

**DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION**  
Interim Final 2/5/99  
**RCRA Corrective Action**  
**Environmental Indicator (EI) RCRIS code (CA725)**  
**Current Human Exposures Under Control**

Facility Name: World Kitchen, LLC  
Facility Address: 100 Eighth Street Charleroi, Pennsylvania 15022  
Facility EPA ID #: PAD004326542

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

If yes – check here and continue with #2 below.

If no – re-evaluate existing data, or

If data are not available skip to #6 and enter “IN” (more information needed) status code.

**BACKGROUND**

**Definition of Environmental Indicators (for the RCRA Corrective Action)**

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

**Definition of “Current Human Exposures Under Control” EI**

A positive “Current Human Exposures Under Control” EI determination (“YE” status code) indicates that there are no “unacceptable” human exposures to “contamination” (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all “contamination” subject to RCRA corrective action at or from the identified facility [i.e., site-wide]).

**Relationship of EI to Final Remedies**

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The “Current Human Exposures Under Control” EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program’s overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

**Duration / Applicability of EI Determinations**

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be “contaminated”<sup>1</sup> above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale/Key Contaminants</u>
Groundwater	<b>X</b>			<u>Contamination remediated; Act 2.</u>
Air (indoors) <sup>2</sup>		<b>X</b>		<u>Contamination below risk-based levels.</u>
Surface Soil (e.g., <2 ft)	<b>X</b>			<u>Contamination remediated; Act 2.</u>
Surface Water		<b>X</b>		<u>Wastewater sources evaluated and remedied.</u>
Sediment		<b>X</b>		<u>Wastewater sources evaluated and remedied.</u>
Subsurf. Soil (e.g., >2 ft)	<b>X</b>			<u>Contamination remediated; Act 2.</u>
Air (outdoors)		<b>X</b>		<u>No record of contamination.</u>

  X   If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

       If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

       If unknown (for any media) - skip to #6 and enter “IN” status code.

**Rationale and Reference(s):**

World Kitchen, LLC (facility) manufactures tableware and kitchenware by utilizing continuous operating processes involving glass batch mixing, controlled melting in melt furnaces, and final finishing and decorating of the products. Current manufacturing products include glassware including Pyrex<sup>®</sup>, Corelle<sup>®</sup>, Corning Ware<sup>®</sup>, Visions<sup>®</sup>, and commercial tableware.

<sup>1</sup> “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

<sup>2</sup> Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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This rectangular, 22-acre property is located on the west bank of the Monongahela River in Charleroi Borough, Washington County. The topography is relatively flat with a gentle slope towards the Monongahela River. Buildings occupy 13.8 acres and include 61 structures that were constructed between 1892 and 1988, with the main portions including the upper, middle, and Suprema manufacturing areas. The property is zoned light industrial (M2).

The facility at one time operated a small foundry that was closed and demolished in 1972. Building 63 occupies the former foundry location. The grounds are entirely protected by a security fence and guarded entrances. Currently, the facility is surrounded by the Authority of the Borough of Charleroi Waste Water Treatment Plant (WWTP) and beyond by a cement plant to the northwest, by railroad tracks and beyond by automobile repair shop, a Ford Dealership, Ingersoll-Rand Mining Machine Manufacturer, and retail merchandise stores to the southwest, by Charleroi Recreational Park and an electric power substation and beyond by retail stores to the southeast, and by the Monongahela River to the northeast.

The facility currently operates as a small quantity generator (SQG); under a Title V air permit; and discharges water through a National Pollutant Discharge Elimination System (NPDES) permit.

The facility has a long history of oil and grease permit exceedances and releases from permitted outfalls into the Monongahela River. A number of site investigations were completed between 1997 and 2001. Tank removals and subsequent contaminated-soil excavations were also completed. On October 19, 2001, the Pennsylvania Department of Environmental Protection (PADEP) sent World Kitchen the receipt and approval of the Act 2 Final Report (dated September 4, 2001) for the areas investigated and remediated. It noted that the soil and groundwater were contaminated with polychlorinated biphenyls (PCBs), lead, heavy metals, pesticides, solvents, benzene, ethylbenzene, toluene, and xylenes (BTEX), and polyaromatic hydrocarbons (PAHs). Attainment was demonstrated that soils meet the statewide health standard non-residential, direct contact Medium Specific Concentrations (MSCs) and groundwater meets non-residential, non-use aquifers MSCs at the point of compliance.

