--	--
Xylene (ortho)	mg/kg	--	--	--	--	--	16	3	19%	0.00051	0.012	BZ-07	08/16/2012	3
Xylene (total)	mg/kg	100	--	410	1.8	--	9	5	56%	0.00022	0.12	BZ-01	08/15/2012	3
Conventionals														
Total Organic Carbon	mg/kg	--	--	--	--	--	2	2	100%	4,200	14,000	HA-OT-1-39	05/08/2001	1
Total Solids	%	--	--	--	--	--	36	36	100%	68	99	BANK-10b	08/03/2023	1

Notes:

All results are rounded to two significant figures, except dioxin/furan results, which are rounded to three significant figures. All percentages and exceedance factors are rounded to two significant figures.

Exceedance factor >10.

Screening level below Oregon background.

Abbreviations:

BHC Benzene hexachloride
CAS Chemical Abstracts Service
HpCDD Heptachlorodibenzo-*p* -dioxin
HpCDF Heptachlorodibenzofuran
HxCDD Hexachlorodibenzo-*p* -dioxin
HxCDF Hexachlorodibenzofuran
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
OCDD Octachlorodibenzodioxin
OCDF Octachlorodibenzofuran
PCB Polychlorinated biphenyl
PeCDD Pentachlorodibenzo-*p* -dioxin
PeCDF Pentachlorodibenzofuran
TCDD Tetrachlorodibenzo-*p* -dioxin
TCDF Tetrachlorodibenzofuran
TEQ Toxic equivalent

Table 5
Riverbank Soil Data Statistical Summary

Analyte	Unit	Number of Plant Exceedances	Percentage of Plant Exceedances	Plant Exceedance Factor	Number of Invert Exceedances	Percentage of Invert Exceedances	Invert Exceedance Factor	Number of Bird NTE Exceedances	Percentage of Bird NTE Exceedances	Bird NTE Exceedance Factor	Number of Mammal NTE Exceedances	Percentage of Mammal NTE Exceedances	Mammal NTE Exceedance Factor	Number of Non-Detects	Non-Detect Percentage	Minimum Non-Detect Value	Maximum Non-Detect Value
Total Metals																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	mg/kg	--	--	--	1	1.7%	1.3	--	--	--	--	--	--	--	--	--	--
Barium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	1	2.2%	0.12	0.12
Chromium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	mg/kg	10	36%	3.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	mg/kg	--	--	--	--	--	--	1	2.2%	1.3	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	6	10%	6.8	--	--	--	8	14%	10	3	5.1%	4.8	--	--	--	--
Manganese	mg/kg	1	2.6%	6.1	1	2.6%	6.1	1	2.6%	4.1	1	2.6%	2.0	--	--	--	--
Mercury	mg/kg	--	--	--	1	2.2%	2.0	1	2.2%	2.0	--	--	--	7	16%	0.022	0.11
Molybdenum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	mg/kg	6	15%	7.0	2	5.0%	1.2	4	10%	4.1	6	15%	7.0	--	--	--	--
Selenium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	11	79%	1.0	2.7
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	3	21%	1.2	1.3
Thallium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tin	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	3	43%	2.5	2.7
Vanadium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	mg/kg	4	6.8%	3.7	4	6.8%	3.7	4	6.8%	3.7	--	--	--	--	--	--	--
Polychlorinated Biphenyls (PCBs)																	
Aroclor 1016	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	42	100%	0.0019	0.011
Aroclor 1221	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	42	100%	0.0019	0.011
Aroclor 1232	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	42	100%	0.0019	0.011
Aroclor 1242	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	90%	0.0019	0.011
Aroclor 1248	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	42	100%	0.0019	0.011
Aroclor 1254	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	21	50%	0.0019	0.011
Aroclor 1260	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	5	12%	0.0020	0.0028
Aroclor 1262	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	35	100%	0.0019	0.0028
Aroclor 1268	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	35	100%	0.0019	0.0028
Total PCB Aroclors (U=1/2)	mg/kg	--	--	--	--	--	--	2	4.8%	1.5	7	17%	4.9	4	9.5%	0.0020	0.0028
Dioxins/Furans																	
1,2,3,4,6,7,8-HpCDD	mg/kg	--	--	--	--	--	--	2	5.9%	5.5	31	91%	1,200	1	2.9%	0.00000203	0.00000203
1,2,3,4,6,7,8-HpCDF	mg/kg	--	--	--	--	--	--	1	2.9%	1.6	11	32%	33	--	--	--	--
1,2,3,4,7,8-HxCDD	mg/kg	--	--	--	--	--	--	--	--	--	7	21%	9.1	13	38%	0.000000116	0.000000403
1,2,3,4,7,8-HxCDF	mg/kg	--	--	--	--	--	--	--	--	--	12	35%	10	11	32%	0.0000000862	0.00000270
1,2,3,4,7,8,9-HpCDF	mg/kg	--	--	--	--	--	--	--	--	--	1	2.9%	1.3	12	35%	0.0000000990	0.000000567
1,2,3,6,7,8-HxCDD	mg/kg	--	--	--	--	--	--	--	--	--	19	56%	82	7	21%	0.000000165	0.00000139
1,2,3,6,7,8-HxCDF	mg/kg	--	--	--	--	--	--	--	--	--	6	18%	3.9	19	56%	0.0000000861	0.00000102
1,2,3,7,8-PeCDD	mg/kg	--	--	--	--	--	--	1	2.9%	1.0	14	41%	22	18	53%	0.0000000884	0.000000936
1,2,3,7,8-PeCDF	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	20	59%	0.0000000546	0.000000846
1,2,3,7,8,9-HxCDD	mg/kg	--	--	--	--	--	--	1	2.9%	1.4	12	35%	31	5	15%	0.000000163	0.000000409
1,2,3,7,8,9-HxCDF	mg/kg	--	--	--	--	--	--	--	--	--	1	2.9%	1.2	23	68%	0.0000000970	0.000000525
2,3,4,6,7,8-HxCDF	mg/kg	--	--	--	--	--	--	--	--	--	7	21%	3.1	15	44%	0.0000000519	0.000000982
2,3,4,7,8-PeCDF	mg/kg	--	--	--	--	--	--	5	15%	2.6	17	50%	17	11	32%	0.0000000612	0.00000104

Table 5
Riverbank Soil Data Statistical Summary

Analyte	Unit	Number of Plant Exceedances	Percentage of Plant Exceedances	Plant Exceedance Factor	Number of Invert Exceedances	Percentage of Invert Exceedances	Invert Exceedance Factor	Number of Bird NTE Exceedances	Percentage of Bird NTE Exceedances	Bird NTE Exceedance Factor	Number of Mammal NTE Exceedances	Percentage of Mammal NTE Exceedances	Mammal NTE Exceedance Factor	Number of Non-Detects	Non-Detect Percentage	Minimum Non-Detect Value	Maximum Non-Detect Value
Dioxins/Furans (cont.)																	
2,3,7,8-TCDD	mg/kg	--	--	--	--	--	--	--	--	--	2	5.9%	3.4	32	94%	0.0000000401	0.000000705
2,3,7,8-TCDF	mg/kg	--	--	--	--	--	--	--	--	--	2	5.9%	1.2	18	53%	0.0000000602	0.00000179
OCDD	mg/kg	--	--	--	--	--	--	1	2.9%	3.0	17	50%	190	--	--	--	--
OCDF	mg/kg	--	--	--	--	--	--	--	--	--	3	8.8%	9.8	--	--	--	--
Dioxin/Furans (TEQ-HalfND)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
2,4'-DDD	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.011
2,4'-DDE	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.0099
2,4'-DDT	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.020
4,4'-DDD	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.0099
4,4'-DDE	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	37	97%	0.00098	0.0099
4,4'-DDT	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	34	89%	0.0010	0.046
Aldrin	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.0099
alpha-BHC	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
alpha-Endosulfan	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
beta-BHC	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
beta-Endosulfan	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
Chlordane (technical)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.029	0.12
cis-Chlordane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	31	100%	0.00098	0.0022
cis-Nonachlor	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.0099
delta-BHC	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
Dieldrin	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	32	84%	0.000029	0.0099
Endosulfan sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
Endrin	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
Endrin aldehyde	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
Endrin ketone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
gamma-BHC	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.0099
Heptachlor	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
Heptachlor epoxide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
Methoxychlor	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0082	0.020
Mirex	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.0041	0.0099
Oxychlordane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.0099
Total Chlordanes (U=1/2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.0099
Total DDD (U=1/2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.011
Total DDE (U=1/2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	37	97%	0.00098	0.0099
Total DDT (U=1/2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	34	89%	0.0010	0.046
Total DDx (U=1/2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	34	89%	0.0010	0.046
Toxaphene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.048	0.12
trans-Chlordane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	31	100%	0.00098	0.0030
trans-Nonachlor	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	100%	0.00098	0.0099

Table 5
Riverbank Soil Data Statistical Summary

Analyte	Unit	Number of Plant Exceedances	Percentage of Plant Exceedances	Plant Exceedance Factor	Number of Invert Exceedances	Percentage of Invert Exceedances	Invert Exceedance Factor	Number of Bird NTE Exceedances	Percentage of Bird NTE Exceedances	Bird NTE Exceedance Factor	Number of Mammal NTE Exceedances	Percentage of Mammal NTE Exceedances	Mammal NTE Exceedance Factor	Number of Non-Detects	Non-Detect Percentage	Minimum Non-Detect Value	Maximum Non-Detect Value
Semivolatile Organic Compounds (SVOCs)																	
1-Methylnaphthalene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	33	94%	0.0028	0.55
2-Methylnaphthalene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	35	38%	0.0028	0.55
Acenaphthene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	41	41%	0.0014	0.27
Acenaphthylene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	35	35%	0.0014	0.17
Anthracene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	28	28%	0.0014	0.17
Benzo(a)anthracene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	2	2.0%	0.0028	0.0029
Benzo(a)pyrene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	2	2.0%	0.0028	0.0029
Benzo(b)fluoranthene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	2	2.2%	0.0028	0.0029
Benzo(g,h,i)perylene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	3	3.0%	0.0028	0.054
Benzo(k)fluoranthene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	5	5.4%	0.0028	0.17
Benzofluoranthenes (total) (U=0)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzofluoranthenes (total) (U=1/2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	2	4.3%	0.0028	0.0029
Bis(2-ethylhexyl)phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	32	82%	0.021	4.1
Butyl benzyl phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.27	0.59
Chrysene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	2	2.0%	0.0028	0.0029
cPAHs (TEQ-HalfND)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	2	2.0%	0.0028	0.0029
cPAHs (TEQ-ZeroND)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	2	3.0%	0.0028	0.0029
Di-n-butyl phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.13	0.30
Di-n-octyl phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.27	0.59
Dibenzo(a,h)anthracene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	26	26%	0.0016	0.34
Dibenzofuran	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	12%	0.0028	0.12
Diethylphthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.13	0.30
Dimethyl phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.13	0.30
Fluoranthene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	2	2.0%	0.0028	0.0029
Fluorene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	43	43%	0.0014	0.27
Hexachlorobutadiene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.11	0.20
Indeno(1,2,3-c,d)pyrene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	3	3.0%	0.0028	0.054
Naphthalene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	44	42%	0.0028	0.55
Phenanthrene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	5	5.0%	0.0028	0.014
Pyrene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	1	1.0%	0.0029	0.0029
Total HPAH (U=1/2)	mg/kg	--	--	--	9	9.0%	4.4	63	63%	150	25	25%	14	1	1.0%	0.0029	0.0029
Total LPAH (U=1/2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	4	4.0%	0.0029	0.027
Total PAH (U=1/2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	1	1.0%	0.0029	0.0029
Total Petroleum Hydrocarbons (TPH)																	
Gasoline-range organics	mg/kg	2	13%	8.2	2	13%	8.2	--	--	--	--	--	--	10	63%	4.0	7.9
Diesel-range organics	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	38	81%	9.5	250
Oil-range organics	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	5	16%	19	24
Residual-range organics	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5
Riverbank Soil Data Statistical Summary

Analyte	Unit	Number of Plant Exceedances	Percentage of Plant Exceedances	Plant Exceedance Factor	Number of Invert Exceedances	Percentage of Invert Exceedances	Invert Exceedance Factor	Number of Bird NTE Exceedances	Percentage of Bird NTE Exceedances	Bird NTE Exceedance Factor	Number of Mammal NTE Exceedances	Percentage of Mammal NTE Exceedances	Mammal NTE Exceedance Factor	Number of Non-Detects	Non-Detect Percentage	Minimum Non-Detect Value	Maximum Non-Detect Value
Volatile Organic Compounds (VOCs)																	
1,1-Dichloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,1-Dichloroethene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,1-Dichloropropene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
1,1,1-Trichloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,1,1,2-Tetrachloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,1,2-Trichloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,1,2,2-Tetrachloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,2-Dibromo-3-chloropropane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.28	0.50
1,2-Dibromoethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,2-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,2-Dichloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,2-Dichloropropane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,2,3-Trichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.10	0.34
1,2,3-Trichloropropane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
1,2,4-Trichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.10	0.34
1,2,4-Trimethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
1,3-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,3-Dichloropropane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
1,3,5-Trimethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
1,4-Dichlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
2-Chlorotoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
2-Hexanone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.56	1.0
2,2-Dichloropropane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
4-Chlorotoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
Acetone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	1.0	1.4
Benzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	11	69%	0.0070	0.22
Bromobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
Bromochloromethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
Bromodichloromethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
Bromoform	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
Bromomethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.28	0.50
Carbon disulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	2	100%	1.0	1.0
Carbon tetrachloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
Chlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
Chloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.10	0.68
Chloroform	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
Chloromethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.28	0.50
cis-1,2-Dichloroethene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
cis-1,3-Dichloropropene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
Cymene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.20
Dibromochloromethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.10	0.14
Dibromomethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
Dichlorodifluoromethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.11	0.50

Table 5
Riverbank Soil Data Statistical Summary

Analyte	Unit	Number of Plant Exceedances	Percentage of Plant Exceedances	Plant Exceedance Factor	Number of Invert Exceedances	Percentage of Invert Exceedances	Invert Exceedance Factor	Number of Bird NTE Exceedances	Percentage of Bird NTE Exceedances	Bird NTE Exceedance Factor	Number of Mammal NTE Exceedances	Percentage of Mammal NTE Exceedances	Mammal NTE Exceedance Factor	Number of Non-Detects	Non-Detect Percentage	Minimum Non-Detect Value	Maximum Non-Detect Value
VOCs (cont.)																	
Ethylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	13	81%	0.0066	0.22
Isopropylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.20
Methyl-tert-butyl ether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
Methyl ethyl ketone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.56	1.0
Methyl isobutyl ketone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.50	0.68
Methylene chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.28	0.50
n-Butylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.50
n-Propylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
sec-Butylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
Styrene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	8	89%	0.056	0.10
tert-Butylbenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
Tetrachloroethene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
Toluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	56%	0.0070	0.068
Total Xylene (U=1/2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	13	81%	0.0066	0.22
trans-1,2-Dichloroethene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
trans-1,3-Dichloropropene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.056	0.10
Trichloroethene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
Trichlorofluoromethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	78%	0.11	0.14
Vinyl chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9	100%	0.028	0.10
Xylene (meta & para)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7	100%	0.056	0.068
Xylene (ortho)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	13	81%	0.0066	0.22
Xylene (total)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	4	44%	0.0070	0.20
Conventionals																	
Total Organic Carbon	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Solids	%	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All results are rounded to two significant figures, except dioxin/furan results, which are rounded to three significant figures. All percentages and exceedance factors are rounded to two significant figures.

Exceedance factor >10.

Screening level below Oregon background.

Abbreviations:

BHC Benzene hexachloride
CAS Chemical Abstracts Service
HpCDD Heptachlorodibenzo-*p*-dioxin
HpCDF Heptachlorodibenzofuran
HxCDD Hexachlorodibenzo-*p*-dioxin
HxCDF Hexachlorodibenzofuran
mg/kg Milligrams per kilogram
NTE Non-threatened and -endangered
OCDD Octachlorodibenzodioxin
OCDF Octachlorodibenzofuran
PCB Polychlorinated biphenyl
PeCDD Pentachlorodibenzo-*p*-dioxin
PeCDF Pentachlorodibenzofuran
TCDD Tetrachlorodibenzo-*p*-dioxin
TCDF Tetrachlorodibenzofuran
TEQ Toxic equivalent

Figures

Source: ESRI Topographic Web Mapping Service Note: Original figure obtained from ERM.

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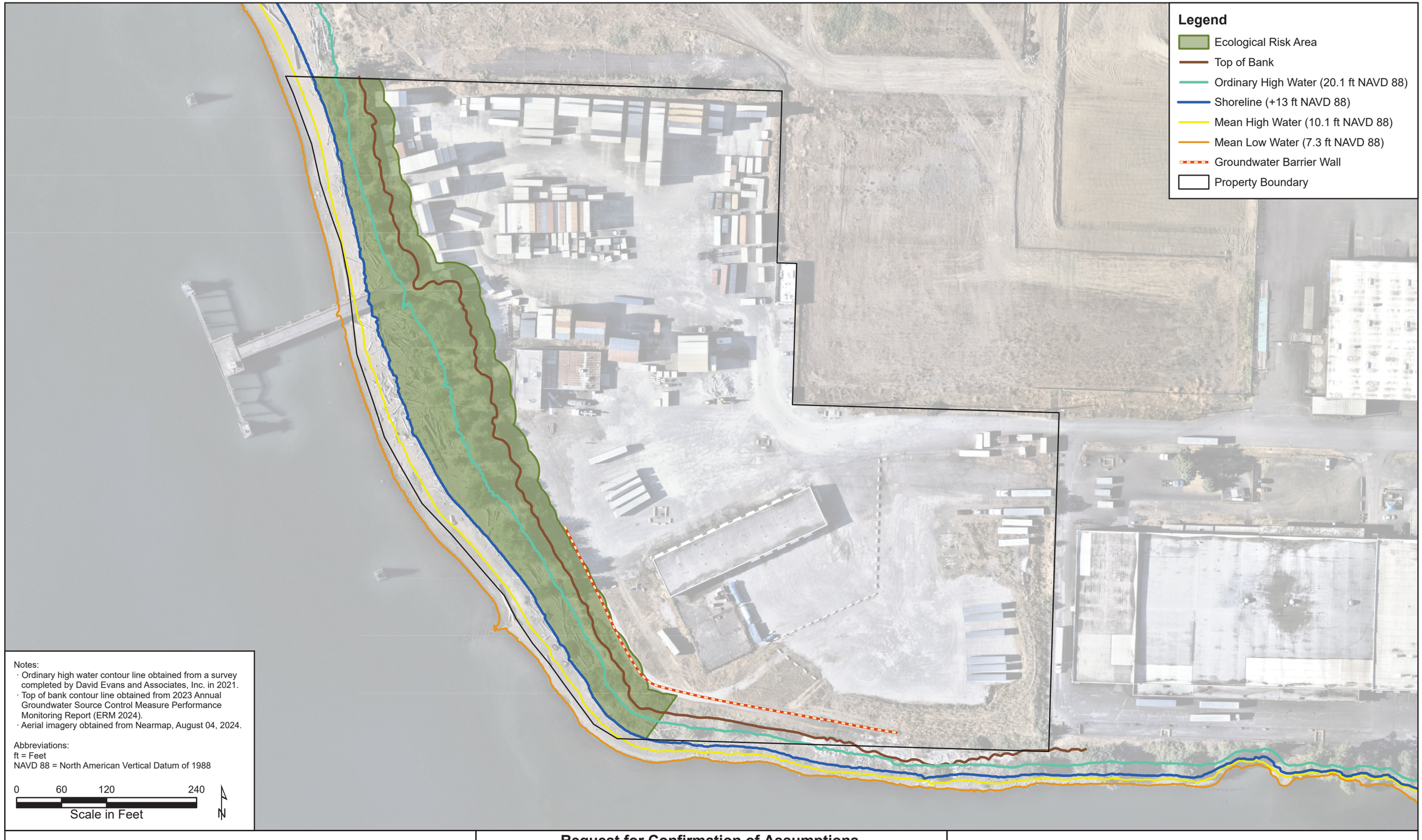
Request for Confirmation of Assumptions for Future Ecological Risk Assessment Premier Edible Oils Site Portland, Oregon

Figure 1
Site Plan

I:\GIS\Projects\MMGL-PEO\01-Tasks\Ecological_Risk_Assessment\EcoRiskAssessment.aprx
2/18/2025



Notes:
- Ordinary high water contour line obtained from a survey completed by David Evans and Associates, Inc. in 2021.
- Top of bank contour line obtained from 2023 Annual Groundwater Source Control Measure Performance Monitoring Report (ERM 2024).
- Aerial imagery obtained from Nearmap, August 04, 2024.

Abbreviations:
ft = Feet
NAVD 88 = North American Vertical Datum of 1988

0 60 120 240
Scale in Feet

N

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Request for Confirmation of Assumptions for Future Ecological Risk Assessment
Premier Edible Oils Site
Portland, Oregon

Figure 2
Ecological Risk Area

I:\GIS\Projects\MMGL-PEO\01-Tasks\Ecological_Risk_Assessment\EcoRiskAssessment.aprx
4/25/2025

Notes:
- Ordinary high water contour line obtained from a survey completed by David Evans and Associates, Inc. in 2021.
- Top of bank contour line obtained from 2023 Annual Groundwater Source Control Measure Performance Monitoring Report (ERM 2024).
- Aerial imagery obtained from Nearmap, August 04, 2024.

Sample locations shown were advanced as part of the following sampling events:

1998-2014 PEO Soil Sampling
2011 Supplemental Soil Sampling
2012 Southern PEO Field Investigation
2014 Phase II RI (Langan Treadwell Rollo 2015)
2023 August Riverbanks Soil Sampling
2023 October Riverbanks Soil Sampling

Abbreviations:
ft = Feet
NAVD 88 = North American Vertical Datum of 1988
PEO = Premier Edible Oils
RI = Remedial Investigation

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Request for Confirmation of Assumptions for Future Ecological Risk Assessment
Premier Edible Oils Site
Portland, Oregon

Figure 3
Sample Locations in Ecological Risk Area

I:\GIS\Projects\MMGL-PEO\01-Tasks\Ecological_Risk_Assessment\EcoRiskAssessment.aprx
4/25/2025

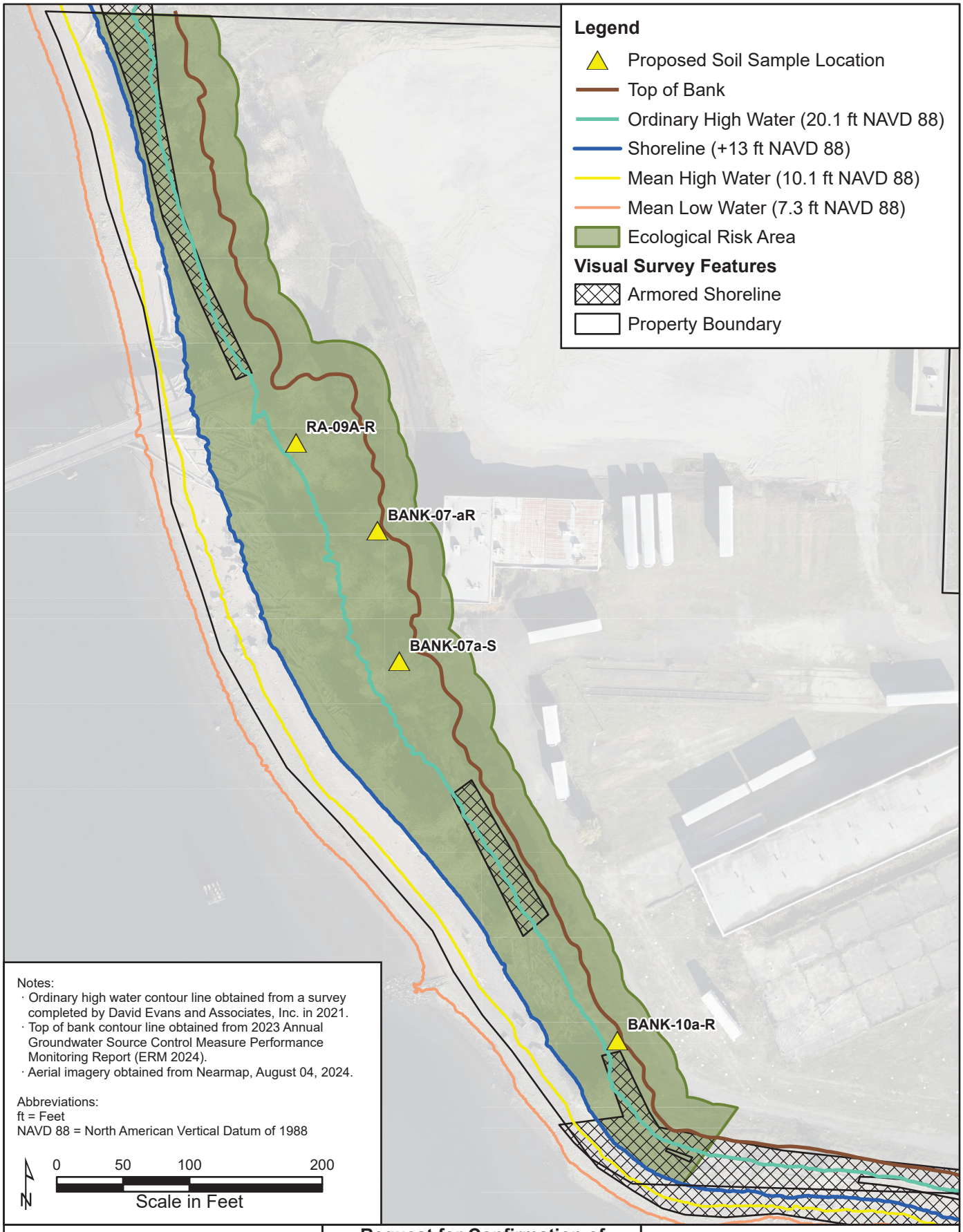

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Figure 4
Planned 2025 RM3.5 East Riverbank Sample Locations

I:\GIS\Projects\MMGL-PEO\01-Tasks\Ecological_Risk_Assessment\EcoRiskAssessment.aprx
4/25/2025

Attachment 1
2014 Remedial Investigation Work Plan Appendix C—
Human Health and Ecological Risk Exposure Assessment

APPENDIX C
Human Health and Ecological Risk Exposure Assessment

Appendix C
Human Health and Ecological Risk Exposure Assessment

This appendix describes the exposure evaluation component of the human health risk assessment (HHRA) and ecological risk assessment (ERA) for the Premier Edible Oils (PEO) property at 10400 North Burgard Way in Portland, Oregon (Site). This appendix includes the development of conceptual site models (CSMs) which incorporate site characteristics relevant to evaluating risk posed by chemicals present at the Site. These CSMs will build upon the existing HHRA and ERA, prepared by Gradient (Gradient, 2011) and will be used as a basis for identifying data gaps to be addressed in this Work plan.

Exposure to chemicals in the environment may occur when certain conditions are met. These conditions are comprised of four components: 1) a source and mechanism of chemical release, 2) a retention or transport medium (in cases where chemical dispersion is observed, multiple media may be affected), 3) an exposure point (that is, a setting where potential human or ecological receptor may come into contact with the chemical-affected medium or media), and 4) a route of exposure at the exposure point (for example, ingestion). A complete exposure pathway is present when these four components are present and are described as potential exposure scenarios.

The various chemical and physical properties of the compounds of interest (COIs) may influence the transport and fate of the Site-related chemicals in the environment. Environmental media at the Site that may be evaluated in the HHRA/ERA include soil, groundwater, soil vapor, outdoor air, and indoor air. Potential chemical release and transport mechanisms include leaching, volatilization, diffusion, advection, airborne dispersion of soil particles and volatile emissions. These phenomena account for the unique potential exposure pathways associated with specific chemicals. Direct exposures to soil and groundwater, inhalation exposures to volatile emissions from soil and groundwater, and inhalation exposures to particulates in soil may occur as the result of COPC migration into the various environmental media. Exposures to surface water and off-site sediment in the Willamette River are being evaluated separately as part of the Portland Harbor RI/FS.

Based on historical operations at the Site and previous site investigations, it is anticipated that the COIs could include: metals, polycyclic aromatic hydrocarbons (PAHs), Total Petroleum Hydrocarbons (TPH), polychlorinated biphenyl compounds (PCBs), pesticides, and volatile organic compounds (VOCs) in soils, and metals, TPH, and VOCs in groundwater. Pesticides have not been detected at the Site to date, although historical sampling for pesticides is limited to only five samples along the river bank.

C.1 HUMAN HEALTH EXPOSURE SCENARIOS

The Site is currently vacant and is zoned for heavy industrial use (COP, 2012) and is surrounded by properties also zoned for heavy industrial use. According to the City of Portland's Comprehensive Plan Map (COP, 2006), the Site and surrounding properties are designated as "Industrial Sanctuary" for future zoning permit considerations. Residential site use is not a current or likely future site use and no residential population is located within close proximity of the Site.

Based on the current vacant status of the site and likely future industrial use, potentially exposed populations were identified based on current and likely future site conditions. The potential human receptors associated with these scenarios are described below. Figures 4A and 4B present the current and future human health CSMs for the PEO Site, respectively, and provide a visual representation of the complete exposure pathways for the hypothetical human receptors at the Site.

C.1.1 Human Health Baseline Scenario

Baseline (current) conditions will assume the presence of the existing, unoccupied buildings and areas of exposed soil in the unpaved portions of the Site.

Potentially-exposed populations under baseline conditions consist of the On-site Worker and Trespasser. Although there are no current industrial operations ongoing at the Site, exposure to workers may occur during site investigation activities. Other potentially exposed populations may include receptors with intermittent exposures such as site visitors, occasional landscape personnel, workers parking or removing vehicles temporarily stored on-site, and site trespassers to the Site or the river bank. However, it is expected that such intermittent exposure would be of lower frequency and shorter duration than under the on-site worker conditions.

Current On-Site Worker (Outdoor)

This receptor is an adult worker who spends the work day primarily outdoors. For purposes of the baseline scenario, it is assumed that workers will work an 8-hour day for 250 days per year for 25 years. These assumptions will be protective of intermittent workers that are more typical of the exposures currently occurring at the Site. Exposure to the Current On-Site Worker may occur from chemicals released from surface soils through wind dispersion, volatilization of VOCs from soil and groundwater to outdoor air, and direct exposure to surface soils through incidental ingestion and dermal contact.

Current Trespasser

The Current Trespasser may be exposed to chemicals in all portions of the Site, including erodible surface soils in river bank areas along the Willamette River. The Current Trespasser may be exposed to chemicals in surface soils through inhalation of chemicals adsorbed to particulates, incidental soil ingestion, and dermal contact. The exposure parameters for the Current Trespasser will be developed based on professional judgment and anticipated frequency and duration of trespassers.

C.1.2 Human Health Future Scenario

Because zoning for the Site will remain heavy industrial, the future scenario will evaluate the Future On-site Worker (Outdoor), Future On-site Worker (Indoor), Future Construction Worker, Future Maintenance Worker, and Future Trespasser. Exposure conditions for these receptors are described below.

Future On-site Worker (Outdoor)

The Future On-site Worker (Outdoor) is assumed to work outdoors 8 hours per day for 250 days per year for 25 years. Exposure to this worker may occur from chemicals released from surface soils through wind dispersion, volatilization of VOCs from soil and groundwater to outdoor air, and direct exposure to surface soils through incidental ingestion and dermal contact.

Future On-site Worker (Indoor)

This receptor is assumed to work indoors as an industrial office/warehouse worker during the course of an 8-hour work day. In addition to the potential exposures described for the Future On-site Worker (Outdoor), the Future On-site Office Worker (Indoor) may be exposed to chemicals at the Site via inhalation of VOCs in indoor air that have entered buildings through vapor intrusion. It is assumed that this receptor works at the Site for 250 days per year for 25 years.

Future Construction Worker

Redevelopment of the Site would likely involve approximately one year of construction activities, during which access to the Site would be restricted. Intrusive activities would be assumed to occur during construction, resulting in potential exposure to chemicals in surface and subsurface soil. The exposure pathways considered complete for the Construction Worker are (1) incidental ingestion of soil; (2) dermal contact with soil; (3) inhalation of soil particulates in outdoor air; and (4) inhalation of volatile emissions from soil and groundwater in outdoor air. The exposure duration will be based on a construction period

of one year and 8 hours per day for 250 days. It is assumed that the future construction worker could be exposed to soils at depths of up to 10 feet below ground surface (bgs).

Future Maintenance Worker

This receptor represents an outdoor worker who primarily engages in non-earthwork maintenance activities at the Site but may be involved in subsurface utility work. The frequency and duration of exposure is expected to be intermittent over a period of 25 years. The earthwork-related exposures evaluated for this receptor will address potential subsurface utility and elevator maintenance exposures. Exposure pathways evaluated for the Future Maintenance Worker consist of: (1) incidental ingestion of soil (during earthwork only); (2) dermal contact with soil and groundwater (during earthwork only); (3) inhalation of soil particulates in outdoor air (during earthwork only); and (4) inhalation of volatile emissions from soil and groundwater in outdoor air (during earthwork and non-earthwork activities). It is assumed that the future maintenance worker could be exposed to soils at depths of up to 10 feet bgs.

Future Trespasser

The Future Trespasser may be exposed to chemicals in all portions of the Site, including erodible surface soils in river bank areas along the Willamette River. The Future Trespasser may be exposed to chemicals in surface soils through inhalation of chemicals adsorbed to particulates, incidental soil ingestion, dermal contact, and volatilization of VOCs from the soil and groundwater to outdoor air. The exposure parameters for the site trespasser will be developed based on professional judgment and anticipated frequency and duration of trespassers in the river bank areas.

C.1.3 Human Health Exposure Areas

The HHRA will evaluate exposure based on exposure areas that have been designated based on historical site use and associated COIs. As shown on Figures 3A and 3B, for the purpose of the HHRA, the upland PEO Site is divided into two exposure areas. The northern portion of the Site is downgradient of Time Oil Company's Bell Terminal; the southern portion of the site is the former location of the Northwest Oil Company tank farm. In addition to these areas, the river bank areas and 25-foot "Greenway" setback from the top of the river bank (Figure 3B) will be evaluated for the current and future Trespasser receptors.

Data from previous site investigations, as well as the Phase II RI investigation outlined in this Work plan, will be used for evaluating potential exposures in the HHRA.

C.1.4 Human Health COIs and Risk Screening Values

Based on the human health baseline and future scenarios, the COIs for the HHRA in soils are TPH, VOCs, metals, PAHs, and PCBs. Soils from 0 to 3 feet bgs (for the baseline scenario) and from 0-10 feet (for the future scenario) will be evaluated for potential inhalation of dust, incidental soil ingestion, and dermal exposure. COIs in these soils will be screened against Oregon Department of Environmental Quality (DEQ) Risk-Based Concentrations (RBCs) for "Soil Ingestion, Dermal Contact, and Inhalation" (DEQ, 2012). If a DEQ RBC does not exist for a COPC, Environmental Protection Agency (EPA) Regional Screening Levels (RSL) for "Industrial Soil" will be used for screening (EPA, 2012). COIs that do not exceed their respective RBCs may be screened out and not included in the risk assessment.

TPH and VOCs in vadose zone soils and groundwater will be evaluated for potential vapor intrusion exposure and will be screened against DEQ RBCs for "Vapor Intrusion into Buildings" (DEQ, 2012). Should COIs exceed the RBCs for vapor intrusion, shallow soil gas samples may be collected for evaluation in the HHRA. Potential exposure to TPH and VOCs due to volatilization to outdoor air will be evaluated using DEQ RBCs for "Volatilization to Outdoor Air" (DEQ, 2012).

Naturally-occurring metals that are COIs will be compared to local default values, if available. Otherwise, regional Pacific Northwest default background concentrations for inorganic chemicals (DEQ, 2010) will be used for screening metals.

A potential TCE hot spot identified in previous sampling will be further delineated. In addition, soil sampling will be performed to evaluate the potential presence of pesticides in the vicinity of the former PEO operations. Should results indicate concentrations of these compounds greater than DEQ screening levels, they will be evaluated in the HHRA.

COIs, depth ranges, and appropriate screening values for the HHRA are summarized in Table C-1.

C.2 ECOLOGICAL EXPOSURE SCENARIOS

The ecological risk CSM provides a visual representation of the ecosystem or ecosystem components potentially at risk and identifies contaminant sources, potential release mechanisms, transport pathways, exposure media, potentially complete exposure pathways, and representative ecological receptors at the Site. Only the exposure pathways that are considered complete at the PEO site will be further evaluated in the ERA. Figure 4b illustrates the CSM that will be used for the ERA for the PEO Site.

C.2.1 Environmental Setting

The upland areas of the Site are largely flat and covered with exposed soils and impervious surfaces (i.e., covered with buildings and a large concrete pad). A steep 10- to 15-foot bank on the western and southern site bordering the Willamette River slopes down to a flatter "beach" at the base of the bank, which slopes toward the river. The beach and bank are seasonally inundated by river water during periods of high river stage, typically occurring during late winter and early spring. Site vegetation is limited to grasses in the upland areas, some trees, shrubs, and grasses along the river bank, and a bank of trees along the southeastern boundary of the Site. Due to the limited vegetation and frequent impervious surfaces, the Site provides limited habitat for terrestrial ecological receptors.

The Willamette River, located adjacent to the Site, is designated as sensitive habitat by the Oregon Department of Fish and Game. This designation is due to the critical habitat designation for the Chum salmon, Chinook salmon, and steelhead. Investigation of the river itself is not included in the scope of work for this Work plan, as it is being addressed as part of the Portland Harbor Superfund RI/FS.

C.2.2 Ecological Receptors

Biological surveys have not been performed at the Site. However, a data search of rare, threatened and endangered plants and animals in the vicinity of the PEO site was conducted by the Oregon Biodiversity Information Center (ORBIC) in June 2012. Results of the data search indicated that there are no sensitive species reported on the PEO site. However, as shown on Figure C-1, a small portion of the northeast part of the Site is within an 800 meter "uncertainty distance" around the Time Oil pond where observations of the Painted Turtle (*Chrysemys picta*) have been reported. This small portion of the Site is designated for industrial use and is not considered ecological habitat. The Painted Turtle is listed as sensitive-critical (SC) by the Oregon Department of Fish and Wildlife. The results of the data search performed by ORBIC (2012) for the occurrence of rare, threatened and endangered plants and animals reported within a two-mile radius of the PEO site is presented as Attachment C-1. It is not anticipated that the Painted Turtle is present at the Site because there are no surface water bodies in the upland area.

Potential ecological receptors for evaluation in the ERA include indigenous terrestrial plants, invertebrates, birds, mammals, amphibians, and reptiles. Ecological receptors have been selected by functional groups, which are broad groups that share the same feeding guild in the ecosystem and are taxonomically and/or physiologically similar, and thus have a similar potential for exposure. The key

functional groups (and representative species) that may use the habitat types at and in the vicinity of the Site include:

- Terrestrial plants (e.g., grasses)
- Terrestrial invertebrates (e.g., insects)
- Insectivorous/herbivorous upland bird (e.g., American robin [Turdus migratorius])
- Carnivorous bird (e.g., red-tailed hawk [Buteo jamaicensis])
- Invertivorous mammal (e.g., shrew [Sorex sp.])
- Herbivorous mammal (e.g., vole [Microtus sp.])
- Carnivorous mammal (e.g., weasel [Mustela sp.])
- Amphibians (e.g., frogs (Rana sp.) or long-toed salamander [Ambystoma macrodactylum])
- Reptiles (e.g., Painted Turtle [Chrysemys picta])

The evaluation of representative species listed above will be extrapolated to other species within the same functional group, based on chemical concentrations in the habitat areas. Toxicity data for reptiles and amphibians are generally unavailable in the scientific literature and there are no ecological screening values for these functional groups. These ecological receptors are included in the CSM and will be evaluated qualitatively.

C.2.3 Ecological Exposure Pathways

Exposure to ecological receptors may occur through exposure to surface soils (0-6 inches bgs) and to subsurface soils (0-3 ft bgs) as described for the following exposure pathways.

Terrestrial plants. The primary routes of exposure for plants are contact with or uptake of chemicals in subsurface soils. Terrestrial plants are not expected to contact groundwater in the root zone because groundwater is typically greater than 1 meter bgs in the ecological exposure area.

Terrestrial Invertebrates. The main routes of exposure for this group are contact with surface or subsurface soils and dietary intake of plants or other invertebrates that have contacted contaminated soils.

Terrestrial Birds. Exposure mainly occurs through dietary intake of prey items in contact with chemicals in surface soils and incidental soil ingestion of surface soils while foraging or grooming.

Terrestrial Mammals. The primary exposure routes for this group are dietary intake of prey items in contact with surface soils and incidental soil ingestion while foraging or grooming. Fossorial (e.g., burrowing) mammals will be exposed to subsurface soils.

Terrestrial Amphibians and Reptiles. The primary exposure routes for this group are dietary intake of prey items in contact with surface soils and incidental soil ingestion while foraging and grooming. Additionally, there is potential exposure to amphibians and reptiles from discharges of contaminated groundwater to surface water in the riverbank areas.

C.2.4 Ecological Risk Assessment Exposure Areas

The riparian/erodible portions of the river bank shown on Figure 3A are one exposure area that will be evaluated in the ERA. The Upland portion of the site within 25 feet from the top of bank (designated as "Greenway" for future use) as shown on Figure 3B is the other exposure area that will be evaluated in the ERA. The hardsurface/rip rap areas and Upland areas within 25 feet of the hardscape/rip rap areas, shown on Figures 3A and 3B will not be included in the evaluation of current or future ecological risk, because no complete exposure pathway exists due to the presence of physical surface cover consisting of rip rap and asphalt/concrete. DEQ has indicated that any future Site development would likely incorporate removal of the hardscape/rip rap, and it is likely that much of these materials and nearby soils would be removed and replaced with imported new soils.

The portions of the Site greater than 25 feet from the river bank are not considered for ecological risk based on their current and likely future industrial use and the presence of physical surface barriers covering much of the Site.

A bank of trees near the southeastern boundary of the Site may provide potential ecological habitat. As discussed in this Work plan, MMGL has committed to removal of trees and/or mounded soils in this area and that this area will be evaluated for industrial use in the HHRA, therefore it will not be considered in the ERA.

