### Department of Environmental Quality

### Memorandum

**Date:** October 1, 2020

To: FILE

**Through:** Paul Seidel Cleanup Program Manager and Dan Hafley DEQ Lead Worker

**From:** Kenneth Thiessen, Hydrogeologist, DEQ Northwest Region

**Subject:** Former Koppers Wood-Treating Site Wauna, Oregon

Staff Memorandum supporting a Certificate of Completion for Perched

**Groundwater Remediation, ECSI # 649** 

This memorandum presents the basis for the Oregon Department of Environmental Quality's (DEQ's) recommended Certificate of Completion for perched groundwater remediation at the former Koppers wood-treating site in Wauna, Oregon. As discussed in this memo, following remediation work, contaminant concentrations in perched groundwater are below applicable DEQ Level II Ecological Screening Level Values (SLVs) at prescribed points of compliance (monitoring wells) located on the shoreline of the Columbia River. DEQ considers the Remedial Action Objectives to be complete for remediation of perched groundwater at the Site, as outlined in DEQ's 2009 Record of Decision.

This memo proposes that the site meets the requirements of Oregon Administrative Rules Chapter 340 Division 122, Sections 010 to 0140; and ORS 465.200 through 465.455 and that a Certificate of Completion is warranted. This memo is based on the administrative record for the Site, presented in Section 9 of this memorandum.

In 2010, DEQ issued a separate Certificate of Completion for remediation of soil, drainage ditch sediment, stormwater management, and institutional and engineering controls at the former Koppers site, located in Wauna, Oregon. This 2020 Certificate of Completion recommendation includes a continuation of the existing restrictions in the 2010 Easement and Equitable Servitudes.

#### 1. REGULATORY HISTORY

This Koppers wood-treating site in Wauna, Oregon (Site) is regulated under the following key DEQ documents:

- Staff Report for Recommended Remedial Action Former Koppers Wood-Treating Site Wauna, Oregon ECSI #649. DEQ, Feb. 2009
- Record of Decision for Former Koppers Wood-Treating Site Wauna, Oregon ECSI #649.
   DEQ, April 2009
- Order on Consent LQVC– NWR-09-01, with attached Scope of Work. DEQ, July 2009.
- Easement and Equitable Servitudes, recorded at Clatsop County. DEQ, Feb. 5, 2010.

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• Certificate of Completion for completed remedial actions for soil, drainage ditch sediment, stormwater management, institutional and engineering controls per Record of Decision requirements. DEQ, April 6, 2010.

#### 2. BACKGROUND

#### Site location

- Address: 92326 Taylorsville Road, Wauna, Clatsop County, Oregon.
- Latitude 46.1626° North, longitude -123.4121° West
- NW1/4 of the SW1/4 of Section 22, Township 8N, Range 6W, USGS Cathlamet Quadrangle
- The nearly flat Site elevation is approximately 11 feet above mean sea level.

#### **Site setting**

The 25-acre Site occupies the western portion of the Georgia-Pacific LP Consumer Products (GP) mill at Wauna, Oregon (Figure 1, Vicinity Map). The Columbia River borders the Site to the north. It is bordered on the south by the Portland Western Railway and the former Crawford Creek Slough drainage ditch, to the west by now-vacant land and a flowing segment of Crawford Creek Slough, and to the east by the GP pulp and paper mill.

The Site remains as generally undeveloped industrial land to the west of large GP Mill complex and includes pavement capped areas (per deed restriction) truck/trailer storage and GP materials storage areas (Figure 2, Site Layout, former Koppers Facility).

#### **Locality of Facility**

As stated in the 2002 Remedial Investigation Report, based on the site hydrogeologic model, the nature and extent of the contamination, the Contaminant of Interest (COI) migration pathways, and the potential human and environmental exposure pathways, the Locality of Facility (LOF) for the former Koppers wood-treating site includes the following:

- Surface soils and subsurface soils containing Contaminants of Potential Concern (COPC) outside the deed-restricted paved area at the site,
- Perched water-bearing zone beneath the former Koppers site, bounded to the south by the Crawford Creek slough and drainage ditch, to the north by the Columbia River, to the west by of the former treatment area by monitoring wells PMW-4 and PMW-07R, and to the east by monitoring well PMW-12 (within the GP mill complex),
- Sediment in the slough adjacent to the former treatment area, Groundwater seeps along the Columbia River adjacent to the site,
- The shall water-bearing zone beneath the former Koppers site,
- Sediment in the lower portion of the Crawford Creek Slough.

In 2020, following completion of interim remedial measures, the formerly complete contaminant exposure pathways, as described in this 2002 LOF description, have been closed.

#### Geology

The 2002 Remedial Investigation Report (RI) determined that the Site is underlain by 3 to 10 feet

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of well-graded to poorly-graded sand representing fill material, with lenses of gravel and woody debris. The woody debris is discontinuous and occurs primarily towards the base of the fill unit. Underlying the sandy fill unit is a continuous silt layer ranging from greater than 3 feet to 14 feet thick. Underlying the silt layer, there are several thin, alternating layers of clayey silt, silty clay, and sandy silt extending downward to 30 feet below ground surface (bgs), the maximum depth of exploration during the RI.

#### Hydrogeology

There are two water-bearing zones beneath the site separated by a continuous, silt aquitard (See Figures 5, 6, 7, Location of Hydrogeologic Cross Sections, Cross Section A-A', Cross Section B-B'). The upper, perched, water-bearing zone is in a sandy fill unit. The lower, shallow, water-bearing zone is composed of layers of silt and sand extending to the maximum depth explored of 30 feet bgs. The silt aquitard separating the water-bearing zones has a very low hydraulic conductivity as compared to the upper, perched water-bearing zone. The silt aquitard is up to 14 feet thick.

The upper, perched water-bearing zone is recharged primarily by rainfall infiltration and discharges to the Columbia River. The Columbia River can locally recharge shoreline areas of the upper, perched water-bearing zone during high river stages.

A groundwater cut-off wall, installed in 2004, redirects perched groundwater, utilizing a funnel-and-gate type system, through a groundwater aeration trench prior to eventual discharge to the Columbia River via bank seepage and underflow recharge (Figure 3, Site Layout). The groundwater cut-off wall increases the horizontal flow path length between the contamination source area and areas of Columbia River discharge. Prior to the installation of a groundwater cut-off wall, the direction of perched groundwater flow was to the north and northwest toward the Columbia River. The direction of groundwater flow in the shallow water-bearing zone is also northward towards the Columbia River.

Groundwater studies performed during the Remedial Investigation determined that there is not a vertical gradient or significant hydraulic connection between the two water-bearing zones and that contaminants present in the upper, perched water-bearing zone have not significantly affected the lower water-bearing zone.

#### Hydrology

The Columbia River borders the north side of the Site. Water levels in the Columbia River fluctuate seasonally in response to upstream releases from dams and diurnal tidal fluctuations. Based on the sediment investigation conducted as part of the RI, the riverbank descends steeply from the uplands at an elevation of +10 feet National Geodetic Vertical Datum (NGVD) to the Columbia River navigation channel at -40 to -50 feet NGVD (Anchor Environmental, 2004). The upper portion of the riverbank is protected by riprap to a depth of -10 to -20 feet NGVD. The riverbank and river bed are affected by strong currents as evidenced by large sand waves and coarse bottom material (sand and gravel) on the river bed.

A drainage ditch formerly bordered the Site to the south (Figure 3, Site Layout). At the end of the drainage ditch was a small dam that formerly separated the ditch from the Crawford Creek Slough. The drainage ditch and dam were constructed before the early 1960s to help drain the property. Site remediation work resulted in filling the drainage ditch and piping stormwater from

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the area to the GP Mill stormwater treatment plant. Water level elevations within the Crawford Creek Slough vary in response to Columbia River stage.

In 2006, the GP mill constructed a new paper machine within the storm water basin drained by the ditch. To ensure proper control over storm water from the new paper machine area, the mill routed storm water from this drainage basin to its central wastewater treatment system. This was accomplished by installing a pump station to transfer storm water to Frasier Lake (a reservoir south of the Site) for temporary storage prior to treatment. The pumping reverses the flow direction in the drainage ditch. This change eliminated the discharge of mill runoff from the ditch to Crawford Creek Slough. During the fall of 2006, storm events caused the water level in Crawford Creek Slough to rise enough to overtop the dam and flow into the ditch. The additional flow increased the amount of water that was pumped to Frasier Lake and put an unnecessary load on the entire storm water system. To prevent recurrence of such loads, the mill raised the level of the dam less than one foot in November 2006.

The RI determined that the degree of hydraulic connection between the upper, perched water-bearing zone and the slough/former drainage ditch is minimal. The minimal hydraulic connection is likely due to the presence of silt underlying the slough and the surcharged soil compaction by the railroad that runs along the north side of the slough.

#### Site environmental history

Wood-preserving operations were conducted at the Site between 1936 and 1966. The wood treating operators were the American Lumber and Timber Treating Company (1936-1954) and Koppers Company, Inc. (1954-1966). Primary features of the former wood treating operation included retorts, storage tanks, an unloading shed, treated wood storage area, incisor building and loading shed located in the eastern portion of the Site; a wigwam burner located near the western portion of the Site; and a creosote storage tank located south of Crawford Creek Slough. Figure 2 is an aerial photograph of the site from February 1961, showing the location of historical wood-treating operations.

As illustrated in the Site Layout, Figure 3, the eastern portion of the Site is now mostly paved except for a small area northeast of the deed-restricted area. The remainder of the Site is unpaved and covered with compacted gravel. Since 1966, the Site has been used for vehicle and equipment storage for the adjacent GP mill.

Four wood-preservatives were historically used at the Site: Wolman salts (fluorochromuim-arsenic phenol), chromium copper arsenate, creosote and centachlorophenol. No large spills or releases of wood preservatives are documented at this Site. The wood-treating constituents found at the Site are reportedly from drips and splashes during normal daily operations, or incidental releases from storage tanks and piping, or from handling and drying of freshly treated wood.

The RI states that released crossote originating in the former process area moved downward through soils to the aquitard and then moved laterally toward the Columbia River where it was observed emerging in seeps at the riverbank. The contaminated seeps were concentrated within a fifty-foot section of shoreline. In 2004, a groundwater cutoff wall was installed to stop the subsurface transport of crossote to the Columbia River.

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Contaminants of Concern (COCs) dissolved in perched zone groundwater are derived primarily from creosote constituents and its carrier oil. Once dissolved in groundwater, the COC migration is primarily controlled by horizontal hydraulic gradients, the retardation coefficient of the constituent, the hydraulic conductivity, and the porosity of the water-bearing zone sand and fill material. Site data shows that ethylbenzene and tetrachloroethene tended to migrate further in perched groundwater than creosote.

Where present outside the former wood treating process area, COCs appear to be mainly adsorbed onto unsaturated soils above the perched water-bearing zone. These areas have been remediated through excavation, capping and institutional controls.

In 1988, an asphalt cap was installed over the former process area (including where the treated wood storage area and unloading shed were located) under an agreement between DEQ and Crown Zellerbach, to reduce the potential for exposure to constituents in soil. The remedial action also included a deed restriction, to prevent the removal or penetration of the asphalt cap or alteration of surface drainage on the restricted area. Construction of borings or pilings through the cap is not allowed. The deed restriction was put into place in 2010 using an Easement and Equitable Servitudes recorded with Clatsop County.

With successful completion of sediment and soil cleanup, DEQ provided a Certificate of Completion for these aspects of site cleanup on April 6, 2010.

Groundwater monitoring at the Site has been performed regularly since 2005. Two points of compliance were designated: the western point of compliance (monitoring wells ATT-12 and PMW-7R) and the eastern point of compliance (monitoring well SBW-08) as illustrated on figure 4, Groundwater Elevations. Groundwater monitoring was also been conducted in upland areas within the footprint of the former wood treating operations. Groundwater data are also available for comparison of water quality upgradient and down-gradient of the aeration trench in the data package included as Appendix A.

Improvements in groundwater quality enabled termination of active aeration treatment in the southern 50% of the trench in February 2011 (aeration treatment zones 7 through 11). Subsequent groundwater monitoring documented the effectiveness of monitored natural attenuation (MNA) in the southern part of the western exterior area, along the southern groundwater flow path extending from the southern part of the trench to the Columbia River from ATT-02 to ATT-12. This accomplishment became the basis for a model-based evaluation of whether aeration treatment could also cease in the northern part of the trench, allowing the western exterior area to fully transition to MNA.

In May 2016, the DEQ approved the transition to MNA for the northern flow path. Aeration treatment in the northern part of the trench (aeration zones 1 through 6) ceased in June 2016. Subsequent semi-annual groundwater monitoring through April 2019 demonstrated that MNA was protective of the Columbia River. On this basis, the DEQ requested (letter dated July 26, 2018) that GP and Beazer provide an evaluation of whether continued groundwater monitoring is necessary and if MNA is adequate to be considered a final site remedy for perched groundwater.

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To determine if groundwater quality in the perched water-bearing zone compliance wells has met project remediation goals through natural attenuation at the western and eastern points of compliance on the bank of the Columbia River, three criteria were met:

1. Determine if sufficient time has elapsed since induced aeration treatment of perched groundwater ended to allow for untreated groundwater to migrate from upland areas to the western points of compliance monitoring wells ATT-12 and PMW-7R.

Calculated groundwater travel times indicate that untreated groundwater (without induced aeration), is now present at western points of compliance.

- The time for groundwater following a flow path from the southern aeration trench to reach the western points of compliance is calculated to be 2.5 years. Induced aeration of the southern portion of the aeration trench was shut off in 2011.
- The time for groundwater following a flow path from the northern aeration trench to reach the western points of compliance is calculated to be 1 year. Induced aeration of the northern portion of the aeration trench was shut off in 2016.
- 2. Groundwater monitoring data for 2016 to 2020 have been evaluated to see if recent upland groundwater quality is consistent with contaminant concentrations evaluated for the March 2016 Monitored Natural Attenuation Evaluation. Recent groundwater quality data were found to be comparable to the pre-2016 data used for the Monitored Natural Attenuation Evaluation, corroborating the findings of the 2016 document that natural attenuation is occurring at the site.
- 3. Determine from analytical testing of groundwater at western compliance wells ATT-12 and PMW-7R, if natural attenuation is sufficient as a final remedy. Determine from analytical testing of groundwater at eastern compliance well SBW-08, if natural attenuation is sufficient as a final remedy.

Analytical lab data indicate that groundwater quality at western and eastern riverbank points of compliance meets DEQ Level II ecological SLVs. Analytical laboratory data support that natural attenuation alone is sufficient as a final remedy for perched groundwater at this site. Tabulated groundwater quality lab data and groundwater quality data trend graphs are attached to this Memo as Appendix A.

#### Nature and Extent of Contaminants in Site Groundwater

From the RI, the contaminants of potential concern (COPC) at the Site include high molecular weight polycyclic aromatic hydrocarbons (HPACs), naphthalene, total petroleum hydrocarbon (TPH), volatile organic compounds (VOCs), dioxin/furans, and metals. Creosote and TPH are typically coincident at the Site.

Perched zone groundwater contains COPCs that originated in the former process area and former treated-wood storage area. The COPCs have migrated north toward the Columbia River. COPCs in perched zone groundwater are ethylbenzene, PAHs, pentachlorophenol, arsenic, and

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chromium. Creosote product has historically flowed northward along the sandy water-bearing zone/aquitard contact to the Columbia River in two narrow flow paths.

Low concentrations of COPCs have been detected in the deeper, shallow groundwater zone at concentrations not requiring remediation.

#### **Remedial Action Objectives**

In the 2009 Record of Decision, DEQ stated the following objectives:

- <u>Human Health</u> The HHRA did not identify a potentially unacceptable risk associated with potential human exposure to shallow groundwater.
- <u>Ecological</u> Reduce exposure to VOCs, SVOCs, and metals that could seep into the Columbia River at concentrations that could result in significant adverse effects on beneficial uses of water in the LOF.
- <u>Migration</u> Control migration of VOCs, SVOCs, and metals to the Columbia River at concentrations that could result in significant adverse effects on beneficial uses of water in the LOF.
- <u>Hot Spots of Contamination</u> Treat hot spots of contamination to non-hot spot levels by reducing their concentration, volume, or mobility.

Based on DEQ Guidance for Identification of Hot Spots (April 23, 1998), groundwater at the Koppers site was originally found to be a highly mobile hot spot as contaminant concentrations exceeded Federal Ambient Water Quality Criteria or DEQ Level II Ecological Screening Level Values (SLVs), thereby potentially adversely affecting the key beneficial use of groundwater: recharge to the Columbia River. Thus, DEQ Level II Ecological SLVs are adopted for remediation of perched groundwater at this Site. Section 4 of this Memo lists the SLVs. Section 5 of this Memo discusses interim remedial measures implemented at the Site.

The 2009 Record of Decision did not provide site-specific numerical cleanup standards for COPCs in perched groundwater at the Site.

#### 3. BENEFICIAL LAND AND WATER USE DETERMINATIONS

#### **Land Use Zoning**

The base land use zoning of the 25-acre Locality of Facility (LOF) and the GP mill complex is heavy industrial. Land use restrictions prescribed in the 2010 Easement and Equitable Servitudes for the Site prohibit residential use of any type and prohibit agricultural food crop use of any type.

#### Groundwater use

The beneficial use of perched ground water in the LOF is flow to the Columbia River as bank seepage and underflow recharge. Accordingly, groundwater contaminants within the perched water zone were screened against Ambient Water Quality Criteria and DEQ Level II ecological screening level values (SLVs) to protect aquatic life in the Columbia River.

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The 2010 Easement and Equitable Servitudes document prohibits groundwater use from the Site for consumption or other beneficial use as long as hazardous substance concentrations in groundwater exceed the acceptable risk level for such use. This prohibition does not apply to extraction of groundwater for remediation or sampling purposes.

#### **Surface water management**

All stormwater from the Site is collected and sent to the GP stormwater treatment system, located to the east of the GP mill complex. Treated wastewater is released to the Columbia River under an NPDES 1200Z permit. See Hydrology Section above.

#### 4. INVESTIGATION AND CLEANUP WORK

#### **Perched Groundwater**

Sampling of perched groundwater and riverbank seeps conducted during the RI identified the presence of organic and inorganic compounds associated with former wood treating operations. Constituents that could result in significant adverse effects on beneficial uses of water, based on a comparison of sampling results against DEQ Level II surface water SLVs, included ethylbenzene, semi-volatile organic compounds, including several PAHs, diesel- and oil-range petroleum hydrocarbons, and metals (arsenic, chromium and copper).

Prior to 2004, perched groundwater containing wood-treating chemical constituents was observed emerging as seeps along an approximately 250 foot stretch of the Columbia River bank. This perched groundwater historically flowed unimpeded to the Columbia River. Riverbank seeps historically discharging creosote were limited to a 50 foot stretch of riverbank.

The Interim Remedial Measure (discussed in Section 5 below) is designed to redirect flow of site contaminants in perched groundwater to the Columbia River containing the following Contaminants of Concern (COCs). The COC and DEQ Level II Ecological SLVs are as follows:

- Ethylbenzene, SLV = 7.3 micrograms per liter ( $\mu$ g/L)
- 2-Methyphenol, SLV =  $13 \mu g/L$
- Benzoic Acid, SLV = 42 μg/L
- Napthalene,  $SLV = 620 \mu g/L$
- Dibenzofuran,  $SLV = 3.7 \mu g/L$
- Fluorene,  $SLV = 3.9 \mu g/L$
- Pentachlorophenol,  $SLV = 15 \mu g/L$
- Phenanthrene,  $SLV = 6.3 \mu g/L$
- Fluoranthene,  $SLV = 6.16 \mu g/L$
- BEHP,  $SLV = 3 \mu g/L$

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#### 5. INTERIM REMEDIAL ACTIONS

In 2004, an Interim Remedial Measure (IRM) was implemented to address seepage of impacted, perched groundwater to the Columbia River through the installation of a "funnel and gate" subsurface barrier wall and aeration treatment trench.

The components of the "funnel and gate" IRM are as follows:

- A low-permeability, 2,330 foot-long, subsurface barrier to prevent direct flow of COCs in perched groundwater to the Columbia River and to redirect groundwater flow through an aeration treatment zone;
- A gate consisting of an aeration treatment trench providing a below-grade aerated treatment zone to promote biological activity, oxygenation and degrade organic constituents present in groundwater as it passes through the gate;
- Engineering controls (grading, paving, stormwater drainage and Site management) to reduce surface water infiltration within the confines of the subsurface barrier; and
- Groundwater monitoring wells to verify IRM performance.

The subsurface barrier wall, running from the former wood treatment process area in the southeast to the western-most seepage point along the Columbia River, redirects contaminated groundwater to the aeration treatment trench, which is installed perpendicular to the Columbia River shoreline (See Site Layout, Figure 3). The subsurface barrier wall and aeration treatment trench were installed in late 2004 and early 2005; final grading and planting of the vegetative cover occurred in late 2005. A number of additional monitoring wells were installed as part the IRM, including wells placed on either side of the subsurface barrier wall to monitor its effectiveness and wells placed upgradient, in and downgradient of the aeration treatment trench to monitor the effectiveness of both IRM components.

Water level monitoring indicates that the subsurface barrier has caused a shift in groundwater flow directions in perched groundwater. Groundwater now flows to the west toward the aeration treatment trench and then flows to the northwest toward the Columbia River (See Groundwater Elevations, Figure 4). A small percentage of perched groundwater flows around the southeast end of the barrier wall.

Perched groundwater on the Columbia River side of the IRM is evaluated using three monitoring wells. The last exceedance of a SLV from a monitoring well outside of the IRM was in 2005.

Monitoring results have shown that near the former process area source zone perched groundwater COC concentrations have been relatively constant or decreasing since the IRM was implemented. The aeration treatment trench, enhanced with air injection, operated from 2005 through 2011. Beginning in February 2011, air injection was shut off on the southern half of the trench to evaluate natural attenuation. Beginning on June 13, 2016, air injection was shut off on the northern half of the trench to evaluate natural attenuation.

Constituent concentrations in groundwater in the area downgradient from the IRM, between the aeration treatment trench and the Columbia River, have generally been below SLVs since 2007. Residual contaminants in groundwater from the source area have been found to attenuate to

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below SLVs before groundwater discharges to the Columbia River.

#### 6. COMPLETED REMEDIAL ACTIONS

The completed remedial actions listed below address the presence of COC wood-treating chemicals in contaminated soil, sediment, and perched groundwater at the Site. Each of these actions has had a beneficial effect on perched groundwater. The remedial actions are:

- Hydraulic containment of perched groundwater;
- Contaminant degradation in perched groundwater using in-situ aeration treatment of groundwater via funnel-and-gate induced groundwater flow pattern;
- In-situ soil treatment;
- Excavation and off-site disposal of contaminated soil;
- Engineering controls including filling, asphalt capping, and gravel surfacing of affected areas:
- Institutional controls including deed restrictions prohibiting use of groundwater and maintenance of protective caps;
- Groundwater Monitoring;
- Demonstrated Monitored Natural Attenuation of perched groundwater.

In aggregate, the completed remedial actions have allowed DEQ to make a determination that that perched groundwater meets Record of Decision requirements (Ambient Water Quality Criteria or DEQ Level II SLVs prescribed at top-of-riverbank points of compliance.

#### 7. RISK EVALUATION

Key risk assessment documents prepared for the former Koppers Wood Treating Site in Wauna, Oregon include:

- *Human Health Risk Assessment*. AMEC Earth and Environmental, March 2005.
- Level II B *Ecological Risk Assessment*. Windward Environmental, August 13, 2007.
- Residual risk calculations for the former Koppers wood-treating site per proposed soil remedial action. AMEC June 5, 2009.

#### **Human Health Risk Assessment**

The 2005 Human Health Risk Assessment was completed prior to extensive 2005 and 2006 site remediation work using analytical data collected from 1985 to 2003. The Residual Human Health Risk Assessment (HHRA) was prepared in June 2009 following completion of upland site remediation work. These works concluded that following site remediation, there was no unacceptable risk to future site occupational workers from site soils. Perched groundwater was not considered in the 2005 or 2009 human health risk assessment work as a deed restriction prohibited use of site groundwater for beneficial human use.

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The Human Health Conceptual Site Model (CSM) for the site is presented as a Figure 8. The complete exposure pathways indicated on the CSM were evaluated in the human health risk assessment.

The HHRA, approved by DEQ, found no unacceptable potential non-carcinogenic risks to current or future outdoor workers or to future indoor workers at the Site from perched groundwater. Potential excess lifetime cancer risks for the potential future indoor worker do not exceed any DEQ risk benchmarks.

### **Ecological Risk Assessment**

The 2007 Level II Ecological Risk Assessment was performed for inclusion in the Remedial Investigation for the former Koppers Wood Treating Site and built on a Level I Scoping Ecological Risk Assessment. The findings of the Ecological Risk Assessment, in part, encouraged the property owners to undertake extensive removal and remedial actions at the Site.

The Preliminary Ecological Risk CSM for the site is presented as Figure 9. The complete exposure pathways indicated on the CSM were evaluated in the 2007 Ecological Risk Assessment. Upland remediation work, focused on areas of identified unacceptable ecological risk, were successfully completed and reevaluated in the 2009 residual risk calculations. The 2009 document determined that the final soil removal actions for the upland Site resulted in no unacceptable ecological risk.