A total of 16 solid waste management units (SWMUs) have been associated with the facility, as identified during the 1989 Preliminary Assessment (PA). No organic vapors were detected above background using a photoionization detector at the SWMUs at the time of the 1989 PA. No SWMU showed signs of releases and all were in operation without plans for closure at the time of 1989 PA.

A matrix of aboveground storage tanks (ASTs) and underground storage tanks (USTs), their size, contents, and active status is presented below as documented in the Act 2 Final Report:

<b>Aboveground Storage Tanks</b>				
<b>Tank No.</b>	<b>Installation</b>	<b>Size (gal)</b>	<b>Contents</b>	<b>Status</b>
001A	1982	4,500	Hydraulic Oil	Active
002A	1977	4,000	Arsenic Acid	Inactive
003A	1981	4,000	Arsenic Acid	Inactive
004A	1983	11,000	Liquid Oxygen	Active
005A	1983	11,000	Liquid Oxygen	Active
006A	1992	4,000	Diesel Fuel	Active
007A	1992	1,000	Used Oil	Active
008A	1992	120	Used Oil	Active
009A	2000	500	Gasoline	Active
010A	1999	1,000	Wastewater	Active

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Underground Storage Tanks					
Tank No.	Installation	Size (gal)	Contents	Removed	Excavation Notes
001	1981	1,000	Used Hydraulic Oil (O/W Separator)	1992	55 tons of contaminated soil were removed; no total petroleum hydrocarbons (TPH) detected in confirmation soil samples
002	1981	1,000	Used Lube Oil (O/W Separator)	1992	30 tons of contaminated material were removed; detected TPH at 10 and 13 mg/kg in confirmation soil samples
003	1981	30,000	Heating Oil No. 2	1992	UST located in concrete pit; no TPH or BTEX detected in water sample from pit
004	1981	30,000	Heating Oil No. 2	1992	UST located in concrete pit; no TPH or BTEX detected in water sample from pit
005	1981	30,000	Heating Oil No. 2	1992	UST located in concrete pit; no TPH or BTEX detected in water sample from pit
006	1981	2,500	Used Hydraulic Oil (O/W Separator)	1992	Removed 60 tons of contaminated material; no TPH detected in confirmation soil samples
007	1970	20,000	Fuel Oil	1989-in place	
008	1970	20,000	Fuel Oil	1989-in place	
009	1965	2,000	Gasoline	1988	
010	1981	1,500	Used Lube Oil	1992	Removed 10 tons contaminated material; no TPH detected in confirmation samples

Note: Documented excavation contamination is presented in the table above.

The property was originally purchased in 1893 by George A. Macbeth & Co., the world's largest producer of lamp chimneys. Between 1895 and 1899, Macbeth Glass merged with Thomas Evans & Co., another large producer of lamp chimneys, to become Macbeth-Evans Glass Company. In 1916, Macbeth-Evans purchased Hamilton Bottle Works. Corning Glass Works merged with Macbeth-Evans Glass Company in 1936.

Prior to 1940, Corning Glass Works produced television tube glass in addition to houseware products. In 1966, Corning transferred a portion of the facility grounds along the northern portion of the site to the Authority of the Borough of Charleroi.

On July 27, 1989, the facility sent notification of the name change from "Corning Glass Works" to "Corning Incorporated." On January 2, 1992, the facility submitted a revised Notification of Waste Activity identifying change of

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ownership to Corning Vitro Corporation doing business as Corning Consumer Products Company. As the Corning Consumer Products Company was purchase by Borden Incorporated, the company was required to shed the Corning name. The company name was changed to World Kitchen, Inc. on April 1, 1998. In 2002, the company filed for bankruptcy under Chapter 11 and underwent financial reorganization. As of 2004, the company has been privately held. On May 10, 2006 the facility notified the PADEP of a name change from World Kitchen, Inc. to World Kitchen, Limited Liability Company (LLC). World Kitchen, LLC, headquartered in Rosemont, IL, manufactures, markets, and distributes bakeware, dinnerware, kitchen and household products, under many well-known brands. The Charleroi facility has been making Pyrex® for almost 100 years.