C.2.5 Ecological COIs and Risk Screening Values

Based upon the ecological exposure pathways described in Section C.2.3, soil COIs for the ERA include TPH, VOCs, metals, PAHs, and PCBs in the 0 to 6-inch bgs and 0 to 3 feet bgs ranges. As requested by DEQ, TPH in soils will be screened against Washington State Ecological Indicator Concentrations (Washington State, 2012). VOCs, metals, PAHs, and PCBs will be screened against EPA Ecological Soil Screening Levels (EcoSSLs) (EPA, 2003-2008). For those compounds for which an EcoSSL does not exist,

the compounds will be screened against DEQ Level II Ecological Screening Level Values (SLVs) (DEQ, 2001).

Ecological receptors present in the Willamette River and river sediments are not included in the scope of work for this ERA, as they are being addressed as part of the Portland Harbor Superfund RI/FS. Erodible soils and groundwater at the Site contain COIs that could potentially migrate to the river and, while the ERA will not evaluate risk from these COIs, they will be evaluated as potential sources of contamination to the river. Erodible soils and groundwater COIs include metals, TPH, PAHs, PCBs, and VOCs. These COIs will be screened against Portland Harbor Joint Source Control Strategy SLVs (DEQ, 2007).

COIs, depth ranges, and appropriate screening values for the ERA are summarized in Table C-1.

C3.0 REFERENCES

COP, 2006. City of Portland Comprehensive Plan. Bureau of Planning. July.

COP, 2012. Portland Maps Detail Report for 10400 N. Burgard Way, St. Johns, Portland, Oregon. http://portlandmaps.com. Accessed on July 18, 2012.

DEQ, 2001. Oregon Department of Environmental Quality, Guidance for Ecological Risk Assessment, Levels I, II, III, and IV, April 1998. Table 1.Screening Level Values for Plants, Invertebrates, and Wildlife Exposed to Soil and Groundwater. Level II Screening, updated December 2001.

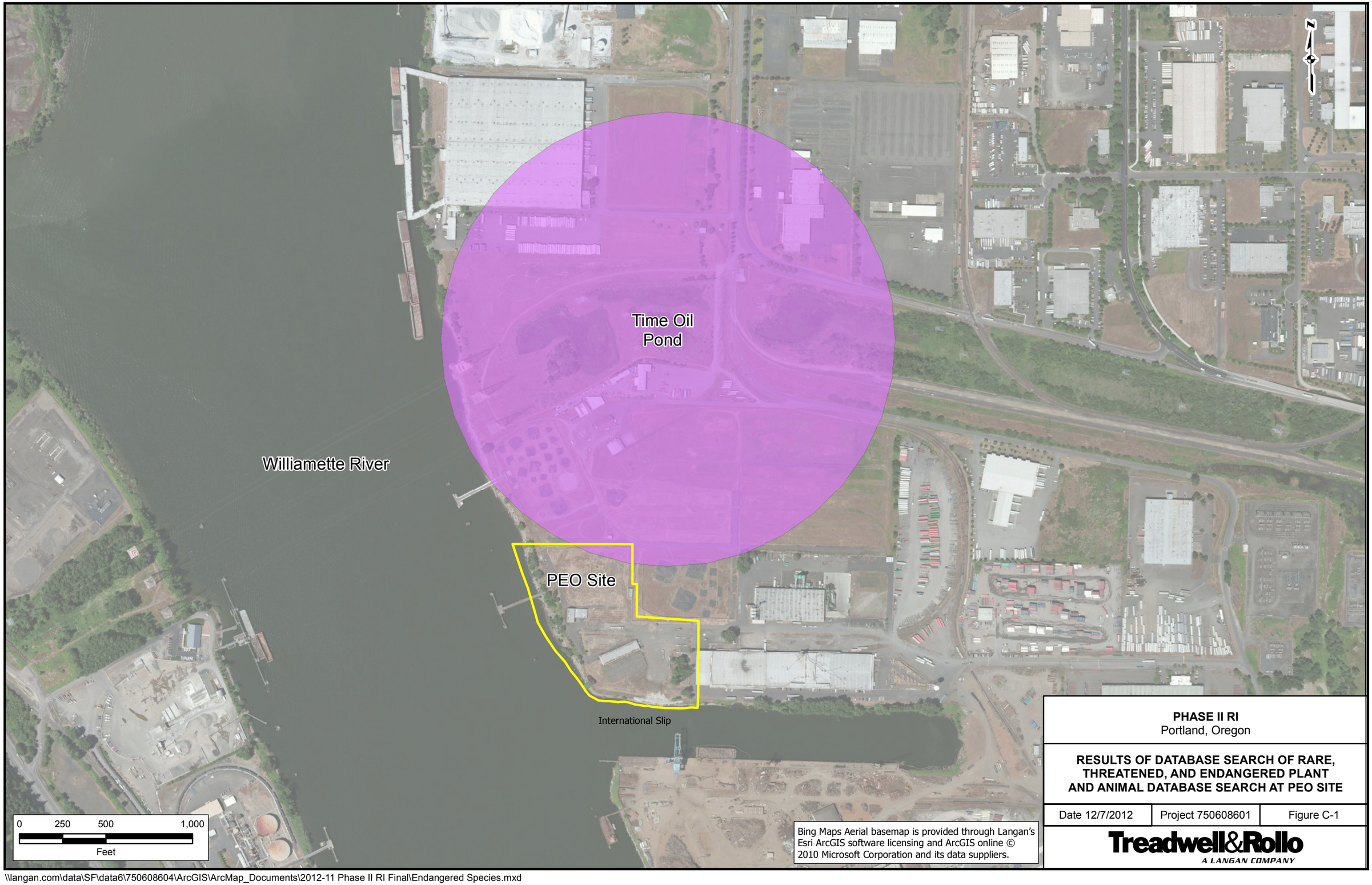
DEQ, 2007. Portland Harbor Joint Source Control Strategy, Final – December 2005. Table 3-1 Screening Level Values for Soil/Stormwater Sediment, Stormwater, and Surface Water, 7/16/07 Revision.

DEQ, 2012. Oregon Department of Environmental Quality Risk-Based Concentrations for Individual Chemicals, Revision: June 7, 2012. (http://www.deq.state.or.us/lq/pubs/docs/RBDMTable.pdf)

EPA, 2003-2008. Environmental Protection Agency, Interim Final Ecological Soil Screening Levels (http://www.epa.gov/ecotox/ecossl/). The website contains links to Interim Final Soil Screening Level documents for individual compounds with publications dates ranging from 2003 to 2008.

EPA, 2012. Environmental Protection Agency, Region III, Regional Screening Level Summary Table, April 2012. (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/composite_sl_table_run_MAY2012.pdf)

Washington State, 2012. Washington State Department of Ecology Toxics Cleanup Program, Table 749-3 Ecological Indicator Soil Concentrations (mg/kg) for Protection of Terrestrial Plants and Animals (http://www.ecy.wa.gov/programs/tcp/policies/terrestrial/table_749-3.htm)



PHASE II RI
Portland, Oregon

RESULTS OF DATABASE SEARCH OF RARE, THREATENED, AND ENDANGERED PLANT AND ANIMAL DATABASE SEARCH AT PEO SITE

Date 12/7/2012	Project 750608601	Figure C-1

Treadwell&Rollo
A LANGAN COMPANY

\\langan.com\data\SF\data6\750608604\ArcGIS\ArcMap_Documents\2012-11 Phase II RI Final\Endangered Species.mxd

Table C-1
Chemicals of Interest, Depths, and Screening Values for Risk Assessments
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Risk Scenario	Exposure Area	Risk Receptor	Exposure Route	Media	Depth Range	COIs	Appropriate Screening Value[c]
Current Human Health Risk	"Upland" Area, unpaved areas only[a]	Current On-site Worker (Outdoor), Current Trespasser	Soil Ingestion, Dermal Contact, and Inhalation	Soil	0-3 feet bgs	TPH	Oregon DEQ RBC_{ss} - Occupational for Generic Gasoline and Diesel
						VOCs PAHs Metals PCBs Pesticides	Oregon DEQ RBC_{ss} - Occupational; If none exist then use EPA RSL Composite Table - Industrial Soils
Future Human Health Risk	"Upland" Area, excluding 25-ft Greenway Setback[a]	Future On-site Worker (Outdoor), Future On-site Worker (Indoor), Future Construction Worker, Future Maintenance Worker, Future Trespasser	Soil Ingestion, Dermal Contact, and Inhalation	Soil	0-3 feet bgs	TPH	Oregon DEQ RBC_{ss} - Occupational for Generic Gasoline and Diesel
						VOCs PAHs Metals PCBs Pesticides	Oregon DEQ RBC_{ss} - Occupational; If none exist then use EPA RSL Composite Table - Industrial Soils
		Future Construction Worker, Future Maintenance Worker	Soil Ingestion, Dermal Contact, and Inhalation	Soil	3-10 feet bgs	TPH	Oregon DEQ RBC_{ss} - Occupational for Generic Gasoline and Diesel
						VOCs PAHs Metals PCBs Pesticides	Oregon DEQ RBC_{ss} - Occupational; If none exist then use EPA RSL Composite Table - Industrial Soils
		Future On-Site Worker (Indoor)	Vapor Intrusion into Buildings	Soil	Unsaturated Zone (0-20 feet bgs)	TPH	Oregon DEQ RBC_{si} - Occupational for Generic Gasoline and Diesel
						VOCs	Oregon DEQ RBC_{si} - Occupational
				Groundwater	Shallow	TPH	Oregon DEQ RBC_{wi} - Occupational for Generic Gasoline and Diesel
						VOCs	Oregon DEQ RBC_{wi} - Occupational
		Future On-site Worker (Outdoor), Future Construction Worker, Future Maintenance Worker, Future Trespasser	Volatilization to Outdoor Air	Soil	Unsaturated Zone (0-20 feet bgs)	TPH	Oregon DEQ RBC_{so} - Occupational for Generic Gasoline and Diesel
						VOCs	Oregon DEQ RBC_{so} - Occupational
				Groundwater	Shallow	TPH	Oregon DEQ RBC_{wo} - Occupational for Generic Gasoline and Diesel
						VOCs	Oregon DEQ RBC_{wo} - Occupational
Current Ecological Risk	"Bank" Area	Terrestrial Plants, Terrestrial Invertebrates, Terrestrial Birds, Terrestrial Mammals, Terrestrial Amphibians, Terrestrial Reptiles	Soil Incidental Ingestion, Contact/Uptake	Soil	0-0.5 feet bgs	TPH	State of Washington Ecological Indicator Concentrations, wildlife and biota receptors
						VOCs PAHs Metals PCBs	EPA Ecological Soil Screening Levels; if none exist then use Oregon DEQ Level II Ecological SLVs for terrestrial receptors
		Burrowing Terrestrial Mammals	Soil Incidental Ingestion, Contact/Uptake	Soil	0-3 feet bgs	TPH	State of Washington Ecological Indicator Concentrations, wildlife and biota receptors
						VOCs PAHs Metals PCBs	EPA Ecological Soil Screening Levels; if none exist then use Oregon DEQ Level II Ecological SLVs for terrestrial receptors
Future Ecological Risk	"Bank" Area plus 25-ft Greenway Setback	Terrestrial Plants, Terrestrial Invertebrates, Terrestrial Birds, Terrestrial Mammals, Terrestrial Amphibians, Terrestrial Reptiles	Soil Incidental Ingestion, Contact/Uptake	Soil	0-0.5 feet bgs	TPH	State of Washington Ecological Indicator Concentrations, wildlife and biota receptors
						VOCs PAHs Metals PCBs	EPA Ecological Soil Screening Levels; if none exist then use Oregon DEQ Level II Ecological SLVs for terrestrial receptors
		Burrowing Terrestrial Mammals	Soil Incidental Ingestion, Contact/Uptake	Soil	0-3 feet bgs	TPH	State of Washington Ecological Indicator Concentrations, wildlife and biota receptors
						VOCs PAHs Metals PCBs	EPA Ecological Soil Screening Levels; if none exist then use Oregon DEQ Level II Ecological SLVs for terrestrial receptors
Willamette River Source Control[b]	"Bank" Area	Willamette River	Erodible Soils Transported to River	Soil	0-3 feet bgs	TPH	None; there is no JSCS SLV for gasoline or diesel
						VOCs PAHs Metals PCBs	JSCS SLVs
	Entire Site	Willamette River	Migration of Groundwater to River	Groundwater	Shallow	TPH	None; there is no JSCS SLV for gasoline or diesel
						VOCs PAHs Metals PCBs	JSCS SLVs

[a] Exposure area for the Trespasser also include erodible soils in the "bank" area and 25-foot Greenway setback.
[b] Risk pathways to Willamette River are being addressed through Portland Harbor Joint Source Control Strategy (JSCS) program and will not be addressed in the ecological risk assessment. JSCS SLVs will be used to screen these data.
[c] Screening values to be used for the PEO risk assessments shall be those current and published as of 31 October 2012.

RBC_{ss} - Risk-Based Concentration for Soil Ingestion, Dermal Contact, and Inhalation
RBC_{si} - Risk-Based Concentration for Vapor Intrusion Into Buildings from Soils
RBC_{so} - Risk-Based Concentration for Volatilization to Outdoor Air from Soils
RBC_{wi} - Risk-Based Concentration for Vapor Intrusion Into Buildings from Groundwater
RBC_{wo} - Risk-Based Concentration for Volatilization to Outdoor Air from Groundwater

OREGON BIODIVERSITY INFORMATION CENTER

Institute for Natural Resources
Portland State UNIVERSITY
Mail Stop: INR
Post Office Box 751
Portland, Oregon 97207
503.725.9950
http://orbic.pdx.edu

July 1, 2012

Estelle Shiroma
AlterEcho/TechLaw
921 11th St.
Sacramento, CA 95814

Dear Ms. Shiroma:

Thank you for requesting information from the Oregon Biodiversity Information Center (ORBIC). We have conducted a data system search for rare, threatened and endangered plant and animal records for your Former Premier Edible Oils Site Project in T2N, R1W, Sec 35.

[Thirty-one] (31) element occurrence records were noted within a two-mile radius of your project and are included on the enclosed computer printout and in the spatial layer (separate file).

Please remember that a lack of rare element information from a given area does not necessarily indicate there are no significant elements present, only that there is no information known to us from the site. To ensure there are no significant elements present that may be affected by your project, you should inventory the site during the appropriate season.

This data is confidential and for the specific purposes of your project and is **not to be distributed**. Please also note that as our database is continually updated, the data in this report should be considered current for a maximum of one year from the date it was generated and should not be cited thereafter.

Please forward the included invoice to the appropriate party in your organization for payment.

If you need additional information or have any further questions, please do not hesitate to contact me.

Sincerely,

Lindsey Wise
Data Specialist, Botanist
lindsey.wise@pdx.edu
503.725.9952

encl.: **invoice (H-070112-SV3)**
computer printout and data key

Scientific Name: ***Acipenser medirostris*** EO NUM: 1

Common Name: **Green sturgeon** EO ID: 19198

Federal Status: SOC GRANK: G3 NHP List: 4 Category: Vertebrate Animal

State Status: SRANK: S3 HP Track: W ELCODE: AFCAA01030

Confirmed: First Obs: Last Obs: EO Rank:

Directions: COLUMBIA RIVER AND ESTUARY, UPSTREAM TO BONNEVILLE DAM. WILLAMETTE RIVER BELOW WILLAMETTE FALLS.

County Name	Ecoregion	Owner Name/Type	Watershed
Clatsop	CR	STATE	1708000105 - COLUMBIA GORGE TRIBUTARIES W.
Columbia	ME		1708000106 - GORDON CREEK/LOWER SANDY RIVER
Multnomah	WC		1708000302 - BEAVER CREEK
	WV		1708000303 - PLYMPTON CREEK
			1708000601 - YOUNGS BAY TRIBUTARIES
			1708000602 - BIG CREEK / GNAT CREEK
			1709000704 - ABERNATHEY CREEK
			1709001201 - JOHNSON CREEK
			1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
008N010W			45121-E8	Tanner Butte	
008N009W			45121-F8	Bonneville Dam	
008N008W			45122-C5	Oregon City	
009N008W			45122-D5	Gladstone	
009N007W			45122-D6	Lake Oswego	
008N006W			45122-E1	Multnomah Falls	
009N006W			45122-E2	Bridal Veil	
			45122-E3	Washougal	
			45122-E4	Camas	
			45122-E5	Mount Tabor	
			45122-E6	Portland	
			45122-E7	Linnton	
			45122-F6	Vancouver	
			45122-F7	Sauvie Island	
			45122-G7	Saint Helens	
			45122-H7	Deer Island	
			46122-A7	Kalama	
			46122-A8	Rainier	
			46122-B8	Kelso	
			46123-B1	Coal Creek	
			46123-B2	Oak Point	
			46123-B3	Nassa Point	
			46123-B4	Cathlamet	
			46123-B6	Cathlamet Bay	
			46123-B7	Astoria	
			46123-B8	Warrenton	
			46123-C4	Skamokawa	
			46123-C5	Grays River	
			46123-C6	Rosburg	
			46124-B1	Clatsop Spit	

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
19198 - Line	Linear (8 m)	
38085 - Line	Linear (8 m)	

Feature ID	Date	Source Observation data

Occurence Data

EO Type: YEAR-ROUND - fish Min. Elev.(m):

EO Data: NO COLLECTION INFORMATION AVAILABLE. GREEN STURGEON ADULTS ARE ABUNDANT AND THE NUMBERS ARE STABLE IN THE LOWER COLUMBIA RIVER. THEY ARE RARELY FOUND IN THE COLUMBIA RIVER FROM PUGET ISLAND (RM40) UPSTREAM TO BONNEVILLE DAM AND TO WILLAMETTE FALLS IN THE WILLAMETTE RIVER. (1995 ODFW BIENNIAL REPORT ON THE STATUS OF WILD FISH IN OREGON)

EO Comments:

Protection:

Management:

Specimens:

General: GREEN STURGEON NOT ABUNDANT IN ANY PACIFIC COAST ESTUARY. LITTLE IS KNOWN ABOUT ITS LIFE HISTORY. THIS SPECIES MORE MARINE ORIENTED THAN WHITE STURGEON AND SPENDS LIMITED AMOUNT OF TIME IN FRESHWATER (EXCEPT PERHAPS EARLY JUVENILES AND SPAWNING ADULTS). B91NOA01ORUS.

Scientific Name: ***Actinemys marmorata*** EO NUM: 480

Common Name: **Pacific pond turtle** EO ID: 25495

Federal Status: SOC GRANK: G3G4 NHP List: 2 Category: Vertebrate Animal

State Status: SC SRANK: S2 HP Track: Y ELCODE: ARAAD02030

Confirmed: First Obs: 1991 Last Obs: 1999-10 EO Rank: BC - Good or fair estimated viability

Directions: Burlington Bottoms

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	21		45122-F7	Sauvie Island	
002N001W	20				
002N001W	17				
002N001W	28				
002N001W	29				

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
40714 - Polygon	Negligible (8 m)	

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m):

EO Data: 1999: 20 turtles captured and released between March and October. 1998: 5 turtles captured and released between March and September. 1992: 2 turtles. 1991: 1 male turtle.

EO Comments:

Protection:

Management:

Specimens:

General: Holland #OR432W. 1991 sighting by Bill Burkette, photo taken and reported to Scott Pearson, TNC. 1991 turtle seen w/ 2 Western painted turtles. Used to be EO rep # 103.

Scientific Name: ***Agelaius tricolor*** EO NUM: 2

Common Name: **Tricolored blackbird** EO ID: 17658

Federal Status: SOC GRANK: G2G3 NHP List: 2 Category: Vertebrate Animal

State Status: SRANK: S2B HP Track: Y ELCODE: ABPBXB0020

Confirmed: First Obs: 1983 Last Obs: 1989-04-01 EO Rank: H? - Possibly historical

Directions: ST. JOHNS LANDFILL IN PORTLAND

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV	CITY	1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001E	32		45122-E6	Portland	
002N001W	36		45122-E7	Linnton	
001N001E	06				
001N001E	08				
001N001E	07				
001N001E	09				
002N001E	31				
001N001E	05				
001N001E	04				

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
17658 - Point	Areal - Estimated (1500 m)	
57296 - Point	Areal - Estimated (25 m)	

Feature ID	Date	Source Observation data
57296	1989-04-01	1 male was observed. St. John's landfill site in North Portland. Sighting report, Lethaby, 1989.

Occurence Data

EO Type: Min. Elev.(m): 6

EO Data: 1989 (04-01): 1 male observed. See Sources for detail. 1985: A COLONY OF 20-30 BIRDS PRESENT DURING THE NESTING SEASON. 1983: 36 BIRDS OBSERVED 6/25-7/31, APPARENTLY NESTING.

EO Comments: DENSE HIMALAYAN BLACKBERRIES ADJACENT TO A BLIND SLOUGH W/ SPARSE TREE COVER ALONG THE SLOUGH MARGINS

Protection:

Management:

Specimens:

General: Sighting report, Lethaby, 1989. Oregon Birds 15 (4): 307.
REPORTED BY HOUCK ET AL. THIS COLONY WOULD BE ABOUT 250 MI N OF THE CLOSEST NESTING AREAS IN THE ROGUE RIVER VALLEY

Scientific Name: ***Anodonta californiensis*** EO NUM: 25

Common Name: **California floater (mussel)** EO ID: 30314

Federal Status: SOC GRANK: G3Q NHP List: 2 Category: Invertebrate Animal

State Status: SRANK: S2 HP Track: Y ELCODE: IMBIV04020

Confirmed: First Obs: 1977-02-11 Last Obs: 2004-09-10 EO Rank: E - Verified extant (viability not assessed)

Directions: Bybee Lake in Portland

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV	ODFW	1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001E	31		45122-E6	Portland	
002N001W	36				

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
51129 - Point	Areal - Estimated (50 m)	

Feature ID	Date	Source Observation data
51129	2004-09-10	
51129	2004-08-13	
51129	2001-09-19	
51129	1977-02-11	

Occurence Data

EO Type: Min. Elev.(m): 3

EO Data: 2004: Collected by Smith. 2001: Collected by Smith. 1977: Collected by Elliphrit.

EO Comments:

Protection:

Management:

Specimens:

General: 2008 freshwater mollusk shapefile from ODFW, collector: Elliphrit and Smith, Al

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Scientific Name: ***Anodonta oregonensis*** EO NUM: 6

Common Name: **Oregon floater (mussel)** EO ID: 30355

Federal Status: GRANK: G5Q NHP List: 4 Category: Invertebrate Animal

State Status: SRANK: S3 HP Track: W ELCODE: IMBIV04110

Confirmed: First Obs: 2001-09-19 Last Obs: 2005-10-10 EO Rank: E - Verified extant (viability not assessed)

Directions: Smith and Bybee Lakes

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV	ODFW	1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001E	31		45122-E6	Portland	

002N001W 36

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
51175 - Point	Areal - Estimated (50 m)	
51176 - Point	Areal - Estimated (50 m)	

Feature ID	Date	Source Observation data
51175	2005-10-10	
51175	2004-09-10	
51175	2004-08-13	
51175	2001-09-19	

Occurence Data

EO Type: Min. Elev.(m):

EO Data:

EO Comments:

Protection:

Management:

Specimens:

General: 2008 freshwater mollusk shapefile from ODFW, collector: Smith, Al

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Scientific Name: ***Carex comosa*** EO NUM: 4

Common Name: **Bristly sedge** EO ID: 21506

Federal Status: GRANK: G5 NHP List: 2 Category: Vascular Plant

State Status: SRANK: S1 HP Track: Y ELCODE: PMCYP032Y0

Confirmed: First Obs: 1882-06 Last Obs: 1884-06-05 EO Rank: H - Historical

Directions: SAUVIE ISLAND

County Name	Ecoregion	Owner Name/Type	Watershed
Columbia	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL
Multnomah			

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
004N001W	22		45122-E7	Linnton	
004N001W	20		45122-F7	Sauvie Island	
002N001W	34		45122-G7	Saint Helens	
002N001W	28				
002N001W	22				
002N001W	21				
002N001W	14				
002N001W	16				
002N001W	18				
002N001W	10				
004N001W	16				
002N001W	07				
002N001W	02				
002N001W	04				
002N001W	06				
003N001W	35				
003N001W	34				
003N001W	32				
003N002W	36				
003N001W	27				
003N001W	29				
004N001W	03				
003N001W	22				
003N001W	20				
003N001W	14				
003N001W	16				
003N001W	11				
003N001W	10				
003N001W	02				
003N001W	04				

004N001W	34
004N001W	27
004N001W	28
004N001W	33
004N001W	35
003N001W	03
003N001W	09
003N001W	17
003N001W	15
003N001W	19
003N001W	21
003N001W	23
003N001W	30
003N001W	28
003N001W	26
003N001W	31
003N001W	33
004N001W	10
002N002W	01
002N001W	05
002N001W	03
002N002W	12
002N001W	08
002N001W	09
002N001W	11
002N001W	17
002N001W	15
002N001W	20
004N001W	15
002N001W	23
002N001W	27
004N001W	21

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
43431 - Polygon	Areal - Delimited (8 m)	

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m): 3

EO Data: HERBARIUM COLLECTION: 1) T.J. HOWELL, 6-1882, 0SC-1989 (ORIG ID C. PSEUDOCYPERUS VAR COMOSA (ANN. TO C. COMOSA JW STACEY). 2) HENDERSON #1051, 6-5-1884, OSC-1991 (SEE ANNOTATION NOTES IN #1).

EO Comments: FLOATING ISLAND (HENDERSON 1884)

Protection:

Management:

Specimens: HOWELL, T J (#356). 6-1882. OSC-1989.
HENDERSON, L F (#1051). 6-5-1884. OSC-1991.

General: 2004-08 Non-specific point changed to a digitized Sauvie Island polygon. HERBARIUM COLLECTION: 1) T.J. HOWELL, 6-1882, 0SC-1989 (ORIG ID C. PSEUDOCYPERUS VAR COMOSA (ANN. TO C. COMOSA JW STACEY). 2) HENDERSON #1051, 6-5-1884, OSC-1991 (SEE ANNOTATION NOTES IN #1).

Scientific Name: ***Chrysemys picta*** EO NUM: 22

Common Name: **Painted turtle** EO ID: 5760

Federal Status: GRANK: G5 NHP List: 2 Category: Vertebrate Animal

State Status: SC SRANK: S2 HP Track: Y ELCODE: ARAAD01010

Confirmed: First Obs: 1939 Last Obs: 2004-04 EO Rank: A - Excellent estimated viability

Directions: SMYTH-BYBEE LAKES, Benson Point, and the Rivergate Industrial District (T5 powerline wetlands at N. Rivergate Blvd. and Time Oil Road in the Rivergate Industrial District).

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV	ODFW City	1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name

002N001W	25	45122-E6	Portland
002N001E	19	45122-E7	Linnton
002N001W	23	45122-F6	Vancouver
002N001W	14	45122-F7	Sauvie Island
001N001E	06		
002N001E	32		
002N001W	36		
002N001W	34		
002N001E	30		
002N001E	29		
002N001W	35		
002N001E	31		
001N001E	05		
002N001E	20		
002N001W	13		
002N001W	24		
002N001W	26		

Source Feature	Uncertainty Type (Distance) [Use Class]
24647 - Point	Areal - Estimated (800 m)
42965 - Point	Areal - Estimated (400 m)
50618 - Polygon	Areal - Delimited (8 m)
50620 - Point	Areal - Estimated (800 m)

Annual Observations

- 2004 - 70
- 1998 - 0
- 1995 - 1
- 1993 - 128
- 1985 - 1
- 1939 - collection

Feature ID	Date	Source Observation data
42965	2004-04	About 70 turtles observed.
42965	1999-05-23	209 turtles observed from May 23, 1999 to October 5, 1999. Time Oil Ponds, T 2N, R 1W, 35. From 1999 ODFW Scientific Taking Permit Report, held by the Port of Portland.
24647	1998	None found.
24647	1995	1 turtle observed.
50618	1993	128 turtles observed.
50618	1985	1 turtle observed.
50620	1939	Historic collection.

Occurence Data

EO Type: Min. Elev.(m): 3

EO Data: 2004: About 70 turtles observed at Rivergate Industrial District. 1999 (05-23 to 10-05): 209 turtles observed, Time Oil Ponds. 1998: None found at Benson Point. 1995: 1 turtle observed at Benson Point. 1993: 128 INDIVIDUALS OBSERVED (Smyth-Bybee). 1985: 1 PAINTED TURTLE OBSERVED (Smyth-Bybee). 1939: Historic collection near mouth of Willamette River.

EO Comments: Smyth-Bybee: SUNNING LOGS & SNAILS ABUNDANT. NO OTHER TURTLE SPECIES PRESENT. BULLFROGS ABUNDANT (1993). Rivergate site: Basking, nesting and overwintering habitat. Two seasonal ponds and one permanent pond covering approx. 5 acres. The seasonal ponds have 100% herbaceous cover Sept. to December, dominated by native plants. Up to 4ft of water depth during winter months. The permanent pond is ringed by willow and cattail. All ponds have large woody debris. Sandy soils from dredging make up the upland adjacent to the ponds. The sandy soils are 90% vegetated and are managed for turtle nesting habitat. South-facing slopes leading down to the ponds have been planted with various native trees and shrubs. Ponds are used by various waterfowl; grass upland is used by several ground nesting birds. (2004)

Protection: Rivergate (2004): Distrubances/threats include adjacent road and truck traffic but wildlife undercrossing has recently been installed connecting this site with habitat on the other side of Time Oil Road. Some bullfrog present and some predation on eggs by raccoon and coyote. Site is protected as a wetland mitigation site.

Management:

Specimens:

General: OBSERVERS: Denise Rennis (2004). Maurita Smyth (1998 and 1995). MARK HAYES AND DAN HOLLAND (1993). PHILLIP GADDIS AND CHAR CORKRAN (1985). Graf, William; Jewett, Stanley; Gordon, Lewis (1939).

Scientific Name: ***Chrysemys picta*** EO NUM: 33

Common Name: **Painted turtle** EO ID: 24746

Federal Status: GRANK: G5 NHP List: 2 Category: Vertebrate Animal

State Status: SC SRANK: S2 HP Track: Y ELCODE: ARAAD01010

Confirmed: Y First Obs: 1991-04-19 Last Obs: 1999-09 EO Rank: A - Excellent estimated viability

Directions: BURLINGTON BOTTOMS

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	28		45122-F7	Sauvie Island	BURLINGTON BOTTOMS
002N001W	21				
002N001W	17				
002N001W	20				
002N001W	29				

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
42033 - Polygon	Negligible (8 m)	

Feature ID Date Source Observation data

Occurence Data

EO Type: Min. Elev.(m): 6

EO Data: 1999: total of 230 turtles caught during mark-recapture study between March and Oct. 1998: 176 turtles caught during mark-recapture study between March and Sept. 1991: 8 turtles observed 6/27-7/2. Single adult observed sunning at edge of pond south of access road.

EO Comments:

Protection:

Management:

Specimens:

General:

Scientific Name: ***Falco peregrinus anatum*** EO NUM: 164

Common Name: **American peregrine falcon** EO ID: 25885

Federal Status: GRANK: G4T4 NHP List: 2 Category: Vertebrate Animal

State Status: SV SRANK: S2B HP Track: Y ELCODE: ABNKD06071

Confirmed: First Obs: 1996 Last Obs: 2003 EO Rank:

Directions: Sensitive Data - contact ORNHIC for more information

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV	STATE	1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
001N001W	11		45122-E7	Linnton	

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
41545 - Point	Areal - Estimated (50 m)	• 2003 - 3 young raised in captivity and released • 2002 - ORNHIC has not received data yet • 2001 - ORNHIC has not received data yet • 2000 - ORNHIC has not received data yet • 1999 - ORNHIC has not received data yet • 1998 - unoccupied nest • 1997 - occupied nest, inactive • 1996 - active nest, nesting failure

Feature ID Date Source Observation data

Occurence Data

EO Type: Min. Elev.(m):

EO Data: Documented nesting site. See annual observations and additional topics.

EO Comments:

Protection:

Management:

Specimens:

General: Site OE-44. 2003: 3 young raised in captivity and released, outcome influenced by human intervention.

Scientific Name: ***Fisherola nuttalli*** EO NUM: 3

Common Name: **Shortface lanx (=Giant Columbia River limpet)** EO ID: 20861

Federal Status: GRANK: G2 NHP List: 1 Category: Invertebrate Animal

State Status: SRANK: S1S2 HP Track: Y ELCODE: IMGASL6010

Confirmed: First Obs: 1982 Last Obs: 1985 EO Rank: D - Poor estimated viability

Directions: COLUMBIA RIVER, NEAR PORTLAND

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV	STATE	1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001E	35		45122-E6	Portland	

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
20861 - Point	Areal - Estimated (8050 m)	

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m): 5

EO Data: SAMPLED BY FREST '88 - POPULATION MAY BE EXTINCT. TAYLOR OBSERVED IN '82 AND '85.

EO Comments: STREAM SIZE EVIDENTLY NOT A FACTOR IF IT IS RELATIVELY UNPOLLUTED, COLD AND WELL OXYGENATED, WITH PERMANENT FLOW AND A COBBLE-BOULDER SUBSTRATE; THESE CONDITIONS OCCUR IN RAPIDS.

Protection:

Management:

Specimens:

General: SURVEY OF COLUMBIA RIVER BASIN STREAMS FOR GIANT COLUMBIA RIVER SPIRE SNAIL AND GREAT COLUMBIA RIVER LIMPET, PACIFIC NW LABORATORY 10-89.

Scientific Name: ***Fluminicola virens*** EO NUM: 1

Common Name: **Olympia pebblesnail** EO ID: 32254

Federal Status: GRANK: G2 NHP List: 2 Category: Invertebrate Animal

State Status: SRANK: S2 HP Track: Y ELCODE: IMGASG3130

Confirmed: First Obs: 1996-pre Last Obs: 1996-pre EO Rank:

Directions: Willamette River, from Corvallis to its mouth, and the lower Columbia River below Portland.

County Name	Ecoregion	Owner Name/Type	Watershed
Benton	WV		1709000302 - MUDDY CREEK
Clackamas			1709000304 - OAK CREEK
Linn			1709000702 - RICKREALL CREEK
Marion			1709000703 - WILLAMETTE RIVER, SALEM TO NEWBERG TRIBUTARIES
Multnomah			1709000704 - ABERNATHEY CREEK
Polk			1709001201 - JOHNSON CREEK
Yamhill			1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
010S003W	30		44123-E2	Riverside	
006S003W	21		44123-E3	Corvallis	
006S003W	33		44123-F1	Albany	
008S004W	01		44123-F2	Lewisburg	
010S003W	32		44123-G1	Sidney	
005S003W	34		44123-G2	Monmouth	
011S004W	16		44123-H1	Salem West	
011S004W	10		44123-H2	Rickreall	
008S004W	21		45122-A8	Gervais	
011S004W	09		45122-B8	Saint Paul	
001N001W	12		45122-C5	Oregon City	
001N001W	11		45122-C6	Canby	
011S003W	05		45122-C7	Sherwood	
008S004W	14		45122-C8	Newberg	
006S003W	32		45122-D5	Gladstone	
001N001W	02		45122-D6	Lake Oswego	
001N001W	13		45122-E6	Portland	
001N001E	18		45122-E7	Linnton	
001N001E	19		45122-F7	Sauvie Island	
001N001E	20		45123-A1	Mission Bottom	
001N001E	21		45123-B1	Dayton	

001N001E	28	45123-C1	Dundee
001N001E	27		
001N001E	34		
001S001E	03		
001S001E	10		
001S001E	15		
001S001E	22		
001S001E	27		
001S001E	26		
001S001E	35		
002S001E	02		
002S001E	11		
002S001E	14		
002S001E	13		
002S001E	24		
002S002E	19		
002S002E	30		
002S001E	36		
002S002E	31		
002N001W	35		
003S001E	01		
011S003W	06		
003S001E	11		
002N001W	34		
003S001W	22		
002N001W	27		
003S001W	24		
011S004W	01		
003S001E	20		
008S004W	12		
003S001E	22		
002N001W	23		
003S002W	30		
002N001W	22		
003S001W	29		
011S004W	02		
003S001W	27		
002N001W	13		
003S003W	36		
002N001W	14		
003S002W	32		
011S004W	03		
003S002W	34		
008S004W	11		
003S001W	31		
006S003W	29		
004S003W	01		
005S003W	25		
004S002W	01		
005S003W	14		
005S003W	10		
005S003W	01		
005S003W	11		
004S003W	27		
004S003W	22		
007S003W	28		
010S004W	11		
004S003W	14		
007S003W	29		
007S003W	30		
006S003W	16		
009S004W	24		
009S004W	23		
007S004W	25		

009S003W	18
009S004W	26
009S004W	35
009S004W	36
010S004W	02
004S001W	06
010S004W	14
007S004W	36
006S003W	20
007S003W	31
005S003W	26
010S003W	29
004S003W	35
009S004W	13
007S003W	22
006S003W	09
005S003W	24
009S003W	08
009S003W	07
007S003W	21
009S003W	05
009S003W	06
007S003W	15
006S003W	04
009S004W	01
008S004W	36
007S003W	10
003S001E	10
008S004W	35
003S001E	02
012S005W	02
008S004W	34
003S001E	15
003S001W	23
003S001E	19
003S001E	21
003S001E	23
003S002W	29
003S001W	28
003S001E	27
003S002W	31
003S002W	33
003S002W	35
003S001W	32
004S002W	02
004S003W	12
004S003W	15
004S003W	13
004S003W	23
004S003W	26
004S003W	36
007S003W	03
005S003W	35
005S003W	13
011S005W	36
011S005W	35
008S004W	33
011S004W	28
011S004W	29
005S003W	02
008S004W	28
007S003W	04
011S004W	30
011S005W	25

008S004W	23
010S004W	13
011S004W	21
010S004W	24
011S004W	20
008S004W	22
010S004W	25

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
55506 - Point	Linear (8 m)	
55507 - Point	Linear (8 m)	
55505 - Point	Linear (8 m)	
55508 - Point	Linear (8 m)	

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m):

EO Data: Five occurences along the Willamette River (from Portland to Corvallis), as described by Hershler and Frest, 1996. Precise locations and collection dates not reported.

EO Comments:

Protection:

Management:

Specimens:

General: 5 snails collected along Willamette, as described by Hershler and Frest, 1996.

Scientific Name: ***Gonidea angulata*** EO NUM: 66

Common Name: **Western ridged mussel** EO ID: 32902

Federal Status: GRANK: G3 NHP List: 2 Category: Invertebrate Animal

State Status: SRANK: S2S3 HP Track: Y ELCODE: IMBIV19010

Confirmed: First Obs: 1936-pre Last Obs: 1948-pre EO Rank: H - Historical

Directions: Willamette River at Kelley Point, about 2.4 mi. West of Vancouver Lake Wildlife Area.

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	13		45122-F7	Sauvie Island	
002N001W	14				
002N001W	24				
002N001W	23				

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
57183 - Point	Areal - Estimated (800 m)	

Feature ID	Date	Source Observation data
57183	1948-Pre	Present, mouth of Willamette River, Oregon. Xerces Society notes the record as from literature but does not provide citation.
57183	1936-Pre	Present, mouth of Willamette River, Oregon. Xerces Society notes the record as from literature but does not provide citation.

Occurence Data

EO Type: Min. Elev.(m): 0

EO Data: Present. See Sources for detail.

EO Comments:

Protection:

Management:

Specimens:

General: From Xerces Society invertebrate shapefiles.

Scientific Name: ***Haliaeetus leucocephalus*** EO NUM: 665
Common Name: **Bald eagle** EO ID: 26097
Federal Status: GRANK: G5 NHP List: 4 Category: Vertebrate Animal
State Status: LT SRANK: S4B,S4N HP Track: Y ELCODE: ABNKC10010
Confirmed: First Obs: 2003 Last Obs: 2006 EO Rank: E - Verified extant (viability not assessed)
Directions: Smith Lake just NW of Barnes Yard.

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
001N001E	06		45122-E6	Portland	

Source Feature	Uncertainty Type (Distance) [Use Class]	
41855 - Point	Areal - Estimated (25 m)	Breeding

Annual Observations
- 2006 - 1 fledged
- 2005 - 3 fledged
- 2004 - 2 fledged
- 2003 - breeding failure

Feature ID Date Source Observation data

Occurence Data
EO Type: Min. Elev.(m): 6
EO Data: See annual observations.
EO Comments:
Protection:
Management:
Specimens:
General: Isaacs and Anthony nest 1116, 1190, and 1260. Nest 1116 originally built by red-tailed hawks. Nest 1190 built by osprey; successful nesting on manmade structure.

Scientific Name: ***Haliaeetus leucocephalus*** EO NUM: 752
Common Name: **Bald eagle** EO ID: 29216
Federal Status: GRANK: G5 NHP List: 4 Category: Vertebrate Animal
State Status: LT SRANK: S4B,S4N HP Track: Y ELCODE: ABNKC10010
Confirmed: First Obs: 2004 Last Obs: 2004 EO Rank: H? - Possibly historical
Directions: South of United Junction just to west of highway 30.

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	28		45122-F7	Sauvie Island	

Source Feature	Uncertainty Type (Distance) [Use Class]	
49072 - Point	Areal - Estimated (25 m)	Breeding

Annual Observations
- 2006 - status unknown
- 2005 - nest used by red-tailed hawks
- 2004 - site occupied, outcome unknown
- 2003 - status unknown

Feature ID Date Source Observation data

Occurence Data
EO Type: Min. Elev.(m): 61
EO Data: See annual observations.
EO Comments:
Protection:
Management:
Specimens:
General: Isaacs and Anthony nest 1230.

Scientific Name: ***Haliaeetus leucocephalus*** EO NUM: 803
Common Name: **Bald eagle** EO ID: 30883
Federal Status: GRANK: G5 NHP List: 4 Category: Vertebrate Animal
State Status: LT SRANK: S4B,S4N HP Track: Y ELCODE: ABNKC10010
Confirmed: First Obs: 2007 Last Obs: 2007 EO Rank: E - Verified extant (viability not assessed)
Directions: Harborton, in Forest Park 1/4 mile SW of Harborton.

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	CR	City of Portland	1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	33		45122-E7	Linnton	

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
52113 - Point	Areal - Estimated (25 m)	• 2007 - 1 fledged.

Feature ID Date Source Observation data

Occurence Data
EO Type: Min. Elev.(m): 152
EO Data: See annual observations.
EO Comments:
Protection:
Management: Forest Park.
Specimens:
General: Isaacs and Anthony nest 1401.