Perched groundwater emerging as riverbank seeps was determined by DEQ to be an incomplete contaminant pathway and not applicable to the ecological risk assessment. Further, the ecological risk assessment did not consider that perched groundwater emerges into fluvial sediment and the water column as underflow water. Groundwater quality from upland monitoring wells triggered use of Ambient Water Quality Criteria and DEQ Level II SLVs to determine hot spots requiring the extensive IRM cleanup remedy.

#### **Hot Spots**

Based on DEQ Guidance for Identification of Hot Spots (April 23, 1998), groundwater at the Koppers site was originally found to contain contaminant concentrations above federal Ambient Water Quality Criteria or DEQ Level II SLVs, thereby potentially adversely affecting the key beneficial use of groundwater: recharge to the Columbia River. This Mobile Hot Spot determination necessitated a site-wide groundwater remediation plan to stop COCs in upland groundwater from entering the Columbia River via bank seepage and underflow recharge. The IRMs for this Site are discussed in Section 5.

This Mobile Groundwater Hot Spot was addressed through the IRM, and has effectively eliminated adverse affects to the Columbia River. DEQ proposes that the various groundwater remedial measures made in the IRM are adequately protective of the Columbia River.

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#### 8. RECOMMENDATIONS

DEQ considers the Remedial Action Objectives for remediation of perched groundwater at the Site to have been met. This is evidenced by a record of groundwater quality consistently meeting DEQ Level II Screening Level Values at top-of-bank compliance wells.

The 2010 Easement and Equitable Servitudes for the Site specifies annual site inspection and reporting on performance of the upland remedy. These upland site inspections will continue.

Upon review of any public comments received during the month of October 2020, DEQ will prepare a Certificate of Completion for the successful remediation of perched groundwater at the Site. Success is indicated by perched groundwater at established top of bank compliance wells consistently meeting DEQ Level II Screening Level Values. Upon approval of project closure documents, a Certificate of Completion for perched groundwater will be recorded in DEQ's ECSI database (ECSI # 649).

The Certificate of Completion will be attached to the Consent Order LQVC-NWR-09-01 and Record of Decision until time DEQ withdraws these agreements. Land use restrictions prescribed in the 2010 Easement and Equitable Servitudes for the Site prohibit beneficial groundwater withdrawal and use, residential use of any type, and prohibit agricultural food crop use of any type. These restrictions include both perched and shallow water-bearing zones groundwater and will remain in effect unless otherwise specified by DEQ.

#### 9. ADMINISTRATIVE RECORD (Chronological Order)

- CH2M Hill. Remedial Investigation Report, Former Koppers Wood-Treating Site, May 2002.
- CH2MHILL, Supplemental Remedial Investigation Report, Former Koppers Wood-Treating Site, Wauna, Oregon, October 2003
- Geomatrix. Groundwater Seeps Interim Remedial Measure Alternatives Evaluation, Former Koppers Facility, Wauna, Oregon, prepared for Beazer East, Inc. and Georgia Pacific Corporation, July 31, 2003.
- Geomatrix. Conceptual Design Report, Groundwater Seeps Interim Remedial Measure, Former Koppers Facility, Wauna, Oregon, prepared for Beazer East, Inc. and Georgia Pacific Corporation, November 2003.
- Geomatrix. Groundwater Seeps Interim Remedial Measure Design Report, Former Koppers Site, Wauna, Oregon, prepared for Beazer East, Inc. and Georgia Pacific Corporation, April 23, 2004.
- Geomatrix. Revised Groundwater Seeps Interim Remedial Measure Design Report, Former Koppers Site, Wauna, Oregon, prepared for Beazer East, Inc. and Georgia Pacific Corporation, July 26, 2004.
- Anchor Environmental. Columbia River Phase I Sediment Investigation, Former Koppers Wood-Treating Site, Wauna, Oregon, November 2, 2004.
- AMEC Earth and Environmental, Inc. Human Health Risk Assessment, Former Koppers Wood Treating Site, Wauna, Oregon, March 2005.
- Anchor Environmental. Phase 2 Sediment Investigation Report, Former Koppers Wood-Treating Site, Wauna, Oregon, July 2005.
- Geomatrix. Groundwater Seeps Interim Remedial Measure Revised Construction Report, Former Koppers Site, Wauna, Oregon, June 2006.
- Windward Environmental, LLC. Ecological Risk Assessment: Former Koppers Wood-Treating Site, August 13, 2007.
- Geomatrix. Semiannual Monitoring Report, Groundwater Seeps Interim Remedial Measure, Former Koppers Facility, Wauna, Oregon, October 2007.
- AMEC Earth and Environmental, Inc. Human Health Risk Assessment Addendum, Columbia River Shoreline, December 2007.
- Geomatrix. Semiannual Monitoring Report, Groundwater Seeps Interim Remedial Measure, Former Koppers Facility, Wauna, Oregon, June 2008.

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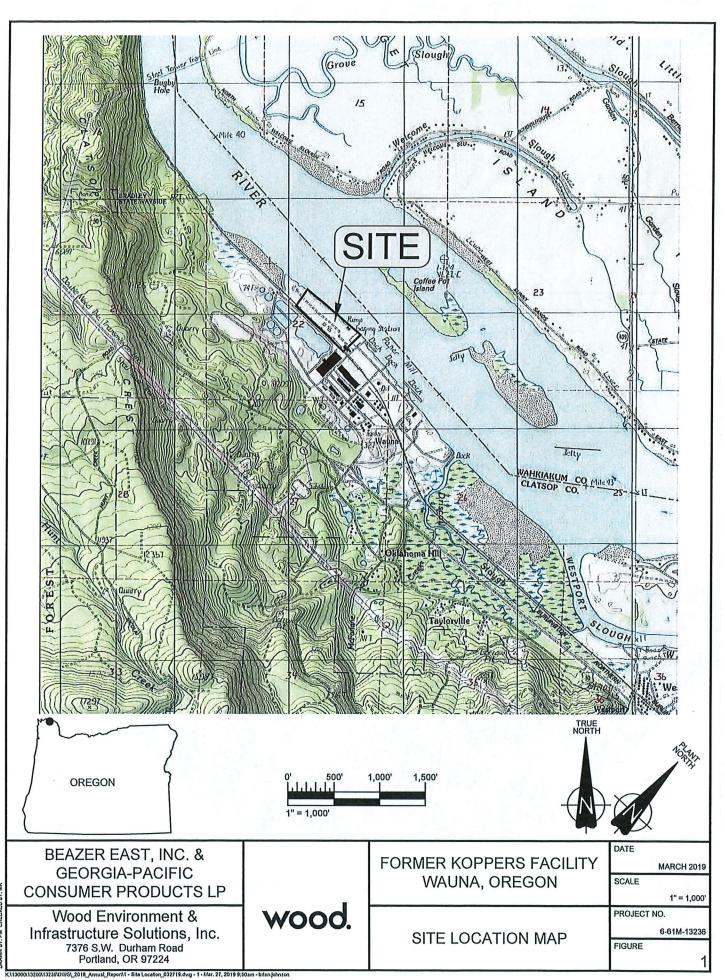
- Bridgewater Group, Inc. (Bridgewater), Feasibility Study, Former Koppers Wood-Treating Site, Wauna, Oregon, February 2009
- AMEC Geomatrix, Inc., Monitored Natural Attenuation Demonstration Work Plan, Former Koppers Wood Treating Facility, Wauna, Oregon, January 2010
- AMEC Environment & Infrastructure, Inc., Monitored Natural Attenuation Interim Evaluation, Former Koppers Facility, Wauna, Oregon: Prepared for Beazer East, Inc., Pittsburg, Pennsylvania, December 2012
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- Wood Environmental and Infrastructure, Revised Request for Discontinuation of Groundwater monitoring, Former Koppers Wood-Treating Facility, Wauna, Oregon. March 9, 2020

#### 10. ATTACHMENTS

#### Figures

- Figure 1, Former Koppers Facility Wauna, Oregon Vicinity map
- Figure 2, Location of Historical Operations, annotated aerial photograph, February 1, 1961
- Figure 3, Former Koppers Facility Wauna, Oregon Site Layout
- Figure 4, Groundwater elevations April 19, 2019 Former Koppers Facility Wauna, Oregon
- Figure 5, Former Koppers Site Wauna, Oregon Location of Hydrogeologic Cross-Sections
- Figure 6, Former Koppers Site North-South Schematic Hydrogeologic Cross Section A-A'
- Figure 7, Former Koppers Site North-South Schematic Hydrogeologic Cross Section B-B'
- Figure 8, Human Health Risk Assessment Conceptual Site Model (CSM)
- Figure 9, Ecological Risk Assessment Conceptual Site Model (CSM)

<u>Appendix A</u> Tabulated Groundwater Quality Lab Data and Groundwater Quality Data Trend Graphs



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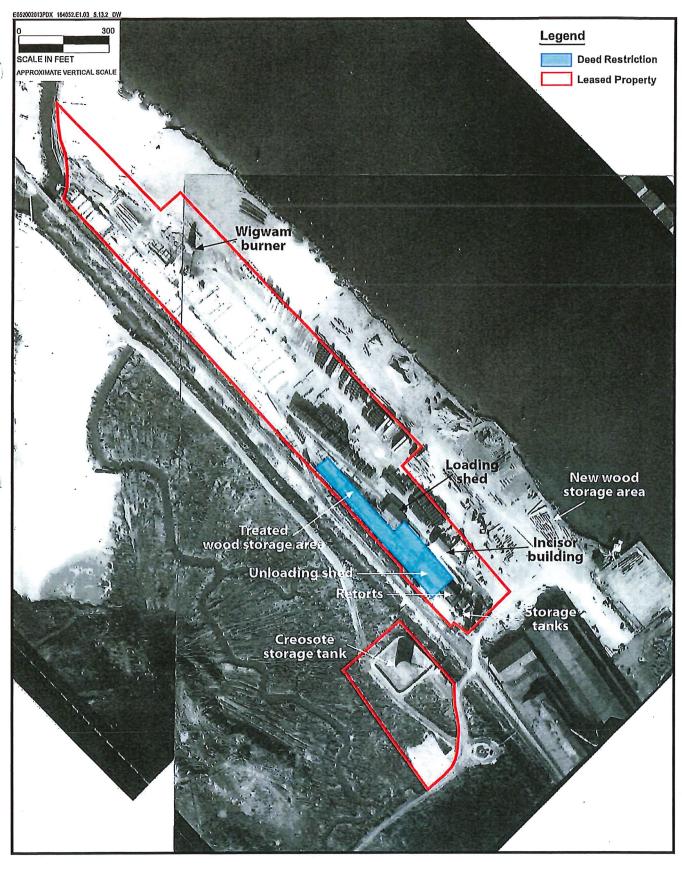
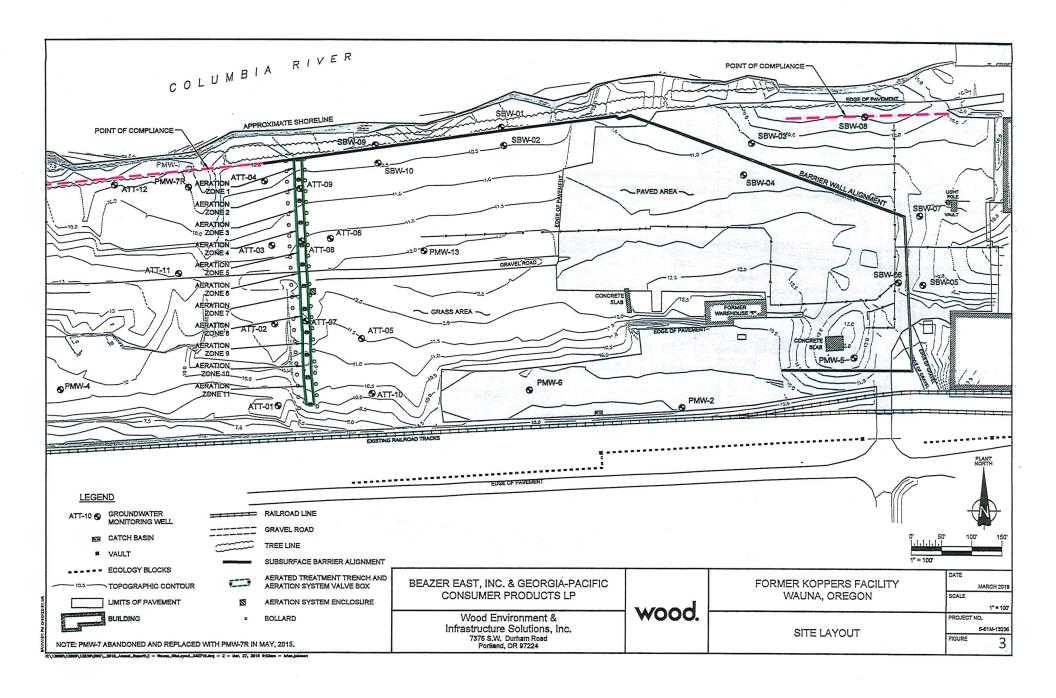
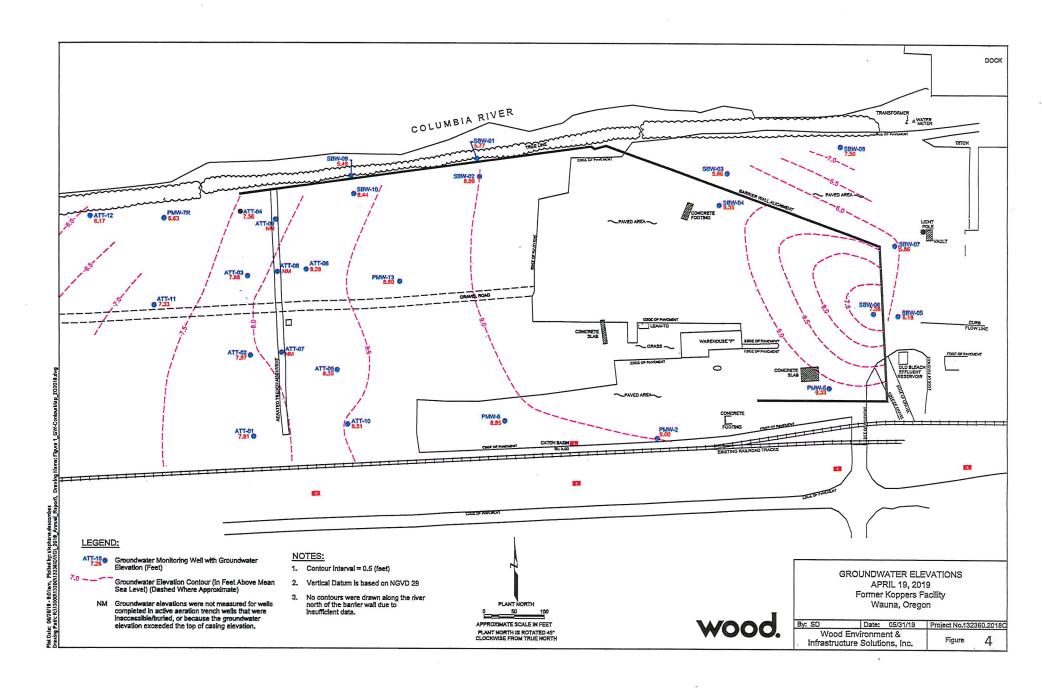


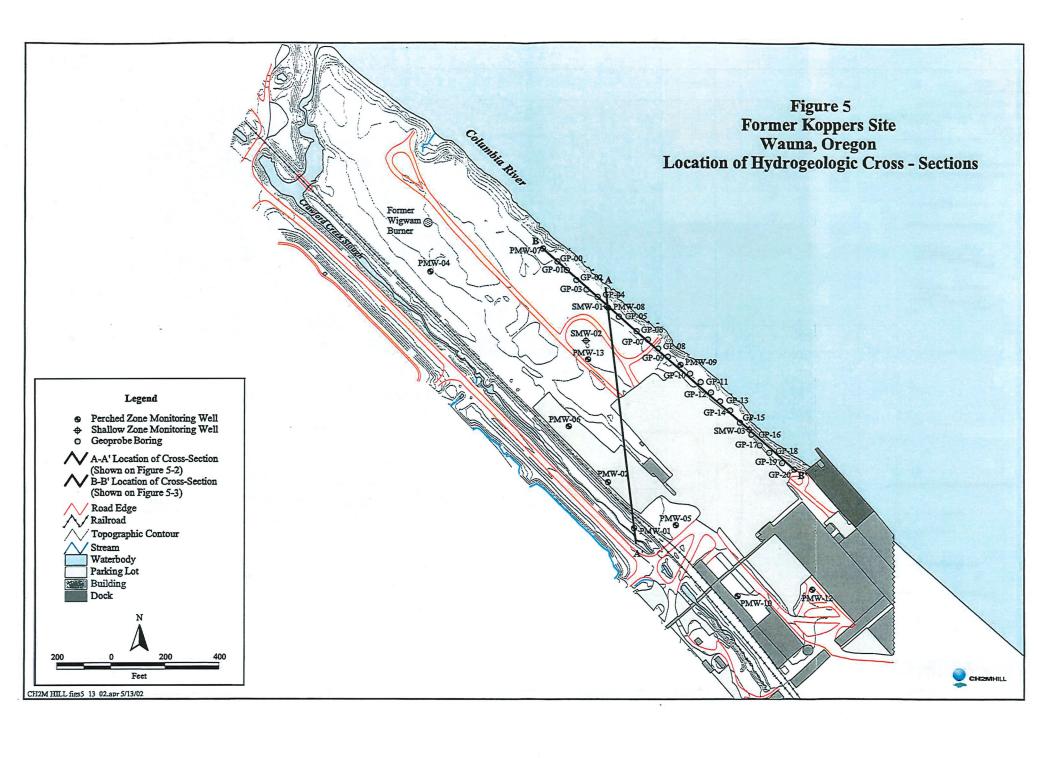


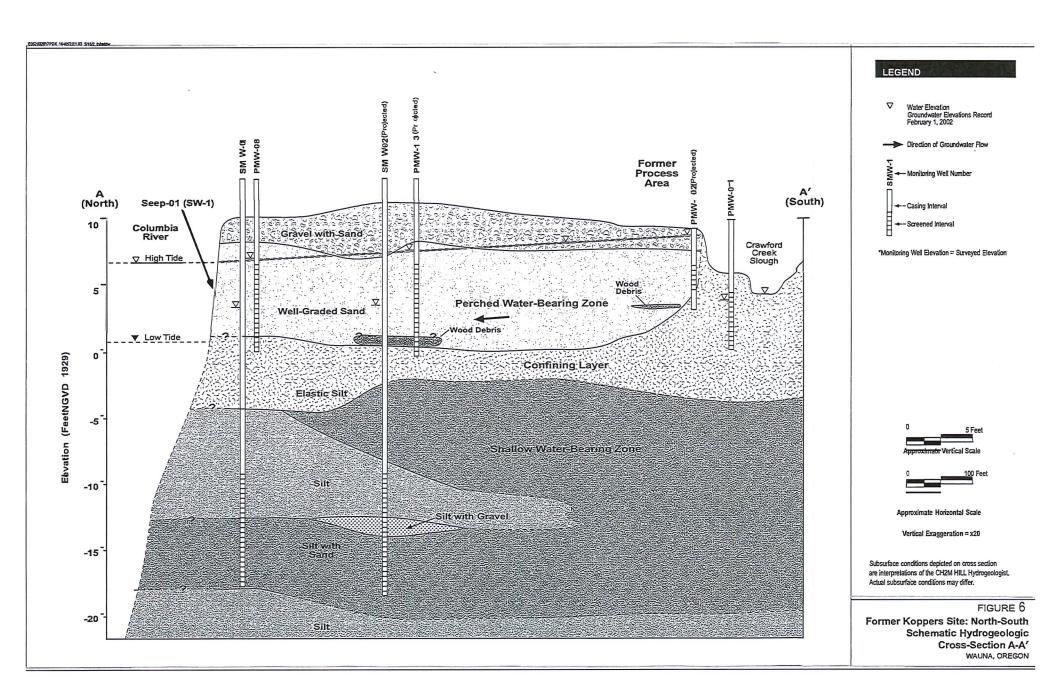
Figure 2 **Location of Historical Operations (2/1/61)** 

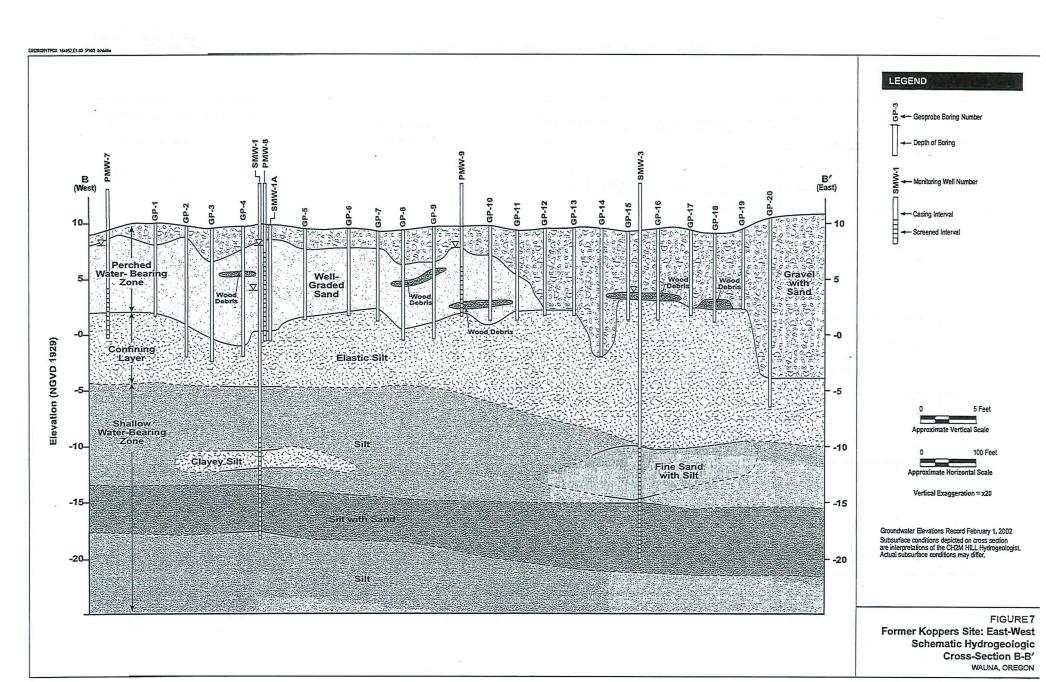
FORMER KOPPERS WOOD-TREATING SITE WAUNA, OREGON











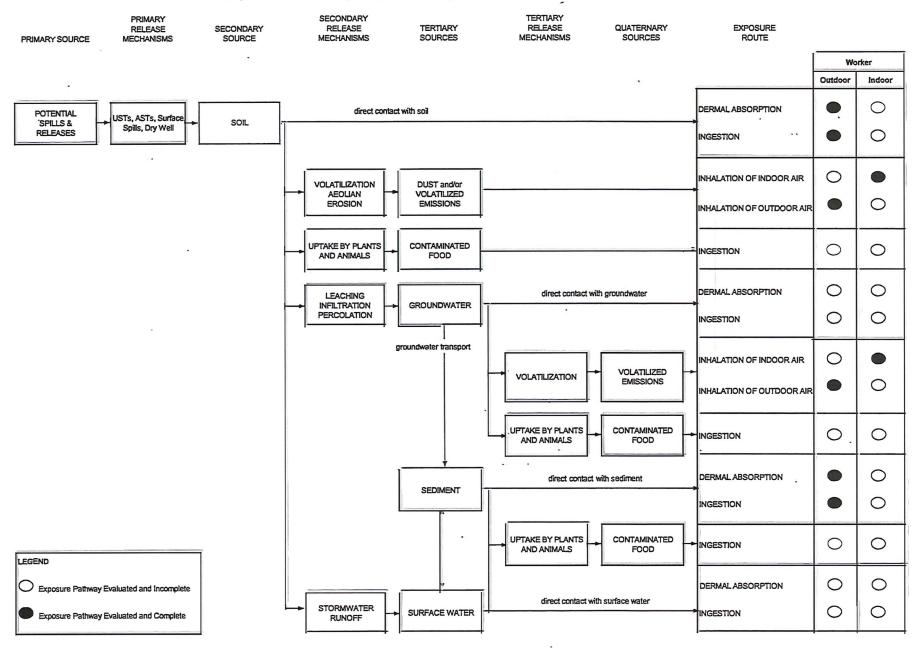
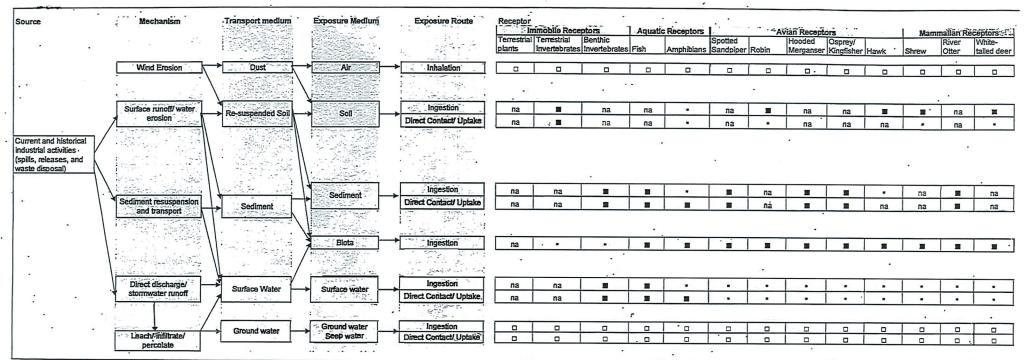