**Groundwater:** Groundwater has been sampled and analyzed in various investigations from 1997 through 1999 where it was reported to contain various metals at concentrations above the PA Act 2 MSCs. However, in 1997 PADEP granted non-use aquifer status for the facility as groundwater beneath the site is not used or currently planned to be used in accordance with Act 2. Five groundwater monitoring wells were sampled on a quarterly basis for six consecutive quarters (commencing with August 1997). PADEP stated World Kitchen had attained Act 2 groundwater MSCs and thus, the sixth monitoring event was the final event.

On October 19, 2001, PADEP approved the Act 2 Final Report for the areas investigated and remediated at the facility noting that soil and groundwater were previously contaminated with PCBs lead, heavy metals, pesticides, solvents, BTEX, and PAHs. The facility continues to maintain compliance with Act 2 and no investigations have since been completed. Therefore, exposure pathway controls are not relevant.

**Air:** The Pennsylvania Department of Environmental Protection (PADEP) *Land Recycling Program Technical Guidance Manual – Section IV.A.4 (Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard)* was used for the evaluation of indoor air. Based on the analytical results (as provided in the 1999 Act 2 Final Report, Appendix B) the following detected compounds were identified as sufficiently volatile and toxic. As such, they were compared to appropriate current screening criteria as seen in the table below:

Media	Sufficiently Volatile and Toxic Contaminant	Facility Detection (mg/kg)	PA Soil-GW MSC NUA Nonresidential	Status
Soil	Xylenes	2.4	10,000	Below
Soil	Ethylbenzene	1	7,000	Below
Soil	Toluene	0.36	10,000	Below
Soil	Benzene	0.7	50	Below
Soil	Naphthalene	0.52	7,500	Below
Groundwater	Naphthalene	430	30,000	Below

As seen in the table above, all of the above COIs are well below their respective MSCs. Therefore, in accordance with PADEP's technical guidance manual, the soil type at the site, depth of vertical separation between the source of potentially volatile constituents in soil, and groundwater (i.e., greater than or equal to five feet of "soil-like" material), and the proximity to occupied buildings was taken into account to evaluate the potential for vapor intrusion into indoor air since the MSCs for these criteria are met for those volatile compounds. As per the environmental investigation documents reviewed for the site the following conclusions have been made:

The subsurface hydrogeologic conditions at the site were encountered at varying depths from 12 feet to greater than 30 feet below ground surface; therefore, based on the five feet criterion and the low concentrations of naphthalene in groundwater, groundwater is not considered to be a source of indoor air contamination.

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- The site is currently 85% covered with either buildings or pavement further inhibiting the vapor intrusion pathway.
- The operating manufacturing facility currently consists of three buildings with offices. Building 5 has offices located on the first floor; Buildings 22 & 23 each have offices on the 2nd and 3rd floors. Every building has an HVAC system. The buildings that have operations with hazardous substances (chromium) undergo routine air sampling several times a year. Therefore, the buildings on the site would be adequately ventilated and vapors monitored and regulated.
- The subsurface geology at the site consists of fill material ranging from 0 to 4 feet in thickness composed of silty clay matrix with varying degrees of sand, gravel, and debris such as glass, brick, concrete, slag, and/or metal pieces. Silty clay was encountered from 4 to 20 feet bgs.
- While the soil occurring across the site at the 0 to 4 feet interval is heterogeneous, based on the remediation of contamination in the identified "source areas" followed by replacement with soil/fill material and capping with 18 inches of reinforced concrete, vapor intrusion of volatile constituents, that were confirmed to be below Act 2 Direct Contact, non-residential surface soil MSCs following remediation, is not expected to be of concern.

Therefore, based on the above, the volatile constituents detected and remediated in soil in limited areas of the site are not expected to be of concern for the indoor air pathway assuming a nonresidential scenario.

**Soil:** A number of site investigations and Phase II studies were completed between 1997 and 2001. They detailed tank removals and subsequent contaminated-soil excavations. On October 19, 2001, PADEP sent World Kitchen the receipt and approval of the Act 2 Final Report for the areas investigated and remediated. It noted that the soil and groundwater were contaminated with PCBs, lead, heavy metals, pesticides, solvents, BTEX, and PAHs.

The facility perimeter remains entirely protected by a security fence and entrances remain continuously guarded. While the facility remains in operation, the potential to have soil contamination still exists. As noted in the 1989 PA and verified by the site visit, the soil mapped at the site is urban land where 85% of the surface is covered by buildings, parking lots, roads, or other impervious materials. The remainder (15%) of the facility has been investigated and remediated in accordance with Act 2 standards. Therefore, exposure controls for soil are not relevant and the facility continues to maintain compliance with Act 2.