Scientific Name: ***Haliaeetus leucocephalus*** EO NUM: 804
Common Name: **Bald eagle** EO ID: 30884
Federal Status: GRANK: G5 NHP List: 4 Category: Vertebrate Animal
State Status: LT SRANK: S4B,S4N HP Track: Y ELCODE: ABNKC10010
Confirmed: First Obs: 2007 Last Obs: 2007 EO Rank: E - Verified extant (viability not assessed)
Directions: West Hayden Island, 0.8 miles SE of point.

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV	Unknown	

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001E	30		45122-F6	Vancouver	

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
52114 - Point	Areal - Estimated (25 m)	• 2007 - 1 fledged

Feature ID Date Source Observation data

Occurence Data
EO Type: Min. Elev.(m): 6
EO Data: See annual observations.
EO Comments:
Protection:
Management:
Specimens:
General: Isaacs and Anthony nest 1473.

Scientific Name: ***Howellia aquatilis*** EO NUM: 6
Common Name: **Howellia** EO ID: 12483
Federal Status: LT GRANK: G3 NHP List: 1 Category: Vascular Plant
State Status: LT SRANK: S1 HP Track: Y ELCODE: PDCAM0A010
Confirmed: Y First Obs: 1879 Last Obs: 1886-05 EO Rank: H - Historical

Directions: SAUVIE ISLAND. WILLAMETTE SLOUGH (J. HOWELL #187) AND PONDS IN STAGNANT WATER.

County Name	Ecoregion	Owner Name/Type	Watershed
Columbia	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL
Multnomah			

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
004N001W	22		45122-E7	Linnton	
004N001W	20		45122-F7	Sauvie Island	
002N001W	34		45122-G7	Saint Helens	
002N001W	28				
002N001W	22				
002N001W	21				
002N001W	14				
002N001W	16				
002N001W	18				
002N001W	10				
004N001W	16				
002N001W	07				
002N001W	02				
002N001W	04				
002N001W	06				
003N001W	35				
003N001W	34				
003N001W	32				
003N002W	36				
003N001W	27				
003N001W	29				
004N001W	03				
003N001W	22				
003N001W	20				
003N001W	14				
003N001W	16				
003N001W	11				
003N001W	10				
003N001W	02				
003N001W	04				
004N001W	34				
004N001W	27				
004N001W	28				
004N001W	33				
004N001W	35				
003N001W	03				
003N001W	09				
003N001W	17				
003N001W	15				
003N001W	19				
003N001W	21				
003N001W	23				
003N001W	30				
003N001W	28				
003N001W	26				
003N001W	31				
003N001W	33				
004N001W	10				
002N002W	01				
002N001W	05				
002N001W	03				
002N002W	12				
002N001W	08				
002N001W	09				
002N001W	11				
002N001W	17				
002N001W	15				
002N001W	20				

004N001W	15
002N001W	23
002N001W	27
004N001W	21

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
43436 - Polygon	Areal - Delimited (8 m)	

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m): 23

EO Data: HERBARIUM COLLECTION: HOWELL, 5-1886, OSC; HENDERSON, #592, 5-9-1885, OSC; J. HOWELL AND T. HOWELL, S.N., 5-1881, WTU, GH; J. HOWELL, S.N., 8-10-1879, GH; J. HOWELL, #187, 5-1879, GH

EO Comments: PONDS. IN STAGNANT WATER (J. HOWELL, #187).

Protection:

Management:

Specimens: HOWELL, 5-1886, OSC.
HENDERSON (#592). 5-9-1885. OSC
J. HOWELL AND T. HOWELL (S.N.). 5-1881. WTU, GH
J. HOWELL (S.N.). 8-10-1879. GH
J. HOWELL (#187). 5-1879. GH

General: 2004-08 Non-specific point changed to a digitized Sauvie Island polygon. TYPE LOCALITY. RELOCATION EFFORTS UNSUCCESSFUL.

Scientific Name: ***Oncorhynchus kisutch pop. 1*** EO NUM: 37

Common Name: **Coho salmon (Lower Columbia River ESU)** EO ID: 3164

Federal Status: LT GRANK: G4T2Q NHP List: 1 Category: Vertebrate Animal

State Status: LE SRANK: S2 HP Track: Y ELCODE: AFCHA02031

Confirmed: First Obs: 2001-pre Last Obs: 2009 EO Rank: E - Verified extant (viability not assessed)

Directions: SCAPPOOSE BAY, MULTNOMAH CHANNEL, WILLAMETTE RIVER

County Name	Ecoregion	Owner Name/Type	Watershed
Clackamas	WV		1708000302 - BEAVER CREEK
Columbia			1709001201 - JOHNSON CREEK
Multnomah			1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002S001E	14		45122-C5	Oregon City	
002S001E	10		45122-D5	Gladstone	
002S001E	03		45122-D6	Lake Oswego	
001S001E	35		45122-E6	Portland	
001S001E	27		45122-E7	Linnton	
004N001W	10		45122-F6	Vancouver	
001S001E	10		45122-F7	Sauvie Island	
001N001E	34		45122-F8	Dixie Mountain	
001N001E	28		45122-G7	Saint Helens	
001N001E	20		45122-G8	Chapman	
001N001E	17		45122-H7	Deer Island	
001N001E	18				
001N001W	12				
001N001E	06				
001N001W	02				
002N001E	31				
004N001W	08				
002N001W	34				
002N001W	25				
002N001W	28				
002N001W	23				
002N001W	21				
002N001W	20				
002N001W	14				
002N001W	18				

002N002W	12
002N001W	04
005N001W	34
003N001W	35
003N001W	33
003N002W	36
003N001W	28
003N001W	30
003N002W	25
003N001W	22
003N001W	20
003N001W	15
003N001W	17
003N001W	10
003N002W	12
003N001W	04
003N002W	02
004N001W	33
004N001W	31
004N001W	27
004N001W	29
004N001W	21
004N001W	16
002S002E	19
002S001E	13
004N001W	17
002S001E	24
002S002E	30
004N001W	20
004N001W	30
004N001W	28
004N002W	36
004N001W	34
003N002W	01
003N001W	03
003N001W	09
003N002W	14
003N002W	13
003N001W	16
003N001W	19
003N001W	21
003N001W	23
003N001W	29
003N001W	27
003N001W	31
003N001W	34
002N002W	01
002N001W	06
002N001W	03
002N001W	07
002N001W	17
002N001W	13
004N001W	03
002N001W	22
002N001W	24
002N001W	27
002N001E	30
002N001W	35
002N001W	36
002N001E	32
001N001E	05
001N001W	11
001N001W	13
004N001W	09

001N001E	19
001N001E	21
001N001E	27
001S001E	03
001S001E	15
001S001E	22
001S001E	26
001S001E	36
002S001E	02
002S001E	11

Source Feature | Uncertainty Type (Distance) [Use Class] | Annual Observations

Data currently not available.

Feature ID | Date | Source Observation data

Occurence Data

EO Type: REARING & MIGRATION - fish Min. Elev.(m):

EO Data: 2009: Classified as rearing by ODFW. Undocumented fish observations. 2001: ODFW DISTRIBUTION MAPS USED TO CREATE THE 1:24,000 COVERAGE.

EO Comments: Rearing & migration use.

Protection:

Management:

Specimens:

General: Distribution information used in this EOR was derived from ODFW geographic resources data produced and distributed in 1999. Unless specific data exists in the data field, the information presented in this EOR represents the "best professional judgement" by ODFW's district fisheries biologist; the presence of coho in described areas should be considered undocumented but as having a potential of being present. EOR was updated using ODFW geographic resources data produced and distributed in 2004. Updated with 2009 ODFW data.

Scientific Name: ***Oncorhynchus kisutch pop. 1*** EO NUM: 127

Common Name: **Coho salmon (Lower Columbia River ESU)** EO ID: 31327

Federal Status: LT GRANK: G4T2Q NHP List: 1 Category: Vertebrate Animal

State Status: LE SRANK: S2 HP Track: Y ELCODE: AFCHA02031

Confirmed: First Obs: 2001-pre Last Obs: 2001 EO Rank: H - Historical

Directions: Miller Creek in NW Portland.

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	CR WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	33		45122-E7	Linnton	

Source Feature | Uncertainty Type (Distance) [Use Class] | Annual Observations

Data currently not available.

Feature ID | Date | Source Observation data

Occurence Data

EO Type: Min. Elev.(m):

EO Data: 2001: Classified as previous/historical by ODFW.

EO Comments:

Protection:

Management: Culvert blocks historical distribution.

Specimens:

General: Distribution information used in this EOR was derived from ODFW 1:24,000 scale geographic resources data produced and distributed in 2009. Use type was determined by ODFW and other natural resources agency field staff based on survey data, supporting documentation, and the best professional judgement of the field biologists. Unless otherwise noted, the presence of coho in described areas should be considered undocumented but as having a potential of being present.

Scientific Name: ***Oncorhynchus mykiss pop. 27*** EO NUM: 1

Common Name: **Steelhead (Lower Columbia River ESU, winter run)** EO ID: 851

Federal Status: LT GRANK: G5T2Q NHP List: 1 Category: Vertebrate Animal

State Status: SC SRANK: S2 HP Track: Y ELCODE: AFCHA02132

Confirmed: First Obs: 1999-PRE Last Obs: 2009 EO Rank: E - Verified extant (viability not assessed)

Directions: SCAPPOOSE BAY, MULTNOMAH CHANNEL, WILLAMETTE RIVER

County Name	Ecoregion	Owner Name/Type	Watershed
Clackamas	WV		1709001201 - JOHNSON CREEK
Columbia			1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL
Multnomah			

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002S002E	19		45122-C5	Oregon City	
002S001E	13		45122-D5	Gladstone	
004N001W	10		45122-D6	Lake Oswego	
002S001E	10		45122-E6	Portland	
001S001E	36		45122-E7	Linnton	
001S001E	26		45122-F6	Vancouver	
001S001E	22		45122-F7	Sauvie Island	
001S001E	10		45122-G7	Saint Helens	
001S001E	03		45122-G8	Chapman	
001N001E	27				
001N001E	21				
001N001E	19				
001N001E	18				
004N001W	08				
001N001W	11				
001N001E	05				
002N001E	32				
002N001W	36				
002N001W	34				
002N001E	30				
002N001W	27				
002N001W	24				
002N001W	22				
002N001W	20				
004N001W	05				
002N001W	18				
002N002W	12				
002N002W	01				
003N001W	34				
003N001W	31				
003N002W	36				
003N001W	28				
003N002W	25				
003N001W	22				
003N001W	20				
003N001W	16				
003N001W	10				
003N001W	03				
004N001W	34				
004N001W	31				
004N002W	36				
004N001W	28				
004N002W	25				
004N001W	20				
004N001W	16				
004N001W	17				
004N001W	19				
004N001W	21				
004N001W	30				
004N001W	27				
004N001W	33				

003N001W	04
003N001W	09
003N001W	17
003N001W	15
003N001W	19
003N001W	21
003N001W	23
003N001W	30
003N001W	27
005N001W	32
003N001W	33
003N001W	35
002N001W	06
002N001W	07
002N001W	17
002N001W	14
002N001W	21
002N001W	23
002N001W	28
002N001W	25
004N001W	04
002N001W	35
002N001E	31
001N001W	02
001N001E	06
001N001W	12
001N001W	13
001N001E	17
001N001E	20
001N001E	28
001N001E	34
004N001W	09
001S001E	15
001S001E	27
001S001E	35
002S001E	02
002S001E	11
002S001E	14
002S001E	24
002S002E	30

Source Feature | Uncertainty Type (Distance) [Use Class] | Annual Observations

Data currently not available.

Feature ID | Date | Source Observation data

Occurence Data

EO Type: REARING & MIGRATION - fish Min. Elev.(m):

EO Data: 2009: Classified as rearing by ODFW. Undocumented fish observation.
WINTER RUN: ODFW DISTRIBUTIION MAPS USED TO CREATE THE 1:24,000 COVERAGE

EO Comments:

Protection:

Management:

Specimens:

General: DISTRIBUTION INFORMATION USED IN THIS EOR WAS DERIVED FROM ODFW GEOGRAPHIC RESOURCES DATA PRODUCED AND DISTRIBUTED IN 1999. UNLESS SPECIFIC DATA EXISTS IN THE DATA FIELD, THE INFORMATION PRESENTED IN THIS EOR REPRESENTS THE "BEST PROFESSIONAL JUDGMENT" BY ODFW'S DISTRICT FISHERIES BIOLOGIST; THE PRESENCE OF STEELHEAD IN DESCRIBED AREAS SHOULD BE CONSIDERED UNDOCUMENTED BUT AS HAVING A POTENTIAL OF BEING PRESENT.

Scientific Name: ***Oncorhynchus mykiss pop. 27*** EO NUM: 33
Common Name: **Steelhead (Lower Columbia River ESU, winter run)** EO ID: 13653
Federal Status: LT GRANK: G5T2Q NHP List: 1 Category: Vertebrate Animal
State Status: SC SRANK: S2 HP Track: Y ELCODE: AFCHA02132
Confirmed: First Obs: 1999-PRE Last Obs: 2009 EO Rank: E - Verified extant (viability not assessed)
Directions: COLUMBIA RIVER & TRIBUTARIES

County Name	Ecoregion	Owner Name/Type	Watershed
Columbia	EC		17070105 - Middle Columbia-Hood
Hood River	WC		17080001 - Lower Columbia-Sandy
Multnomah	WV		17090012 - Lower Willamette

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
			45121-E8	Tanner Butte	
			45121-F5	Hood River	
			45121-F6	Mount Defiance	
			45121-F7	Carson	
			45121-F8	Bonneville Dam	
			45122-E1	Multnomah Falls	
			45122-E2	Bridal Veil	
			45122-E3	Washougal	
			45122-E4	Camas	
			45122-E5	Mount Tabor	
			45122-E6	Portland	
			45122-F6	Vancouver	
			45122-F7	Sauvie Island	
			45122-G7	Saint Helens	

Source Feature | Uncertainty Type (Distance) [Use Class] | Annual Observations
Data currently not available.

Feature ID | Date | Source Observation data

Occurence Data
EO Type: MIGRATION - fish Min. Elev.(m):
EO Data: 2009: Classified as migrating by ODFW.
WINTER RUN: ODFW DISTRIBUTION MAPS USED TO CREATE THE 1:24,000 COVERAGE.
EO Comments:
Protection:
Management:
Specimens:
General: DISTRIBUTION INFORMATION USED IN THIS EOR WAS DERIVED FROM ODFW GEOGRAPHIC RESOURCES DATA PRODUCED AND DISTRIBUTED IN 1999. UNLESS SPECIFIC DATA EXISTS IN THE DATA FIELD, THE INFORMATION PRESENTED IN THIS EOR REPRESENTS THE "BEST PROFESSIONAL JUDGMENT" BY ODFW'S DISTRICT FISHERIES BIOLOGIST; THE PRESENCE OF STEELHEAD IN DESCRIBED AREAS SHOULD BE CONSIDERED UNDOCUMENTED BUT AS HAVING A POTENTIAL OF BEING PRESENT.

Scientific Name: ***Oncorhynchus tshawytscha pop. 21*** EO NUM: 6
Common Name: **Chinook salmon (Lower Columbia River ESU, spring run)** EO ID: 3132
Federal Status: LT GRANK: G5T2Q NHP List: 1 Category: Vertebrate Animal
State Status: SC SRANK: S2 HP Track: Y ELCODE: AFCHA0205W
Confirmed: First Obs: 1999-PRE Last Obs: 2009 EO Rank: E - Verified extant (viability not assessed)
Directions: SCAPPOOSE BAY, MULTNOMAH CHANNEL, WILLAMETTE RIVER

County Name	Ecoregion	Owner Name/Type	Watershed
Clackamas	WV		17090012 - Lower Willamette
Columbia			
Multnomah			

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
			45122-C5	Oregon City	
			45122-D5	Gladstone	
			45122-D6	Lake Oswego	
			45122-E6	Portland	

45122-E7	Linnton
45122-F7	Sauvie Island
45122-G7	Saint Helens

Source Feature | Uncertainty Type (Distance) [Use Class] | Annual Observations

Data currently not available.

Feature ID | Date | Source Observation data

Occurence Data

EO Type: REARING & MIGRATION - fish Min. Elev.(m):

EO Data: SPRING RUN; ODFW DISTRIBUTION MAPS USED TO CREATE THE 1:24,000 COVERAGE

EO Comments:

Protection:

Management:

Specimens:

General: DISTRIBUTION INFORMATION USED IN THIS EOR WAS DERIVED FROM ODFW GEOGRAPHIC RESOURCES DATA PRODUCED AND DISTRIBUTED IN 1999. UNLESS SPECIFIC DATA EXISTS IN THE DATA FIELD, THE INFORMATION PRESENTED IN THIS EOR REPRESENTS THE "BEST PROFESSIONAL JUDGMENT" BY ODFW'S DISTRICT FISHERIES BIOLOGIST; THE PRESENCE OF CHINOOK IN DESCRIBED AREAS SHOULD BE CONSIDERED UNDOCUMENTED BUT AS HAVING A POTENTIAL OF BEING PRESENT.

Scientific Name: ***Oncorhynchus tshawytscha pop. 22*** EO NUM: 6

Common Name: **Chinook salmon (Lower Columbia River ESU, fall run)** EO ID: 778

Federal Status: LT GRANK: G5T2Q NHP List: 1 Category: Vertebrate Animal

State Status: SC SRANK: S2 HP Track: Y ELCODE: AFCHA0205Y

Confirmed: First Obs: 1999-PRE Last Obs: 2009 EO Rank: E - Verified extant (viability not assessed)

Directions: SCAPPOOSE BAY & TRIBUTARIES, WILLAMETTE RIVER & TRIBUTARIES

County Name	Ecoregion	Owner Name/Type	Watershed
Clackamas	WV		1709000704 - ABERNATHEY CREEK
Columbia			1709001201 - JOHNSON CREEK
Multnomah			1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
001S001E	10		45122-C5	Oregon City	
004N001W	16		45122-D5	Gladstone	
001S001E	27		45122-D6	Lake Oswego	
001S001E	35		45122-E6	Portland	
002S001E	02		45122-E7	Linnton	
002S001E	14		45122-F7	Sauvie Island	
002S001E	24		45122-G7	Saint Helens	
002S002E	19				
002S002E	31				
004N001W	15				
002S001E	13				
002S002E	30				
002S001E	11				
001S001E	36				
001S001E	26				
001S001E	22				
001S001E	15				
001S001E	03				
001N001E	27				
001N001E	21				
001N001E	19				
004N001W	17				
001N001W	12				
001N001E	06				
001N001W	02				
002N001W	36				
002N001W	34				
002N001W	25				

002N001W	28
002N001W	23
002N001W	21
002N001W	14
004N001W	09
002N001W	07
002N001W	03
002N001W	06
003N001W	35
003N001W	33
003N001W	31
003N001W	27
003N001W	29
003N002W	25
003N001W	22
003N001W	19
003N001W	16
003N001W	10
003N001W	03
003N002W	01
004N001W	34
004N001W	31
004N001W	27
004N001W	29
004N001W	21
004N001W	20
004N001W	30
004N001W	28
004N002W	36
004N001W	33
003N001W	04
003N001W	09
003N001W	17
003N001W	15
003N001W	20
003N001W	21
003N001W	23
003N001W	30
003N001W	28
003N002W	36
003N001W	34
002N002W	01
002N001W	04
002N002W	12
002N001W	18
002N001W	17
002N001W	20
002N001W	22
002N001W	24
002N001W	27
004N001W	10
002N001W	35
002N001E	31
001N001E	05
001N001W	11
001N001W	13
001N001E	18
001N001E	20
001N001E	28
001N001E	34

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations

Data currently not available.

Feature ID Date Source Observation data

Occurence Data

EO Type: REARING & MIGRATION - fish Min. Elev.(m):

EO Data: 2009: Classified as rearing by ODFW. Undocumented fish observation. FALL RUN; ODFW DISTRIBUTION MAPS USED TO CREATE THE 1:24,000 COVERAGE

EO Comments:

Protection:

Management:

Specimens:

General: DISTRIBUTION INFORMATION USED IN THIS EOR WAS DERIVED FROM ODFW GEOGRAPHIC RESOURCES DATA PRODUCED AND DISTRIBUTED IN 1999. UNLESS SPECIFIC DATA EXISTS IN THE DATA FIELD, THE INFORMATION PRESENTED IN THIS EOR REPRESENTS THE "BEST PROFESSIONAL JUDGMENT" BY ODFW'S DISTRICT FISHERIES BIOLOGIST; THE PRESENCE OF CHINOOK IN DESCRIBED AREAS SHOULD BE CONSIDERED UNDOCUMENTED BUT AS HAVING A POTENTIAL OF BEING PRESENT. Updated with 2009 ODFW 1:24,000 coverage.

Scientific Name: ***Oncorhynchus tshawytscha pop. 23*** EO NUM: 91

Common Name: **Chinook salmon (Upper Willamette River ESU, spring run)** EO ID: 31243

Federal Status: LT GRANK: G5T2Q NHP List: 1 Category: Vertebrate Animal

State Status: SC SRANK: S2 HP Track: Y ELCODE: AFCHA02052

Confirmed: First Obs: 2009-pre Last Obs: 2009 EO Rank: E - Verified extant (viability not assessed)

Directions: From the mouth of the Willamette River to confluence with the Clackamas River.

County Name	Ecoregion	Owner Name/Type	Watershed
Clackamas	WV		1709001201 - JOHNSON CREEK
Multnomah			1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	22		45122-C5	Oregon City	
001N001E	28		45122-D5	Gladstone	
002N001W	13		45122-D6	Lake Oswego	
002N001W	14		45122-E6	Portland	
001N001E	19		45122-E7	Linnton	
001N001E	18		45122-F7	Sauvie Island	
001N001W	13				
002S002E	30				
001N001W	12				
001N001E	20				
001N001E	21				
001N001W	11				
001N001E	27				
001N001E	34				
001S001E	03				
002S001E	13				
002S001E	14				
001N001W	02				
002S001E	02				
002N001W	35				
001S001E	35				
001S001E	26				
002S001E	11				
002N001W	34				
001S001E	27				
002S001E	24				
002S002E	19				
001S001E	22				
002N001W	27				
001S001E	15				
001S001E	10				
002N001W	23				

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
Data currently not available.		

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m):
EO Data: 2009: Classified as rearing by ODFW.
EO Comments:
Protection:
Management:
Specimens:
General: Distribution information used in this EOR was derived from ODFW 1:24,000 scale geographic resources data produced and distributed in 2009. Use type was determined by ODFW and other natural resources agency field staff based on survey data, supporting documentation, and the best professional judgement of the field biologists. Unless otherwise noted, the presence of chinook in described areas should be considered undocumented but as having a potential of being present.

Scientific Name: ***Physella hordacea*** EO NUM: 2
Common Name: **Grain physa** EO ID: 32824
Federal Status: GRANK: G1Q NHP List: 1 Category: Invertebrate Animal
State Status: SRANK: S1 HP Track: Y ELCODE: IMGASM0150
Confirmed: First Obs: 1912 Last Obs: 1913 EO Rank:
Directions: Willamette River "6 miles above Portland"

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	34		45122-E7	Linnton	
002N001W	33				

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
57006 - Point	Areal - Estimated (100 m)	

Feature ID	Date	Source Observation data
57006	1913	museum collection, one specimen. Academy of Natural Sciences (ANSP) 112 435. Collections ended this year.
57006	1912	museum collection, one specimen. Academy of Natural Sciences (ANSP) 112 435. Collections continued through 1913.

Occurence Data

EO Type: Min. Elev.(m): 0
EO Data: 1912-1913: one specimen, museum collection
EO Comments:
Protection:
Management:
Specimens: ANSP 112 435
General:

Scientific Name: ***Progne subis*** EO NUM: 115
Common Name: **Purple martin** EO ID: 15628
Federal Status: SOC GRANK: G5 NHP List: 2 Category: Vertebrate Animal
State Status: SC SRANK: S2B HP Track: Y ELCODE: ABPAU01010
Confirmed: First Obs: 1998-06-15 Last Obs: 1998-07-17 EO Rank:
Directions: THIS SITE INCLUDES ALL THE MARTINS NESTING FROM THE SAUVIE ISLAND BRIDGE N THROUGH THE FERRY STREET BOATHOUSES AND INCLUDES THE BYBEE-HOWELL HOUSE AND THE PRIVATE HOME AT THE E END OF FERRY STREET. THIS IS A LARGE SPREAD OUT COLONY INCLUDED AS ONE SITE SI

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV	PRIVATE; LOCAL	1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name

002N001W	17	45122-F7	Sauvie Island
002N001W	20		
002N001W	21		
002N001W	28		

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
15628 Polygon	Areal - Delimited (8 m)	

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m): 9
EO Data: 1998: 55 PAIRS.
EO Comments: 16 PAIRS NESTING IN BOXES, 36 PAIRS IN GOURDS AND 3 PAIRS IN PILINGS.
Protection:
Management:
Specimens:
General:

Scientific Name: ***Progne subis*** EO NUM: 116
Common Name: **Purple martin** EO ID: 429
Federal Status: SOC GRANK: G5 NHP List: 2 Category: Vertebrate Animal
State Status: SC SRANK: S2B HP Track: Y ELCODE: ABPAU01010
Confirmed: First Obs: 1998-06-16 Last Obs: 1998-07-17 EO Rank:
Directions: FROM THE BRIDGE AT SAUVIE ISLAND, DRIVE E ON GILLIHAN RD ABOUT 1.5 MI. THE HOUSE IS NEAR THE DIKE TO THE S OF THE ROAD, AND THE GOURD RACK IS EASILY SEEN IN THE GARDEN.

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV	PRIVATE	1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	23		45122-F7	Sauvie Island	

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
429 - Point	Areal - Estimated (50 m)	

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m): 9
EO Data: 1998: 8 PAIRS.
EO Comments: 7 PAIRS ARE NESTING IN GOURDS AND 1 PAIR IN BOX.
Protection:
Management:
Specimens:
General: ACCORDING TO HORVATH SECTION 22 SE4

Scientific Name: ***Rotala ramosior*** EO NUM: 7
Common Name: **Toothcup** EO ID: 27208
Federal Status: GRANK: G5 NHP List: 2 Category: Vascular Plant
State Status: SRANK: S2 HP Track: Y ELCODE: PDLYT0B030
Confirmed: First Obs: 1915-09-30 Last Obs: 1915-09-30 EO Rank:
Directions: Columbia River

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001E	33		45122-E6	Portland	
002N001E	31		45122-F6	Vancouver	
002N001E	29				

002N001E	19
001N001E	15
001N001E	17
001N001E	09
001N001E	07
001N001E	03
001N001E	06
002N001E	34
001N001E	05
001N001E	04
001N001E	02
001N001E	08
001N001E	10
001N001E	11
001N001E	16
002N001E	30
002N001E	28
002N001E	32

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
44126 - Point	Areal - Estimated (4000 m)	• 1915 -

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m):

EO Data: Plants found

EO Comments: Bars and edges of ponds.

Protection:

Management:

Specimens: Flinn, M.A. (s.n.). 9-30-1915. ORE-61793

General: Herbarium collection. Annotated by Halse 1994.

Scientific Name: ***Sullivantia oregana*** EO NUM: 12

Common Name: **Oregon sullivantia** EO ID: 6216

Federal Status: SOC GRANK: G2 NHP List: 1 Category: Vascular Plant

State Status: C SRANK: S2 HP Track: Y ELCODE: PDSAX0X020

Confirmed: First Obs: 1887 Last Obs: 1887- EO Rank: U - Unrankable

Directions: SAUVIES ISLAND, MILWAUKIE (MAPPED ON SAUVIES ISLAND)

County Name	Ecoregion	Owner Name/Type	Watershed
Columbia	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL
Multnomah			

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
004N001W	22		45122-E7	Linnton	
004N001W	20		45122-F7	Sauvie Island	
002N001W	34		45122-G7	Saint Helens	
002N001W	28				
002N001W	22				
002N001W	21				
002N001W	14				
002N001W	16				
002N001W	18				
002N001W	10				
004N001W	16				
002N001W	07				
002N001W	02				
002N001W	04				
002N001W	06				
003N001W	35				
003N001W	34				

003N001W	32
003N002W	36
003N001W	27
003N001W	29
004N001W	03
003N001W	22
003N001W	20
003N001W	14
003N001W	16
003N001W	11
003N001W	10
003N001W	02
003N001W	04
004N001W	34
004N001W	27
004N001W	28
004N001W	33
004N001W	35
003N001W	03
003N001W	09
003N001W	17
003N001W	15
003N001W	19
003N001W	21
003N001W	23
003N001W	30
003N001W	28
003N001W	26
003N001W	31
003N001W	33
004N001W	10
002N002W	01
002N001W	05
002N001W	03
002N002W	12
002N001W	08
002N001W	09
002N001W	11
002N001W	17
002N001W	15
002N001W	20
004N001W	15
002N001W	23
002N001W	27
004N001W	21

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
43434 - Polygon	Areal - Delimited (8 m)	

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m):-339

EO Data: HERBARIUM COLLECTION: JOSEPH HOWELL, 1887, G. (ASSUMED TO BE GRAY HERBARIUM)

EO Comments:

Protection:

Management:

Specimens: HOWELL, JOSEPH. 1887. G. [GH? ASSUMED TO BE GRAY

General: 2004-08 Non-specific point changed to a digitized Sauvie Island polygon. FROM ROSENDAHL, C.O. 1927. REVISION OF THE GENUS SULLIVANTIA. MINN STUD. PLANT SCI 6:407

Scientific Name: ***Wolffia columbiana*** EO NUM: 2
Common Name: **Columbia water-meal** EO ID: 12582
Federal Status: GRANK: G5 NHP List: 2 Category: Vascular Plant
State Status: SRANK: S1 HP Track: Y ELCODE: PMLEM03030
Confirmed: Y First Obs: 1991 Last Obs: 1991-07-03 EO Rank: B - Good estimated viability
Directions: FROM I-5, FOLLOW COLUMBIA BLVD. WEST TO RIVERGATE, HEAD WEST ON RIVERGATE TO BOAT LANDING ON SMITH LAKE.

County Name	Ecoregion	Owner Name/Type	Watershed
Multnomah	WV	City	1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001E	31		45122-E6	Portland	Smith and Bybee Lakes

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
12582 - Point	Areal - Estimated (1500 m)	

Feature ID	Date	Source Observation data

Occurence Data
EO Type: Min. Elev.(m): 6
EO Data: NOT ABUNDANT IN SHELTERED AREAS, EDGE OF SALIX LASIANDRA SWAMP. WITH LEMNA MINOR.
EO Comments:
Protection:
Management:
Specimens:
General:

Scientific Name: ***Zizia aptera*** EO NUM: 2
Common Name: **Golden alexanders** EO ID: 12522
Federal Status: GRANK: G5 NHP List: 3 Category: Vascular Plant
State Status: SRANK: SNR HP Track: Y ELCODE: PDAPI2F010
Confirmed: First Obs: 1877-06 Last Obs: 1877-06 EO Rank:
Directions: SAUVIE ISLAND.

County Name	Ecoregion	Owner Name/Type	Watershed
Columbia Multnomah	WV		1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	17		45122-E7	Linnton	
002N001W	15		45122-F7	Sauvie Island	
002N001W	20		45122-G7	Saint Helens	
004N001W	15				
002N001W	23				
002N001W	27				
004N001W	21				
004N001W	22				
004N001W	20				
002N001W	34				
002N001W	28				
002N001W	22				
002N001W	21				
002N001W	14				
002N001W	16				
002N001W	18				
002N001W	10				
004N001W	16				
002N001W	07				
002N001W	02				
002N001W	04				
002N001W	06				

003N001W	35
003N001W	34
003N001W	32
003N002W	36
003N001W	27
003N001W	29
004N001W	03
003N001W	22
003N001W	20
003N001W	14
003N001W	16
003N001W	11
003N001W	10
003N001W	02
003N001W	04
004N001W	34
004N001W	27
004N001W	28
004N001W	33
004N001W	35
003N001W	03
003N001W	09
003N001W	17
003N001W	15
003N001W	19
003N001W	21
003N001W	23
003N001W	30
003N001W	28
003N001W	26
003N001W	31
003N001W	33
004N001W	10
002N002W	01
002N001W	05
002N001W	03
002N002W	12
002N001W	08
002N001W	09
002N001W	11

Source Feature	Uncertainty Type (Distance) [Use Class]	Annual Observations
43435 - Polygon	Areal - Delimited (8 m)	

Feature ID	Date	Source Observation data

Occurence Data

EO Type: Min. Elev.(m):

EO Data: HERBARIUM COLLECTION.

EO Comments: COPSES ON DRY GROUNDS.

Protection:

Management:

Specimens: HOWELL (s.n.). 6-1877. OSC.

General: 2004-08 Non-specific point changed to a digitized Sauvie Island polygon. HERBARIUM COLLECTION, 1995 NOTE FROM SCOTT SUNDBERG AT OSU. [TRS MAPPED BY ORNHP]

31 records total

Key to Oregon Natural Heritage Information Center Data

Field Name	Description
Scientific Name	The scientific name of the species.
Common Name	The common name of the species.
Category	Value that indicates the broad biological category for each species.
ELCODE	Unique Heritage Program code for identifying this element. 1st and 2nd byte (PD=Plant dict, PM=Plant monocot, PG=Plant gymnosperm, PP=Plant pteridophyte, AA=amphibian, AB=bird, AF=fish, AM=mammal, AR=reptile, I=invertebrate. 3rd-5th byte (family abbreviation). 6th-7th (genus code). 8th-9th (species). 10th (tie breaker).
Federal Status	US Fish and Wildlife Service or NOAA Fisheries status. **LE**=listed endangered, **LT**=listed threatened, **PE** or **PT**=proposed endangered or threatened, **C**=candidate for listing with enough information available for listing, **SOC** or **SC**=species of concern, **PS**:*xx*=partial status for species.
State Status	For animals, Oregon Department of Fish and Wildlife status; **LE**=listed endangered, **PE**=proposed endangered, **PT**=proposed threatened, **SC** or **C**=sensitive-critical, **SV** or **V**=sensitive-vulnerable, **SP** or **P**=sensitive-peripheral, **SU** or **U**=sensitive-undetermined status. For plants, Oregon Department of Agriculture status; **LE**=listed endangered, **LT**=listed threatened, **C**=candidate.
GRANK/SRANK	ORNHIC participates in an international system for ranking rare, threatened and endangered species throughout the world. The system was developed by The Nature Conservancy and is now maintained by NatureServe in cooperation with Heritage Programs or Conservation Data Centers (CDCs) in all 50 states, in 4 Canadian provinces, and in 13 Latin American countries. The ranking is a 1-5 scale, primarily based on the number of known occurrences, but also including threats, sensitivity, area occupied, and other biological factors. In this book, the ranks occupy two lines. The top line is the Global Rank and begins with a "G". If the taxon has a trinomial (a subspecies, variety or recognized race), this is followed by a "T" rank indicator. A "Q" at the end of this line indicates the taxon has taxonomic questions. The second line is the State Rank and begins with the letter "S". The ranks are summarized as follows: **1** = Critically imperiled because of extreme rarity or because it is somehow especially vulnerable to extinction or extirpation, typically with 5 or fewer occurrences; **2** = Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (extirpation), typically with 6-20 occurrences; **3** = Rare, uncommon or threatened, but not immediately imperiled, typically with 21-100 occurrences; **4** = Not rare and apparently secure, but with cause for long-term concern, usually with more than 100 occurrences; **5** = Demonstrably widespread, abundant, and secure; **H** = Historical Occurrence, formerly part of the native biota with the implied expectation that it may be rediscovered; **X** = Presumed extirpated or extinct; **U** = Unknown rank; **?** = Not yet ranked, or assigned rank is uncertain.
NHP list	All rare species in Oregon are assigned a list number of 1, 2, 3 or 4, where **1**=threatened or endangered throughout range, **2**=threatened or endangered in Oregon but more common elsewhere, **3**=Review List (more information is needed), **4**=Watch List (currently stable). A null value indicates the species is not currently on our rare species list.
HP Track	We currently obtain and computerize locational information for only those elements marked with **Y**(es). Those species marked with **N**(o) or **W**(atch) have incomplete data because we do not actively track them at this time.
EO ID	Unique identifier for the Element Occurrence (EO).
First_obs	First reported sighting date for this occurrence in the form YYYY-MM-DD.
Last_obs	Last reported sighting date, usually in the form YYYY-MM-DD.
Confirmed	Indication of whether taxonomic identification of the Element represented by this occurrence has been confirmed by a reliable individual. Blank=unknown, assumed to be correctly identified. Y=Yes, confident identification. ?=identification questions.
Directions	Site name and/or directions to site.
County	County name(s) in which EO is mapped.
Ecoregion	Physiographic Province in which EO is mapped: **CR**=Coast Range, **WV**=Willamette Valley, **KM**=Klamath Mountains, **WC**=West slope and crest of the Cascades, **EC**=East slope of the Cascades, **BM**=Ochoco, Blue and Wallowa Mts., **BR**=Basin and Range, **CB**=Columbia Basin, **SP**=Snake River Plains.

Key to Oregon Natural Heritage Information Center Data

Field Name	Description
Source Feature	A Source Feature is the initial translation of a discrete unit of observation data as a spatial feature. Creation of a Source Feature requires an interpretive process. The likely location and extent of an observation is determined through consideration of the amount and direction of any variability between the recorded and actual locations of the observation data. In most cases, the Source Feature is delineated to encompass locational uncertainty. A Source Feature can be a point, line, or polygon. The type of Source Feature developed depends on both the preceding conceptual feature type and the locational uncertainty associated with the feature.
Uncertainty Type (Distance)	The recorded location of an observation of an Element may vary from its true location due to many factors, including the level of expertise of the data collector, differences in survey techniques and equipment used, and the amount and type of information obtained. This inaccuracy is characterized as locational uncertainty, and is assessed for Source Feature(s) based on the uncertainty associated with the underlying information on the location of the observation. Four categories of locational uncertainty have been identified, as follows: Negligible uncertainty is less than or equal to 6.25 meters in any dimension. Source Features with negligible uncertainty are based on a comprehensive field survey with high quality mapping and a high degree of certainty. Linear uncertainty is greater than 6.25 meters, and varies along an axis (e.g., a path, stream, ridgeline). The true location of an observation with linear uncertainty may be visualized as effectively sliding along a line that delineates the uncertainty. Areal delimited uncertainty is greater than 6.25 meters, and varies in more than one dimension. The true location of an observation can be visualized as floating within an area with a boundary that can be specifically delimited. Boundaries can be defined using roads, bodies of water, etc. Areal estimated uncertainty is greater than 6.25 meters, and varies in more than one dimension. A boundary cannot be specifically delimited based on the observation information, i.e., the actual extent is unknown. The true location of the observation can be visualized as floating within an area for which boundaries cannot be specifically delimited. Source Features with areal estimated uncertainty require that the user specify an estimated uncertainty distance to be used for buffering the feature to incorporate the locational uncertainty.
Town-Range, Sec, and Note	United States rectangular land survey (also known as the Public Land Survey System) legal township, range, and section descriptions that best define the location of the Element Occurrence. Township first (4 bytes), range second (4 bytes). For example: 004S029E = Township 4S, Range 29E. All locations are with reference to the Willamette Meridian. Fractional ranges or townships are indicated in the Note field.
Quadcode	USGS code for the USGS topographic quadrangle map(s) where the record is mapped.
Quadname	Name of the USGS topographic quadrangle map(s) where the record is mapped.
Watershed	Watershed(s), identified according to the U.S. Geological Survey (USGS) Hydrologic Unit Map 10-digit code, within which the Element Occurrence is located.
Owner Name/Type and Comments	Federal, State, Private, etc.
Managed Area Name	BLM District, USFS Forest, Private Preserve
EO Type	For animals, type of occurrence, eg. roost, nest, spawning, etc.
EO Data	Species and population biology - numbers, age, nesting success, vigor, phenology, disease, pollinators, etc.
EO Comments	Habitat information, e.g. aspect, slope, soils, associated species, community type, etc.
Minimum Elevation	Minimum elevation of the area covered by the range of the taxon, in meters. -339 or blank=not determined.
Annual Observation	Summary of yearly observation.
Protection	Comments on protectibility and threats.
Management	Comments on how the site is managed.
General	Miscellaneous comments.

Attachment 2
Data Report Phase II Remedial Investigation

04 June 2015
Project No. 750608607

Mr. Ken Novack
MMGL Corp.
1211 SW Fifth Avenue, Suite 2250
Portland, OR 97204

Subject: Data Report
Phase II Remedial Investigation
Premier Edible Oils
10400 North Burgard Way
Portland, Oregon

Dear Mr. Novack:

Langan Treadwell Rollo (Langan) is pleased to present this data report of environmental services for MMGL Corp. (MMGL) for the Phase II Remedial Investigation (Phase II RI) of the Premier Edible Oils (PEO) property (Site). The Site is located at 10400 North Burgard Way in Portland, Oregon and is regulated by the Oregon Department of Environmental Quality (DEQ).

In the Phase II RI, we have been addressing DEQ comments regarding the potential impacts at the Site to all areas except the Southern portion of the Site. The work was conducted in general accordance with the *Phase II Remedial Investigation Work Plan* dated November 2014 (Work Plan), which was approved by DEQ.

The Phase II RI largely consisted of sampling of near-surface soils and groundwater across the Site. The locations of the soil, soil gas and groundwater samples are presented on Figure 1. We reviewed the results in accordance with the Work Plan, which included screening criteria and 90% upper confidence limit (UCL) calculations. A summary for results of soil, soil gas, and groundwater sampling analysis is provided below.

Soils

Analytical results from soils samples collected in the Industrial Human Health portion of the Site were compared to the Work Plan criteria and no exceedances were found (Table 1).

Exceedances were noted for some polycyclic aromatic hydrocarbons (PAHs), and for the metals lead, nickel and zinc from soils collected in the ecological portion of the Site (Table 2). Following the Work Plan methods, Langan calculated 90% UCLs for the PAHS and metals in the ecological portion of the Site. As provided in the Work Plan, where the 90% UCL value exceeded the screening level values (SLVs) or background values, the highest chemical of concern (COC) concentration was removed from the data set, the sample values were replaced with the median concentration for each COC, and the 90% UCL value was recalculated. The median concentration was selected as a likely representative value for value in soil verification

samples, assuming a removal action. This stepwise removal and recalculation is described below, and results are presented in Table 3 and Figure 2.

- For metals, the removal and recalculation process was repeated for each COC in exceedance until the 90% UCL value was below the SLV or background value. This stepwise analysis resulted in removal at locations RA-04, RA-08 and SI-EB-03 for lead, manganese, nickel and zinc.