Figure 8. Human Health Conceptual Site Model (CSM)



■ Complete and major

Figure 9
Preliminary Ecological Risk
Conceptual Site Model (CSM)

<sup>\*</sup> Complete and minor

<sup>☐</sup> Incomplete pathway na not applicable

## Appendix A

## Tabulated Groundwater Analytical Data

Groundwater Quality Data Trend Graphs

## GROUNDWATER ANALYTICAL RESULTS<sup>1,2</sup> Final Site Remedy Former Koppers Facility Wauna, Oregon

	Level II	Western Polint Compliance Wahts ATT-12																					
	SLV3	CH.00 MRW/0 CH.00 Appl CH.01 Appl DENT Appl DENT Appl DENT Appl CH.02 Appl CH.02 Appl CH.03 Appl CH.04 Appl CH																					
Constituent	(var)	Oct-03	May-10	Oct-10	Apr-11	Dct-41	Apr-12	Dc1-12	23-344	0442	Lpr-13	Oct-12	April	0444	Apr-15	Oct-16	Apr-16	Oct-16	Apr-17	Oct-17	Apr-18	Oct-18	Apr-12
Ethylbenzone	7.3	1.0 U	1,0 U	1.0 U	0.049 U	1.0 U	0.049 U	0.0490 U	0.049 U	0.0490 U	0.049 Ú	1.0 U	0.050 U	0.050 U	0.060 J	0.060 J	0.050 J	0,10J	0.050 U	D.060 J	0.51 U	0.51 U	0.51 U
2-Methylphenol	13	D.48 U	0.48 U	0.48 U	0.12 U	. D.11 U	0.11 U	0.11 UJ	0.11 U	0.11 UJ	D.11 U	0.11 U	. 0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.3 U
Benzelcacid	42	4,8 U	4,811	4.8 UJ	1.2 U	1.1 U	1.1 U	2.5 J	1.1 U	2.5 J	1.1 U	1.1 U	1.1 U	2.2	. 1.11	2.2 U	2.0 J	1,1 U	2.6 J	1.1 U	0.96 U	0.89 U	0.92 U
Naphthalono	620	0.20 U	0.2011	0200	D.000.0	0,20 U	0.091 J	0.18 J	0.091 J	0.18 J	0.022 U	1.5	0.58	0.022 U	0.032 J	4.7	0.022 U	0.024 J	0.026 J	0.022 U	0.17 J	0.075 J	0.12 J
Olbenzefuran	3.7	0.20 U	0201	0.20 U	ט פרס.ס	0.0181	0.018 U	0.018 UJ	0.01a U ·	0.018 UJ	0.018 U	U 810.0_	_ U 810,0	D.018 U	_0.018 U	_ D.018 U	0.018 U	0.01a U	0.018 U	· 0.018 U	0.078 U	0 070 U	2.075 U
Fluorene	3.9	0.20 U	. 6.20 U	0201	0.028 U	0.027 U	0.027 U	0.027 UJ	0.027 U	0.027 UJ	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.072 U	U 200.0	0.069 1
Pentachlorophonol	15	U 38.0	0.961	0.56 U	0:35 U	0.34 1/	0.34 U	. D.34 UJ	0.34 U	0.34 UJ	0.34 U	0,34 U	0,34 U	0.34 U	0.34 U	· 0,34 U	0.34 U	0.34 U	0.34 U	0340	0.251	0,23 U	0.85 U
Phononthrono :	6.3	0.20 U	0.20 U	0.20 U	0.008 J	0.0384	0.031 J	0.0353	0.031 J	0,035 J	0.040 J	0:0043	0.0261	0,022 U	0.030 J	0.042 J	0.022 U	0.022 tr	0.022 U	0.0233	0.057 J	0.077 J	0.070 J
Fluorantheno	6,2	0.20 U	0.201	. 0,20 tt .	0.021 U	0.020 J	0.020 U	0.020 UJ	0.020 U	0.020 UJ	0.020 U	0,020 U	0.020 U	0.020 U	0,020 U	0.020 U	0,020 U	0,020 U	0.020 U	-0,020 U	0.063 U	0.056 U	0.051
bls (2-othyktoxyl)Phthala	3	0.96 U	U BOO	11 ag.D.	0.16J	0.13 U	0.13 U	0.21 J	0.13 U	0.21 J	0.13 U	0.13 U	0.78 J	0.22 J	0.13 U	0.19 J	0.13 U	0.13 U	0.13 U	0.13 U	4511	4.411	52 U

	Lavel II															Wes	ern Paint o	Compilan	ce Wells															
	SLV	,	PMW-7  Dec-05   Jun-07   Oct-07   Apr-06   Oct-08   Apr-08   Oct-08   Apr-09   Oct-09   Oct-09   Oct-10   Apr-11   Oct-11   Apr-12   Apr-09   Oct-09   Oct-09   Oct-09   Oct-10   Apr-11   Oct-11   Apr-12   Oct-11   Apr-12   Oct-12   Apr-09   Oct-09   Oct-0																						PMW-7	r/R1								
Constituent	(Jaco	Jun-36.	Dec-05	Jun-07	0d-07	Apr-06	Oct-06	Apr-08	Oct-08	Apr-09	Oct-09	Oct-09 Dup	M=Y-10	Oct-10	Apr-11	* Oct-11	Apr-12	Oct-12	Det-12 Duy	Apr-12	Oct-12	Apr-13	Oct-13	Apr-14	Oct-14	Apr-16 -	Dct-15	Apr-15	DcM6	ApM7	Oct-17	Apr-18	Oct-18	Anets
thylbanzana	7.3	0.13 U	0.13 UJ	0,2 UJ	0.2 UJ	~ 0.13 UJ	0.20 UJ	0.20 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1,0 U	0.049 U	1.0 U	0.049 U	0,0490 U	0,0490 U	0.049 U	0.0490 U	0.049 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U						
-Mathytphonol	13	8.5 U	0 34 UJ	0.12 UJ	0.11 UJ	028J	0.060 UJ	0.11 UJ	0.50 U	0.48 U	0.49 U	0.50 U	0.48 U	0.4B U	0.11 U	· 0.11 U	0.11 U	0.11 UJ	0.11 UJ	0.11 U	0.11 UJ	0.11 U	0.11 U	0.11 U			0.11 U				0.11 U		0.11 U	
Bonzolcocki	42	24 U	5.9 UJ	1.8 J	1.1 UJ	1.8 J	1.8 UJ	2.1 J	R	4.8 U	4.9 U	5.0 U	4,8 U	4.9 UJ	1.1 U	1.1 U	1.1 U	2.0 J	2.1 J	1.1 U	2.0 J	1.1 U	1.1 U	123	2.7	2,9	2.3 J	2.2 J	1.1 U	2.5 3			0.92 U	
Vaphthalono	620	9,5 U	0.45 J	0.083 J	0.059 J	0.13 J	0.012 UJ	0.66	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.069 J	0.20 U	L 030.0	0.022 UJ	0.022 UJ	D.060 J	0.022 UJ	0.022 U	0.030J	0.055 J	0.022 U	0.022 U	0,022 U	0.022 U	0.022 11	1.0.02211			0.059 U	
Olbenzefuren	3.7	9.5 U	0.33 UJ	0.019 UJ	0.018 UJ	0.014 UJ	0.014 UJ	0.018 UJ	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0,20 U	0.018 U	0.018 U	0.018 U	0.018 UJ	0.018 UJ	0.018 U	0.018 UJ	0.018 U	0.018 U	0.01a U	0.018 U	0.01a U	0.018 U	D.018 U	0.018 []	0.018 U	0.018.11	0.076.11	0.07311	0.073.1
luerone ·	3.9	9.5 U	0.33 UJ	0.029 UJ	0.027 UJ	0.012 UJ	0.012 UJ	0.027 UJ	0.20 U	0.20 U	020U	0.20 U	0.20 U	0.20 U	0.027 U	0.027 U	0.027 U	0.027 UJ	0.027 UJ	· 0.027 U	0.027 UJ	0.027 U	0,027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 11	0.027 11	0.072 11	0.069.0	1,000.0
Pentachlorophenol	15	24 U	2.5 UJ	0,36 UJ	0.34 UJ	0.029 UJ	0.028 UJ	0.34 UJ	1,0 UJ	D.96 U	0.97 U	1.0 U	0.96 U	0.97 U	0,34 U	0,34 U			0.34 UJ		0.34 UJ			0.34 U				0.34 U			0.34 1)			0.85 U
haranDitene.	6.3	9.5 U	2.3 J	0.024 UJ	D 022 UJ	0.034 J	0.011 UJ	0,022 UJ	0.20 U	0,20 U	0.20 U	. 0.20 U	0.20 U	0.2011	0.E27 U	ם מככו ע	0.020 U	0.022 UJ	0.022 UJ	0.020 U	0.022 UJ	0.022 U										7/60 0	0.055 J	
- Juans at hens	6.3	9.5 U	1.7 4	0.022 UJ	0.02 UJ	· 0.025 J	0.013 UJ	0.020 UJ	0.20 U	0.20 ປ	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U			0.020 UJ	0.020 UJ		0.020 UJ													
sis (2-othylhoxyl )Phthala	3	9.5 U	2.0 UJ	0.14 UJ	0.15 J	1.7 J	0.27 UJ	0.13 UJ	1.0 U	0,96 U	0,97 U	1.0 U	0.96 U	0.97 U	0.130	D.13 U	0.13 U	0.15 J	0.19 J	0,13 U		0.25 J	0.13 U	0.34 J	0.14 J	0.19 J	0.13 U			0.35 J		4.8 U	4.5 U	6.2 U

	Level II											Easte m P	nt of Com	Manc Well	3									
	SLV		SBW-08   S																					
CorretNumnt:	(PR/L)	30-nuL	Dec-05	Apr-06	May10	Oct-10	Aprels	Oct-11	Apr-12	Oct-12	Apr-13	Oct-13	Apr-14	Oct-14	Apr-15	Oct-15	Aprila	Oct-16	Apr-17	Oct-17	Apr-18	Oct-18	Apr-15	Aug-19
Ethylbenzona	7.5	D.13-U	מו בר,ם	0.13 UJ	1.0 U	1.0 U	0.049 U	0.049 U	0.049 U	1,00 U	0.049 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.060 J	0.050 U	0.51 U	0.51 U	0.51 U	1 -
2-Methylphenol	13	11 U	1.33	0.54	0.49 U	0.48 U	. 0.11 U	0.11 U .	0.11 U	0.11 UJ	0.11 U	. D.11 U	0.11 U	0.11 U	. 0.11 U	0.11 U	0,11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.29 U	0.0457 U
Benzelc ock	42	25 U	5.9 UJ	2.1 J	4,9 U	4.8 UJ	1.1 U	1.1 U	1.1 U	1,03	1.1 U	1.1 U	1.3 J	2.1	23	1.9 J	1.6 J	1.1 0	. 2.93	7,1 12	U 997.0	0.85 U .	U 86,0	2.34 U
Nachthalane	820	11 U	2.5 J	0.76	0.20 U	0.2017	1900	0,20 U	0,00t à	0.022 UJ	0.022 U	0.045 J	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	. 033	0.062 J	LIBRO	נט פר.ס	0.057 tt	D.0374 U
Olbenzefuran	3.7	11 U	வகம	0.12 J	0.20 U	0.20 U	0.018 U	0.01a U	0.018 U	0.018 UJ	0.018 U	0.01 a U	0.018 U	0.018 U	0:018'U	0.0181	U 810.0	0.01810	0.057 4	D:029 J	:0.07615	0.068 U	0.07 U	0.0187 U
Fluorano	3,9	11 U	0.463	0.23	שבמט	.0,200	0.027 U	0.027 U	0.027 U	0.027 UJ	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.99	0.77 .	0.072 U	0.064 U	026	Q.OLET U
Pentschietophenol	15	. วะบ	2.5 UJ	0.029 UJ	0.07 U	0.96 U	0.34 U	0.34 U	0340	0.34 UJ	0.341)	· 03(D	0.341	0.3411	0340	ט אכם .	034 11	0.34 U	0.34 U	03411	0.25 U	0,022 U	0.81 U	0.189 U
Phononihrono	6,3	11 U	2.9 J	DAR	0.20 U	0.20 U	0.022 U	0.022 U	0.022 U	0.022 UJ	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	2.1	1.4	0.075 J	0.052 J	0.45	0.0189 U
Fluoranthono	6.2	150	2.0 J	0.14 J	0.20 U	0.20 U	0.020 U	· 0.023 J	0.020 U	0.020 UJ	0.022 J	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	· 034	0.19 J	0.063 U	0.056 U	0.058 J	0.0187 U
tils (2-othylhoxyl) Phthalo	3	11 U	1.5 (1)	0.48 J	4.4 UJ	D.96 U	0.13 U	D.13 U	0.13 U	0.14 J	0.14 J	0.13 U	0.21 J	0.13 U	0.53	0.13 U	0.38 J	0,13 U	0.76 J	0.13 U	4.8 U	4.3 U	14	03741

	Level II													West	rnExterl of	Well - Noth	ern Flow Po	th												
	SLV		5 Dec65 Apr65 Cet-05 Jun-07 Oct-07 Apr-05 Cet-08 Apr-05 Ce																											
Constituent	(297-)	Jun-05	Dec-05	Apr-06	Oct-06	Jun-07	Oct-07	Apr-08	Oct-08	Apr-03	Oct-09	May-10	0ct-10	Apres	Oct-11	Apr-12	Oct-12	Apr-13	Oct-13	Apr-14	Ocs14	Apr-15	Oct-15	Apr-16	Oct-15	Apr-17	Oc1-17	Apr-18	· Oct-18	Apr-19
Ethylbonzono	7.3	0.13 U	0.13 UJ	0.13 UJ	0.20 UJ	0.2 UJ	0.2 UJ	0.20 UJ -	1.0 U	1.0 U	1.0 U	1.0 U	. 1.0 U	0,049 U	1.0 U	0.049 U ·	0.0490 U	0.049 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.51 U	0.51 U	0.51 U
2-MothyIntional	13	9.7 U	0.33 UJ	0.060 UJ	0.060 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.49 U	0.48 U	0.48 U	0.49 U	0.48 U	0.11 U	0.11 U	0.11 U	0.11 UJ	0.11 U	0.11 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.29 U
Benzolcacid	42.	25 U	5.9 UJ	1.8 UJ	1.8 UJ	2.5 J	1.1 UJ	1.6 J	R	4.8 U	4.8 U	4.9 U	4.8 UJ	1.1 U	1.1 U	1.1 U	1.7 J	1.1 U	1.1 U	1.1 U	2.1	1.2 U	2.2 J	1.4 J	1.1 U	2.6 J	1,1 U	0.92 U	U 26.0	0.89 U
Nephthalene	020	9.7 U	0.42 J	0.12 J	1.6	0.081 J	0.17 J	0.059 J	0.20 U	0.20 U	0.64	0.20 U	0.20 U	0.035 J	0.20 U	0.12 J	0.053 J	0.022 J	0.037 J	0.049 J	0.022 U	0.035 J	0.037 J	0.022 U	0.022 U	0.087 J	0.028 J	0.059 J	· 0.063 J	0 057 U
Dibercoluran	3.7	9.7 U	0.33 UJ	0.033 J	0,014 UJ	0,018 UJ	0,018 UJ	0,018 UJ	0.20U	0 20 U	0.20 U	0.20 U	0 20 U	0.018 U	0.018 U	0,018 U	0.018 UJ	0.018 U	0.018 U	0.018 U	0.01a U	0.019 U	0.018 U	0,018 U	0,018 U	0.018 U	0,018 U	0,073 U	0.070 U	0.07 U
Fluorene	3.9	9,7 U	0.46 J	0.041 J	0.012 UJ	0.027 UJ	0.027 UJ	0.027 UJ	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.027 U	0.027 U	0.027 U	0.027 UJ	0.027 U	0.027 U	0.027 U	0.027 U	0.028 U	0,027 U	0.027 U	0.027 U	0.029 J	0.027 U			0.05 U
Penlachlorophenol	15	25 U	2.5 UJ	0.029 UJ	0.029 UJ	0.34 UJ	0,34 UJ	0.34 UJ	UU 62,0	0.96 U	0.96 U	0.97 U	0.95 U	0.34 U	0.34 U	0.34 U	0,34 UJ	0.34 U	0,34 U	0.34 U	0.34 U	0.35 U	0.34 U	0.34 U	0.34 U	0.34 U	0,34 U	0.24 U	0.23 U	0.81 U
Phenembrane	6.3	97 U	26 J	0.12 J	UU 110.0	D.022 UJ	· 0.022 UJ	0.022 UJ	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.022 U	0.022 U	0,022 U	0.022 UJ	0,022 U	0.022 U	. 0.022 U	0.022 U	0.025 U	0.022 U	0.022 0	. B.022 U	0.220	0.022 0		0.053 U	
Fasorenthene ·	6.2	9,7 U	1.5 J	0,12 J	0.013 UJ	0.02 UJ	0.02 UJ	0.020 UJ	0,20 U	0,20 U	0.20 U	0.20 U	0,20 U	0.020 U	0,020 U	0.020 U	0,020 UJ	0.0200	0,020 U	0.020 U	0.020 U	0.021 U	0.020 U	0.020 U	0.020 U	D. 000 U	0.020 U	U 030,0	. U SZO O.	0.058 U
Dis (2-ethylhoxyl)Phthele	3 0	9,7 U ·	1.9 UJ	0.29 J ·	0,27 UJ	· 0.13 UJ	0,13 UJ	0,13 UJ	U 68,0	0,96 U	0,96 U	1.7 UJ	0.96 U	0,13 U	0,44 J	0.76	0,14 J	0,13 U	0.13 U	0.25 J	0,13 U	1.3	0.27 J	0.57 J	0.13 U	0.43 J	0.13 U	4.5 U	4411	c u

# GROUNDWATER ANALYTICAL RESULTS<sup>1,2</sup> Final Site Remedy Former Koppers Facility Wauna, Oregon

																_						_	-		_		_			_
	V													West	ern Exterior	Well - North	ern Flow Pa	th												
1	Level II															ATT-04														
	SLV <sup>3</sup>			4 00	Oct-06	Jun-07	Oct-07	Apr-08	Oct-08	Apr-09	Oct-09	May-10	Oct-10	Apr-11	Oct-11	Apr-12	Oct-12	Apr-13	Oct-13	Apr-14	Oct-14	Apr-15	Oct-15	Apr-16	Oct-16	Apr-17	Oct-17	Apr-18	Oct-18	Apr-19
Constituent	(yq/L)	Jun-05	Dac-05	Apr-06				***	001-08		001-03	11127-10	000	0.049 U	1.0 U	0.049 U	0.0490 U	0.049 LI	1011	0.050 U	0.050 U	0.050 U	0.050 J	0.050 U	0.050 U	0.050 U	0.050 U	0.51 U	0.51 U	0.51 U
Ethylbenzona	7.3	0.13 U	0.13 UJ	0.13 UJ	0.20 UJ	0.2 UJ	0.2 UJ	0.20 UJ	1.0 U	1.0 U	1.0 U	1.00	1.00				_		7.00		0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.11 U	0,11 U	0.11 U	0.10 U	0.3 U
2-Methylphonel	13	9.90	0.33 UJ	LU 030.0	0.060 UJ	0.11 UJ	0.11 UJ	0.11 W	0.49 U	0,48 U	0.48 U	0.48 U	0.49 U	D.11 U	0.11 U	0.11 U	0.11 UJ	0.11 U	0.11 U	0.11 U				_			_			_
Benzolc pold	42	25 U	5.9 UJ	1.8 UJ	1.8 UJ	1.8 J	1.1 UJ	1.7 J	R	4.8 U	4.8 U	4.8 U	4,9 UJ	1.1 U	1.1 U	1.1 U	2.0 J	1.1 U	1.1 U	1.1 U	2.3	1.1 U	1.8 J	1.33	1.1 U	2.6 J		0.96 U	0.89 U	D.92 U
			0.37 UJ	0.00	1,0 00	L 060'0		0.022 UJ	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.044 J	0.20 U	0.11 J	0.022 UJ	0.029 J	0.033	0.039 J	0.022 U	0.022 U	1.5	0.022 U	0.022 U	0.022 U	0.022 U	1.1 J	0.095 J	0.077 J
Naphthalone	520	9.9 U		0.92	3.1				_	0.20 U	0.19 U	0.20 U	0.20 U	0.018 U	0.018 U	0.018 U	0.018 UJ	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.019 U	0.018 U	0.018 U	0.018 U	0,018 U	0.076 U	0.070 U	0.073 U
Dibenzefuran	3.7	9.9 U	0.33 UJ	0.014 UJ	0.014 UJ		0.018 UJ								0.027 U	0.027 U		0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.028 U	0.027 U	0.027 U	0.027 U	0.027 U	0.072 U	0.066 U	U 690.0
Fluorene	3,9	U e.e	0,33 UJ	0.012 UJ	0.012 UJ	0.027 UJ	0.027 UJ	0.027 UJ	0.20 U	0.20 U	0.19 U	0.20 U	0.20 U	0.027 U			0.027 UJ		_	_				0.34 U	0.34 U		0,34 U	0.25 U		D.85 U
Pentachlorophenol	15	25 U	2.5 UJ	0.028 UJ	0.029 UJ	0.34 UJ	0.34 UJ	0,34 UJ	LU 89.0	0.98 U	0.95 U	0.96 U	0.97 U	0.34 U	0:34 U	0.34 U	0.34 UJ	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.35 U	_		0.34 U	_		0.23 U	
		9.9 U	2.0 J	0.023 J	0.014 111	0,022 UJ	0.022.111	0.022 11.1	0.20 U	0.20 U	0.18 U	0.20 U	0.20 U	0.022 U	0.022 U	0.022 U	0.022 UJ	0.022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.023 U	0.022 U	0.022 U	0.022 U		0.057 J	0.091 J	0.055 U
Phenanthrana	6.3										0.19 U	0.2011	0.20 U	0.020 U	0.020 U	0.020 U	0.020 U.J	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.021 U	0.020 U	0.020 U	0.020 U	0.020 U	U 630,0	0.058 U	0.06 U
Fluorentheno	8.2	0.90	1.43	D,013 UJ	0.013 UJ			0.020 UJ		0.20 U		0200				0.13 U	0.21 J	0.13 U	0.18 J	0.25 1	0.13 U	0.17 J	11	0.13 U	0.13 U	0.13 []	0,13 U	4.8 U	4.4 U	62 U
bla(2-othylhaxyl)Phthalat	3	9.9 U	1.9 UJ	0.27 UJ	0.27 UJ	0.16 J	0.13 UJ	0.13 UJ	U 80.0	U 88.0	0.95 U	U.96 U	0.97 U	0,13 U	0.13 U	0.13 0	U.21 J	0,13 0	0,103	0.233	0.150	07		000		20				