**Surface Water and Sediment:** The facility has a long history of oil and grease and occasional metals permit exceedances and releases into the Monongahela River from permitted NPDES outfalls. Various outfall assessments have been conducted to determine the nature and extent of solids present in the outfall system. The basement "L-pit" area, where oil-water skimming/separation occur, has been cleaned and upgraded. According to facility personnel at the May 6, 2010 site visit, the facility has not had any recent exceedances. Additionally, the facility continues to make upgrades to the "L-pit" oil-skimming/separation area to ensure oil and grease exceedances no longer occur. While the facility remains in operation, the potential to have oil and grease and metals exceedances still exist. However, there is no evidence to suggest that surface water contamination currently exists. Therefore, exposure controls for surface water are not relevant.

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3. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Contaminated Media	Potential <u>Human Receptors</u> (Under Current Conditions)						
	<u>Residents</u>	<u>Workers</u>	<u>Day-Care</u>	<u>Construction</u>	<u>Trespassers</u>	<u>Recreation</u>	<u>Food<sup>3</sup></u>
Groundwater	No	No	No	No	No	No	No
Air (indoors)							
Soil (surface, e.g., <2 ft.)	No	No	No	No	No	No	No
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft.)	No	No	No	No	No	No	No
Air (outdoors)							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not “contaminated” as identified in #2 above.
2. enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“\_\_\_”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

  X If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

       If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.

       If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code.

**Rationale and Reference(s):**

**Groundwater:** In 1997, PADEP granted non-use aquifer status for the facility as groundwater beneath the site is not used or currently planned to be used in accordance with Act 2. The facility continues to maintain compliance with Act 2 and no investigations have since been completed. Therefore, exposure pathway controls are not relevant.

**Soil:** The facility perimeter remains entirely protected by a security fence and entrances remain continuously guarded.

<sup>3</sup> Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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While the facility remains in operation, the potential to have soil contamination still exists. As noted in the 1989 PA and verified by the site visit, the soil mapped at the site is urban land where 85% of the surface is covered by buildings, parking lots, roads, or other impervious materials. The remainder (15%) of the facility has been investigated and remediated in accordance with Act 2 standards. Therefore, exposure controls for soil are not relevant and the facility continues to maintain compliance with Act 2.

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4. Can the exposures from any of the complete pathways identified in #3 be reasonably expected to be "significant"<sup>4</sup> (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

\_\_\_\_\_ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

\_\_\_\_\_ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

\_\_\_\_\_ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

**Rationale and Reference(s):**

5. Can the "significant" exposures (identified in #4) be shown to be within acceptable limits?

\_\_\_\_\_ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

\_\_\_\_\_ If no (there are current exposures that can be reasonably expected to be "unacceptable") - continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

\_\_\_\_\_ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

**Rationale and Reference(s):**

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<sup>4</sup> If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

X  YE – Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the Information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the  World Kitchen, LLC.  facility,  
EPA ID #  PAD004326542 , located at  100 Eighth Street Charleroi, Pennsylvania 15022   
under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

NO - "Current Human Exposures" are NOT "Under Control."

IN - More information is needed to make a determination.

Completed by (signature)  Elizabeth Bertha  Date  12/20/12   
(print)  Elizabeth Bertha   
(title)  Environmental Protection Specialist   
Supervisor (signature)  Diane D. McDaniel  Date  12/20/12   
(print)  Diane D. McDaniel   
(title)  Engineering Manager   
(EPA Region or State)  PA DEP

*[Handwritten signature]*  
4/9/13

*[Handwritten signature]* 4/9/13

Locations where References may be found:

USEPA Region III  
Waste and Chemical Mgmt. Division  
1650 Arch Street  
Philadelphia, PA 19103

PADEP  
South West Regional Office  
400 Waterfront Drive  
Pittsburgh, PA 15212

Contact telephone and e-mail numbers  
(signature)  Diane D. McDaniel   
(print)  Diane D. McDaniel   
(title)  Eng. Manager

**FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.**

Facility Name:  
EPA ID#  
City/State

World Kitchen, LLC  
PAD004326542  
Charleroi, Pennsylvania 15022

### CURRENT HUMAN EXPOSURES UNDER CONTROL (CA725)