- Locations RA-04, RA-08 and SI-EB-03 were also removed from the PAH data sets. Based on these results, sample locations RA-05, RA-09, and RA-10 also required removal to minimize PAH exceedances of the SLVs.

This 90% UCL removal and recalculation indicates that removal of the locations on Figure 2 would result in a reduction from six PAHs exceeding SLVs from approximately 2 to 28 times, to three PAHs exceeding SLVs between 1 to 3 times, and reduction of metals concentrations to below background values. Note that dibenzofuran and ideno(1,2,3-c,d) pyrene exceedances are likely due to relatively low SLVs.

Soil Gas

Soil gas samples were collected at the former PEO processing building, below the former North West Oil Company tank farm, and at the former waste water treatment plant. The samples were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) and total petroleum hydrocarbons as gasoline (TPH-g), and trichloroethene (TCE).

The TCE and BTEX concentrations were below DEQ's risk-based screening levels for industrial land use (DEQ, 2012). TPH-g concentrations exceeded the DEQ's risk-based screening levels for industrial land use (DEQ, 2012). Locations of the soil gas exceedances are presented on Figure 2, and the analytical results of the soil gas sampling are presented in Table 4.

Groundwater

Groundwater samples were collected from Site monitoring wells. Prior to groundwater sampling, groundwater levels were measured and stabilized parameters were recorded (Table 5). Dissolved manganese concentrations were detected above the current remedial action objective (RAO) for the site (Table 6). Aside from manganese, other exceedances in groundwater samples include:

- TPH at MW-04;
- TCE at MW-06;
- 2-methylnapthalene at MW-05; and
- Indeno(1,2,3-c,d)pyrene, benzo(b)fluoranthene, chrysene, benzo(a)pyrene, and benzo(a)anthracene at MW-14.

Summary

The results of our Phase II RI investigation indicate the following:

- No exceedances for soils were found in the industrial portion of the Site;
- Exceedances of metals and PAHs for soils were found in the ecological portion of the Site;
- Soil gas concentrations of TPH-g exceed applicable criteria for industrial exposure; and
- Manganese concentrations in groundwater exceed the current RAO.

We appreciate the opportunity to present this data report. If you have any questions, please call Patrick Hubbard at (925) 381-5381 or Noel Liner at (510) 874-7041.

Sincerely yours,
LANGAN TREADWELL ROLLO

Noel Liner, PG, RG
Project Geologist

Patrick Hubbard, PG, CEG
Consultant

750608607.01

Enclosures: Table 1 – Soil Analytical Results - Industrial Area
Table 2 – Soil Analytical Results - Ecological Area
Table 3 – Summary of Soil 90% UCL Evaluation Results
Table 4 – Soil Gas Sampling Results
Table 5 – Groundwater Elevations and Water Quality Parameters
Table 6 – Groundwater and Surface Water Sampling Results

Figure 1 – Sample Locations in Soil, Soil Gas, and Groundwater
Figure 2 – Soil and Soil Gas Samples with 90% UCL Exceedances

Chemical Laboratory Results

UCL Calculation Results and Inputs

Table 1
Soil Analytical Results - Industrial Area
Phase II RI - Premier Edible Oils
Portland, Oregon

Project No. 750608607
June 2015

				Sample Location	RA-18	RA-18	RA-19	RA-19	RA-20	RA-20	RA-21	RA-21	RA-22	RA-22	RA-22	RA-23	RA-23	RA-24
				Sample Date	12/4/2014	12/4/2014	12/4/2014	12/4/2014	12/4/2014	12/4/2014	12/3/2014	12/3/2014	12/4/2014	12/4/2014	12/4/2014	12/4/2014	12/4/2014	12/4/2014
				Sample Interval (ft)	1 - 1.5	2.5 - 3	1 - 1.5	2.5 - 3	1 - 1.5	2.5 - 3	1 - 1.5	2.5 - 3	1 - 1.5	1 - 1.5	2.5 - 3	1 - 1.5	2.5 - 3	1 - 1.5
Metals	**Screening Values***	**Screening Criteria ***																
MANGANESE	23,000	RBCss	mg/kg		317	264	400	253	213	188	--	--	--	--	--	--	--	--
NICKEL	20,000	RBCss	mg/kg		18	16.8	17.7	18	17.6	18.3	--	--	--	--	--	--	--	--
Pesticides																		
HEPTACHLOR EPOXIDE	0.240	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
ENDOSULFAN SULFATE	--	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
HEXACHLOROBENZENE	--	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
MIREX	.100	EPA RSL	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
OXYCHLORDANE	--		mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
ALDRIN	.110	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXAN	.310	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	.960	EPA RSL	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
DELTA BHC (DELTA HEXACHLOROCYCLOHEXAN	--		mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
BETA ENDOSULFAN	4,600	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
O,P'-DDE	--		mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	0.0028	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
TRANS-NONACHLOR	--		mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
P,P'-DDT	7.7	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0046	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
CIS-NONACHLOR	--		mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
BETA-CHLORDANE	--		mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
O,P'-DDD	--		mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	0.0028	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
ENDRIN KETONE	--		mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
GAMMA BHC (LINDANE)	1.7	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
DIELDRIN	.130	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	0.00079	< 0.0028	< 0.0030
ENDRIN	230	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
METHOXYCHLOR	3,100	EPA RSL	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
P,P'-DDD	11	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
P,P'-DDE	7.6	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
ENDRIN ALDEHYDE	--		mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
HEPTACHLOR	.460	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
O,P'-DDT	--		mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	0.0013	< 0.0028	< 0.0030
TOXAPHENE	2	RBCss	mg/kg		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.17	< 0.17	< 0.16	< 0.16	< 0.15	< 0.14	< 0.15	< 0.14	< 0.15
ALPHA ENDOSULFAN	4,600	RBCss	mg/kg		< 0.0028	< 0.0028	< 0.0027	< 0.0028	< 0.0027	< 0.0034	< 0.0033	< 0.0032	< 0.0031	< 0.0029	< 0.0028	< 0.0029	< 0.0028	< 0.0030
Polychlorinated Biphenyls (PCBs)																		
PCB-1260 (AROCLOR 1260)	0.7	RBCss	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB-1254 (AROCLOR 1254)	0.7	RBCss	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB-1221 (AROCLOR 1221)	0.7	RBCss	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB-1232 (AROCLOR 1232)	0.7	RBCss	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB-1248 (AROCLOR 1248)	0.7	RBCss	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB-1016 (AROCLOR 1016)	0.7	RBCss	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB-1242 (AROCLOR 1242)	0.7	RBCss	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (VOCs)																		
TRICHLOROETHYLENE (TCE)	2.1	JSCS SVL	mg/kg		--	--	--	--	--	--	< 0.0801	< 0.0774	< 0.0708	< 0.0630	< 0.0621	< 0.0624	< 0.0589	< 0.0653

Notes:
-- = constituent not analyzed for or screening value not assigned
RBCss = Risk-Based Concentration for Soil Ingestion, Dermal Contact, and Inhalation (DEQ, 2012)
EPA RSL= Environmental Protection Agency Ecological Soil Screening Level (EPA, 2012)
mg/kg = milligrams per kilogram
Bold and fill indicates an exceedance of the criteria.
* Treadwell & Rollo, A Langan Company, 2014. *Phase II RI Work Plan, Premier Edible Oils, 10400 North Burgard Way, Portland, Oregon,* November.

Table 1
Soil Analytical Results - Industrial Area
Phase II RI - Premier Edible Oils
Portland, Oregon

				Sample Location	RA-24	RA-25	RA-25	RA-26	RA-26	RA-27	RA-27	RA-28	RA-28	RA-29	RA-29	RA-30	RA-30
				Sample Date	12/4/2014	12/4/2014	12/4/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014
				Sample Interval (ft)	2.5 - 3	1 - 1.5	2.5 - 3	1 - 1.5	2.5 - 3	1 - 1.5	2.5 - 3	1 - 1.5	2.5 - 3	1 - 1.5	2.5 - 3	1 - 1.5	2.5 - 3
Metals	**Screening Values***	**Screening Criteria ***															
MANGANESE	23,000	RBCss	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NICKEL	20,000	RBCss	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
HEPTACHLOR EPOXIDE	0.240	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
ENDOSULFAN SULFATE	--	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
HEXACHLOROBENZENE	--	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
MIREX	.100	EPA RSL	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
OXYCHLORDANE	--		mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
ALDRIN	.110	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXAN	.310	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	.960	EPA RSL	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
DELTA BHC (DELTA HEXACHLOROCYCLOHEXAN	--		mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
BETA ENDOSULFAN	4,600	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
O,P'-DDE	--		mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
TRANS-NONACHLOR	--		mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
P,P'-DDT	7.7	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
CIS-NONACHLOR	--		mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
BETA-CHLORDANE	--		mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
O,P'-DDD	--		mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
ENDRIN KETONE	--		mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
GAMMA BHC (LINDANE)	1.7	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
DIELDRIN	.130	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
ENDRIN	230	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
METHOXYCHLOR	3,100	EPA RSL	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
P,P'-DDD	11	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
P,P'-DDE	7.6	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
ENDRIN ALDEHYDE	--		mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
HEPTACHLOR	.460	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
O,P'-DDT	--		mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
TOXAPHENE	2	RBCss	mg/kg	< 0.15	< 0.15	< 0.15	--	--	--	--	--	--	--	--	--	--	--
ALPHA ENDOSULFAN	4,600	RBCss	mg/kg	< 0.0029	< 0.0029	< 0.0029	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls (PCBs)																	
PCB-1260 (AROCLOR 1260)	0.7	RBCss	mg/kg	--	--	--	< 0.055	< 0.054	< 0.055	< 0.054	< 0.055	< 0.053	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056
PCB-1254 (AROCLOR 1254)	0.7	RBCss	mg/kg	--	--	--	< 0.055	< 0.054	< 0.055	< 0.054	< 0.055	< 0.053	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056
PCB-1221 (AROCLOR 1221)	0.7	RBCss	mg/kg	--	--	--	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
PCB-1232 (AROCLOR 1232)	0.7	RBCss	mg/kg	--	--	--	< 0.055	< 0.054	< 0.055	< 0.054	< 0.055	< 0.053	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056
PCB-1248 (AROCLOR 1248)	0.7	RBCss	mg/kg	--	--	--	< 0.055	< 0.054	< 0.055	< 0.054	< 0.055	< 0.053	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056
PCB-1016 (AROCLOR 1016)	0.7	RBCss	mg/kg	--	--	--	< 0.055	< 0.054	< 0.055	< 0.054	< 0.055	< 0.053	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056
PCB-1242 (AROCLOR 1242)	0.7	RBCss	mg/kg	--	--	--	< 0.055	< 0.054	< 0.055	< 0.054	< 0.055	< 0.053	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056
Volatile Organic Compounds (VOCs)																	
TRICHLOROETHYLENE (TCE)	2.1	JSCS SVL	mg/kg	< 0.0635	< 0.0625	< 0.0615	--	--	--	--	--	--	--	--	--	--	--

Notes:
-- = constituent not analyzed for or screening value not assigned
RBCss = Risk-Based Concentration for Soil Ingestion, Dermal Contact, and Inhalation (DEQ, 2012)
EPA RSL= Environmental Protection Agency Ecological Soil Screening Level (EPA, 2012)
mg/kg = milligrams per kilogram
Bold and fill indicates an exceedance of the criteria.
* Treadwell & Rollo, A Langan Company, 2014. *Phase II RI Work Plan, Premier Edible Oils, 10400 North Burgard Way, Portland, Oregon,* November.

Table 2
Soil Analytical Results - Ecological Area
Phase II RI - Premier Edible Oils
Portland, Oregon

Sample Location / Sample Date / Sample Interval (ft)			RA-01 12/4/2014 0 - 0.5	RA-01 Duplicate 12/4/2014 0 - 0.5	RA-01 12/4/2014 2.5 - 3	RA-02 12/4/2014 0 - 0.5	RA-02 12/4/2014 2.5 - 3	RA-03 12/4/2014 0 - 0.5	RA-03 12/4/2014 2.5 - 3	RA-04 12/4/2014 0 - 0.5	RA-04 12/4/2014 2.5 - 3	RA-05 12/4/2014 0 - 0.5	RA-05 12/4/2014 2.5 - 3	RA-06 12/4/2014 0 - 0.5	RA-06 12/5/2014 2.5 - 3	RA-07 12/4/2014 0 - 0.5	RA-07 12/4/2014 2.5 - 3
Polycyclic Aromatic Hydrocarbons	**Screening Value ***																
ANTHRACENE	0.845	mg/kg	0.0044	0.0031	0.0067	0.051	0.016	0.0042	< 0.0029	0.02	**1**	0.09	0.45	0.013	0.11	0.13	< 0.0028
PYRENE	1.52	mg/kg	0.024	0.028	0.03	1.5	0.14	0.074	< 0.0029	0.33	**11**	**2**	**15**	0.23	**2.6**	**2.6**	0.00099
DIBENZOFURAN	0.002	mg/kg	< 0.0028	< 0.0028	< 0.0028	0.0017	0.00068	< 0.0028	< 0.0029	**0.0043**	**0.6**	0.0014	**0.012**	< 0.0035	**0.0061**	**0.0063**	< 0.0028
BENZO(G,H,I)PERYLENE	0.3	mg/kg	0.061	0.036	0.077	**0.62**	0.093	0.053	< 0.0029	0.24	**1.5**	**1**	**4.2**	0.13	**1.4**	**1.2**	< 0.0028
INDENO(1,2,3-C,D)PYRENE	0.1	mg/kg	0.045	0.026	0.053	**0.55**	0.077	0.046	< 0.0029	**0.24**	**1.3**	**0.93**	**3.8**	**0.12**	**1.2**	**1.1**	< 0.0028
BENZO(B)FLUORANTHENE	--	mg/kg	0.039	0.031	0.044	0.63	0.081	0.05	< 0.0029	0.36	2	1	4.2	0.14	1.3	1.2	< 0.0028
FLUORANTHENE	2.23	mg/kg	0.014	0.018	0.019	0.98	0.099	0.052	< 0.0029	0.32	**15**	1.5	**11**	0.19	2.1	2.2	< 0.0028
BENZO(K)FLUORANTHENE	13	mg/kg	0.011	0.0072	0.011	0.2	0.026	0.015	< 0.0029	0.11	0.64	0.34	1.5	0.047	0.43	0.39	< 0.0028
ACENAPHTHYLENE	0.2	mg/kg	0.0091	0.0044	0.011	0.062	0.0094	0.006	< 0.0029	0.0085	0.14	0.13	**0.49**	0.014	0.18	**0.24**	< 0.0028
CHRYSENE	1.29	mg/kg	0.017	0.044	0.028	0.59	0.072	0.038	< 0.0029	0.27	**3.2**	0.95	**4**	0.12	1.1	1.2	< 0.0028
BENZO(A)PYRENE	1.45	mg/kg	0.031	0.022	0.039	0.57	0.075	0.038	< 0.0029	0.28	1.4	0.98	**4.4**	0.12	1.2	1.1	< 0.0028
DIBENZ(A,H)ANTHRACENE	1.3	mg/kg	0.0071	0.0065	0.011	0.07	0.011	0.0062	< 0.0029	0.05	0.18	0.11	0.46	0.014	0.13	0.14	< 0.0028
BENZO(A)ANTHRACENE	1.05	mg/kg	0.012	0.012	0.016	0.37	0.046	0.022	< 0.0029	0.18	**2.3**	0.65	**3**	0.084	0.75	0.77	< 0.0028
ACENAPHTHENE	0.3	mg/kg	< 0.0028	0.00082	0.0023	0.0065	0.00084	0.00081	< 0.0029	0.013	0.084	0.0066	0.031	0.0012	0.019	0.035	< 0.0028
PHENANTHRENE	1.17	mg/kg	0.0049	0.0078	0.013	0.38	0.041	0.018	< 0.0029	0.12	**8.3**	0.24	**1.5**	0.068	0.9	**1.2**	< 0.0028
FLUORENE	0.536	mg/kg	< 0.0028	< 0.0028	0.0011	0.008	0.0014	0.00083	< 0.0029	0.0058	0.078	0.0075	0.045	0.0019	0.031	0.039	< 0.0028
NAPHTHALENE	--	mg/kg	0.0015	0.0011	0.0022	0.0076	0.0046	0.0028	< 0.0029	0.0046	0.63	0.0055	0.18	0.0046	0.048	0.012	0.00063
2-METHYLNAPHTHALENE	0.2	mg/kg	0.00069	0.00059	0.0021	0.0027	0.0019	0.00089	< 0.0029	0.003	**0.26**	0.002	0.039	0.0014	0.0086	0.0063	< 0.0028
Metals	**Background Value ***																
ALUMINUM	--	mg/kg	9,790	9,630	9,580	9,790	10,600	9,780	8,860	8,160	9,340	11,500	9,840	10,300	8,860	9,920	10,800
IRON	--	mg/kg	24,300	24,800	25,400	26,500	27,000	25,900	24,400	27,000	26,700	27,500	25,000	25,300	25,500	25,300	25,300
LEAD	79	mg/kg	**95.8**	71.9	**128**	33.7	31.3	17.2	2.6	36	**819**	16.5	53.3	16.5	**137**	65.5	3.2
MANGANESE	1,762	mg/kg	322	321	312	422	404	520	318	836	1400	372	290	332	613	856	288
NICKEL	48.6	mg/kg	16	16.7	17.1	17.5	19.4	17.6	16.9	27.1	21.6	20	18.1	17.8	17.5	21	17.8
ARSENIC	8.791	mg/kg	4.2	4.4	4.3	4.8	4.9	4.7	3.8	4.8	6.7	3.7	3.8	4	4.4	4.3	3.4
COBALT	--	mg/kg	12.7	12.5	12.5	13	13.4	13.1	12.5	10.8	11.6	13.7	13	12.5	11.9	11.9	13.6
ZINC	182.9	mg/kg	87.3	88.3	84.5	78.6	73.5	65.8	46.2	149	**672**	69.8	132	59	181	120	47.3

Notes:
Bold and fill indicates an exceedance of the screening level or background value.
mg/kg = milligrams per kilogram
-- = constituent not analyzed or value not assigned.
* Treadwell & Rollo, A Langan Company, 2014. *Phase II RI Work Plan, Premier Edible Oils, 10400 North Burgard Way, Portland, Oregon,* November.

Table 2
Soil Analytical Results - Ecological Area
Phase II RI - Premier Edible Oils
Portland, Oregon

			Sample Location	RA-08	RA-08	RA-08	RA-08	RA-08A	RA-08A	RA-08B	RA-08B	RA-08C	RA-08C	RA-08D	RA-08D	RA-09	RA-09	RA-09A
			Sample Date	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014	12/5/2014
			Sample Interval (ft)	1.5 - 2	2.5 - 3	3.5 - 4	4.5 - 5	0 - 0.5	2.5 - 3	0 - 0.5	2.5 - 3	0 - 0.5	2.5 - 3	0 - 0.5	2.5 - 3	1 - 1.5	2.5 - 3	0 - 0.5
Polycyclic Aromatic Hydrocarbons	**Screening Value ***																	
ANTHRACENE	0.845	mg/kg		0.086	0.1	0.0031	0.0026	0.14	0.036	0.13	0.056	0.083	0.00086	0.31	0.011	0.041	0.086	0.022
PYRENE	1.52	mg/kg		0.54	**2.2**	0.055	0.048	**2.6**	0.55	**1.8**	1.2	**2.3**	0.0055	**3.2**	0.14	0.97	1.1	0.57
DIBENZOFURAN	0.002	mg/kg		**0.012**	**0.0045**	**0.0022**	0.00092	**0.0079**	**0.0028**	**0.014**	**0.027**	**0.0044**	< 0.0029	**0.12**	**0.0025**	**0.0045**	**0.0049**	0.0018
BENZO(G,H,I)PERYLENE	0.3	mg/kg		**0.75**	**1.1**	0.027	0.027	**0.99**	**0.31**	**0.83**	**0.58**	**1.1**	0.0066	**2.3**	0.18	**0.43**	**0.72**	0.23
INDENO(1,2,3-C,D)PYRENE	0.1	mg/kg		**0.72**	**1**	0.025	0.023	**1.1**	**0.27**	**0.81**	**0.54**	**0.98**	0.0056	**2.1**	**0.15**	**0.36**	**0.57**	**0.2**
BENZO(B)FLUORANTHENE	--	mg/kg		0.67	1.1	0.036	0.032	1.1	0.31	1	0.69	1	0.0062	2	0.13	0.46	0.53	0.23
FLUORANTHENE	2.23	mg/kg		0.42	1.7	0.039	0.046	2.2	0.43	1.7	0.62	1.3	0.0025	1.7	0.074	0.53	0.6	0.28
BENZO(K)FLUORANTHENE	13	mg/kg		0.2	0.43	0.013	0.012	0.43	0.1	0.36	0.2	0.31	0.0021	0.65	0.048	0.13	0.13	0.071
ACENAPHTHYLENE	0.2	mg/kg		0.11	0.13	0.003	0.0025	0.12	0.04	0.14	0.044	0.097	< 0.0029	**0.34**	0.014	0.034	0.082	0.015
CHRYSENE	1.29	mg/kg		0.43	1.1	0.033	0.03	1.2	0.28	1	0.73	0.94	0.0041	**1.7**	0.095	0.4	0.45	0.22
BENZO(A)PYRENE	1.45	mg/kg		0.38	1.1	0.026	0.017	1	0.3	0.9	0.53	1.1	0.0048	**1.9**	0.1	0.42	0.52	0.22
DIBENZ(A,H)ANTHRACENE	1.3	mg/kg		0.1	0.17	0.0034	0.003	0.19	0.038	0.12	0.075	0.12	< 0.0029	0.28	0.015	0.044	0.079	0.025
BENZO(A)ANTHRACENE	1.05	mg/kg		0.23	0.9	0.022	0.014	0.93	0.18	0.79	0.39	0.68	0.0028	**1.1**	0.063	0.25	0.3	0.15
ACENAPHTHENE	0.3	mg/kg		0.005	0.0096	< 0.0028	< 0.0034	0.022	0.0058	0.013	0.0048	0.0066	< 0.0029	0.034	< 0.0028	0.0032	0.0087	0.0027
PHENANTHRENE	1.17	mg/kg		0.16	0.6	0.012	0.027	**1.3**	0.22	0.7	0.31	0.4	0.0015	0.97	0.019	0.23	0.28	0.12
FLUORENE	0.536	mg/kg		0.0087	0.016	0.00066	0.00072	0.042	0.0074	0.02	0.0087	0.011	< 0.0029	0.037	0.00094	0.0067	0.011	0.0032
NAPHTHALENE	--	mg/kg		0.031	0.017	0.0017	0.0014	0.015	0.0055	0.014	0.011	0.019	< 0.0029	0.039	0.0021	0.011	0.031	0.004
2-METHYLNAPHTHALENE	0.2	mg/kg		0.0078	0.0044	0.00089	0.00067	0.0065	0.0022	0.005	0.0066	0.0061	< 0.0029	0.032	0.00095	0.0046	0.0087	0.0018
Metals	**Background Value ***																	
ALUMINUM	--	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IRON	--	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	79	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	1,762	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	499	447	305
NICKEL	48.6	mg/kg		**184**	**82.8**	**111**	**119**	41.8	24.9	22.8	**325**	44.2	23.7	**332**	29.3	--	--	--
ARSENIC	8.791	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COBALT	--	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	182.9	mg/kg		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Bold and fill indicates an exceedance of the screening level or background value.
mg/kg = milligrams per kilogram
-- = constituent not analyzed or value not assigned.
* Treadwell & Rollo, A Langan Company, 2014. *Phase II RI Work Plan, Premier Edible Oils, 10400 North Burgard Way, Portland, Oregon,* November.

Table 2
Soil Analytical Results - Ecological Area
Phase II RI - Premier Edible Oils
Portland, Oregon

Sample Location			**RA-09A**	**RA-09B**	**RA-09B**	**RA-09C**	**RA-09C**	**RA-09D**	**RA-09D**	**RA-10**	**RA-10**	**RA-10**	**RA-11**	**RA-11**	**RA-12**	**RA-12**	**RA-13**
Sample Date			**12/5/2014**	**12/5/2014**	**12/5/2014**	**12/5/2014**	**12/5/2014**	**12/5/2014**	**12/5/2014**	**12/3/2014**	**12/3/2014**	**12/3/2014**	**12/4/2014**	**12/4/2014**	**12/4/2014**	**12/4/2014**	**12/4/2014**
Sample Interval (ft)			**2.5 - 3**	**0 - 0.5**	**2.5 - 3**	**0 - 0.5**	**2.5 - 3**	**0 - 0.5**	**2.5 - 3**	**0 - 0.5**	**0 - 0.5**	**2.5 - 3**	**0 - 0.5**	**2.5 - 3**	**0 - 0.5**	**2.5 - 3**	**0 - 0.5**
Polycyclic Aromatic Hydrocarbons	**Screening Value ***																
ANTHRACENE	0.845	mg/kg	0.27	0.0073	0.06	0.11	0.056	0.081	0.12	0.017	**1.1**	0.41	0.0049	0.0076	0.0022	0.4	0.0088
PYRENE	1.52	mg/kg	**8.3**	0.14	0.69	**2.5**	0.82	**2.2**	0.71	0.32	**19**	**7**	0.12	0.21	0.055	**5.5**	0.23
DIBENZOFURAN	0.002	mg/kg	**0.018**	0.00081	**0.0022**	**0.0063**	**0.0035**	**0.0036**	**0.017**	**0.0026**	**0.063**	**0.015**	< 0.0033	0.001	< 0.0029	**0.05**	< 0.0032
BENZO(G,H,I)PERYLENE	0.3	mg/kg	**4.4**	0.1	**0.57**	**1**	**0.58**	**0.9**	**0.54**	0.23	**0.82**	**3.1**	0.052	0.11	0.034	**1.7**	0.11
INDENO(1,2,3-C,D)PYRENE	0.1	mg/kg	**3.8**	0.088	**0.43**	**0.94**	**0.48**	**0.78**	**0.43**	**0.19**	**4.4**	**2.7**	0.047	0.091	0.027	**1.6**	0.096
BENZO(B)FLUORANTHENE	--	mg/kg	4	0.11	0.35	0.9	0.47	0.86	0.39	0.24	6	2.4	0.066	0.093	0.036	2	0.11
FLUORANTHENE	2.23	mg/kg	**4.3**	0.079	0.38	1.2	0.62	1.2	0.51	0.17	**14**	**4.2**	0.075	0.12	0.043	**4.6**	0.17
BENZO(K)FLUORANTHENE	13	mg/kg	0.95	0.029	0.089	0.28	0.13	0.26	0.11	0.072	2.2	0.69	0.024	0.037	0.012	0.5	0.035
ACENAPHTHYLENE	0.2	mg/kg	**0.47**	0.0049	0.069	0.079	0.067	0.073	0.088	0.013	**0.49**	**0.41**	0.0035	0.0073	0.0031	0.16	0.01
CHRYSENE	1.29	mg/kg	**3.5**	0.084	0.33	0.85	0.36	0.83	0.34	0.19	**6.3**	**2.1**	0.058	0.084	0.034	**2.1**	0.11
BENZO(A)PYRENE	1.45	mg/kg	**4.4**	0.093	0.34	1.1	0.49	0.9	0.35	0.21	**5.9**	**2.5**	0.06	0.095	0.029	**1.9**	0.1
DIBENZ(A,H)ANTHRACENE	1.3	mg/kg	0.65	0.013	0.086	0.19	0.062	0.1	0.1	0.031	0.71	0.32	0.0053	0.011	0.0048	0.19	0.012
BENZO(A)ANTHRACENE	1.05	mg/kg	**2.7**	0.054	0.21	0.65	0.3	0.61	0.29	0.12	**4.5**	**1.7**	0.035	0.06	0.02	**1.5**	0.069
ACENAPHTHENE	0.3	mg/kg	0.013	0.0014	0.0046	0.014	0.0071	0.0089	0.014	0.0042	0.14	0.047	< 0.0033	< 0.0028	< 0.0029	0.12	0.0011
PHENANTHRENE	1.17	mg/kg	0.66	0.028	0.15	0.74	0.24	0.71	0.33	0.064	**12**	**2.6**	0.015	0.044	0.016	**4.9**	0.063
FLUORENE	0.536	mg/kg	0.043	0.0011	0.0058	0.025	0.0086	0.017	0.034	0.0029	0.4	0.077	< 0.0033	0.0016	< 0.0029	0.33	0.0014
NAPHTHALENE	--	mg/kg	0.42	0.0018	0.018	0.01	0.017	0.015	0.034	0.0049	0.052	0.027	0.00089	0.0027	0.00095	0.12	0.0024
2-METHYLNAPHTHALENE	0.2	mg/kg	0.12	0.00086	0.0077	0.0053	0.0065	0.0059	0.018	0.0025	0.049	0.018	< 0.0033	0.001	0.00054	0.1	0.00066
Metals	**Background Value ***																
ALUMINUM	--	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IRON	--	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	79	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	1,762	mg/kg	602	432	494	941	508	452	523	--	--	--	--	--	--	--	--
NICKEL	48.6	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ARSENIC	8.791	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COBALT	--	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	182.9	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Bold and fill indicates an exceedance of the screening level or background value.
mg/kg = milligrams per kilogram
-- = constituent not analyzed or value not assigned.
* Treadwell & Rollo, A Langan Company, 2014. *Phase II RI Work Plan, Premier Edible Oils, 10400 North Burgard Way, Portland, Oregon,* November.

Table 2
Soil Analytical Results - Ecological Area
Phase II RI - Premier Edible Oils
Portland, Oregon

		Sample Location	RA-13	RA-14	RA-14	RA-15	RA-15	RA-16	RA-16
		Sample Date	12/4/2014	12/4/2014	12/4/2014	12/4/2014	12/4/2014	12/4/2014	12/4/2014
		Sample Interval (ft)	2.5 - 3	0 - 0.5	2.5 - 3	0 - 0.5	2.5 - 3	0 - 0.5	2.5 - 3
Polycyclic Aromatic Hydrocarbons	**Screening Value ***								
ANTHRACENE	0.845	mg/kg	0.0025	0.024	0.02	0.013	< 0.0035	0.015	0.0053
PYRENE	1.52	mg/kg	0.024	0.27	0.37	0.21	< 0.0035	0.24	0.073
DIBENZOFURAN	0.002	mg/kg	< 0.0032	< 0.0027	0.00092	**0.0035**	< 0.0035	0.00066	< 0.0031
BENZO(G,H,I)PERYLENE	0.3	mg/kg	0.01	**0.34**	0.18	0.27	< 0.0035	0.15	0.023
INDENO(1,2,3-C,D)PYRENE	0.1	mg/kg	0.0093	**0.21**	**0.14**	**0.22**	< 0.0035	**0.12**	0.022
BENZO(B)FLUORANTHENE	--	mg/kg	0.013	0.22	0.17	0.3	< 0.0035	0.14	0.033
FLUORANTHENE	2.23	mg/kg	0.019	0.19	0.29	0.21	< 0.0035	0.2	0.053
BENZO(K)FLUORANTHENE	13	mg/kg	0.0044	0.051	0.053	0.1	< 0.0035	0.033	0.011
ACENAPHTHYLENE	0.2	mg/kg	0.0012	0.036	0.019	0.01	< 0.0035	0.015	0.0039
CHRYSENE	1.29	mg/kg	0.013	0.1	0.19	0.25	< 0.0035	0.095	0.039
BENZO(A)PYRENE	1.45	mg/kg	0.01	0.18	0.16	0.17	< 0.0035	0.12	0.032
DIBENZ(A,H)ANTHRACENE	1.3	mg/kg	0.0015	0.067	0.027	0.052	< 0.0035	0.024	0.0046
BENZO(A)ANTHRACENE	1.05	mg/kg	0.0099	0.087	0.1	0.15	< 0.0035	0.07	0.032
ACENAPHTHENE	0.3	mg/kg	< 0.0032	0.0028	0.0027	0.001	< 0.0035	0.0016	< 0.0031
PHENANTHRENE	1.17	mg/kg	0.011	0.094	0.14	0.079	< 0.0035	0.061	0.024
FLUORENE	0.536	mg/kg	< 0.0032	0.0032	0.0034	0.0019	< 0.0035	< 0.0033	< 0.0031
NAPHTHALENE	--	mg/kg	0.0011	0.0051	0.0047	0.0094	< 0.0035	0.0029	0.0011
2-METHYLNAPHTHALENE	0.2	mg/kg	0.00043	0.0029	0.0019	0.0048	< 0.0035	0.0018	0.00042
Metals	**Background Value ***								
ALUMINUM	--	mg/kg	--	--	--	--	--	--	--
IRON	--	mg/kg	--	--	--	--	--	--	--
LEAD	79	mg/kg	--	--	--	--	--	--	--
MANGANESE	1,762	mg/kg	--	--	--	--	--	--	--
NICKEL	48.6	mg/kg	--	--	--	--	--	--	--
ARSENIC	8.791	mg/kg	--	--	--	--	--	--	--
COBALT	--	mg/kg	--	--	--	--	--	--	--
ZINC	182.9	mg/kg	--	--	--	--	--	--	--

Notes:
Bold and fill indicates an exceedance of the screening level or background value.
mg/kg = milligrams per kilogram
-- = constituent not analyzed or value not assigned.
* Treadwell & Rollo, A Langan Company, 2014. *Phase II RI Work Plan, Premier Edible Oils, 10400 North Burgard Way, Portland, Oregon,* November.

Table 3
Summary of Soil 90% UCL Evaluation Results
Phase II RI - Premier Edible Oils
Portland, Oregon

Constituent	Background Concentration*	Locations to be considered for possible soil removal	Pre-Removal 90%UCL	Post-Removal 90%UCL	Screening Value *	Post-Removal Screening Result
Metals - Exposure pathway: Source Control; Receptor: Ecological						
Arsenic	8.791	--	4.3	--	7	Screened Out (UCL90<background)
Lead	79	RA-04	104	47.02	17	Screened Out (UCL 90 <background)
Manganese[1]	1,762	SI-EB-03	1,759	544.1	1,100	Screened Out (UCL90< background)
Mercury	0.23	--	0.0432	--	0.070	Screened Out (MDC < background)
Nickel	47.35	RA-08b, RA-08d and Outfall-01	86.9	43.45	48.6	Screened Out (UCL90<background)
Zinc	182.9	RA-04	175.7	89.94	48.6	Screened Out (UCL 90 <background)
Polycyclic Aromatic Hydrocarbons (PAHs) - Exposure pathway: Source Control; Receptor: Ecological						
Benzo(g,h,i)perylene	na	Outfall-1, RA-04, 05, 08, 08a-08d, 09, 09a-09d, 10, and SI-EB-03	1.17	**0.3203**	**0.300**	Screened In (UCL90>screening value)
Dibenzofuran	na		0.056	**0.0045**	**0.002**	Screened In (UCL90>screening value)
Fluoranthene	na		2.76	1.618	2.230	Screened Out (UCL90<screening value)
Indeno(1,2,3-c,d)pyrene	na		1.09	**0.2734**	**0.100**	Screened In (UCL90>screening value)
Phenanthrene	na	Outfall-1, RA-04, 08, 08a-08d, 09, 09a-09d, and SI-EB-03	1.88	1.036	1.170	Screened Out (UCL90<screening value)
Pyrene	na	Outfall-1, RA-04, 05, 08, 08a-08d, 09, 09a-09d, 10, and SI-EB-03	3.29	0.684	1.520	Screened Out (UCL90<screening value)

Notes:
All concentrations in milligrams per kilogram (mg/kg)
UCL90 values calculated using the EPA's ProUCL Version 5.0 statistical software
na = not available
* Treadwell & Rollo, A Langan Company, 2014. *Phase II RI Work Plan, Premier Edible Oils, 10400 North Burgard Way, Portland, Oregon,* November.
1- Manganese was formerly screened in as a hot spot at sample location SI-EB-03

Table 4
Soil Gas Sampling Results
Phase II RI - Premier Edible Oils
Portland, Oregon

		Sample ID Sample Date Depth	RA-SG-17-5 12/4/2014 5 feet	RA-SG-21-5 12/4/2014 5 Feet	RA-SG-31-5 12/3/2014 10 Feet	RA-SG-31-10 12/3/2014 5 Feet	RA-SG-32-5 12/3/2014 10 Feet	RA-SG-32-10 12/4/2014 5 Feet
Total Petroleum Hydrocarbons	**Soil Gas Occupational Screening Level Value**							
Gasoline	1,700	mg/m^3	--	--	17,000	23,000	33,000	23,000
BTEX Compounds								
BENZENE	1,600	$\mu g/m^3$	--	--	< 790	< 1,100	< 830	< 1,500
TOLUENE	2.20E+07	$\mu g/m^3$	--	--	1,500	2,100	1,800	2,900
ETHYLBENZENE	4,900	$\mu g/m^3$	1.9	--	< 790	< 1,100	1,300	1,500
M,P-XYLENES	440,000	$\mu g/m^3$	--	--	2,400	3,200	2,900	3,200
O-XYLENE (1,2-DIMETHYLBENZENE)	440,000	$\mu g/m^3$	--	--	< 790	< 1,100	< 830	< 1,500
Chlorinated VOCs								
Trichloroethene (TCE)	2,900	$\mu g/m^3$	--	66	--	--	--	--

Notes:
mg/m^3 = milligrams per cubic meter
$\mu g/m^3$ = micrograms per cubic meter
-- = not analyzed
Soil Gas Screening Levels from Oregon Department of Environmental Quality Environmental Cleanup and Tanks Program, Risk-Based Concentrations for Individual Chemicals, Revision June 7, 2012
Treadwell & Rollo, A Langan Company, 2014. *Phase II RI Work Plan, Premier Edible Oils, 10400 North Burgard Way, Portland, Oregon,* November.