															- F. 4 - J 1	11 H	FP-													
	Level II													West	ern Exterior		ern Flow Pa	in												
																ATT-01														
	SLV	or	Dec-05	Apr-06	Oct-05	Jun-07	Oct-07	Apr-08	Oct-08	Apr-09	Oct-03	May-10	Oct-10	Apr-11	Oct-11	Apr-12	Oct-12	Apr-13	Oct-13	Apr-14	Oct-14	Apr-15	Oct-15	Apr-16	Oct-16	Apr-17	Oct-17	Apr-18	Oct-18	Apr-19
Constituent	(µq/L)	Jun-05	D4C-0B	Aprico								4.011	4.011	4.014	1.0 U	10	1,00 U	027 1	1.01	40	0.05 U	0.49.1	0.050 U	7.5	0.10 J	14	0.43 J	6.2	0.51 U	0.51 U
Ethylbergeno	7.3	0.13 U	0.13 UJ	0.13 UJ	0.20 UJ	0.2 UJ	0.2 UJ	0.20 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.00	1.0 U		13		02/0		-4.0		0.450		0.11 U	0.11 U	D.11 U	0.11 U	0.11 U		0.29 UJ
2-Methylphenol	13	70	0.33 UJ	0.000 UJ	LU 030.0	0.11 UJ	0.11 UJ	0.12 UJ	0.49 U	0.48 U	0.49 U	0.50 U	0.49 U	0.11 U	0.11 U	1.1 UD	0.11 UJ	0.11 U	0.11 U	0.11 U	0.11 U	0.22 U	0.11 U	_		0.11 U				
	_	20		1.8 UJ	1.8 UJ	1.3 J	1.1 UJ	1.7 J	D	4.8 U	4.9 U	5.0 U	4.9 UJ	1.1 U	1.1 U	11 UD	1.1 UJ	1.1 U	1.1 U	2.6 J	1.1 U	4.5 D	2.0 U, I	1.1 U	1.1 U	1.1 U	1.1 U	0.96 U	0.89U	0.89 UJ
Bonzolc acid	42	24 U	5.9 UJ				_						0.20 U	57 D	0.20 U	340 D	D.022 UJ	10.0	0.022 U	100 D	14	25 D	0.7	160 D	37 D	230 D	0.046 J	70 J	0.072 J	0,39
Naphthalens	620	9.6 U	0.37 UJ	0.071 J	0.20 U	0.033 J	0,043 J	0,17 J	0.20 U	0.20 U	0.20 U	0.20 U						130				0.17 JD	L 330.0	0.16 J	0.041 J	0.28	0.43	0.14 J	0.077 J	0.07 U
Dibenzoluran	3.7	9.6.0	0.33 UJ	0.014 UJ	0.014 UJ	0.018 UJ	0.018 W	0.019 UJ	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.018 U	0.018 U	0.15 UD	D.018 UJ	0.42	0.33	0.38	0,23			_	_	75.7		UIAI	0.0773	_
			0.33 UJ	0.012 UJ	0012111	0.027111	0.027 UJ	0.028 11.1	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.027 U	0.027 U	0.27 UD	0.10 J	0,54	0.52	0.63	0.52	0.80 D	0.46	0.88	0,6	1.9	2.6	1.2	1.7	1.3
Fluorene	3,9	9.6 U										1.0 U	0.98 U	0.34 U	0.34 U	3.4 UD	0.34 UJ	D.34 U	0.34 U	0.34 U	0,34 U	0.68 U	0.34 U	0,34 U	0.34 U	0.34 U	0,34 U	0.25 U	0.23 U	g.81 U
Pentachlorophenol	15	24 U	2.5 UJ	0.029 UJ	0.029 UJ			0,35 UJ	0.85 UJ	0.96 U	0.97 U										0.022 U	0.044 U	0.039 J	0.025 J	0.022 U	0.050 J	L 830.0	0,087 J	0.11 J	0.13 J
Phononthreno	6.3	gati	0.49 UJ	0.020 J	0.011 UJ	0.022 UJ	0.022 UJ	0.023 UJ	0,20 U	0.20 U	0.20 U	0,20 U	0.20 U	0.022 U	0.022 U	0.22 UD	0.022 UJ	0.22 U	0.022 U	0.029 J										
	8.2	9.6 U	0.68 UJ	0.013 UJ	0.013 UJ	0.02 UJ	0.02 UJ	0.021 UJ	0.20 U	0.20 U	D.20 U	0.20 U	0.20 U	0.020 U	0.021 J	0.20 UD	0.020 UJ	0.20 U	0.020 U	0.024 J	0.02 U	0.040 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.063 U	0.058 U	0.058 U
Fluoranthona										D.96 U	0.97 U	1011	0.98 U	0,13 U	0.13 U	1,3 UD	0.13 UJ	0.16 J	0.14 J	D.13 U	0.81	1.4 D	0.13 U	0.13 U	0.13 U	0.23 J	0.13 U	4.8 U	4.4 U	60
bis(2-othylhexyl)Phthalat	3	9.6 U	1.9 UJ	0.27 UJ	0.27 UJ	0.29 J	0.13 UJ	0.14 UJ	U 80.0	U.39G U	0.37 0	1.00	0.30 0	0.15 0	0.100	1,000	0.10 00									_				

	1													Weste	rn Exterior	Well - South	rn Flow Pa	th												
1	Leval II			-												ATT-02														
Constituent	(up/L)	Jun-05	Dec-05	Apr-06	Oct-05	Jun-07	Oct-07	Apr-08	Oct-08	Apr-09	Oct-03	May-10	Oct-10	Apr-11	Oct-11	Apr-12	Oct-12	Apr-13	Oct-13	Apr-14	Oct-14	Apr-15	Oct-15	Apr-16	Oct-16	Apr-17	Oct-17	Apr-18		Apr-19
Ethylbonzone	7.3	0.13 U	0.13 UJ	0.13 UJ	0.90 J	3.2	13	0.74 J	1.0 U	1.0 U	1.0 L	1.0 U	1,0 U	2	7.5	1.0 U	9	5.0 C	1.0 U	0.070 J	1.7 JD	5,0 D	12	1.6	1.0	6.6	42 D	13	2.7	17
2-Methylphenol	13	11 U	0,33 UJ	0.32 J	D.D60 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.50 U	0,48 U	0.48 U	0.50 U	0.50 U	0.11 U	1.1 U	0.11 U	0.11 UJ	0.11 U	0,11 U	0.11 U	0.11 U	2.2 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	1.5 U
Benzolc acid	42	26 U	5.9 UJ	1.8 UJ	1.8 UJ	1.1 UJ	1.1 UJ	1.8 J	R	4.5 U	4.8 U	5.0 U	5,0 UJ	1.1 U	11 U	1.1 U	1.1 UJ	2.2 U	1.1 U	1.4.1	1.1 U	22 U	2,1 U, I	1.9 J	1.1 U	2.9 J	5.5 U	0.96 U	0.89 U	4.6 U
Naphthalone	620	11 U	1.1 J	0.19 J	40 D	78 D	44 D	57 D	6.4	0,61	0.57	0.20 U	0.3	120 D	850 D	8.3	310 JD	320 D	140 D	50 D	500 D	840 D	500 D	170 D	10	280 D	1,500 D	160 D	52 U 6.7	0.65 J
Dibenzoluran	3.7	11 U	0.33 UJ	0.022 J	0.014 UJ	0.025 J	0.33	0.22	0.20 U	0.053 J	8.4 D	0.67	7.3 J	3.1	4.2	0.48	4.7	1.8 JD	6.8	0.65	3,2	0.49	22 D	4.5	14	0.653				
Fluorane	3,9	11 U	0.33 UJ	0.022 J	0,012 UJ	0.064 J	0.24	0.14 J	0.20 U	0.063 J	4.2 D	0.39	7.8 J	4.2	5,6	1.8	-11	7.2 D	18 D	5.1	13	4.9	0.34 U	0.25 U	0.23 U	4.2 U				
Pentachloropheno!	15	26 U	2.5 UJ	0.029 UJ	0.029 UJ	0.34 UJ	0.34 UJ	0.34 UJ	1.0 UJ	U 36,0	U 38.0	1.0 U	1.0 U	0.34 U	3.4 U	0.34 U	0,34 UJ	0.34 U	0.34 U	0.34 U	0.34 U	0.00	0.34 U	0.34 U	0.34 U	0.34 U	6.8	2.5	4.3	4.20
Phonanthrone	5.3	11 U	1.8 J	0.11 J	0.011 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.20 U	0.20 U	0.20 U	0.20 U	0,20 U	0,022 U	0.22 U	0.031 J	0.52 J	0,94	1.4	0.59	2.1	3.3 JD	3.8	7.7	0.020 U	1.5	0.023 J	0.063 U	_	02.0
Fluoranthene	6.2	11 U	1.3 J	0.056 J	UJ 610.0	0.02 UJ	0.02 UJ	0.020 UJ	0.20 U	0.020 U	0.20 U	0.020 U	0.020 J	0.020 U	0.020 U	0.020 U	0.020 U	0.40 U	0.020 U	0.020 U	0.020 U	0.020 U	0.13 U	4.8 U	0.058 U	31 U				
bla(2-ethylhexyl)Phthalat	3	11 U	1.9 UJ	0.54 J	0.27 UJ	0.57 J	0.13 UJ	LU 51.0	1.0 U	U 86.0	0.96 U	1.0 U	1.0 U	0.13 U	1.3 U	0.23 J	0.26 J	0.17 J	0.13 U	0.13 U	0.13 0	2.6 U	0.13 U	0.153	U.13 U	0,273	0.13 0	4.00	42.0	310

			CHANGE IN COLUMN																		
	Lavel II									Western E	xterior Wel	I-Southern	r Flow Path								
	SLV		ATT-01  ATT-01																		
Constituent		Oct-03	May-10	Oct-10	Apr-11	Oct-11	Apr-12	Oct-12	Apr-13	Oct-13	Apr-14	Oct-14	Apr-16	Oct-15	Apr-16	Oct-15	Apr-17	Oct-17	Apr-18	Oct-18	Apr-1
	(µg/L) 7,3	_	1.0 U	1.0 U	0.049 U	1.0 U	0.049 U	D.D490 U	D.D49 LI	1.0 U	0.050 U	0,050 U	0.050 U	0.20 J	0,34 J	0.050 J	0.050 U	0.29 J	0.51 U	0.51 U	0.51
Ethylbenzano		1.0 U			0.11 U	0.11 U	0.11 U	0.11 UJ	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.891
2-Methylphenol	13	0.49 U	0.51 U	0.45 U					1.1 U		1.1 U	1.1 U	1.1 11	2.0 U. I	1.6 J	1.1 U	2.5.1	1.111	0.92 U	0.89 U	0.89
Senzolc acid	42	4.9 U	5.1 U	4.8 UJ	1.1 U	1.1 U	1.1 U	2.1 J		1.1 U			1.10		40	110			0.48 J	0.59 J	0.082
Naphthalone	620	0.20 U	1.5	8.5	1.6	42	1.2	4.4 J	0.4	0.022 U	2.3	0.15 J	17	43 D	13	1.4	0.67	3			
Dibenzefuran	3.7	0.20 U	0.21 U	0.20 U	0.018 U	0.018 U	0.018 U	0.015 UJ	0.018 U	0.018 U	U 810.0	U 810.0	0.018 U	0.21	0,018 U	0.015 U	0.018 U	0.16 J	0.073 U	0.072	0.07
Fluorene	3.9	0.20 U	0.21 U	0.20 U	0.027 U	0.027 U	0.027 U	0.027 UJ	0.027 U	0.027 U	0.027 U	0.027 U	0.027 U	0.4	0,027 U	0.030.1	0.027 U	0.72	0.069 U	0.42	0.068
Pentachlorophonol	15	0.97 U	1.1 U	0.96 U	0.34 U	0.34 U	0.34 U	0.34 UJ	0,34 U	0.34 U	0,34 U	0.34 U	0.34 U	0.34 U	0,34 U	D.34 U	0.34 U	0.34 U	0.24 U	0,23 U	0.81
	6.3	0.20 U	0.21 U	0.20 U	0.022 U	0.022 U	0.022 U	0.022 UJ	0.022 U	0.022 U	0.022 U	0.022 U	0,022 U	0.022 U	0.022 U	0.022 U	0.022 U	0.023 J	0.055 U	0,066	0.076
hononthrene	_					0.020 U	0.020 U	0.020 UJ	0.025 J	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.060 J	0.058 J	0.058
-luoranthon#	6.2	0.20 U	0.21 U	0.20 U	0,020 U	-1000									0.16 J	0.19 J	0.35 J	0.13 U	4.6 U	4.4 U	6 U
I m the disease Distington	2	0.0711	1111	0.9611	0.13.11	0.13 U	0.13 U	0.15 J	0.161	0.13 U	0.13 U	0.13 U	0.13 U	0.95 J	U.16 J	0.193	0.35 1	0.13 0	4.5 U	4.0	0.0

#### GROUNDWATER ANALYTICAL RESULTS1,2 Final Site Remedy Former Koppers Facility Wauna, Oregon

	Level II														Wester	m Interior W	ell													
Constituent	SLV <sub>3</sub>	Jun-05	Dec-05	Apr-06	Oct-05	Jun-07	Oct-07	Apr-08	Oct-08	Apr-03	Oct-09	May-10	Oct-10	Apr-11	Oct-11	ATT-05 Apr-12	Oct-12	Apr-13	Oct-13	Apr-14	Oct-14	Apr-15	Oct-15	Apr-15	Oct-16	Apr-17	Oct-17	4==40	0-140	
thylbenzene	7.3	3.6	5.5	8.7	65.0	42	74	8.0	75	9.7	24	B	43	3.9	36	5.2	40.6	7.2 C	10	4.5	15 D	4.4	63	5.7	22 D	4.9	44 D	Apr-18	Oct-18	Apr-19
-Methylphenol	13	9.7 U	0.33 W	0.30 UJ	0.060 UJ	0,11 UJ	1.1 UJ	1.1 UJ	D.49 U	0.48 U	0.50 U	0.52 U	25 U	0.11 U	1.1 U	1.1 U	0,11 UJ	0,11 U	0.11 U	0.11 U	D.11 U	0.22 U	0.11 U	0,11 U	0.11 U	0.11 U	0.11 U	0.11 U	2.5 U	0.291
enzolc acid	42	25 U	5.9 UJ	8.6 UJ	150 UJ	1.1 UJ	11 11	11 UJ	R	4.5 U	5.0 U	5.2 U	250 UJ	1.1 U	11 U	11 U	22 J	1.1 U	1.1 U	1.1 U	1.1 U	2.2 U	1.1 U	231	1.1 U	1.1 U	5.5 U	0.11 0	2.5 U	0.89 L
aphthalone	620	100	210 D	350 D	2,800	420 D	2,400 D	330 D	2,500 D	390 D	350 D	280 D	1,100 D	260 D	870 D	420 D	1,400 JD	210 D	2.4	0.21	170 D	0.044 U	2.000 D	250 D	600 D	0.022 U	1,800 D	220 D	480 U	180
lbenzofuren	3.7	9.7 U	1.1 J	1,2 D	3.4	4.2	11 D	4.7 D	14	6.5	11	4.4	9.7 U	4.7	7.5 D	6.3 D	2.6 J	8.6	0.4	6.5	6.1	5,5 D	17	8.8	14	7,3	28 D	6.2	11.1	5.8
lugrene	3.8	9.7 U	1.9 J	2,1 D	4.9	4.3	0.27 UJ	5.5 D	12	7.4	12	5.1	9.7 U	5.5	9.8 D	7.5 D	12 J	11	12	8.8	9.4	7.6 D	28 D	11	25 D	11.0	42 D	8.9	18	3.8
entachlorophenol	15	25 U	2.5 UJ	0.15 UJ	0.029 UJ	0,34 UJ	3,4 UJ	3,4 UJ	0.98 UJ	0.96 U	0,99 U	1.1 U	49 U	0.34 U	3.4 U	3.4 U	0.34 UJ	0.34 U	0.34 U	0.34 U	0.34 U	0.68 U	0.34	0,34 U	0,34 U	0,34 U	0.34 U	0.25 U	5.6 U	0.81
honanthrone	6,3	9.7 U	0.49 LU	0.071 JD	0.32	0.32	0.78 JD	1,1 JD	1.9	1.6	2.4	1.3	9.7 U	1.5	2.5 D	2.0 JD	3.5 J	2.5	2.4	2.2	2.8	1.8 D	6,3	2.8	5,4	2.7	11	3.0	5.5	3.0
Jugrantheno	6.2	9.7 U	0.68 UJ	0.061 UJ	0.013 UJ	.021 J	0.2 UJ	0.20 UJ	0.20 U	0.20 U	0.20 U	0.21 U	9.7 11	0.021 J	0.20 U	0.20 U	0.025 J	0.078 J	0.020 U	0.021 J	0.020 U	0.040 U	0.047 J	0.020 U	0.035 J	0.024 J	0.072 J	0.063 J	1.4	0.058
ola (2-ethylhexyl) Phthalat	3	8.7 U	1.9 UJ	1.4 UJ	0.27 UJ	0.2 J	1.3 UJ	1.3 UJ	0.98 U	0.98 U	0.99 U	1.1 Ц	49 U	0.15 J	1.3 U	1.3 U	0.14 J	0.17 J	0.13 U	0.59 J	0.13 U	0.26 U	0.13	0.13 U	0.14 J	0.97 U	0.13 U	4,8 U	110 U	6 U
																	4.1.1.4				- 0.100	0200	0.10	0.100	0.14.5	0.37 0	0.130	4.00	1100	60
	Lavel II														Wester	n Interior W	ell													
	SLV														Heate	ATT-06	en .													
Constituent	(natr)	Jun-05	Dec-05	Apr-06	Oct-06	Jun-07	Oct-07	80-1qA	Oct-08	Apr-09	Oct-03	May-10	Oct-10	Apr-11	Oct-11	Apr-12	Oct-12	Apr-13	Oct-13	Apr-14	Oct-14	Apr-16	Oct-15	Apr-16	Oct-16	Apr-17	Oct-17	Apr-18	Oct-18	Apr-1
thylbenzono	7.3	34	26	14	5.8	4.0	4.4	23	5.9	16 J	1.0 U	11	2.4	23	2.1	15	1.00 U	7.5 C	1.0 U	2.6	0.11.1	56	0.64	8.5	0,16 J	7,9 J	5,1	3.4 U		_
-Methylphenol	13	9.7 U	0.34 UJ	0.30 UJ	0.080 UJ	0.12 UJ	0.11 UJ	1.1 UJ	0.50 U	0.48 U	0.49 U	D.49 U	4.9 U	0.11 U	1.1 U	0.55 UD	0.11 UJ	0.11 U	0.11 U	0.11 U	0.11 U	0.55 U	0.11 U	0.11 U	0.15 U	0.11 U	0.11 U		0,51 U	0.51 1
Senzolc acid	42	25 U	5.9 UJ	8.5 UJ	1.5 UJ	1.2 UJ	1.1 UJ	11 UJ	0.30 U	4.8 U	4.9 U	4.9 U	49 UJ	1.1 U	11 U	5.5 UD	2.8 J	1.1 U	1.1 U	1.2 J	2.1	5.5 U	1.9 U. I	1.1 U				0.11 U	0,10 U	0.3 U
Naphthalene	520	190.0	580 D	380 D	180 D	250 D	110 JD	800 D	180 D	650 D	0.20 U	0.46	97 D	590 D	110 D	300 D	7.5 J	1.1 U	5.7	33 D		53 U 62 D		110 D	1.1 U	1.1 U	1.1 U	0.96 U	0.85 U	0.92 1
Naphthalana Dibenzefuran	3.7	9.7 U	2.1 J	1.2 D	0.48	7.2	2.0 J	13 D	2.5	8.6	0.20 U	2.4	2.0 U	590 D	0,93 JD	2.3 D	0.45 J	1.8	0.51	0.97	0.28	1.2 D	7.0	2.3	0.62	180 D	120 D	36 J	0.090 J	1.2 J
	3.7	10	743	7.1 D	8.1	16 JD	8.5.1	23 D	10	20 D	0.20 0	12	10 0	18	13 D	14 D										5,0	4.2	1.7 J	0.34 J	0.30 J
Fluarano					0.029 UJ	0.36 UJ	0.34 UJ	3.4 UJ	1.0 UJ	0.95 U							3.6 J	15 D	4.6	3,5	2.8	8.7 D	8.5	9.2	3.4	13.0	12.0	4,9 J	2.0 J	1.9 J
Pentachlorophonol	6,3	25 U	2.5 UJ	0.15 UJ	2.2	2.8	2.2 J	4.9 D	3,4	7.4	0.97 U 0.20 U	0.97 U	9.8 U	0.34 U	3.4 U	1.7 UD	0.34 J	0,34 U	0,34 U	0.34 U	0.34 U	1.7 U	0.34 U	0,34 U	0.34 U	0.34 U	0.34 U	0.25 U	0.22 U	0.85 U
Phonanthrene		g.7 U		2.4 D						0.20 U	0.20 U	0.20 U	2.0 U	0.049 J	6.3 D	0,10 UD	1.5.J 0.020 UJ	6.8 0.025 J	1.9 0.020 U	0.041 J	1.3 0.020 U	3.7 D 0.10 U	0.12 J	0.029 J	1,3 0,020 J	7.1	7.3	2.6 J	0.38 J	0.7 J
Fluoranthene	6.2	9.7 U	0.65 UJ	0.080 JD	0.013 UJ	0.031 J	0.025 J	0.20 UJ	0.20 U																	0.051 J	0.075 J	0.063 J	0.056	
Fluoranthene bls(2-ethylhexyl)Phthololo	6.2 3	9.7 U 9.7 U	2.0 W	0.080 JD 1.4 UJ	0.013 UJ 0.27 UJ	0.031 J 0.14 UJ	0.025 J 0.13 UJ	1.2 UJ	1.0 U	0.20 U	0.97 U	0.97 U	9.8 U	0.13 U	1.3 U	0.05 UD	0.22 J	0.13 U	0.13 U	0.23 J	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	2.2 J	0.0753 0.13 U	4.5 U	0.056 4.3 U	6.2 U
	3														1.3 U	0.05 UD	0.22 J													
	3 Level II														1.3 U Wexter	0.05 UD	0.22 J													
	3												9.8 U	0.13 U	1.3 U Wester	0.05 UD	0.22 J	0.13 U	0.13 U	0.23 J		0.65 U	0.13 U	0.13 U	0.13 U	221	0.13 U	4.5 U	4.3 U	6.2 U
bia(2-athylhexyl)Phthalalo Constituent	Level II SLV <sup>3</sup> (µg/L)	9.7 U Jun-06	2.0 W	1.4 UJ Apr-06	0.27 UJ	0.14 UJ	0.13 UJ	1.3 UJ Apr-08	1.0 U	0.96 U Apr-09		0.97 U May-10	9.8 U	0.13 U	1.3 U Wexter	0.05 UD	0.22 J	0.13 U Apr-13	0.13 U	0.23 J Apr-14		0.65 U	0.13 U	0.13 U	0.13 U Oct-16	2.2.J Apr-17	0.13 U	4.5 U Apr-18	4.3 U Oct-18	6.2 U
bia(2-ethylhexyl)Phtholoto  Constituent  Ethylbonzono	3 Level II SLV <sup>3</sup> (µg/L) 7,3	9.7 U Jun-06	Dec-05	1.4 UJ Apr-06 NA*	0.27 UJ Oct-06 7.4	0.14 UJ Jun-07 NA*	0.13 UJ Oct-07 NA*	Apr-08	1.0 U Oct-08 NA4	0.96 U Apr-09 23 J		0.97 U May-10	9.8 U	0.13 U Apr-11 23.0	Wester AT Oct-11	0.05 UD	0.22 J	0.13 U Apr-13 7.8 C	0.13 U Oct-13	0.23 J Apr-14 2.0		0.65 U Apr-15 6.3	0.13 U Oct-15	0.13 U Apr-16 6.4	0.13 U Oct-16 NA	2.2 J Apr-17	0.13 U Oct-17 5.5	4.5 U Apr-18 4.2	4.3 U Oct-18 0.51 U	Apr-19
bia(2-ethylhexyl)Phthololo  Conjulituent  Ethylborzono 2-Methylphonol	3 Level II SLV <sup>3</sup> (µg/L) 7.3 13	9.7 U Jun-06 NA* 9.8 U	2.0 W Dec-05 NA* 0.34 W	1.4 UJ  Apr-06  NA*  0.30 UJ	0.27 UJ Oct-06 7.4 0.060 UJ	0.14 UJ  Jun-07  NA <sup>4</sup> 0.11 UJ	0.13 UJ  Oct-07  NA*  0.11 UJ	Apr-08 NA* 1.1 UJ	0ct-08 NA4 0.48 U	0.96 U Apr-09 23 J 0.50 U		0.97 U May-10 11.0 0.48 U	9.8 U Oct-10 2.2 4.9 U	0.13 U Apr-11 23.0 0.11 U	1.3 U  Wexter  AT  Oct-11  2  1.1 U	0.05 UD	0.22 J	0.13 U Apr-13 7.5 C 0.11 U	0.13 U Oct-13 1.0 U 0.11 U	0.23 J Apr-14 2.0 0.11 U		Apr-16 6.3 0.55 U	0.13 U Oct-15 0.11 0.11 U	0.13 U Apr-16 6.4 0.11 U	0.13 U Oct-16 NA 0.11 U	2.2 J Apr-17 12 0.11 U	0.13 U Oct-17 6.6 0.11 U	Apr-18 4.2 0.11 U	0.51 U 0.10 U	Apr-19 0.51 U 0.31
bla(2-othylhexyl)Phthalaio  Constituent  Ethylbonzono  2-Methylphonol Benzolc acid	3 Level II SLV <sup>3</sup> (µg/L) 7.3 13	9.7 U  Jun-06  NA <sup>4</sup> 9.6 U  24 U	2.0 W Dec-05 NA* 0.34 W 5.9 W	1.4 UJ Apr-06 NA* 0.30 UJ 8.6 UJ	0.27 UJ Oct-06 7.4 0.060 UJ 1.8 UJ	Jun-07 NA <sup>4</sup> 0.11 UJ 1.8 J	0.13 UJ Oct-07 NA* 0.11 UJ 1.1 UJ	Apr-08 NA <sup>4</sup> 1.1 UJ 11 UJ	0ct-08 NA4 0.48 U R	Apr-09 23 J 0.50 U 5.0 U		May-10 11.0 0.45 U	9.8 U Oct-10 2.2 4.9 U 49 UJ	0.13 U Apr-11 23.0 0.11 U 1.1 U	13 U  Wester  AT  Oct-11  2  1.1 U  11 U	0.05 UD	0.22 J	Apr-13 7.8 C 0.11 U 1.1 U	0.13 U Oct-13 1.0 U 0.11 U 1.1 U	0.23 J Apr-14 2.0 0.11 U 1.1 U		Apr-15 6.3 0.55 U 5.5 U	0.13 U  Oct-15  0.11  0.11 U  2.0 U, I	0.13 U  Apr-16  6.4  0.11 U  1.1 U	0.13 U  Oct-16  NA  0.11 U  1.1 U	Apr-17 12 0.11 U 2.6 J	0.13 U  Oct-17  5.6  0.11 U  1.1 U	Apr-18 4.2 0.11 U 0.92 U	0.51 U 0.10 U 0.85 U	Apr-19 0.51 U 0.31 0.96 U
bla(Z-ethylhexyl)Phthalato  Constituent  Ethylbonzono  2-Methylphenol  Benzolc add Naphthaleno	3 Level II SLV <sup>3</sup> (µg/L) 7,3 13 42 620	9.7 U  Jun-06  NA*  9.8 U  24 U  190.0	2.0 W Dec-05 NA* 0.34 UJ 5.9 UJ 690 D	1.4 UJ  Apr-06  NA*  0.30 UJ  8.6 UJ  380 D	0.27 UJ Oct-06 7.4 0.050 UJ 1.8 UJ 160 D	Jun-07 NA* 0.11 UJ 1.8 J 300 D	0.13 (J) Oct-07 NA* 0.11 UJ 1.1 UJ 53 JD	Apr-08 NA* 1.1 UJ 11 UJ 920 D	0ct-08 NA4 0.48 U R	Apr-03 23 J 0.50 U 5.0 U 410 D		May-10 11.0 0.48 U 4.8 U 0.36	9.8 U Oct-10 2.2 4.9 U 49 UJ 94 D	Apr-11 23.0 0.11 U 1.1 U 670 D	Mester AT Oct-11 2 1.1 U 11 U 120 D	0.05 UD	0.22 J	Apr-13 7.8 C 0.11 U 1.1 U 150 D	0.13 U Oct-13 1.0 U 0.11 U 1.1 U 5.1	0.23 J Apr-14 2.0 0.11 U 1.1 U 28 D		Apr-15 6.3 0.55 U 5.5 U 53 D	0.13 U  Oct-15  0.11  0.11 U  2.0 U, I	0.13 U Apr-16 6.4 0.11 U 1.1 U 110 D	0.13 U Oct-16 NA 0.11 U 1.1 U 2.4	Apr-17 12 0.11 U 2.6 J 190 D	0.13 U  Oct-17  5.6  0.11 U  1.1 U  120 D	Apr-18 4.2 0.11 U 0.92 U 82 DJ	0.51 U 0.85 U 0.055	Apr-19 0.51 U 0.31 0.96 U 0.55 J
bla(Z-othylhexyl)Phthalato  Constituent  Ethylbonzono  2-Methylphonol  Benzolc add  Naphthaleno  Olbenzefuran	3 Level II SLV <sup>3</sup> (µq/L) 7.3 13 42 620 3.7	9.7 U  Jun-06  NA*  9.6 U  24 U  190.0  9.6 U	2.0 W Dec-05 NA* 0.34 W 5.9 W 690 D 2.5 J	Apr-06 NA* 0.30 UJ 8.6 UJ 380 D	0.27 UJ Oct-06 7.4 0.060 UJ 1.8 UJ 160 D 0.48	Jun-07 NA <sup>4</sup> 0.11 UJ 1.8 J 300 D 7.3	0.13 UJ Oct-07 NA* 0.11 UJ 1.1 UJ 53 JD 1.1 J	Apr-08 NA* 1.1 UJ 11 UJ 920 D 11 D	0ct-08 NA4 0.48 U R 160 D	Apr-03 23 J 0.50 U 5.0 U 410 D 7.8		May-10 11.0 0.48 U 4.8 U 0.36 2.1	9.8 U Oct-10 2.2 4.9 U 49 UJ 94 D 2.0 U	0.13 U Apr-11 23.0 0.11 U 1.1 U 670 D 4.3	1.3 U  Wexter  AT  Oct-11  2  1.1 U  11 U  120 D  0.90 JD	0.05 UD	0.22 J	Apr-13 7.8 C 0.11 U 1.1 U 150 D	0.13 U Oct-13 1.0 U 0.11 U 1.1 U 5.1 0.6	0.23 J Apr-14 2.0 0.11 U 1.1 U 28 D 0.84		Apr-15 6.3 0.55 U 5.5 U 53 D 0.96 JD	0.13 U  Oct-15  0.11  0.11 U  2.0 U, I  0.56 J  0.1	Apr-16 6.4 0.11 U 1.1 U 110 D 22	0.13 U Oct-16 NA 0.11 U 1.1 U 2.4 0.53	2.2 J Apr-17 12 0.11 U 2.6 J 190 D 5.0	0.13 U  Oct-17  6.6  0.11 U  1.1 U  120 D  4.5	Apr-18 4.2 0.11 U 0.92 U 82 DJ 2.6	0.51 U 0.51 U 0.85 U 0.055 0.25 J	Apr-19 0.51 U 0.31 0.96 U 0.55 J 0.20 J
bis (2-ethylhexyl)Phthalato  Constituent  Ethylbonzano  2-Methylphenal  Benzolc acid Naphthalano  Olbenzoltran  Pluorane	3 Level II SLV <sup>3</sup> (µg/L) 7.3 13 42 620 3.7 3.9	9.7 U  Jun-06  NA*  9.6 U  24 U  190.0  9.6 U  11	2.0 W Dec-05 NA* 0.34 W 5.9 W 690 D 2.5 J 8.6 J	Apr-06 NA* 0.30 UJ 8.6 UJ 380 D 1.1 D 6.4 D	0.27 UJ  Oct-06  7.4  0.050 UJ  1.5 UJ  160 D  0.48  8.4	Jun-07 NA <sup>4</sup> 0.11 UJ 1.9 J 300 D 7.3 18 JD	0.13 UJ Oct-07 NA* 0.11 UJ 1.1 UJ 53 JD 1.1 J 4.7 J	Apr-08 NA* 1.1 UJ 11 UJ 920 D 11 D 20 D	1.0 U Oct-08 NA4 0.48 U R 160 D 2.4 9.7	Apr-09 23 J 0.50 U 5.0 U 410 D 7.8		0.97 U May-10 11.0 0.48 U 4.8 U 0.36 2.1	9.8 U Oct-10 2.2 4.9 U 49 UJ 94 D 2.0 U 11 D	0.13 U  Apr-11 23.0 0.11 U 1.1 U 670 D 4.9	1.3 U  Wexter  AT  Oct-11  2  1.1 U  11 U  120 D  0.90 JD  12 D	0.05 UD	0.22 J	Apr-13 7.8 C 0.11 U 1.1 U 150 D 1.8	0.13 U Oct-13 1.0 U 0.11 U 1.1 U 5.1 0.6	Apr-14 2.0 0.11 U 1.1 U 28 D 0.84 8.5		Apr-15 6.3 0.55 U 5.5 U 53 D 0.96 JD 7.2 D	0.13 U  Oct-15  0.11  0.11 U  2.0 U, I  0.56 J  0.1  B.4	0.13 U  Apr-16  6.4  0.11 U  1.1 U  110 D  2.2  8.6	0.15 U  Oct-16  NA  0.11 U  1.1 U  2.4  0.53  3.1	Apr-17 12 0.11 U 2.6 J 190 D 5.0 13.0	0.13 U  Oct-17  5.6  0.11 U  1.1 U  120 D  4.5  12.0	Apr-18 4.2 0.11 U 0.92 U 82 DJ 2.6 7.9 J	0.51 U 0.51 U 0.10 U 0.85 U 0.055 0.25 J 1.6 J	Apr-19 0.51 U 0.31 0.96 U 0.55 J 0.20 J
Els (2-ethylhesyl) Phihalaio  Constituent  Ethylbonzano 2-Methylphanal Benzoic acid Naphthalano Olbenzoiuran Pluorene Pantachiarephanai	3 Level II SLV <sup>2</sup> (µg/L) 7.3 13 42 620 3.7 3.9	9.7 U  Jun-06  NA*  9.6 U  190.0  9.6 U  11  24 U	2.0 W Dec-05 NA* 0.34 UJ 630 D 2.5 J 8.5 J	Apr-06 NA* 0.30 UJ 360 D 1.1 D 6.4 D 0.15 UJ	0.27 UJ  Oct-06  7.4  0.060 UJ  1.8 UJ  160 D  0.48  8.4  0.029 UJ	Jun-07 NA <sup>4</sup> 0.11 UJ 1.9 J 300 D 7.3 18 JD 0.34 UJ	0.13 UJ  Oct-07  NA*  0.11 UJ  1.1 UJ  53 JD  1.1 J  4.7 J  0.34 UJ	Apr-08 NA* 1.1 UJ 11 UJ 920 D 11 D 20 D 3.4 UJ	1.0 U Oct-08 NA4 0.48 U R 160 D 2.4 9.7 0.95 UJ	Apr-09 23 J 0.50 U 5.0 U 410 D 7.8 16 D 0.99 U		0.97 U May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.96 U	9.8 U  Oct-10  2.2  4.9 U  49 UJ  94 D  2.0 U  11 D  9.8 U	0.13 U  Apr-11 23.0 0.11 U 1.1 U 670 D 4.9 19 0.34 U	Mexter AT Oct-11 2 1.1 U 120 D 0.90 JD 12 D 3.4 U	0.05 UD	0.22 J	Apr-13 7.8 C 0.11 U 1.1 U 150 D 1.8 12 D 3.4 U	0.13 U  Oct-13  1.0 U  0.11 U  1.1 U  5.1  0.6  6	Apr-14 2.0 0.11 U 1.1 U 28 D 0.84 8.5		Apr-15 6.3 0.55 U 5.5 U 53 D 0.96 JD 7.2 D	0.13 U  Oct-15  0.11  0.11 U  2.0 U, I  0.56 J  0.1  B.4  0.34 U	Apr-16 5.4 0.11 U 1.1 U 110 D 22 8.6 0.34 U	0.15 U  Oct-16  NA  0.11 U  1.1 U  2.4  0.53  3.1  0.34 U	Apr-17 12 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U	0.13 U  Oct-17  5.6  0.11 U  1.1 U  120 D  4.5  12.0  0.34 U	Apr-18 4.2 0.11 U 0.92 U 8.2 DJ 2.6 7.3 J 0.24 U	0.51 U 0.51 U 0.10 U 0.85 U 0.055 0.25 J 1.6 J	Apr-19 0.51 U 0.31 0.96 U 0.55 J 0.20 J 0.072 U
Dis(2-ethylhexyl)Phtholato  Constituent Ethylbenzene 2-Methylphenel Benzele add Naphthalene Dibenzefuran Fluorane Pantachlorophanol Phonanthrane	3 Level II SLV <sup>3</sup> (µgA.) 7.2 13 42 620 3.7 3.9 15 6.3	9.7 U  Jun-05  NA*  9.6 U  190.0  9.6 U  11  24 U  9.6 U	2.0 W Dec-08 NA* 0.34 W 5.9 UJ 690 D 2.5 J 8.5 J 2.5 UJ 2.0 J	Apr-06 NA* 0.30 UJ 8.6 UJ 380 D 1.1 D 6.4 D 0.15 UJ 2.1 D	0.27 UJ  Oct-06  7.4  0.050 UJ  1.8 UJ  1.60 D  0.48  8.4  0.029 UJ  2.3	Jun-07 NA* 0.11 UJ 1.9 J 300 D 7.3 18 JD 0.34 UJ 3.0	0.13 UJ  Oct-07  NA*  0.11 UJ  1.1 UJ  53 JD  1.1 J  4.7 J  0.34 UJ  1.2 J	Apr-08 NA* 1.1 UJ 11 UJ 20 D 20 D 3.4 UJ 4.3 D	1.0 U Oct-08 NA4 0.48 U R 160 D 2.4 9.7 0.95 UJ 3.5	Apr-09 23 J 0.50 U 5.0 U 4.10 D 7.8 16 D 0.99 U 6.3		0.97 U May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.96 U 3.7	9.8 U  Oct-10  2.2  4.9 U  49 UJ  94 D  2.0 U  11 D  9.8 U  5.3 O	0.13 U  Apr-11 23.0 0.11 U 1.1 U 670 D 4.9 19 0.34 U 10	1.3 U  Wester  AT  Oct-11  2  1.1 U  11 U  120 D  0.90 JD  12 D  3.4 U  5.8 D	0.05 UD	0.22 J	0.13 U Apr-13 7.8 C 0.11 U 1.1 U 1.50 D 1.8 12 D 3.4 U 7.1	0.13 U  Oct-13  1.0 U  0.11 U  1.1 U  5.1  0.6  5  0.34 U  1.7	0.23 J Apr-14 2.0 0.11 U 1.1 U 28 D 0.84 8.5 0.34 U 4.1		0.65 U  Apr-15 6.3 0.55 U 5.5 U 5.5 U 0.96 JD 7.2 D 1.7 U 3.5 D	0.13 U  Oct/45  0.11  0.11 U  2.0 U, I  0.56 J  0.1  8.4  0.34 U  1.6	Apr-16 6.4 0.11 U 1.1 U 110 D 2.2 8.6 0.34 U 3.7	0.13 U  Oct-16  NA  0.11 U  1.1 U  2.4  0.53  3.1  0.34 U  1.2	Apr-17 12 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U 6.6	0.13 U  Oct-17  5.6  0.11 U  1.1 U  120 D  4.5  12.0  0.34 U  7.8	Apr-18 4.2 0.11 U 0.92 U 82 DJ 2.6 7.9 J 0.24 U 4.3 J	0.51 U 0.51 U 0.10 U 0.85 U 0.85 U 0.055 0.25 J 1.6 J 0.22 U 0.17 J	Apr-19 0.51 U 0.31 0.96 U 0.55 J 0.20 J 0.072 U 0.88
alis (2-ethylinexyl) Phihalaio  Consiliuent  Ethylbonzone 2-Methylphonol Benzole acid Nephthalane Olbenzofuran Fluorane Pentachlorophonol Phonanthrene Phonanthrene	3 Level II SLV <sup>3</sup> (pqA) 7.3 13 42 620 3.7 3.9 15 6.3	9.7 U  Jun-05  NA*  9.6 U  24 U  190.0  9.6 U  11  24 U  9.6 U	2.0 W Dec-05 NA* 0.34 W 5.9 W 690 D 2.5 J 8.5 J 2.5 UJ 2.0 U	Apr-06 NA* 0.30 UJ 8.6 UJ 380 D 1.1 D 6.4 D 0.15 UJ 2.1 D	0.27 UJ  Oct-06  7.4  0.050 UJ  1.5 UJ  160 D  0.48  8.4  0.029 UJ  2.3  0.013 UJ	Jun-07 NA <sup>4</sup> 0.11 UJ 1.8 J 300 D 7.3 18 JD 0.34 UJ 3.0 0.02 UJ	0.13 UJ  Oct-07  NA*  0.11 UJ  1.1 UJ  53 JD  1.1 J  4.7 J  0.34 UJ  1.2 J  0.02 UJ	Apr-08 NA* 1.1 UJ 11 UJ 920 D 11 D 20 D 3.4 UJ 4.3 D 0.20 UJ	1.0 U Oct-08 NA4 0.48 U R 160 D 2.4 9.7 0.85 UJ 3.5	Apr-09 23 J 0.50 U 5.0 U 410 D 7.8 16 D 0.99 U 6.3		0.97 U May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.98 U 3.7 0.20 U	9.8 U  Oct-10  2.2  4.9 U  49 U  94 D  11 D  9.8 U  5.3 D  2.0 U	0.13 U  Apr-11 23.0 0.11 U 1.1 U 670 D 4.9 19 0.34 U 10	Mexter  AT  Oct-11  2  1.1 U  11 U  120 D  0.90 JD  12 D  3.4 U  5.8 D  0.20 U	0.05 UD	0.22 J	Apr-13 7.8 C 0.11 U 1.1 U 150 D 1.8 12 D 3.4 U 7.1 0.040 J	0.13 U Oct.43 1.0 U 0.11 U 1.1 U 5.1 0.6 5 0.34 U 1.7 0.028 J	Apr-14 2.0 0.11 U 1.1 U 28 D 0.84 0.5 0.34 U 4.1		Apr-18 6.3 0.55 U 5.5 U 5.3 D 0.96 JD 7.2 D 1.7 U 3.5 D 0.10 U	0.13 U  Oct-15  0.11  0.11 U  2.0 U, I  0.56 J  0.1  B.A  0.34 U  1.8	0.13 U Apr-16 6.4 0.11 U 1.1 U 110 D 2.2 8.6 0.34 U 3.7 0.026 J	0.13 U  Oct-16  NA  0.11 U  1.1 U  2.4  0.53  3.1  0.34 U  1.2  0.020 U	Apr-17 12 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U 6.6 0.048 J	0.13 U  0.13 U  5.6  0.11 U  1.1 U  120 D  4.5  12.0  0.34 U  7.8  0.075 J	4.5 U  Apr-18  4.2  0.11 U  0.92 U  82 DJ  2.6  7.9 J  0.24 U  4.3 J  0.060 J	0.51 U 0.10 U 0.85 U 0.0055 0.25 J 1.6 J 0.22 U 0.17 J 0.056	Apr-19 0.51 U 0.31 0.96 U 0.55 J 0.072 U 0.88 0.52 J 0.083 U
Lis (2-ethylhesyr) Phtholato  Constituent  Ethylbonzone 2-Methylphonol Benzole sold Nephthalane  Olbenzefuran Fluorane Pentachlorophanol Phonanthrane Pluorane	3 Level II SLV <sup>3</sup> (pqA) 7.3 13 42 620 3.7 3.9 15 6.3	9.7 U  Jun-05  NA*  9.6 U  190.0  9.6 U  11  24 U  9.6 U	2.0 W Dec-08 NA* 0.34 W 5.9 UJ 690 D 2.5 J 8.5 J 2.5 UJ 2.0 J	Apr-06 NA* 0.30 UJ 8.6 UJ 380 D 1.1 D 6.4 D 0.15 UJ 2.1 D	0.27 UJ  Oct-06  7.4  0.050 UJ  1.8 UJ  1.60 D  0.48  8.4  0.029 UJ  2.3	Jun-07 NA <sup>4</sup> 0.11 UJ 1.8 J 300 D 7.3 18 JD 0.34 UJ 3.0 0.02 UJ	0.13 UJ  Oct-07  NA*  0.11 UJ  1.1 UJ  53 JD  1.1 J  4.7 J  0.34 UJ  1.2 J	Apr-08 NA* 1.1 UJ 11 UJ 920 D 11 D 20 D 3.4 UJ 4.3 D 0.20 UJ	1.0 U Oct-08 NA4 0.48 U R 160 D 2.4 9.7 0.95 UJ 3.5	Apr-09 23 J 0.50 U 5.0 U 4.10 D 7.8 16 D 0.99 U 6.3		0.97 U May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.96 U 3.7	9.8 U  Oct-10  2.2  4.9 U  49 U  94 D  11 D  9.8 U  5.3 D  2.0 U	0.13 U  Apr-11 23.0 0.11 U 1.1 U 670 D 4.9 19 0.34 U 10	1.3 U  Wester  AT  Oct-11  2  1.1 U  11 U  120 D  0.90 JD  12 D  3.4 U  5.8 D	0.05 UD	0.22 J	0.13 U Apr-13 7.8 C 0.11 U 1.1 U 1.50 D 1.8 12 D 3.4 U 7.1	0.13 U  Oct-13  1.0 U  0.11 U  1.1 U  5.1  0.6  5  0.34 U  1.7	0.23 J Apr-14 2.0 0.11 U 1.1 U 28 D 0.84 8.5 0.34 U 4.1		0.65 U  Apr-15 6.3 0.55 U 5.5 U 5.5 U 0.96 JD 7.2 D 1.7 U 3.5 D	0.13 U  Oct/45  0.11  0.11 U  2.0 U, I  0.56 J  0.1  8.4  0.34 U  1.6	Apr-16 6.4 0.11 U 1.1 U 110 D 2.2 8.6 0.34 U 3.7	0.13 U  Oct-16  NA  0.11 U  1.1 U  2.4  0.53  3.1  0.34 U  1.2	Apr-17 12 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U 6.6	0.13 U  Oct-17  5.6  0.11 U  1.1 U  120 D  4.5  12.0  0.34 U  7.8	Apr-18 4.2 0.11 U 0.92 U 82 DJ 2.6 7.9 J 0.24 U 4.3 J	0.51 U 0.51 U 0.10 U 0.85 U 0.85 U 0.055 0.25 J 1.6 J 0.22 U 0.17 J	Apr-19 0.51 U 0.31 0.96 U 0.55 J 0.072 U 0.88 0.52 J 0.083 U