Table 5
Groundwater Elevations and Water Quality Parameters
Phase II RI - Premier Edible Oils
Portland, Oregon

Well No.	Date	Time	Top of Casing (feet)	Depth to Water (feet)	GW Elevation	LNAPL (feet)	DO (mg/L)	ORP (mV)	Specific Conductance (µs/cm)	pH	Temperature (^{0}C)	Turbidity (NTUs)	Fe^{2+} (mg/L)
GW-1-1	9/17/2014	10:20				sheen	0.23	-51.8	0.589	6.16	13.31	--	--
GW-1-2	9/17/2014	12:03				--	0.30	-56.0	0.442	6.06	14.53	--	--
GW-1-3	9/17/2014	13:43				--	0.30	-54.3	0.195	6.25	15.02	--	--
GW-2-1	9/17/2014	16:04				--	0.75	-30.6	0.575	5.74	15.53	--	2.4
GW-2-2	9/17/2014	17:25				--	1.53	-36.6	0.334	5.70	14.27	--	2.4
GW-2-3	9/19/2014	13:22				--	0.51	0.331	-35.6	6.17	15.67	--	--
GW-3-1	9/19/2014	16:15				--	0.15	0.364	-63.9	6.24	15.55	--	1.3
GW-3-2	9/19/2014	16:33				--	0.64	0.478	-50.1	6.41	12.06	--	1.1
GW-4-1	9/19/2014	15:01				--	0.20	0.315	-57.0	6.67	16.09	--	1.4
GW-4-2	9/19/2014	15:10				--	0.11	0.543	-61.7	6.49	13.14	--	1.2
GW-5-1	9/18/2014	16:47				--	0.09	0.300	-9.8	5.78	16.38	--	0.8
GW-5-2	9/19/2014	14:00				--	2.88	0.497	-30.7	6.22	13.36	--	1.4
MW-01	12/29/2014	10:19	28.13	17.12	11.01	--	1.49	38.2	115	6.46	12.13	13	0.0
MW-02	9/17/2014	14:55	29.08	24.36	4.72	0.95	0.71	-127.4	685	6.36	16.35	14	1.9
MW-03	12/29/2014	10:27	29.57	17.96	11.61	--	1.41	36.2	173	6.61	13.18	13	0.0
MW-04	12/29/2014	9:41	29.27	16.25	13.02	--	1.66	33.2	459	6.88	14.18	13	0.5
MW-05	12/29/2014	10:23	29.17	17.95	11.22	--	1.74	32.6	292	6.76	14.05	16	0.6
MW-06	12/29/2014	10:33	29.13	17.98	11.15	--	1.14	37.6	228	6.72	12.35	18	0.8
MW-07	12/29/2014	10:43	28.21	17.13	11.08	--	2.49	131.4	414	6.88	13.69	23	0.6
MW-08	9/17/2014	11:47	28.83	22.59	6.24	--	0.79	-121.6	340	6.34	16.31	--	1.4
MW-09	9/17/2014	8:36	29.36	24.08	5.28	--	0.84	-133.6	654	6.46	17.05	--	3.2
MW-09	12/29/2014	11:00	29.36	18.41	10.95	--	1.14	-95.4	584	6.36	15.68	17	1.0
MW-10D	9/17/2014	15:04	28.82	24.21	4.61	--	1.68	66.2	280	6.70	16.98	--	1.7
MW-10D	12/29/2014	10:54	28.82	17.75	11.07	--	1.94	66.4	347	6.37	14.10	10	1.6
MW-11	9/17/2014	13:16	28.96	23.44	5.52	0.06	0.92	-28.9	508	6.96	16.76	--	1.4
MW-11	12/29/2014	11:05	28.96	13.18	15.78	0.06	1.48	-103.4	620	6.55	14.70	12	1.4
MW-12	9/17/2014	14:09	28.97	23.93	5.04	0.03	0.91	-34.5	751	7.09	17.13	--	2.9
MW-13	9/17/2014	15:57	29.99	24.62	5.37	--	0.86	-119.6	628	6.27	16.41	--	1.6
MW-14	12/29/2014	10:04	30.48	16.23	14.25	--	1.07	-55.4	134	6.78	11.64	>1000	1.2
MW-15D	12/29/2014	9:58	30.25	19.78	10.47	--	1.89	76.3	262	6.70	10.82	14	1.2
MW-16D	12/29/2014	10:15	29.78	18.73	11.05	--	1.77	59.4	235	6.73	10.26	14	0.4
MW-17	12/29/2014	10:11	29.69	18.65	11.04	--	2.19	136.2	119	6.78	12.81	14	0.0
MW-18	9/17/2014	12:40	28.77	22.70	6.07	--	0.88	-101.4	440	6.24	16.27	--	2.4
MW-19	12/29/2014	10:38	29.60	18.55	11.05	--	1.47	31.4	290	6.78	12.18	13	0.0
MW-20	12/29/2014	9:37	28.01	16.23	11.78	--	2.58	122.6	233	6.55	14.92	13	0.0
MW-21	12/29/2014	9:30	29.26	14.12	15.14	--	1.74	37.8	130	6.70	14.33	34	0.0
MW-22	9/17/2014	11:11	30.07	24.75	5.32	0.13	0.79	-77.8	630	6.29	16.22	--	1.4
MW-23	9/17/2014	10:07	30.40	24.56	5.84	0.09	0.94	-124.6	654	6.42	15.79	--	2.5
MW-24*	9/17/2014	10:52	29.81	19.78	10.03	--							
MW-25	9/17/2014	13:25	29.68	23.85	5.83	--	1.09	-44.6	191	7.05	16.35	--	0.0
RW-01	9/17/2014	12:06	29.13	24.13	5.00	--	0.81	-42.6	652	6.40	16.92	--	2.3
SW-1	9/17/2014	8:22		--		--	9.19	109.6	0.091	6.73	15.67	--	--
SW-2	9/17/2014	8:25		--		--	8.93	108.1	0.092	6.92	15.70	--	--
TR-GW-26	12/3/2014	11:00	--	19.60	--	--	0.39	-270.2	369.1	6.92	12.9	--	--
TR-WR-27	12/3/2014	11:55	--	--	--	--	0.1071	115.9	28.2	7.03	7.1	--	--
TZW-1-1	9/18/2014	10:10				--	0.84	--	--	--	15.18	--	1.1
TZW-1-2	9/18/2014	10:47				--	11.6	36.3	0.333	5.94	12.79	--	1.0
TZW-2-1	9/18/2014	11:38				--	0.3	4.0	0.434	6.34	15.62	--	1.5
TZW-2-2	9/18/2014	12:16				--	0.16	-65.6	0.365	6.40	12.92	--	1.2
TZW-3-1	9/19/2014	8:57				--	0.31	0.3	33.0	6.28	14.99	--	1.2
TZW-3-2	9/19/2014	9:06				--	0.16	0.549	-23.3	6.12	12.97	--	1.3
TZW-4-1	9/19/2014	10:08				--	0.11	0.189	63.5	6.66	15.86	--	0.9
TZW-4.2	9/19/2014	10:33				--	0.08	0.525	-34.6	6.61	13.69	--	--
TZW-5-1	9/19/2014	12:38				--	0.17	0.402	-25.0	6.60	16.45	--	1.6
TZW-5-2	9/19/2014	11:37				--	0.08	0.462	-16.3	6.65	14.70	--	1.4

Notes:
-- = not applicable or not detected
GW and top of casing elevations referenced to City of Portland Datum
µs/cm = microseimens per centimeter
mg/L = milligrams per liter
mV = millivolts
NTU = nephelometric turbidity units
°C = degrees celsius
* well not sampled because it dewatered

Table 6
Groundwater and Surface Water Sampling Results
Phase II RI - Premier Edible Oils
Portland, Oregon

	Sample Location		MW-01	MW-01 (Duplicate)	MW-03	MW-04	MW-05	MW-06	MW-07	MW-14	MW-15D	MW-16D	MW-17	MW-19	MW-20	MW-21	TR-GW-26 Grab Sample	TR-WR-27 Surface Water
	Sample Date		12/30/2014	12/30/2014	12/30/2014	12/29/2014	12/29/2014	12/30/2014	12/29/2014	12/30/2014	12/30/2014	12/30/2014	12/30/2014	12/30/2014	12/29/2014	12/30/2014	12/3/2014	12/3/2014
Total Petroleum Hydrocarbons	**Screening Value***																	
Diesel Range	--	µg/l	24	26	150	13,000	1,400	680	48	350	49	85	15	310	110	14	59	38
Residual Range	--	µg/l	43	46	100	860	470	310	77	610	58	53	38	150	64	48	77	81
Gasoline Range	1,000	µg/l	< 250	< 250	< 250	**1,200**	220	37	14	90	27	37	< 250	< 250	< 250	< 250	< 50	< 50
Total Petroleum Hydrocarbons (Silica Gel Method)																		
Diesel Range	--	µg/l	--	--	--	4,300	91	480	--	350	--	--	--	44	--	--	--	--
Residual Range	--	µg/l	--	--	--	150	99	300	--	270	--	--	--	40	--	--	--	--
SW8260C -VOLATILE ORGANIC COMPOUNDS																		
ETHYLBENZENE	7.3	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	5.8	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
STYRENE	100	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
CIS-1,3-DICHLOROPROPENE	0.055	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
TRANS-1,3-DICHLOROPROPENE	0.055	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
N-PROPYLBENZENE	--	µg/l	< 2	< 2	< 2	4.7	18	0.16	0.08	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
N-BUTYLBENZENE	--	µg/l	< 2	< 2	< 2	5.9	0.36	0.24	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
4-CHLOROTOLUENE	--	µg/l	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
1,4-DICHLOROBENZENE	2.8	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.033	µg/l	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
1,2-DICHLOROETHANE	0.73	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANON	170	µg/l	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	--	µg/l	< 2	< 2	< 2	< 2	2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
BROMOBENZENE	--	µg/l	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
TOLUENE	9.8	µg/l	< 0.5	< 0.5	0.12	0.11	0.43	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.06	< 0.5	0.19	0.19	< 0.50
CHLOROBENZENE	50	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,2,4-TRICHLOROBENZENE		µg/l	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
DIBROMOCHLOROMETHANE	--	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
TETRACHLOROETHYLENE(PCE)	0.12	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
DIMETHYL BENZENE		µg/l	< 0.5	< 0.5	< 0.5	< 0.5	0.58	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.15	< 0.50
SEC-BUTYLBENZENE		µg/l	< 2	< 2	< 2	3.3	0.41	0.21	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
1,3-DICHLOROPROPANE	--	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
CIS-1,2-DICHLOROETHYLENE	590	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.08	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
TRANS-1,2-DICHLOROETHENE	110	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,3-DICHLOROBENZENE	14	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
CARBON TETRACHLORIDE	0.51	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,1-DICHLOROPROPENE	--	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
2-HEXANONE	99	µg/l	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
2,2-DICHLOROPROPANE	--	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,1,1,2-TETRACHLOROETHANE	2.5	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
ACETONE	1500	µg/l	< 20	< 20	< 20	< 20	9	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
CHLOROFORM	0.17	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
BENZENE	130	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	0.17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,1,1-TRICHLOROETHANE	11	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
BROMOMETHANE	8.7	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
CHLOROMETHANE	2.1	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
DIBROMOMETHANE	61	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
BROMOCHLOROMETHANE	--	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
CHLOROETHANE	23	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
VINYL CHLORIDE	0.015	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
METHYLENE CHLORIDE	8.9	µg/l	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
CARBON DISULFIDE	--	µg/l	< 0.5	< 0.5	0.07	0.14	< 0.5	< 0.5	< 0.5	0.3	0.07	< 0.5	< 0.5	0.07	< 0.5	< 0.5	< 0.50	< 0.50
BROMOFORM	8.5	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
BROMODICHLOROMETHANE	1.1	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,1-DICHLOROETHANE	47	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.19	0.15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,1-DICHLOROETHENE	--	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
TRICHLOROFLUOROMETHANE	1300	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
DICHLORODIFLUOROMETHANE	390	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,2-DICHLOROPROPANE	0.97	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
METHYL ETHYL KETONE (2-BUTANONE)	7100	µg/l	< 20	< 20	< 20	2.5	2.4	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
1,1,2-TRICHLOROETHANE	1.2	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
TRICHLOROETHYLENE (TCE)	0.17	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,1,2,2-TETRACHLOROETHANE	0.33	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,2,3-TRICHLOROBENZENE	--	µg/l	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
HEXACHLOROBUTADIENE	0.86	µg/l	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
–PHTHALENE	--	µg/l	< 2	< 2	< 2	1.1	1.4	< 2	0.15	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0

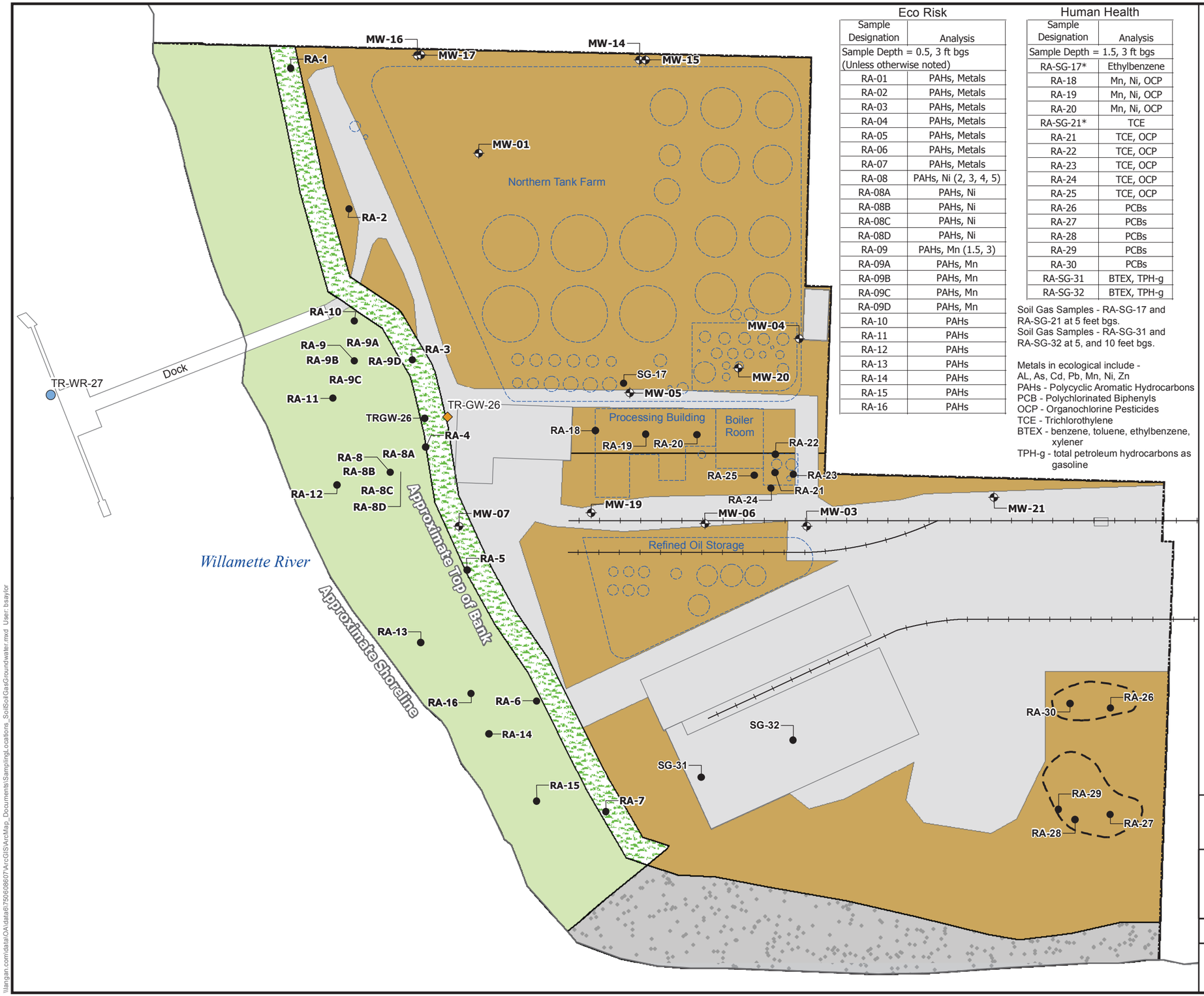
Table 6
Groundwater and Surface Water Sampling Results
Phase II RI - Premier Edible Oils
Portland, Oregon

	Sample Location Sample Date		MW-01 12/30/2014	MW-01 (Duplicate) 12/30/2014	MW-03 12/30/2014	MW-04 12/29/2014	MW-05 12/29/2014	MW-06 12/30/2014	MW-07 12/29/2014	MW-14 12/30/2014	MW-15D 12/30/2014	MW-16D 12/30/2014	MW-17 12/30/2014	MW-19 12/30/2014	MW-20 12/29/2014	MW-21 12/30/2014	TR-GW-26 Grab Sample 12/3/2014	TR-WR-27 Surface Water 12/3/2014
SW8260C -VOLATILE ORGANIC COMPOUNDS																		
Total Petroleum Hydrocarbons	**Screening Value***																	
O-XYLENE (1,2-DIMETHYLBENZENE)	13	µg/l	< 0.5	< 0.5	< 0.5	0.62	0.08	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
2-CHLOROTOLUENE	--	µg/l	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
1,2-DICHLOROBENZENE	49	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
1,2,4-TRIMETHYLBENZENE	--	µg/l	< 2	< 2	< 2	< 2	2	0.12	0.1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
1,2-DIBROMO-3-CHLOROPROPANE	--	µg/l	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
1,2,3-TRICHLOROPROPANE	0.0095	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50
T-BUTYLBENZENE	--	µg/l	< 2	< 2	< 2	0.35	0.09	< 2	< 2	< 2	< 2	0.28	< 2	< 2	< 2	< 2	< 2.0	< 2.0
ISOPROPYLBENZENE (CUMENE)	660	µg/l	< 2	< 2	< 2	1.2	9.5	0.37	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
CYMENE	--	µg/l	< 2	< 2	< 2	< 2	0.09	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2.0	< 2.0
SW8270D - POLYCYCLIC AROMATIC HYDROCARBONS																		
ANTHRACENE	0.2	µg/l	--	--	--	--	< 0.019	--	< 0.019	0.043	--	--	--	--	0.013	--	--	--
PYRENE	0.2	µg/l	--	--	--	--	< 0.019	--	< 0.019	0.089	--	--	--	--	< 0.019	--	--	--
DIBENZOFURAN	3.7	µg/l	--	--	--	--	< 0.019	--	< 0.019	< 0.019	--	--	--	--	< 0.019	--	--	--
BENZO(G,H,I)PERYLENE	0.2	µg/l	--	--	--	--	0.012	--	< 0.019	0.028	--	--	--	--	< 0.019	--	--	--
INDENO(1,2,3-C,D)PYRENE	0.018	µg/l	--	--	--	--	0.0095	--	< 0.019	**0.029**	--	--	--	--	< 0.019	--	--	--
BENZO(B)FLUORANTHENE	0.018	µg/l	--	--	--	--	< 0.019	--	< 0.019	**0.04**	--	--	--	--	< 0.019	--	--	--
FLUORANTHENE	0.2	µg/l	--	--	--	--	< 0.019	--	< 0.019	0.066	--	--	--	--	< 0.019	--	--	--
BENZO(K)FLUORANTHENE	0.018	µg/l	--	--	--	--	< 0.019	--	< 0.019	0.016	--	--	--	--	< 0.019	--	--	--
ACENAPHTHYLENE	0.2	µg/l	--	--	--	--	< 0.019	--	< 0.019	0.021	--	--	--	--	< 0.019	--	--	--
CHRYSENE	0.018	µg/l	--	--	--	--	< 0.019	--	< 0.019	**0.053**	--	--	--	--	< 0.019	--	--	--
BENZO(A)PYRENE	0.018	µg/l	--	--	--	--	< 0.019	--	< 0.019	**0.049**	--	--	--	--	< 0.019	--	--	--
DIBENZ(A,H)ANTHRACENE	0.018	µg/l	--	--	--	--	< 0.019	--	< 0.019	0.0054	--	--	--	--	< 0.019	--	--	--
BENZO(A)ANTHRACENE	0.018	µg/l	--	--	--	--	< 0.019	--	< 0.019	**0.049**	--	--	--	--	< 0.019	--	--	--
ACENAPHTHENE	0.2	µg/l	--	--	--	--	< 0.019	--	0.0052	0.0093	--	--	--	--	< 0.019	--	--	--
PHENANTHRENE	0.2	µg/l	--	--	--	--	< 0.019	--	0.016	0.13	--	--	--	--	< 0.019	--	--	--
FLUORENE	0.2	µg/l	--	--	--	--	< 0.019	--	0.01	0.051	--	--	--	--	< 0.019	--	--	--
NAPHTHALENE	--	µg/l	--	--	--	--	0.85	--	0.043	0.52	--	--	--	--	0.016	--	--	--
2-METHYLNAPHTHALENE	0.2	µg/l	--	--	--	--	**0.39**	--	0.026	0.038	--	--	--	--	0.0066	--	--	--
METALS																		
MANGANESE - Total	--	µg/l	2.98	4.51	11.4	1260	2060	463	48	226	5150	1840	17.6	972	1.46	12.3	2360	26.5
MANGANESE - Dissolved	120	µg/l	0.17	0.25	1.13	**995**	**1940**	**417**	28.7	**123**	**3450**	**1650**	0.6	**289**	0.7	7.52	**1850**	2.64
ARSENIC - Total	--	µg/l	0.31	0.32	0.48	13.7	14.9	38.9	1.17	36.5	10.6	11.5	0.66	2.21	0.23	0.23	21.6	0.4
ARSENIC - dissolved	150	µg/l	0.28	0.27	0.29	1.18	2.73	3.55	0.21	1.07	7	7.43	0.39	0.57	0.23	0.14	4.6	0.3
GEOCHEMISTRY PARAMETERS																		
FERROUS IRON	--	µg/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5000	< 200
NITROGEN, NITRATE (AS N)	--	µg/l	400	400	580	50	730	200	210	40	< 100	< 100	1400	430	1600	490	< 100	480
SULFATE (AS SO4)	--	µg/l	4250	4180	14300	14800	3660	10900	7760	4370	280	1130	2090	8370	9820	6350	< 200	1970
CHLORIDE (AS CL)	--	µg/l	950	980	1240	1270	890	1350	930	1110	1100	1300	730	1030	950	2470	1270	2120
ALKALINITY, TOTAL (AS CACO3)	--	µg/l	50000	50000	69000	124000	148000	65000	139000	51000	132000	106000	48000	110000	88000	46000	144000	24000
HARDNESS (AS CACO3)	--	µg/l	41100	40100	65800	91100	73200	27200	120000	50400	111000	85800	41800	92400	86100	36300	--	--

Notes:
-- = constituent not analyzed for or no screening value assigned
µg/l = microgram per liter

Bold and fill indicates an exceedance of the screening values.
* Treadwell & Rollo, A Langan Company, 2014. *Phase II RI Work Plan, Premier Edible Oils, 10400 North Burgard Way, Portland, Oregon,* November.

Screening values do not apply to surface water samples



Eco Risk

Sample Designation	Analysis
Sample Depth = 0.5, 3 ft bgs (Unless otherwise noted)	
RA-01	PAHs, Metals
RA-02	PAHs, Metals
RA-03	PAHs, Metals
RA-04	PAHs, Metals
RA-05	PAHs, Metals
RA-06	PAHs, Metals
RA-07	PAHs, Metals
RA-08	PAHs, Ni (2, 3, 4, 5)
RA-08A	PAHs, Ni
RA-08B	PAHs, Ni
RA-08C	PAHs, Ni
RA-08D	PAHs, Ni
RA-09	PAHs, Mn (1.5, 3)
RA-09A	PAHs, Mn
RA-09B	PAHs, Mn
RA-09C	PAHs, Mn
RA-09D	PAHs, Mn
RA-10	PAHs
RA-11	PAHs
RA-12	PAHs
RA-13	PAHs
RA-14	PAHs
RA-15	PAHs
RA-16	PAHs

Human Health

Sample Designation	Analysis
Sample Depth = 1.5, 3 ft bgs	
RA-SG-17*	Ethylbenzene
RA-18	Mn, Ni, OCP
RA-19	Mn, Ni, OCP
RA-20	Mn, Ni, OCP
RA-SG-21*	TCE
RA-21	TCE, OCP
RA-22	TCE, OCP
RA-23	TCE, OCP
RA-24	TCE, OCP
RA-25	TCE, OCP
RA-26	PCBs
RA-27	PCBs
RA-28	PCBs
RA-29	PCBs
RA-30	PCBs
RA-SG-31	BTEX, TPH-g
RA-SG-32	BTEX, TPH-g

Soil Gas Samples - RA-SG-17 and RA-SG-21 at 5 feet bgs.
Soil Gas Samples - RA-SG-31 and RA-SG-32 at 5, and 10 feet bgs.

Metals in ecological include - AL, As, Cd, Pb, Mn, Ni, Zn
PAHs - Polycyclic Aromatic Hydrocarbons
PCB - Polychlorinated Biphenyls
OCP - Organochlorine Pesticides
TCE - Trichlorothylene
BTEX - benzene, toluene, ethylbenzene, xylener
TPH-g - total petroleum hydrocarbons as gasoline

Legend

- Monitoring Well Location
- Sample Location
- Step-out Soil Sample Location
- Grab Groundwater Sample Location
- Surface Water Sample Location
- Shoreline
- Site Boundary
- Historical Railroad
- Former Stockpile
- Historical Use
- Impervious Area - Approximate Extent
- Greenway
- Ecological Habitat
- Industrial Human Health Area
- Rip Rap

Notes:

1. Map displayed in Oregon State Plane North, North American Datum of 1983 (NAD83), US Survey Feet.
2. Buildings and other basemap features sourced from Gradient 2011a.

0 50 100 200
Feet

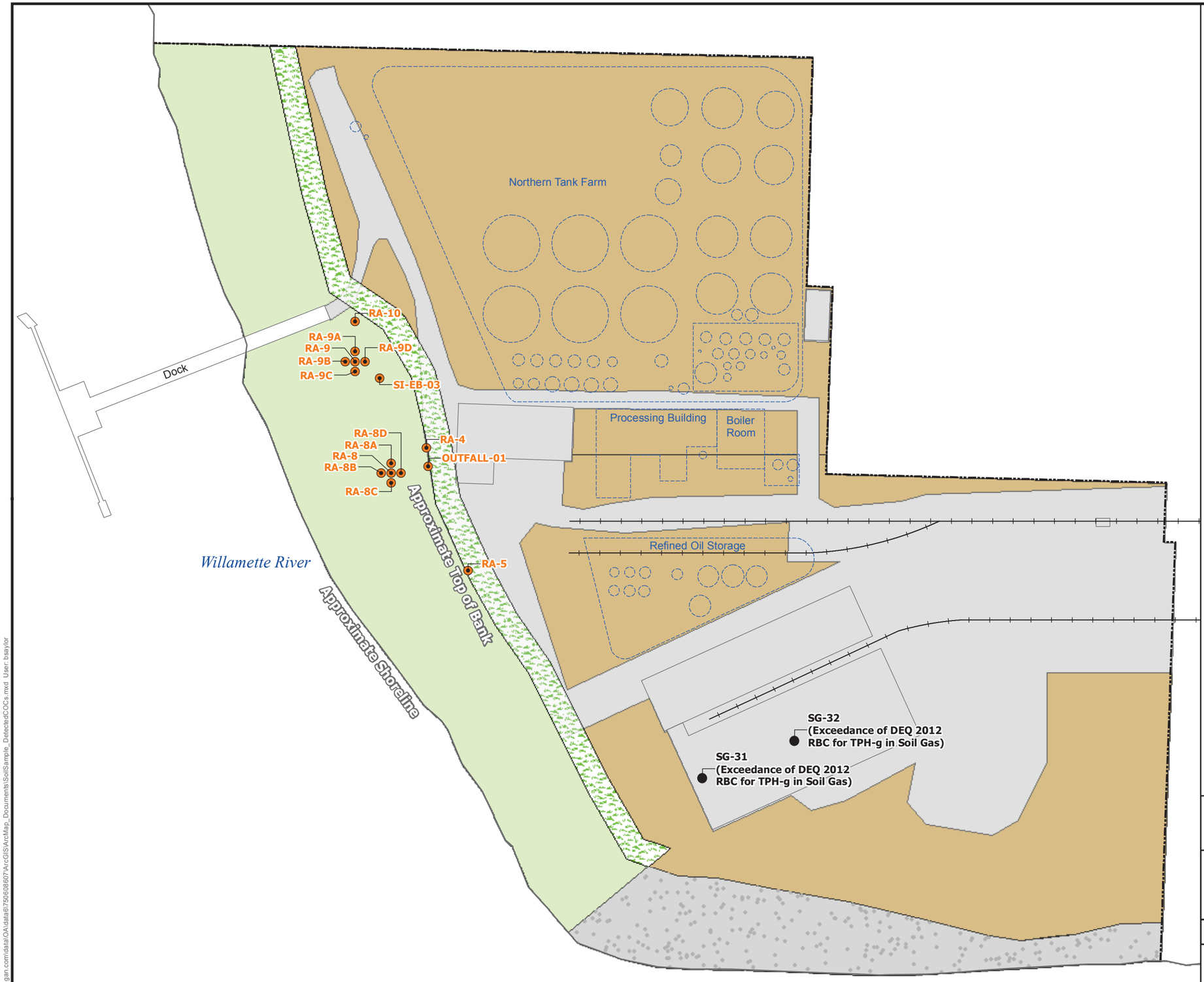
PHASE II RI
PREMIER EDIBLE OILS
Portland, Oregon

SAMPLING LOCATIONS in SOIL, SOIL GAS, AND GROUNDWATER

6/2/2015	Project 750608607	Figure 1

LANGAN TREADWELL ROLLO

\\langan.com\data\OA\data6\750608607\ArcGIS\ArcMap_Documents\SamplingLocations_SoilSoilGasGroundwater.mxd User: bsaylor



Legend

- Soil Sample with UCL Exceedance (sample result replaced with median constituent value from remaining samples)
- Soil Gas Sample Location with RBC Exceedance
- Shoreline
- Site Boundary
- Historical Railroad
- Historical Use
- Impervious Area - Approximate Extent
- Greenway
- Ecological Habitat
- Industrial Human Health Area
- Rip Rap

Notes:

1. Map displayed in Oregon State Plane North, North American Datum of 1983 (NAD83), US Survey Feet.
2. Buildings and other basemap features sourced from Gradient 2011a.

0 50 100 200

Feet

PHASE II RI
PREMIER EDIBLE OILS
Portland, Oregon

SOIL and SOIL GAS SAMPLES with 90% UCL EXCEEDANCES

6/4/2015	Project 750608607	Figure 2

LANGAN TREADWELL ROLLO

\\langan.com\data\OA\data6\750608607\ArcGIS\ArcMap_Documents\SoilSample_DetectedCOCs.mxd User: bsaylor

Attachment 3
2014 Remedial Investigation Work Plan Appendix D—
Risk Screening of Historical PEO Site Data

APPENDIX D
Risk Screening of Historical PEO Site Data

Appendix D
Risk Screening of Historical PEO Site Data

This appendix presents the screening of historical data collected at the Premier Edible Oils (PEO) property at 10400 North Burgard Way in Portland, Oregon (Site) against screening values for the human health and ecological risk scenarios described in Appendix C. Detected concentrations for chemicals of interest (COIs) which exceed screening values are shaded and bolded, and laboratory detection limits for COIs that exceed screening values are italicized and bolded.

Tables D-1 through D-7 summarize the historical data. The summary tables list COIs and identify the number of data points available, the number of detections above screening values, and the number of detection limits above screening values. Some laboratory data were below the detection limit (ND) but with an undefined "R" qualifier. Because of the unknown quality of the data, these were not included in Tables D-1 through D-7.

Based on these results, Tables D-1 through D-7 provide a recommendation for whether a COI is "screened in", "screened out", or requires further evaluation. COIs that are "screened in" will be carried forward to the appropriate human health risk assessment (HHRA) or ecological risk assessment (ERA) and additional sample collection may be proposed in this Work Plan to obtain a robust sample set for performance of risk statistics and calculations. COIs that are "screened out" will not be carried forward in the HHRA or ERA because they were either detected at concentrations below screening values, these COIs can be assumed not to pose a significant risk. The further evaluation of COIs will likely include site-specific background value reviews, limited sampling, or other.

For metals in soils screened in above background concentrations in Appendix D (found in DEQ's 2010 Human Health Risk Assessment Guidance), Appendix F updates this screening by comparison of detected metals concentrations in soil to background metals values established for the Portland Basin by DEQ in March, 2013 (DEQ, 2013). The 2010 DEQ values were used in Appendix D because those were the values available and suggested by DEQ when Appendix D was initially prepared in early 2013.

Additionally, T&R performed a risk-screening for non-carcinogenic compounds by summing a cumulative hazard index, following DEQ guidance (DEQ, 2010). Results are presented on Table D-8.

D.1 CURRENT AND FUTURE HUMAN HEALTH RISK SCREENING FOR SOIL INGESTION, DERMAL CONTACT, AND INHALATION

As described in Appendix C, the current and future human health risk scenarios include potential exposure due to soil ingestion, dermal contact, and inhalation to receptors from soils in the "Upland" area at depths ranging from 0 to 10 feet below ground surface (bgs). Screening values for this scenario include Oregon Department of Environmental Quality (DEQ) Risk-Based Concentrations (RBCs) for "Soil Ingestion, Dermal Contact, and Inhalation" for the occupational receptor (DEQ, 2012), or if none exist, then Environmental Protection Agency (EPA) Risk Screening Levels (RSLs) (EPA, 2012) (Appendix C, Table C-1). Table D-8 presents the list of historical soil sampling results within the geographic and depth ranges for this risk scenario. Table D-2 summarizes results of the screening for each COI.

As indicated in Table D-2, three COIs were detected in the historical data set above screening values: total petroleum hydrocarbons (TPH) – Residual Range, benzo(a)pyrene, and arsenic. Benzo(a)pyrene exceeded the screening value in 11 of the 45 samples and therefore is screened in. Arsenic slightly exceeded the screening values in 17 of the 19 samples generally by less than 1 mg/kg. The maximum arsenic concentration is 8.02 mg/kg, which slightly exceeded 7.0 mg/kg, which is a DEQ background concentration for arsenic (DEQ, 2010). This concentration only slightly exceeds this general background value and is likely within reasonable site-specific background concentrations given that most detected concentrations are in the 2 to 3 mg/kg range.

TPH – Residual Range was detected above screening values in just 1 of 28 samples. DEQ does not have an RBC for TPH-Residual Range. The screening value used is DEQ's RBC for "Generic Mineral Insulating Oil" because this was the most applicable screening value given the residual hydrocarbon range most closely matches the minimal insulating oil range. On the basis that TPH-Residual Range was detected in less than 5% of historical samples and that the RBC does not match this compound, it is recommended that TPH-Residual Range be screened out.

Two COIs (1,2,3-trichloropropane and 1,2-dibromo-3-chloropropane) were non-detect (ND) in the historical data set but had method detection limits (MDLs) above screening values. Historical results for 1,2,3-trichloropropane included one, R-qualified ND with an MDL above the screening value and 30 NDs with MDLs below the screening values. Since the ND value was the only MDL slightly above the screening value and was R-qualified by the laboratory, 1,2,3-trichloropropane is screened out. Historical results for

1,2-dibromo-3-chloropropane included 12 NDs with an MDL above the screening value and 19 NDs with MDLs below the screening values. MDLs may be elevated for a variety of reasons including changes in analytical methodology, dilution of the sample before analysis, and interference between target and non-target compounds and soil moisture. The result of these high MDLs is that they could mask concentrations of 1,2-dibromo-3-chloropropane that are present in the soil and above screening levels. The compound 1,2-dibromo-3-chloropropane was used as an agricultural fumigant until the late 1970s, which includes the period when operations were still ongoing at the Site. Therefore, soil sampling for 1,2-dibromo-3-chloropropane may be needed to evaluate whether it could be present at the Site based on historical Site operations. Based on previous discussions with DEQ, other pesticides may have been associated with historical Site operations, particularly in the vicinity of the PEO wastewater treatment plant/ boiler room. As a result, further evaluation and soil sampling will likely be needed in this area for pesticides (Group 7 on the Summary Table).

Based on the screening and rationale described above, benzo(a)pyrene is the only COI that is screened in for the current and future human health risk scenarios for potential exposure due to soil ingestion, dermal contact, and inhalation from soils in the "Upland" area. Pesticides are retained for further evaluation by review of past operations and/or soil sampling.

As stated above, COIs screened in will be carried forward for this risk scenario and additional sample collection may be proposed in this Work Plan to obtain a robust sample set for performance of risk statistics and calculations. All other COIs screened out for this risk scenario will not be carried forward because these COIs can be assumed not to pose a significant risk.

D.2 FUTURE HUMAN HEALTH RISK SCREENING FOR VAPOR INTRUSION INTO BUILDINGS AND VOLATILIZATION TO OUTDOOR AIR

As described in Appendix C, the future human health risk scenarios include potential exposure due to inhalation from indoor air (vapor intrusion into buildings) or outdoor air (volatilization to outdoor air) from soil in the "Upland" area at depths ranging from 0 to 20 feet bgs, or shallow groundwater. Screening values for this scenario include Oregon DEQ RBCs (Appendix C, Table C-1) for "Vapor Intrusion into Buildings" and "Volatilization to Outdoor Air" for the occupational receptor. Table D-3 (soil as vapor source) and Table D-4 (shallow groundwater as vapor source) summarize results of the screening for each COI.

As indicated in Table D-3 (soil as vapor source), two COIs (ethylbenzene and trichloroethene [TCE]) were detected in the historical data set above screening values for vapor intrusion into buildings. Ethylbenzene exceeded the screening value in 1 of the 60 soil samples; TCE exceeded the screening value in 1 of the 57 soil samples.

One COI (chloroform) was ND in the historical data set but had MDLs above screening values. Historical results for chloroform included 4 NDs with an MDL above the screening value and 60 NDs with MDLs below the screening values. The samples for which chloroform MDLs exceed screening levels were all collected more than ten years ago in May 2001 and also generally contained relatively high concentrations of TPHg and TPHd. Chloroform has been identified as a common laboratory contaminant (California Department of Toxic Substances Control, 2013), which may affect the MDLs. As a result, it is recommended that chloroform be screened out.

As indicated in Table D-4 (shallow groundwater as vapor source), no COIs were detected in the historical data set above screening values, and therefore all compounds are screened out for shallow groundwater as a source of vapor to indoor or outdoor air.

Based on previous discussions with DEQ, shallow soil gas sampling would be considered if COIs "screened in" for the vapor intrusion scenario, given that vapor intrusion risks are better evaluated using soil gas than soil or groundwater. Based on previous discussions with DEQ, other pesticides may have been associated with historical Site operations, particularly in the vicinity of the PEO wastewater treatment plant/ boiler room. As a result, further evaluation and soil sampling will likely be needed in this area for volatile pesticides (Group 7 on the Summary Table). Given that only one sample exceeded the screening criteria, further evaluation by limited soil gas sampling is recommended for ethylbenzene and TCE in the areas of the single exceedances. Given that no COIs exceeded screening values for volatilization to outdoor air, this entire exposure pathway will not be evaluated in the HHRA.

D.3 MULTIPLE-MEDIA, CUMULATIVE RISK SCREENING FOR NON-CARCINOGENIC COMPOUNDS

T&R performed a multiple-media, cumulative risk screening for non-carcinogenic compounds following guidance (DEQ 2010). Media selected for non-carcinogenic compound risk screening are soil (ingestion, dermal contact and inhalation - Table D-2), and vapor from soil and groundwater (vapor intrusion into buildings and outdoor air - Tables D-3 and D-4), which are the pathways identified on Figure 4a, Human Health Risk Assessment Conceptual Site Model.

Chemicals were classified as non-carcinogenic based on the *Risk-Based Concentrations for Individual Chemicals, Revised June 7 2012* (DEQ 2012). For chemicals without DEQ RBCs, the U.S. EPA's Integrated Risk Information System (IRIS) database was consulted (DEQ 2010). As presented in Table D-8, the results of the cumulative, multi-media risk screening shows that sum of all non-carcinogenic compounds is 0.37 (Table D-8). These values are significantly below the cumulative hazard index of 1, and are thus screened out on this basis.

D.4 CURRENT AND FUTURE ECOLOGICAL RISK SCREENING FOR INCIDENTAL INGESTION AND CONTACT/UPTAKE

As described in Appendix C, the current and future ecological risk scenarios include potential exposure due to soil ingestion, and dermal contact and uptake to current receptors from soils in the "Bank" area and current and future receptors from soils in the "Bank" area and Greenway setback area. The depth of soil data used for this screening is 0 to 0.5 feet bgs for non-burrowing ecological receptors and or 0 to 3 feet bgs for burrowing ecological receptors. Screening values for this scenario include State of Washington Ecological Indicator Concentrations for wildlife and biota receptors for TPH compounds (Washington State, 2012), and EPA Ecological Soil Screening Levels, or if none exists, then Oregon DEQ Level II Ecological SLVs for terrestrial receptors for VOCs, PAHs, metals, and PCBs (DEQ, 2001) (Appendix C, table C-1). Additionally, metals are screened relative to background levels published in Oregon DEQ's Human Health Risk Assessment Guidance (DEQ, 2010) and in *Natural Background Soil Metals Concentrations in Washington State* by the Washington State Department of Ecology (Washington State, 1994). Table D-5 summarizes results of the screening for each COI.

As indicated in Table D-5, seven COIs were detected in the historical data set above screening values: dibenzofuran, aluminum, cadmium, iron, manganese, nickel, and zinc. Dibenzofuran exceeded the screening value in 1 of the 4 samples and therefore is screened in. Aluminum exceeded the screening values in 4 of 4 samples, cadmium in 1 of 8 samples, iron in 4 of 4 samples, manganese in 1 of 16 samples, nickel in 1 of 16 samples, and zinc in 2 of 8 samples. The maximum concentrations of three of these metals, aluminum, cadmium, and iron are below published background values (DEQ, 2010; Washington State, 1994). Therefore, aluminum, cadmium, and iron are recommended to be screened out. Only one zinc concentration was above the 90^{th} percentile background value of 86 mg/kg (Washington State, 1994). The remaining metals detected above screening levels, manganese, nickel and zinc will require further evaluation related to site-specific background concentrations.

Two COIs (dieldrin and p,p'-dichlorodiphenyltrichloroethane [p,p'-DDT]) were ND in the historical data set but had MDLs above screening values. Historical results for dieldrin included one ND with an MDL above the screening value and 4 NDs with MDLs below the screening values. Historical results for p,p'-DDT included one ND with an MDL above the screening value and 4 NDs with MDLs below the screening values. Historically, the compounds dieldrin and p,p'-DDT were commercially distributed as insecticides but were not likely used in historical Site operations. As a result, it is recommended that based on existing site data, these two compounds be screened out of further risk assessment. However, based on previous discussions with DEQ, pesticides may have been associated with historical Site operations, particularly in the vicinity of the PEO wastewater treatment plant/ boiler room. As a result, further evaluation and soil sampling will likely be needed in this area for pesticides (Group 7 on the Summary Table).

Based on the screening and rationale described above, dibenzofuran is the only COI that is screened in for the current and future ecological risk scenarios for potential exposure due to soil ingestion, and dermal contact and uptake to receptors from soils in the "Bank" and greenway area. The COIs requiring further evaluation include pesticides, nickel, manganese, and zinc.

D.5 WILLAMETTE RIVER SOURCE CONTROL

As described in Appendix C, the risk pathways to the Willamette River are being addressed through the Portland Harbor Joint Source Control Strategy (JSCS) program and include erodible soils in the "Bank" area from 0 to 3 feet bgs and groundwater from the entire site. Ecological receptors present in the Willamette River and river sediments are not included, as they are being addressed as part of the Portland Harbor Superfund Remedial Investigation/Feasibility Study. The JSCS criteria are the screening level values (DEQ, 2007). Metals are screened relative to background levels published in Oregon DEQ's Human Health Risk Assessment Guidance (DEQ, 2010) and in *Natural Background Soil Metals Concentrations in Washington State* by the Washington State Department of Ecology (Washington State, 1994).

Table D-6 (soil) and Table D-7 (groundwater) summarize results of the screening for each COI.

As indicated in Table D-6, the following 17 COIs were detected in the historical soil data set above soil screening values and background concentrations (DEQ 2010):

- PAHs: acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo (g,h,i)perylene, chrysene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, phenanthrene, and pyrene; and
- Metals: arsenic, cadmium, copper, manganese, nickel, and zinc.

PAHs exceeded the screening values and are therefore screened in. The metals that exceed soil screening levels and background concentrations will be evaluated further regarding site-specific background and potential historical use at the Site.

As indicated in Table D-7, the following 27 COIs were detected in the historical groundwater data set at concentrations above screening values:

- VOCs: 1,2-dichlorethane, benzene, ethylbenzene, toluene, trans-1,3-dichloropropene, and vinyl chloride;
- PAHs: 2-methylnaphthalene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo (g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,23-c,d)pyrene, phenanthrene, and pyrene; and
- Metals: arsenic, cadmium, copper, manganese, nickel, and zinc.

VOCs exceeded the screening values and are therefore screened in. The PAHs were analyzed in grab samples along the Bank Area. Because the sampling was necessarily performed from temporary well locations, PAHs that exceed the screening levels will be evaluated further for the potential presence and effects of sediment in the groundwater samples. Metals that exceed the groundwater screening levels will be evaluated further regarding site-specific background and historical use at the Site.