alia (2-ethylhexyl) Phihalaio  Constituent Ethylbonzono 2-Methylphenol Bonzolo add Naphthalano Dibenzefuran Fluorane Phonanthrano	3 Level II SLV <sup>3</sup> (µqL) 7.3 13 42 620 3.7 3.9 15 6.3 6.2 3	9.7 U  Jun-05  NA*  9.6 U  24 U  190.0  9.6 U  11  24 U  9.6 U	2.0 W Dec-05 NA* 0.34 W 5.9 W 690 D 2.5 J 8.5 J 2.5 UJ 2.0 U	Apr-06 NA* 0.30 UJ 8.6 UJ 380 D 1.1 D 6.4 D 0.15 UJ 2.1 D	0.27 UJ  Oct-06  7.4  0.050 UJ  1.5 UJ  160 D  0.48  8.4  0.029 UJ  2.3  0.013 UJ	Jun-07 NA <sup>4</sup> 0.11 UJ 1.8 J 300 D 7.3 18 JD 0.34 UJ 3.0 0.02 UJ	0.13 UJ  Oct-07  NA*  0.11 UJ  1.1 UJ  53 JD  1.1 J  4.7 J  0.34 UJ  1.2 J  0.02 UJ	Apr-08 NA* 1.1 UJ 11 UJ 920 D 11 D 20 D 3.4 UJ 4.3 D 0.20 UJ	1.0 U Oct-08 NA4 0.48 U R 160 D 2.4 9.7 0.85 UJ 3.5	Apr-09 23 J 0.50 U 5.0 U 410 D 7.8 16 D 0.99 U 6.3		0.97 U May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.98 U 3.7 0.20 U	9.8 U  Oct-10  2.2  4.9 U  49 U  94 D  11 D  9.8 U  5.3 D  2.0 U	0.13 U  Apr-11 23.0 0.11 U 1.1 U 670 D 4.9 19 0.34 U 10	Mextes AT Oct-11 2 1.1 U 11 U 120 0.90 JD 12 D 3.4 U 5.8 D 0.20 U 1.3 U	o.65 UD	0.22 J	Apr-13 7.8 C 0.11 U 1.1 U 150 D 1.8 12 D 3.4 U 7.1 0.040 J	0.13 U Oct.43 1.0 U 0.11 U 1.1 U 5.1 0.6 5 0.34 U 1.7 0.028 J	Apr-14 2.0 0.11 U 1.1 U 28 D 0.84 0.5 0.34 U 4.1		Apr-18 6.3 0.55 U 5.3 U 5.3 U 7.2 D 1.7 U 3.5 D 0.10 U	0.13 U  Oct-15  0.11  0.11 U  2.0 U, I  0.56 J  0.1  B.A  0.34 U  1.8	0.13 U Apr-16 6.4 0.11 U 1.1 U 110 D 2.2 8.6 0.34 U 3.7 0.026 J	0.13 U  Oct-16  NA  0.11 U  1.1 U  2.4  0.53  3.1  0.34 U  1.2  0.020 U	Apr-17 12 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U 6.6 0.048 J	0.13 U  0.13 U  5.6  0.11 U  1.1 U  120 D  4.5  12.0  0.34 U  7.8  0.075 J	4.5 U  Apr-18  4.2  0.11 U  0.92 U  82 DJ  2.6  7.9 J  0.24 U  4.3 J  0.060 J	0.51 U 0.10 U 0.85 U 0.0055 0.25 J 1.6 J 0.22 U 0.17 J 0.056	Apr-19 0.51 U 0.31 0.96 U 0.55 J 0.072 U 0.88 0.52 J 0.083 U
Els(2-ethylherry)Phihalaio  Constituent  Ethylbonzano 2-Methylphanal Benzola add Naphthalano Olbenzofuran Pluorane Pantachlorophanal Phonanthrane Pluorane	3 Level II SLV <sup>3</sup> (pgt_) 7.3 13 42 620 3.7 3.9 15 6.3 6.2 3	9.7 U  Jun-05  NA*  9.6 U  24 U  190.0  9.6 U  11  24 U  9.6 U	2.0 W Dec-05 NA* 0.34 W 5.9 W 690 D 2.5 J 8.5 J 2.5 UJ 2.0 U	Apr-06 NA* 0.30 UJ 8.6 UJ 380 D 1.1 D 6.4 D 0.15 UJ 2.1 D	0.27 UJ  Oct-06  7.4  0.050 UJ  1.5 UJ  160 D  0.48  8.4  0.029 UJ  2.3  0.013 UJ	Jun-07 NA <sup>4</sup> 0.11 UJ 1.8 J 300 D 7.3 18 JD 0.34 UJ 3.0 0.02 UJ	0.13 UJ  Oct-07  NA*  0.11 UJ  1.1 UJ  53 JD  1.1 J  4.7 J  0.34 UJ  1.2 J  0.02 UJ	Apr-08 NA* 1.1 UJ 11 UJ 920 D 11 D 20 D 3.4 UJ 4.3 D 0.20 UJ	1.0 U Oct-08 NA4 0.48 U R 160 D 2.4 9.7 0.85 UJ 3.5	Apr-09 23 J 0.50 U 5.0 U 410 D 7.8 16 D 0.99 U 6.3		0.97 U May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.98 U 3.7 0.20 U	9.8 U  Oct-10  2.2  4.9 U  49 U  94 D  11 D  9.8 U  5.3 D  2.0 U	0.13 U  Apr-11 23.0 0.11 U 1.1 U 670 D 4.9 19 0.34 U 10	Mextes AT Oct-11 2 1.1 U 11 U 120 0.90 JD 12 D 3.4 U 5.8 D 0.20 U 1.3 U	o.65 UD  In Interior W T-05 (dup)	0.22 J	Apr-13 7.8 C 0.11 U 1.1 U 150 D 1.8 12 D 3.4 U 7.1 0.040 J	0.13 U Oct.43 1.0 U 0.11 U 1.1 U 5.1 0.6 5 0.34 U 1.7 0.028 J	Apr-14 2.0 0.11 U 1.1 U 28 D 0.84 0.5 0.34 U 4.1		Apr-18 6.3 0.55 U 5.3 U 5.3 U 7.2 D 1.7 U 3.5 D 0.10 U	0.13 U  Oct-15  0.11  0.11 U  2.0 U, I  0.56 J  0.1  B.A  0.34 U  1.8	0.13 U Apr-16 6.4 0.11 U 1.1 U 110 D 2.2 8.6 0.34 U 3.7 0.026 J	0.13 U  Oct-16  NA  0.11 U  1.1 U  2.4  0.53  3.1  0.34 U  1.2  0.020 U	Apr-17 12 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U 6.6 0.048 J	0.13 U  0.13 U  5.6  0.11 U  1.1 U  120 D  4.5  12.0  0.34 U  7.8  0.075 J	4.5 U  Apr-18  4.2  0.11 U  0.92 U  82 DJ  2.6  7.9 J  0.24 U  4.3 J  0.060 J	0.51 U 0.10 U 0.85 U 0.0055 0.25 J 1.6 J 0.22 U 0.17 J 0.056	Apr-19 0.51 U 0.31 0.96 U 0.55 J 0.20 J 0.072 U 0.88
Sacz-dryfhewyl/Phhalas Constituent Ethybarosane Chalkethyghenot Benzole add Neyhbarosa Diberceturan Planane Pantachirosphanol Pananethena Romane Romanethena Roman	3 Level II SLV <sup>3</sup> (pqL) 7.3 13 42 620 3.7 3.9 15 6.3 6.2 3 Level II SLV <sup>3</sup>	9.7 U  Jun-05  NA  9.6 U  1100.0  9.6 U  11  9.6 U  9.6 U  9.6 U	2.0 W Dec-05 NA* 0.34 UJ 690 D 2.5 J 8.6 J 2.5 UJ 2.0 UJ	Apr-06 NA* 0.30 UJ 8.6 UJ 300 D 1.1 D 6.4 D 0.15 UJ 2.1 D 0.064 JD 1.4 UJ	0.27 UJ  Oct-06 7.4 0.050 UJ 1.6 UJ 160 D 0.48 1.4 0.029 UJ 2.3 0.013 UJ 0.27 UJ	Jun-97 NA <sup>4</sup> 0.11 UJ 1.9 J 300 D 7.3 18 JD 0.34 UJ 3.0 0.24 UJ 0.39 J	0.13 UJ  Oct-07  NA* 0.11 UJ 1.1 UJ 53 JD 1.1 J 4.7 J 0.34 UJ 1.2 J 0.02 UJ 0.13 UJ	Apr-08 NA* 1.1 UJ 11 UJ 220 D 3.4 UJ 4.3 D 0.20 UJ	0.ct-08 NA4 0.48 U 160 D 2.4 9.7 0.95 U 3.5 0.19 U 0.95 U	Apr-09 23 J 0.50 U 5.0 U 5.10 E 16 D 0.99 U 0.99 U	0.97 U	May-10 11.0 0.48 U 0.36 2.1 11 0.96 U 3.7 0.20 U 0.96 U	9.8 U  2.2 4.9 U 49 U 94 D 2.0 U 11 D 9.8 U 2.0 U 2.0 U 9.8 U	Apr-11 23.0 0.11 U 1.1 U 670 D 4.9 10 0.34 U 10 0.037 J 0.13 U	1.5 U  Wexter AT Oct-11 2 1.1 U 11 U 120 D 0.90 D 142 D 3.4 U 5.8 D 0.20 U 1.3 U  Wexter	o.65 UD In Interior W T-05 (dup)	0.22 J	Apr-13 7.8 C 0.11 U 1.10 1.50 D 1.8 12.D 3.4 U 7.1 0.040 J 0.13 U	0.13 U  Oct43  1.0 U  0.11 U  1.1 U  5.1  0.6  5  0.34 U  1.7  0.028 J  0.15 J	Apr-14 2.0 0.11 U 1.1 U 2.8 D 0.84 8.5 0.34 U 4.1 0.028 J 0.13 U	0.13 U	Apr-15 6.3 0.55 U 5.5 U 5.5 D 0.96 JD 7.2 D 1.7 U 3.5 D 0.10 U 0.65 U	0.13 U  Oct-45 0.11 0.11 U 2.0 U, I 0.56 J 0.1 8.4 0.24 U 1.8 0.024 0.14	Apr-16 6.4 0.11 U 110 D 22 8.5 0.34 U 3.7 0.026 J 0.13 U	0.13 U NA 0.11 U 1.11 U 2.4 0.53 3.1 0.34 U 1.2 0.020 U 0.13 U	Apr-17 12 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U 6.6 0.048 J 0.31 J	0.13 U  Oct-17  S.S  0.11 U  120 D  4.5  12.0  0.31 U  7.8  0.075 J  0.13 U	Apr-18 4.2 0.11 U 0.92 U 52 U 2.6 7.9 J 0.24 U 4.2 J 0.060 J 4.6 U	0:ct-18 0:51 U 0:10 U 0:055 0:25 J 1:6 J 0:27 J 0:056 4:3 U	Apr-19 0.51 U 0.31 U 0.35 U 0.55 J 0.20 J 0.072 U 0.88 0.52 J 0.063 U
List C-strythersyl Phibaiso  Constituent  Ethyboration	3 Level II SLV <sup>3</sup> (pgt.) 7.3 13 42 520 3.7 3.9 15 6.3 2.2 3 Level II SLV <sup>3</sup> (pgt.)	9.7 U  Jun-05  NA*  9.6 U  190.0  9.6 U  11  24 U  9.6 U  9.6 U  9.6 U	2.0 W Dec-05 NA* 0.34 UJ 5.9 UJ 690 D 2.5 J 2.5 UJ 2.0 J 0.66 UJ Dec-05	Apr-08 Apr-08 Apr-08	0.27 UJ  Oct-06  7.4 0.080 UJ 1.5 UJ 160 D 0.48 1.4 0.029 UJ 2.3 0.013 UJ 0.27 UJ	Jun-07  NA <sup>4</sup> 0.11 UJ 1.03 1.00 7.3 18 JD 0.34 UJ 3.00 0.02 UJ 0.39 J	0:13 UJ  Oct-07  NA* 0.11 UJ 1.1 UJ 53 JD 1.1 J 4.7 J 0.34 UJ 1.2 J 0.02 UJ 0.13 UJ	Apr-08 NA* 1.1 UJ 11 UJ 920 D 11 D 20 D 3.4 UJ 1.3 UJ	Oct-08 NA4 R 160 D 2.4 9.7 0.95 UJ 3.5 0.19 U 0.95 U	Apr-09 23 J 5.0 U 410 D 7.8 16 D 0.99 U 6.3 0.20 U Apr-09	0.97 U	May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.96 U 0.96 U	9.8 U  2.2 4.9 U 4.9 U 4.9 U 1.1 D 9.8 U 5.3 O 2.0 U 9.8 U 0.4 U	Apr41 23.0 0.11 U 1.1 U 570 D 4.3 19 0.34 U 10 0.37 J 0.13 U	1.5 U  Wester AT Oct-11 2 1.1 U 11 U 11 U 12 D 0.90 JD 3.4 U 5.8 D 0.20 U 1.3 U  Wester	o.65 UD In Interior W T-05 (dup) In Interior W T-05 (dup) In Interior W ATT-10 Apr-12	0.22 J ell ell Oct-12	Apr-43 7.5 C 0.11 U 1.1 U 1.50 D 1.8 12 D 3.4 U 7.1 0.040 J 0.13 U	Oct43 1.0 U 0.11 U 1.1 U 5.1 0.6 6 0.34 U 0.15 J 0.028 J 0.15 J	Apr-14 2.0 0.11 U 1.1 U 28 D 0.84 8.5 0.34 U 4.1 0.028 J 0.13 U Apr-14	0.13 U	Apr-45 6.3 0.55 U 5.5 U 5.5 D 0.96 JD 1.7 U 3.5 D 0.10 U 0.65 U	0.13 U  Oct 45  0.11  0.11 U  2.0 U,1  0.56 J  0.1  8.4  0.34 U  0.024  0.14	0.13 U  Apr-16 5.4 0.11 U 1.1 U 110 D 2.2 8.6 0.34 U 3.7 0.026 J 0.13 U  Apr-16	0.13 U  Oct-16  NA  0.11 U  1.1 U  2.4  0.53  3.1  0.34 U  1.2  0.020 U  0.13 U	Apr-47 12 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U 6.048 J 0.31 J	0.13 U  Oct-17  8.6  0.11 U  1.1 U  120 D  4.5  12.0  0.34 U  7.8  0.075 J  0.13 U	Apr-18 4.2 0.11 U 0.92 U 82 DJ 2.6 7.9 J 0.24 U 4.3 J 0.060 J 4.6 U Apr-18	0.51 U 0.85 U 0.055 0.25 J 1.6 J 0.22 U 0.17 J 0.056 4.3 U 0.44 B	Apr-15 0.51 U 0.31 0.96 U 0.55 J 0.20 J 0.72 U 0.88 0.52 J 0.083 U 6.5 U
Constituent Ethylonorane Constituent Ethylonorane Chathyphenol Beracele add Naphthenol Beracele add Callyberacele Constituent Ethylberacene	3 Level II SLV <sup>3</sup> (µgL) 7.3 13 42 620 3.7 3.9 15 6.3 6.2 3 Level II SLV <sup>3</sup> (µgL) 7.3	Jun-06 NA* 9.6 U 24 U 190.0 9.6 U 9.6 U 9.6 U 9.6 U 9.6 U	2.0 W Dec-05 NA* 0.34 UJ 5.9 UJ 8.6 J 2.5 U 2.5 U 2.0 U 0.86 UJ 2.0 UJ	Apr-06 NA* 0.30 UJ 8.6 UJ 380 D 1.1 D 6.4 D 0.15 UJ 2.1 D 0.064 JD 1.4 UJ Apr-08 0.57 J	0.27 UJ  Oct-06 7.4 0.060 UJ 1.8 UJ 160 D 0.48 0.029 UJ 2.3 0.013 UJ 0.27 UJ  Oct-06 0.20 UJ	0.14 UJ Jun-07 . NA* 0.11 UJ 1.8 J 300 D 7.3 1.8 J 0.34 UJ 3.0 0.02 UJ 0.39 J	0:13 UJ  Oct-07  NA* 0:11 UJ 1:1 UJ 53 JD 1:1 J 4:7 J 0:24 UJ 0:23 UJ 0:13 UJ	Apr-08 NA* 1.1 UJ 920 D 11 D 20 D 3.4 UJ 4.3 D 0.20 UJ 1.3 UJ	1.0 U  Oct-08  NA4  0.48 U  R  160 D  2.4  9.7  0.95 UJ  3.5  0.19 U  Oct-08  1.0 U	Apr-09 23 J 0.50 U 410 D 7.8 0.59 U 6.3 0.20 U 0.99 U Apr-09 1.1	0.97 U	May-10 11.0 0.48 U 0.36 2.1 11 0.96 U 3.7 0.20 U 0.96 U	9.8 U  2.2 U 4.9 UJ 9.8 U  5.3 O 2.0 U 9.8 U  Oct-10 1.0 U	Apr41 23.0 0.11 U 1.1 U 670 D 4.3 10 0.34 U 10 0.037 J 0.13 U Apr41 1.0 U	1.5 U  Wexted AT  Oct.41 2 1.1 U 110 U 120 D 3.4 U 5.8 D 0.20 U 1.3 U Wester  Oct.41 1.0 U	n Interior W T-05 (dup)  In Interior W T-05 (dup)  In Interior W ATT-10 Apr-12 1.1	0.22 J  ell  Cot-12  1.00 U	Apr-43 7.8 C 0.11 U 1.1 U 150 D 1.8 1.9 2.4 U 7.1 0.040 J 0.13 U Apr-43 2.6 C	0.13 U  Oct.43  1.0 U  0.11 U  5.1  0.6  0.34 U  1.7  0.028 J  0.15 J	Apr-14 2.0 0.11 U 1.1 U 28 D 0.84 4.1 0.028 J 0.13 U Apr-14 0.34 J	Oct-14 0.18 J	Apr-45 6.3 0.55 U 5.5 U 5.3 D 0.96 JD 7.2 D 1.7 U 3.5 D 0.10 U 0.65 U	0.13 U  Oct-45 0.11 0.11 U  0.10 U,1 0.56 J  0.1 8.4 0.34 U  1.8 0.024 0.14  Oct-45 0.12 J	0.13 U  Apr-16 6.4 0.11 U 110 D 2.2 8.6 0.34 U 3.7 0.026 J 0.13 U  Apr-16 0.080 J	Oct-16 NA 0.11 U 1.1 U 2.4 0.53 3.1 0.34 U 1.2 0.020 U 0.13 U	Apr-17 12 0.11 U 2.6 J 190 D 5.0 0.34 U 6.8 0.048 J 0.31 J	0.13 U  Oct-47  8.6  0.11 U  1.1 U  120 D  4.5  1.20  0.34 U  7.8  0.075 J  0.13 U	Apr-18 Apr-18 4.2 0.11 U 0.92 U 82 DJ 2.6 7.9 J 0.24 U 4.5 U Apr-18 0.51 U	0.51 U 0.10 U 0.85 U 0.055 0.25 J 1.0 0.22 U 0.17 J 0.056 4.3 U 0.55	Apr-45 0.51 U 0.31 0.96 U 0.55 J 0.072 U 0.88 U 0.88 U 6.5 U
alsa(2-altylevsyl)Phibaiso  Constituent  Ethylborazino Acethylphanal  Bercole add  Hyphibairan  Dhersole add  Hyphibairan  Dhersole and  Parist chiraphenol  Parist chiraphenol  Parist chiraphenol  Constituent  Ethylborazina  Constituent  Ethylborazina	3 Level II SLV <sup>3</sup> (µqL) 7.3 13 42 620 3.7 3.9 15 6.3 6.2 3 Level II SLV <sup>3</sup> (µqL) 7.3	9.7 U  Jun-05  NA*  9.6 U  190.0  11  24 U  9.6 U  9.6 U  9.6 U  Jun-05  Jun-05	2.0 W Dec-05 NA* 0.34 UJ 5.9 UJ 630 D 2.5 UJ 2.5 UJ 2.0 UJ 2.0 UJ 2.0 UJ 0.65 UJ 2.0 UJ	Apr-08 NA* 0.30 UJ 8.6 UJ 300 D 1.1 D 6.4 D 0.15 UJ 2.1 D 0.064 JD 1.4 UJ Apr-08 0.57 J 0.050 UJ	0.27 UJ  Oct-06 7.4 0.060 UJ 1.8 UJ 160 D 0.48 8.4 0.029 UJ 2.3 0.013 UJ 0.27 UJ  Oct-06 0.20 UJ 0.080 UJ	Jun-07 NA <sup>4</sup> 0.11 UJ 1.8 J 300 D 7.3 18 JD 0.34 UJ 0.29 UJ 0.29 J	Oct-07 NA* 0.11 UJ 1.1 UJ 53 JD 1.1 J 4.7 J 0.34 UJ 0.13 UJ 0.13 UJ 0.13 UJ 0.14 UJ 0.15 UJ	Apr-08 NA* 1.1 UJ 920 D 11 D 20 D 3.4 UJ 4.3 D 0.20 UJ 1.3 UJ Apr-08 1.1	1.0 U  Oct-08  NA4  0.48 U  R  1500  2.4  9.7  0.95 UJ  3.5  0.19 U  0.95 U	Apr-09 2.50 U 5.0 U 410 D 7.8 16 D 0.98 U 0.90 U 0.90 U	0.97 U	May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.98 U 0.36 U 0.96 U 0.96 U	9.8 U  2.2 4.9 U 4.9 U 4.9 U 4.1 D 9.8 U 5.3 D 2.0 U 9.8 U 0.4 U 0.4 U 0.4 U 0.4 S U	Apr41 23.0 0.11 U 1.1 U 670 D 4.9 10 0.037 J 0.13 U Apr41 1.0 U 0.11 U	Mexter  AT  Oct-11  2  1.1 U  112 D  0.90 JD  12 D  3.4 U  5.8 D  0.20 U  1.3 U  Wester	n Interior W T-05 (dup)  In Interior W T-05 (dup)  In Interior W T-05 (dup)  In Interior W ATT-10 Apr-12 1.1 UD	0.22 J ell ell 0.22 J cli 0.22 J ell 0.22 J	Apr-43 Apr-43 Apr-43 Apr-43 Apr-43 Apr-43 Apr-43 Apr-43	Oct43  Oct43  1.0 U  0.11 U  1.1 U  5.1  0.8  5  0.34 U  1.7  Oct43  Oct43  Oct43  Oct43  Oct43  Oct43	Apr-14 Ap	0.15.0 Lat.0 Lat.0 U.11.0	Apr-45 6.3 6.5 U 5.5 U 5.5 U 5.5 D 7.2 D 1.7 U 3.5 D 0.10 U 0.65 U	0.13 U  Oct-15  0.11  0.11 U  0.56 J  0.1  B.A  0.34 U  1.8  0.024  0.14  Oct-15  0.12 J  0.11 U	Apr-16 6.4 0.11 U 1.1 U 1.1 U 1.10 D 2.2 8.6 0.34 U 3.7 0.026 J 0.13 U Apr-16 0.080 J 0.11 U	Oct-16 NA 0.11 U 1.1 U 2.4 0.53 3.1 0.34 U 0.13 U 0.13 U 0.13 U	Apr-47 42 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U 6.0 0.048 J 0.31 J Apr-47 0.050 J 0.11 U	0.13 U  Oct-17  5.6  0.11 U  1.1 U  120 D  4.5  12.0  0.34 U  7.8  0.075 J  0.13 U	Apr-18 4.2 0.11 U 0.92 U 82 DJ 2.6 7.9 J 0.24 U 4.3 U 4.5 U	0.51 U 0.10 U 0.85 U 0.055 0.25 J 1.6 J 0.22 U 0.17 J 0.056 4.3 U 0.55 1.1 0.056 4.3 U 0.17 J 0.10 U 0.17 J 0.10 U 0.17 J 0.10 U 0.17 J 0.17 U 0.17 U 0.17 J 0.17 U 0.17	Apr-1: 0.51 L 0.31 0.96 U 0.52 J 0.072 I 0.88 0.52 J 0.083 I 6.5 U
Constituent Ethylbenzene Adultyphenel Ethylbenzene Andressene Andressenel	3 Level II SLV <sup>3</sup> (pqRL) 7.3 13 42 620 3.7 2.9 15 6.3 3 Level II SLV <sup>3</sup> (pqRL) 7.3 42 42 42	9.7 U  Jun-05  NA*  9.6 U  190.0  9.6 U  11  24 U  9.6 U  9.6 U  Jun-05  0.13 U  9.7 U  25 U	2.0 W  Doc-05 NA* 0.34 W 5.9 W 6.5 J 2.5 J 2.0 J 2.0 U 2.0 U 2.0 U 2.0 U 2.0 U 3.0 U	Apr-08	Oct-06 7.4 0.050 UJ 1.5 UJ 1.5 UJ 1.5 UJ 1.002 UJ 2.3 0.013 UJ 0.27 UJ Oct-06 0.20 UJ 0.080 UJ	Jun-07 2.0 Jun-07 2.0 Jun-07 2.0 Jun-07 2.0 Jun-07 2.0 Jun-07 2.0 Jun-07 2.1 Jun-07 3.5 Jun-07	Oct-07 NA* 0.11 UJ 1.1 UJ 4.7 J 0.34 UJ 1.2 J 0.02 UJ 0.13 UJ 1.1 UJ	Apr-08 1.1 UJ 4.3 D 0.20 UJ 1.3 UJ 1.1 UJ	0.ct-08 NA4 0.48 U R 150 D 2.4 9.7 0.95 U 0.95 U  Oct-08 1.0 U 0.49 U R	Apr-09 23 J 0.50 U 5.0 U 410 D 7.8 16 D 0.90 U 6.3 0.20 U 0.90 U Apr-09 1.1 0.48 U 4.8 U	Oct-03 1.0 U 0.48 U 4.6 U	May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.96 U 3.7 0.20 U 0.96 U 1.0 U 0.50 U	9.8 U  Oct-10  2.2  4.9 U  49 UJ  94 D  2.0 U  11 D  9.8 U  5.3 D  2.0 U  9.8 U  Oct-10  1.0 U  0.48 U  0.48 UJ	Apr41 22.0 0.11 U 4.3 10 0.034 U 10 0.037 J 0.13 U Apr41 1.0 U 0.11 U 1.1 U	Mexter  AT Oct-11 2 1.1 U 11 U 12 D 0.90 JD 12 D 0.90 J 1.3 U 6.8 D 0.20 U 1.3 U Wester  Oct-11 1.0 U 1.1 U	n Interior W T-05 (dup)	0.22 J ell ell 0.21 1.00 U 0.11 UJ	Apr-43 7.5 C 0.11 U 1.1 U 150 D 1.8 12 D 3.4 U 7.1 0.040 J 0.13 U Apr-43 2.6 C 0.11 U 1.1 U	Oct-43 1.0 U 0.11 U 1.1 U 5.1 0.6 5 0.34 U 1.7 0.025 J 0.15 J	Apr-14 2.0 0.11 U 1.1 U 2.0 0.84 8.5 0.34 U 4.1 0.028 J 0.13 U Apr-14 0.34 J 0.11 U 1.1 U	Oct-14 0.13 U 0.18 U 0.18 U 1.1 U	Apr-15 6.3 0.55 U 5.5 U 5.5 U 5.5 D 0.96 JD 1.7 U 3.5 D 0.10 U 0.65 U Apr-15 0.080 J 0.22 U 2.2 U	Oct-15 Oct-15 O.11 U 2.0 U, I 0.56 J O.11 U 1.8 O.34 U 1.8 O.024 O.14 Oct-15 O.12 J O.11 U 2.0 U, I	Apr-16 Ap	Oct-16 NA 0.11 U 1.1 U 2.4 0.53 3.1 0.34 U 1.2 0.020 U 0.13 U	Apr-47 12 0.11 U 2.6 J 190 D 5.0 0.34 U 6.6 0.048 J 0.31 J Apr-47 0.050 J 0.11 U 1.1 U	0.13 U  Oct-17  5.5  0.11 U  1.1 U  12.0  0.34 U  7.8  0.075 J  0.13 U  Oct-17  1.1  0.11 U	Apr-18 Apr-18 Apr-18 Apr-18 Apr-18 O.51 U Apr-18 O.51 U O.51 U O.52 U	Oct-18 0.51 U 0.85 U 0.85 U 0.055 0.25 J 1.6 J 0.22 U 0.17 J 0.056 4.3 U Oct-18 1.1 0.10 U 0.89 U	Apr-1: 0.51 U 0.51 U 0.51 U 0.55 J 0.20 J 0.072 U 0.85 0.52 J 0.083 G.5 U
alsa (2-aitylivesyi) Phihaiso  Constituent  Ethylhorazane  - Authryjaharai  Berzole add  Hyphihaina  Dherzole add  Hyphihaina  Dherzole add  Panta chiraphanol  Penta chiraphanol  Penta chiraphanol  Eliosanthana  Constituent  Ethylhorazana  Constituent  Ethylhorazana  Berzole add  Hydhylphihainai  Berzole add  Berzole add  Berzole add  Berzole add  Berzole add	3 Level II SLV <sup>3</sup> (pgt.) 7.3 13 42 620 3.7 3.9 15 6.3 6.2 3 Level II SLV <sup>3</sup> (pgt.) 7.3 13 42 620	3.7 U  Jun-05  NA* 9.6 U 24 U 19.0 U 11 24 U 9.6 U 9.6 U 9.6 U 9.7 U 9.7 U 9.7 U	2.0 W Dec-05 NA* 0.34 UJ 5.9 UJ 6.90 D 2.5 J 2.5 UJ 2.0 UJ 2.0 UJ Dec-05 0.13 UJ 0.33 UJ 5.8 UJ 0.74 J	Apr-06 NA* 0.30 UJ 8.6 UJ 300 D 1.1 D 6.4 D 0.15 UJ 2.1 D 0.064 JD 1.4 UJ Apr-08 0.57 J 0.050 UJ 2.05 UJ 2.05 UJ 2.0 J	Oct-06 7.4 0.060 UJ 1.8 UJ 150 D 0.48 8.4 0.029 UJ 2.3 0.013 UJ 0.27 UJ  Oct-06 0.20 UJ 0.080 UJ 1.8 UJ	Jun-07 NA <sup>4</sup> 0.11 UJ 1.8 J 200 D 7.3 18 JD 0.34 UJ 0.39 UJ 0.39 J Jun-07 2.0 0.11 UJ 1.8 J	Oct-07 NA* 0.11 UJ 1.1 UJ 53 JD 1.1 J 4.7 J 0.34 UJ 0.12 UJ 0.13 UJ 0.14 UJ 1.1 UJ	Apr-08 NA* 1.1 UJ 11 UJ 920 D 11 D 20 D 3.4 UJ 4.3 D 0.20 UJ 1.3 UJ Apr-08 1.1 1.1 UJ 280 D	0.ct-08 NA4 0.48 U R 160 D 2.4 9.7 0.95 UJ 3.5 0.19 U 0.05 U 0.48 U R 1.0 U 0.49 U R 260 D	Apr-09 23 J 0.50 U 5.0 U 410 D 7.8 46 D 0.99 U 6.3 0.20 U 0.99 U Apr-09 1.1 0.48 U 4.8 U 220 D	Oct-03 1.0 U 0.48 U 75 D	May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.96 U 3.7 0.20 U 0.96 U May-10 1.0 U 0.50 U 5.0 U 5.0 U	9.8 U  Oct-10  2.2  4.9 U  49 UJ  94 D  2.0 U  11 D  9.8 U  5.3 D  2.0 U  9.8 U  0.48 U  4.8 UJ  5.9 D	Apr41 23.0 0.11 U 23.0 0.11 U 4.3 10 0.34 U 10 0.34 U 10 0.13 U Apr41 1.0 U 0.11 U 1.1 U 240 D	Mexted AT Cot-41 2 2 1.1 U 120 D 0.90 JD 12 D 3.4 U 5.8 D 0.20 U 1.3 U Wester 1.0 U 1.1 U 5.8 D 0.5 D	n Interior W T-08 (dup)	0.22 J ell  Oct-12 1.00 U 0.11 UJ 1.11 UJ 5.8 J	Apr-43 7.5 C 0.11 U 1.1 U 150 D 1.8 12 D 3.4 U 7.1 0.040 J 0.13 U Apr-13 2.6 C 0.11 U 1.1 U 89 D	Oct43 1.0 U 0.11 U 1.1 U 5.1 0.6 6 0.34 U 1.7 0.028 J 0.15 J Oct43 1.0 U 0.11 U 1.1 U 2.2	Apr-14 2.0 0.11 U 1.1 U 2.0 0.84 8.5 0.34 U 4.1 0.028 J 0.13 U Apr-14 0.34 J 0.11 U 1.1 U 2.7	Oct-14 0.18 J 0.11 U 1.1 U 5.2	Apr-18 6.3 0.55 U 5.5 U 5.5 U 5.5 U 7.2 D 1.7 U 0.65 U 0.6	Oct-15 Oct-15 O.11 U 2.0 U. I 0.56 J 0.1 8.A 0.24 0.14 O.14 Oct-15 O.12 J 0.11 U 2.0 U. I 0.59 J 0.11 U 0.10 J 0.10 J 0.10 J 0.11 U 0.00 J	Apr-16 6.4 0.11 U 1.1 U 110 D 2.2 8.8 0.34 U 3.7 0.026 J 0.13 U Apr-16 0.080 J 0.11 U 1.0 1.0	Oct-16 NA 0.11 U 1.1 U 2.4 0.53 3.1 0.34 U 1.2 0.020 U 0.13 U 0.11 U 0.15 U	Apr-17 12 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U 6.6 0.048 J 0.31 J  Apr-47 0.050 J 0.11 U 1.5	0.13 U  Oct-17	A.5 U  Apr-18 4.2 0.11 U 0.92 U 2.6 7.024 U 4.5 U 4.5 U Apr-18 0.551 U 0.11 U 0.92 U 14 U	0.51 U 0.10 U 0.85 U 0.25 J 1.6 J 0.25 J 0.25 J 1.6 J 0.25 U 0.77 J 0.056 4.3 U 0.17 J 0.05 U 0.05 U 0.05 U 13	Apr-1: 0.51 t 0.51 t 0.52 0 0.072 1 0.88 0 0.52 3 0.52 3 0.52 1 0.51 t 0.52 t
Lind C-estylinery) Phihains  Cenziliuent  Elitylbanzane  Mathysiphaeni  Bercole add rephihains  Paratechiraphaeni  Paratechiraphaeni  Paratechiraphaeni  Busannhana  Busannhana  Busannhana  Busannhana  Constituent  Ethylbanziliuent  Ethylbanziliuent  Ethylbanziliuent  Adablyjbanzil  Genziliuent  Ethylbanziliuent	3 Level II SLV (pg/L) 7.3 13 42 620 3.7 3.9 15 6.3 6.2 3 Level II SLV (pg/L) 7.3 13 42 620 3.7	Jun-05 NA* 9.6 U 190.0 9.6 U 11 9.6 U 9.6 U 9.6 U 9.6 U 9.7 U 9.7 U 9.7 U	2.0 UJ  Dec-05 NA* 0.34 UJ 5.9 UJ 650 D 2.5 J 8.6 J 2.0 UJ 2.0 UJ 0.05 UJ 0.33 UJ 5.9 UJ 0.33 UJ 0.33 UJ 0.33 UJ 0.33 UJ	Apr-06 Apr-08 Apr-08 Apr-08 Apr-08 Apr-08 Apr-08 0.57 J 0.060 U 2.0 J	Oct-06 7.4 0.050 UJ 1.5 UJ 1.5 UJ 1.5 UJ 0.48 8.4 0.023 UJ 2.3 0.013 UJ 0.27 UJ 0.060 UJ 1.5 UJ 0.060 UJ 1.5 UJ	Jun-07 NA* 0.11 UJ 1.8 J 3.00 0.34 UJ 3.00 0.34 UJ 3.00 0.39 J Jun-07 2.0 0.11 UJ 1.8 J 2.0 0.11 UJ 1.8 J 2.0 0.11 UJ 1.8 J	Oct-07 NA* 0.11 UJ 1.1 UJ 53 JD 1.1 J 47 J 0.04 UJ 1.2 J 0.02 UJ 0.13 UJ 0.11 UJ 1.1 UJ 1.4 UJ	Apr-08 NA* 1.1 UJ 11 UJ 920 D 3.4 UJ 1.3 UJ 1.3 UJ 1.1 UJ 1.1 UJ 2.20 D 0.25 UJ 1.3 UJ 1.1 UJ 1.1 UJ 1.1 UJ 1.20 D 0.95 JD	0.4-08 NA4 0.48 U R 150 D 2.4 9.7 0.95 UJ 3.5 0.19 U 0.95 U 0.95 U 0.49 U R 260 D 1.9	Apr-09 23 J 0.50 U 5.0 U 7.8 16 D 0.99 U 6.3 0.20 U 0.99 U Apr-09 1.1 0.48 U 4.6 U 220 D 2.1	Oct-09 1.0 U 0.48 U 4.8 U 75 D	May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.98 U 3.7 0.20 U 0.96 U 1.0 U 0.50 U 5.0 U 5.0 U 180 D 2.3	9.8 U  2.2  4.9 U  4.9 U  4.9 U  5.5 D  2.0 U  1.0 U  0.45 U  0.45 U  4.8 U  4.8 U  1.5 D	Apr41 23.0 0.11 U 1.1 U 670 D 4.9 10 0.037 J 0.13 U Apr41 1.0 U 0.037 J 0.11 U 1.1 U 1.1 U 24.0 D 2.2	Mexter  AT Oct-11 2 1.1 U 120 D 0.90 JD 12.D 3.4 U 15.B D 0.20 U 1.3 U Wester  Oct-11 1.0 U 1.1 U 11 U 58 D 2.4 D	n Interior W T-05 (dup) n Interior W T-05 (dup) n Interior W ATT-10 Apr-12 1.1 1.1 UD 11 UD 150 D	ell  Oct-12  1.00 U  1.01 UJ  1.1 UJ  1.3 J	Apr-43 7.5 C 0.11 U 1.1 U 150 D 1.8 12 D 3.4 U 7.1 0.040 J 0.13 U Apr-43 2.5 C 0.11 U 1.1 U 89 D 2.3	Oct43 1.0 U 0.11 U 1.1 U 5.1 0.5 5 0.34 U 0.15 J 0.15 J 0.15 J 0.11 U 1.1 U 1.1 U 2.2 1.2	Apr-14 20 0.11 U 1.1 U 28 D 0.84 8.5 0.34 U 4.1 0.028 J 0.13 U Apr-14 0.34 J 0.11 U 1.1 U 2.7 0.80	0.13 U 0.13 U 0.14 U 0.15 U 1.1 U 1.2 U 0.20	Apr-45 6.3 0.55 U 5.5 U 5.5 U 5.5 U 7.2 D 1.7 U 3.5 D 0.65 U 0.65 U 0.65 U 0.65 U 0.00 U 0.65 U	Oct-15 Oct-15 O.11 U 2.0 U,1 O.56 J O.11 B.A O.24 U 1.0 O.024 O.14 Oct-15 O.12 J O.11 U 2.0 U,1 O.59 J O.10 U 0.10 U 0.10 U 0.10 U 0.10 U 0.008 J	Apr-16 5.4 0.11 U 1.1 U 1.7 U 2.2 8.6 0.34 U 3.7 0.026 J 0.13 U Apr-16 0.080 J 0.11 U 1.1 U 1.8 0.18 J 0.18 J 0.18 J	0.13 U  Oct-16 NA 0.11 U 1.1 U 2.4 0.53 3.1 1.2 0.020 U 0.13 U 0.13 U 0.13 U 0.13 U	Apr-17 12 0.11 U 2.6 J 190 D 5.0 13.0 0.34 U 6.0 0.34 J 0.31 J Apr-17 0.050 J 0.11 U 1.1 U 1.5 0.098 J	0.13 U  Oct-17  5.5  0.11 U  1.1 U  1.20 D  4.5  12.0  0.34 U  7.8  0.075 J  0.13 U  Oct-17  1.1  0.11 U  1.1 U  0.10 U	Apr-18 4.2 0.11 U 0.52 U 82 DJ 2.6 7.3 J 0.060 J 4.5 U Apr-18 0.51 U 0.51 U 0.92 U	Oct-18 0.51 U 0.10 U 0.85 U 0.055 U 0.25 U 0.17 J 0.056 4.3 U 0ct-18 1.1 0.10 U 0.89 U 0.17 J 0.17 J 0.10 U 0.17 J 0.10 U 0.18 U 0.18 U 0.18 U 0.18 U 0.18 U 0.18 U	Apr-1 0.51 to 0.53 to 0.55 to
is (2-ethylnery) Phhibisolo Consiliuent (Consiliuent (Ethylbonzone - Methylphenol enzole add sphhilain libenzedurun	3 Level II SLV (pgA-) 13 42 620 3.7 3.9 6.3 6.2 3 Level II 7.3 42 620 3.7 3.9 42 620 3.7 3.9	Jun-05 Jun-05	Dec-05 NA* 0.34 UJ 650 D 2.5 J 2.5 UJ 2.0 UJ  Dec-05 0.13 UJ 0.33 UJ 0.74 J 0.33 UJ	Apr-08 NA* 0.30 UJ 360 D 1.1 D 6.4 D 0.15 UJ 2.1 D 0.064 JD 1.4 UJ 48 D 0.57 J 48 D 0.014 UJ 0.02 UJ 48 D 0.014 UJ 0.02 UJ	Oct-06 7.4 0.050 UJ 1.5 UJ 150 D 0.48 8.4 0.029 UJ 2.3 0.013 UJ 0.27 UJ 0.20 UJ 0.30 UJ 1.8 UJ 8.8 0.014 UJ 0.015 UJ	Jun-07 2.0 Jun-07 3.0 Jun-07 2.0 Jun-07 2.0 Jun-07 2.0 Jun-07 2.0 Jun-07 3.0	Oct-07 NA* 0.11 UJ S3 JD 1.1 UJ 1.1 UJ 1.2 J 0.34 UJ 0.13 UJ  Oct-07 0.2 UJ 0.11 UJ 1.1 UJ	Apr-08 1.1 UJ 20 D 3.4 UJ 4.3 D 0.20 UJ 1.3 UJ 1.1 UJ 2.1 UJ 4.3 D 0.20 UJ 1.3 UJ 2.0 UJ 1.3 UJ 2.0 UJ 2.0 UJ 2.1 UJ 2.0	0.45 U	Apr-09 23 J 0.50 U 5.0 U 410 D 7.8 16 D 0.90 U 6.3 0.20 U 0.96 U Apr-09 1.1 0.48 U 4.6 U 220 D 2.1	Oct-09 1.0 U 0.48 U 4.6 U 76 O 1.1	May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.98 U 3.7 0.20 U 0.96 U May-10 1.0 U 0.50 U 180 D 2.3 4.8	9.8 U  Oct-10 2.2 4.9 U 4.9 UJ 5.3 O 2.0 U 11 D 9.8 U  Oct-10 1.0 U 4.8 UJ 5.9 D 4.5 UJ 4.5 UJ	Apr41 23.0 23.1 U 23.1 U 23.1 U 23.1 U 23.1 U 24.2 U 25.0 U 23.1 U 25.0 U 25.0 U 26.1 U 26.0	Mexted AT  Oct-11  2  1.1 U  120 D  0.90 JD  12 D  3.4 U  5.8 D  0.20 U  1.3 U  Wester  Oct-11  1.0 U  1.1 U  5.8 D  6.4 D  6.4 D	n Interior W T-08 (dup) n Interior W T-08 (dup) n Interior W ATT-10 Apr-12 1.1 1.1 UD 150 D 2.0 D	0.22 J ell  Oct-12 1.00 U 0.11 UJ 1.1 UJ 5.8 J 1.3 J 4.9 J	Apr-13 Apr-13 7.8 C 0.11 U 1.1 U 1.50 D 1.8 12.0 0.040 J 0.13 U Apr-13 2.6 C 0.11 U 89 D 2.3 8.1	Oct43 1.0 U 0.11 U 1.1 U 1.1 U 1.7 0.6 5 0.34 U 1.7 0.028 J 0.15 J Oct43 1.0 U 0.11 U 1.1 U 2.2	Apr-14 2.0 0.11 U 2.8 D 0.84 8.5 0.34 U 4.1 0.028 J 0.13 U Apr-14 0.34 J 0.11 U 1.1 U 2.7 0.80 4.9	Oct-14 0.13 U 0.18 J 0.11 U 5.2 0.20 7.1	Apr-15 6.3 0.55 U 5.5 U 5.5 U 5.5 U 3.5 D 0.96 JD 7.2 D 1.7 U 3.5 D 0.10 U 0.65 U Apr-15 0.080 J 0.020 U 2.2 U 0.45 D 0.01 D	Oct-15 Oct-15 Oct-15 O.11 O.34 U 0.024 O.14 O.15 O.1 0.34 U 0.024 O.14 Oct-15 O.12 J O.12 J O.19 J O.89 J O.89 J E.0	Apr-16 6.4 0.11 U 110 D 2.2 8.6 0.34 U 3.7 0.025 J 0.13 U Apr-16 0.080 J 0.11 U 1.8 0.18 J 4.1	Oct-16 NA 0.11 U 2.4 0.53 3.1 0.34 U 1.2 0.020 U 0.13 U 0.13 U 0.14 U 0.59 0.11 U 1.1 U 3.5 D 0.58	Apr-17 Apr-17 Apr-17 Apr-17 Apr-17 0.050 J 1.1 U 1.5 0.051 J 0.11 U 1.5 0.093 J 0.51	0.13 U  Oct-47 6.6 0.11 U 1.1 U 120 D 4.5 12.0 0.34 U 7.8 0.075 J 0.13 U  Oct-47 1.1 0.11 U 1.1 U 33 D 0.69	Apr-12 4.2 0.11 U 0.92 U 82 DJ 2.6 7.9 J 0.24 U 4.3 J 0.060 J 4.6 U  Apr-18 0.51 U 0.11 U 0.057 J 4.0	Oct-18 0.51 U 0.10 U 0.85 U 0.055 U 0.25 U 0.17 J 0.056 4.3 U Oct-18 1.1 0.10 U 0.89 U 13 0.58 J	Apr.41 0.51 t 0.51 t 0.51 t 0.51 t 0.51 t 0.55 t 0.20 t 0.55 t 0.20 t 0.55 t 0.
La Ca-sthythewyl)Phhabia  Canalituent  Eihythonzene  Methypheat  Jerkinsphalen  Listerinsphalen  Listerinsphale	3 Level II SLV3 (pgA.) 13 42 620 3.7 3.9 15 6.3 6.2 3 Level II SLV3 (pgA.) 12 42 3.7 13 13 13 13 13 15 620 3.7 3.9	Jun-06 NA* 9.6 U 24 U 190.0 9.6 U 24 U 9.6 U 9.6 U 9.6 U 9.7 U 9.7 U 9.7 U 9.7 U	Dec-05 NA* 0.34 UJ 5.9 UJ 650 D 2.5 UJ 2.6 UJ 0.66 UJ 2.0 UJ 0.7 UJ 0.33 UJ 0.33 UJ 0.33 UJ 0.33 UJ 0.33 UJ 0.33 UJ	Apr-06 NA* 0.30 UJ 300 D 6.4 D 0.15 UJ 2.1 D 0.064 JD 1.4 UJ Apr-08 Apr-08 Apr-08 0.57 J 0.050 UJ 2.0 J 46 D 0.014 UJ 0.20 J	0.27 UJ  Oct-06 7.4 0.080 UJ 1.8 UJ 160 D 0.48 8.4 0.029 UJ 0.27 UJ 0.090 UJ 1.8 UJ 8.6 0.014 UJ 0.28 0.014 UJ 0.28	Jun-07 NA* 0.11 UJ 1.8 J 300 D 7.3 18 JD 0.34 UJ 3.0 0.29 J  Jun-07 2.0 0.11 UJ 1.8 J 230 D 0.4 UJ 0.29 J	Oct-07 NA* 0.11 UJ S3 J0 1.1 UJ 1.1 UJ 4.7 J 0.02 UJ 0.13 UJ 0.14 UJ 0.15 UJ 0.15 UJ 0.17 UJ 1.1 UJ 1.1 UJ 1.1 UJ 1.1 UJ 1.1 UJ 1.1 UJ 1.2 UJ 0.55 1.6 0.2 UJ	Apr-08 NA* 1.1 UJ 11 UJ 220 D 3.4 UJ 4.3 D 0.20 UJ 1.3 UJ 1.1 UJ 1.1 UJ 2.0 D 2.00 D 2.0 D	Oct-08 NA4 0.48 U R 150 D 2.4 9.7 0.95 UJ 3.5 0.19 U 0.95 U 0.49 U R 2.60 D 1.9 2.9 0.99 UJ	Apr-03 23 J 0.50 U 5.0 U 410 D 7.8 0.50 U 6.3 0.20 U 0.90 U Apr-03 1.1 0.48 U 4.5 U 220 D 2.1 4.4	Oct-03 1.0 U 0.48 U 4.6 U 1.1 2.7 0.96 U	May-10 11.0 0.48 U 4.8 U 4.8 U 0.36 2.1 10.08 U 3.7 0.20 U 0.96 U 1.0 U 0.50 U 5.0 U 5.0 U 180 D 2.3 4.8	9.8 U  Oct-10  2.2  4.9 U  4.9 U  5.3 O  2.0 U  1.0 U  0.45 U  4.8 U  5.9 D  1.5 S  0.9 C	Apr-41 23.0 0.11 U 23.0 0.11 U 1.1 U 670 D 4.9 10 0.037 J 0.13 U Apr-41 1.0 U 0.11 U 1.1 U 240 D 240 D 240 D 240 D 0.34 U	Mexter  AT Oct-11 2 1.1 U 120 D 0.90 JD 12 D 0.20 U 1.3 U Wester  Oct-11 1.0 U 1.1 U 1.1 U 1.1 U 1.2 U 0.2 U 0.2 U 0.2 U 0.2 U 0.3 U	0.65 UD Interior W T-05 (dup) Interior W T-05 (dup) Interior W ATT-10 Apr-12 1.1 UD 11 UD 150 D 2.0 JD 5.2 D 3.4 UD	0.22 J ell Oct-12 1.00 U 0.11 UJ 1.1 UJ 5.8 J 1.2 J 4.9 J 0.34 UJ	Apr-43 7.8 C 0.11 U 1.1 U 1.50 D 1.8 1.50 D 2.4 U 7.1 0.040 J 0.13 U Apr-13 2.6 C 0.11 U 1.1 U 38 D 2.3 8.1 0.34 U	Oct-43 1.0 U 0.11 U 1.1 U 5.1 0.6 5 6 0.34 U 1.7 0.15 J 0.15 J 0.15 J 0.11 U 1.1 U 1.1 U 2.2 1.2 1.2 1.2	Apr-14 2.0 0.11 U 1.1 U 2.8 D 0.84 8.5 0.34 U 4.1 0.028 J 0.13 U  Apr-14 0.34 J 0.11 U 1.1 U 2.7 0.80 4.9 0.34 U	Oct-14 0.13 U 0.11 U 1.1 U 5.2 0.20 7.1 0.34 U	Apr-45 0.65 U  Apr-45 0.55 U 5.5 U 5.5 U 5.5 U 7.7 U 3.5 D 0.65 U 0.65 U 0.65 U 0.65 U 0.65 U	0:13 U 0:11 U 2:0 U; I 0:56 J 0:1 0:10 U 0:0 U; I 0:56 U 0:1 0:1 0:1 0:1 0:1 0:1 0:1 0:1 0:1 0:1	Apr-16 6.4 0.11 U 1.10 U 3.7 0.026 J 0.13 U 1.10 U 1.1 U 1.2 U 1.3 U 1.4 U 1.4 U 1.4 U 1.5 U 1.5 U 1.5 U 1.5 U 1.5 U 1.7 U 1.7 U 1.7 U 1.7 U 1.7 U 1.7 U 1.8	Oct-16 NA 0.11 U 1.1 U 2.4 0.53 3.1 0.34 U 1.2 0.030 U 0.13 U 0.13 U 0.15 U 0.15 U 0.15 U 0.16 U 0.17 U 0.18 U	Apr-17 12 0.11 U 2.61 190 D 5.0 0.34 U 6.8 0.045 J 0.31 J  Apr-17 0.050 J 0.11 U 1.1 U 1.5 0.099 J 5.1	0.13 U  Oct-17  8.5  0.11 U  1.10  1.20 D  4.5  12.0 D  0.34 U  7.8  0.15 U  Oct-17  1.1  0.11 U  1.1 U  1.1 U  0.10 U  0.09 J  0.09 J  0.09 D	Apr-18 4.2 0.11 U 0.52 U 82 DJ 2.6 7.9 J 0.24 U 4.5 U Apr-18 Apr-18 0.51 U 0.11 U 0.52 U 14 U 0.067 J 4.6 U	0ct-48 0.51 U 0.10 U 0.85 U 0.055 0.25 J 1.6 J 0.22 U 0.17 J 0.056 4.3 U 0.10 U 0.89 U 1.1 0.10 U 0.89 U 1.3 0.58 J 0.58 J 0.58 J	Apr-1: 0.51 ti 0.62 U  Apr-1: 0.55 J 0.00 0.55 L 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.
constituent Ethybanzane Achtyphenol Benzole add sphihalate Pentachiane Benzole add sphihalate Pentachiane Benzole add sphihalate	3 Level II SLV <sup>2</sup> (pg.) 13 42 620 3.7 3.9 15 6.3 6.3 8.2 15 6.3 8.1 15 6.3 8.2 2 2 3.7 3.9 15 6.3 8.1 15 6.3 8.1 15 6.3 8.1 15 8	Jun-06 NA* 9.6 U 190.0 9.6 U 11 24 U 9.6 U 9.6 U 9.7 U	Dec-05 NA* 0.34 UJ 5.9 UJ 650 D 2.5 J 8.5 J 2.0 UJ	Apr-08 NA* 0.20 U.U 8.6 U.J 8.6 U.J 9.00 D. U.I 1.1 D 0.15 U.J 2.1 D 0.004 J.D 1.4 U.J Apr-08 Apr-08 0.57 J 0.050 U.J 2.0 J 46 D 0.20 U.J	Oct-06 7.4 0.080 UJ 1.8 UJ 180 D 0.48 8.4 0.029 UJ 0.27 UJ 0.27 UJ 0.27 UJ 1.8 UJ 85 0.014 UJ 0.28 0.029 UJ 0.045	Jun-07 NA* 0.11 UJ 1.8 J 300 D 7.3 18 JD 0.34 UJ 0.39 J Jun-07 2.0 0.11 UJ 1.8 J 230 D 0.11 UJ 1.8 J 0.54 UJ 0.55 J	Oct-07 NA* 0.11 UJ 53 JD 1.1 UJ 53 JD 1.1 J 4.7 J 0.24 UJ 0.13 UJ 1.1 UJ 1.2 UJ 0.55 J 1.6 0.34 UJ	Apr-08 NA* 1.1 UJ 11 UJ 20 D 3.4 UJ 4.3 D 0.20 UJ 1.3 UJ 1.1 UJ 1.1 UJ 200 D 0.95 JD 0.95 JD 0.22 UJ	Oct-08 NA4 0.48 U R 150 D 2.4 9.7 0.95 UJ 0.05 U 0.05 U 0.48 U R 250 D 1.0 U 0.48 U 1.0 U 0.95 U	Apr-09 23 J 0.50 U 5.0 U 410 D 7.8 16 D 0.98 U 6.3 0.20 U 0.98 U 4.8 U 220 D 2.1 4.4 0.96 U 0.20 U	Oct-09 1.0 U 0.48 U 75 D 1.1 2.7 0.98 U	May-10 11.0 0.48 U 4.8 U 0.36 2.1 11 0.98 U 3.7 0.20 U 0.96 U 1.0 U 5.0 U 180 D 2.3 4.8 1.0 U 0.50 U 0.50 U	9.6 U  2.2 4.9 U 9.4 D 2.0 U 11 D 9.8 U 5.3 O 2.0 U 9.8 U 1.0 U 4.6 UJ 5.9 D 4.6 UJ 5.9 D 4.6 UJ 5.9 D 6.6 U 6.6 UJ 6.7 U 6.7	Apr41 23.0 0.11 U 1.1 U 670 D 4.3 19 0.03 U 10 0.037 J 0.13 U 24.0 0.11 U 1.1 U 24.0 0.11 U 2.2 6.0 0.34 U	Wester AT Cot:41 2 1.1 U 11 U 12 D 0.90 JD 12 D 0.20 U 1.3 U Wester Oct-11 1.0 U 1.1 U 1.0 U 1.1 U 0.0 JD 0.0 U 0.	n Interior W T-05 (dup) T-05 (dup) T-05 (dup) T-05 (dup) T-05 (dup) ATT-10 Apr-12 1.1 1.1 UD 15 0 D 2.0 JD 3.4 UD	0.22 J eff  Oct-12 1.00 U 1.1 UJ 5.8 J 1.2 J 4.9 J 0.46 UJ 0.46 UJ	Apr-43  Apr-43  7.8 C 0.11 U 1.5 U 1.5 U 1.5 U 1.5 U 1.6 U 1.6 U 1.7 L 0.040 J 0.13 U  Apr-43  2.6 C 0.11 U 1.1 U 88 D 2.3 U 0.5 U	Oct-13 1.0 U 0.11 U 1.1 U 5.1 0.6 5 0.34 U 1.7 0.028 J 0.15 J 0.11 U 1.1 U 1.1 U 2.2 1.2 8.4 0.34 U 1.1	Apr-14 2.0 0.11 U 1.1 U 28 D 0.84 U 4.1 0.028 J 0.13 U Apr-14 0.34 J 0.11 U 1.1 U 2.7 0.80 4.9 0.34 J 0.10 0.55	Oct-14 0.13 U 0.18 J 0.11 U 5.2 7.1 0.34 U 1.2 U	Apr-45 6.3 0.55 U 53 D 0.96 JD 7.2 D 1.7 U 3.5 D 0.10 U 0.65 U 2.2 U 0.24 JD 10 D 0.68 U 1.4 D	0:13 U  0:14 U  0:11 U  2:0 U,1  0:56 J  0:1  8:4  0:24 U  1:8  0:024  0:14  0:14  0:15 U  0:05 U  1:8  0:024  0:14  0:05 U  0:05 U	Apr-16 6.4 0.11 U 110 D 2.2 8.6 0.34 U 0.7 0.026 J 0.13 U 1.1 U 1.1 U 1.1 U 1.1 U 1.1 U 1.1 U 1.2 U 0.4 U 0.5 U 0.5 U	Oct-16 NA 0.11 U 1.1 U 2.4 0.53 3.1 0.34 U 0.13 U 0.13 U 0.11 U 1.1 U 0.58 0.59 0.11 U 1.1	Apr-47 0.31 J Apr-47 0.050 J 0.11 U 1.1 U 1.5 0 0.098 J 5.1 0.098 J 5.1 0.098 J 5.1 0.098 J 5.1	Oct-47 5.6 0.11 U 120 D 4.5 12.0 0.34 U 7.8 0.075 J 0.13 U 1.1 U 1.1 U 3.1 D 0.11 U 1.1 U 3.1 D 0.89 1.0 0.89 1	Apr-18 4.2 0.11 U 0.92 U 52 DJ 0.24 U 4.6 U  Apr-18 0.51 U 0.11 U 0.92 U 14 U 0.92 U 14 U 0.92 U	Oct-18 0.51 U 0.10 U 0.85 U 0.055 U 0.25 U 0.17 J 0.056 4.3 U Oct-18 1.1 0.10 U 0.89 U 13 0.58 J	Apr.1: 0.51 t 0.51 t 0.51 t 0.51 t 0.55 t 0.95 t 0.55 t 0.90 t 0.
Constituent  Constituent  Ethylocranea  Achtylychenol  Benzole add  Naphthalane  Dibercens  Parist chiraryshenol  Parist chiraryshenol  Parist chiraryshenol  Resident add	3 Level II SLV3 (pgA.) 13 42 620 3.7 3.9 15 6.3 6.2 3 Level II SLV3 (pgA.) 12 42 3.7 13 13 13 13 13 15 620 3.7 3.9	Jun-06 NA* 9.6 U 24 U 190.0 9.6 U 24 U 9.6 U 9.6 U 9.6 U 9.7 U 9.7 U 9.7 U 9.7 U	Dec-05 NA* 0.34 UJ 5.9 UJ 650 D 2.5 UJ 2.6 UJ 0.66 UJ 2.0 UJ 0.7 UJ 0.33 UJ 0.33 UJ 0.33 UJ 0.33 UJ 0.33 UJ 0.33 UJ	Apr-06 NA* 0.30 UJ 300 D 6.4 D 0.15 UJ 2.1 D 0.064 JD 1.4 UJ Apr-08 Apr-08 Apr-08 0.57 J 0.050 UJ 2.0 J 46 D 0.014 UJ 0.20 J	Oct-06 7.4 0.050 UJ 1.5 UJ 160 D 0.48 8.4 0.029 UJ 2.3 0.013 UJ 0.27 UJ 0.080 UJ 1.8 UJ 86 0.014 UJ 0.029 UJ 0.050 UJ	Jun-07 NA* 0.11 UJ 1.8 J 300 D 7.3 18 J 300 D 7.3 18 J 0.34 UJ 0.39 J  Jun-07 2.0 0.11 UJ 1.8 J 230 D 0.47 1.3 0.34 UJ 0.05 UJ	Oct-07 NA* 0.11 UJ S3 J0 1.1 UJ 1.1 UJ 4.7 J 0.02 UJ 0.13 UJ 0.14 UJ 0.15 UJ 0.15 UJ 0.17 UJ 1.1 UJ 1.1 UJ 1.1 UJ 1.1 UJ 1.1 UJ 1.1 UJ 1.2 UJ 0.55 1.6 0.2 UJ	Apr-08 NA* 1.1 UJ 920 D 11 D 3.4 UJ 4.3 D 0.20 UJ 1.3 UJ 280 D 0.11 UJ 280 D 0.25 UJ 280 D 0.25 UJ 0.25 UJ 0.25 UJ 0.25 UJ	0.48 U R 150 D 2.4 9.7 0.95 U 0.95 U 0.25 U	Apr-09 23 J 0.50 U 410 D 7.8 16 D 0.99 U 6.3 0.20 U 0.96 U Apr-09 1.1 0.48 U 4.8 U 220 D 2.1 4.4 0.96 U 0.96 U	Oct-03 1.0 U 0.48 U 4.6 U 1.1 2.7 0.96 U	May-10 11.5 0.48 U 4.8 U 0.36 2.1 11 0.06 U 3.7 0.20 U 0.86 U 1.0 U 0.50 U 1.0 U 0.50 U 1.0 U 0.50 U	9.8 U  Oct-10  2.2  4.9 U  4.9 U  5.3 O  2.0 U  1.0 U  0.45 U  4.8 U  5.9 D  1.5 S  0.9 C	Apr-41 23.0 0.11 U 23.0 0.11 U 1.1 U 670 D 4.9 10 0.037 J 0.13 U Apr-41 1.0 U 0.11 U 1.1 U 240 D 240 D 240 D 240 D 0.34 U	Mexter  AT Oct-11 2 1.1 U 120 D 0.90 JD 12 D 0.20 U 1.3 U Wester  Oct-11 1.0 U 1.1 U 1.1 U 1.1 U 1.2 U 0.2 U 0.2 U 0.2 U 0.2 U 0.3 U	0.65 UD Interior W T-05 (dup) Interior W T-05 (dup) Interior W ATT-10 Apr-12 1.1 UD 11 UD 150 D 2.0 JD 5.2 D 3.4 UD	0.22 J ell Oct-12 1.00 U 0.11 UJ 1.1 UJ 5.8 J 1.2 J 4.9 J 0.34 UJ	Apr-43 7.8 C 0.11 U 1.1 U 1.50 D 1.8 1.50 D 2.4 U 7.1 0.040 J 0.13 U Apr-13 2.6 C 0.11 U 1.1 U 38 D 2.3 8.1 0.34 U	Oct-43 1.0 U 0.11 U 1.1 U 5.1 0.6 5 6 0.34 U 1.7 0.15 J 0.15 J 0.15 J 0.11 U 1.1 U 1.1 U 2.2 1.2 1.2 1.2	Apr-14 2.0 0.11 U 1.1 U 2.8 D 0.84 8.5 0.34 U 4.1 0.028 J 0.13 U  Apr-14 0.34 J 0.11 U 1.1 U 2.7 0.80 4.9 0.34 U	Oct-14 0.13 U 0.11 U 1.1 U 5.2 0.20 7.1 0.34 U	Apr-45 0.65 U  Apr-45 0.55 U 5.5 U 5.5 U 5.5 U 7.7 U 3.5 D 0.65 U 0.65 U 0.65 U 0.65 U 0.65 U	0:13 U 0:11 U 2:0 U; I 0:56 J 0:1 0:10 U 0:0 U; I 0:56 U 0:1 0:1 0:1 0:1 0:1 0:1 0:1 0:1 0:1 0:1	Apr-16 6.4 0.11 U 1.10 U 3.7 0.026 J 0.13 U 1.10 U 1.1 U 1.2 U 1.3 U 1.4 U 1.4 U 1.4 U 1.5 U 1.5 U 1.5 U 1.5 U 1.5 U 1.7 U 1.7 U 1.7 U 1.7 U 1.7 U 1.7 U 1.8	Oct-16 NA 0.11 U 1.1 U 2.4 0.53 3.1 0.34 U 1.2 0.030 U 0.13 U 0.13 U 0.15 U 0.15 U 0.15 U 0.16 U 0.17 U 0.18 U	Apr-17 12 0.11 U 2.61 190 D 5.0 0.34 U 6.8 0.045 J 0.31 J  Apr-17 0.050 J 0.11 U 1.1 U 1.5 0.099 J 5.1	0.13 U  Oct-17  8.5  0.11 U  1.10  1.20 D  4.5  12.0 D  0.34 U  7.8  0.15 U  Oct-17  1.1  0.11 U  1.1 U  1.1 U  0.10 U  0.09 J  0.09 J  0.09 D	Apr-18 4.2 0.11 U 0.52 U 82 DJ 2.6 7.9 J 0.24 U 4.5 U Apr-18 Apr-18 0.51 U 0.11 U 0.52 U 14 U 0.067 J 4.6 U	0ct-48 0.51 U 0.10 U 0.85 U 0.055 0.25 J 1.6 J 0.22 U 0.17 J 0.056 4.3 U 0.10 U 0.89 U 1.1 0.10 U 0.89 U 1.3 0.58 J 0.58 J 0.58 J	Apr-19 0.51 U