D.6 REFERENCES

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Table D-1
Summary of Screening Criteria
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Treadwell&Rollo
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			Risk Scenario Media, Depth Range Exposure Route	Human Health Risk- Soils, 0-10 ft bgs Soil Ingestion, Dermal Contact and Inhalation		Human Health Risk- Soils, 0-20 ft bgs Vapor Intrusion into Buildings/Volatilization to Outdoor Air		Human Health Risk- Groundwater Vapor Intrusion into Buildings/Volatilization to Outdoor Air		Ecological Risk- Soils, 0-3 ft bgs Incidental Ingestion, Contact/Uptake			Willamette River Source Control - Soils, 0-3 ft bgs Erodible Soils Transported to River	Willamette River Source Control - Groundwater Migration of Groundwater to River
			Screening Levels	RBCss	EPA RSL	RBCsi	RBCso	RBCwi	RBCwo	Washington EICs	EcoSSLs	DEQ Eco SLV	JSCS SLV	JSCS SLV
			Unit	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/L)	(µg/L)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/L)
Analyte Group	**Chemicals of Potential Concern**	**CAS No.**												
TPH	Total Petroleum Hydrocarbons - Diesel	TPH-D		14,000,000	--	--	--	--	--	12,000,000	--	--	--	--
	Total Petroleum Hydrocarbons - Gasoline	TPH-G		20,000,000	--	--	69,000,000	--	--	15,000,000	--	--	--	--
	Total Petroleum Hydrocarbons - Residual Range	TPH-RRO		36,000,000	--	--	--	--	--	--	--	--	--	--
TPH - Silica Gel	Total Petroleum Hydrocarbons - Diesel	TPH-D		14,000,000	--	--	--	--	--	12,000,000	--	--	--	--
	Total Petroleum Hydrocarbons - Residual Range	TPH-RRO		36,000,000	--	--	--	--	--	--	--	--	--	--
VOCs	1,1,1,2-TETRACHLOROETHANE	630-20-6		--	9,300	--	--	--	--	--	--	--	--	2.5
	1,1,1-TRICHLOROETHANE	71-55-6		830,000,000	38,000,000	--	--	--	--	--	--	55,550,000	--	11
	1,1,2,2-TETRACHLOROETHANE	79-34-5		--	2,800	--	--	--	--	--	--	--	--	0.33
	1,1,2-TRICHLOROETHANE	79-00-5		25,000	5,300	2,700	24,000	8,800	19,000	--	--	--	--	1.2
	1,1-DICHLOROETHANE	75-34-3		200,000,000	17,000	--	--	--	--	--	--	--	--	47
	1,1-DICHLOROETHENE	75-35-4		27,000,000	1,100,000	680,000	--	340,000	--	--	--	3,750,000	--	--
	1,1-DICHLOROPROPENE	563-58-6		--	--	--	--	--	--	--	--	--	--	--
	1,2,3-TRICHLOROBENZENE	87-61-6		--	490,000	--	--	--	--	--	--	20,000	--	--
	1,2,3-TRICHLOROPROPANE	96-18-4		--	100	--	--	--	--	--	--	--	--	0.0095
	1,2,4-TRIMETHYLBENZENE	95-63-6		2,000,000	260,000	1,000,000	1,000,000	--	--	--	--	--	--	--
	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8		--	70	--	--	--	--	--	--	--	--	--
	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	106-93-4		680	170	140	650	690	960	--	--	--	--	0.033
	1,2-DICHLOROBENZENE	95-50-1		35,000,000	9,800,000	--	--	--	--	--	--	--	1,700	49
	1,2-DICHLOROETHANE	107-06-2		15,000	2,200	590	15,000	3,800	9,500	--	--	70,000	--	0.73
	1,2-DICHLOROPROPANE	78-87-5		--	4,700	--	--	--	--	--	--	700,000	--	0.97
	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8		10,000,000	10,000,000	--	--	--	--	--	--	--	--	--
	1,3-DICHLOROBENZENE	541-73-1		--	--	--	--	--	--	--	--	--	300	14
	1,3-DICHLOROPROPANE	142-28-9		--	20,000,000	--	--	--	--	--	--	--	--	--
	1,4-DICHLOROBENZENE	106-46-7		63,000	12,000	17,000	36,000	5,700	20,000	--	--	20,000	300	2.8
	2,2-DICHLOROPROPANE	594-20-7		--	--	--	--	--	--	--	--	--	--	--
	2-CHLOROTOLUENE	95-49-8		--	20,000,000	--	--	--	--	--	--	--	--	--
	2-HEXANONE	591-78-6		--	1,400,000	--	--	--	--	--	--	--	--	99
	4-CHLOROTOLUENE	106-43-4		--	20,000,000	--	--	--	--	--	--	--	--	--
	ACETONE	67-64-1		--	630,000,000	--	--	--	--	--	--	1,250,000	--	1500
	BENZENE	71-43-2		34,000	5,400	1,200	50,000	2,800	14,000	--	--	3,300,000	--	1.2
	BROMOBENZENE	108-86-1		--	1,800,000	--	--	--	--	--	--	--	--	--
	BROMOCHLOROMETHANE	74-97-5		--	680,000	--	--	--	--	--	--	--	--	--
	BROMODICHLOROMETHANE	75-27-4		15,000	1,400	1,900	11,000	5,600	9,300	--	--	--	--	1.1
	BROMOFORM	75-25-2		240,000	220,000	550,000	550,000	1,100,000	1,100,000	--	--	--	--	8.5
	BROMOMETHANE	74-83-9		710,000	32,000	17,000	700,000	36,000	170,000	--	--	--	--	8.7
	CARBON TETRACHLORIDE	56-23-5		31,000	3,000	1,600	65,000	790	5,400	--	--	1,000,000	--	0.51
	CHLOROBENZENE	108-90-7		8,300,000	1,400,000	--	--	--	--	--	--	--	--	50
	CHLOROETHANE	75-00-3		--	61,000,000	--	--	--	--	--	--	--	--	23
	CHLOROFORM	67-66-3		25,000	1,500	410	17,000	1,200	5,500	--	--	1,875,000	--	0.17
	CHLOROMETHANE	74-87-3		25,000,000	500,000	300,000	--	320,000	2,100,000	--	--	--	--	2.1
	CIS-1,2-DICHLOROETHYLENE	156-59-2		2,000,000	2,000,000	--	--	--	--	--	--	2,500,000	--	590
	CIS-1,3-DICHLOROPROPENE	10061-01-5		--	--	--	--	--	--	--	--	--	--	0.055
	CYMENE	99-87-6		--	--	--	--	--	--	--	--	--	--	--
	DIBROMOCHLOROMETHANE	124-48-1		16,000	3,300	9,000	14,000	23,000	26,000	--	--	--	--	--
	DIBROMOMETHANE	74-95-3		--	110,000	--	--	--	--	--	--	--	--	61
	DICHLORODIFLUOROMETHANE	75-71-8		--	400,000	--	--	--	--	--	--	--	--	390
	ETHYLBENZENE	100-41-4		140,000	27,000	12,000	160,000	7,400	41,000	--	--	--	--	7.3
	HEXACHLOROBUTADIENE	87-68-3		--	22,000	--	--	--	--	--	--	--	600	0.86
	ISOPROPYLBENZENE (CUMENE)	98-82-8		53,000,000	11,000,000	--	--	--	--	--	--	--	--	660
	M,P-XYLENES	179601-23-1		--	--	--	--	--	--	--	--	--	--	--
	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3		--	200,000,000	--	--	--	--	--	--	--	--	7100
	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1		--	53,000,000	--	--	--	--	--	--	--	--	170
	METHYLENE CHLORIDE	75-09-2		310,000	960,000	20,000	830,000	99,000	330,000	--	--	730,000	--	8.9
	N-BUTYLBENZENE	104-51-8		--	51,000,000	--	--	--	--	--	--	--	--	--
	N-PROPYLBENZENE	103-65-1		--	21,000,000	--	--	--	--	--	--	--	--	--

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			Risk Scenario Media, Depth Range Exposure Route	Human Health Risk- Soils, 0-10 ft bgs Soil Ingestion, Dermal Contact and Inhalation		Human Health Risk- Soils, 0-20 ft bgs Vapor Intrusion into Buildings/Volatilization to Outdoor Air		Human Health Risk- Groundwater Vapor Intrusion into Buildings/Volatilization to Outdoor Air		Ecological Risk- Soils, 0-3 ft bgs Incidental Ingestion, Contact/Uptake			Willamette River Source Control - Soils, 0-3 ft bgs Erodible Soils Transported to River	Willamette River Source Control - Groundwater Migration of Groundwater to River
			Screening Levels	RBCss	EPA RSL	RBCsi	RBCso	RBCwi	RBCwo	Washington EICs	EcoSSLs	DEQ Eco SLV	JSCS SLV	JSCS SLV
			Unit	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/L)	(µg/L)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/L)
Analyte Group	**Chemicals of Potential Concern**	**CAS No.**												
	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	--	3,000,000	--	--	--	--	--	--	1,000	--	13	
	STYRENE	100-42-5	120,000,000	36,000,000	--	--	--	--	--	--	300,000	--	100	
	T-BUTYLBENZENE	98-06-6	--	--	--	--	--	--	--	--	--	--	--	
	TERT-BUTYL METHYL ETHER	1634-04-4	1,000,000	220,000	74,000	1,500,000	590,000	1,100,000	--	--	--	--	37	
	TETRACHLOROETHYLENE(PCE)	127-18-4	940,000	110,000	36,000	--	32,000	--	--	--	10,000	500	0.12	
	TOLUENE	108-88-3	77,000,000	45,000,000	--	--	--	--	--	--	200,000	--	9.8	
	TOTAL XYLENES	133-02-07	25,000,000	--	--	--	--	--	--	--	100,000	--	--	
	TRANS-1,2-DICHLOROETHENE	156-60-5	9,200,000	690,000	200,000	--	350,000	1,800,000	--	--	2,500,000	--	110	
	TRANS-1,3-DICHLOROPROPENE	10061-02-6	--	--	--	--	--	--	--	--	--	--	0.055	
	TRICHLOROETHYLENE (TCE)	79-01-6	46,000	6,400	2,700	96,000	3,300	19,000	--	--	40,000	2,100	0.17	
	TRICHLOROFLUOROMETHANE	75-69-4	--	3,400,000	--	--	--	--	--	--	--	--	1300	
	VINYL CHLORIDE	75-01-4	3,900	1,700	2,200	89,000	910	6,800	--	--	20,000	--	0.015	
	2,4,5-TRICHLOROPHENOL	95-95-4	--	--	--	--	--	--	--	--	--	--	--	
	2,4,6-TRICHLOROPHENOL	88-06-2	--	--	--	--	--	--	--	--	--	--	--	
	2,4-DICHLOROPHENOL	120-83-2	--	--	--	--	--	--	--	--	--	--	--	
	2,4-DIMETHYLPHENOL	105-67-9	--	--	--	--	--	--	--	--	--	--	--	
	2,4-DINITROPHENOL	51-28-5	--	--	--	--	--	--	--	--	--	--	--	
	2,4-DINITROTOLUENE	121-14-2	--	--	--	--	--	--	--	--	--	--	--	
	2,6-DINITROTOLUENE	606-20-2	--	--	--	--	--	--	--	--	--	--	--	
	2-CHLORONAPHTHALENE	91-58-7	--	--	--	--	--	--	--	--	--	--	--	
	2-CHLOROPHENOL	95-57-8	--	--	--	--	--	--	--	--	--	--	--	
	2-METHYLPHENOL (O-CRESOL)	95-48-7	--	--	--	--	--	--	--	--	--	--	--	
	2-NITROANILINE	88-74-4	--	--	--	--	--	--	--	--	--	--	--	
	2-NITROPHENOL	88-75-5	--	--	--	--	--	--	--	--	--	--	--	
	3,3'-DICHLOROBENZIDINE	91-94-1	--	--	--	--	--	--	--	--	--	--	--	
	3-NITROANILINE	99-09-2	--	--	--	--	--	--	--	--	--	--	--	
	4,6-DINITRO-2-METHYLPHENOL	534-52-1	--	--	--	--	--	--	--	--	--	--	--	
	4-CHLORO-3-METHYLPHENOL	59-50-7	--	--	--	--	--	--	--	--	--	--	--	
	4-CHLOROANILINE	106-47-8	--	--	--	--	--	--	--	--	--	--	--	
	4-CHLOROPHENYL PHENYL ETHER	7005-72-3	--	--	--	--	--	--	--	--	--	--	--	
	4-METHYLPHENOL (P-CRESOL)	106-44-5	--	--	--	--	--	--	--	--	--	--	--	
	4-NITROANILINE	100-01-6	--	--	--	--	--	--	--	--	--	--	--	
	4-NITROPHENOL	100-02-7	--	--	--	--	--	--	--	--	--	--	--	
SVOCs	ANILINE (PHENYLAMINE, AMINOBENZENE)	62-53-3	--	--	--	--	--	--	--	--	--	--	--	
	BENZOIC ACID	65-85-0	--	--	--	--	--	--	--	--	--	--	--	
	BENZYL ALCOHOL	100-51-6	--	--	--	--	--	--	--	--	--	--	--	
	BENZYL BUTYL PHTHALATE	85-68-7	--	910,000	--	--	--	--	--	--	--	--	--	
	BIS(2-CHLOROETHOXY) METHANE	111-91-1	--	--	--	--	--	--	--	--	--	--	--	
	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	111-44-4	--	--	--	--	25,000	25,000	--	--	--	--	--	
	BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	--	--	--	--	--	--	--	--	--	--	--	
	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	150,000	120,000	--	--	--	--	--	--	4,500	--	--	
	DIETHYL PHTHALATE	84-66-2	--	490,000,000	--	--	--	--	--	--	100,000	--	--	
	DIMETHYL PHTHALATE	131-11-3	--	--	--	--	--	--	--	--	200,000	--	--	
	DI-N-BUTYL PHTHALATE	84-74-2	--	62,000,000	--	--	--	--	--	--	450	--	--	
	DI-N-OCTYLPHTHALATE	117-84-0	--	--	--	--	--	--	--	--	--	--	--	
	HEXACHLOROBENZENE	118-74-1	--	--	--	--	310	830	--	--	--	--	--	
	HEXACHLOROCYCLOPENTADIENE	77-47-4	--	--	--	--	--	--	--	--	--	--	--	
	HEXACHLOROETHANE	67-72-1	--	--	--	--	--	--	--	--	--	--	--	
	ISOPHORONE	78-59-1	--	--	--	--	--	--	--	--	--	--	--	
	NITROBENZENE	98-95-3	--	--	--	--	--	--	--	--	--	--	--	
	N-NITROSODIMETHYLAMINE	62-75-9	--	--	--	--	--	--	--	--	--	--	--	
	N-NITROSODI-N-PROPYLAMINE	621-64-7	--	--	--	--	--	--	--	--	--	--	--	
	N-NITROSODIPHENYLAMINE	86-30-6	--	--	--	--	--	--	--	--	--	--	--	
	PENTACHLOROPHENOL	87-86-5	--	--	--	--	--	--	--	--	--	--	--	
	PHENOL	108-95-2	--	--	--	--	--	--	--	--	--	--	--	
	1-METHYLNAPHTHALENE	90-12-0	--	53,000	--	--	--	--	--	--	--	--	--	
	2-METHYLNAPHTHALENE	91-57-6	--	2,200,000	--	--	--	--	--	--	--	200	0.2	
	ACENAPHTHENE	83-32-9	61,000,000	33,000,000	--	--	--	--	--	--	20,000	300	0.2	

Table D-1
Summary of Screening Criteria
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Treadwell&Rollo
A LANGAN COMPANY

		Risk Scenario Media, Depth Range Exposure Route	Human Health Risk- Soils, 0-10 ft bgs Soil Ingestion, Dermal Contact and Inhalation		Human Health Risk- Soils, 0-20 ft bgs Vapor Intrusion into Buildings/Volatilization to Outdoor Air		Human Health Risk- Groundwater Vapor Intrusion into Buildings/Volatilization to Outdoor Air		Ecological Risk- Soils, 0-3 ft bgs Incidental Ingestion, Contact/Uptake			Willamette River Source Control - Soils, 0-3 ft bgs Erodible Soils Transported to River	Willamette River Source Control - Groundwater Migration of Groundwater to River
		Screening Levels	RBCss	EPA RSL	RBCsi	RBCso	RBCwi	RBCwo	Washington EICs	EcoSSLs	DEQ Eco SLV	JSCS SLV	JSCS SLV
		Unit	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/L)	(µg/L)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/L)
Analyte Group	**Chemicals of Potential Concern**	**CAS No.**											
PAHs	ACENAPHTHYLENE	208-96-8	--	--	--	--	--	--	--	--	--	200	0.2
	ANTHRACENE	120-12-7	310,000,000	170,000,000	--	--	--	--	--	--	--	845	0.2
	BENZO(A)ANTHRACENE	56-55-3	2,700	2,100	--	--	--	--	--	--	--	1,050	0.018
	BENZO(A)PYRENE	50-32-8	270	210	--	--	--	--	--	--	125,000	1,450	0.018
	BENZO(B)FLUORANTHENE	205-99-2	2,700	2,100	--	--	--	--	--	--	--	--	0.018
	BENZO(G,H,I)PERYLENE	191-24-2	--	--	--	--	--	--	--	--	--	300	0.2
	BENZO(K)FLUORANTHENE	207-08-9	27,000	21,000	--	--	--	--	--	--	--	13,000	0.018
	CHRYSENE	218-01-9	250,000	210,000	--	--	--	--	--	--	--	1,290	0.018
	DIBENZ(A,H)ANTHRACENE	53-70-3	270	210	--	--	--	--	--	--	--	1,300	0.018
	DIBENZOFURAN	132-64-9	--	--	--	--	--	--	--	--	2	--	3.7
	FLUORANTHENE	206-44-0	29,000,000	22,000,000	--	--	--	--	--	--	--	2,230	0.2
	FLUORENE	86-73-7	41,000,000	22,000,000	--	--	--	--	--	--	30,000	536	0.2
	INDENO(1,2,3-C,D)PYRENE	193-39-5	2,700	2,100	--	--	--	--	--	--	--	100	0.018
	PHENANTHRENE	85-01-8	--	--	--	--	--	--	--	--	--	1,170	0.2
	PYRENE	129-00-0	21,000,000	17,000,000	--	--	--	--	--	--	--	1,520	0.2
	PCB-1016 (AROCLOR 1016)	12674-11-2	700	21,000	--	--	--	--	--	--	100,000	530	--
	PCB-1221 (AROCLOR 1221)	11104-28-2	700	540	--	--	--	--	--	--	--	--	--
	PCB-1232 (AROCLOR 1232)	11141-16-5	700	540	--	--	--	--	--	--	--	--	--
	PCB-1242 (AROCLOR 1242)	53469-21-9	700	740	--	--	--	--	--	--	1,500	--	--
	PCB-1248 (AROCLOR 1248)	12672-29-6	700	740	--	--	--	--	--	--	--	1,500	--
	PCB-1254 (AROCLOR 1254)	11097-69-1	700	740	--	--	--	--	--	--	700	300	--
	PCB-1260 (AROCLOR 1260)	11096-82-5	700	740	--	--	--	--	--	--	--	200	--
Pesticides	ALDRIN	309-00-2	110	100	--	--	--	--	--	--	25,000	--	--
	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	319-84-6	310	270	--	--	--	--	--	--	--	--	--
	ALPHA ENDOSULFAN	959-98-8	4,600,000	--	--	--	--	--	--	--	--	--	--
	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	319-85-7	--	960	--	--	--	--	--	--	--	--	--
	BETA ENDOSULFAN	33213-65-9	4,600,000	--	--	--	--	--	--	--	--	--	--
	CIS-NONACHLOR	5103-73-1	--	--	--	--	--	--	--	--	--	--	--
	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	--	--	--	--	--	--	--	--	--	--	--
	DIELDRIN	60-57-1	130	110	--	--	--	--	--	5	300,000	--	--
	ENDOSULFAN SULFATE	1031-07-8	--	--	--	--	--	--	--	--	20,000	--	--
	ENDRIN	72-20-8	230,000	180,000	--	--	--	--	--	--	40	--	--
	ENDRIN ALDEHYDE	7421-93-4	--	--	--	--	--	--	--	--	--	--	--
	ENDRIN KETONE	53494-70-5	--	--	--	--	--	--	--	--	--	--	--
	GAMMA BHC (LINDANE)	58-89-9	1,700	2,100	--	--	--	--	--	--	8,000	--	--
	GAMMA-CHLORDANE	12789-03-6	--	6,500	--	--	--	--	--	--	--	--	--
	HEPTACHLOR	76-44-8	460	380	--	--	--	--	--	--	15,000	--	--
	HEPTACHLOR EPOXIDE	1024-57-3	240	190	--	--	--	--	--	--	--	--	--
	HEXACHLOROBENZENE	118-74-1	--	--	--	--	310	830	--	--	--	--	--
	METHOXYCHLOR	72-43-5	--	3,100,000	--	--	--	--	--	--	500,000	--	--
	MIREX	2385-85-5	--	100	--	--	--	--	--	--	--	--	--
	O,P'-DDD	53-19-0	--	--	--	--	--	--	--	--	--	--	--
	O,P'-DDE	3424-82-6	--	--	--	--	--	--	--	--	--	--	--
	O,P'-DDT	789-02-6	--	--	--	--	--	--	--	--	--	--	--
	OXYCHLORDANE	27304-13-8	--	--	--	--	--	--	--	--	--	--	--
	P,P'-DDD	72-54-8	11,000	7,200	--	--	--	--	--	--	10	--	--
	P,P'-DDE	72-55-9	7,600	5,100	--	--	--	--	--	--	10	--	--
	P,P'-DDT	50-29-3	7,700	7,000	--	--	--	--	--	21	10	--	--
	TOXAPHENE	8001-35-2	2,000	1,600	--	--	--	--	--	--	1,000,000	--	--
	TRANS-NONACHLOR	39765-80-5	--	--	--	--	--	--	--	--	--	--	--

Table D-1
Summary of Screening Criteria
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

			Risk Scenario Media, Depth Range Exposure Route	Human Health Risk- Soils, 0-10 ft bgs Soil Ingestion, Dermal Contact and Inhalation		Human Health Risk- Soils, 0-20 ft bgs Vapor Intrusion into Buildings/Volatilization to Outdoor Air		Human Health Risk- Groundwater Vapor Intrusion into Buildings/Volatilization to Outdoor Air		Ecological Risk- Soils, 0-3 ft bgs Incidental Ingestion, Contact/Uptake			Willamette River Source Control - Soils, 0-3 ft bgs Erodible Soils Transported to River	Willamette River Source Control - Groundwater Migration of Groundwater to River
			Screening Levels	RBCss	EPA RSL	RBCsi	RBCso	RBCwi	RBCwo	Washington EICs	EcoSSLs	DEQ Eco SLV	JSCS SLV	JSCS SLV
			Unit	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/L)	(µg/L)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/L)
Analyte Group	**Chemicals of Potential Concern**	**CAS No.**												
Metals	ALUMINUM	7429-90-5	--	990,000,000	--	--	--	--	--	--	--	50,000	--	--
	ANTIMONY	7440-36-0	--	--	--	--	--	--	--	--	270	5,000	64,000	6
	ARSENIC	7440-38-2	1,700	1,600	--	--	--	--	--	--	46,000	10,000	7,000	0.045
	BARIUM	7440-39-3	190,000,000	190,000,000	--	--	--	--	--	--	2,000,000	85,000	--	--
	BERYLLIUM	7440-41-7	--	--	--	--	--	--	--	--	21,000	10,000	--	--
	CADMIUM	7440-43-9	510,000	800,000	--	--	--	--	--	--	360	4,000	1,000	0.094
	CHROMIUM, TOTAL	7440-47-3	--	--	--	--	--	--	--	--	--	--	111,000	100
	COBALT	7440-48-4	--	300,000	--	--	--	--	--	--	230,000	20,000	--	--
	COPPER	7440-50-8	41,000,000	41,000,000	--	--	--	--	--	--	49,000	50,000	149,000	2.7
	IRON	7439-89-6	--	720,000,000	--	--	--	--	--	--	--	10,000	--	--
	LEAD	7439-92-1	800,000	800,000	--	--	--	--	--	--	56,000	16,000	17,000	--
	MANGANESE	7439-96-5	23,000,000	23,000,000	--	--	--	--	--	--	4,000,000	100,000	1,100,000	50
	MERCURY	7439-97-6	310,000	43,000	--	--	--	--	--	--	--	100	70	0.77
	MOLYBDENUM	7439-98-7	--	--	--	--	--	--	--	--	--	2,000	--	--
	NICKEL	7440-02-0	20,000,000	20,000,000	--	--	--	--	--	--	130,000	30,000	48,600	16
	SELENIUM	7782-49-2	--	5,100,000	--	--	--	--	--	--	630	1,000	2,000	5
	SILVER	7440-22-4	5,100,000	5,100,000	--	--	--	--	--	--	14,000	2,000	5,000	--
	THALLIUM	7440-28-0	--	--	--	--	--	--	--	--	--	1,000	--	--
	TIN	7440-31-5	--	610,000,000	--	--	--	--	--	--	--	50,000	--	--
	VANADIUM	7440-62-2	--	--	--	--	--	--	--	--	280,000	2,000	--	--
	ZINC	7440-66-6	--	310,000,000	--	--	--	--	--	--	79,000	50,000	459,000	36

ft bgs = feet below ground surface
-- = No screening value available.
NS = No samples collected for the compound under the scenario indicated.

RBCss = Risk-Based Concentration for Soil Ingestion, Dermal Contact, and Inhalation (DEQ, 2012)
RBCsi = Risk-Based Concentration for Vapor Intrusion Into Buildings from Soils (DEQ, 2012)
RBCso = Risk-Based Concentration for Volatilization to Outdoor Air from Soils (DEQ, 2012)
RBCwi = Risk-Based Concentration for Vapor Intrusion Into Buildings from Groundwater (DEQ, 2012)
RBCwo = Risk-Based Concentration for Volatilization to Outdoor Air from Groundwater (DEQ, 2012)
EPA EcoSSLs = Interim Final Ecological Soil Screening Levels (EPA, 2003-2008)
DEQ Eco SLV = Oregon DEQ Level II Ecological SLVs for terrestrial receptors (DEQ, 2001)
EPA RSL = Environmental Protection Agency Ecological Soil Screening Level (EPA, 2012)
Washington EICs = State of Washington Ecological Indicator Concentrations, wildlife and biota receptors (Washington State, 2012)

Table D-2
Summary of Screening of Soil for Current and Future Human Health Risks - Soil Ingestion, Dermal Contact, and Inhalation
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Treadwell&Rollo
A LANGAN COMPANY

						Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**Screening Value**	**Unit**	**Basis**	**Number of Samples**	**Number of Detections**	**Number of Detections Above the Screening Level**	**Number of MDLs Above the Screening Level**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
1 - TPH	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	**14,000,000**	ug/kg	RBCss	74	24	**0**	0	**11,600,000**	32%	Screened Out
1 - TPH	**Total Petroleum Hydrocarbons - Gasoline**	TPH-G	**20,000,000**	ug/kg	RBCss	53	20	**0**	0	**4,380,000**	38%	Screened Out
1 - TPH	**Total Petroleum Hydrocarbons - Residual Range**	TPH-RRO	**36,000,000**	ug/kg	RBCss	28	24	**1**	0	**75,400,000**	86%	Screened Out
3 - VOCs	**1,1,1,2-TETRACHLOROETHANE**	630-20-6	**9,300**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,1-TRICHLOROETHANE**	71-55-6	**830,000,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,2,2-TETRACHLOROETHANE**	79-34-5	**2,800**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,2-TRICHLOROETHANE**	79-00-5	**25,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROETHANE**	75-34-3	**200,000,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROETHENE**	75-35-4	**27,000,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROPROPENE**	563-58-6	**--**	ug/kg	--	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,3-TRICHLOROBENZENE**	87-61-6	**490,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,3-TRICHLOROPROPANE**	96-18-4	**100**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,4-TRIMETHYLBENZENE**	95-63-6	**2,000,000**	ug/kg	RBCss	30	1	**0**	0	**111**	3%	Screened Out
3 - VOCs	**1,2-DIBROMO-3-CHLOROPROPANE**	96-12-8	**70**	ug/kg	EPA RSL	30	0	0	**11**	ND	0%	Evaluate Further
3 - VOCs	**1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)**	106-93-4	**680**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROBENZENE**	95-50-1	**35,000,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROETHANE**	107-06-2	**15,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROPROPANE**	78-87-5	**4,700**	ug/kg	EPA RSL	11	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3,5-TRIMETHYLBENZENE (MESITYLENE)**	108-67-8	**10,000,000**	ug/kg	RBCss	31	2	**0**	0	**2,420**	6%	Screened Out
3 - VOCs	**1,3-DICHLOROBENZENE**	541-73-1	**--**	ug/kg	--	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3-DICHLOROPROPANE**					30	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,4-DICHLOROBENZENE**	106-46-7	**63,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**2,2-DICHLOROPROPANE**	594-20-7	**--**	ug/kg	--	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**2-CHLOROTOLUENE**	95-49-8	**20,000,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**2-HEXANONE**	591-78-6	**1,400,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**4-CHLOROTOLUENE**	106-43-4	**20,000,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**ACETONE**	67-64-1	**630,000,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**BENZENE**	71-43-2	**34,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOBENZENE**	108-86-1	**1,800,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOCHLOROMETHANE**	74-97-5	**680,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMODICHLOROMETHANE**	75-27-4	**15,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOFORM**	75-25-2	**240,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOMETHANE**	74-83-9	**710,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**CARBON TETRACHLORIDE**	56-23-5	**31,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROBENZENE**	108-90-7	**8,300,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROETHANE**	75-00-3	**61,000,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROFORM**	67-66-3	**25,000**	ug/kg	RBCss	30	1	**0**	0	**46**	3%	Screened Out
3 - VOCs	**CHLOROMETHANE**	74-87-3	**25,000,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**CIS-1,2-DICHLOROETHYLENE**	156-59-2	**2,000,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**CIS-1,3-DICHLOROPROPENE**	10061-01-5	**--**	ug/kg	--	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**CYMENE**	99-87-6	**--**	ug/kg	--	31	2	**0**	0	**3,640**	6%	Screened Out
3 - VOCs	**DIBROMOCHLOROMETHANE**	124-48-1	**16,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**DIBROMOMETHANE**	74-95-3	**110,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**DICHLORODIFLUOROMETHANE**	75-71-8	**400,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**ETHYLBENZENE**	100-41-4	**140,000**	ug/kg	RBCss	31	2	**0**	0	**5,350**	6%	Screened Out
3 - VOCs	**HEXACHLOROBUTADIENE**	87-68-3	**22,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**ISOPROPYLBENZENE (CUMENE)**	98-82-8	**53,000,000**	ug/kg	RBCss	31	2	**0**	0	**7,240**	6%	Screened Out
3 - VOCs	**M,P-XYLENES**	179601-23-1	**--**	ug/kg	--	26	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYL ETHYL KETONE (2-BUTANONE)**	78-93-3	**200,000,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)**	108-10-1	**53,000,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out

Table D-2
Summary of Screening of Soil for Current and Future Human Health Risks - Soil Ingestion, Dermal Contact, and Inhalation
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**Screening Value**	**Unit**	**Basis**	**Number of Samples**	**Number of Detections**	**Number of Detections Above the Screening Level**	**Number of MDLs Above the Screening Level**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
3 - VOCs	**METHYLENE CHLORIDE**	75-09-2	**310,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**N-BUTYLBENZENE**	104-51-8	**51,000,000**	ug/kg	EPA RSL	31	2	**0**	0	**14,200**	6%	Screened Out
3 - VOCs	**N-PROPYLBENZENE**	103-65-1	**21,000,000**	ug/kg	EPA RSL	31	2	**0**	0	**12,500**	6%	Screened Out
3 - VOCs	**O-XYLENE (1,2-DIMETHYLBENZENE)**	95-47-6	**3,000,000**	ug/kg	EPA RSL	31	2	**0**	0	**1,350**	6%	Screened Out
3 - VOCs	**STYRENE**	100-42-5	**120,000,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**T-BUTYLBENZENE**	98-06-6	**--**	ug/kg	--	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**TERT-BUTYL METHYL ETHER**	1634-04-4	**1,000,000**	ug/kg	RBCss	11	0	0	0	ND	0%	Screened Out
3 - VOCs	**TETRACHLOROETHYLENE(PCE)**	127-18-4	**940,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**TOLUENE**	108-88-3	**77,000,000**	ug/kg	RBCss	31	1	**0**	0	**298**	3%	Screened Out
3 - VOCs	**TOTAL XYLENES**	133-02-07	**25,000,000**	ug/kg	RBCss	5	2	**0**	0	**6,910**	40%	Screened Out
3 - VOCs	**TRANS-1,2-DICHLOROETHENE**	156-60-5	**9,200,000**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRANS-1,3-DICHLOROPROPENE**	10061-02-6	**--**	ug/kg	--	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRICHLOROETHYLENE (TCE)**	79-01-6	**46,000**	ug/kg	RBCss	30	0	0	0	13,700	0%	Screened Out
3 - VOCs	**TRICHLOROFLUOROMETHANE**	75-69-4	**3,400,000**	ug/kg	EPA RSL	30	0	0	0	ND	0%	Screened Out
3 - VOCs	**VINYL CHLORIDE**	75-01-4	**3,900**	ug/kg	RBCss	30	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BENZYL BUTYL PHTHALATE**	85-68-7	**910,000**	ug/kg	EPA RSL	7	6	**0**	0	**650**	86%	Screened Out
4 - SVOCs	**BIS(2-ETHYLHEXYL) PHTHALATE**	117-81-7	**150,000**	ug/kg	RBCss	7	2	**0**	0	**1,800**	29%	Screened Out
4 - SVOCs	**DIETHYL PHTHALATE**	84-66-2	**490,000,000**	ug/kg	EPA RSL	7	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DIMETHYL PHTHALATE**	131-11-3	**--**	ug/kg	--	7	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DI-N-BUTYL PHTHALATE**	84-74-2	**62,000,000**	ug/kg	EPA RSL	7	1	**0**	0	**347**	14%	Screened Out
4 - SVOCs	**DI-N-OCTYLPHTHALATE**	117-84-0	**--**	ug/kg	--	7	0	0	0	ND	0%	Screened Out
5 - PAHs	**1-METHYLNAPHTHALENE**	90-12-0	**53,000**	ug/kg	EPA RSL	1	0	0	0	ND	0%	Screened Out
5 - PAHs	**2-METHYLNAPHTHALENE**	91-57-6	**2,200,000**	ug/kg	EPA RSL	1	0	0	0	ND	0%	Screened Out
5 - PAHs	**ACENAPHTHENE**	83-32-9	**61,000,000**	ug/kg	RBCss	40	1	**0**	0	**139**	3%	Screened Out
5 - PAHs	**ACENAPHTHYLENE**	208-96-8	**--**	ug/kg	--	40	4	**0**	0	**91**	10%	Screened Out
5 - PAHs	**ANTHRACENE**	120-12-7	**310,000,000**	ug/kg	RBCss	39	5	**0**	0	**105**	13%	Screened Out
5 - PAHs	**BENZO(A)ANTHRACENE**	56-55-3	**2,700**	ug/kg	RBCss	43	23	**0**	0	**870**	53%	Screened Out
5 - PAHs	**BENZO(A)PYRENE**	50-32-8	**270**	ug/kg	RBCss	43	25	**11**	0	**1,070**	58%	Screened In
5 - PAHs	**BENZO(B)FLUORANTHENE**	205-99-2	**2,700**	ug/kg	RBCss	38	22	**0**	0	**1,050**	58%	Screened Out
5 - PAHs	**BENZO(G,H,I)PERYLENE**	191-24-2	**--**	ug/kg	--	44	23	**0**	0	**998**	52%	Screened Out
5 - PAHs	**BENZO(K)FLUORANTHENE**	207-08-9	**27,000**	ug/kg	RBCss	38	21	**0**	0	**714**	55%	Screened Out
5 - PAHs	**CHRYSENE**	218-01-9	**250,000**	ug/kg	RBCss	44	31	**0**	0	**1,750**	70%	Screened Out
5 - PAHs	**DIBENZ(A,H)ANTHRACENE**	53-70-3	**270**	ug/kg	RBCss	40	12	**0**	0	**213**	30%	Screened Out
5 - PAHs	**FLUORANTHENE**	206-44-0	**29,000,000**	ug/kg	RBCss	42	26	**0**	0	**1,400**	62%	Screened Out
5 - PAHs	**FLUORENE**	86-73-7	**41,000,000**	ug/kg	RBCss	43	5	**0**	0	**1,190**	12%	Screened Out
5 - PAHs	**INDENO(1,2,3-C,D)PYRENE**	193-39-5	**2,700**	ug/kg	RBCss	43	22	**0**	0	**815**	51%	Screened Out
5 - PAHs	**PHENANTHRENE**	85-01-8	**--**	ug/kg	--	43	23	**0**	0	**2,250**	53%	Screened Out
5 - PAHs	**PYRENE**	129-00-0	**21,000,000**	ug/kg	RBCss	43	27	**0**	0	**1,260**	63%	Screened Out
6 - PCBs	**PCB-1016 (AROCLOR 1016)**	12674-11-2	**700**	ug/kg	RBCss	13	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1221 (AROCLOR 1221)**	11104-28-2	**700**	ug/kg	RBCss	13	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1232 (AROCLOR 1232)**	11141-16-5	**700**	ug/kg	RBCss	13	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1242 (AROCLOR 1242)**	53469-21-9	**700**	ug/kg	RBCss	13	1	**0**	0	**26**	8%	Screened Out
6 - PCBs	**PCB-1248 (AROCLOR 1248)**	12672-29-6	**700**	ug/kg	RBCss	13	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1254 (AROCLOR 1254)**	11097-69-1	**700**	ug/kg	RBCss	13	7	**0**	0	**130**	54%	Screened Out
6 - PCBs	**PCB-1260 (AROCLOR 1260)**	11096-82-5	**700**	ug/kg	RBCss	13	7	**0**	0	**291**	54%	Screened Out
7 - Pesticides	**ALDRIN**	309-00-2	**110**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)**	319-84-6	**310**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**ALPHA ENDOSULFAN**	959-98-8	**4,600,000**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**BETA BHC (BETA HEXACHLOROCYCLOHEXANE)**	319-85-7	**960**	ug/kg	EPA RSL	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**BETA ENDOSULFAN**	33213-65-9	**4,600,000**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**CIS-NONACHLOR**	5103-73-1	**--**	ug/kg	--	7	0	0	0	ND	0%	Screened Out

Table D-2
Summary of Screening of Soil for Current and Future Human Health Risks - Soil Ingestion, Dermal Contact, and Inhalation
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**Screening Value**	**Unit**	**Basis**	**Number of Samples**	**Number of Detections**	**Number of Detections Above the Screening Level**	**Number of MDLs Above the Screening Level**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
7 - Pesticides	**DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)**	319-86-8	--	ug/kg	--	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**DIELDRIN**	60-57-1	**130**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**ENDOSULFAN SULFATE**	1031-07-8	--	ug/kg	--	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**ENDRIN**	72-20-8	**230,000**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**ENDRIN ALDEHYDE**	7421-93-4	--	ug/kg	--	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**ENDRIN KETONE**	53494-70-5	--	ug/kg	--	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**GAMMA BHC (LINDANE)**	58-89-9	**1,700**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**GAMMA-CHLORDANE**	12789-03-6	**6,500**	ug/kg	EPA RSL	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**HEPTACHLOR**	76-44-8	**460**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**HEPTACHLOR EPOXIDE**	1024-57-3	**240**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**METHOXYCHLOR**	72-43-5	**3,100,000**	ug/kg	EPA RSL	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**MIREX**	2385-85-5	**100**	ug/kg	EPA RSL	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**O,P'-DDD**	53-19-0	--	ug/kg	--	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**O,P'-DDE**	3424-82-6	--	ug/kg	--	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**O,P'-DDT**	789-02-6	--	ug/kg	--	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**OXYCHLORDANE**	27304-13-8	--	ug/kg	--	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**P,P'-DDD**	72-54-8	**11,000**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**P,P'-DDE**	72-55-9	**7,600**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**P,P'-DDT**	50-29-3	**7,700**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**TOXAPHENE**	8001-35-2	**2,000**	ug/kg	RBCss	7	0	0	0	ND	0%	Screened Out
7 - Pesticides	**TRANS-NONACHLOR**	39765-80-5	--	ug/kg	--	7	0	0	0	ND	0%	Screened Out
8 - Metals	**ALUMINUM**	7429-90-5	**990,000,000**	ug/kg	EPA RSL	7	7	**0**	0	**9,600,000**	100%	Screened Out
8 - Metals	**ARSENIC**	7440-38-2	**1,700**	ug/kg	RBCss	19	19	**17**	0	**8,020**	100%	Screened Out
8 - Metals	**BARIUM**	7440-39-3	**190,000,000**	ug/kg	RBCss	15	15	**0**	0	**305,000**	100%	Screened Out
8 - Metals	**CADMIUM**	7440-43-9	**510,000**	ug/kg	RBCss	15	7	**0**	0	**667**	47%	Screened Out
8 - Metals	**CHROMIUM, TOTAL**	7440-47-3	--	ug/kg	--	19	19	**0**	0	**74,500**	100%	Screened Out
8 - Metals	**COBALT**	7440-48-4	**300,000**	ug/kg	EPA RSL	7	7	**0**	0	**14,400**	100%	Screened Out
8 - Metals	**COPPER**	7440-50-8	**41,000,000**	ug/kg	RBCss	11	11	**0**	0	**241,000**	100%	Screened Out
8 - Metals	**IRON**	7439-89-6	**720,000,000**	ug/kg	EPA RSL	11	11	**0**	0	**36,800,000**	100%	Screened Out
8 - Metals	**LEAD**	7439-92-1	**800,000**	ug/kg	RBCss	23	23	**0**	0	**156,000**	100%	Screened Out
8 - Metals	**MANGANESE**	7439-96-5	**23,000,000**	ug/kg	RBCss	11	11	**0**	0	**1,220,000**	100%	Screened Out
8 - Metals	**MERCURY**	7439-97-6	**310,000**	ug/kg	RBCss	15	7	**0**	0	**107**	47%	Screened Out
8 - Metals	**NICKEL**	7440-02-0	**20,000,000**	ug/kg	RBCss	23	23	**0**	0	**38,600**	100%	Screened Out
8 - Metals	**SELENIUM**	7782-49-2	**5,100,000**	ug/kg	EPA RSL	15	0	0	0	ND	0%	Screened Out
8 - Metals	**SILVER**	7440-22-4	**5100000**	ug/kg	RBCss	19	8	**0**	0	**615**	42%	Screened Out
8 - Metals	**TIN**	7440-31-5	**610,000,000**	ug/kg	EPA RSL	7	7	**0**	0	**3,310**	100%	Screened Out
8 - Metals	**ZINC**	7440-66-6	**310,000,000**	ug/kg	EPA RSL	11	11	**0**	0	**268,000**	100%	Screened Out