#### GROUNDWATER ANALYTICAL RESULTS<sup>1,2</sup>

Final Site Remedy Former Koppers Facility Wauna, Oregon

					_									Easte	rn Exterior V	Vell												
1	Level II		SBW-65   SBW-65   ORG   No.05   ORG   No.05   ORG   No.05   ORG   ORG																									
Constituent	SLV	Oct-06	Jun-07	Oct-07	Aur-08	Oct-08	Apr-09	Oct-08	May-10	Oct-10	Apr-11	Oct-11	Apr-12	Apr-12 Dup	Oct-12	Apr-13	Oct-13	Apr-14	Oct-14	Apr-15	Oct-15	Apr-16	Oct-16	1494-11	Oct-17	Apr-18	Oct-18	Apr-19
	7.3	0.20 W	0.2 0.3	0.2 11.1	0.20 UJ	1.00	1.00	1.00	1.00	1.00	0.049 U	0.049 U	0.049 U	0.049 U	1.00 U	0.049 U	1.0 U	0.050 U	0.050 U	0.050 U	0.050 U	0.080 J	0.050 J	0.49 J	0.050 U	3.0	0.51 U	0.51 U
Ethylberizana 2-Methylphanal		0.080 UJ		0.11 UJ	0.11 UJ	0.51 U	0.4B U	0.48 U	0.49 U	0.48 U	0.11 U	0.55 U	0.11 U	0.11 U	0.11 UJ	0.11 U	0.11 U	0.11 U	0,11 U	0.11 U	0.10 U	0.3 U						
Benzolc acid	42	1.8 UJ	133	1.1 UJ	1.3 J	R	4.8	4.8 U	4.9 U	4.8 UJ	1.1 U	5.5 U	1.1 U	1.1 U	1.1 UJ	1.1 U	1.1 U	1.1 U	2.1	1.1 U	2.0 01	1.3 J	1,1 U	2.7 J	1.1 U	0.92 U	0.85 U	0.92 U
Naphthalone	620	0.012 UJ	0.083 J	0.079 J	0.19 J	3.2	0,20 U	0.20 U	0.20 U	0.20 U	0.024 J	0.18 JD	0.062 J	0.075 J	0.042 J	0.47	0.058 J	0.044 J	0.022 U	0.022 U	0.088 J	1.1	0.14 J	34 D	0.28	110 J	0.096 J	0.059 U
Dibenzofuran	3.7	0.014 UJ		0.15 J	0.023 J	0.21 U	0.20 U	0.20 U	0.20 U	0,20 U	0.015 U	0.090 U	D.046 J	0.049 J	0.018 UJ	0.018 U	0.018 U	0.018 U	0.27	0.018 U	0.18 J	0.018 U	0.018 U	0.78	0.026 J	2.3 J	0.088 U	0.073 U
Fluoreno	3.9	2.9	1.0	3.3	4.5	5.4	7,3	7.4	1.0	11	0.83	11 D	3.7	4.0	4.E J	0.71	0.45	3.6	4.3	0.13 J	14	2.8	4.7	8,0	0.14 J	27	1,8	U 600'0
Pentrichlorophenol	15	0.029 UJ	0.34 UJ	0.34 UJ	0.34 UJ	1.1 UJ	0.97 U	0.96 U	0.97 U	0.96 U	0,34 U	1,7 U	0.34 U	0.34 U	0.34 UJ	0.34 U	0.34 U	0,34 U	0.34 U	0.34 U	0.24 U	0.56 J	0.34 U	0.34 U	0.34 U	0.24 J	0.22	0.85 U
Phananthrene	6.3	0.025 US	0.022 UJ	0.053 J	0.026 J	0.22	0.20 U	0.20 U	0.20 U	0.21	0.022 U	0.022 U	0.043 J	0.041 J	1.280.0	0.022 U	0.023 J	0.022 U	0.19	0.022 U	0.25	0.081 J	D.14 J	0.057 J	0.022 U	0.35	D.080.J	0.085 J
	6.2	0.13 J	0.14 J	0.11.1	0.037 J	0.21 U	0.20 U	0.20 U	0.20 U	0.20 U	D.020 U	0.15 JD	0.17 J	0.15J	D.27 J	0.11 J	0.17 J	0.15 J	0.46	0.034 J	0.24	0,020 U	0.039 J	0.020 U	0.035 J	0.060 U	0.077 J	U 30.0
Fluorenthono	0	0.133	0.13 [].	0.13 U.I	0.13 UJ	1.1 11	11	0.96 U	17 UJ	0.96 U	0.19 J	0.65 U	0.13 U	0.13 U	0.13 UJ	0.13 U	0,13 U	0.13 U	1.4	0.13 U	0.14 J	0.13 U	0.13 U	0.54 J	0.13 U	4.6 U	4,3 U	6.2 U

	Level II														Easter	n Exterior W	all													
_	SLV		SBW07  15 Dev68 Apr46 Qct-96 JUD-97 Qct-97 Apr48 Qct-98 Apr49 Qct-98 Apr49 Qct-98 Apr49 Qct-18 A																											
Constituent	(ug/L)	Jun-05	Dec-05	Apr-06	Oct-06	Jun-07	Oct-07	Apr-08	Oct-08	Apr-09	Oct-09	May-10	Oct-10	Apr-11	Oct-11									Apr-16						Apr-19
Ethylbanzene	7,3	0.13 U	0.13 UJ	0.13 UJ	0.20 UJ	0,2 UJ	0.2 UJ	0.20 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.049 U	0.049 U	0.049 U	0.0490 U		1.0 U	0.050 U	0.050 J	0.050 U	0.050 U	0,050 U	0,050 U	0.050 U	0,050 U	0.51 U	0.51 U	0.51 U
2-Methylphonol	13	11 []	0.33 UJ	0.000 UJ	UU 030.D	0.12 UJ	0,11 W	0.11 UJ	0.49 U	0.48 U	0.49 U	0.49 U	0.48 U	0.11 U	0.49 U	0,11 U	0.11 UJ	0.11 U	0.11 U	0.11 U	0,11 U	0.11 U		0.29 U						
Banzolc scid	42	26 U	5.9 UJ	1.8 UJ	1.8 U.J	1.5 J	1.1 UJ	1.3 J	R	4.8 U	490	4.9 U	4.8 UJ	1.1 U	4.9 U	1.2 J	1.1 UJ	1.1 J	1.1 J	1.1 U	2.1	1.5 J	1.9 J	1.4 J	1.1 U	2.5 J	1.1 U	0.92 U	0.85 U	0.89 U
	520	11 U	7.0 J	7.5	0.1	0.065 J	2.2	0.14 J	1.2	0.20 U	0.20 U	0.20 U	2.5	0.030 J	0.20 U	L 030.0	0.025 J	0.022 U	0.065 J	D.029 J	6.2	0.022 U	0.022 U	0.022 U	0.022 U	0,022 U	0,52	0.059 U	0.055 U	0.057 U
Naphthalone	3.7	11 U	1.23	0.29	0.040 J	0.064 J	0.022 J	0.015 UJ	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.018 U	0.20 U	0.018 U	0.018 UJ	0,018 U	0.018 U	0.018 U	0.047 J	0.018 U	0.073 U	0.06B U	0.07 U					
Dibenzofuran						0.20 J	0.22	0.027 UJ		0.20 U	0.20 U	0200	0.20 U	0.027 U	0.021 J	0.027 U	D.D27 UJ	0.027 U	0.027 U	0.027 U	0.22	0.027 U	0.027 U	0.027 U	0.027 U	D.027 U	0,027 U	U 690'0	0.064 U	0.066 U
Fluorene	3.9	11 U	2.7 J	0.70	0.085 J							0.98 U	0.96 U	0.34 U	0.20 U	0.34 U	0.34 UJ	0.34 U	0,34 U	0,34 U	0.24 U	0.22 U	0.81 U							
Pentachlorophenol	15	26 U	2.5 UJ	0.029 UJ	0.029 UJ	0.38 UJ	0.34 UJ	0.34 UJ	0.98 UJ	U 38.0	0.97 U															0,022 U	0.022 U	0.084 J		
Phonenthrene	6.3	11 U	3.2 J	0.29	UU 110,0	0.023 W	0.022 UJ	0.022 UJ	0.20 U	0,20 U	0.20 U	0.20 U	0.20 1	0.023 J	0.20 U		0.022 UJ		0.022 U			0.022 U	0.022 U							
Fluoranthone	6.2	11 11	2.33	0.143	0.013 UJ	0.021 UJ	0.02 UJ	0.020 UJ	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	0.98 U	0.020 U	0.020 UJ	0.020 U	0.020 U	0.020 U	0.020 U	D.020 U	0.020 U	0.020 U	0.020 U	0,020 U	0.020 U	U 030.0		U 820.0
bla(2-ethylhexyl)Phthalat		11 U	2.6 J	0.74 J	0.45 J	0.14 UJ	0.47 J	0.13 UJ	U 86.0	0.98 U	0.97 U	88.0	D.96 LI	0.13 J	0.20 U	0.13 U	D.13 UJ	0.13 U	0.18 J	0.13 U	0.3	0.32	0.17 J	0.48 J	0.13 U	0.17 J	0.13 U	4.6 U	430	вu

	Level II			Cont	alned Area	Wells								Em	bankment A	rea Well (Mo	nitored Jun	-05 to Oct-4	19)					Emb	ankment A	rea Well (Me	onltored Ju	n-05 to Oct-	09)		
					PMW-6 (Mc		m Jun-05 t	Oct-091								SBW-	01									SBW	-09				
	SLV	Jun-05	Dec-05	Apr-06	Oct-06	Jun-07	Oct-07	Apr-08	Oct-08	Apr-09	Oct-03	Jun-05	Dec-08	Apr-06	Oct-06	Jun-07	Oct-07	Apr-08	Oct-08	Apr-09	Oct-03	Jun-06	Dec-05	Apr-06	Oct-05	Jun-07	Oct-07	Apr-08	Oct-08	Apr-09	Oct-09
Constituent	7.3	Er.	Ed	69	67	59	50	51	38	38	45	0.13 U	0.13 UJ	0.13 UJ	0.20 UJ	0.2 UJ	0.2 UJ	0.20 UJ	1.0 U	1.0 U	1.0 U	16	15	3.5	8.0	0.2 UJ	0.2 UJ	0,20 UJ	1.0 U	1.0 U	1.0 U
Ethylbenzene	13	79	44.0	29 JD	480	95.0	740 0	28 D	98 U	26 D	29 D	9.8 U	0.23 UJ	UU 080.0	D.DED UJ	0.12 UJ	0.11 W	D.11 UJ	0.500	0.48 U	0,49 U	11 U	0.34 UJ	0.060 UJ	0.03	0.11 UJ	0.11 UJ	0.11 UJ	0.53 U	0,48 U	0.48 U
2-Mathylphanat	42	240 U	12 UJ	180 UJ	90	110 UJ	110 UJ	220 UJ	R	480 U	48 U	25 U	5.9 UJ	1.8 UJ	1,8 UJ	1.5 J	1.1 UJ	1.7 J	R	4.8 U	4.9 U	27 U	6.0 UJ	1.8 UJ	0.9	1.5 J	1.1 UJ	1.3 J	R	4,8 U	4,8 U
Benzolc acid	820	13,000	12.000 D	9,500 D	12,000		12.000 D		9,300 D		11,000 D	9.9 U	0.37 UJ	0,13 J	0,012 UJ	0.085 J	D.03 J	0.053 J	0.20 U	0.20 U	0.20 U	120	160	20 D	1.2	0.25	0.52	0.19 J	0.67	0.20 U	0.19 U
Naphthalone	3.7	520	530 D	280 D	780	250 D	270 D	180 D	200 D	190 D	300 D	9.9 U	0.23 UJ	0.014 UJ	0,014 UJ	0,019 UJ	0.018 UJ	0.018 UJ	0.20 U	0.20 U	0.20 U	15	16	0.78	2.6	0.43	0.72	0.034 J	0.52	0.20 U	0.19 U
Dibonzofuran	3,9	730	600 D	300 D	220	230 D	230 D	170 D	170 D	170 D	310 D	9.9 U	0.33 UJ	0.012 UJ	0.012 UJ	0.029 UJ	0,027 UJ	0.027 UJ	0.20 U	0.20 U	0.20 U	18	18	0.8	2,9	0.43	0.86	0.057 J	1.1	0.20 U	0.19 U
Fluorena	15	24 U	32 JD	46 JD	1.45	34 (1.1	34 UJ	3.4 UJ	200 UJ	1.8	9.5 U	25 U	2.5 UJ	0.029 UJ	0,029 UJ	0,36 UJ	0.34 UJ	0.34 UJ	1.0 UJ	0.96 U	0.97 U	27 U	2.5 UJ	0.029 UJ	0.0145	0,34 UJ	0.34 UJ	0,34 UJ	1.1 UJ	U 38.0	0.95 U
Pentachlorophenol	6.3	1,400	1,100 D	410 D	190	170 D	190 D	140 D	150 D	140 D	400 D	9.9 U	0.49 UJ	0.050 J	0.011 UJ	0.023 UJ	0.022 UJ	0.022 UJ	0.20 U	0.20 U	0.20 U	11 U	14	0,26	0.81	0.050 J	0.2 J	0.022 UJ	0.22 U	0,20 U	0.19 U
Phenanthrono	6,3	630	700 D	140 D	47	15.10	16.10	44 D	39 U	18	110 D	8.9 U	0.88111	0.047 J	0.013 UJ	0.021 UJ	0.02 UJ	0.020 UJ	0.20 U	0.20 U	0.20 U	11 U	2.6 1	0.023 J	0.026	0,02 UJ	D.02 UJ	0.020 UJ	0.22 U	D.20 U	0.19 U
Fluoranthone		9.5 U	3.8 UJ	27 UJ	13.5	13 UJ	13 UJ	1.3 UJ	200 U	0.96 U	9.5 U	9.9 U	1.9 UJ	0.80 J	0.27 UJ	0.14 UJ	0.13 UJ	0.13 UJ	1.0 U	0.96 U	0.97 U	11 U	2.0 UJ	0.27 UJ	0.135	D.13 UJ	0.13 UJ	0.13 UJ	1.1 U	U 38.0	0.95 U

µg/L = micrograms per liter
SLV = Oregon Department of Environmental Quality Screening Level Value