Table D-3
Summary of Screening of Soil for Vapor Intrusion into Buildings and Volatilization to Outdoor Air
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Number of Samples	Number of Detections	Number of Detection Above RBCsi	Number of MDL above RBCsi	Number of Detection above RBCso	Number of MDL Above RBCso	Maximum Detected Historical Concentration	Frequency of Detections (%)	Screening Result
1 - TPH	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	**--**	--	ug/kg	108	49	**0**	0	**0**	0	**16,300,000**	45%	Screened Out
1 - TPH	**Total Petroleum Hydrocarbons - Gasoline**	TPH-G	**--**	69000000	ug/kg	88	46	**0**	0	**0**	0	**4,380,000**	52%	Screened Out
1 - TPH	**Total Petroleum Hydrocarbons - Residual Range**	TPH-RRO	**--**	--	ug/kg	32	25	**0**	0	**0**	0	**75,400,000**	78%	Screened Out
2 - TPH - Silica Gel	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	**--**	--	ug/kg	1	1	**0**	0	**0**	0	**7,900,000**	100%	Screened Out
2 - TPH - Silica Gel	**Total Petroleum Hydrocarbons - Residual Range**	TPH-RRO	**--**	--	ug/kg	1	1	**0**	0	**0**	0	**190,000**	100%	Screened Out
3 - VOCs	**1,1,1,2-TETRACHLOROETHANE**	630-20-6	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,1-TRICHLOROETHANE**	71-55-6	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,2,2-TETRACHLOROETHANE**	79-34-5	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,2-TRICHLOROETHANE**	79-00-5	**2,700**	24,000	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROETHANE**	75-34-3	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROETHENE**	75-35-4	**680,000**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROPROPENE**	563-58-6	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,3-TRICHLOROBENZENE**	87-61-6	**--**	--	ug/kg	57	3	**0**	0	**0**	0	**139**	5%	Screened Out
3 - VOCs	**1,2,3-TRICHLOROPROPANE**	96-18-4	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,4-TRIMETHYLBENZENE**	95-63-6	**1,000,000**	1,000,000	ug/kg	57	8	**0**	0	**0**	0	**130,000**	14%	Screened Out
3 - VOCs	**1,2-DIBROMO-3-CHLOROPROPANE**	96-12-8	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)**	106-93-4	**140**	650	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROBENZENE**	95-50-1	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROETHANE**	107-06-2	**590**	15,000	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROPROPANE**	78-87-5	**--**	--	ug/kg	34	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3,5-TRIMETHYLBENZENE (MESITYLENE)**	108-67-8	**--**	--	ug/kg	59	13	**0**	0	**0**	0	**47,300**	22%	Screened Out
3 - VOCs	**1,3-DICHLOROBENZENE**	541-73-1	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3-DICHLOROPROPANE**	142-28-9	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,4-DICHLOROBENZENE**	106-46-7	**17,000**	36,000	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**2,2-DICHLOROPROPANE**	594-20-7	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**2-CHLOROTOLUENE**	95-49-8	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**2-HEXANONE**	591-78-6	**--**	--	ug/kg	57	1	**0**	0	**0**	0	**543**	2%	Screened Out
3 - VOCs	**4-CHLOROTOLUENE**	106-43-4	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**ACETONE**	67-64-1				57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**BENZENE**	71-43-2	**1,200**	50,000	ug/kg	59	1	**0**	0	**0**	0	**138**	2%	Screened Out
3 - VOCs	**BROMOBENZENE**	108-86-1	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOCHLOROMETHANE**	74-97-5	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMODICHLOROMETHANE**	75-27-4	**1,900**	11,000	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOFORM**	75-25-2	**550,000**	550,000	ug/kg	57	1	**0**	0	**0**	0	**4,130**	2%	Screened Out
3 - VOCs	**BROMOMETHANE**	74-83-9	**17,000**	700,000	ug/kg	57	1	**0**	0	**0**	0	**23**	2%	Screened Out
3 - VOCs	**CARBON TETRACHLORIDE**	56-23-5	**1,600**	65,000	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROBENZENE**	108-90-7	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROETHANE**	75-00-3	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROFORM**	67-66-3	**410**	17,000	ug/kg	57	1	**0**	2	**0**	0	**46**	2%	Screened Out
3 - VOCs	**CHLOROMETHANE**	74-87-3	**300,000**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**CIS-1,2-DICHLOROETHYLENE**	156-59-2	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**CIS-1,3-DICHLOROPROPENE**	10061-01-5	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**CYMENE**	99-87-6	**--**	--	ug/kg	59	12	**0**	0	**0**	0	**3,640**	20%	Screened Out
3 - VOCs	**DIBROMOCHLOROMETHANE**	124-48-1	**9,000**	14,000	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**DIBROMOMETHANE**	74-95-3	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**DICHLORODIFLUOROMETHANE**	75-71-8	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**ETHYLBENZENE**	100-41-4	**12,000**	160,000	ug/kg	60	15	**1**	**0**	**0**	**0**	**31,500**	25%	Evaluate Further
3 - VOCs	**HEXACHLOROBUTADIENE**	87-68-3	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**ISOPROPYLBENZENE (CUMENE)**	98-82-8	**--**	--	ug/kg	60	20	**0**	0	**0**	0	**7,240**	33%	Screened Out
3 - VOCs	**M,P-XYLENES**	179601-23-1	**--**	--	ug/kg	39	3	**0**	0	**0**	0	**71,500**	8%	Screened Out
3 - VOCs	**METHYL ETHYL KETONE (2-BUTANONE)**	78-93-3	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)**	108-10-1	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYLENE CHLORIDE**	75-09-2	**20,000**	830,000	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**N-BUTYLBENZENE**	104-51-8	**--**	--	ug/kg	60	23	**0**	0	**0**	0	**14,200**	38%	Screened Out
3 - VOCs	**N-PROPYLBENZENE**	103-65-1	**--**	--	ug/kg	60	24	**0**	0	**0**	0	**25,700**	40%	Screened Out
3 - VOCs	**O-XYLENE (1,2-DIMETHYLBENZENE)**	95-47-6	**--**	--	ug/kg	61	8	**0**	0	**0**	0	**1,350**	13%	Screened Out
3 - VOCs	**STYRENE**	100-42-5	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**T-BUTYLBENZENE**	98-06-6	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**TERT-BUTYL METHYL ETHER**	1634-04-4	**74,000**	1,500,000	ug/kg	33	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**TETRACHLOROETHYLENE(PCE)**	127-18-4	**36,000**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out

Table D-3
Summary of Screening of Soil for Vapor Intrusion into Buildings and Volatilization to Outdoor Air
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Number of Samples	**Number of Detections**	**Number of Detection Above RBCsi**	**Number of MDL above RBCsi**	**Number of Detection above RBCso**	**Number of MDL Above RBCso**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
3 - VOCs	**TOLUENE**	108-88-3	**--**	--	ug/kg	60	12	**0**	0	**0**	0	**354**	20%	Screened Out
3 - VOCs	**TOTAL XYLENES**	133-02-07	**--**	--	ug/kg	21	14	**0**	0	**0**	0	**6,910**	67%	Screened Out

Table D-3
Summary of Screening of Soil for Vapor Intrusion into Buildings and Volatilization to Outdoor Air
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Number of Samples	Number of Detections	Number of Detection Above RBCsi	Number of MDL above RBCsi	Number of Detection above RBCso	Number of MDL Above RBCso	Maximum Detected Historical Concentration	Frequency of Detections (%)	Screening Result
3 - VOCs	**TRANS-1,2-DICHLOROETHENE**	156-60-5	**200,000**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRANS-1,3-DICHLOROPROPENE**	10061-02-6	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRICHLOROETHYLENE (TCE)**	79-01-6	**2,700**	96,000	ug/kg	57	0	1	**0**	0	**0**	13,700	0%	Evaluate Further
3 - VOCs	**TRICHLOROFLUOROMETHANE**	75-69-4	**--**	--	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**VINYL CHLORIDE**	75-01-4	**2,200**	89,000	ug/kg	57	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BENZYL BUTYL PHTHALATE**	85-68-7	**--**	--	ug/kg	7	6	**0**	0	**0**	0	**650**	86%	Screened Out
4 - SVOCs	**BIS(2-ETHYLHEXYL) PHTHALATE**	117-81-7	**--**	--	ug/kg	7	2	**0**	0	**0**	0	**1,800**	29%	Screened Out
4 - SVOCs	**DIETHYL PHTHALATE**	84-66-2	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DIMETHYL PHTHALATE**	131-11-3	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DI-N-BUTYL PHTHALATE**	84-74-2	**--**	--	ug/kg	7	1	**0**	0	**0**	0	**347**	14%	Screened Out
4 - SVOCs	**DI-N-OCTYLPHTHALATE**	117-84-0	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Screened Out
5 - PAHs	**1-METHYLNAPHTHALENE**	90-12-0	**--**	--	ug/kg	1	0	0	0	0	0	ND	0%	Screened Out
5 - PAHs	**2-METHYLNAPHTHALENE**	91-57-6	**--**	--	ug/kg	2	1	**0**	0	**0**	0	**77**	50%	Screened Out
5 - PAHs	**ACENAPHTHENE**	83-32-9	**--**	--	ug/kg	60	11	**0**	0	**0**	0	**1,070**	18%	Screened Out
5 - PAHs	**ACENAPHTHYLENE**	208-96-8	**--**	--	ug/kg	53	5	**0**	0	**0**	0	**91**	9%	Screened Out
5 - PAHs	**ANTHRACENE**	120-12-7	**--**	--	ug/kg	55	14	**0**	0	**0**	0	**344**	25%	Screened Out
5 - PAHs	**BENZO(A)ANTHRACENE**	56-55-3	**--**	--	ug/kg	59	37	**0**	0	**0**	0	**870**	63%	Screened Out
5 - PAHs	**BENZO(A)PYRENE**	50-32-8	**--**	--	ug/kg	56	35	**0**	0	**0**	0	**1,070**	63%	Screened Out
5 - PAHs	**BENZO(B)FLUORANTHENE**	205-99-2	**--**	--	ug/kg	51	27	**0**	0	**0**	0	**1,050**	53%	Screened Out
5 - PAHs	**BENZO(G,H,I)PERYLENE**	191-24-2	**--**	--	ug/kg	57	29	**0**	0	**0**	0	**998**	51%	Screened Out
5 - PAHs	**BENZO(K)FLUORANTHENE**	207-08-9	**--**	--	ug/kg	51	30	**0**	0	**0**	0	**714**	59%	Screened Out
5 - PAHs	**CHRYSENE**	218-01-9	**--**	--	ug/kg	63	49	**0**	0	**0**	0	**1,750**	78%	Screened Out
5 - PAHs	**DIBENZ(A,H)ANTHRACENE**	53-70-3	**--**	--	ug/kg	53	13	**0**	0	**0**	0	**213**	25%	Screened Out
5 - PAHs	**DIBENZOFURAN**	132-64-9	**--**	--	ug/kg	1	0	0	0	0	0	ND	0%	Screened Out
5 - PAHs	**FLUORANTHENE**	206-44-0	**--**	--	ug/kg	57	39	**0**	0	**0**	0	**1,400**	68%	Screened Out
5 - PAHs	**FLUORENE**	86-73-7	**--**	--	ug/kg	64	20	**0**	0	**0**	0	**2,870**	31%	Screened Out
5 - PAHs	**INDENO(1,2,3-C,D)PYRENE**	193-39-5	**--**	--	ug/kg	56	28	**0**	0	**0**	0	**815**	50%	Screened Out
5 - PAHs	**PHENANTHRENE**	85-01-8	**--**	--	ug/kg	64	41	**0**	0	**0**	0	**3,660**	64%	Screened Out
5 - PAHs	**PYRENE**	129-00-0	**--**	--	ug/kg	64	47	**0**	0	**0**	0	**1,260**	73%	Screened Out
6 - PCBs	**PCB-1016 (AROCLOR 1016)**	12674-11-2	**--**	--	ug/kg	13	0	0	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1221 (AROCLOR 1221)**	11104-28-2	**--**	--	ug/kg	13	0	0	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1232 (AROCLOR 1232)**	11141-16-5	**--**	--	ug/kg	13	0	0	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1242 (AROCLOR 1242)**	53469-21-9	**--**	--	ug/kg	13	1	**0**	0	**0**	0	**26**	8%	Screened Out
6 - PCBs	**PCB-1248 (AROCLOR 1248)**	12672-29-6	**--**	--	ug/kg	13	0	0	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1254 (AROCLOR 1254)**	11097-69-1	**--**	--	ug/kg	13	7	**0**	0	**0**	0	**130**	54%	Screened Out
6 - PCBs	**PCB-1260 (AROCLOR 1260)**	11096-82-5	**--**	--	ug/kg	13	7	**0**	0	**0**	0	**291**	54%	Screened Out
7 - Pesticides	**ALDRIN**	309-00-2	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)**	319-84-6	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ALPHA ENDOSULFAN**	959-98-8	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**BETA BHC (BETA HEXACHLOROCYCLOHEXANE)**	319-85-7	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**BETA ENDOSULFAN**	33213-65-9	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**CIS-NONACHLOR**	5103-73-1	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)**	319-86-8	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**DIELDRIN**	60-57-1	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDOSULFAN SULFATE**	1031-07-8	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDRIN**	72-20-8	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDRIN ALDEHYDE**	7421-93-4	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDRIN KETONE**	53494-70-5	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**GAMMA BHC (LINDANE)**	58-89-9	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**GAMMA-CHLORDANE**	12789-03-6	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**HEPTACHLOR**	76-44-8	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**HEPTACHLOR EPOXIDE**	1024-57-3	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**METHOXYCHLOR**	72-43-5	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**MIREX**	2385-85-5	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**O,P'-DDD**	53-19-0	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**O,P'-DDE**	3424-82-6	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**O,P'-DDT**	789-02-6	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**OXYCHLORDANE**	27304-13-8	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**P,P'-DDD**	72-54-8	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**P,P'-DDE**	72-55-9	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further

Table D-3
Summary of Screening of Soil for Vapor Intrusion into Buildings and Volatilization to Outdoor Air
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Number of Samples	**Number of Detections**	**Number of Detection Above RBCsi**	**Number of MDL above RBCsi**	**Number of Detection above RBCso**	**Number of MDL Above RBCso**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
7 - Pesticides	**P,P'-DDT**	50-29-3	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**TOXAPHENE**	8001-35-2	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**TRA---NONACHLOR**	39765-80-5	**--**	--	ug/kg	7	0	0	0	0	0	ND	0%	Evaluate Further

Table D-3
Summary of Screening of Soil for Vapor Intrusion into Buildings and Volatilization to Outdoor Air
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Number of Samples	Number of Detections	Number of Detection Above RBCsi	Number of MDL above RBCsi	Number of Detection above RBCso	Number of MDL Above RBCso	Maximum Detected Historical Concentration	Frequency of Detections (%)	Screening Result
8 - Metals	**ALUMINUM**	7429-90-5	--	--	ug/kg	7	7	**0**	0	**0**	0	**9,600,000**	100%	Screened Out
8 - Metals	**ANTIMONY**	7440-36-0	--	--	ug/kg	1	1	**0**	0	**0**	0	**66**	100%	Screened Out
8 - Metals	**ARSENIC**	7440-38-2	--	--	ug/kg	28	28	**0**	0	**0**	0	**8,020**	100%	Screened Out
8 - Metals	**BARIUM**	7440-39-3	--	--	ug/kg	16	16	**0**	0	**0**	0	**305,000**	100%	Screened Out
8 - Metals	**BERYLLIUM**	7440-41-7	--	--	ug/kg	1	1	**0**	0	**0**	0	**337**	100%	Screened Out
8 - Metals	**CADMIUM**	7440-43-9	--	--	ug/kg	16	8	**0**	0	**0**	0	**667**	50%	Screened Out
8 - Metals	**CHROMIUM, TOTAL**	7440-47-3	--	--	ug/kg	28	28	**0**	0	**0**	0	**74,500**	100%	Screened Out
8 - Metals	**COBALT**	7440-48-4	--	--	ug/kg	8	8	**0**	0	**0**	0	**14,400**	100%	Screened Out
8 - Metals	**COPPER**	7440-50-8	--	--	ug/kg	20	20	**0**	0	**0**	0	**241,000**	100%	Screened Out
8 - Metals	**IRON**	7439-89-6	--	--	ug/kg	19	19	**0**	0	**0**	0	**36,800,000**	100%	Screened Out
8 - Metals	**LEAD**	7439-92-1	--	--	ug/kg	32	32	**0**	0	**0**	0	**156,000**	100%	Screened Out
8 - Metals	**MANGANESE**	7439-96-5	--	--	ug/kg	19	19	**0**	0	**0**	0	**1,220,000**	100%	Screened Out
8 - Metals	**MERCURY**	7439-97-6	--	--	ug/kg	16	8	**0**	0	**0**	0	**107**	50%	Screened Out
8 - Metals	**MOLYBDENUM**	7439-98-7	--	--	ug/kg	1	1	**0**	0	**0**	0	**200**	100%	Screened Out
8 - Metals	**NICKEL**	7440-02-0	--	--	ug/kg	32	32	**0**	0	**0**	0	**38,600**	100%	Screened Out
8 - Metals	**SELENIUM**	7782-49-2	--	--	ug/kg	16	1	**0**	0	**0**	0	**300**	6%	Screened Out
8 - Metals	**SILVER**	7440-22-4	--	--	ug/kg	28	10	**0**	0	**0**	0	**615**	36%	Screened Out
8 - Metals	**THALLIUM**	7440-28-0	--	--	ug/kg	1	1	**0**	0	**0**	0	**54**	100%	Screened Out
8 - Metals	**TIN**	7440-31-5	--	--	ug/kg	7	7	**0**	0	**0**	0	**3,310**	100%	Screened Out
8 - Metals	**VANADIUM**	7440-62-2	--	--	ug/kg	1	1	**0**	0	**0**	0	**75,900**	100%	Screened Out
8 - Metals	**ZINC**	7440-66-6	--	--	ug/kg	20	20	**0**	0	**0**	0	**268,000**	100%	Screened Out

Table D-4
Summary of Screening of Groundwater for Vapor Intrusion to Buildings and Volatilization to Outdoor Air
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Treadwell&Rollo
A LANGAN COMPANY

						Values								
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**RBCWI**	**RBCWO**	**Unit**	**Number of Samples**	**Number of Detections**	**Number of Detection Above the RBCwi**	**Number of MDLs above the RBCwi**	**Number of Detection Above the RBCwo**	**Number of MDLs Above the RBCwo**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
1 - TPH	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	**--**	--	ug/l	114	78	0	0	0	0	288,000	68%	Screened Out
1 - TPH	**Total Petroleum Hydrocarbons - Gasoline**	TPH-G	**--**	--	ug/l	116	70	0	0	0	0	61,100	60%	Screened Out
2 - TPH - Silica Gel	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	**--**	--	ug/l	5	3	0	0	0	0	620	60%	Screened Out
2 - TPH - Silica Gel	**Total Petroleum Hydrocarbons - Residual Range**	TPH-RRO	**--**	--	ug/l	5	1	0	0	0	0	21	20%	Screened Out
3 - VOCs	**1,1,1,2-TETRACHLOROETHANE**	630-20-6	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,1-TRICHLOROETHANE**	71-55-6	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,2,2-TETRACHLOROETHANE**	79-34-5	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,2-TRICHLOROETHANE**	79-00-5	**8,800**	19,000	ug/l	133	1	0	0	0	0	0.6	1%	Screened Out
3 - VOCs	**1,1-DICHLOROETHANE**	75-34-3	**--**	--	ug/l	133	4	0	0	0	0	1	3%	Screened Out
3 - VOCs	**1,1-DICHLOROETHENE**	75-35-4	**340,000**	--	ug/l	133	2	0	0	0	0	0.34	2%	Screened Out
3 - VOCs	**1,1-DICHLOROPROPENE**	563-58-6	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,3-TRICHLOROBENZENE**	87-61-6	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,3-TRICHLOROPROPANE**	96-18-4	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,4-TRIMETHYLBENZENE**	95-63-6	**--**	--	ug/l	133	43	0	0	0	0	4,330	32%	Screened Out
3 - VOCs	**1,2-DIBROMO-3-CHLOROPROPANE**	96-12-8	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)**	106-93-4	**690**	960	ug/l	138	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROBENZENE**	95-50-1	**--**	--	ug/l	141	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROETHANE**	107-06-2	**3,800**	9,500	ug/l	133	4	0	0	0	0	2	3%	Screened Out
3 - VOCs	**1,2-DICHLOROPROPANE**	78-87-5	**--**	--	ug/l	113	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3,5-TRIMETHYLBENZENE (MESITYLENE)**	108-67-8	**--**	--	ug/l	133	44	0	0	0	0	1,200	33%	Screened Out
3 - VOCs	**1,3-DICHLOROBENZENE**	541-73-1	**--**	--	ug/l	141	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3-DICHLOROPROPANE**	142-28-9	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,4-DICHLOROBENZENE**	106-46-7	**5,700**	20,000	ug/l	141	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**2,2-DICHLOROPROPANE**	594-20-7	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**2-CHLOROTOLUENE**	95-49-8	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**2-HEXANONE**	591-78-6	**--**	--	ug/l	133	5	0	0	0	0	303	4%	Screened Out
3 - VOCs	**4-CHLOROTOLUENE**	106-43-4	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**ACETONE**	67-64-1	**--**	--	ug/l	133	3	0	0	0	0	39	2%	Screened Out
3 - VOCs	**BENZENE**	71-43-2	**2,800**	14,000	ug/l	133	42	0	0	0	0	260	32%	Screened Out
3 - VOCs	**BROMOBENZENE**	108-86-1	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOCHLOROMETHANE**	74-97-5	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMODICHLOROMETHANE**	75-27-4	**5,600**	9,300	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOFORM**	75-25-2	**1,100,000**	1,100,000	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOMETHANE**	74-83-9	**36,000**	170,000	ug/l	133	3	0	0	0	0	1	2%	Screened Out
3 - VOCs	**CARBON TETRACHLORIDE**	56-23-5	**790**	5,400	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROBENZENE**	108-90-7	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROETHANE**	75-00-3	**--**	--	ug/l	133	4	0	0	0	0	7	3%	Screened Out
3 - VOCs	**CHLOROFORM**	67-66-3	**1,200**	5,500	ug/l	133	1	0	0	0	0	1	1%	Screened Out
3 - VOCs	**CHLOROMETHANE**	74-87-3	**320,000**	2,100,000	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**CIS-1,2-DICHLOROETHYLENE**	156-59-2	**--**	--	ug/l	133	39	0	0	0	0	347	29%	Screened Out
3 - VOCs	**CIS-1,3-DICHLOROPROPENE**	10061-01-5	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**CYMENE**	99-87-6	**--**	--	ug/l	133	35	0	0	0	0	17	26%	Screened Out
3 - VOCs	**DIBROMOCHLOROMETHANE**	124-48-1	**23,000**	26,000	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**DIBROMOMETHANE**	74-95-3	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**DICHLORODIFLUOROMETHANE**	75-71-8	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**ETHYLBENZENE**	100-41-4	**7,400**	41,000	ug/l	133	59	0	0	0	0	4,950	44%	Screened Out
3 - VOCs	**HEXACHLOROBUTADIENE**	87-68-3	**--**	--	ug/l	141	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**ISOPROPYLBENZENE (CUMENE)**	98-82-8	**--**	--	ug/l	133	71	0	0	0	0	220	53%	Screened Out
3 - VOCs	**M,P-XYLENES**	179601-23-1	**--**	--	ug/l	73	24	0	0	0	0	14,000	33%	Screened Out
3 - VOCs	**METHYL ETHYL KETONE (2-BUTANONE)**	78-93-3	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)**	108-10-1	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYLENE CHLORIDE**	75-09-2	**99,000**	330,000	ug/l	133	11	0	0	0	0	58	8%	Screened Out
3 - VOCs	**N-BUTYLBENZENE**	104-51-8	**--**	--	ug/l	133	68	0	0	0	0	328	51%	Screened Out
3 - VOCs	**N-PROPYLBENZENE**	103-65-1	**--**	--	ug/l	133	74	0	0	0	0	1,130	56%	Screened Out

Table D-4
Summary of Screening of Groundwater for Vapor Intrusion to Buildings and Volatilization to Outdoor Air
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Treadwell&Rollo
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						Values								
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**RBCWI**	**RBCWO**	**Unit**	**Number of Samples**	**Number of Detections**	**Number of Detection Above the RBCwi**	**Number of MDLs above the RBCwi**	**Number of Detection Above the RBCwo**	**Number of MDLs Above the RBCwo**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
3 - VOCs	**O-XYLENE (1,2-DIMETHYLBENZENE)**	95-47-6	**--**	--	ug/l	133	49	0	0	0	0	340	37%	Screened Out
3 - VOCs	**STYRENE**	100-42-5	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**T-BUTYLBENZENE**	98-06-6	**--**	--	ug/l	133	29	0	0	0	0	2	22%	Screened Out
3 - VOCs	**TERT-BUTYL METHYL ETHER**	1634-04-4	**590,000**	1,100,000	ug/l	85	1	0	0	0	0	0.26	1%	Screened Out
3 - VOCs	**TETRACHLOROETHYLENE(PCE)**	127-18-4	**32,000**	--	ug/l	133	1	0	0	0	0	0.19	1%	Screened Out
3 - VOCs	**TOLUENE**	108-88-3	**--**	--	ug/l	133	53	0	0	0	0	141	40%	Screened Out
3 - VOCs	**TOTAL XYLENES**	133-02-07	**--**	--	ug/l	60	38	0	0	0	0	5,110	63%	Screened Out
3 - VOCs	**TRANS-1,2-DICHLOROETHENE**	156-60-5	**350,000**	1,800,000	ug/l	133	2	0	0	0	0	2	2%	Screened Out
3 - VOCs	**TRANS-1,3-DICHLOROPROPENE**	10061-02-6	**--**	--	ug/l	133	0	0	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRICHLOROETHYLENE (TCE)**	79-01-6	**3,300**	19,000	ug/l	133	20	0	0	0	0	25	15%	Screened Out
3 - VOCs	**TRICHLOROFLUOROMETHANE**	75-69-4	**--**	--	ug/l	133	6	0	0	0	0	21	5%	Screened Out
3 - VOCs	**VINYL CHLORIDE**	75-01-4	**910**	6,800	ug/l	133	14	0	0	0	0	16	11%	Screened Out
4 - SVOCs	**2,4,5-TRICHLOROPHENOL**	95-95-4	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**2,4,6-TRICHLOROPHENOL**	88-06-2	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**2,4-DICHLOROPHENOL**	120-83-2	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**2,4-DIMETHYLPHENOL**	105-67-9	**--**	--	ug/l	8	1	0	0	0	0	10	13%	Screened Out
4 - SVOCs	**2,4-DINITROPHENOL**	51-28-5	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**2,4-DINITROTOLUENE**	121-14-2	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**2,6-DINITROTOLUENE**	606-20-2	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**2-CHLORONAPHTHALENE**	91-58-7	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**2-CHLOROPHENOL**	95-57-8	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**2-METHYLPHENOL (O-CRESOL)**	95-48-7	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**2-NITROANILINE**	88-74-4	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**2-NITROPHENOL**	88-75-5	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**3,3'-DICHLOROBENZIDINE**	91-94-1	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**3-NITROANILINE**	99-09-2	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**4,6-DINITRO-2-METHYLPHENOL**	534-52-1	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**4-CHLORO-3-METHYLPHENOL**	59-50-7	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**4-CHLOROANILINE**	106-47-8	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**4-CHLOROPHENYL PHENYL ETHER**	7005-72-3	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**4-METHYLPHENOL (P-CRESOL)**	106-44-5	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**4-NITROANILINE**	100-01-6	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**4-NITROPHENOL**	100-02-7	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**ANILINE (PHENYLAMINE, AMINOBENZENE)**	62-53-3	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BENZOIC ACID**	65-85-0	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BENZYL ALCOHOL**	100-51-6	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BENZYL BUTYL PHTHALATE**	85-68-7	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BIS(2-CHLOROETHOXY) METHANE**	111-91-1	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)**	111-44-4	**25,000**	25,000	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BIS(2-CHLOROISOPROPYL) ETHER**	108-60-1	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BIS(2-ETHYLHEXYL) PHTHALATE**	117-81-7	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DIETHYL PHTHALATE**	84-66-2	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DIMETHYL PHTHALATE**	131-11-3	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DI-N-BUTYL PHTHALATE**	84-74-2	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DI-N-OCTYLPHTHALATE**	117-84-0	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**HEXACHLOROBENZENE**	118-74-1	**310**	830	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**HEXACHLOROCYCLOPENTADIENE**	77-47-4	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**HEXACHLOROETHANE**	67-72-1	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**ISOPHORONE**	78-59-1	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**NITROBENZENE**	98-95-3	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**N-NITROSODIMETHYLAMINE**	62-75-9	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**N-NITROSODI-N-PROPYLAMINE**	621-64-7	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**N-NITROSODIPHENYLAMINE**	86-30-6	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
4 - SVOCs	**PENTACHLOROPHENOL**	87-86-5	**--**	--	ug/l	12	0	0	0	0	0	ND	0%	Screened Out

Table D-4
Summary of Screening of Groundwater for Vapor Intrusion to Buildings and Volatilization to Outdoor Air
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Treadwell&Rollo
A LANGAN COMPANY

						Values								
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**RBCWI**	**RBCWO**	**Unit**	**Number of Samples**	**Number of Detections**	**Number of Detection Above the RBCwi**	**Number of MDLs above the RBCwi**	**Number of Detection Above the RBCwo**	**Number of MDLs Above the RBCwo**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
4 - SVOCs	**PHENOL**	108-95-2	**--**	--	ug/l	8	0	0	0	0	0	ND	0%	Screened Out
5 - PAHs	**2-METHYLNAPHTHALENE**	91-57-6	**--**	--	ug/l	33	19	0	0	0	0	280	58%	Screened Out
5 - PAHs	**ACENAPHTHENE**	83-32-9	**--**	--	ug/l	105	48	0	0	0	0	19	46%	Screened Out
5 - PAHs	**ACENAPHTHYLENE**	208-96-8	**--**	--	ug/l	103	3	0	0	0	0	0	3%	Screened Out
5 - PAHs	**ANTHRACENE**	120-12-7	**--**	--	ug/l	105	31	0	0	0	0	9	30%	Screened Out
5 - PAHs	**BENZO(A)ANTHRACENE**	56-55-3	**--**	--	ug/l	103	10	0	0	0	0	1	10%	Screened Out
5 - PAHs	**BENZO(A)PYRENE**	50-32-8	**--**	--	ug/l	103	8	0	0	0	0	0.4	8%	Screened Out
5 - PAHs	**BENZO(B)FLUORANTHENE**	205-99-2	**--**	--	ug/l	103	6	0	0	0	0	0.2	6%	Screened Out
5 - PAHs	**BENZO(G,H,I)PERYLENE**	191-24-2	**--**	--	ug/l	103	4	0	0	0	0	0.2	4%	Screened Out
5 - PAHs	**BENZO(K)FLUORANTHENE**	207-08-9	**--**	--	ug/l	103	5	0	0	0	0	0.3	5%	Screened Out
5 - PAHs	**CHRYSENE**	218-01-9	**--**	--	ug/l	103	15	0	0	0	0	1	15%	Screened Out
5 - PAHs	**DIBENZ(A,H)ANTHRACENE**	53-70-3	**--**	--	ug/l	103	0	0	0	0	0	ND	0%	Screened Out
5 - PAHs	**DIBENZOFURAN**	132-64-9	**--**	--	ug/l	33	15	0	0	0	0	2	45%	Screened Out
5 - PAHs	**FLUORANTHENE**	206-44-0	**--**	--	ug/l	104	40	0	0	0	0	3	38%	Screened Out
5 - PAHs	**FLUORENE**	86-73-7	**--**	--	ug/l	105	52	0	0	0	0	48	50%	Screened Out
5 - PAHs	**INDENO(1,2,3-C,D)PYRENE**	193-39-5	**--**	--	ug/l	103	4	0	0	0	0	0.2	4%	Screened Out
5 - PAHs	**PHENANTHRENE**	85-01-8	**--**	--	ug/l	105	56	0	0	0	0	87	53%	Screened Out
5 - PAHs	**PYRENE**	129-00-0	**--**	--	ug/l	105	47	0	0	0	0	4	45%	Screened Out
7 - Pesticides	**HEXACHLOROBENZENE**	118-74-1	**310**	830	ug/l	8	0	0	0	0	0	ND	0%	Evaluate Further

Table D-4
Summary of Screening of Groundwater for Vapor Intrusion to Buildings and Volatilization to Outdoor Air
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Portland, Oregon

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						Values								
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**RBCWI**	**RBCWO**	**Unit**	**Number of Samples**	**Number of Detections**	**Number of Detection Above the RBCwi**	**Number of MDLs above the RBCwi**	**Number of Detection Above the RBCwo**	**Number of MDLs Above the RBCwo**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
8 - Metals	**ANTIMONY**	7440-36-0	**--**	--	ug/l	10	8	0	0	0	0	0.09	80%	Screened Out
8 - Metals	**ARSENIC**	7440-38-2	**--**	--	ug/l	80	53	0	0	0	0	58	66%	Screened Out
8 - Metals	**BARIUM**	7440-39-3	**--**	--	ug/l	10	10	0	0	0	0	83	100%	Screened Out
8 - Metals	**BERYLLIUM**	7440-41-7	**--**	--	ug/l	10	5	0	0	0	0	0.01	50%	Screened Out
8 - Metals	**CADMIUM**	7440-43-9	**--**	--	ug/l	11	6	0	0	0	0	0.02	55%	Screened Out
8 - Metals	**CHROMIUM, TOTAL**	7440-47-3	**--**	--	ug/l	80	33	0	0	0	0	146	41%	Screened Out
8 - Metals	**COBALT**	7440-48-4	**--**	--	ug/l	10	10	0	0	0	0	4.8	100%	Screened Out
8 - Metals	**COPPER**	7440-50-8	**--**	--	ug/l	80	31	0	0	0	0	223	39%	Screened Out
8 - Metals	**IRON**	7439-89-6	**--**	--	ug/l	85	83	0	0	0	0	446,000	98%	Screened Out
8 - Metals	**LEAD**	7439-92-1	**--**	--	ug/l	86	34	0	0	0	0	159	40%	Screened Out
8 - Metals	**MANGANESE**	7439-96-5	**--**	--	ug/l	95	90	0	0	0	0	13,000	95%	Screened Out
8 - Metals	**MERCURY**	7439-97-6	**--**	--	ug/l	10	0	0	0	0	0	ND	0%	Screened Out
8 - Metals	**MOLYBDENUM**	7439-98-7	**--**	--	ug/l	10	10	0	0	0	0	1	100%	Screened Out
8 - Metals	**NICKEL**	7440-02-0	**--**	--	ug/l	104	79	0	0	0	0	1,220	76%	Screened Out
8 - Metals	**SELENIUM**	7782-49-2	**--**	--	ug/l	11	2	0	0	0	0	1	18%	Screened Out
8 - Metals	**SILVER**	7440-22-4	**--**	--	ug/l	80	13	0	0	0	0	0.26	16%	Screened Out
8 - Metals	**THALLIUM**	7440-28-0	**--**	--	ug/l	10	6	0	0	0	0	0.01	60%	Screened Out
8 - Metals	**VANADIUM**	7440-62-2	**--**	--	ug/l	10	9	0	0	0	0	1	90%	Screened Out
8 - Metals	**ZINC**	7440-66-6	**--**	--	ug/l	80	39	0	0	0	0	581	49%	Screened Out

Table D-5
Summary of Screening of Soil for Current and Future Ecological Risk - Soil Ingestion, Contact and Uptake
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**Screening Value**	**Unit**	**Screening Basis**	**Number of Samples**	**Number of Detections**	**Number of Detection Above the Screening Value**	**Number of MDLs Above the Screening Value**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
1 - TPH	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	**12,000,000**	ug/kg	WA EIC	18	7	**0**	0	**5,100,000**	39%	Screened Out
1 - TPH	**Total Petroleum Hydrocarbons - Gasoline**	TPH-G	**15,000,000**	ug/kg	WA EIC	18	4	**0**	0	**980,000**	22%	Screened Out
1 - TPH	**Total Petroleum Hydrocarbons - Residual Range**	TPH-RRO	**--**	ug/kg	--	2	2	**0**	0	**1,690,000**	100%	Screened Out
2 - TPH - Silica Gel	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	**12,000,000**	ug/kg	WA EIC	4	4	**0**	0	**4,300,000**	100%	Screened Out
2 - TPH - Silica Gel	**Total Petroleum Hydrocarbons - Residual Range**	TPH-RRO	**--**	ug/kg	--	4	4	**0**	0	**99,000**	100%	Screened Out
3 - VOCs	**1,1,1,2-TETRACHLOROETHANE**	630-20-6	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,1-TRICHLOROETHANE**	71-55-6	**55,550,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,2,2-TETRACHLOROETHANE**	79-34-5	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,2-TRICHLOROETHANE**	79-00-5	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROETHANE**	75-34-3	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROETHENE**	75-35-4	**3,750,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROPROPENE**	563-58-6	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,3-TRICHLOROBENZENE**	87-61-6	**20,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,3-TRICHLOROPROPANE**	96-18-4	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,4-TRIMETHYLBENZENE**	95-63-6	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DIBROMO-3-CHLOROPROPANE**	96-12-8	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)**	106-93-4	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROBENZENE**	95-50-1	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROETHANE**	107-06-2	**70,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROPROPANE**	78-87-5	**700,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3,5-TRIMETHYLBENZENE (MESITYLENE)**	108-67-8	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3-DICHLOROBENZENE**	541-73-1	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3-DICHLOROPROPANE**	142-28-9	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,4-DICHLOROBENZENE**	106-46-7	**20,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**2,2-DICHLOROPROPANE**	594-20-7	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**2-CHLOROTOLUENE**	95-49-8	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**2-HEXANONE**	591-78-6	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**4-CHLOROTOLUENE**	106-43-4	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**ACETONE**	67-64-1	**1,250,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**BENZENE**	71-43-2	**3,300,000**	ug/kg	ECO SLV	16	3	**0**	0	**24**	19%	Screened Out
3 - VOCs	**BROMOBENZENE**	108-86-1	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOCHLOROMETHANE**	74-97-5	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMODICHLOROMETHANE**	75-27-4	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOFORM**	75-25-2	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOMETHANE**	74-83-9	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**CARBON TETRACHLORIDE**	56-23-5	**1,000,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROBENZENE**	108-90-7	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROETHANE**	75-00-3	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROFORM**	67-66-3	**1,875,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROMETHANE**	74-87-3	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**CIS-1,2-DICHLOROETHYLENE**	156-59-2	**2,500,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**CIS-1,3-DICHLOROPROPENE**	10061-01-5	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**CYMENE**	99-87-6	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**DIBROMOCHLOROMETHANE**	124-48-1	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**DIBROMOMETHANE**	74-95-3	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**DICHLORODIFLUOROMETHANE**	75-71-8	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**ETHYLBENZENE**	100-41-4	**--**	ug/kg	--	16	1	**0**	0	**1**	6%	Screened Out
3 - VOCs	**HEXACHLOROBUTADIENE**	87-68-3	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**ISOPROPYLBENZENE (CUMENE)**	98-82-8	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**M,P-XYLENES**	179601-23-1	**--**	ug/kg	--	4	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYL ETHYL KETONE (2-BUTANONE)**	78-93-3	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out

Table D-5
Summary of Screening of Soil for Current and Future Ecological Risk - Soil Ingestion, Contact and Uptake
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**Screening Value**	**Unit**	**Screening Basis**	**Number of Samples**	**Number of Detections**	**Number of Detection Above the Screening Value**	**Number of MDLs Above the Screening Value**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
3 - VOCs	**METHYL ISOBUTYL KETONE (4-METHYL-2-**	108-10-1	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYLENE CHLORIDE**	75-09-2	**730,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**N-BUTYLBENZENE**	104-51-8	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**N-PROPYLBENZENE**	103-65-1	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**O-XYLENE (1,2-DIMETHYLBENZENE)**	95-47-6	**1,000**	ug/kg	ECO SLV	16	1	**0**	0	**1**	6%	Screened Out
3 - VOCs	**STYRENE**	100-42-5	**300,000**	ug/kg	ECO SLV	12	2	**0**	0	**23**	17%	Screened Out
3 - VOCs	**T-BUTYLBENZENE**	98-06-6	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**TERT-BUTYL METHYL ETHER**	1634-04-4	**--**	ug/kg	--	12	1	**0**	0	**20**	8%	Screened Out
3 - VOCs	**TETRACHLOROETHYLENE(PCE)**	127-18-4	**10,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**TOLUENE**	108-88-3	**200,000**	ug/kg	ECO SLV	16	7	**0**	0	**113**	44%	Screened Out
3 - VOCs	**TOTAL XYLENES**	133-02-07	**100,000**	ug/kg	ECO SLV	12	3	**0**	0	**120**	25%	Screened Out
3 - VOCs	**TRANS-1,2-DICHLOROETHENE**	156-60-5	**2,500,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRANS-1,3-DICHLOROPROPENE**	10061-02-6	**--**	ug/kg	--	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRICHLOROETHYLENE (TCE)**	79-01-6	**40,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRICHLOROFLUOROMETHANE**	75-69-4	**--**	ug/kg	--	12	4	**0**	0	**1,460**	33%	Screened Out
3 - VOCs	**VINYL CHLORIDE**	75-01-4	**20,000**	ug/kg	ECO SLV	12	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BENZYL BUTYL PHTHALATE**	85-68-7	**--**	ug/kg	--	4	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BIS(2-ETHYLHEXYL) PHTHALATE**	117-81-7	**4,500**	ug/kg	ECO SLV	4	4	**0**	0	**168**	100%	Screened Out
4 - SVOCs	**DIETHYL PHTHALATE**	84-66-2	**100,000**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DIMETHYL PHTHALATE**	131-11-3	**200,000**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DI-N-BUTYL PHTHALATE**	84-74-2	**450**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DI-N-OCTYLPHTHALATE**	117-84-0	**--**	ug/kg	--	4	0	0	0	ND	0%	Screened Out
5 - PAHs	**2-METHYLNAPHTHALENE**	91-57-6	**--**	ug/kg	--	4	4	**0**	0	**50**	100%	Screened Out
5 - PAHs	**ACENAPHTHENE**	83-32-9	**20,000**	ug/kg	ECO SLV	17	6	**0**	0	**517**	35%	Screened Out
5 - PAHs	**ACENAPHTHYLENE**	208-96-8	**--**	ug/kg	--	18	14	**0**	0	**929**	78%	Screened Out
5 - PAHs	**ANTHRACENE**	120-12-7	**--**	ug/kg	--	18	14	**0**	0	**1,690**	78%	Screened Out
5 - PAHs	**BENZO(A)ANTHRACENE**	56-55-3	**--**	ug/kg	--	18	17	**0**	0	**5,800**	94%	Screened Out
5 - PAHs	**BENZO(A)PYRENE**	50-32-8	**125,000**	ug/kg	ECO SLV	18	18	**0**	0	**7,370**	100%	Screened Out
5 - PAHs	**BENZO(B)FLUORANTHENE**	205-99-2	**--**	ug/kg	--	14	13	**0**	0	**6,510**	93%	Screened Out
5 - PAHs	**BENZO(G,H,I)PERYLENE**	191-24-2	**--**	ug/kg	--	18	18	**0**	0	**7,070**	100%	Screened Out
5 - PAHs	**BENZO(K)FLUORANTHENE**	207-08-9	**--**	ug/kg	--	14	13	**0**	0	**4,200**	93%	Screened Out
5 - PAHs	**CHRYSENE**	218-01-9	**--**	ug/kg	--	18	18	**0**	0	**6,480**	100%	Screened Out
5 - PAHs	**DIBENZ(A,H)ANTHRACENE**	53-70-3	**--**	ug/kg	--	18	15	**0**	0	**1,240**	83%	Screened Out
5 - PAHs	**DIBENZOFURAN**	132-64-9	**2**	ug/kg	ECO SLV	4	3	**1**	**1**	**3**	75%	Screened In
5 - PAHs	**FLUORANTHENE**	206-44-0	**--**	ug/kg	--	18	18	**0**	0	**15,700**	100%	Screened Out
5 - PAHs	**FLUORENE**	86-73-7	**30,000**	ug/kg	ECO SLV	17	5	**0**	0	**1,470**	29%	Screened Out
5 - PAHs	**INDENO(1,2,3-C,D)PYRENE**	193-39-5	**--**	ug/kg	--	18	18	**0**	0	**5,550**	100%	Screened Out
5 - PAHs	**PHENANTHRENE**	85-01-8	**--**	ug/kg	--	18	17	**0**	0	**15,600**	94%	Screened Out
5 - PAHs	**PYRENE**	129-00-0	**--**	ug/kg	--	18	18	**0**	0	**15,600**	100%	Screened Out
6 - PCBs	**PCB-1016 (AROCLOR 1016)**	12674-11-2	**100,000**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1221 (AROCLOR 1221)**	11104-28-2	**--**	ug/kg	--	4	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1232 (AROCLOR 1232)**	11141-16-5	**--**	ug/kg	--	4	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1242 (AROCLOR 1242)**	53469-21-9	**1,500**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1248 (AROCLOR 1248)**	12672-29-6	**--**	ug/kg	--	4	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1254 (AROCLOR 1254)**	11097-69-1	**700**	ug/kg	ECO SLV	4	1	**0**	0	**16**	25%	Screened Out
6 - PCBs	**PCB-1260 (AROCLOR 1260)**	11096-82-5	**--**	ug/kg	--	4	4	**0**	0	**127**	100%	Screened Out
7 - Pesticides	**ALDRIN**	309-00-2	**25,000**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)**	319-84-6	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ALPHA ENDOSULFAN**	959-98-8	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**BETA BHC (BETA HEXACHLOROCYCLOHEXANE)**	319-85-7	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**BETA ENDOSULFAN**	33213-65-9	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further

Table D-5
Summary of Screening of Soil for Current and Future Ecological Risk - Soil Ingestion, Contact and Uptake
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**Screening Value**	**Unit**	**Screening Basis**	**Number of Samples**	**Number of Detections**	**Number of Detection Above the Screening Value**	**Number of MDLs Above the Screening Value**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
7 - Pesticides	**CIS-NONACHLOR**	5103-73-1	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)**	319-86-8	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**DIELDRIN**	60-57-1	**5**	ug/kg	ECO SSL	4	0	0	**1**	ND	0%	Evaluate Further
7 - Pesticides	**ENDOSULFAN SULFATE**	1031-07-8	**20,000**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDRIN**	72-20-8	**40**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDRIN ALDEHYDE**	7421-93-4	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDRIN KETONE**	53494-70-5	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**GAMMA BHC (LINDANE)**	58-89-9	**8,000**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**GAMMA-CHLORDANE**	12789-03-6	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**HEPTACHLOR**	76-44-8	**15,000**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**HEPTACHLOR EPOXIDE**	1024-57-3	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**METHOXYCHLOR**	72-43-5	**500,000**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**MIREX**	2385-85-5	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**O,P'-DDD**	53-19-0	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**O,P'-DDE**	3424-82-6	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**O,P'-DDT**	789-02-6	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**OXYCHLORDANE**	27304-13-8	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**P,P'-DDD**	72-54-8	**10**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**P,P'-DDE**	72-55-9	**10**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**P,P'-DDT**	50-29-3	**21**	ug/kg	ECO SSL	4	0	0	**1**	ND	0%	Evaluate Further
7 - Pesticides	**TOXAPHENE**	8001-35-2	**1,000,000**	ug/kg	ECO SLV	4	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**TRA---NONACHLOR**	39765-80-5	**--**	ug/kg	--	4	0	0	0	ND	0%	Evaluate Further

Table D-5
Summary of Screening of Soil for Current and Future Ecological Risk - Soil Ingestion, Contact and Uptake
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

						Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**Screening Value**	**Unit**	**Screening Basis**	**Number of Samples**	**Number of Detections**	**Number of Detection Above the Screening Value**	**Number of MDLs Above the Screening Value**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
8 - Metals	**ALUMINUM**	7429-90-5	**50,000**	ug/kg	ECO SLV	4	4	**4**	0	**8,180,000**	100%	Screened Out[1]
8 - Metals	**ANTIMONY**	7440-36-0	**270**	ug/kg	ECO SSL	4	4	**0**	0	**85**	100%	Screened Out
8 - Metals	**ARSENIC**	7440-38-2	**46,000**	ug/kg	ECO SSL	8	8	**0**	0	**10,900**	100%	Screened Out
8 - Metals	**BARIUM**	7440-39-3	**2,000,000**	ug/kg	ECO SSL	8	8	**0**	0	**229,000**	100%	Screened Out
8 - Metals	**BERYLLIUM**	7440-41-7	**21,000**	ug/kg	ECO SSL	4	4	**0**	0	**444**	100%	Screened Out
8 - Metals	**CADMIUM**	7440-43-9	**360**	ug/kg	ECO SSL	8	8	**1**	0	**409**	100%	Screened Out[2]
8 - Metals	**CHROMIUM, TOTAL**	7440-47-3	**--**	ug/kg	--	8	8	**0**	0	**42,600**	100%	Screened Out
8 - Metals	**COBALT**	7440-48-4	**230,000**	ug/kg	ECO SSL	8	8	**0**	0	**14,500**	100%	Screened Out
8 - Metals	**COPPER**	7440-50-8	**49,000**	ug/kg	ECO SSL	8	8	**0**	0	**22,400**	100%	Screened Out
8 - Metals	**IRON**	7439-89-6	**10,000**	ug/kg	ECO SLV	4	4	**4**	0	**22,500,000**	100%	Screened Out[1]
8 - Metals	**LEAD**	7439-92-1	**56,000**	ug/kg	ECO SSL	8	8	**0**	0	**53,700**	100%	Screened Out
8 - Metals	**MANGANESE**	7439-96-5	**4,000,000**	ug/kg	ECO SSL	8	8	**1**	0	**11,300,000**	100%	Evaluate Further
8 - Metals	**MERCURY**	7439-97-6	**100**	ug/kg	ECO SLV	8	7	**0**	0	**81**	88%	Screened Out
8 - Metals	**MOLYBDENUM**	7439-98-7	**2,000**	ug/kg	ECO SLV	4	4	**0**	0	**160**	100%	Screened Out
8 - Metals	**NICKEL**	7440-02-0	**130,000**	ug/kg	ECO SSL	16	16	**1**	0	**213,000**	100%	Evaluate Further
8 - Metals	**SELENIUM**	7782-49-2	**630**	ug/kg	ECO SSL	8	1	**0**	0	**300**	13%	Screened Out
8 - Metals	**SILVER**	7440-22-4	**14,000**	ug/kg	ECO SSL	8	8	**0**	0	**1,410**	100%	Screened Out
8 - Metals	**THALLIUM**	7440-28-0	**1,000**	ug/kg	ECO SLV	4	4	**0**	0	**63**	100%	Screened Out
8 - Metals	**TIN**	7440-31-5	**50,000**	ug/kg	ECO SLV	4	4	**0**	0	**792**	100%	Screened Out
8 - Metals	**VANADIUM**	7440-62-2	**280,000**	ug/kg	ECO SSL	4	4	**0**	0	**83,900**	100%	Screened Out
8 - Metals	**ZINC**	7440-66-6	**79,000**	ug/kg	ECO SSL	8	8	**2**	0	**133,000**	100%	Evaluate Further

Table D-6
Summary of Screening of Soil for the Joint Source Control Protection of the Willamette River
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

					Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**JSCS SLV**	**Unit**	**Number of Samples**	**Number of Detections**	**Number of Detections Above the JSCS SLV**	**Number of MDLs Above the JSCS SLV**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
1 - TPH	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	--	ug/kg	23	10	0	0	5,100,000	43%	Screened Out
1 - TPH	**Total Petroleum Hydrocarbons - Gasoline**	TPH-G	--	ug/kg	23	7	0	0	980,000	30%	Screened Out
1 - TPH	**Total Petroleum Hydrocarbons - Residual Range**	TPH-RRO	--	ug/kg	2	2	0	0	1,690,000	100%	Screened Out
2 - TPH - Silica Gel	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	--	ug/kg	7	7	0	0	4,300,000	100%	Screened Out
2 - TPH - Silica Gel	**Total Petroleum Hydrocarbons - Residual Range**	TPH-RRO	--	ug/kg	7	7	0	0	99,000	100%	Screened Out
3 - VOCs	**1,1,1,2-TETRACHLOROETHANE**	630-20-6	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,1-TRICHLOROETHANE**	71-55-6	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,2,2-TETRACHLOROETHANE**	79-34-5	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1,2-TRICHLOROETHANE**	79-00-5	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROETHANE**	75-34-3	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROETHENE**	75-35-4	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,1-DICHLOROPROPENE**	563-58-6	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,3-TRICHLOROBENZENE**	87-61-6	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,3-TRICHLOROPROPANE**	96-18-4	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2,4-TRIMETHYLBENZENE**	95-63-6	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DIBROMO-3-CHLOROPROPANE**	96-12-8	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)**	106-93-4	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROBENZENE**	95-50-1	**1,700**	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROETHANE**	107-06-2	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,2-DICHLOROPROPANE**	78-87-5	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3,5-TRIMETHYLBENZENE (MESITYLENE)**	108-67-8	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3-DICHLOROBENZENE**	541-73-1	**300**	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,3-DICHLOROPROPANE**	142-28-9	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**1,4-DICHLOROBENZENE**	106-46-7	**300**	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**2,2-DICHLOROPROPANE**	594-20-7	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**2-CHLOROTOLUENE**	95-49-8	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**2-HEXANONE**	591-78-6	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**4-CHLOROTOLUENE**	106-43-4	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**ACETONE**	67-64-1	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**BENZENE**	71-43-2	--	ug/kg	21	5	0	0	49	24%	Screened Out
3 - VOCs	**BROMOBENZENE**	108-86-1	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOCHLOROMETHANE**	74-97-5	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMODICHLOROMETHANE**	75-27-4	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOFORM**	75-25-2	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**BROMOMETHANE**	74-83-9	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**CARBON TETRACHLORIDE**	56-23-5	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROBENZENE**	108-90-7	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROETHANE**	75-00-3	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROFORM**	67-66-3	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**CHLOROMETHANE**	74-87-3	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**CIS-1,2-DICHLOROETHYLENE**	156-59-2	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**CIS-1,3-DICHLOROPROPENE**	10061-01-5	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**CYMENE**	99-87-6	--	ug/kg	14	0	0	0	ND	0%	Screened Out

Table D-6
Summary of Screening of Soil for the Joint Source Control Protection of the Willamette River
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Treadwell&Rollo
A LANGAN COMPANY

					Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**JSCS SLV**	**Unit**	**Number of Samples**	**Number of Detections**	**Number of Detections Above the JSCS SLV**	**Number of MDLs Above the JSCS SLV**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
3 - VOCs	**DIBROMOCHLOROMETHANE**	124-48-1	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**DIBROMOMETHANE**	74-95-3	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**DICHLORODIFLUOROMETHANE**	75-71-8	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**ETHYLBENZENE**	100-41-4	--	ug/kg	21	3	0	0	3	14%	Screened Out
3 - VOCs	**HEXACHLOROBUTADIENE**	87-68-3	**600**	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**ISOPROPYLBENZENE (CUMENE)**	98-82-8	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**M,P-XYLENES**	179601-23-1	--	ug/kg	6	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYL ETHYL KETONE (2-BUTANONE)**	78-93-3	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)**	108-10-1	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**METHYLENE CHLORIDE**	75-09-2	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**N-BUTYLBENZENE**	104-51-8	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**N-PROPYLBENZENE**	103-65-1	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**O-XYLENE (1,2-DIMETHYLBENZENE)**	95-47-6	--	ug/kg	21	3	0	0	12	14%	Screened Out
3 - VOCs	**STYRENE**	100-42-5	--	ug/kg	14	2	0	0	23	14%	Screened Out
3 - VOCs	**T-BUTYLBENZENE**	98-06-6	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**TERT-BUTYL METHYL ETHER**	1634-04-4	--	ug/kg	14	1	0	0	20	7%	Screened Out
3 - VOCs	**TETRACHLOROETHYLENE(PCE)**	127-18-4	**500**	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**TOLUENE**	108-88-3	--	ug/kg	21	9	0	0	113	43%	Screened Out
3 - VOCs	**TOTAL XYLENES**	133-02-07	--	ug/kg	15	5	0	0	120	33%	Screened Out
3 - VOCs	**TRANS-1,2-DICHLOROETHENE**	156-60-5	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRANS-1,3-DICHLOROPROPENE**	10061-02-6	--	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRICHLOROETHYLENE (TCE)**	79-01-6	**2,100**	ug/kg	14	0	0	0	ND	0%	Screened Out
3 - VOCs	**TRICHLOROFLUOROMETHANE**	75-69-4	--	ug/kg	14	4	0	0	1,460	29%	Screened Out
3 - VOCs	**VINYL CHLORIDE**	75-01-4	--	ug/kg	14	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BENZYL BUTYL PHTHALATE**	85-68-7	--	ug/kg	6	0	0	0	ND	0%	Screened Out
4 - SVOCs	**BIS(2-ETHYLHEXYL) PHTHALATE**	117-81-7	--	ug/kg	6	5	0	0	168	83%	Screened Out
4 - SVOCs	**DIETHYL PHTHALATE**	84-66-2	--	ug/kg	6	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DIMETHYL PHTHALATE**	131-11-3	--	ug/kg	6	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DI-N-BUTYL PHTHALATE**	84-74-2	--	ug/kg	6	0	0	0	ND	0%	Screened Out
4 - SVOCs	**DI-N-OCTYLPHTHALATE**	117-84-0	--	ug/kg	6	0	0	0	ND	0%	Screened Out
5 - PAHs	**1-METHYLNAPHTHALENE**	90-12-0	--	ug/kg	2	0	0	0	ND	0%	Screened Out
5 - PAHs	**2-METHYLNAPHTHALENE**	91-57-6	**200**	ug/kg	9	7	0	0	50	78%	Screened Out
5 - PAHs	**ACENAPHTHENE**	83-32-9	**300**	ug/kg	22	9	1	0	517	41%	Screened In
5 - PAHs	**ACENAPHTHYLENE**	208-96-8	**200**	ug/kg	23	17	1	0	929	74%	Screened In
5 - PAHs	**ANTHRACENE**	120-12-7	**845**	ug/kg	23	18	1	0	1,690	78%	Screened In
5 - PAHs	**BENZO(A)ANTHRACENE**	56-55-3	**1,050**	ug/kg	23	22	2	0	5,800	96%	Screened In
5 - PAHs	**BENZO(A)PYRENE**	50-32-8	**1,450**	ug/kg	23	23	2	0	7,370	100%	Screened In
5 - PAHs	**BENZO(B)FLUORANTHENE**	205-99-2	--	ug/kg	17	17	0	0	6,510	100%	Screened Out
5 - PAHs	**BENZO(G,H,I)PERYLENE**	191-24-2	**300**	ug/kg	23	23	9	0	7,070	100%	Screened In
5 - PAHs	**BENZO(K)FLUORANTHENE**	207-08-9	**13,000**	ug/kg	17	16	0	0	4,200	94%	Screened Out
5 - PAHs	**CHRYSENE**	218-01-9	**1,290**	ug/kg	23	23	2	0	6,480	100%	Screened In
5 - PAHs	**DIBENZ(A,H)ANTHRACENE**	53-70-3	**1,300**	ug/kg	23	20	0	0	1,240	87%	Screened Out
5 - PAHs	**DIBENZOFURAN**	132-64-9	--	ug/kg	7	6	0	0	3	86%	Screened Out
5 - PAHs	**FLUORANTHENE**	206-44-0	**2,230**	ug/kg	23	23	1	0	15,700	100%	Screened In
5 - PAHs	**FLUORENE**	86-73-7	**536**	ug/kg	22	8	1	0	1,470	36%	Screened In

Table D-6
Summary of Screening of Soil for the Joint Source Control Protection of the Willamette River
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Treadwell&Rollo
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					Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**JSCS SLV**	**Unit**	**Number of Samples**	**Number of Detections**	**Number of Detections Above the JSCS SLV**	**Number of MDLs Above the JSCS SLV**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
5 - PAHs	**INDENO(1,2,3-C,D)PYRENE**	193-39-5	**100**	ug/kg	23	23	12	0	5,550	100%	Screened In
5 - PAHs	**PHENANTHRENE**	85-01-8	**1,170**	ug/kg	23	22	1	0	15,600	96%	Screened In
5 - PAHs	**PYRENE**	129-00-0	**1,520**	ug/kg	23	23	1	0	15,600	100%	Screened In
6 - PCBs	**PCB-1016 (AROCLOR 1016)**	12674-11-2	**530**	ug/kg	6	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1221 (AROCLOR 1221)**	11104-28-2	**--**	ug/kg	6	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1232 (AROCLOR 1232)**	11141-16-5	**--**	ug/kg	6	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1242 (AROCLOR 1242)**	53469-21-9	**--**	ug/kg	6	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1248 (AROCLOR 1248)**	12672-29-6	**1,500**	ug/kg	6	0	0	0	ND	0%	Screened Out
6 - PCBs	**PCB-1254 (AROCLOR 1254)**	11097-69-1	**300**	ug/kg	6	1	0	0	16	17%	Screened Out
6 - PCBs	**PCB-1260 (AROCLOR 1260)**	11096-82-5	**200**	ug/kg	6	6	0	0	127	100%	Screened Out
7 - Pesticides	**ALDRIN**	309-00-2	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)**	319-84-6	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ALPHA ENDOSULFAN**	959-98-8	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**BETA BHC (BETA HEXACHLOROCYCLOHEXANE)**	319-85-7	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**BETA ENDOSULFAN**	33213-65-9	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**CIS-NONACHLOR**	5103-73-1	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)**	319-86-8	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**DIELDRIN**	60-57-1	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDOSULFAN SULFATE**	1031-07-8	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDRIN**	72-20-8	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDRIN ALDEHYDE**	7421-93-4	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**ENDRIN KETONE**	53494-70-5	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**GAMMA BHC (LINDANE)**	58-89-9	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**GAMMA-CHLORDANE**	12789-03-6	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**HEPTACHLOR**	76-44-8	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**HEPTACHLOR EPOXIDE**	1024-57-3	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**METHOXYCHLOR**	72-43-5	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**MIREX**	2385-85-5	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**O,P'-DDD**	53-19-0	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**O,P'-DDE**	3424-82-6	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**O,P'-DDT**	789-02-6	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**OXYCHLORDANE**	27304-13-8	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**P,P'-DDD**	72-54-8	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**P,P'-DDE**	72-55-9	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**P,P'-DDT**	50-29-3	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**TOXAPHENE**	8001-35-2	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
7 - Pesticides	**TRANS-NONACHLOR**	39765-80-5	**--**	ug/kg	6	0	0	0	ND	0%	Evaluate Further
8 - Metals	**ALUMINUM**	7429-90-5	**--**	ug/kg	6	6	0	0	13,600,000	100%	Screened Out
8 - Metals	**ANTIMONY**	7440-36-0	**64,000**	ug/kg	7	7	0	0	143	100%	Screened Out
8 - Metals	**ARSENIC**	7440-38-2	**7,000**	ug/kg	13	13	1	0	10,900	100%	Screened In

Table D-6
Summary of Screening of Soil for the Joint Source Control Protection of the Willamette River
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

					Values						
Analyte Group	**CHEMICAL_NAME**	**CAS_RN**	**JSCS SLV**	**Unit**	**Number of Samples**	**Number of Detections**	**Number of Detections Above the JSCS SLV**	**Number of MDLs Above the JSCS SLV**	**Maximum Detected Historical Concentration**	**Frequency of Detections (%)**	**Screening Result**
8 - Metals	**BARIUM**	7440-39-3	**--**	ug/kg	13	13	0	0	229,000	100%	Screened Out
8 - Metals	**BERYLLIUM**	7440-41-7	**--**	ug/kg	7	7	0	0	669	100%	Screened Out
8 - Metals	**CADMIUM**	7440-43-9	**1,000**	ug/kg	13	13	0	0	409	100%	Screened Out
8 - Metals	**CHROMIUM, TOTAL**	7440-47-3	**111,000**	ug/kg	13	13	0	0	42,600	100%	Screened Out
8 - Metals	**COBALT**	7440-48-4	**--**	ug/kg	13	13	0	0	40,200	100%	Screened Out
8 - Metals	**COPPER**	7440-50-8	**149,000**	ug/kg	13	13	0	0	38,900	100%	Screened Out
8 - Metals	**IRON**	7439-89-6	**--**	ug/kg	6	6	0	0	47,200,000	100%	Screened Out
8 - Metals	**LEAD**	7439-92-1	**17,000**	ug/kg	13	13	4	0	53,700	100%	Screened In
8 - Metals	**MANGANESE**	7439-96-5	**1,100,000**	ug/kg	13	13	3	0	11,300,000	100%	Screened In
8 - Metals	**MERCURY**	7439-97-6	**70**	ug/kg	13	11	2	0	109	85%	Screened In
8 - Metals	**MOLYBDENUM**	7439-98-7	**--**	ug/kg	7	7	0	0	430	100%	Screened Out
8 - Metals	**NICKEL**	7440-02-0	**48,600**	ug/kg	21	21	4	0	213,000	100%	Screened In
8 - Metals	**SELENIUM**	7782-49-2	**2,000**	ug/kg	13	3	0	0	400	23%	Screened Out
8 - Metals	**SILVER**	7440-22-4	**5,000**	ug/kg	13	11	0	0	1,410	85%	Screened Out
8 - Metals	**THALLIUM**	7440-28-0	**--**	ug/kg	7	7	0	0	117	100%	Screened Out
8 - Metals	**TIN**	7440-31-5	**--**	ug/kg	6	4	0	0	792	67%	Screened Out
8 - Metals	**VANADIUM**	7440-62-2	**--**	ug/kg	7	7	0	0	101,000	100%	Screened Out
8 - Metals	**ZINC**	7440-66-6	**459,000**	ug/kg	13	13	0	0	133,000	100%	Screened Out

Table D-7
Summary of Screening of Groundwater for the Joint Source Control Protection of the Willamette River
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Analyte Group	Chemical	Cas NO.	Unit	Screening Value JSCS SLV	Values Number of Samples	Number of Detections	Number of Detections above the Screening Value	Number of MDLs Above the Screening Value	Maximum Historical Detected Concentration	Frequency of Detections (%)	Screening Result
1 - TPH	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	**ug/l**	--	9	9	**0**	0	**10000**	100%	Screened Out
	Total Petroleum Hydrocarbons - Gasoline	TPH-G	**ug/l**	--	9	8	**0**	0	**3600**	89%	Screened Out
2 - TPH - Silica Gel	**Total Petroleum Hydrocarbons - Diesel**	TPH-D	**ug/l**	--	9	8	**0**	0	**3000**	89%	Screened Out
	Total Petroleum Hydrocarbons - Residual Range	TPH-RRO	**ug/l**	--	9	8	**0**	0	**910**	89%	Screened Out
3 - VOCs	**1,1,1,2-TETRACHLOROETHANE**	630-20-6	**ug/l**	2.5	9	0	0	0	ND	0%	Screened Out
	1,1,1-TRICHLOROETHANE	71-55-6	**ug/l**	11	9	0	0	0	ND	0%	Screened Out
	1,1,2,2-TETRACHLOROETHANE	79-34-5	**ug/l**	0.33	9	0	0	0	ND	0%	Screened Out
	1,1,2-TRICHLOROETHANE	79-00-5	**ug/l**	1.2	9	0	0	0	ND	0%	Screened Out
	1,1-DICHLOROETHANE	75-34-3	**ug/l**	47	9	0	0	0	ND	0%	Screened Out
	1,1-DICHLOROETHENE	75-35-4	**ug/l**	--	9	0	0	0	ND	0%	Screened Out
	1,1-DICHLOROPROPENE	563-58-6	**ug/l**	--	9	0	0	0	ND	0%	Screened Out
	1,2,3-TRICHLOROBENZENE	87-61-6	**ug/l**	--	9	0	0	0	ND	0%	Screened Out
	1,2,3-TRICHLOROPROPANE	96-18-4	**ug/l**	0.0095	9	0	0	0	ND	0%	Screened Out
	1,2,4-TRIMETHYLBENZENE	95-63-6	**ug/l**	--	9	6	**0**	0	**1.1**	67%	Screened Out
	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	**ug/l**	--	9	0	0	0	ND	0%	Screened Out
	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	106-93-4	**ug/l**	0.033	18	1	**0**	0	**0.0047**	6%	Screened Out
	1,2-DICHLOROBENZENE	95-50-1	**ug/l**	49	9	0	0	0	ND	0%	Screened Out
	1,2-DICHLOROETHANE	107-06-2	**ug/l**	0.73	9	4	**1**	0	**0.95**	44%	Screened In
	1,2-DICHLOROPROPANE	78-87-5	**ug/l**	0.97	9	0	0	0	ND	0%	Screened Out
	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	**ug/l**	--	9	6	**0**	0	**4**	67%	Screened Out
	1,3-DICHLOROBENZENE	541-73-1	**ug/l**	14	9	0	0	0	ND	0%	Screened Out
	1,3-DICHLOROPROPANE	142-28-9	**ug/l**	--	9	0	0	0	ND	0%	Screened Out
	1,4-DICHLOROBENZENE	106-46-7	**ug/l**	2.8	9	0	0	0	ND	0%	Screened Out
	2,2-DICHLOROPROPANE	594-20-7	**ug/l**	--	9	0	0	0	ND	0%	Screened Out
	2-CHLOROTOLUENE	95-49-8	**ug/l**	--	9	0	0	0	ND	0%	Screened Out
	2-HEXANONE	591-78-6	**ug/l**	99	9	0	0	0	ND	0%	Screened Out
	4-CHLOROTOLUENE	106-43-4	**ug/l**	--	9	0	0	0	ND	0%	Screened Out
	ACETONE	67-64-1	**ug/l**	1500	9	5	**0**	0	**49**	56%	Screened Out
	BENZENE	71-43-2	**ug/l**	1.2	9	8	**5**	0	**74**	89%	Screened In
	BROMOBENZENE	108-86-1	**ug/l**	--	9	0	0	0	ND	0%	Screened Out
	BROMOCHLOROMETHANE	74-97-5	**ug/l**	--	9	0	0	0	ND	0%	Screened Out
	BROMODICHLOROMETHANE	75-27-4	**ug/l**	1.1	9	0	0	0	ND	0%	Screened Out
	BROMOFORM	75-25-2	**ug/l**	8.5	9	0	0	0	ND	0%	Screened Out
	BROMOMETHANE	74-83-9	**ug/l**	8.7	9	0	0	0	ND	0%	Screened Out
	CARBON TETRACHLORIDE	56-23-5	**ug/l**	0.51	9	0	0	0	ND	0%	Screened Out
	CHLOROBENZENE	108-90-7	**ug/l**	50	9	0	0	0	ND	0%	Screened Out
	CHLOROETHANE	75-00-3	**ug/l**	23	9	0	0	0	ND	0%	Screened Out
	CHLOROFORM	67-66-3	**ug/l**	0.17	9	0	0	0	ND	0%	Screened Out
	CHLOROMETHANE	74-87-3	**ug/l**	2.1	9	1	**0**	0	**0.1**	11%	Screened Out
	CIS-1,2-DICHLOROETHYLENE	156-59-2	**ug/l**	590	9	2	**0**	0	**0.12**	22%	Screened Out
	CIS-1,3-DICHLOROPROPENE	10061-01-5	**ug/l**	0.055	9	0	0	0	ND	0%	Screened Out
	CYMENE	99-87-6	**ug/l**	--	9	6	**0**	0	**4.8**	67%	Screened Out

Table D-7
Summary of Screening of Groundwater for the Joint Source Control Protection of the Willamette River
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

Analyte Group	Chemical	Cas NO.	Unit	Screening Value JSCS SLV	Values Number of Samples	Number of Detections	Number of Detections above the Screening Value	Number of MDLs Above the Screening Value	Maximum Historical Detected Concentration	Frequency of Detections (%)	Screening Result
3 - VOCs	DIBROMOCHLOROMETHANE	124-48-1	ug/l	--	9	0	0	0	ND	0%	Screened Out
	DIBROMOMETHANE	74-95-3	ug/l	61	9	0	0	0	ND	0%	Screened Out
	DICHLORODIFLUOROMETHANE	75-71-8	ug/l	390	9	0	0	0	ND	0%	Screened Out
	ETHYLBENZENE	100-41-4	ug/l	7.3	9	6	**2**	0	**12**	67%	Screened In
	HEXACHLOROBUTADIENE	87-68-3	ug/l	0.86	9	0	0	0	ND	0%	Screened Out
	ISOPROPYLBENZENE (CUMENE)	98-82-8	ug/l	660	9	8	**0**	0	**30**	89%	Screened Out
	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	ug/l	7100	9	2	**0**	0	**5.8**	22%	Screened Out
	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE	108-10-1	ug/l	170	9	0	0	0	ND	0%	Screened Out
	METHYLENE CHLORIDE	75-09-2	ug/l	8.9	9	0	0	0	ND	0%	Screened Out
	N-BUTYLBENZENE	104-51-8	ug/l	--	9	7	**0**	0	**10**	78%	Screened Out
	N-PROPYLBENZENE	103-65-1	ug/l	--	9	7	**0**	0	**49**	78%	Screened Out
	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	ug/l	13	9	6	**0**	0	**13**	67%	Screened Out
	STYRENE	100-42-5	ug/l	100	9	0	0	0	ND	0%	Screened Out
	T-BUTYLBENZENE	98-06-6	ug/l	--	9	6	**0**	0	**0.56**	67%	Screened Out
	TERT-BUTYL METHYL ETHER	1634-04-4	ug/l	37	9	0	0	0	ND	0%	Screened Out
	TETRACHLOROETHYLENE(PCE)	127-18-4	ug/l	0.12	9	0	0	0	ND	0%	Screened Out
	TOLUENE	108-88-3	ug/l	9.8	9	8	**4**	0	**62**	89%	Screened In
	TOTAL XYLENES	133-02-07	ug/l	--	9	7	**0**	0	**28**	78%	Screened Out
	TRANS-1,2-DICHLOROETHENE	156-60-5	ug/l	110	9	0	0	0	ND	0%	Screened Out
	TRANS-1,3-DICHLOROPROPENE	10061-02-6	ug/l	0.055	9	1	**1**	**1**	**0.28**	11%	Screened In
	TRICHLOROETHYLENE (TCE)	79-01-6	ug/l	0.17	9	0	0	0	ND	0%	Screened Out
	TRICHLOROFLUOROMETHANE	75-69-4	ug/l	1300	9	1	**0**	0	**0.19**	11%	Screened Out
	VINYL CHLORIDE	75-01-4	ug/l	0.015	9	1	**1**	**1**	**0.09**	11%	Screened In
5 - PAHs	2-METHYLNAPHTHALENE	91-57-6	ug/l	0.2	9	8	**5**	0	**0.57**	89%	Evaluate Further
	ACENAPHTHENE	83-32-9	ug/l	0.2	9	8	**5**	0	**1.8**	89%	Evaluate Further
	ACENAPHTHYLENE	208-96-8	ug/l	0.2	9	1	**0**	0	**0.06**	11%	Screened Out
	ANTHRACENE	120-12-7	ug/l	0.2	9	8	**1**	0	**0.25**	89%	Evaluate Further
	BENZO(A)ANTHRACENE	56-55-3	ug/l	0.018	9	9	**4**	0	**0.17**	100%	Evaluate Further
	BENZO(A)PYRENE	50-32-8	ug/l	0.018	9	8	**4**	**1**	**0.24**	89%	Evaluate Further
	BENZO(B)FLUORANTHENE	205-99-2	ug/l	0.018	9	9	**5**	0	**0.26**	100%	Evaluate Further
	BENZO(G,H,I)PERYLENE	191-24-2	ug/l	0.2	9	8	**1**	0	**0.27**	89%	Evaluate Further
	BENZO(K)FLUORANTHENE	207-08-9	ug/l	0.018	9	8	**3**	0	**0.084**	89%	Evaluate Further
	CHRYSENE	218-01-9	ug/l	0.018	9	9	**4**	0	**0.27**	100%	Evaluate Further
	DIBENZ(A,H)ANTHRACENE	53-70-3	ug/l	0.018	9	5	**1**	0	**0.036**	56%	Evaluate Further
	DIBENZOFURAN	132-64-9	ug/l	3.7	9	2	**0**	0	**0.0088**	22%	Screened Out
	FLUORANTHENE	206-44-0	ug/l	0.2	9	9	**2**	0	**0.43**	100%	Evaluate Further
	FLUORENE	86-73-7	ug/l	0.2	9	8	**5**	0	**3.1**	89%	Evaluate Further
	INDENO(1,2,3-C,D)PYRENE	193-39-5	ug/l	0.018	9	8	**3**	0	**0.24**	89%	Evaluate Further
	PHENANTHRENE	85-01-8	ug/l	0.2	9	9	**4**	0	**2.9**	100%	Evaluate Further
	PYRENE	129-00-0	ug/l	0.2	9	8	**2**	0	**0.49**	89%	Evaluate Further
8 - Metals	ANTIMONY	7440-36-0	ug/l	6	18	16	**0**	0	**0.25**	89%	Screened Out
	ARSENIC	7440-38-2	ug/l	0.045	18	18	**18**	**14**	**27.5**	100%	Evaluate Further

Table D-7
Summary of Screening of Groundwater for the Joint Source Control Protection of the Willamette River
Phase II RI Work Plan
Premier Edible Oils
Portland, Oregon

					Values						
Analyte Group	**Chemical**	**Cas NO.**	**Unit**	**Screening Value JSCS SLV**	**Number of Samples**	**Number of Detections**	**Number of Detections above the Screening Value**	**Number of MDLs Above the Screening Value**	**Maximum Historical Detected Concentration**	**Frequency of Detections (%)**	**Screening Result**
8 - Metals	**BARIUM**	7440-39-3	**ug/l**	--	18	18	**0**	0	**210**	100%	Screened Out
	BERYLLIUM	7440-41-7	**ug/l**	--	18	14	**0**	0	**0.639**	78%	Screened Out
	CADMIUM	7440-43-9	**ug/l**	0.094	18	15	**4**	0	**0.27**	83%	Evaluate Further
	CHROMIUM, TOTAL	7440-47-3	**ug/l**	100	18	17	**0**	0	**16.2**	94%	Screened Out
	COBALT	7440-48-4	**ug/l**	--	18	18	**0**	0	**15.3**	100%	Screened Out
	COPPER	7440-50-8	**ug/l**	2.7	18	18	**8**	0	**24**	100%	Evaluate Further
	LEAD	7439-92-1	**ug/l**	--	18	18	**0**	0	**15.9**	100%	Screened Out
	MANGANESE	7439-96-5	**ug/l**	50	18	18	**17**	0	**4440**	100%	Evaluate Further
	MERCURY	7439-97-6	**ug/l**	0.77	18	3	**0**	0	**0.05**	17%	Screened Out
	MOLYBDENUM	7439-98-7	**ug/l**	--	18	18	**0**	0	**2.1**	100%	Screened Out
	NICKEL	7440-02-0	**ug/l**	16	18	18	**1**	0	**16.3**	100%	Evaluate Further
	SELENIUM	7782-49-2	**ug/l**	5	18	4	**0**	0	**0.5**	22%	Screened Out
	SILVER	7440-22-4	**ug/l**	--	18	12	**0**	0	**0.176**	67%	Screened Out
	THALLIUM	7440-28-0	**ug/l**	--	18	12	**0**	0	**0.457**	67%	Screened Out
	VANADIUM	7440-62-2	**ug/l**	--	18	18	**0**	0	**28.6**	100%	Screened Out
	ZINC	7440-66-6	**ug/l**	36	18	18	**3**	0	**82**	100%	Evaluate Further

Table D-8
Multi-Media, Cumulative
Screening of Non-Carcinogenic Compounds

Treadwell&Rollo
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CA/NC	Table	Analyte Group	CHEMICAL_NAME	CAS_RN	Screening Value	RBCSI	RBCSO	Unit	Basis	Number of Samples	Number of Detections Above the Screening Level	Number of Detection Above RBCsi	Number of MDL above RBCsi	Number of Detection above RBCso	Number of MDLs Above the Screening Level	Number of MDL Above RBCso	Maximum Detected Historical Concentration	MDC / Screening Level	Screening Result
NC	D-4	3 - VOCs	1,1-DICHLOROETHENE	75-35-4		340,000	--	ug/l		133		0	0	0		0	0.34	0.000001	Screened Out
NC	D-2	3 - VOCs	1,2,4-TRIMETHYLBENZENE	95-63-6	2,000,000			ug/kg	RBCss	30	0				0		111	0.000056	Screened Out
NC	D-3	3 - VOCs	1,2,4-TRIMETHYLBENZENE	95-63-6		1,000,000	1,000,000	ug/kg		57		0	0	0		0	130000	0.130000	Screened Out
NC	D-2	3 - VOCs	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	10,000,000			ug/kg	RBCss	31	0				0		2420	0.000242	Screened Out
NC	D-2	5 - PAHs	ACENAPHTHENE	83-32-9	61,000,000			ug/kg	RBCss	40	0				0		139	0.000002	Screened Out
NC*	D-2	8 - Metals	ALUMINUM	7429-90-5	990,000,000			ug/kg	EPA RSL	7	0				0		9600000	0.0096970	Screened Out
NC	D-2	5 - PAHs	ANTHRACENE	120-12-7	310,000,000			ug/kg	RBCss	39	0				0		105	0.000000	Screened Out
NC	D-2	8 - Metals	BARIUM	7440-39-3	190,000,000			ug/kg	RBCss	15	0				0		305000	0.001605	Screened Out
NC	D-3	3 - VOCs	BROMOMETHANE	74-83-9		17,000	700,000	ug/kg		57		0	0	0		0	22.8	0.001341	Screened Out
NC	D-4	3 - VOCs	BROMOMETHANE	74-83-9		36,000	170,000	ug/l		133		0	0	0		0	1.04	0.000029	Screened Out
NC*	D-2	8 - Metals	COBALT	7440-48-4	300,000			ug/kg	EPA RSL	7	0				0		14400	0.048000	Screened Out
NC	D-2	8 - Metals	COPPER	7440-50-8	41,000,000			ug/kg	RBCss	11	0				0		241000	0.005878	Screened Out
NC	D-2	4 - SVOCs	DI-N-BUTYL PHTHALATE	84-74-2	62,000,000			ug/kg	EPA RSL	7	0				0		347	0.0000056	Screened Out
NC	D-2	5 - PAHs	FLUORANTHENE	206-44-0	29,000,000			ug/kg	RBCss	42	0				0		1400	0.000048	Screened Out
NC	D-2	5 - PAHs	FLUORENE	86-73-7	41,000,000			ug/kg	RBCss	43	0				0		1190	0.000029	Screened Out
NC	D-2	8 - Metals	IRON	7439-89-6	720,000,000			ug/kg	EPA RSL	11	0				0		36800000	0.0511111	Screened Out
NC	D-2	8 - Metals	MANGANESE	7439-96-5	23,000,000			ug/kg	RBCss	11	0				0		1220000	0.053043	Screened Out
NC	D-2	8 - Metals	MERCURY	7439-97-6	310,000			ug/kg	RBCss	15	0				0		107	0.000345	Screened Out
NC*	D-2	3 - VOCs	N-BUTYLBENZENE	104-51-8	51,000,000			ug/kg	EPA RSL	31	0				0		14200	0.0002784	Screened Out
NC*	D-2	3 - VOCs	N-PROPYLBENZENE	103-65-1	21,000,000			ug/kg	EPA RSL	31	0				0		12500	0.0005952	Screened Out
NC	D-2	3 - VOCs	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	3,000,000			ug/kg	EPA RSL	31	0				0		1350	0.000450	Screened Out
NC	D-2	5 - PAHs	PYRENE	129-00-0	21,000,000			ug/kg	RBCss	43	0				0		1260	0.000060	Screened Out
NC	D-2	8 - Metals	SILVER	7440-22-4	5,100,000			ug/kg	RBCss	19	0				0		615	0.000121	Screened Out
NC*	D-2	8 - Metals	TIN	7440-31-5	610,000,000			ug/kg	EPA RSL	7	0				0		3310	0.0000054	Screened Out
NC	D-2	3 - VOCs	TOLUENE	108-88-3	77,000,000			ug/kg	RBCss	31	0				0		298	0.000004	Screened Out
NC	D-3	1 - TPH	Total Petroleum Hydrocarbons - Gasoline	TPH-G		--	69,000,000	ug/kg		88		0	0	0		0	4380000	0.063478	Screened Out
NC	D-2	3 - VOCs	TOTAL XYLENES	133-02-07	25,000,000			ug/kg	RBCss	5	0				0		6910	0.000276	Screened Out
NC	D-4	3 - VOCs	TRANS-1,2-DICHLOROETHENE	156-60-5		350,000	1,800,000	ug/l		133		0	0	0		0	1.7	0.000005	Screened Out
NC	D-2	8 - Metals	ZINC	7440-66-6	310,000,000			ug/kg	EPA RSL	11	0				0		268000	0.000865	Screened Out
Summed of all Maximum Detected Concentrations of non-carcinogenic compounds divided by the selected Screening Values for each compound																		**0.37**	

*Assumed non-carcinogen, not in USEPA's IRIS database (http://www.epa.gov/iris/)
Classification of as carcinogenic (CA) or non-carcinogenic (NC) from June 7 2012 *Risk-Based Concentrations for Individual Chemicals* (DEQ 2012)
-- indicates chemical not on DEQ table of Risk-Based Concentrations
Media selected for screening are Soil Ingestion, Dermal Contact and Inhalation, (Table D-2) Soil Vapor Intrusion into Buildings and Outdoor Air (Table D-3), and Groundwater for Vapor Intrusion to Buildings and Volatilization to Outdoor Air (Table D-4)
Following *Human Health Risk Assessment Guidance* DEQ does not require a cumulative risk screen for carcinogens that are below their RBCs.